

# FRESNO COUNTY ENVIRONMENTAL COMPLIANCE CENTER PHASE 1 - SITE IMPROVEMENT AND SHADE STRUCTURE

310 S. West Avenue Fresno CA, 93706

# STRUCTURES UNDER SEPARATE PERMIT:

THE FOLLOWING STRUCTURES ARE SUBMITTED TO COUNTY OF FRESNO FOR APPROVAL AND ISSUANCE OF A SEPARATE PERMIT:

PHASE 2: OFFICE / STORAGE BUILDING 2. PHASE 3: WAREHOUSE

# DEFERRED APPROVAL:

- I. PREFABRICATED METAL BUILDING: CONTRACTOR TO SUBMIT PLANS TO AND OBTAIN PERMIT FROM FRESNO COUNTY. PLANS TO INCLUDE ENGINEERING CALCULATIONS, ERECTION DRAWINGS AND ANCHOR BOLT PLACEMENT DIMENSIONS AND OTHER ITEMS REQUIRED FOR PERMIT. CONTRACTOR SHALL SUBMIT THE PLANS TO ARCHITECT FOR APPROVAL PRIOR TO SUBMITTING TO FRESNO COUNTY. SEE SPECIFICATIONS.
- 2. FIRE SPRINKLERS: CONTRACTOR TO SUBMIT PLANS TO AND OBTAIN PERMIT FROM FRESNO COUNTY PRIOR TO INSTALLATION OF THE FIRE SPRINKLERS. LAYOUT AND DETAIL OF THE FIRE SPRINKLER SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT AND "FRESNO FIRE DEPARTMENT (FFD) PRIOR TO SUBMITTING THE PLANS TO FRESNO COUNTY. THE FIRE SPRINKLER SYSTEM SHALL BE INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR AND SHALL BE INSPECTED AND APPROVED BY THE APPROPRIATE FIRE MARSHALL PRIOR TO APPROVAL OF OCCUPANCY OF THE BUILDING. SEE SPECIFICATIONS
- 3. FIRE ALARMS: CONTRACTOR SHALL SUBMIT PLANS TO AND OBTAIN PERMIT FROM FRESNO COUNTY AND FRESNO FIRE DEPARTMENT FOR THE INSTALLATION OF FIRE ALARM SYSTEM. SEE SPECIFICATIONS. GENERAL CONTRACTOR SHALL COORDINATE FIRE ALARM SYSTEM INTERFACES BETWWEEN FIRE ALARM CONTRACTOR, SPRINKLER, CONTRACTOR, MECHANICAL CONTRACTOR AND ANY OTHER PERTINENT TRACES (FIRE ALARM, SPRINKLER SYSTEM, HOOD AND VENT EXTINGUISHING SYSTEM, HVAC, FIRE SMOKE DAMPERS, ETC.) ALL WORK MUST REMAIN VISIBLE AND MAY NOT BE COVERED UNTIL REQUIRED FIRE INSPECTIONS HAVE BEEN COMPLETED BY THE FIRE DEPARTMENT.

# **GENERAL NOTES:**

- THE CONTRACTOR SHALL BE RESPONSIBLE TO STRICTLY COMPLY WITH DIMENSIONS ON THE DRAWINGS RELATING TO ACCESSIBILITY ELEMENTS. DIMENSIONS THAT DO NOT SPECIFY "MINIMUM" (MIN) OR "MAXIMUM" (MAX) TOLERANCES SHALL BE CONSIDERED AS "ABSOLUTE". MINIMUM AND MAXIMUM DIMENSIONS SHALL BE CONSIDERED THE ABSOLUTE TOLERANCE LIMITS. ACCESSIBILITY ELEMENTS INSTALLED THAT DO NOT COMPLY WITH DIMENSIONAL CONSTRAINTS SHALL BE REMOVED AND REINSTALLED WITH NO ADDITIONAL COST TO THE COUNTY OF FRESNO.
- 2. CHANGES FROM THE APPROVED PLANS DURING THE COURSE OF CONSTRUCTION SHALL CAUSE CONSTRUCTION SPECIFIC TO THE AREA OF CHANGE TO BE SUSPENDED UNTIL SUCH TIME AS THE PLANS CAN BE AMENDED BY THE ARCHITECT AND SUBMITTED TO THE COUNTY FOR REVIEW AND APPROVAL [CBC 107].
- 3. THE CONTRACTOR SHALL PROVIDE (I) ONE N.F.P.A. CLASS 2A-IOBC FIRE EXTINGUISHER AT THE JOB SITE DURING CONSTRUCTION.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WORK SITE IN A SECURED CONDITION.
- 5. CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION AND CBC CHAPTER 33. SAFEGUARDS DURING CONSTRUCTION SHALL BE STRICTLY FOLLOWED.
- 6. THE APPROVAL OF THESE PLANS AND SPECIFICATIONS DOES NOT PERMIT THE VIOLATION OF ANY SECTION OF THE BUILDING CODE, MUNICIPAL ORDINANCES, OR STATE LAWS.
- 7. THESE APPROVED PLANS AND RELATED DOCUMENTS MUST BE AVAILABLE AT THE JOB SITE DURING ANY INSPECTION ACTIVITY.
- 8. SOILS AND SPECIAL CONCRETE TESTING SHALL BE CONDUCTED BY THE FRESNO COUNTY MATERIALS AND TESTING LABORATORY.
- 9. STEEL FABRICATION SPECIAL INSPECTION SHALL BE CONDUCTED BY KRAZAN AND ASSOCIATES, 215 WEST DAKOTA AVENUE CLOVIS, CA 93612 (559-348 2200)
- 10. CONTRACTOR SHALL PROVIDE A CHEMICAL TOILET ON SITE DURING CONSTRUCTION.
- II. CONSTRUCTION WASTE MANAGEMENT PLAN MUST BE FINALIZED PRIOR TO

# FRESNO FIRE DEPARTMENT NOTES:

- I. SUBMIT PLANS TO AND OBTAIN PERMIT FROM THE FIRE PREVENTION DIVISION FOR THE INSTALLATION OR MODIFICATION OF FIRE SPRINKLER SYSTEM. INSTALLATIONS MUST ALSO COMPLY WITH FFD POLICY SECTION 405. FFD POLICIES CAN BE FOUND ON THE FIRE DEPARTMENT WEBPAGE UNDER FIRE PREVENTION & INVESTIGATION, FIRE DEPARTMENT POLICIES.
- 2. SUBMIT PLANS TO AND OBTAIN PERMIT FROM THE FIRE PREVENTION DIVISION FOR THE INSTALLATION OR MODIFICATION OF FIRE ALARM SYSTEM. SEE FFD POLICY 401.012.
- 3. THE GENERAL CONTRACTOR SHALL COORDINATE THE FIRE ALARM SYSTEM INTERFACES BETWEEN THE FIRE ALARM CONTRACTOR, SPRINKLER CONTRACTOR, MECHANICAL CONTRACTOR AND ANY OTHER PERTINENT TRADES (FIRE ALARM, SPRINKLER SYSTEM, HOOD AND VENT EXTINGUISHING SYSTEM, HVAC, FIRE SMOKE DAMPERS, ETC.). ALL WORK MUST REMAIN VISIBLE AND MAY NOT BE COVERED UNTIL THE REQUIRED FIRE INSPECTIONS HAVE BEEN COMPLETED BY THE FIRE DEPARTMENT.
- 4. EMERGENCY ALARM SYSTEM INTERCONNECTION REQUIREMENTS: WHERE AN EMERGENCY ALARM SYSTEM IS REQUIRED BY THIS SECTION AND A BUILDING FIRE ALARM IS INSTALLED, THE EMERGENCY ALARM SYSTEM SHALL BE INTERCONNECTED WITH AND SUPERVISED BY THE BUILDING FIRE ALARM SYSTEM. FMC 10-50908.4 AND NFPA SECTIONS 10.7 AND 10.10. IF APPLICABLE.
- 5. ALL WEATHER ACCESS ROADS SHALL BE INSTALLED AND MAINTAINED IN A SERVICEABLE CONDITION PRIOR TO AND DURING CONSTRUCTION. (FFD DEVELOPMENT POLICY 403.002)
- 6. ADDRESS IDENTIFICATION. FOR NEW AND EXISTING BUILDINGS, THE FIRE CODE OFFICIAL IS AUTHORIZED TO REQUIRE APPROVED ADDRESS OR BUILDING IDENTIFICATION SIGNAGE AS NEEDED TO READILY DETERMINE THE BUILDING OR AREA OF A BUILDING PROTECTED BY FIRE DEPARTMENT CONNECTIONS. FMC SECTION 10-50912.2.3.

# **CODE CITATIONS:**

THE LATEST ADOPTED ADDITIONS OF THE CODES, STANDARDS AND REGULATIONS REQUIRED BY THE LOCAL JURISDICTION SHALL GOVERN ALL WORK IN THESE CONSTRUCTION DOCUMENTS INDICATED BY THE FOLLOWING.

## APPLICABLE STATE CODES:

- TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS TITLE 24 CCR, PART I - 2019 BUILDING STANDARDS ADMINISTRATIVE CODE
- TITLE 24 CCR, PART 2 2019 CALIFORNIA BUILDING CODE (CBC) TITLE 24 CCR, PART 3 - 2019 CALIFORNIA ELECTRICAL CODE (CEC)
- TITLE 24 CCR, PART 4 2019 CALIFORNIA MECHANICAL CODE (CMC)
- TITLE 24 CCR, PART 5 2019 CALIFORNIA PLUMBING CODE (CPC)
- TITLE 24 CCR, PART 6 2019 CALIFORNIA ENERGY CODE
- TITLE 24 CCR, PART 9 2019 CALIFORNIA FIRE CODE (CFC) TITLE 24 CCR, PART II - 2019 CALIFORNIA GREEN BUILDING STANDARDS
- TITLE 24 CCR, PART 12- 2019 CALIFORNIA REFERENCED STANDARDS

## APPLICABLE CODE OF ORDINANCE: COUNTY OF FRESNO ORDINANCE TITLE 15

## APPLICABLE REFERENCE STANDARDS:

2019 NFPA 13, AUTOMATIC SPRINKLER SYSTEMS (CA AMENDED) 2019 NFPA 72, NATIONAL FIRE ALARM CODE (CA AMENDED); SEE UL STD. 1971 FOR "VISUAL DEVICES"

# SHEET INDEX

## GO.O COVER

- CI.O CIVIL COVER SHEET
- C2.0 NOTES SHEET
- C3.0 GRADING PLAN C4.0 UTILITY PLAN
- C5.0 HORIZONTAL CONTROL, SIGNAGE AND STRIPING PLAN
- C6.0 EROSION CONTROL PLAN CT.O EROSION CONTROL DETAILS C8.0 CONSTRUCTION DETAILS

- AI.I OVERALL SITE PLAN AI.2 ENLARGED SITE PLAN
- A2.I FLOOR PLAN & EXTERIOR ELEVATIONS
- A2.2 SECTION & DETAILS A23 CONTAINERS:
- HAZMAT CONTAINER REUSE CENTER, USED OIL STORAGE
- A2.4 CONTAINERS: SEATRAIN STORAGE CONTAINERS,
- HAZMAT STORAGE CONTAINERS,
- CALGREEN COMPLIANCE SHEET I
- A3.2 CALGREEN COMPLIANCE SHEET 2 A3.3 CALGREEN COMPLIANCE SHEET 3

# STRUCTURAL SHEETS

- SI.I STRUCTURAL NOTES SI.2 STRUCTURAL NOTES
- S2.I FOUNDATION PLAN
- 52.2 ROOF FRAMING PLAN S3.I STRUCTURAL DETAILS

### PLUMBING SHEETS PI.O PLUMBING SITE PLAN

PI.3 SHADE STRUCTURE PLUMBING PLAN P2.0 PLUMBING SCHEDULE AND DETAILS

- ELECTRICAL SHEETS
- EI.I ELECTRICAL NOTES AND SYMBOLS EI.2 LIGHTING SCHEDULES AND DETAILS
- EI.3 POWER DETAILS AND SCHEDULES
- EI.4 TITLE 24 COMPLIANCE DOCUMENTS E2.I ELECTRICAL SITE PLAN
- E3.I SHADE STRUCTURE/ ELECTRICAL PLANS

### LANDSCAPE SHEETS 4 SHEETS

- LI.O IRRIGATION PLAN
- L2.0 PLANTING PLAN
- L3.0 LANDSCAPE DETAILS L4.0 LANDSCAPE NOTES AND WELO
- TOTAL: 36 SHEETS

# CONTRACT DOCUMENTS:

## ARCHITECT OF RECORD:

## TIANA L. PEREZ, ARCHITECT

CALIFORNIA LICENSED ARCHITECT NO. C-38000 REN. 01-31-23 FRESNO COUNTY DEPARTMENT OF PUBLIC WORKS & PLANNING DEVELOPMENT SERVICES AND CAPITAL PROJECTS DIVISION 2220 TULARE STREET, EIGHTH FLOOR FRESNO, CALIFORNIA 93721 OFFICE: (559) 600-4536

## CONSULTANTS:

CIVIL / LANDSCAPE

LIC.# RCE 66124 4694 W. JACQUELYN AVE.

# OFFICE: 559-276-2790

SSG STRUCTURAL ENGINEERS, LLP MICHAEL PAROLINI LIC.# 5405

OFFICE: 559-439-2120

MECHANICAL / PLUMBING

MICHAEL CANTELMI

LIC.# M23588 7084 NORTH MAPLE AVENUE, SUITE IOI

OFFICE: 559-431-0101 E-MAIL: MIKE@LEGFRESNO.COM

HARDIN DAVIDSON ENGINEERING SCOTT DAVIDSON LIC.# EI7850 356 POLLASKY AVENUE SUITE 200 CLOVIS CA, 93612

# ARCHITECTURAL CONSULTANT:

DYSON & JANZEN ARCHITECTS 1295 N. WISHON AVE. SUITE IOI FRESNO CA, 93728 OFFICE: 559-497-6370 E-MAIL: ADYSON@DYSONJANZEN.COM

E-MAIL: SD@HARDIN-DAVIDSON.COM

# E-MAIL: TPEREZ@FRESNOCOUNTY.GOV

ENGINEER OF RECORD:

LARS ANDERSEN & ASSOCIATES, INC. DANIEL ZOLDAK

FRESNO CA, 93722

E-MAIL: LAINFO@LARSANDERSEN.COM

ENGINEER OF RECORD:

8405 NORTH FRESNO STREET, SUITE 120

FRESNO CA, 93720

E-MAIL: MICHAEL.PAROLINI@SSGSE.COM

ENGINEER OF RECORD:

LAWRENCE ENGINEERING GROUP

FRESNO CA, 93720

### ELECTRICAL ENGINEER OF RECORD:

OFFICE: 559-323-4995

The Information on this Drawing is acceptable and shall define the Scope of Work to develop this Project. Any

PROJECT DATA:

APN: 458-060-72

SITE AREA: 2.68 ACRE

TYPE OF CONSTRUCTION: V-B

SCOPE OF WORK

RECOVERY TANK, AN EMERGENCY

PARKING LOT, AND ASSOCIATED SITE

FRESNO COUNTY ENVIRONMENTAL COMPLIANCE CENTER

SITE IMPROVEMENT AND SHADE STRUCTURE

310 S. WEST AVENUE, FRESNO, CA. 93706

SHADE STRUCTURE COVERED AREA: 3,152 SF

ZONING: M-I LIGHT MANUFACTURING DISTRICT

THE WORK CONSISTS OF CONSTRUCTION OF A NEW 3,073 SQUARE FEET SHADE STRUCTURE

BUILDING, A 1500 GALLON UNDERGROUND LIQUID

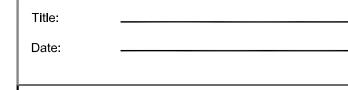
EYEWASH/SHOWER STATION, ASPHALT PAVED

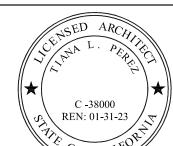
DRIVEWAYS, PAVED CONCRETE WORK YARD.

MPROVEMENTS. THE WORK ALSO INCLUDES THE PROSPECTIVE CONTRACTOR'S LABOR AND MATERIAL TO INSTALL HAZMAT AND STORAGE

OCCUPANCY GROUP: UTILITY AND MISCELLANEOUS (U)

significant changes to the Scope of Work shall be approved





by the Client Department.

Public Works & Planning Development Services and Capital Projects Division 2220 Tulare Street, Eighth Floor Fresno, California 93721 Office: (559) 600-4536 E-mail: tperez@fresnocountyca.gov

Tiana L. Perez, Architect

Fresno County Department of

California Licensed Architect No. C-38000

## Project: Fresno County Environmental Compliance Center Phase 1: Site Improvement and Shade

Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72

### Project No. T90203 File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00

**Sheet Content:** Cover Sheet

Issue Date:

Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor Fresno, California 93721

Sheet No.



# BENCHMARK/BASIS OF BEARINGS:

BASIS OF BEARINGS
THE WEST LINE OF THE SOUTHWEST QUARTER OF
SECTION 5, TOWNSHIP 14 SOUTH, RANGE 20 EAST, M. D.
B. & M., WAS TAKEN TO BEAR NO°07'03"E PER PARCEL
MAP NO. 2005-15, FILED IN BOOK 65 OF PARCEL MAPS,
AT PAGES 93-95, ON FILE WITH THE FRESNO COUNTY
RECORDERS OFFICE.

BASIS VERTICAL CONTROL
CITY OF FRESNO TBM 4619, A CHISELED SQUARE ON
CURB, WEST SIDE OF WEST AVENUE, 550 FEET SOUTH
OF NIELSEN AVENUE, HAS AN NGVD29 ELEVATION OF
278.846 FEET PER CITY OF FRESNO BENCHMARK
RECORDS.

# ENGINEER'S CERTIFICATE THIS PLAN WILL NOTE IMPOSE A DRAINAGE, GRADING, OF

CONSTRUCTION GENERAL PERMIT NOTE

1. IF CONSTRUCTION SCHEDULE CHANGES CONTRACTOR IS

2. CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION

TO NOTIFY QSP TO DETERMINE IF WAIVER NOI/SWPPP

OF SWPPP REQUIREMENTS IF A WAIVER IS NO LONGER

3. CONTRACTOR IS TO OBTAIN SWPPP AND PRDS FROM

VALID DUE TO CONSTRUCTION SCHEDULE CHANGES.

☐ EXEMPT-UNDER 1 ACRE OF DISTURBED SOIL

☐ WAIVER

PROPERTIES.

■ NOI/SWPPP

☐ RISK LEVEL

RISK LEVEL 2

☐ RISK LEVEL 3

REQUIREMENTS CHANGE.

DANIEL J. ZOLDAK. PE DATE

LIC. NO.: \_\_\_\_\_ EXP: \_\_\_\_

FLOODING HAZARD TO ITSELF AND SURROUNDING

## CONSTRUCTION STAKING NOTE:

ENGINEERING/LAND SURVEYING FIRM RESPONSIBLE FOR CONSTRUCTION STAKING SHALL CERTIFY AND BE FAMILIAR WITH THE CITY'S AND COUNTY AS-BUILT CERTIFICATION REQUIREMENTS.
 STAKING CONTRACTOR WILL BE RESPONSIBLE FOR SIGNING LARS ANDERSEN & ASSOCIATES, INC. INDEMNIFICATION FORM PROVIDED TO THE GENERAL CONTRACTOR'S LAND SURVEYOR. THE FEE FOR TRANSFER OF THE AUTOCAD FILE WILL BE \$97.00 . LARS ANDERSEN WILL ONLY PROVIDE THE CAD FILE OF THE BASE SITE PLAN ONLY.

CONTRACTOR'S STAKING SURVEYOR IS RESPONSIBLE FOR ALL CALCULATIONS BASED ON THE PLAN SHEETS PROVIDED WITHIN THE PERMIT SET. A CAD FILE OF THE GRADING AND UTILITY PLAN WILL NOT BE PROVIDED. CONTRACTOR TO PROVIDE SIGNED INDEMNIFICATION LETTER 72 HOURS PRIOR TO NEEDING THE CAD FILE. A TIE-IN SURVEY IS REQUIRED PER COUNTY REQUIREMENTS. STAKING CONTRACTOR SHALL CERTIFY AND PROVIDE TO LARS ANDERSEN FOR REVIEW.

# CONSTRUCTION OPERATIONS NOTES

DUST SHALL BE CONTROLLED. WASTEWATER GENERATED DURING CONSTRUCTION SHALL NOT BE DISCHARGED TO THE STORM DRAIN SYSTEM. THIS INCLUDES WASTE FROM PAINTING, SALUTING, CONCRETE WORK, ETC. THE CONTRACTOR SHALL MAKE ARRANGEMENTS TO ELIMINATE DISCHARGES TO THE STORM DRAIN SYSTEM AND, IF NECESSARY, PROVIDE AN AREA FOR ON—SITE WASHING ACTIVITIES DURING CONSTRUCTION. MATERIALS WHICH COULD CONTAMINATE STORM RUNOFF SHALL BE STORED IN AREAS WHICH ARE DESIGNED TO PREVENT EXPOSURE TO RAINFALL AND TO NOT ALLOW STORM WATER TO RUN ONTO THE AREA.

# PAVEMENT CLEANING

FLUSHING OF STREETS/ PARKING LOTS TO REMOVE DIRT AND CONSTRUCTION DEBRIS IS PROHIBITED UNLESS PROPER SEDIMENT CONTROL ARE USED. PREFERABLY, AREAS REQUIRING CLEANING SHOULD BE SWEPT.

## NOTES:

- . IN THE EVENT OF CONFLICTING PROVISIONS BETWEEN THE SPECIFICATIONS AND DRAWINGS; THE MORE SPECIFIC WILL TAKE PRECEDENCE OVER THE LESS SPECIFIC; THE MORE STRINGENT WILL TAKE PRECEDENCE OVER THE LESS STRINGENT. ON ALL THE DRAWINGS, FIGURES TAKE PRECEDENCE OVER SCALED DIMENSIONS. SCALING OF DIMENSIONS, IF DONE IS DONE AT CONTRACTOR'S OWN RISK.
- 2. NO OPEN BURNING SHALL OCCUR ON THE PROJECT SITE UNLESS A LAND CLEARING PERMIT IS OBTAINED FROM THE DISTRICT.
- 3. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING.
- 4. CONTRACTOR SHALL PROVIDE THE COUNTY OF FRESNO AND LARS ANDERSEN & ASSOCIATES, INC. WITH AN AS-BUILT MLA PLANS. PLANS ARE TO BE SUBMITTED UPON COMPLETION OF PROJECT PRIOR TO ACCEPTANCE.
- 5. THE CONTRACTOR SHALL VERIFY THE ELEVATION OF THE EXISTING (WITH PLUS AND/OR MINUS SIGN SHOWN ON PLANS) SUCH AS CURB & GUTTER, PAVEMENT, SEWER & STORM LOWLINESS, ETC. AT THE POINT OF CONNECTION AND NOTIFY THE ENGINEER IMMEDIATELY IF MORE THAN 0.02 FOOT OF DIFFERENCE EXISTS FROM THIS PLAN.
- 6. CONTRACTOR SHALL REPLACE AND/OR REPAIR ALL DAMAGES AFFECTED BY CONSTRUCTION TO EXISTING ADJACENT OFF-SITE IMPROVEMENTS TO THE SATISFACTION OF CITY/COUNTY CONSTRUCTION MANAGEMENT AND/OR PROJECT REPRESENTATIVE.
- 7. CONTRACTOR SHALL COORDINATE HIS SCHEDULE WITH ALL UTILITY COMPANIES AFFECTED BY THIS WORK. NO ADDITIONAL COMPENSATION WILL BE MADE FOR SUCH COORDINATION WITH UTILITY COMPANIES.
- 8. FOUNDATION FOR MANHOLE, CURB INLET, CATCH BASIN, UTILITY BOX, ETC. SHALL BE UNDERLAIN BY ENGINEERED FILL IN ACCORDANCE WITH THE GEOGRAPHICAL REPORT.

CONTRACTORS: THESE IMPROVEMENT PLANS HAVE BEEN PREPARED WITH THE INTENT THAT THE ENGINEERING FIRM OF LARS ANDERSEN & ASSOCIATES, INC. WILL BE PERFORMING THE CONSTRUCTION STAKING FOR THE COMPLETE PROJECT. IF ANYONE OTHER THAN THE DESIGN ENGINEER IS EMPLOYED TO USE THESE PLANS FOR THE PURPOSE OF CONSTRUCTION STAKING, NOTICE IS HEREBY GIVEN THAT THE FIRM OF LARS ANDERSEN & ASSOCIATES, 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 LARS ANDERSEN & ASSOCIATES, INC. HAD PERFORMED THE STAKING WORK.

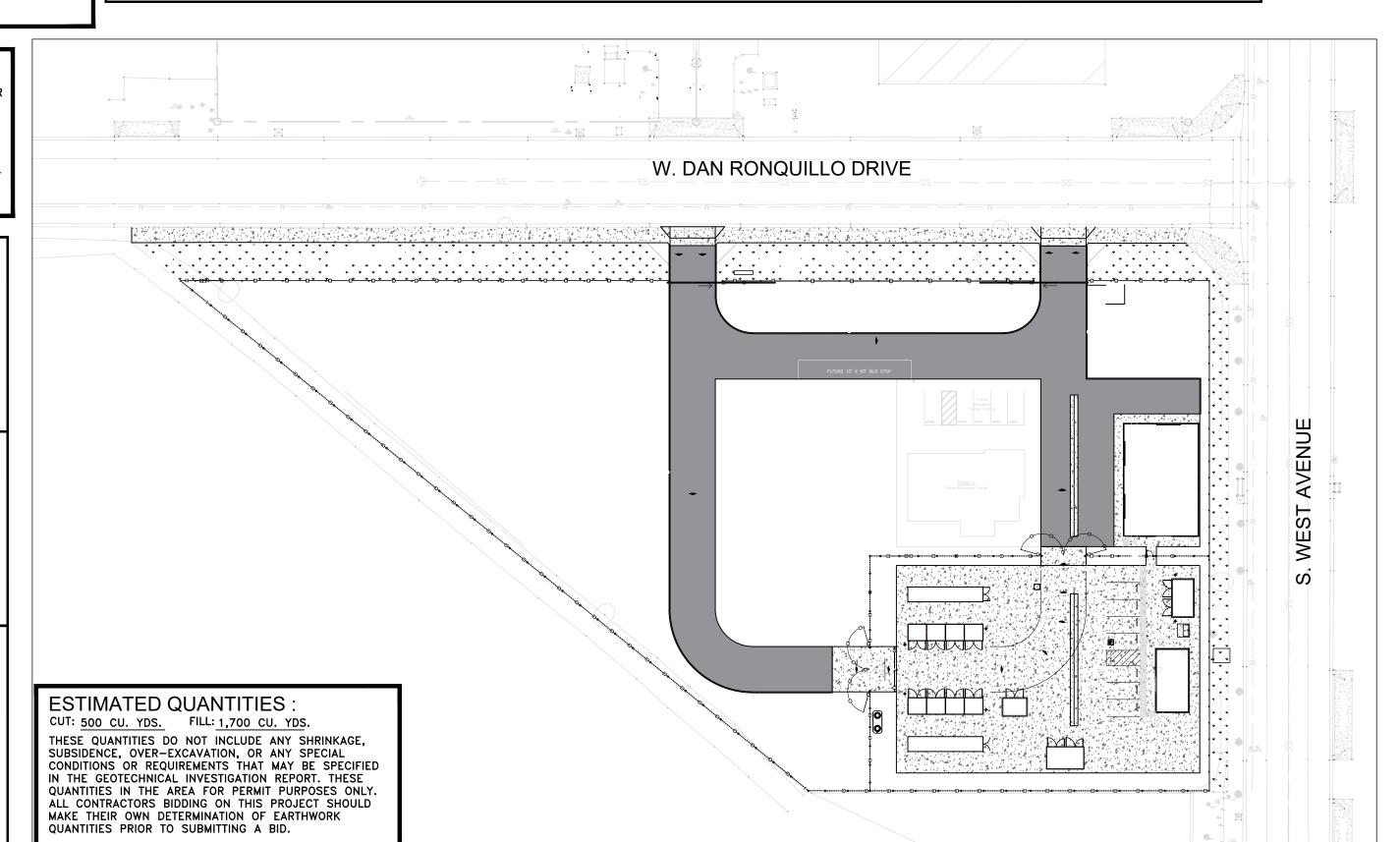
THE EXISTENCE AND APPROXIMATE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS WERE DETERMINED FROM INFORMATION PROVIDED BY A FIELD INVESTIGATION AND RECORD INFORMATION. THERE MAY BE OTHER UTILITIES AND OR STRUCTURES IN THE AREA. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES THAT MAY BE AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED AND CALL USA ALERT 1-811 BEFORE STARTING WORK. WHERE ON-SITE UTILITIES ARE NOT COVERED BY USA ALERT AND PRECAUTIONARY MEASURE JUSTIFY, THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL TO LOCATE EXISTING UTILITIES AND STRUCTURES.

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 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.

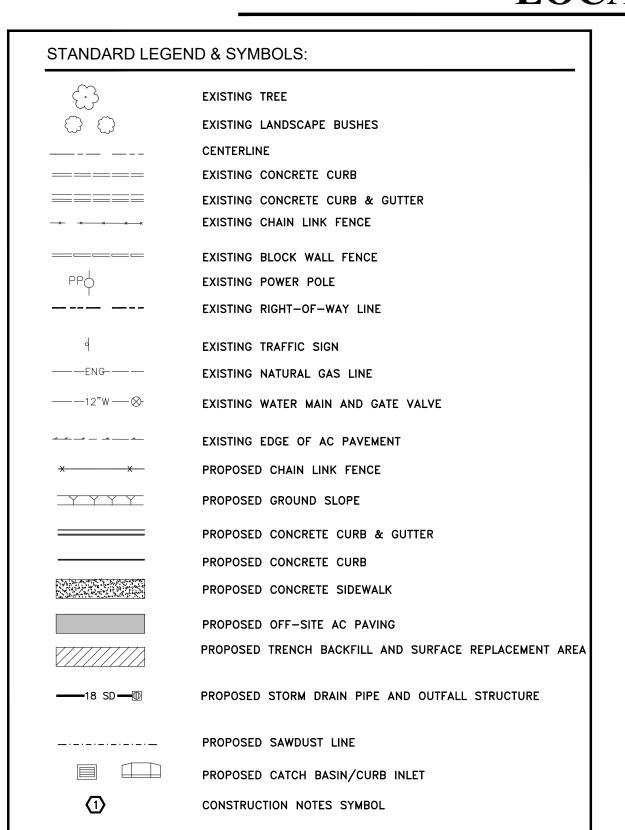
UNAUTHORIZED CHANGES AND USES: LARS ANDERSEN & ASSOCIATES, INC. WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THE PLANS.



### ABBREVIATIONS: CORRUGATED STEEL PIPE RIGHT-OF-WAY ASPHALT CONCRETE GAR. BARK. GRADE BREAK ASSESSORS PARCEL SLOPE, SOUTH GUTTER LIP STORM DRAIN DRIVEWAY LSD LANDSCAPE AREA SWALES BACK OF CONC. WALK EEC END OF CURB LTV LEFT ATC, T/C TOP OF CURB ELEVEN. BOTTOM OF BASIN ELEVATION N.T.S. NOT TO SCALE EDGE OF AC PAVEMENT TOB OF BASIN CURB, CONCRETE OVERHEAD UTILITY LINES CHAIN LINK (FENCE) **TYPICAL** PAVEMENT P, PAVE. CENTER LINE JCL PROPERTY LINE TOP OF WALL LOWLINESS COMPACTED NATIVE PROPOSED PROP. VARIES, VARIABLE FACE OF CURB RADIUS, RIGHT CONC. CONCRETE WATER FRONT OF WALK CONST. CONSTRUCT WATER SERVICE HIGH WATER RELOCATE, RELATIVE



# **LOCATION PLAN**



SHEET NO.

C1.0 COVER SHEET

C2.0 NOTES SHEET

C3.0 GRADING PLAN

C4.0 UTILITY PLAN

C5.0 HORIZONTAL CONTROL, SIGNAGE AND STRIPING PLAN

C6.0 EROSION CONTROL PLAN

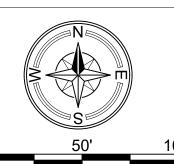
C7.0 EROSION CONTROL DETAILS

C8.0 CONSTRUCTION DETAILS

FRESNO METROPOLITAN FLOOD CONTROL
DISTRICT FMFCD APPROVAL IS LIMITED TO:
1. ONSITE DRAINAGE AREA BOUNDARIES.
2. LOCATION OF DRAINAGE ENTRY INTO PUBLIC STREETS.
FMFCD CONTRACT RR-PVT-24

DATE

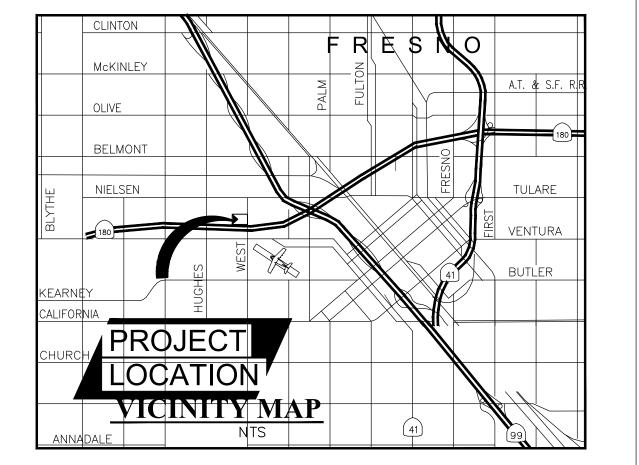
APPROVED



SCALE 1"=50'

numentation Note:

. CONTRACTOR IS RESPONSIBLE FOR RE-SETTING ANY SURVEY MONUMENTS DAMAGED DURING CONSTRUCTION. CONTRACTOR TO FILE A CORNER RECORD OR RECORD OF SURVEY (AS APPLICABLE) 45 DAYS PRIOR TO THE FINAL AS-BUILT ALTA SURVEY.



GENERAL CONSTRUCTION NOTES :

- 1. ALL CURB AND/OR GUTTER SHALL BE WATER TESTED UNDER THE DIRECTION AND IN THE PRESENCE OF THE ENGINEER AND/OR PROJECT REPRESENTATIVE.
- 2. ALL UTILITY MANHOLES/BOXES AFFECTED BY THIS PROJECT SHALL BE ADJUSTED TO GRADE AS NECESSARY AND INCLUDED IN THIS WORK.
- 3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY STANDARD DRAWINGS AND SPECIFICATIONS,
- AND ANY APPLICABLE SECTIONS OF THE MAY 2019, CALTRANS STANDARD SPECIFICATIONS.

  4. BEFORE COMMENCING WORK, THE CONTRACTOR SHALL NOTIFY ALL UTILITY AUTHORITIES OR UTILITY COMPANIES HAVING POSSIBLE INTEREST IN THE WORK OF THE CONTRACTOR'S INTENTION TO EXCAVATE
- PROXIMATE TO EXISTING FACILITIES AND THE CONTRACTOR SHALL VERIFY THE LOCATION OF ANY UTILITIES
  IN THE WORK AREA. THE CONTRACTOR SHALL NOTIFY U.S.A. TWO (2) DAYS PRIOR TO BEGINNING ANY
  EXCAVATION.

  5. RELATIVE COMPACTION TESTS MUST BE WITHIN TWO PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT
- TO BE CONSIDERED AS PASSING.

  6. THE COSTS OF ALL REPEAT TESTING REQUIRED FOR ACCEPTANCE OF WORK SHALL BE FULLY BORNE BY
- THE CONTRACTOR.

  7. ALL WATER MAIN VALVES (CAP AND LID) SHALL BE ADJUSTED TO GRADE
- 7. ALL WATER MAIN VALVES (CAP AND LID) SHALL BE ADJUSTED TO GRADE.
- 8. ADJUSTMENT TO BUILDING PAD ELEVATIONS OR PARKING LOT GRADES TO ACHIEVE EARTHWORK BALANCE SHALL BE MADE ONLY WITH APPROVAL OF THE ENGINEER.
- 9. ANY DIRT OR DEBRIS TRACKED ONTO ANY CITY/COUNTY STREET FROM THIS PROJECT SHALL BE CLEANED OFF AT THE END OF EACH WORKING DAY TO THE SATISFACTION OF THE CITY/COUNTY.
- 10. DURING THE SITE CONSTRUCTION, ANY PUBLIC STREETS FRONTING THE PROJECT SHALL BE KEPT CLEAR OF ANY CONSTRUCTION OR LANDSCAPING DEBRIS AND SHALL NOT BE USED AS A STORAGE AREA FOR EQUIPMENT, MATERIALS OR OTHER ITEMS.
- 12. ANY EXISTING SECTION CORNERS OR PROPERTY CORNER MONUMENTS DAMAGED BY THIS DEVELOPMENT SHALL BE RESET TO THE SATISFACTION OF THE CITY/COUNTY ENGINEER. A LICENSED LAND SURVEYOR OR CIVIL ENGINEER LICENSED TO PERFORM LAND SURVEYING SHALL CERTIFY THE PLACEMENT OF ALL REQUIRED MONUMENTATION PRIOR TO FINAL ACCEPTANCE. BRASS CAPS REQUIRED TO BE PROVIDED FOR REPLACEMENT OF EXISTING MONUMENTS SHALL BE DONE SOLELY AT THE CONTRACTORS EXPENSE.
- 14. THE DEVELOPER SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE CALIFORNIA CODE OF REGULATIONS, COUNTY ORDINANCES, STATE REGULATIONS, NATIONALLY RECOGNIZED CODES AND STANDARDS,
- AND ADOPTED POLICIES OF THE FIRE DEPARTMENT.

  15. ALL GRADING SHALL CONFORM TO THE UNIFORM BUILDING CODE APPENDIX J. C.B.C. 2019.
- 16. MAXIMUM CUT OR FILL SLOPES SHALL BE 2:1 OR AS SHOWN.
- ALL GRADING SHALL BE DONE UNDER THE SUPERVISION OF A REGISTERED SOILS ENGINEER. FILL LAYERS SHALL NOT EXCEED 8 INCHES IN THICKNESS.
- 17. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR THE LOCATION AND PROTECTION OF ALL UTILITIES.
- 18. THE DEVELOPER AND/OR CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES FORTY—EIGHT (48) HOURS
  PRIOR TO GRADING AND/OR DIGGING: 811 IS THE UNDERGROUND SERVICE ALERT NUMBER.
- ALL GRADING SHALL BE DONE IN CONFORMANCE WITH THE GEOTECHNICAL REPORT PREPARED BY MOORE
  TWINING ASSOCIATES, INC., PROJECT NO. B03031.01-01, DATED FEBRUARY 3, 2012.
   CONTRACTOR TO PROVIDE LARS ANDERSEN & ASSOCIATES. INC. AND THE CITY WITH AS-GRADED PLANS.
- PLANS ARE TO BE SUBMITTED UPON COMPLETION OF PROJECT AND PRIOR TO ACCEPTANCE.
- 21. ALL SITE WORK SHALL BE IN CONFORMANCE WITH TITLE 24 OF CALIFORNIA ADMINISTRATIVE CODE.

  22. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND
- RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.

  23. THE UNDERGROUND CONTRACTOR SHALL SET HIS STRING OR WIRE THROUGH AT LEAST THREE GRADE STAKES TO VERIFY THE GRADE. IF THE STAKES DO NOT PRODUCE A UNIFORM GRADE, NOTIFY THE

DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO

- ENGINEER IMMEDIATELY AND HAVE THE GRADES CHECKED PRIOR TO TRENCHING.

  24. ALL UTILITY STRUCTURES INCLUDING, BUT NOT LIMITED TO MANHOLES, CATCH BASINS, WATER VALVES, FIRE HYDRANTS, TELEPHONE AND ELECTRIC VAULTS AND PULL BOXES THAT LIE WITHIN AREAS AFFECTED BY
- WORK ON THIS PROJECT SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR OR THE RESPECTIVE UTILITY COMPANY. THE CONTRACTOR IS RESPONSIBLE TO AFFECT COORDINATION.

  25. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE O.S.H.A. REGULATIONS.
- 26. 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 DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT,
- 27. UNDERGROUND UTILITY TRENCH BACKFILL TO BE TESTED AND WRITTEN REPORT SUBMITTED TO THE BUILDING OFFICIAL, BY THE SOILS ENGINEER.
- 28. ALL GRADING AND EROSION CONTROL SHALL BE DONE IN CONFORMANCE WITH CURRENT STATE BMP'S.
  29. ALL RELATIVE COMPACTION ON STREETS SHALL CONFORM TO SECTION 19-5.03 OF THE STATE OF
  CALIFORNIA STANDARD SPECIFICATIONS LATEST EDITION (TYPICAL).
- 30. PRIOR TO EXCAVATION, CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES. CALL 811 TO HAVE UTILITIES LOCATED AND MARKED.
- 31.DUST CONTROL SHALL CONFORM TO THE PROVISIONS IN SECTION 10 OF THE STATE STANDARD SPECIFICATIONS.

EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL

- 32. CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE IN ADVANCE OF ANY REQUIRED INSPECTION.
  ANY TEMPORARY SUSPENSION OF WORK OR RETURNING TO WORK FOR ANY REASON WILL BE CAUSE FOR
  THE CONTRACTOR TO TELEPHONE THE PUBLIC WORKS DEPARTMENT.
- THE CONTRACTOR TO TELEPHONE THE PUBLIC WORKS DEPARTMENT.

  33. CONTRACTOR SHALL SEE TO IT THAT TRUCKS LEAVING THE SITE SHALL DO SO IN SUCH A MANNER THAT MUD AND EARTH WILL NOT BE DEPOSITED ON ADJACENT STREET PAVEMENTS. ANY MUD OR EARTH
- DEPOSITED ON STREET PAVEMENT SHALL BE PROMPTLY REMOVED BY THIS CONTRACTOR.

  34. ALL PORTLAND CEMENT CONCRETE TO BE 3,500 PSI UNLESS NOTED OTHERWISE.
- 35. CONTRACTOR SHALL REPLACE AND/OR REPAIR ALL DAMAGES AFFECTED BY CONSTRUCTION ON EXISTING ADJACENT OFF-SITE IMPROVEMENTS TO THE SATISFACTION OF THE COUNTY MAINTENANCE AND OPERATIONS DIVISION.
  36. CONTRACTOR SHALL HAVE ONE COPY OF FMFCD AND FRESNO COUNTY STANDARD AND SPECIFICAITONS

BOOK ON-SITE DURING CONSTRUCTION.

# Project:

Fresno County

- Environmental Compliance Center Site Improvement and Shade Structure Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72
- Issue Date:
  Project No. T90203
  File Path: G:Capital \ Projects \ Building Numbers \ American
  Ave Landfill \ T90203 Environmental Compliance Center\ 00

# Sheet Content:



Capital Projects

2220 Tulare Street, 8th Floor

Fresno, California 93721

Sheet No. C1.0

TO CONFIRM THICKNESS OF BASE ROCK.

1. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION OF UNDERGROUND SERVICE ALERT (USA) AT LEAST TWO WORKING DAYS (48 HOURS) IN ADVANCE OF BEGINNING OF WORK.

2. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING A PRE-CONSTRUCTION JOB SITE CONFERENCE WITH GOVERNING AGENCIES, ALL UTILITY COMPANIES AND OWNER'S REPRESENTATIVES PRIOR TO COMMENCING WORK. THIS MEETING WILL VERIFY SCHEDULES, METHODS AND MATERIALS TO BE USED IN CONSTRUCTION OF THE PROJECT.

3. THE CONTRACTOR IS RESPONSIBLE AND FIRST ORDER OF WORK FOR POT HOLING OF EXISTING UNDERGROUND SERVICES AND EXTENSIONS OF EXISTING/NEW UNDERGROUND SERVICES TO PROPERTY LINE PRIOR TO COMMENCING ANY ON-SITE OR OFFSITE WORK. ANY DISCREPANCIES WITH SERVICE LOCATION, SIZE OR DEPTH WITH THAT SHOWN ON THESE PLANS SHALL BE REPORTED TO THE OWNER, AFFECTED UTILITIES AND LARS ANDERSEN AND ASSOC., INC. WITHIN 48 HOURS OF DISCOVERY.

4. INSTALLATION OF ALL GRAVITY UTILITIES (i.e. SEWER, STORM DRAIN) SHALL BE FROM THE POINT OF CONNECTION UPSTREAM.

5. THE CONTRACTOR IS RESPONSIBLE FOR THE CALCULATION OF EARTHWORK QUANTITIES. ANY IMPORT OR EXPORT REQUIRED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

6. CERTIFICATIONS SHALL BE SUPPLIED TO THE OWNER BY THE CONTRACTOR FOR THE FOLLOWING STAGES OF COMPLETION: A. ROUGH GRADE TO PLUS OR MINUS ONE-TENTH OF A FOOT. ROUGH GRADE SOIL COMPACTION PRIOR TO ANY UNDERGROUND CONSTRUCTION.

. SEWER, WATER & STORM DRAIN TESTING COMPLETE AND PASSING PRIOR TO FINE GRADING AND BASE ROCK PLACEMENT. D. FINE GRADING TO PLUS OR MINUS ONE-TENTH OF A FOOT PRIOR TO ANY BASE ROCK PLACEMENT. E. RETAINING WALL BACK FILL COMPACTION RESULTS. (WHERE APPLIES)

FINISH PAD GRADE & OVEREXCAVATION & DEPTH CALCULATIONS G. FINAL GRADING INCLUDING ALL TC, GRATES, SANITARY SEWER AND STORMDRAIN FLOWLINES H. A LICENSED SURVEYOR SHALL SURVEY THE VERTICAL AND HORIZONTAL LIMITS OF THE OVER-EXCAVATION PRIOR TO PLACEMENT OF ANY FILL. CONTRACTOR TO VERIFY THAT GEOTECHNICAL ENGINEER APPROVES. THE ABOVE CERTIFICATES SHALL BE PERFORMED BY A LICENSED SURVEYOR AND THE SOILS ENGINEER

AND PAID FOR BY THE CONTRACTOR. ANY COSTS FOR REWORKING, RETESTING OR RESURVEYING DUE TO NONCOMPLIANCE WITH THE SPECIFICATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. 7. THE CONTRACTOR IS RESPONSIBLE FOR CALCULATIONS NECESSARY TO DETERMINE QUANTITY OF BASE ROCK. COPIES OF CALCULATIONS SHALL BE FURNISHED TO OWNER AND LARS ANDERSEN &

ASSOC..INC. CONTRACTOR SHALL FURNISH LOAD TICKETS TO OWNER FOR USE IN CHECKING QUANTITY

OF BASE ROCK ACTUALLY PLACED ON JOB SITE. OWNER MAY REQUEST BORINGS BY SOILS ENGINEER

8. TRENCH BACK FILL SHALL BE DONE IN A CONTINUOUS OPERATION AND COMPLETED TO SUBGRADE. AREAS OF MINIMUM COVER SHALL BE PROTECTED.

9. LANDSCAPE IRRIGATION LINES SHALL BE BURIED A MINIMUM OF TWELVE (12) INCHES BELOW SUB GRADE AND 36 INCHES BELOW FINISHED GRADE AND BACKFILL OVER THE LINES, COMPACTED TO 92% MINIMUM RELATIVE COMPACTION. (95% IN PAVED AREAS)

10. RETAINING WALLS SHALL BE CONSTRUCTED AND BACK FILLED IN ACCORDANCE WITH THE STRUCTURAL ENGINEER'S AND SOILS ENGINEER'S RECOMMENDATIONS. (WHERE APPLIES)

11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SOILS REPORT, CITY STANDARDS AND SPECIFICATIONS (LATEST EDITION), APPENDIX CHAPTER 33 OF THE UNIFORM BUILDING CODE (LATEST EDITION), CALIFORNIA BUILDING CODE 2013, AND THE CONTRACT DOCUMENTS AND SPECIFICATIONS. THE MOST STRINGENT OF THE REQUIREMENT SET FORTH IN THE REFERENCED DOCUMENTS SHALL APPLY TO THE PROJECT.

12. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SOILS ENGINEER'S REPORTS AND RECOMMENDATIONS. THE GEOTECHNICAL ENGINEERING INVESTIGATION REPORT PREPARED BY COUNTY OF FRESNO, DEPARTMENT OF PUBLIC WORKS AND PLANNING PROJECT NUMBER: T90203 DATED: 4-22-2020 AND PER LATEST ADDENDUM REPORT PREPARED BY COUNTY OF FRESNO.

13. ALL GRADING OPERATIONS, EXCAVATION, FILL COMPACTION, TRENCHING AND BACK FILL SHALL BE OBSERVED AND TESTED BY A QUALIFIED REGISTERED SOILS ENGINEER. THE SOILS ENGINEER SHALL BE DESIGNATED BY AND PAID FOR BY THE OWNER.

14. ALL GRADING OPERATIONS INCLUDING, BUT NOT LIMITED TO, ROUGH GRADE, RETAINING WALLS, FINE GRADE, BUILDING LAYOUT, CURBS AND CURB AND GUTTERS SHALL BE STAKED BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR. THE CIVIL ENGINEER/SURVEYOR MUST BE APPROVED BY THE OWNER. THE CONTRACTOR IS TO NOTIFY THE ENGINEER/SURVEYOR A MINIMUM OF TWO WORKING DAYS IN ADVANCE ON STAKING REQUESTS.

15. PRIOR TO THE START OF GRADING, ALL EXISTING VEGETATION AND DEBRIS, INCLUDING EXISTING STRUCTURES, SLABS, PAVEMENTS, FOOTINGS, FOUNDATIONS, RUBBLE, TREES AND ROOT SYSTEMS SHALL BE REMOVED FROM THE SITE TO THE SATISFACTION OF THE SOILS ENGINEER.

16. AFTER STRIPPING THE DEBRIS, OVEREXCAVATION SHOULD BE CONDUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. ANY EXISTING LOOSE FILL OR DISTURBED NATURAL SOILS SHALL BE EXCAVATED TO THE SATISFACTION OF THE SOILS ENGINEER.

17. THE EXPOSED SOILS SHALL THEN BE INSPECTED BY THE SOILS ENGINEER, AND ANY ADDITIONAL OVER-EXCAVATION SHALL THEN BE MADE IN ACCORDANCE WITH THE SOILS ENGINEER'S RECOMMENDATIONS.

18. NO FILL MAY BE PLACED UNTIL THE EXPOSED SURFACES HAVE BEEN SURVEYED BY A LICENSED SURVEYOR AND APPROVED BY THE SOILS ENGINEER AND CITY GRADING INSPECTOR.

19. ALL FILL AND BACK FILL MATERIAL MUST BE APPROVED BY THE SOILS ENGINEER AND UTILITY COMPANY INVOLVED. A SAMPLE OF THE PROPOSED BACKFILL MATERIAL SHALL BE PROVIDED BY THE CONTRACTOR TO THE SOILS ENGINEER FOR TESTING AND APPROVAL AT LEAST SEVEN DAYS PRIOR TO HAULING THE PROPOSED BACKFILL MATERIAL TO THE SITE.

20. MATERIAL FOR FILL MAY CONSIST OF ON-SITE SOILS BELOW THE STRIPPED LAYER FREE OF DEBRIS AND HAVING AN ORGANIC CONTENT OF LESS THAN 3% BY WEIGHT, SUBJECT TO THE APPROVAL OF THE SOILS ENGINEER. ALL IMPORTED MATERIAL SHALL BE TESTED AND APPROVED BY THE SOILS ENGINEER PRIOR TO DELIVERY TO THE SITE. "ALL IMPORTED MATERIAL TO BE USED AS ENGINEERED FILL SHALL BE PREDOMINANTLY GRANULAR, WITH THE FOLLOWING ACCEPTANCE CRITERIA."

> PERCENT PASSING 3-INCH SIEVE PERCENT PASSING NO. 4 SIEVE 85-100 PERCENT PASSING NO. 200 SIEVE 10-40 PLASTICITY INDEX MAXIMUM 12 EXPANSION INDEX (ASTM D4829) LESS THAN 15 MINIMUM 40\* R-VALUE MINIMUM RESISTIVITY (OHMS-CM) MINIMUM SULFATES (BY DRY WEIGHT) <0.05% ORGANIC CONTENT (BY DRY WEIGHT) <3%

\*FOR PAVEMENT AREAS ONLY

21. COMPACTION SHALL BE OBTAINED TO THE DEGREE SPECIFIED BY THE SOILS ENGINEER.

22. IF ANY UNKNOWN SUBSURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION, THEY SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE SOILS ENGINEER AND THE OWNER PRIOR TO PROCEEDING.

23. DUST SHALL BE CONTROLLED BY WATERING THROUGHOUT THE GRADING AND BUILDING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL ARRANGE AND PAY FOR CONSTRUCTION WATER.

24. THE CONTRACTOR SHALL TAKE OUT THE GRADING PERMIT AND NOTIFY THE COUNTY INSPECTOR, SOILS ENGINEER AND OWNER AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES TO REMAIN IN USE WITHIN THE CONSTRUCTION AREA WHETHER SHOWN OR NOT SHOWN HEREON. ABANDONMENT OF EXISTING UTILITIES NOT TO REMAIN IN USE SHALL BE IN ACCORDANCE WITH THE SOILS ENGINEER'S RECOMMENDATIONS AND THE GOVERNING UTILITY COMPANY REQUIREMENTS. WHICHEVER IS MOST STRINGENT. ALL EXISTING UTILITY LINES BENEATH PROPOSED AND FUTURE BUILDING AREAS SHALL BE REMOVED. EXISTING RIGID UTILITY LINES, 8 INCHES OR SMALLER IN DIAMETER, MAY REMAIN WITHIN THE AREAS TO BE PAVED PROVIDED A MINIMUM OF 30 INCHES OF COVER EXISTS FROM THE TOP OF THE PIPE TO THE FINISHED PAVEMENT ELEVATIONS AND SUBJECT TO THE APPROVAL OF THE SOILS ENGINEER. ALL EXISTING PIPES LARGER THAN 8 INCHES IN DIAMETER SHALL BE REMOVED (PER SOILS REPORT) TO THE SATISFACTION OF THE SOILS ENGINEER.

26. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT ADJACENT PROPERTIES, ASPHALT PAVEMENT PUBLIC AND PRIVATE, AT ALL TIMES DURING CONSTRUCTION AND NOT TO CAUSE ANY MUD, SILT OR DEBRIS TO BE ONTO THE ADJACENT PROPERTIES. ANY MUD OR DEBRIS CAUSED ON ADJACENT PROPERTY & STREETS SHALL BE REMOVED IMMEDIATELY.

27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING AND/OR EXPORTING ALL MATERIAL AS REQUIRED TO PROPERLY GRADE THE SITE TO THE FINISHED ELEVATIONS SHOWN HEREON IN ACCORDANCE WITH THE APPROVED PLANS, SPECIFICATIONS AND THE SOILS ENGINEER'S RECOMMENDATIONS.

28. THE GRADING CONTRACTOR SHALL BACK FILL ALL PLANTER AREAS TO WITHIN 2 INCHES OF THE ADJACENT TOP OF CURB OR BACK OF WALK, AS APPLICABLE, WITH SOIL FREE FROM DEBRIS AND APPROVED BY THE ARCHITECT. TOPSOIL SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR AND SHALL BE REPLACED TO WITHIN 2 INCHES OF THE ADJACENT TOP OF CURB. COMPACTION SHALL BE AS DESIGNATED BY THE SOILS ENGINEER.

29. A SEPARATE PERMIT SHALL BE REQUIRED BY THE CONTRACTOR FROM THE CITY OF FRESNO PUBLIC WORKS OR CAL TRANS PRIOR TO PERFORMING ANY WORK WITHIN THEIR STREET RIGHT-OF-WAYS. ALL COSTS FOR THIS PERMIT SHALL BE BORNE BY THE CONTRACTOR.

30. AFTER THE COMPLETION OF THE ROUGH GRADING AND PRIOR TO THE START OF ANY UTILITY CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A CERTIFICATE FROM THE SOILS ENGINEER AND FURNISH TWO APPROVED COPIES TO THE OWNER AND ARCHITECT FOR APPROVAL, THAT THE GRADING HAS BEEN INSPECTED AND TESTED AND MEETS WITH HIS RECOMMENDATIONS AND APPROVAL. THIS CERTIFICATE SHALL INCLUDE COMPACTION REPORTS, TYPES OF MATERIALS ENCOUNTERED AND A DESCRIPTION OF THE WORK PERFORMED.

31. ALL CURB AND GUTTER SHALL BE WATER TESTED UNDER THE DIRECTION AND IN THE PRESENCE OF THE ENGINEER OF THE PROJECT REPRESENTATIVE.

32. ALL FILL SHALL BE STRUCTURAL ENGINEERED FILL IN COMPLIANCE WITH THE SOILS INVESTIGATION.

33. THE CONTRACTOR SHALL ARRANGE AND PAY FOR A CIVIL ENGINEER/SURVEYOR, FOR ALL STAKING, SURVEYS, CERTIFICATIONS AND RELATED WORK AS SPECIFIED HEREIN.

34. ALL TESTS AND INSPECTIONS REQUIRED BY GOVERNING AGENCIES SHALL BE ARRANGED FOR BY THE CONTRACTOR AND PAID FOR BY THE CLIENT EXCEPT FOR RETESTS.

35. ALL AREAS SHALL BE GRADED AT 1.5% (UNLESS CONCRETE) MINIMUM FOR DRAINAGE EXCEPT ALONG FLOW LINE OF CURB AND GUTTER OR VALLEY GUTTER.

36. THE DEVELOPER SHALL OBTAIN WRITTEN AUTHORIZATION FROM ANY ADJACENT PROPERTY OWNER GIVING HIM PERMISSION TO ENTER HIS PROPERTY FOR PURPOSES OF CONSTRUCTING THE IMPROVEMENTS DELINEATED ON THESE PLANS AND TRANSITIONS THERETO. THE DEVELOPER SHALL PROVIDE THE COUNTY WITH A COPY PRIOR TO START OF WORK.

37. MAXIMUM CUT OR FILL SLOPES SHALL BE 2H:1V OR FLATTER.

38. CONTRACTOR TO PROVIDE THE COUNTY WITH MYLAR AS-GRADED PLANS. PLANS ARE TO BE SUBMITTED UPON COMPLETION OF PROJECT AND PRIOR TO ACCEPTANCE. THE ENGINEER SHALL CERTIFY THE PAD ELEVATIONS PRIOR TO ISSUANCE OF ANY BUILDING PERMIT. AS BUILTS SHALL BE PREPARED BY A LICENSED SURVEYOR OR ENGINEER.

39. ALL SITE WORK SHALL BE IN CONFORMANCE WITH TITLE 24 OF CALIFORNIA ADMINISTRATIVE

40. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE O.S.H.A. REGULATIONS.

41. 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. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD 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 DESIGN PROFESSIONAL.

42. CONSTRUCTION ACTIVITIES SHALL BE ALL LIMITED TO 7:00 A.M. TO 7:00 P.M. ON WEEKDAYS. 9:00

43. ATTENTION IS DIRECTED FOR ALL PERSONNEL WORKING ON THIS PROJECT TO SECTION 7-1.011, 7-1.09 AND SECTION 7-1.13 OF THE STATE STANDARD SPECIFICATIONS, LATEST EDITION AND THE FOLLOWING SPECIAL PROVISIONS REGARDING TRAFFIC MAINTENANCE AND CONTROL: SIGNS. TRAFFIC CONES AND LIGHTED BARRICADES AT NIGHT SHALL BE PROVIDED BY THE

CONTRACTOR TO ENCLOSE THE WORK SITE AT ALL TIMES. FLAGMEN ARE REQUIRED WHEN TRAFFIC IS RESTRICTED TO THE USE OF ONE LANE, MAXIMUM 12 FOOT WIDTH. STREET CLOSING IS PROHIBITED UNLESS PERMISSION IS GRANTED BY THE DIRECTOR OF PUBLIC

WORKS ONE WEEK IN ADVANCE OF THE CLOSURE. CONTRACTOR SHALL CONTACT ALL EMERGENCY SERVICES. DETOUR SIGN PLACEMENT SHALL BE AS APPROVED BY THE CITY. PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO MAINTAIN PEDESTRIAN FACILITIES DURING

ACCESS TO DRIVEWAYS AND BUSINESS ESTABLISHMENTS SHALL BE MAINTAINED AT ALL TIMES BY USE OF STEEL PLATES OR MEANS ACCEPTABLE TO THE CITY INSPECTOR.

44. DUST CONTROL SHALL CONFORM TO THE PROVISIONS IN SECTION 10 OF THE STATE STANDARD SPECIFICATIONS.

45. CONTRACTOR SHALL SEE TO IT THAT TRUCKS LEAVING THE SITE SHALL DO SO IN SUCH A MANNER THAT MUD AND EARTH WILL NOT BE DEPOSITED ON ADJACENT STREET PAVEMENTS. ANY MUD COST ASSOCIATED WITH THE FINAL REPAIR AND COLORED DVD WILL BE THE CONTRACTORS. OR EARTH DEPOSITED ON STREET PAVEMENT SHALL BE PROMPTLY REMOVED BY THIS CONTRACTOR, OR AS REQUESTED BY THE INSPECTOR.

46. CONTRACTOR SHALL REPLACE AND/OR REPAIR ALL DAMAGES AFFECTED BY CONSTRUCTION ON EXISTING ADJACENT OFF-SITE IMPROVEMENTS TO THE SATISFACTION OF THE CITY OF FRESNO PUBLIC WORKS DEPARTMENT.

47. THE FOLLOWING CONTROL MEASURES SHALL BE INCORPORATED INTO ANY PERMITS FOR ALL

PHASES OF THE PROJECT: WATER ALL ACTIVE CONSTRUCTION AREAS AT LEAST TWICE DAILY. (LATE MORNING AND THE END OF THE DAY.)

COVER ALL TRUCKS HAULING SOIL, SAND, AND OTHER LOOSE MATERIALS OR REQUIRE ALL TRUCKS TO MAINTAIN AT LEAST TWO FEET OF FREEBOARD. PAVE OR APPLY WATER THREE TIMES DAILY, OR APPLY (NON-TOXIC) SOIL STABILIZER TO ALL UNPAVED ACCESS ROADS, PARKING AREAS AND STAGING AREAS AT CONSTRUCTION SITES.

SWEEP DAILY (WITH WATER SWEEPERS) ALL PAVED ACCESS ROADS, PARKING AREAS AND STAGING AREAS AT CONSTRUCTION SITES. SWEEP STREETS DAILY (WITH WATER SWEEPERS) IF VISIBLE SOIL MATERIAL IS CARRIED ONTO

ADJACENT PUBLIC STREETS.

HYDROSEED OR APPLY (NON-TOXIC) SOIL STABILIZERS TO INACTIVE CONSTRUCTION AREAS (PREVIOUSLY GRADED AREAS INACTIVE FOR TEN DAYS OR MORE). ENCLOSE, COVER, WATER TWICE DAILY OR APPLY (NON-TOXIC) SOIL BINDERS TO EXPOSED

STOCKPILES (DIRT, SAND, ETC.) LIMIT TRAFFIC SPEEDS ON UNPAVED ROADS TO 15 MPH.

INSTALL SANDBAGS OR OTHER EROSION CONTROL MEASURES TO PREVENT SILT RUNOFF TO PUBLIC ROADWAYS. REPLANT VEGETATION IN DISTURBED AREAS AS QUICKLY AS POSSIBLE. INSTALL WHEEL WASHERS FOR ALL EXISTING TRUCKS, OR WASH OFF THE TIRES OR TRACKS

OF ALL TRUCKS AND EQUIPMENT LEAVING THE SITE. INSTALL WIND BREAKS, OR PLANT TREES/VEGETATIVE WIND BREAKS AT WINDWARD SIDE(S) OF CONSTRUCTION AREAS. SUSPEND EXCAVATION AND GRADING ACTIVITY WHEN WINDS (INSTANTANEOUS GUSTS) EXCEED

25 MILES PER HOUR. LIMIT THE AREA SUBJECT TO EXCAVATION, GRADING AND OTHER CONSTRUCTION ACTIVITY AT

48. "IF ARCHAEOLOGICAL RESOURCES OR HUMAN REMAINS ARE DISCOVERED DURING CONSTRUCTION, WORK SHALL BE HALTED AT A MINIMUM OF 200 FEET FROM THE FIND AND THE AREA SHALL BE STAKED OFF THE PROJECT DEVELOPER SHALL NOTIFY THE CORONER OR THE DIRECTOR OF THE ARCHAEOLOGICAL REGIONAL RESEARCH CENTER & THE PLANNING DIRECTOR. IF THE FIND IS DETERMINED TO BE SIGNIFICANT, APPROPRIATE MITIGATION MEASURES SHALL BE FORMULATED AND IMPLEMENTED."

49. PRIOR TO THE DELIVERY OF ASPHALT PAVEMENT TO THE SITE, THE CONTRACTOR SHALL OBTAIN A CERTIFICATE FROM THE SOILS ENGINEER AND FURNISH TWO COPIES TO THE OWNER AND ARCHITECT FOR APPROVAL THAT THE SUB-GRADE AND BASE MATERIAL HAVE BEEN PROPERLY PREPARED, GRADED AND COMPACTED AND ARE SUITABLE FOR THE PLACEMENT OF THE ASPHALT MATERIAL.

50. THE CERTIFICATION REQUIRED IN NOTE NO. 51 SHALL BE PERFORMED IMMEDIATELY PRIOR TO THE PLACEMENT OF THE ASPHALT MATERIAL. IN ADDITION, THE SOILS ENGINEER SHALL BE PRESENT DURING THE PLACEMENT OF THE ASPHALT.

51. UPON COMPLETION OF THE ASPHALT PAVEMENT AND PRIOR TO THE PAINT STRIPING AND SEALCOATING OF THE PARKING LOT, THE CONTRACTOR SHALL HAVE THE SOILS ENGINEER CORE THE PAVED AREAS AT LOCATIONS SPECIFIED BY THE OWNER FOR APPROVAL PRIOR TO THE PAINTING AND SEALING OF THE PAVEMENT. CORE TESTS SHALL INCLUDE TYPES OF MATERIAL ENCOUNTERED AND PAVEMENT AND BASE THICKNESS.

52. PAVE DRIVEWAY AND PARKING LOT PER GRADING PLAN AND GEOTECHNICAL REPORT REQUIREMENTS,

SEWER, WATER AND STORM DRAIN

53. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS AND THE CONTRACT SPECIFICATIONS AND THE PROJECTS GEOTECHINICAL ENGINEERING REPORT WHICHEVER REQUIREMENTS IS THE MOST STRINGENT.

54. EXISTING PRIVATE AND PUBLIC UTILITIES SHOWN HEREON REFLECT AVAILABLE RECORD DATA. THE CONTRACTORS SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES WHICH ARE TO REMAIN IN USE. WHETHER SHOWN OR NOT SHOWN HEREON. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC UTILITY COMPANIES AND OWNERS OF PRIVATE UTILITIES WITHIN THE CONSTRUCTION AREA 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.

55. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND LICENSES PRIOR TO THE START OF CONSTRUCTION.

56. THE CONTRACTOR SHALL VERIFY THE FLOW LINE ELEVATION OF THE EXISTING SEWER/STORM DRAIN AT THE POINT OF CONNECTION AND NOTIFY THE ENGINEER IMMEDIATELY IF MORE THAN 0.10 FOOT OF DIFFERENCE EXISTS FROM THIS PLAN.

57. THE CONTRACTOR SHALL COORDINATE THE SEWER, WATER AND STORM DRAIN CONSTRUCTION IN A MANNER TO PREVENT ANY CONFLICTS WHERE UTILITY LINES CROSS EACH OTHER. THE SEWER, WATER AND STORM DRAIN CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING PLANS FOR ALL OTHER UTILITIES FOR THIS DEVELOPMENT FROM THE ARCHITECT, SHALL FAMILIARIZE THEMSELVES THEREWITH AND SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY OF ANY CONFLICT WITH THIS PLAN PRIOR TO THE START OF CONSTRUCTION.

58. SEWER LINES MAY NOT PASS OVER THE TOP OF WATER LINES. WHERE SEWER LINES PASS BENEATH WATER LINES WITH LESS THAN THREE (3) FEET OF VERTICAL CLEARANCE, THE SEWER LINES SHALL BE FULLY ENCASED WITH 6 INCH MINIMUM THICK CONCRETE FOR A MINIMUM DISTANCE OF TEN (10) FEET ON EACH SIDE OF THE CROSSING. MINIMUM HORIZONTAL CLEARANCE BETWEEN PARALLEL SEWER AND WATER LINES SHALL BE TEN (10) FEET CLEAR.

59. ALL SEWER AND WATER SERVICES SHALL BE CONSTRUCTED TO THE RIGHT-OF- WAY LINE OTHERWISE SHOWN HEREON. THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION AND ELEVATION OF THE UTILITY SERVICES, INCLUDING THE FIRE SERVICE, WITH THE BUILDING CONTRACTOR PRIOR TO THE INSTALLATION THEREOF AND SHALL NOTIFY THE ARCHITECT AND OWNER IMMEDIATELY OF ANY DISCREPANCY FROM THIS PLAN PRIOR TO PROCEEDING.

60. ALL ON-SITE SANITARY SEWER P.V.C. PIPE SHALL CONFORM TO ASTM SPECIFICATIONS D-SDR 26 OR GREATER.

61. WATER LINES 4" AND LARGER FROM THE DETECTOR CHECK TO WITHIN 5' OF THE BUILDING SHALL BE P.V.C. PIPE, PC 305, WITH RING-TITE JOINTS CONFORMING TO A.W.W.A. C900 (C.I. DIA. RATIO 18).

62. DOMESTIC SERVICE LINES 2" AND SMALLER SHALL BE P.V.C. PRESSURE PIPE, PC 235, UNLESS OTHERWISE SHOWN UPON THE PLANS. 63. WATER LINES 12" AND LARGER SHALL HAVE A MINIMUM COVER OF 36 INCHES. WATER LINES SMALLER THAN 12" SHALL HAVE A MINIMUM COVER OF 30 INCHES. UNLESS OTHERWISE NOTED.

65. THE UNDERGROUND CONTRACTOR SHALL SET HIS STRING OR WIRE THROUGH AT LEAST THREE GRADE STAKES TO VERIFY THE GRADE.. IF THE STAKES DO NOT PRODUCE A UNIFORM GRADE, NOTIFY THE ENGINEER IMMEDIATELY AND HAVE THE GRADES CHECKED PRIOR TO TRENCHING. A LASER SHALL BE USED TO SET ALL PIPE. 66. ALL UTILITY STRUCTURES INCLUDING, BUT NOT LIMITED TO MANHOLES. CATCH BASINS. WATER

VALVES, FIRE HYDRANTS, TELEPHONE AND ELECTRIC VAULTS AND PULL BOXES THAT LIE WITHIN AREAS EFFECTED BY WORK ON THIS PROJECT SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR OR THE RESPECTIVE UTILITY COMPANY. THE CONTRACTOR IS RESPONSIBLE TO AFFECT COORDINATION. 67. AIR TEST OF THE SEWER MAINS AND BUILDING SERVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF CITY & THE MANUFACTURER'S AIR TESTING MANUAL. THE AIR TEST IS TO BE MADE ON THE PIPE INSTALLATION WITHOUT THE ADDITION OF SEALERS TO THE PIPE INTERIOR. THE APPLICATION OF MORTAR. EPOXY, CAULKING COMPOUNDS, OR OTHER MATERIAL TO THE PIPE WILL BE PROHIBITED. FAILURE TO MEET THE AIR TEST WILL REQUIRE CONTRACTOR TO REPLACE SECTIONS AS REQUIRED. CONTRACTOR MAY ELECT IN LIEU OF EXPOSING ENTIRE LINE, THE OPTION TO SELECT DEFECTIVE PORTIONS OF THE PIPELINE, OR ISOLATE MAIN IN MINIMUM OF 5' SECTIONS, AND RETEST EACH SECTION UNTIL FAILURE IS LOCATED, AND THEN REPLACE AS NECESSARY. ALL COSTS, (INCLUDING PHOTOGRAPHER'S WORK ASSOCIATED WITH THE FINAL REPAIR) WILL BE THE CONTRACTOR'S. ÀIR TEST IS TO BE PERFORMED UPON COMPLETION OF COMPACTION.

68. IN ADDITION TO THE AIR TEST, THE CONTRACTOR SHALL INSPECT THE SEWER & STORM DRAIN INSTALLATION WITH A CLOSED CIRCUIT TELEVISION CAMERA TO CITY STANDARDS. ANY BROKEN PIPE, SEPARATION OF JOINTS OR ANY PIPE NOT LAID TO TRUE LINE AND GRADE, SHALL BE REPLACED. ALL

69. FINAL AIR TEST OF THE SEWER SYSTEM SHALL BE MADE AFTER ALL UNDERGROUND UTILITIES have been installed and compacted in that area. Television camera check of sewer system and STORM DRAIN SYSTEM SHALL BE MADE AFTER AIR TEST OR WATER TEST ON SEWER AND PRIOR TO PLACING OF FINAL PAVEMENT. CONTRACTOR SHALL FORWARD A COPY OF COLORED DVD TO THE PROJECT'S ENGINEER AFTER THE FINAL CAMERA INSPECTION.

71. ALL SEWER AND STORM DRAIN CONSTRUCTION SHALL PROCEED FROM THE DOWNSTREAM CONNECTION TO THE UPSTREAM TERMINUS.

72. SEWER LATERALS SHALL BE PLUGGED AT THE POINT OF TERMINUS SHOWN HEREON, AND THE ENTIRE SYSTEM SHALL THEN BE TESTED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND GOVERNING AGENCY REQUIREMENTS. NO BUILDING CONNECTIONS SHALL BE MADE TO THE LATERALS UNTIL THE ENTIRE SYSTEM HAS BEEN TESTED, APPROVED AND ACCEPTED BY THE CITY AND THE OWNER. FINAL AIR LEAKAGE TESTS SHALL BE MADE AFTER ALL BACK FILL HAS BEEN COMPLETED AND APPROVED BY THE SOILS ENGINEER.

73. MANHOLE, VALVE, METER BOX AND CLEANOUT RIM ELEVATIONS, SHOWN OR NOT SHOWN HEREON, ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE RIMS AND COVERS TO THE FINISHED PAVEMENT GRADE AFTER THE SITE IS PAVED AND SHALL MAKE ARRANGEMENTS FOR ANY ADDITIONAL PAVING REQUIRED.

74. UTILITY LINE CONSTRUCTION SHALL NOT COMMENCE UNTIL THE SITE HAS BEEN ROUGH GRADED AND CERTIFIED BY THE APPROVED SOILS ENGINEER AND CIVIL ENGINEER/SURVEYOR IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS.

75. ALL CHLORINIZATION, STERILIZATION, PRESSURE TESTS, HYDROSTATIC AND OTHER TESTS OF WATER LINES SHALL BE MADE IN ACCORDANCE WITH THE CITY STANDARDS AND SPECIFICATIONS. 76. THE CONTRACTOR SHALL ARRANGE AND SCHEDULE ALL TESTS AND INSPECTIONS REQUIRED BY

77. THE CONTRACTOR SHALL PAY ALL UTILITY FEES INCLUDING, BUT NOT LIMITED TO, WATER METERS,

WATER CONNECTION, SEWER CONNECTION, INSTALLATION COSTS, WATER PARTICIPATION FEES AND OTHER FEES REQUIRED BY THE GOVERNING AGENCIES FOR THE INSTALLATION OF THE COMPLETE, OPERABLE AND USABLE UTILITY SYSTEMS SHOWN THEREON. 78. ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. EXCEPT AS NOTED ON

79. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AMPLE COVERAGE FOR THE PROTECTION OF ALL INSTALLED UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT. 80. CONCRETE THRUST BLOCKS SHALL BE INSTALLED ON ALL WATER LINES AT ALL BENDS, ELBOWS,

TEES AND WHERE DIRECTED BY THE ENGINEER AND INSPECTOR. 81. THE CONTRACTOR IS TO FURNISH THE OWNER WITH A COPY OF ALL PERMITS AND FINAL ACCEPTANCES GRANTED BY UTILITIES AND GOVERNING AGENCIES.

82. PRIOR TO THE INSTALLATION OF ANY UTILITY LINE, THE TRENCH SHALL BE INSPECTED AND APPROVED BY THE SOILS ENGINEER. THE CONTRACTOR SHALL PROVIDE A COPY OF THE SOILS ENGINEER'S INSPECTION REPORT AND APPROVAL TO THE OWNER, CITY, AND ARCHITECT. 83. ALL UTILITY LINE BACK FILL MATERIAL SHALL BE APPROVED BY THE SOILS ENGINEER AND GOVERNING AGENCY, WHOSEVER REQUIREMENTS ARE MOST STRINGENT. BACK FILL PLACEMENT AND COMPACTION SHALL BE MADE BY METHODS AND TO THE DEGREE SPECIFIED BY THE SOILS ENGINEER. BACK FILL COMPACTION TESTS AND REPORTS SHALL BE MADE BY THE SOILS ENGINEER AND FURNISHED TO THE OWNER AND ARCHITECT FOR APPROVAL. UTILITY LINES MAY NOT BE COVERED UNTIL AFTER THEY HAVE BEEN TESTED AND APPROVED.

84. UPON COMPLETION OF THE BACK FILL OPERATIONS. AND THE APPROVAL THEREOF BY THE SOILS ENGINEER. THE UTILITY LINES SHALL BE RETESTED. IN ADDITION, IMMEDIATELY AFTER SCARIFYING AND RECOMPACTING THE SUB GRADE SOIL IN PREPARATION OF, BUT PRIOR TO, THE LAYING OF THE ASPHALT SUB-BASE MATERIAL, THE WATER LINES SHALL BE RETESTED. ANY DEFECTS SHALL BE CORRECTED PRIOR TO THE PAVING OF THE LOT. THESE TESTS SHALL BE MADE IN THE PRESENCE OF THE ARCHITECT. THIS SHALL INCLUDE LANDSCAPE IRRIGATION

85. "THE WIDTH OF ALL TRENCHES SHALL PROVIDE A MINIMUM CLEARANCE OF 8 INCHES BETWEEN THE SIDEWALLS OF THE PIPE AND THE TRENCH, OR AS NECESSARY TO PROVIDE A TRENCH WIDTH THAT IS 12 INCHES GREATER THAN 1.25 TIMES THE OUTSIDE DIAMETER OF THE PIPE WHICHEVER IS GREATER. THE BOTTOM OF THE TRENCH SHALL ONLY BE COMPACTED TO A MINIMUM OF 92 PERCENT RELATIVE COMPACTION IF THE BOTTOM OF THE TRENCH IS DISTURBED VT ACCIDENTAL OVER EXCAVATION OF THE TRENCH BOTTOM, OR IF EXCAVATED WITH CUTTING TEETH. IF LOOSE SOILS ARE ENCOUNTERED AT THE BOTTOM OF THE TRENCH, THE CONTRACTOR SHALL REMOVE ALL LOOSE SOILS OR COMPACT THE LOOSE SOILS AS ENGINEERED FILL PRIOR TO PLACEMENT OF BEDDING, PIPE AND BACKFILL OF TRENCH, AS A MINIMUM, THE PIPE BEDDING SHALL CONSIST OF 4 INCHES OF COMPACTED (92 PERCENT RELATIVE COMPACTION) SELECT SAND WITH A MINIMUM SAND EQUIVALENT OF 30 AND MEETING THE FOLLOWING REQUIREMENTS: 100 PERCENT PASSING THE 1/4 INCH SIEVE, A MINIMUM OF 90 PERCENT PASSING THE NO. 4 SIEVE AND NOT MORE THAN 10 PERCENT PASSING THE NO. 200 SIEVE. THE HAUNCHES AND INITIAL BACKFILL (12 INCHES ABOVE THE TOP OF PIPE) SHALL CONSIST OF A SELECT SAND MEETING THESE SAND EQUIVALENT AND GRADATION REQUIREMENTS THAT IS PLACED IN MAXIMUM 6-INCH THICK LIFTS AND COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 92 PERCENT USING HAND EQUIPMENT. OPEN GRADED GRAVEL AND ROCK MATERIALS SUCH AS 3/4-INCH CRUSHED ROCK OR 1/2-INCH CRUSHED ROCK SHALL NOT BE USED AS BACKFILL INCLUDING TRENCH BACKFILL. IN THE EVENT GRAVEL OR ROCK IS REQUIRED BY A REGULATORY AGENCY FOR USE AS BACKFILL, ALL OPEN GRADED MATERIALS SHALL BE FULLY ENCASED IN A GEOTEXTILE FILTER FABRIC, SUCH AS MIRAFI 140N, TO PREVENT MIGRATION OF FINE GRAINED SOILS INTO THE POROUS MATERIAL

86. PROCEDURE ABOVE PIPE ZONE: THE FINAL FILL (12 INCHES ABOVE THE PIPE TO THE SURFACE) SHALL BE ON-SITE OR IMPORTED, NON-EXPANSIVE MATERIALS MOISTURE CONDITIONED TO BETWEEN OPTIMUM AND THREE (3) PERCENT ABOVE OPTIMUM MOISTURE CONTENT AND COMPACTED TO A MINIMUM OF 92 PERCENT RELATIVE COMPACTION. THE UPPER 12 INCHES OF FILL AND SUBGRADE COMPACTED IN PAVEMENT AREAS SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM TEST METHOD D1557. FINAL UTILITY TRENCH BACKFILL PLACED IN OR ADJACENT TO BUILDING AREAS, EXTERIOR SLABS OR PAVEMENTS SHALL BE PLACED IN 8 INCH LIFTS. LIFE THICKNESS CAN BE INCREASED IF THE CONTRACTOR CAN DEMONSTRATE THE MINIMUM COMPACTION REQUIREMENTS CAN BE

87. PRIOR TO THE PLACEMENT OF UNDERGROUND UTILITIES, THE TRENCH SHALL BE EXAMINED FOR SUBSURFACE SEEPAGE. IF SEEPAGE IS ENCOUNTERED, THE SOILS ENGINEER SHALL BE CONSULTED SO THAT RECOMMENDATIONS FOR SUBSURFACE DRAINAGE CAN BE MADE. TRENCHES CONTAINING FREE WATER SHALL BE DE-WATERED PRIOR TO BACKFILLING.

88. WATER SETTING (JETTING): JETTING OF BEDDING AND BACK FILL SHALL NOT BE PERMITTED.

89. EACH BACK FILL LAYER SHALL BE EVENLY SPREAD, PROPERLY MOISTENED AND COMPACTED TO THE SPECIFIED RELATIVE DENSITY. ANY DAMAGE TO THE PIPE AS A RESULT OF CONTRACTOR'S OPERATION SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE. 90. NO MATERIAL GREATER THAN 3 INCHES IN ANY DIMENSION SHALL BE PLACED WITHIN ONE FOOT OF ANY PIPE, MANHOLE OR STRUCTURE. 91. MAXIMUM DENSITY/OPTIMUM MOISTURE CONTENT SHALL BE DETERMINED IN ACCORDANCE WITH ASTM TEST METHOD D1557 AND ALL BEDDING AND BACK FILL SHALL BE PLACED UNDER THE SUPERVISION OF THE SOILS ENGINEER.

92. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO SUPERVISE AND CERTIFY THAT PROPER COMPACTION HAS BEEN OBTAINED BY SUBCONTRACTORS AND AGENCIES CONCERNING UTILITY LINE BACK FILL INCLUDING, BUT NOT LIMITED TO SEWERS, WATER LINES, ELECTRICAL, TELEPHONE, GAS AND LANDSCAPE IRRIGATION LINE.

93. ALL UTILITIES SHALL BE UNDERGROUND. RETAINING WALL TRENCHING AND EXCAVATION

SHALL BE MADE AVAILABLE FOR DISTRICT INSPECTION UPON REQUEST.

FIRST CERTIFICATE OF OCCUPANCY, IF APPLICABLE.

94. NOT USED

95. NOT USED 96. THE PROJECT AREA SHALL BE FENCED AS NECESSARY DURING CONSTRUCTION, FOR SAFETY PURPOSES AND TO KEEP OUT UNAUTHORIZED

97. ALL PUBLIC IMPROVEMENTS SHALL CONFORM TO CITY ENGINEERING STANDARDS & PROPOSED STANDARDS AND SPECIFICATIONS.

98. ALL CUT AND FILL SLOPES SHALL IMMEDIATELY BE LANDSCAPED AND WATERED FOR EROSION CONTROL AS SHOWN ON THE LANDSCAPE PLAN. WATERING SHALL BEGIN IMMEDIATELY AFTER PLANTING. ALL LANDSCAPING SHALL BE WATERED AND MAINTAINED BY THE DEVELOPER. 99. THE SOILS REPORT SHALL BE STRICTLY ADHERED TO IN THE GRADING AND CONSTRUCTION OF THE PROJECT.

100. CONTRACTOR TO IMPLEMENT THE FOLLOWING THROUGH OUT THE PROJECTS CONSTRUCTION PHASE: -FOR EACH PROJECT PHASE, WITHIN 30-DAYS OF ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY. IF APPLICABLE, SUBMIT TO THE SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (THE DISTRICT) A SUMMARY REPORT OF THE CONSTRUCTION START, AND END DATES, AND THE DATE OF ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY. OTHERWISE, SUBMIT TO THE DISTRICT A SUMMARY REPORT OF THE CONSTRUCTION START AND END DATES WITHIN 30-DAYS OF THE END OF EACH PHASE OF CONSTRUCTION -FOR EACH PROJECT PHASE, ALL RECORDS SHALL BE MAINTAINED ON SITE DURING CONSTRUCTION AND FOR A PERIOD OF TEN YEARS FOLLOWING EITHER THE END OF CONSTRUCTION OR THE ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY, WHICHEVER IS LATER. RECORDS

-FOR EACH PROJECT PHASE, MAINTAIN RECORDS OF (1) THE CONSTRUCTION START AND END DATES AND (2) THE DATE OF ISSUANCE OF THE

# Project:

NOTES SHEET

Fresno County Environmental Compliance Center Site Improvement and Shade Structure

File Path: G:Capital \ Projects \ Building Numbers \ American

Ave Landfill \ T90203 Environmental Compliance Center\ 00

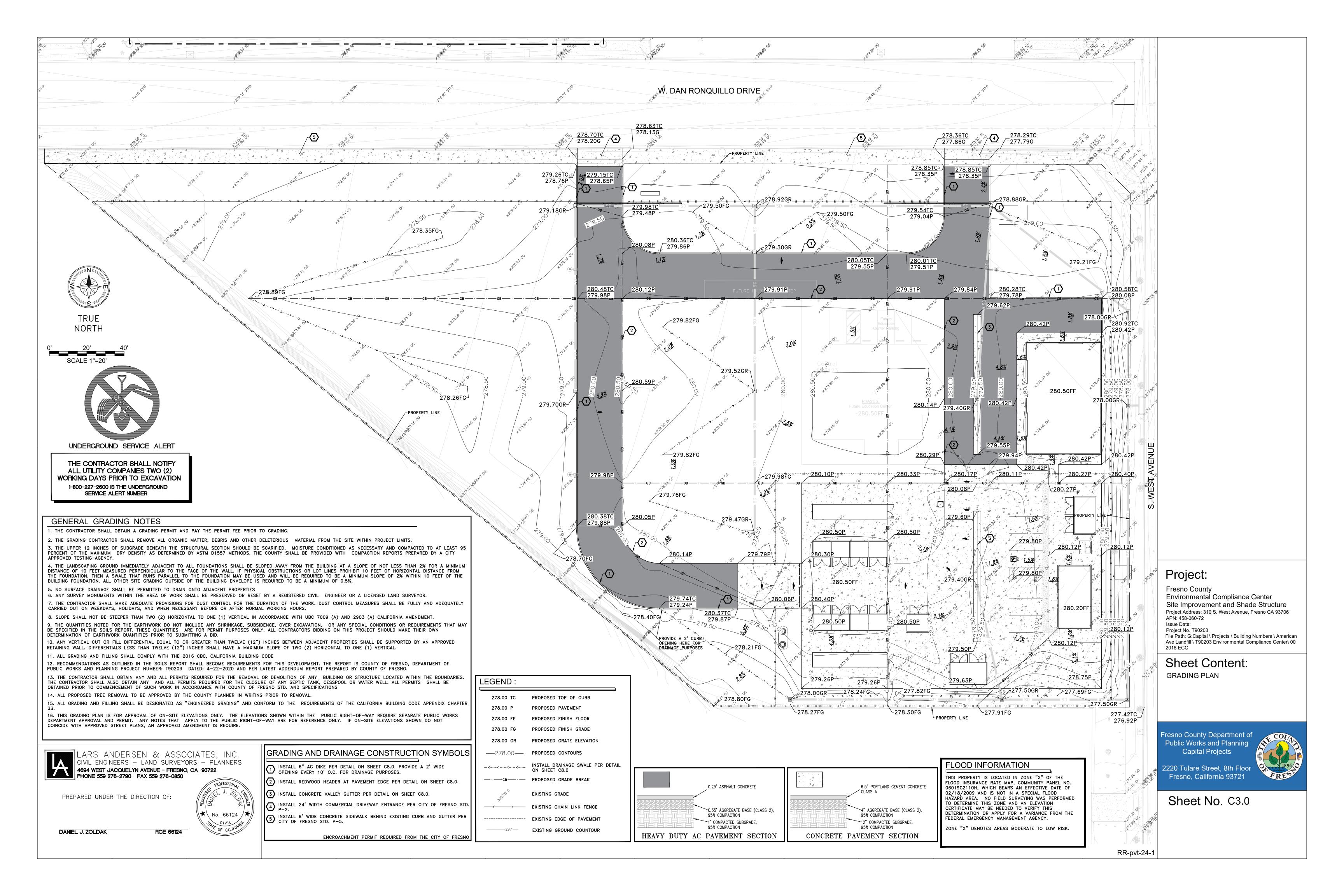
Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72 Issue Date: Project No. T90203

**Sheet Content:** 

Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor Fresno, California 93721

Sheet No. C2.0



# UTILITY NOTES:

WITH CONCRETE MARKER.

- FRESNO STANDARDS AND SPECIFICATIONS, LATEST EDITION AND 2019 CFC, 2019 CBC, & 2019 NFPA-24.
- MINIMUM DISTANCE BETWEEN SANITARY SEWER AND WATER MAIN SHALL BE TEN FEET HORIZONTALLY.

ALL WATER MAIN INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF

- PIPING MATERIAL WITHIN CITY R.O.W TO BE PER FRESNO PUBLIC UTILITY
- DEPARTMENT SPECIFICATIONS. MARK THE LOCATION OF ALL TEMPORARY UTILITY LINE STUBS WITH 2" X 2" X 12" WOOD STAKES AND FLAGGING AND BERNTSEN "DEEP-1" MAGNET MARKER TAPED TO TOP OF PIPE IF NOT DIRECTLY CONNECTED

TO A BUILDING STRUCTURE. PERMANENT UTILITY STUBS LOCATED AT PROPERTY LINES FOR FUTURE CONNECTIONS BY OTHERS TO BE MARKED

- ALL UTILITY DISTRIBUTION TRENCH BOXES TO HAVE BOLT DOWN TRAFFIC WEIGHT COVERS.
- MANHOLE COVERS ARE TO BE IDENTIFIED WITH THE RESPECTIVE
- UTILITY ON TOP (TYPICAL) PER CITY OR UTILITY COMPANY STANDARDS.
- SITE CONTRACTOR IS TO SUPPLY AND INSTALL ALL MATERIAL AND
- CONTRACTOR TO PROVIDE A 30" MINIMUM COVER FOR WATER PIPES LESS THAN 12"Ø AND 36" MINIMUM COVER FOR PIPES LARGER THAN 12"Ø OR AS NOTED PER MANUFACTURES SPECIFICATIONS WHICHEVER IS MORE
- ALL ONSITE SANITARY SEWER P.V.C. PIPE SHALL CONFORM TO ASTM SPECIFICATIONS D-3034-SDR 26.
- 10. RESPECTIVE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL UTILITY CONNECTION ON ALL BUILDING UTILITY STUBS. IN THE CASE THE BUILDING UTILITY STUBS HAVE BEEN INSTALLED FIRST, THE CONTRACTOR SHALL COORDINATE THE CONNECTION WITH THE BUILDING CONTRACTOR.
- BACKFLOW PREVENTION ASSEMBLY SHALL BE TESTED BY A QUALIFIED A.W.W.A. TESTER.
- 12. NO MATERIAL GREATER THAN 4" IN ANY DIMENSION SHALL BE PLACED WITHIN ONE FOOT OF ANY PIPE, MANHOLE OR STRUCTURE.
- 13. CONTRACTOR, SUBDIVIDER AND SURVEYOR SHALL REVIEW BUILDING PLANS FOR ANY CHANGES ON UTILITY TIE-IN LOCATIONS.
- THRUST BLOCK SHALL BE INSTALLED WHERE PIPE DEFLECTIONS EXCEED 4 DEGREES PER COUPLING/FITTINGS, AS SPECIFIED BY PIPE MANUFACTURER.

- 15. CONTRACTOR SHALL OBTAIN ENCROACHMENT PERMIT PRIOR TO START OF
- WORK FOR ANY WORK IN THE CITY RIGHT-OF-WAY. 16. CONTRACTOR TO POTHOLE AT TIE-IN POINTS PRIOR TO TRENCHING. VERIFY DEPTH OF EXISTING MAINS AND NOTIFY ENGINEER AND CITY OF FRESNO WATER DISTRICT WHERE VERTICAL TAP MAY BE REQUIRED.
- 17. SEWER AND WATER MATERIALS AND FACILITIES SHALL ALSO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, 2019 EDITION OR MOST UP TO DATE EDITION.
- 18. ONSITE WATER LINE PIPE 4" AND LARGER SHALL MEET THE REQUIREMENT OF AWWA C-900 AND SHALL BE PC 305. WATER 3" AND SMALLER SHALL BE SCHEDULE 40 PVC. FIRE SERVICE LINES BEYOND THE CHECK VALVE
- 19. ALL ON-SITE WATER PIPE 4" AND LARGER SHALL BE CHLORINATED AND TESTED BY AN APPROVED TESTING AGENCY AND THE RESULTS SUBMITTED TO THE CITY.
- 20. NOTIFY U.S.A. AT 811 AT LEAST TWO WORKING DAYS PRIOR TO STARTING TRENCHING.
- 21. PRESSURE TESTING THE FIRE PIPING SYSTEM AGAINST THE DETECTOR CHECK VALVE IS PROHIBITED. CONTRACTOR SHALL PROVIDE A TEMPORARY CAP OR BLIND FLANGE FOR TESTING PURPOSES.
- 22. CONTRACTOR TO PROVIDE 2 HOUR @200PSI HYDROSTATIC PRESSURE TEST. CONTRACTOR TO NOTIFY FIRE DEPARTMENT OF JOINTS AND FITTINGS BEFORE TRENCHES ARE BACKFILLED.
- 23. CONTRACTOR TO FLUSH UNDERGROUND FIRE SYSTEM PRIOR TO CONNECTION
- TO FIRE SPRINKLER SYSTEM.
- 24. CONTRACTOR TO COORDINATE WITH CITY OF FRESNO WATER DISTRICT AND PUBLIC WORKS DEPARTMENT FOR UTILITY WORK IN CITY'S RIGHT OF WAY ON WHAT WORK SHALL BE DONE PER UTILITY COMPANIES FORCES.
- 25. ALL BACK FLOW PREVENTORS (BFPs) SHALL HAVE SECURITY CAGES, PAINTED GREEN
- 26. PRIVATE HYDRANTS SHALL BE PAINTED SILVER WITH WEATHER RESISTANT PAINT PER FIRE DEPARTMENTS REQUIREMENTS.
- 27. INSTALL MINIMUM 18 GAUGE BLUE INSULATED TRACE WIRE FOR THE FIRE SERVICE PIPE.

# WATER CONSTRUCTION NOTES

- INSTALL 2 "WATER SERVICE WITH 2 1/2" REDUCED PRESSURE BACKFLOW ASSEMBLY, METER AND METER BOX, PER CITY STANDARDS W-1 AND W-11. PLACE PERMANENT TAG OR LABEL INDICATING THE BUILDING OR SUITE SERVED
- INSTALL 3 " WATER SERVICE WITH 3" REDUCED PRESSURE BACKFLOW ASSEMBLY, METER AND METER BOX, PER CITY STANDARDS W-1 AND W-11. PLACE PERMANENT TAG OR LABEL INDICATING THE BUILDING OR SUITE SERVED
- INSTALL 1.5 " IRRIGATION SERVICE WITH 1.5" REDUCED PRESSURE BACKFLOW ASSEMBLY, METER AND METER BOX, PER CITY STANDARDS W-1 AND W-11.
- 4 STUB TO BUILDING, IF BUILDING STUB IS NOT READY, INSTALL TEMPORARY WATER CAP AT PIPE END.

## FIRE SYSTEM CONSTRUCTION NOTES

- INSTALL FIRE HYDRANT SERVICE ASSEMBLY PER CITY STANDARD DRAWING W-3.
- INSTALL 8" FIRE SERVICE TO BUILDING AND FIRE HYDRANT WITH DETECTOR CHECK PER CITY STANDARDS W-16, W-17 AND W-18. TRANSITION PIECE SHALL BE DUCTILE IRON OF A UL/FM LISTED STAINLESS STEEL TRANSITION PIECE ABOVE GROUND.
- INSTALL POST INDICATOR VALVE (PIV) AND FIRE DEPARTMENT CONNECTION (FDC) PER DETAIL 1603 ON SHEET C8.0.
- STUB SERVICE LAILKAL O ABOVE TEMPORARY FIRE MAIN CAP AT PIPE END. STUB SERVICE LATERAL 6" ABOVE FINISH GRADE/FLOOR. IF BUILDING STUB IS NOT READY, INSTALL
- (5) INSTALL FIRE HYDRANT WITH 4 BOLLARD POST AROUND HYDRANT PER CITY STANDARD DRAWING W-23.
- 6 INSTALL GATE VALVE PER CITY STANDARD DRAWING W-3.

# SEWER CONSTRUCTIONS NOTES

- (1) INSTALL 4" SEWER LATERAL TO BUILDING PER CITY OF FRESNO STANDARD S-1
- INSTALL SDR-26 PVC SANITARY SEWER SERVICE PER CITY OF FRESNO STANDARD AND SPECIFICATIONS SIZE AND SLOPE AS SHOWN ON PLAN.
- STUB SERVICE LATERAL 5' FROM BUILDING. IF BUILDING STUB IS NOT READY, INSTALL TEMPORARY SEWER CAP AT PIPE END.

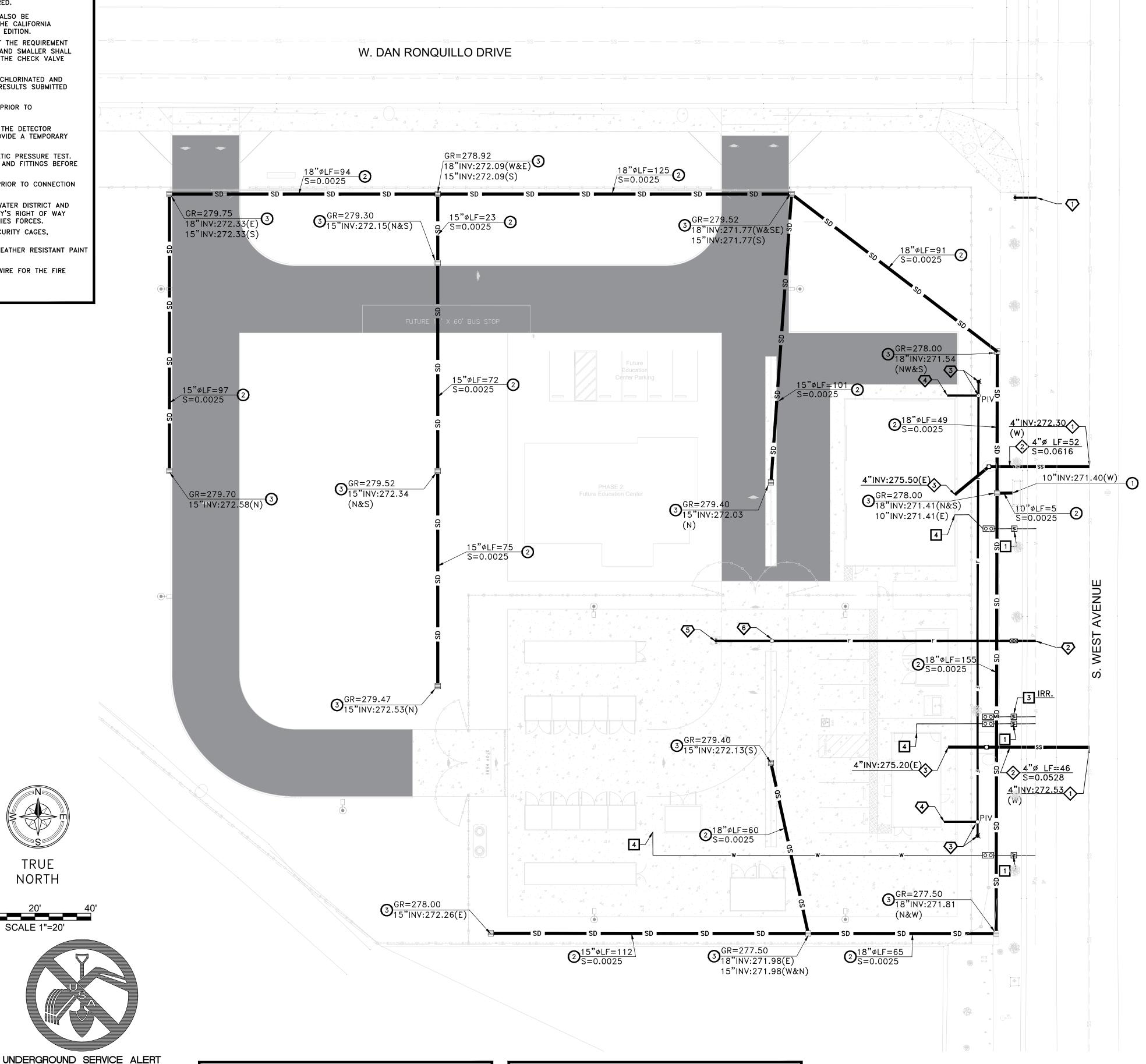
# STORM DRAIN CONSTRUCTIONS NOTES

- CONNECT TO EXISTING STORM DRAIN INLET. CUT HOLE WITH CHIPPING GUN, PLACE 9" CONCRETE MORTAR RING AROUND CIRCUMFERENCE OF LATERAL LINE. SMOOTH INTERIOR CONNECTION AS REQUIRED BY
- 2 INSTALL SDR-26 GRAVITY STORM SEWER PIPE PER ASTM F-679. SIZE AS NOTED ON PLANS.
- (3) INSTALL CATCH BASIN TYPE E INLET PER FMFCD STANDARD DWG. A-5.



**RCE 66124** 

DANIEL J. ZOLDAK



# Project:

Fresno County

**Environmental Compliance Center** Site Improvement and Shade Structure Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72 Issue Date:

Project No. T90203 File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00

# **Sheet Content:**

UTILITY PLAN

Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor Fresno, California 93721

Sheet No. C4.0

THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TWO (2) WORKING DAYS PRIOR TO EXCAVATION 1-800-227-2600 IS THE UNDERGROUND SERVICE ALERT NUMBER

TRUE

NORTH

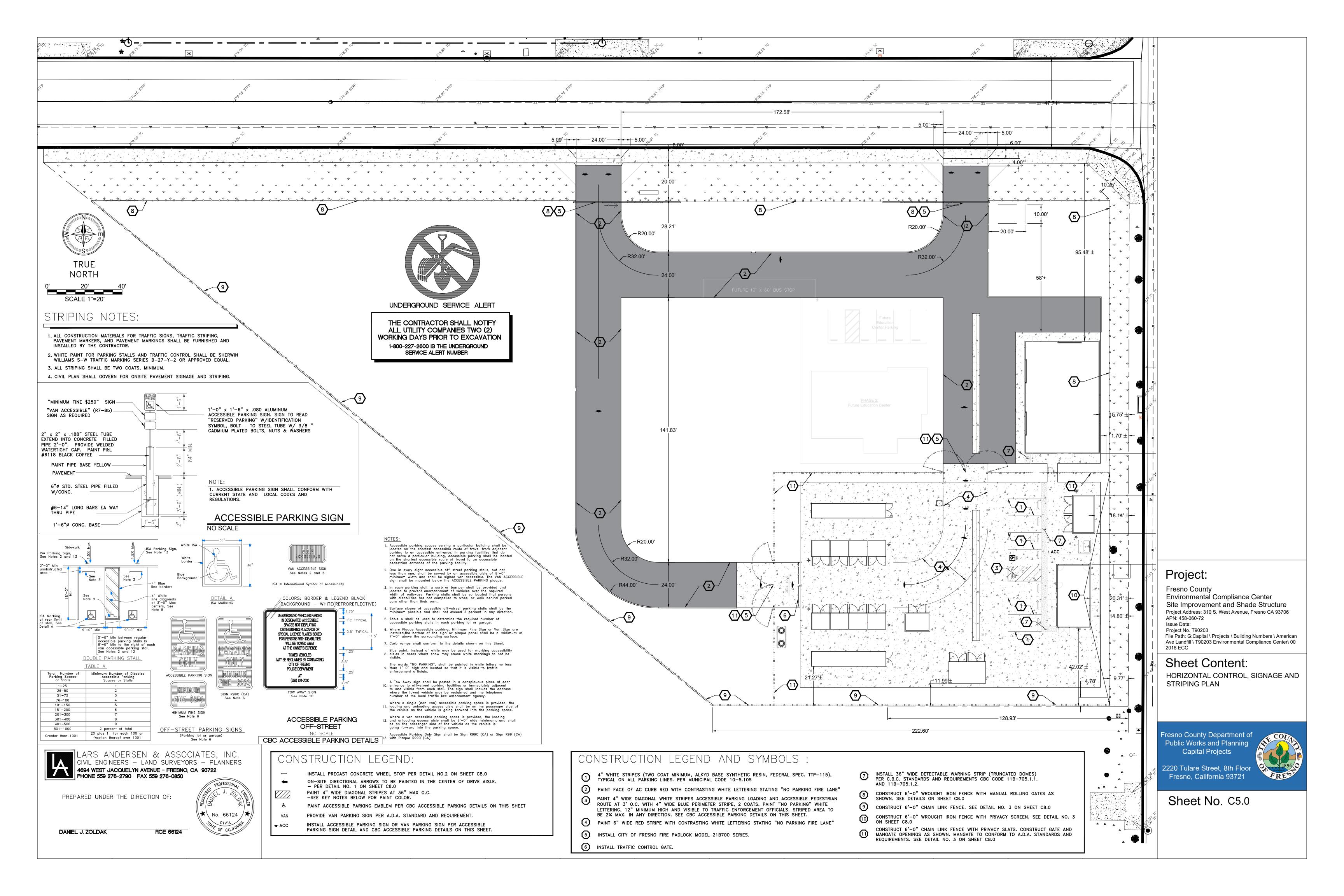
# FIRE NOTES:

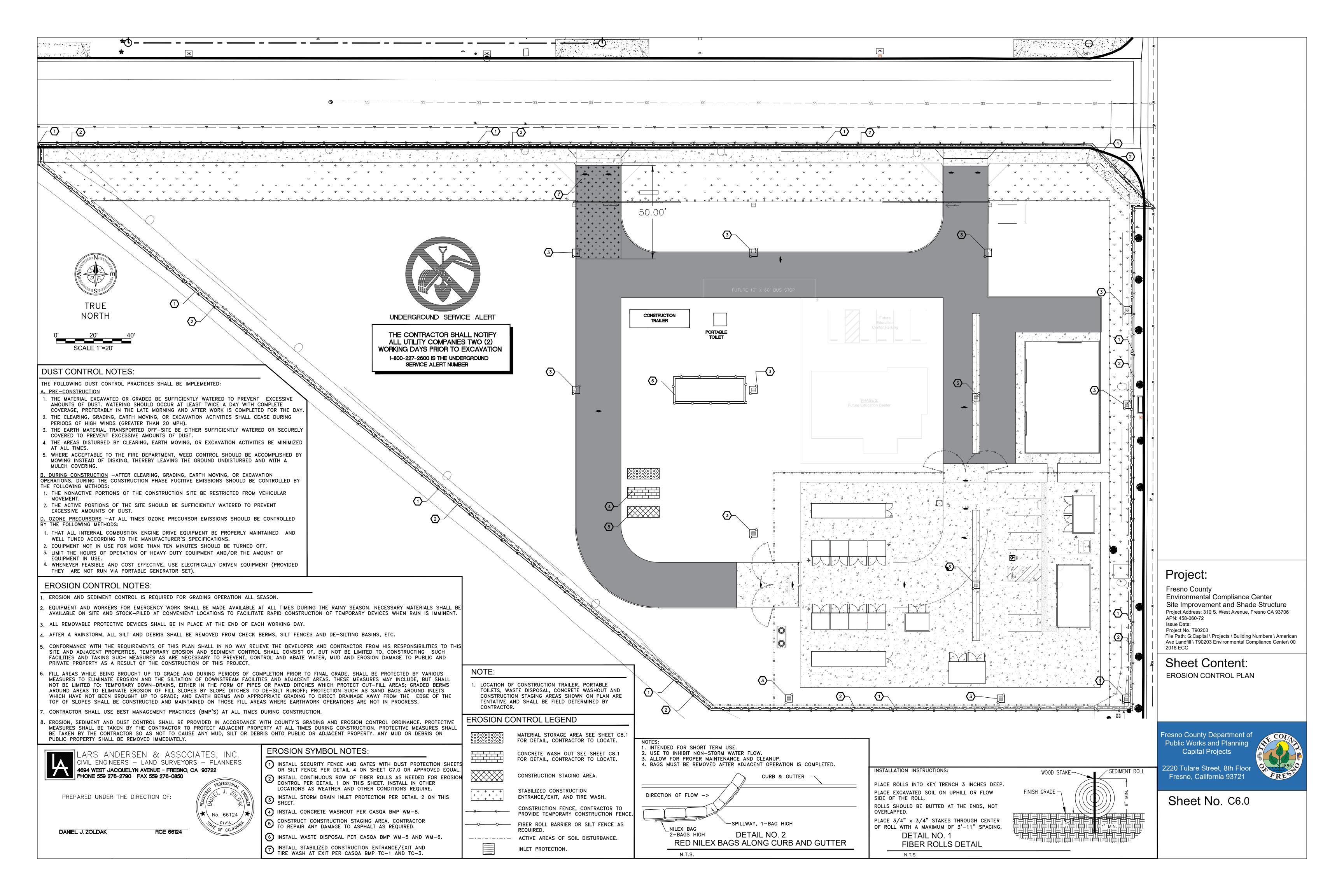
- ALL WEATHER ACCESS ROADS SHALL BE INSTALLED AND MAINTAINED IN A SERVICEABLE CONDITION PRIOR TO AND DURING CONSTRUCTION. (FFD DEVELOPMENT POLICY 403.002)
- ADDRESS IDENTIFICATION. FOR NEW AND EXISTING BUILDINGS, THE FIRE CODE OFFICIAL IS AUTHORIZED TO REQUIRE APPROVED ADDRESS OR BUILDING AREA IDENTIFICATION SIGNAGE AS NEEDED TO READILY DETERMINE THE BUILDING OR AREA OF A BUILDING PROTECTED BY FIRE DEPARTMENT CONNECTIONS. FMC SECTION 10-50912.2.3

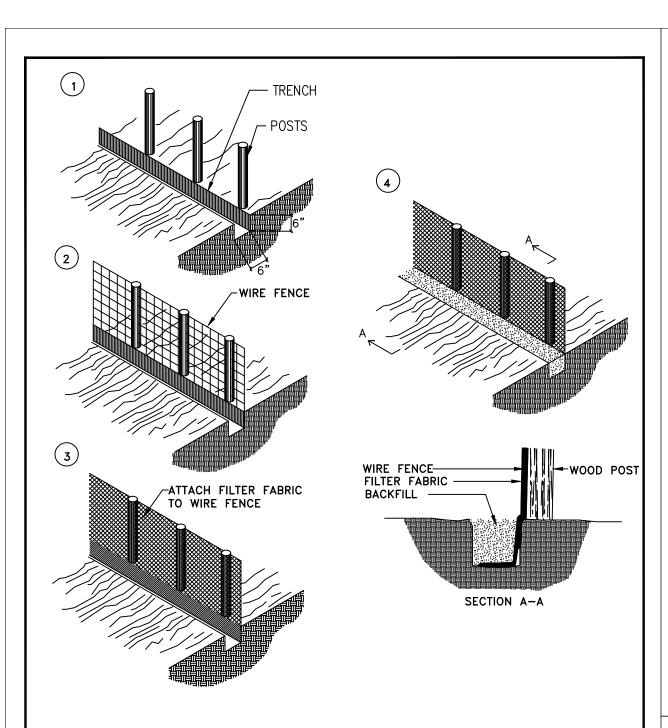
# STORM DRAIN NOTES

- CONTRACTOR SHALL NOTIFY FMFCD CONSTRUCTION MANAGER AT (559) 456-3292 PRIOR TO CONNECTING TO ANY STORM DRAIN
- . ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD PLANS DATED APRIL 1, 2011 AND REVISIONS THERETO.

RR-pvt-24-2







## MAINTENANCE

- 1. THE STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- 2. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER
- 3. STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- 4. THE DESIRED RESULT OF THESE EROSION CONTROL MEASURES IS TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF THE SITE. IT SHALL BE THE DEVELOPERS RESPONSIBILITY TO SEE THAT ANY ADDITIONAL MEASURES NECESSARY TO MEET THIS GOAL ARE IMPLEMENTED. FIELD INSPECTIONS BY CITY WILL BE REQUIRED AS
- 5. ALL DISTURBED SOIL SHALL BE SEEDED, MULCHED OR OTHERWISE STAFF SHOW THIS GOAL IS NOT BEING MET, ADDITIONAL MEASURES PROTECTED BY OCTOBER 15.

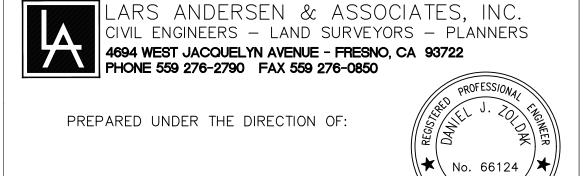
- SILT FENCE: THIS SEDIMENT BARRIER UTILIZES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED. SEE SILT FENCE DETAIL.
- 2. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
- 3. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER FABRIC SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP AND SECURELY SEALED.
- 4. POSTS SHALL BE SPACED A MAXIMUM OF 8 FEET APART AT THE BARRIER LOCATION AND DRIVED SECURELY INTO THE GROUND (MINIMUM OF 18 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET (USE 4x4 POST).
- 5. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.

6. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE OF THE POSTS USING HEAVY DUTY

- WIRE STAPLES AT LEAST 1 3/4 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. 7. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED WITH A MINIMUM OF 4
- STAPLES OR WIRED TO THE FENCE AND 10 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL SURFACE FILTER FABRIC SHALL BE STAPLED TO EXISTING FABRIC.
- 8. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM NO.
- 9. THE TRENCH SHALL BE BACK FILLED AND SOIL COMPACTED OVER THE FILTER FABRIC.
- 10. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

DETAIL NO. 3 SILT FENCE DETAIL

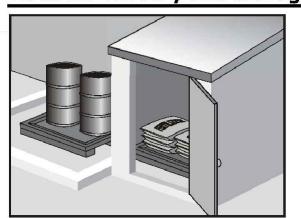
NOT TO SCALE



DANIEL J. ZOLDAK

RCE 66124

Material Delivery and Storage



Description and Purpose Prevent, reduce, or eliminate the discharge of pollutants from

material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors.

This best management practice covers only material deliverand storage. For other information on materials, see WM-2, Potential Alternatives Material Use, or WM-4, Spill Prevention and Control. For information on wastes, see the waste management BMPs in this

## Suitable Applications

- These procedures are suitable for use at all construction sites with delivery and storage of the following materials:
- Soil stabilizers and binders
- Pesticides and herbicides

maintain proper function.

Working Group Working Paper; USEPA, April 1992.

- Fertilizers
- Detergents
- Plaster ■ Petroleum products such as fuel, oil, and grease



WM-1

WM-1

Erosion Control

Tracking Control

WE Wind Erosion Control

Non-Stormwater Management Control

Waste Management and Materials Pollution Control

SE Sediment Control

Oil and Grease

www.casqa.org

Repair or replace perimeter controls, containment structures, covers, and liners as needed to

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from

Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance,

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual,

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans

Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program,

**Material Delivery and Storage** 

State of California Department of Transportation (Caltrans), March 2003.

and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

# **Material Delivery and Storage**

- Asphalt and concrete components
- Hazardous chemicals such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Concrete compounds
- Other materials that may be detrimental if released to the environment

- Space limitation may preclude indoor storage.
- Contain all fertilizers and other landscape materials when not in use.
- Construction site areas should be designated for material delivery and storage.
- Place in an area that will be paved
- area. Contact the local Fire Marshal to review site materials, quantities, and proposed storage area to determine specific requirements. See the Flammable and Combustible

# www.casqa.org

- TC Tracking Control WE Wind Erosion Control Non-Stormwater Management Control

WM-1

WM Waste Management and Materials Pollution Control ☑ Primary Category

# Prevent the discharge of pollutants to stormwater from

concrete, stucco, cement and block and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into

### **Suitable Applications** Concrete waste management procedures and practices are

the accepted range.

**Description and Purpose** 

you are subject to these requirements).

implemented on construction projects where: Concrete is used as a construction material or where

contact with stormwater flows and raising pH to levels outside

oncrete dust and debris result from demolition activities. ■ Slurries containing portland cement concrete (PCC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.

# **WM-8**

www.casqa.org

# • Temporary washout facilities should have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete materials generated during

**WM-8** 

Temporary washout facilities should be lined to prevent discharge to the underlying ground

www.casqa.org

- Washout of concrete trucks should be performed in designated areas only. Only concrete from mixer truck chutes should be washed into concrete wash out.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks
- and discharged into designated washout area or properly disposed of or recycled offsite.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete should be broken up, removed, and disposed of per WM-5, Solid Waste Management. Dispose of or recycle hardened concrete on a regular basis.
- Temporary Concrete Washout Facility (Type Above Grade)

**Concrete Waste Management** 

- Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft; however, smaller sites or jobs may only need a smaller washout facility. With any washout, always maintain a sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations
- Materials used to construct the washout area should conform to the provisions detailed in their respective BMPs (68, SWLEXS:BAC) ag Barrier).
- Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the
- Alternatively, portable removable containers can be used as above grade concrete washouts. Also called a "roll-off"; this concrete washout facility should be properly sealed to prevent leakage, and should be removed from the site and replaced when the container reaches 75% capacity.
- Temporary Concrete Washout Facility (Type Below Grade)
- Temporary concrete washout facilities (type below grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft. The quantity and volume should be sufficient to contain all liquid and concrete waste generated by washout operations.
- Lath and flagging should be commercial type.
- Plastic lining material should be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the
- www.casqa.org

# **Concrete Waste Management**

# The base of a washout facility should be free of rock or debris that may damage a plastic

### Removal of Temporary Concrete Washout Facilities ■ When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and properly disposed or recycled in accordance with federal, state or local regulations. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and properly disposed or recycled in accordance with federal, state or local regulations..

 Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

All of the above are low cost measures. Roll-off concrete washout facilities can be more costly than other measures due to removal and replacement; however, provide a cleaner alternative to traditional washouts. The type of washout facility, size, and availability of materials will determine the cost of the washout.

## ■ BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the

- Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 in. for above grade facilities and 12 in. for below grade facilities. Maintaining temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition.
- Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.

accordance with federal, state or local regulations.

Hardened concrete materials should be removed and properly disposed or recycled in

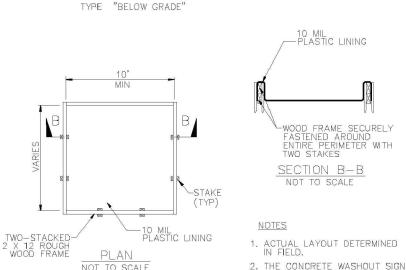
■ Inspect washout facilities for damage (e.g. torn liner, evidence of leaks, signage, etc.). Repair all identified damage.

# Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program,

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000, Updated March

	ent for Construction Activities; Developing Pollution Pro Practice, EPA 832-R-92005; USEPA, April 1992.	evention Plans
November 2009	California Stormwater BMP Handbook	5 of
	Construction	

# NIEEX DBAG NOT TO SCALE TYPE "BELOW GRADE"



# Concrete Waste Management

Material Delivery and Storage

sheds when available

Material Delivery Practices

Bagged and boxed materials should be stored on pallets and should not be allowed to

• Stockpiles should be protected in accordance with WM-3, Stockpile Management.

Proper storage instructions should be posted at all times in an open and conspicuous

■ An ample supply of appropriate spill clean up material should be kept near storage areas.

■ Arrange for employees trained in emergency spill cleanup procedures to be present when

Properly remove and dispose of any hazardous materials or contaminated soil if significant

See WM-4, Spill Prevention and Control, for spills of chemicals and/or hazardous materials.

waters, non-visible sampling of site discharge may be required. Refer to the General Permit

or to your project specific Construction Site Monitoring Plan to determine if and where

• The largest cost of implementation may be in the construction of a materials storage area

■ BMPs must be inspected in accordance with General Permit requirements for the associated

project type and risk level. It is recommended that at a minimum, BMPs be inspected

weekly, prior to forecasted rain events, daily during extended rain events, and after the

Keep storage areas clean and well organized, including a current list of all materials onsite.

www.casqa.org

residual materials remain on the ground after construction is complete. See WM-7,

If spills or leaks of materials occur that are not contained and could discharge to surface

Also see WM-6, Hazardous Waste Management, for storing of hazardous wastes.

• Keep an accurate, up-to-date inventory of material delivered and stored onsite.

dangerous materials or liquid chemicals are unloaded.

■ Contain and clean up any spill immediately.

Contaminated Soil Management.

sampling is required

Inspection and Maintenance

Inspect labels on containers for legibility and accuracy.

accumulate on the ground. To provide protection from wind and rain throughout the rainy

Materials should be stored indoors within existing structures or completely enclosed storage

season, bagged and boxed materials should be covered during non-working days and prior to

WM-1

# WM-8

waste management procedures. Discuss the concrete management techniques described in this BMP (such as handling of concrete waste and washout) with the ready-mix concrete supplier before any deliveries are

Arrange for contractor's superintendent or representative to oversee and enforce concrete

- Concrete Demolition Wastes • Stockpile concrete demolition waste in accordance with BMP WM-3, Stockpile Management.
- Dispose of or recycle hardened concrete waste in accordance with applicable federal, state or local regulations.

### Concrete Slurry Wastes PCC and AC waste should not be allowed to enter storm drains or watercourses.

- PCC and AC waste should be collected and disposed of or placed in a temporary concrete washout facility (as described in Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below)
- A foreman or construction supervisor should monitor onsite concrete working tasks, such as saw cutting, coring, grinding and grooving to ensure proper methods are implemented.
- Saw-cut concrete slurry should not be allowed to enter storm drains or watercourses. Residue from grinding operations should be picked up by means of a vacuum attachment to the grinding machine or by sweeping. Saw cutting residue should not be allowed to flow across the pavement and should not be left on the surface of the pavement. See also NS-3, Paving and Grinding Operations; and WM-10, Liquid Waste Management.
- Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures below) and allowed to dry. Dispose of dry slurry residue in accordance with WM-5, Solid Waste Management.

# Onsite Temporary Concrete Washout Facility, Transit Truck Washout

- Temporary concrete washout facilities should be located a minimum of 50 ft from storm drain inlets, open drainage facilities, and watercourses. Each facility should be located away from construction traffic or access areas to prevent disturbance or tracking.
- A sign should be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
- Temporary concrete washout facilities should be constructed above grade or below grade at the option of the contractor. Temporary concrete washout facilities should be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.

| 1 / 1 | 1 | 1 | 1 | 1 | 1 | 1

PLAN NOT TO SCALE

YPE "ABOVE GRADE WITH STRAW BALES

-10 MIL PLASTIC LINING

www.casqa.org

# www.casqa.org

## WM-8 Concrete Waste Management

Site Improvement and Shade Structure Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72 Issue Date: Project No. T90203 | T | T | T | T | T | X | File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00

STAPLE DETAIL

SCREWS

ACTUAL LAYOUT DETERMINED

NOTES

Project:

Fresno County

# **Sheet Content: EROSION CONTROL DETAILS**

Environmental Compliance Center

Fresno County Department of Public Works and Planning Capital Projects

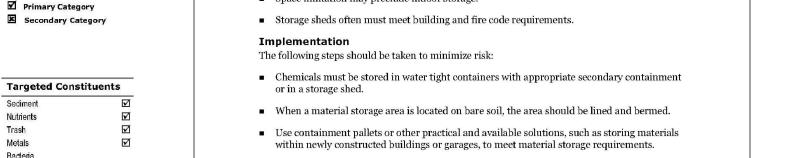
2220 Tulare Street, 8th Floor







Sheet No. C7.0



• Stack erodible landscape material on pallets and cover when not in use.

### ■ Temporary storage areas should be located away from vehicular traffic. ■ Material Safety Data Sheets (MSDS) should be available on-site for all materials stored that have the potential to effect water quality.

- Material delivery and storage areas should be located away from waterways, if possible. Avoid transport near drainage paths or waterways.
- Surround with earth berms or other appropriate containment BMP. See EC-9, Earth Dikes and Drainage Swales.
- Storage of reactive, ignitable, or flammable liquids must comply with the fire codes of your
- An up to date inventory of materials delivered and stored onsite should be kept.

# **Concrete Waste Management** WM-8 EC Erosion Control SE Sediment Control Secondary Category

# Targeted Constituents

concrete waste by conducting washout onsite or offsite in a designated area, and by employee and subcontractor training. The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if

# Do not wash out concrete trucks into storm drains, open ditches, streets, streams or onto the ground. Trucks should always be washed out into designated facilities. For onsite washout:

- On larger sites, it is recommended to locate washout areas at least 50 feet from storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Washout wastes into the temporary washout where the concrete can set, be broken up, and then disposed properly. Washout should be lined so there is no discharge into the underlying soil.

**Material Delivery and Storage** 

Hazardous materials should be handled as infrequently as possible.

■ Keep ample spill cleanup supplies appropriate for the materials being stored. Ensure that

■ Employees and subcontractors should be trained on the proper material delivery and storage

■ Employees trained in emergency spill cleanup procedures must be present when dangerous

If significant residual materials remain on the ground after construction is complete,

drums should be placed in temporary containment facilities for storage.

properly remove and dispose of materials and any contaminated soil. See WM-7, Contaminated Soil Management. If the area is to be paved, pave as soon as materials are

■ Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 should

■ A temporary containment facility should provide for a spill containment volume able to

be stored in approved containers and drums and should not be overfilled. Containers and

contain precipitation from a 25 year storm event, plus the greater of 10% of the aggregate

■ A temporary containment facility should be impervious to the materials stored therein for a

A temporary containment facility should be maintained free of accumulated rainwater and

spills. In the event of spills or leaks, accumulated rainwater and spills should be collected

and placed into drums. These liquids should be handled as a hazardous waste unless testing

determines them to be non-hazardous. All collected liquids or non-hazardous liquids should

Sufficient separation should be provided between stored containers to allow for spill cleanup

Materials should be stored in their original containers and the original product labels should

be maintained in place in a legible condition. Damaged or otherwise illegible labels should

www.casqa.org

Multiple washouts may be needed to assure adequate capacity and to allow for evaporation.

Incorporate requirements for concrete waste management into material supplier and

■ Store dry and wet materials under cover, away from drainage areas. Refer to WM-1, Material

Perform washout of concrete trucks in designated areas only, where washout will not reach

The following steps will help reduce stormwater pollution from concrete wastes:

■ Incompatible materials, such as chlorine and ammonia, should not be stored in the same

volume of all containers or 100% of the capacity of the largest container within its boundary,

Hazardous materials storage onsite should be minimized.

cleanup supplies are in a conspicuous, labeled area.

materials or liquid chemicals are unloaded.

removed to stabilize the soil.

Material Storage Areas and Practices

minimum contact time of 72 hours.

be sent to an approved disposal site.

and emergency response access.

temporary containment facility.

be replaced immediately.

Mortar-mixing stations exist.

Stucco mixing and spraying.

subcontractor agreements.

See also NS-8, Vehicle and Equipment Cleaning

Delivery and Storage for more information

Avoid mixing excess amounts of concrete.

Materials should be covered prior to, and during rain events.

**Concrete Waste Management** 

Offsite washout of concrete wastes may not always be possible.

Concrete trucks and other concrete-coated equipment are washed onsite.

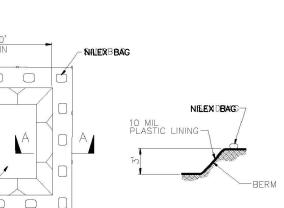
WM-1

WM-8

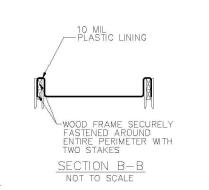
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose in the trash.
- See typical concrete washout installation details at the end of this fact sheet. ■ Educate employees, subcontractors, and suppliers on the concrete waste management

techniques described herein. California Stormwater BMP Handbook

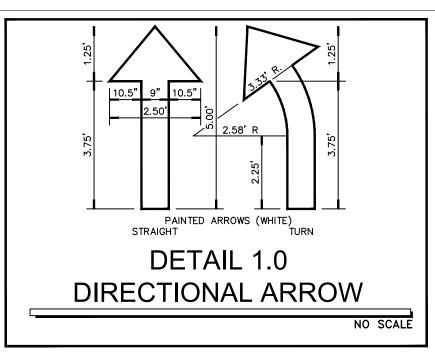
www.casqa.org **Concrete Waste Management** 

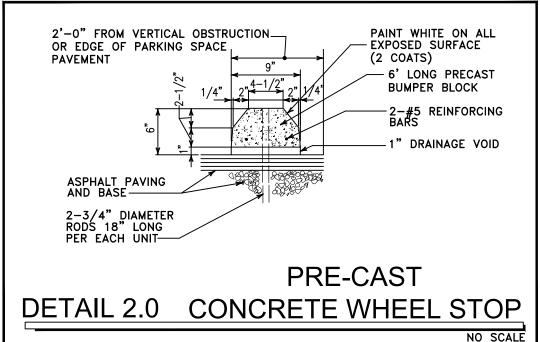


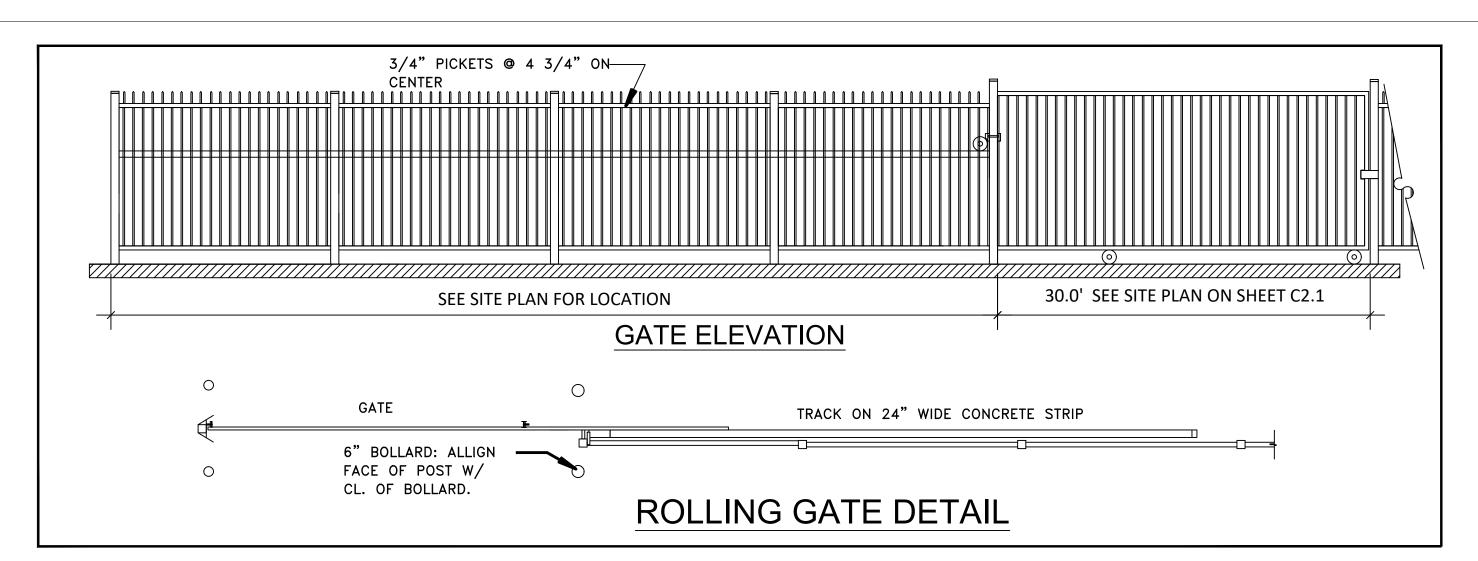
WM-8

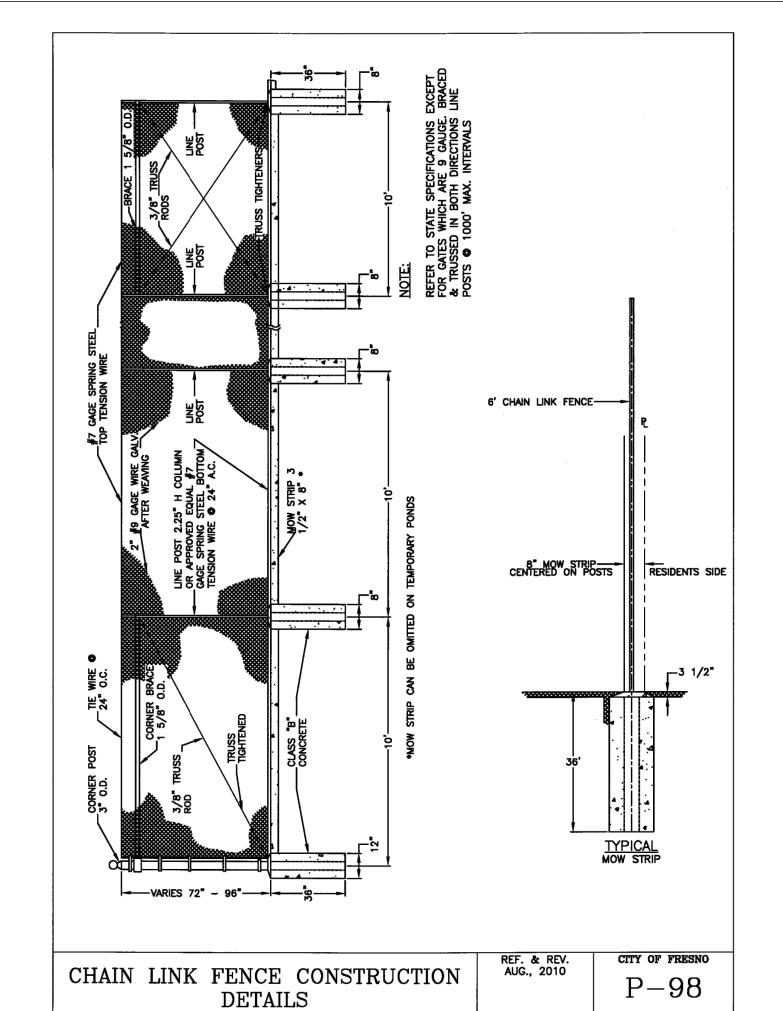


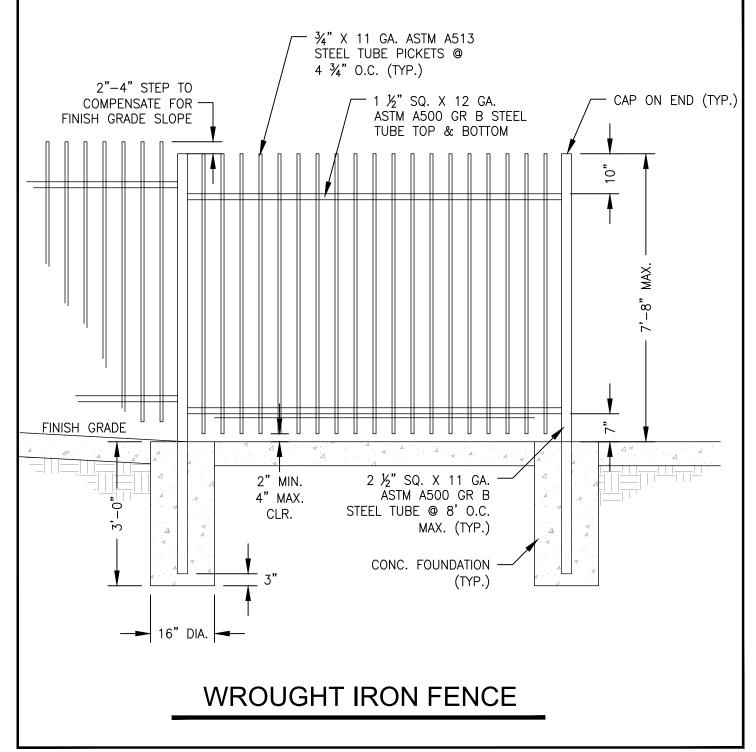
www.casqa.org

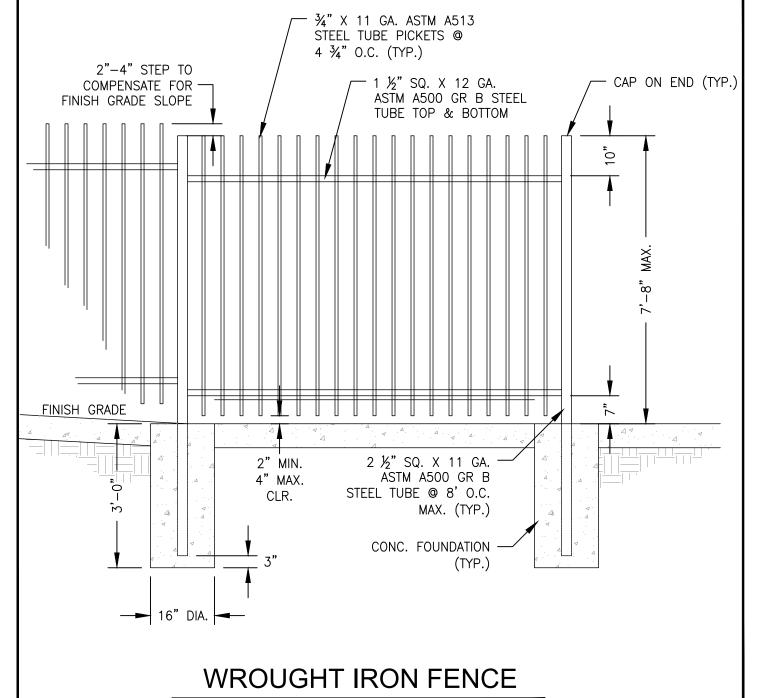


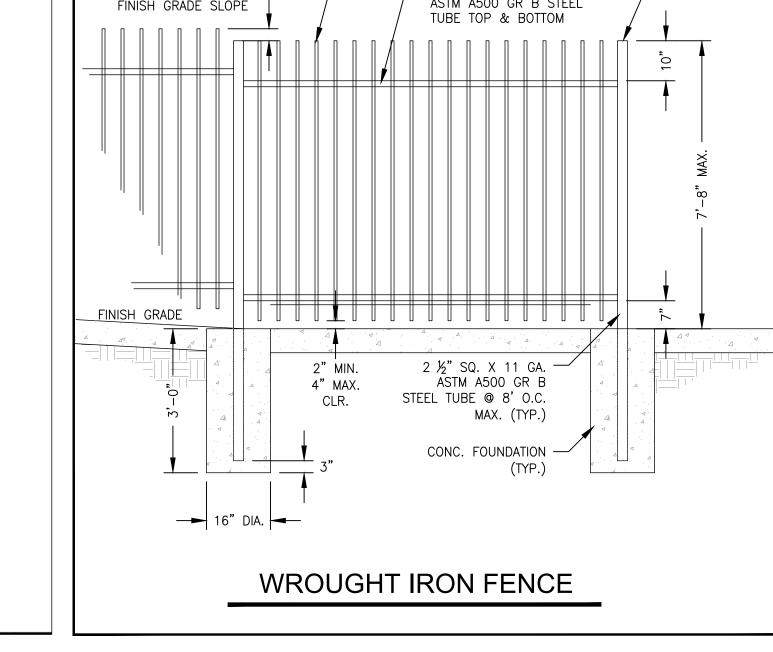


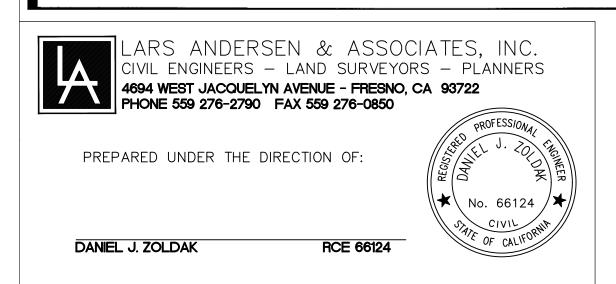




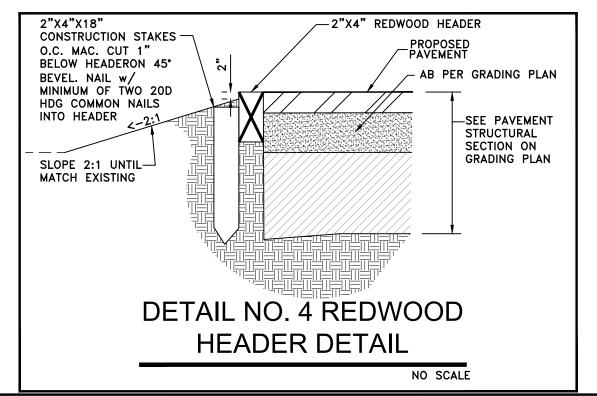


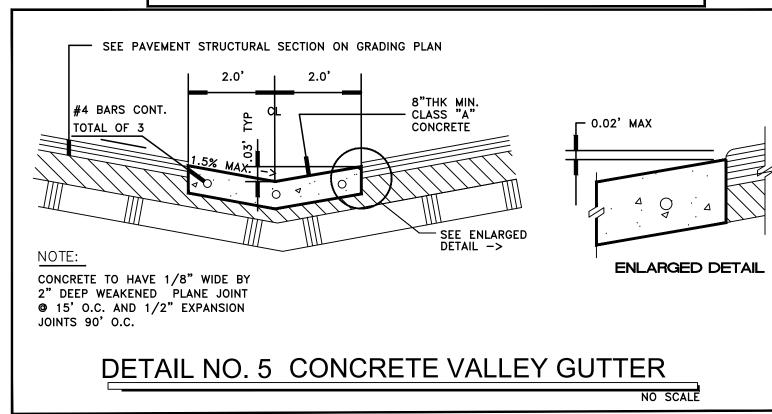


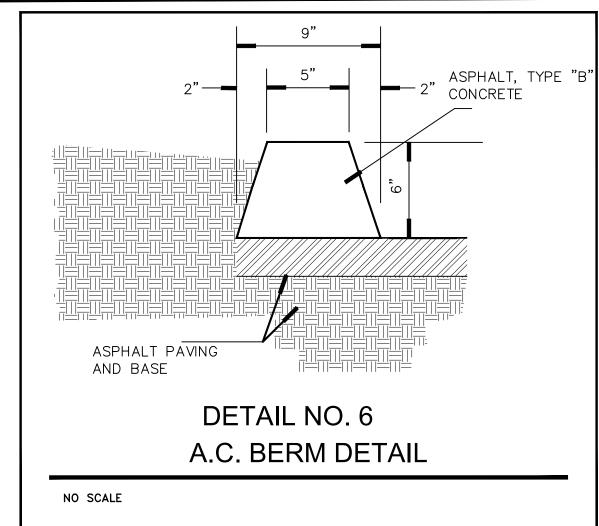


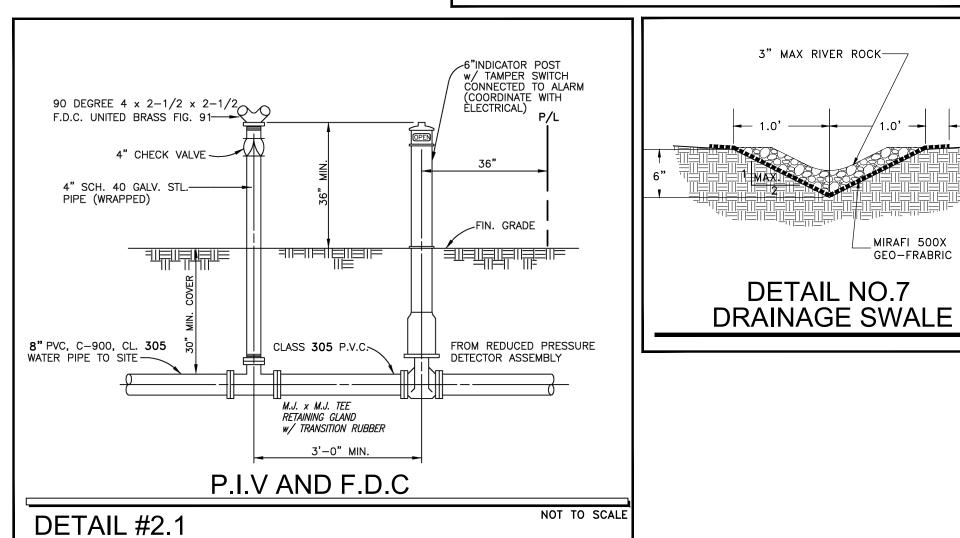


DETAIL 3.0 FENCE DETAILS









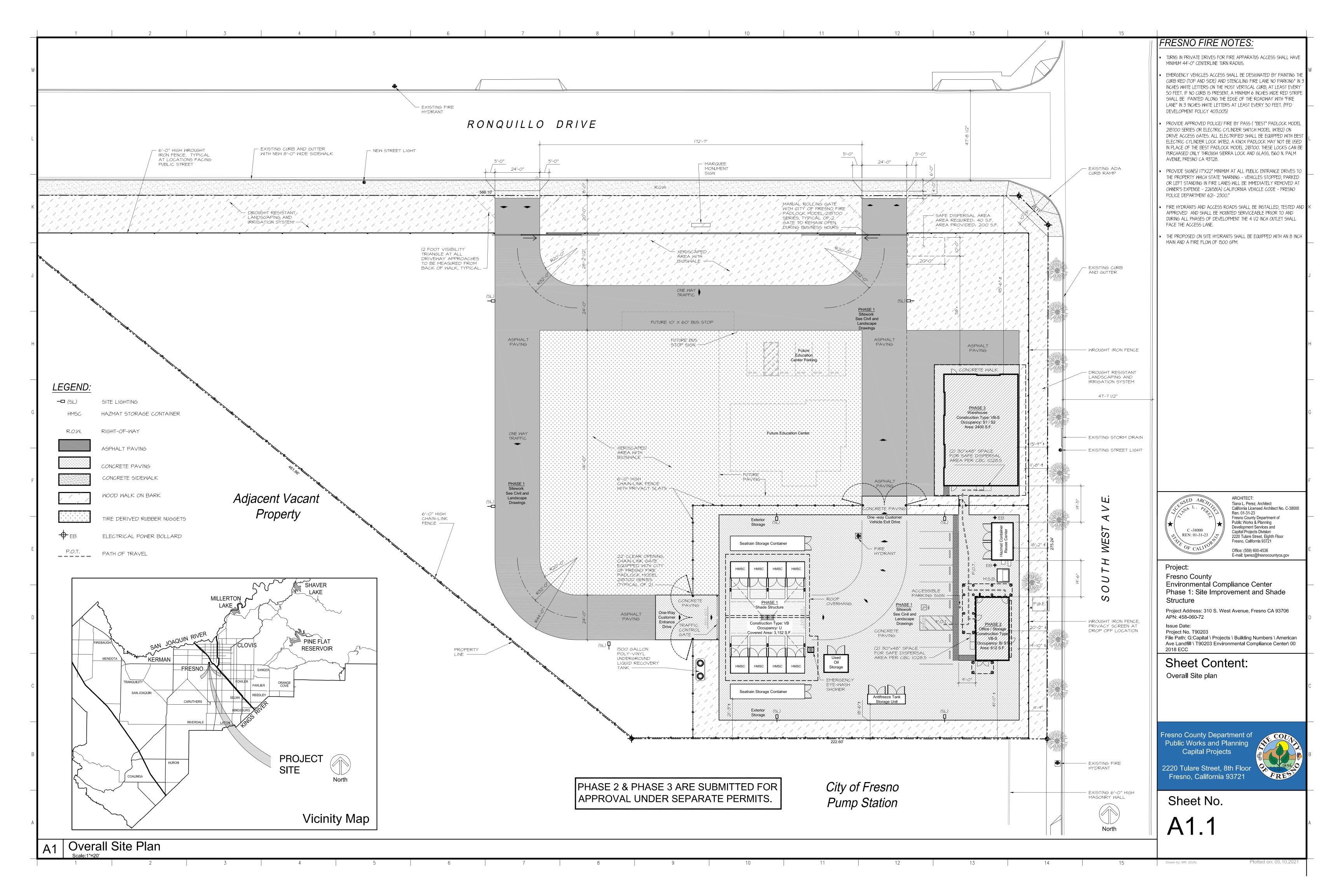
# Project:

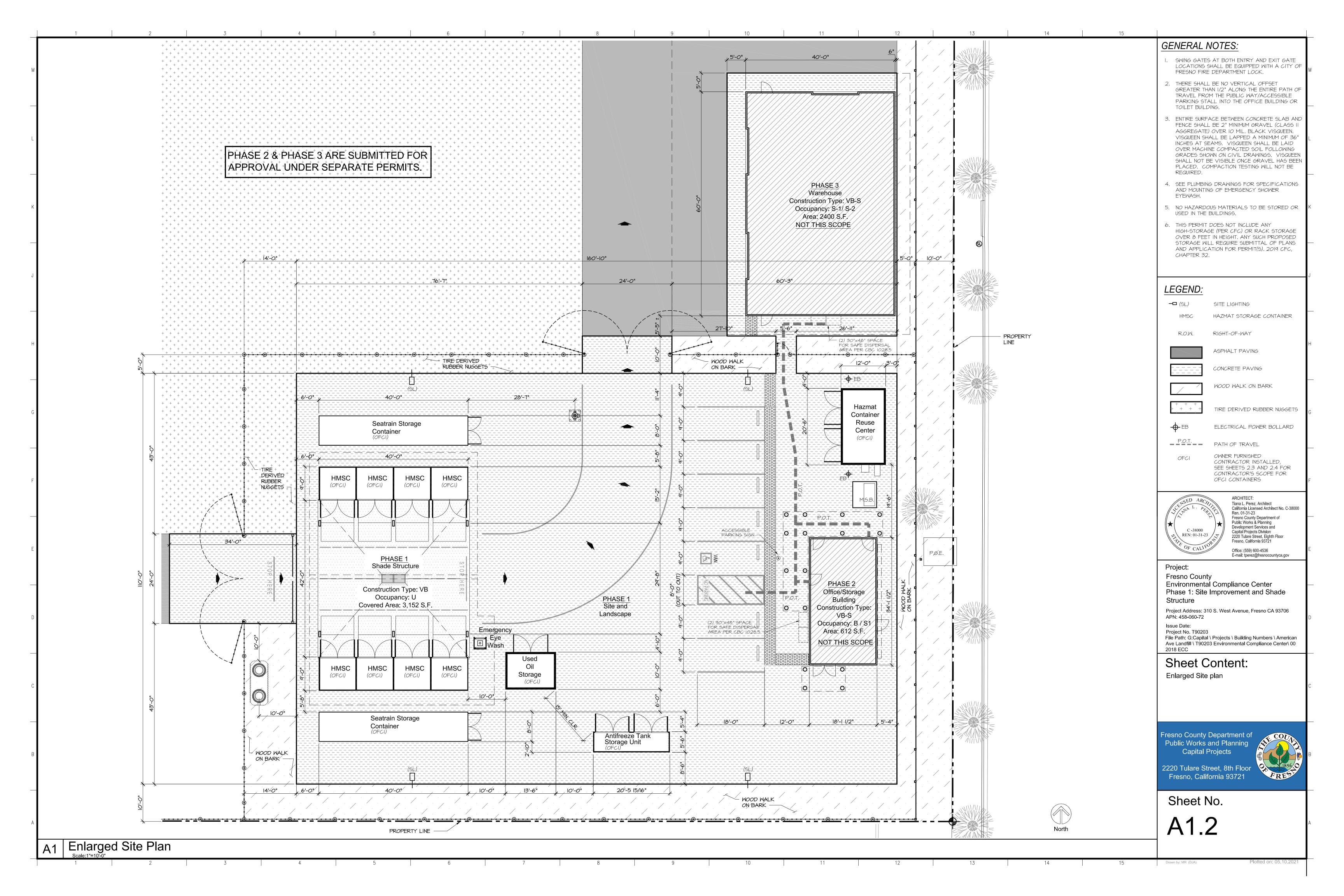
Fresno County Environmental Compliance Center Site Improvement and Shade Structure Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72 Issue Date: Project No. T90203 File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00

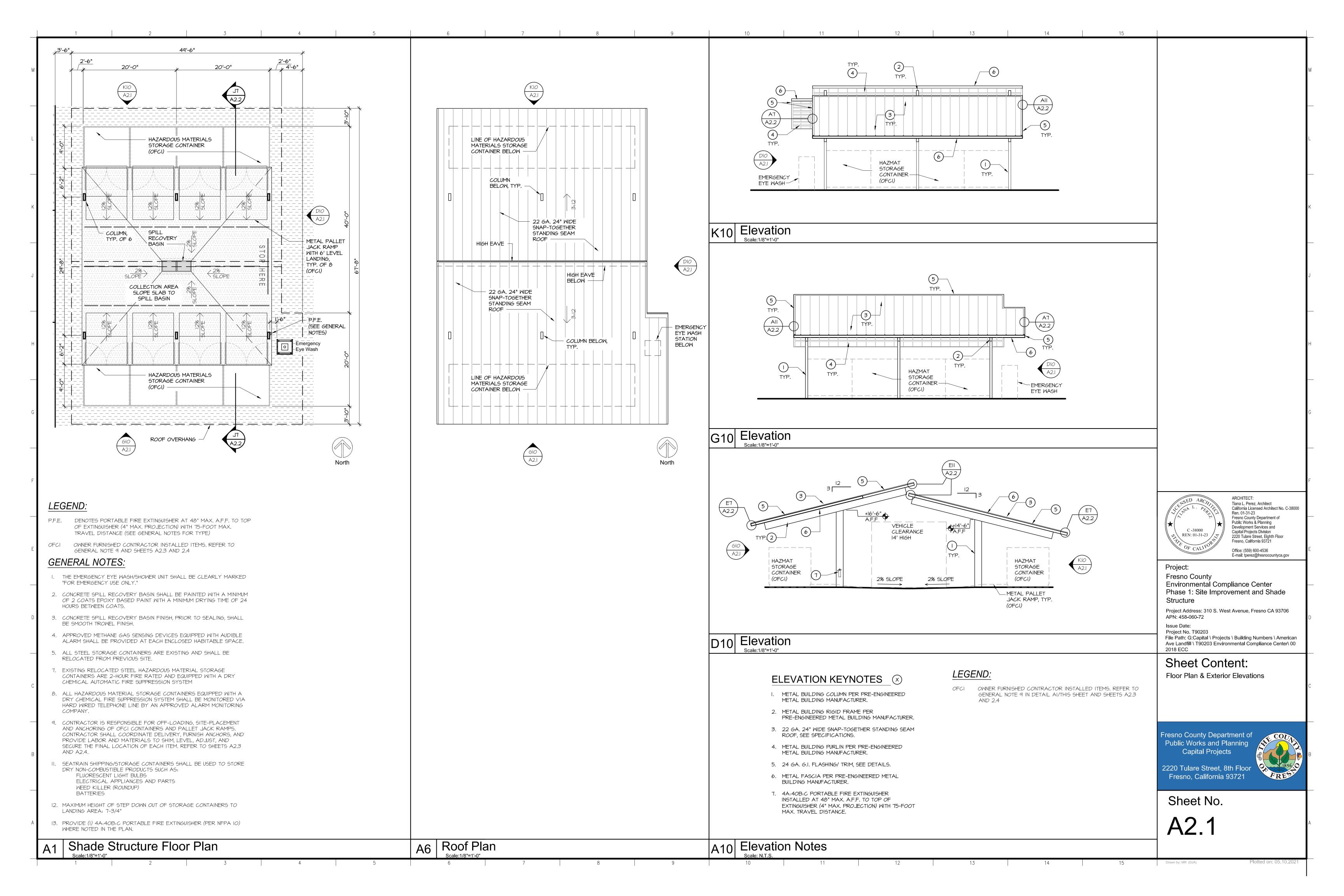
**Sheet Content:** CONSTRUCTION DETAILS

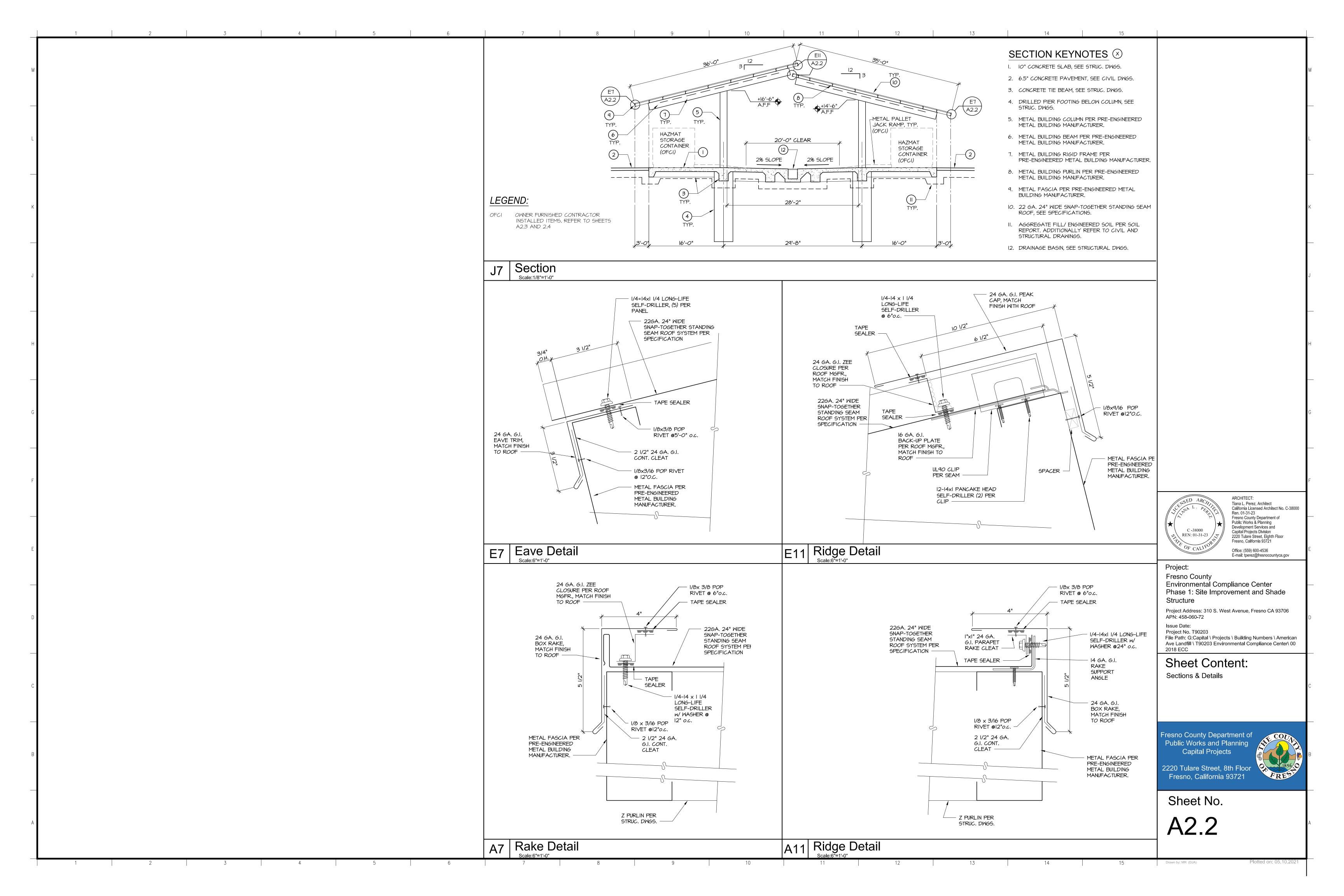


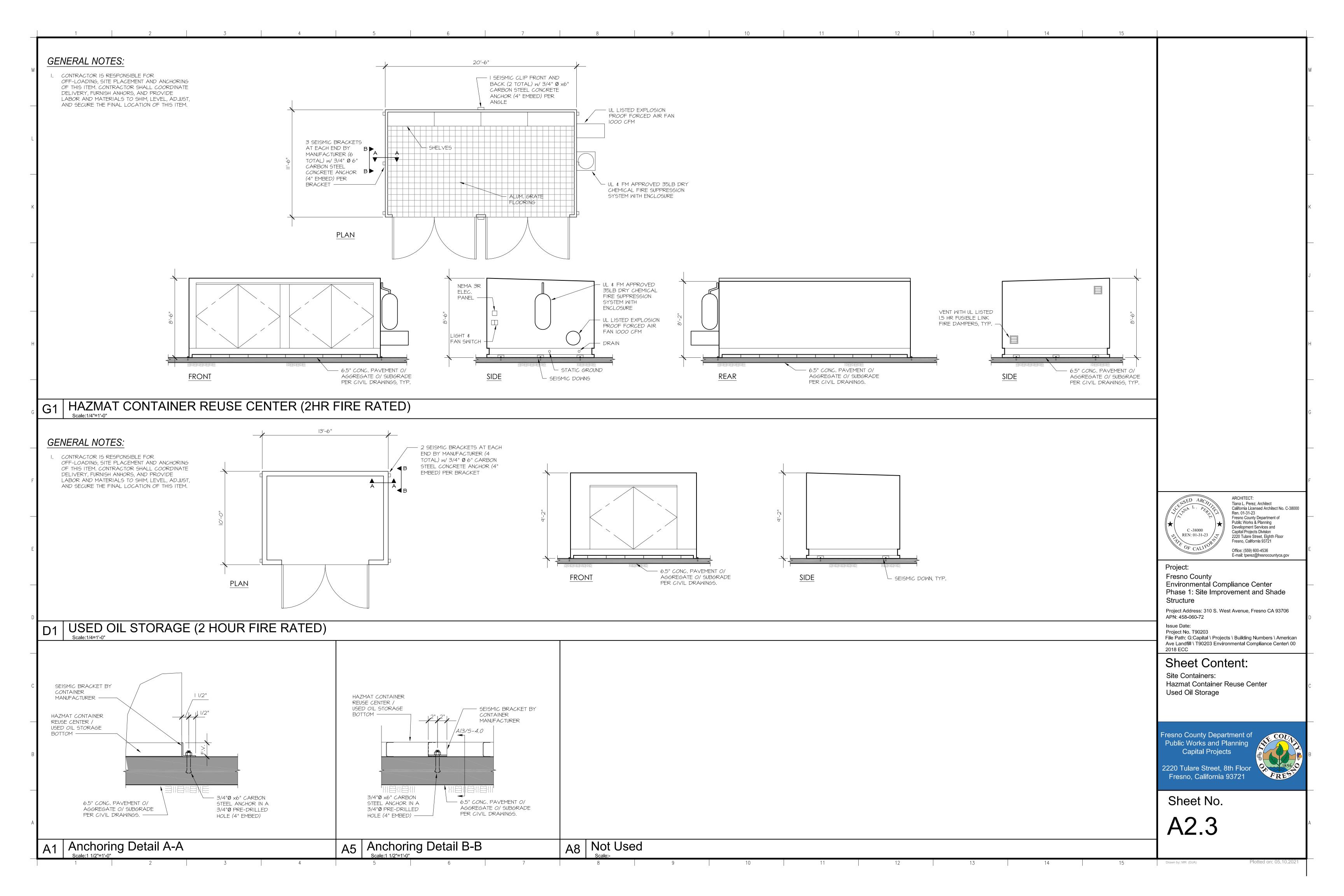
Sheet No. C8.0

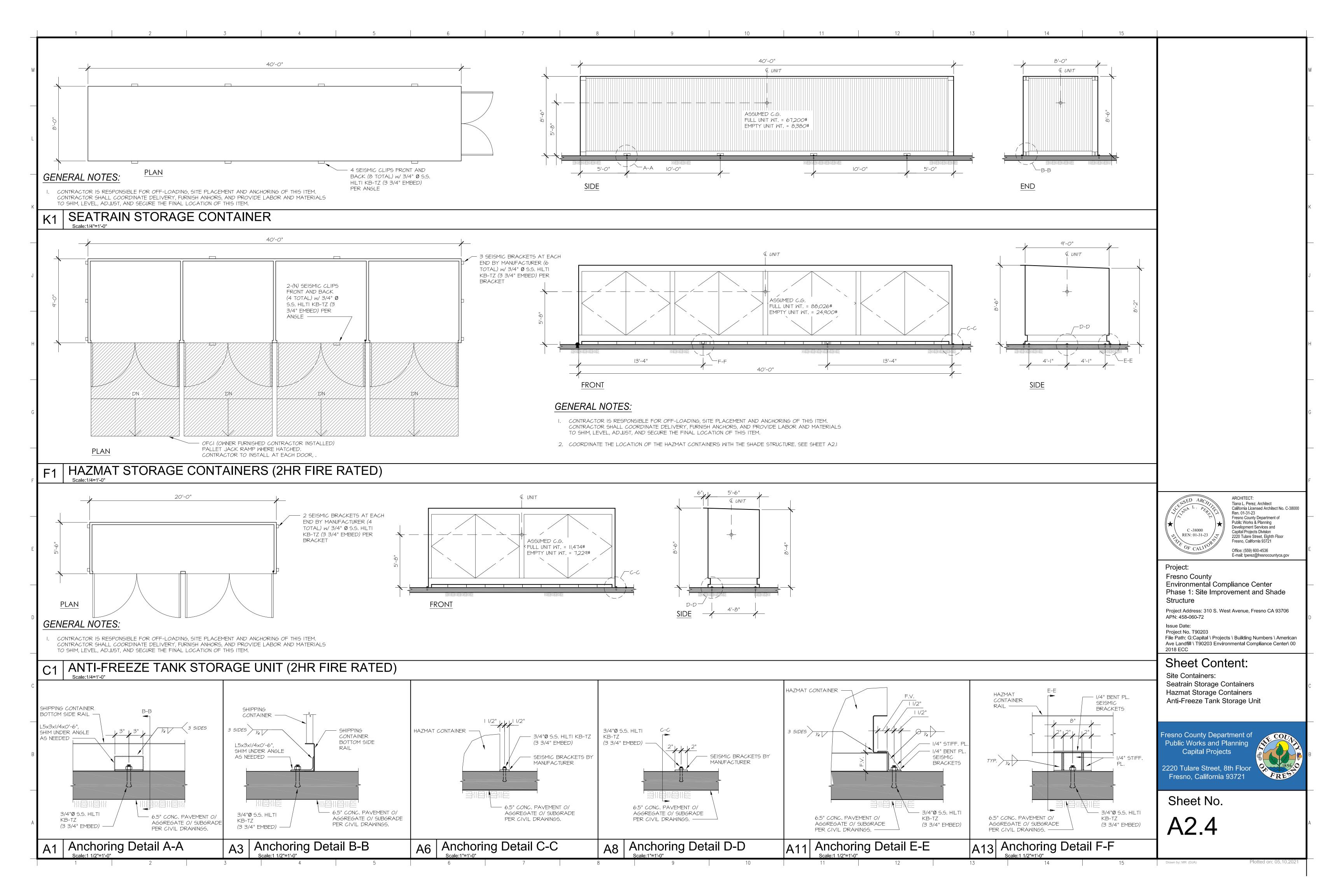












# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

5.106.12 SHADE TREES [DSA-SS]. Shade Trees shall be planted to comply with Sections 5.106.12.1, 5.106.12.2,

and 5.106.12.3. Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation

**5.106.12.1 Surface parking areas.** Shade tree plantings, minimum #10 container size or equal, shall be installed

**Exceptions:** The surface parking area covered by solar photovoltaic shade structures, or shade

structures, with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, are not

5.106.12.2 Landscape areas. Shade tress plantings, minimum #10 container size or equal shall be installed to

**5.106.12.3.** Hardscape areas. Shade tree plantings, minimum #10 container size or equal shall be installed to

**5.201.1 Scope [BSC-CG].** California Energy Code [DSA-SS]. For the purposes of mandatory energy efficiency

**5.301.1 Scope.** The provisions of this chapter shall establish the means of conserving water use indoors, outdoors

standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

**5.302.1 Definitions.** The following terms are defined in Chapter 2 (and are included here for reference)

EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) [DSA-SS]. An adjustment factor when applied to

reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which ae two major influences on

FOOTPRINT AREA [DSA-SS]. The total area of the furthest exterior wall of the structure projected to natural grade,

METERING FAUCET. A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The

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

washbasins, clothes washing machines and laundry tubs, but does not include waste water from kitchen sinks or

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

maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least

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

POTABLE WATER. Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking

Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority

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

SUBMETER. A meter installed subordinate to a site meter. Usually used to measure water intended for one purpose,

WATER BUDGET. Is the estimated total landscape irrigation water use which shall not exceed the maximum applied

such as landscape irrigation. For the purposes of CALGreen, a dedicated meter may be considered a submeter.

water allowance calculated in accordance with the Department of Water Resources Model Efficient Landscape

**5.303.1 METERS.** Separate submeters or metering devices shall be installed for the uses described in Sections

b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).

within a new building or within an addition that is projected to consume more than 1,000 gal/day.

urinals) and fittings (faucets and showerheads) shall comply with the following:

5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and

5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided for any tenant

5.303.3.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of

**5.303.3.2.1 Wall-mounted Urinals.** The effective flush volume of wall-mounted urinals shall not exceed

5.303.3.2.2 Floor-mounted Urinals. The effective flush volume of floor-mounted or other urinals shall

**5.303.3.3.1 Single showerhead.** Showerheads shall have a maximum flow rate of not more than 1.8

**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 1.8 gallons per minute at 80 psi, or the shower shall be designed to

gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA

flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense

5.303.1.1 Buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows:

1. For each individual leased, rented or other tenant space within the building projected to consume

restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.

2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the

more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners,

operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom

**Exceptions:** Playfields for organized sport activity are not included in the total area calculation.

**Exceptions:** Walks, hardscape areas covered by solar photovoltaic shade structures, and hardscape areas covered by shade structures with roofing materials that comply with Table A5.106.11.2.2 in

necessary to establish and maintain tree health shall comply with Section 5.304.6.

to provide shade over 50 percent of the parking area within 15 years.

provide shade over 20 percent of the hardscape area within 15 years.

Appendix A5, are not included in the total area calculation.

included in the total area calculations.

provide shade of 20% of the landscape area within 15 years.

**DIVISION 5.2 ENERGY EFFICIENCY** 

the amount of water that needs to be applied to the landscape.

volume or cycle duration can be fixed or adjustable.

not including exterior areas such as stairs, covered walkways, patios and decks.

Water Standards. See definition in the California Plumbing Code, Part 5.

SECTION 5.303 INDOOR WATER USE

Specification for Tank-Type toilets.

two reduced flushes and one full flush.

5.303.3.3 Showerheads. [BSC-CG]

not exceed 0.5 gallons per flush.

WaterSense Specification for Showerheads.

allow only one shower outlet to be in operation at a time.

**Note:** A hand-held shower shall be considered a showerhead

treated to remove waste matter attaining a quality that is suitable to use the water again.

SECTION 5.201 GENERAL

SECTION 5.301 GENERAL

SECTION 5.302 DEFINITIONS

and in wastewater conveyance.

N/A RESPON. **CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL 301.1 SCOPE.** Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7. 301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS. [BSC-CG] The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of \$200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [N] or to additions and/or alterations [A]. When the code section applies to both, no 301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only: Note: On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have its noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.1 et seq. for definitions types of commercial real property affected, effective dates, circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for 301.3.2 Waste Diversion. The requirements of Section 5.408 shall be required for additions and alterations whenever a permit is required for work. 301.4 PUBLIC SCHOOLS AND COMMUNITY COLLEGES. (see GBSC) 301.5 HEALTH FACILITIES. (see GBSC) **SECTION 302 MIXED OCCUPANCY BUILDINGS** 302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy. **SECTION 303 PHASED PROJECTS 303.1 PHASED PROJECTS.** For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new construction (or newly constructed) shall apply. **303.1.1 Initial Tenant improvements.** The provisions of this code shall apply only to the initial tenant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 non-residential additions and alterations. ABBREVIATION DEFINITIONS: Department of Housing and Community Development California Building Standards Commission Division of the State Architect, Structural Safety OSHPD Office of Statewide Health Planning and Development Low Rise High Rise Additions and Alterations CHAPTER 5 **NONRESIDENTIAL MANDATORY MEASURES** DIVISION 5.1 PLANNING AND DESIGN **SECTION 5.101 GENERAL** The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties. **SECTION 5.102 DEFINITIONS** 5.102.1 DEFINITIONS The following terms are defined in Chapter 2 (and are included here for reference) CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire. LOW-EMITTING AND FUEL EFFICIENT VEHICLES. Eligible vehicles are limited to the following: 1. Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT ZEV) or CNG fueled (original equipment manufacturer only) regulated under Health and Safety Code section 43800 and CCR, Title 13, Sections 1961 and 1962. 2. High-efficiency vehicles, regulated by U.S. EPA, bearing High-Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles. NEIGHBORHOOD ELECTRIC VEHICLE (NEV). A motor vehicle that meets the definition of "low-speed vehicle"

either in Section 385.5 of the Vehicle Code or in 49CFR571.500 (as it existed on July 1, 2000), and is certified to

TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motortruck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purpose of ridesharing.

Note: Source: Vehicle Code, Division 1, Section 668

**ZEV.** Any vehicle certified to zero-emission standards.

# SECTION 5.106 SITE DEVELOPMENT

5.106.1 STORM WATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND. Newly constructed projects and additions which disturb less than one acre of land, and are not part of a larger common plan of development or sale, shall prevent the pollution of storm water runoff from the construction activities through one or more of the following measures:

5.106.1.1 Local ordinance. Comply with a lawfully enacted storm water management and/or erosion control

**5.106.1.2** Best Management Practices (BMPs). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.

1. Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to, the following:

a. Scheduling construction activity during dry weather, when possible.

b. Preservation of natural features, vegetation, soil, and buffers around surface waters. c. Drainage swales or lined ditches to control stormwater flow.

d. Mulching or hydroseeding to stabilize disturbed soils.

e. Erosion control to protect slopes. f. Protection of storm drain inlets (gravel bags or catch basin inserts).

g. Perimeter sediment control (perimeter silt fence, fiber rolls). h. Sediment trap or sediment basin to retain sediment on site.

Stabilized construction exits.

Wind erosion control. . Other soil loss BMPs acceptable to the enforcing agency. 2. Good housekeeping BMPs to manage construction equipment, materials, non-stormwater discharges

and wastes that should be considered for implementation as appropriate for each project include, but

are not limited to, the following: Dewatering activities.

g Spill prevention and control.

b. Material handling and waste management.

c. Building materials stockpile management.

h. Other housekeeping BMPs acceptable to the enforcing agency.

d. Management of washout areas (concrete, paints, stucco, etc.).

e. Control of vehicle/equipment fueling to contractor's staging area. f. Vehicle and equipment cleaning performed off site.

5.106.2 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB ONE OR MORE ACRES OF **LAND.** Comply with all lawfully enacted stormwater discharge regulations for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development sale.

Note: Projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of the larger common plan of development or sale must comply with the post-construction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board or the Lahontan Regional Water Quality Control Board (for projects in the Lake Tahoe Hydrologic Unit).

The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff (pre-project hydrology) with the installation of postconstruction stormwater management measures. The NPDES permits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration hrough nonstructural controls, such as Low Impact Development (LID) practices, and conversation design measures. Stormwater volume that cannot be addressed using nonstructural practices is required to be captured in structural practices and be approved by the enforcing agency.

Refer to the current applicable permits on the State Water Resources Control Board website at: www.waterboards.ca.gov/constructionstormwater. Consideration to the stormwater runoff management measures should be given during the initial design process for appropriate integration into site development.

**5.106.4 BICYCLE PARKING.** For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State

applicable local ordinance, whichever is stricter

Architect pursuant to Section 105, comply with Section 5.106.4.2 **5.106.4.1 Bicycle parking. [BSC-CG]** Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the

> **5.106.4.1.1 Short-term blcycle parking.** If the new project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack. **Exception:** Additions or alterations which add nine or less visitor vehicular parking spaces.

> **5.106.4.1.2 Long-term bicycle parking.** For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking

> spaces with a minimum of one bicycle parking facility. **5.106.4.1.3** For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces being added, with a

minimum of one bicycle parking facility. **5.106.4.1.4** For new shell buildings in phased projects provide secure bicycle parking for 5 percent of the

anticipated tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. **5.106.4.1.5** Acceptable bicycle parking facility for Sections 5.106.4.1.2, 5.106.4.1.3, and 5.106.4.1.4 shall be convenient from the street and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles; 2. Lockable bicycle rooms with permanently anchored racks; or

3. Lockable, permanently anchored bicycle lockers.

Sacramento Area Bicycle Advocates.

Note: Additional information on recommended bicycle accommodations may be obtained from

**5.106.4.2 Bicycle parking. [DSA-SS]** For public schools and community colleges, comply with Sections

5.106.4.2.1 Student bicycle parking. Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building. **5.106.4.2.2 Staff blcycle parking.** Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable bicycle parking facilities

1. Covered, lockable enclosures with permanently anchored racks for bicycles; 2. Lockable bicycle rooms with permanently anchored racks; or 3. Lockable, permanently anchored bicycle lockers.

shall be convenient from the street or staff parking area and shall meet one of the following:

5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES. In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as follows:

TABLE 5.106.5.2 - PARKING			
TOTAL NUMBER OF PARKING SPACES NUMBER OF REQUIRED SPACES			
0-9	0		
10-25	1		
25-50	3		
51-75	6		
76-100	8		
101-150	11		
151-200	16		
201 AND OVER	AT LEAST 8% OF TOTAL		

**5.106.5.2.1 - Parking stall marking.** Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: CLEAN AIR / VAN POOL / EV

**Note:** Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces.

**5.106.5.3 Electric vehicle (EV) charging. [N]** Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the California Building Code, the California Electrical Code and as follows:

**5.106.5.3.1 Single charging space requirements. [N]** When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE.

2. A listed raceway capable of accommodating a 208/240 -volt dedicated branch circuit.

3. The raceway shall not be less than trade size 1".

4. The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and listed suitable cabinet, box, enclosure or equivalent.

5. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.

**5.106.5.3.2 Multiple charging space requirements. [N]** When multiple charging spaces are required per Table 5.106.5.3.3 raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:

The type and location of the EVSE.

2. The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and

into listed suitable cabinet(s), box(es), enclosure(s) or equivalent. 3. Plan design shall be based upon 40-ampere minimum branch circuits.

4. Electrical calculations shall substantiate the design of the electrical system, to include the

rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all required EVs at its full rated amperage.

5. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.

**5.106.5.3.3 EV charging space calculations. [N]** Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.

**Exceptions:** On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:

5.106.10 GRADING AND PAVING. Construction plans shall indicate how site grading or a drainage system will nanage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water

2. Water collection and disposal systems.

5. Other water measures which keep surface water away from buildings and aid in groundwater

1. Where there is insufficient electrical supply.

2. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the

TABLE 5.106.5.3.3		
TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES	
0-9	0	
10-25	1	
26-50	2	
51-75	4	
76-100	5	
101-150	7	
151-200	10	
201 AND OVER	6% of total <sup>1</sup>	

1. Calculation for spaces shall be rounded up to the nearest whole number

5.106.5.3.4 [N] Identification. The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

5.106.5.3.5 [N] Future charging spaces qualify as designated parking as described in Section 5.106.5.2 Designated parking for clean air vehicles.

5.106.8 LIGHT POLLUTION REDUCTION. [N].I Outdoor lighting systems shall be designed and installed to comply

1. The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and

2. Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8); 3. Uplight and Glare ratings as defined in California Energy Code (shown in Tables 130.2-A and 130.2-B in

4. Allowable BUG ratings not exceeding those shown in Table 5.106.8, [N] or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

1. Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code.

3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6. 4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.

1. See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways. 2. Refer to Chapter 8 (Compliance Forms, Worksheets and Reference Material) for IES TM-15-11 Table

A-1, California Energy Code Tables 130.2-A and 130.2-B. 3. Refer to the California Building Code for requirements for additions and alterations.

TABLE 5.106.8 [N] MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS 1,2 LIGHTING LIGHTING LIGHTING LIGHTING ALLOWABLE RATING ZONE LZ1 ZONE LZ2 ZONE LZ3 MAXIMUM ALLOWABLE **BACKLIGHT RATING:** Luminaire greater than 2 mounting heights (MH) from N/A No Limit No Limit No Limit No Limit property line Luminaire back hemisphere is N/A 1-2 MH from property line Luminaire back hemisphere is B3 0.5-1 MH from property line Luminaire back hemisphere is less than 0.5 MH from property MAXIMUM ALLOWABLE UPLIGHT RATING (U) For area lighting 4 N/A For all other outdoor lighting,including decorative luminaires MAXIMUM ALLOWABLE GLARE RATING 5 (G) Luminaire greater than 2 MH N/A G2 G3 from property line Luminaire front hemisphere is G1 G1 1-2 MH from property line Luminaire front hemisphere is N/A G0 G0 G1 0.5-1 MH from property line Luminaire back hemisphere is less than 0.5 MH from property

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the

California Energy Code and Chapter 10 of the Callifornia Administrative Code. 2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property

line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.

3. If the nearest property line is less than or equal to two mounting heights from the back hemisphere of the luminaire distribution, the applicable reduced Backlight rating shall be met. 4. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in these areas shall meet U-value limits for

"all other outdoor lighting". 5. If the nearest property line is less than or equal to two mounting heights from the front hemisphere of the luminaire distribution, the applicable reduced Glare rating shall be met.

include, but are not limited to, the following:

French drains. Water retention gardens.

**Exception:** Additions and alterations not altering the drainage path.

POTABLE WATER. [HCD] Water that is satisfactory for drinking, culinary, and domestic puroses, and meets the U.S.

Tiana L. Perez, Architect California Licensed Architect No. C-38000 Fresno County Department of Public Works & Planning **Development Services and** Capital Projects Division 2220 Tulare Street, Eighth Floor Fresno, California 93721

Office: (559) 600-4536 E-mail: tperez@fresnocountyca.gov

REN: 01-31-23

Fresno County Environmental Compliance Center Phase 1: Site Improvement and Shade

a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s). Project Address: 310 S. West Avenue, Fresno CA 93706 c. Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW). APN: 458-060-72

Issue Date: Project No. T90203

File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00

**Sheet Content:** CAL GREEN COMPLIANCE SHEET 1

Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor Fresno, California 93721

Sheet No



# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2020, Includes August 2019 Supplement)

# N/A RESPON. 5.303.3.4 Faucets and fountains. 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. **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 **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]. **5.303.3.4.4 Metering faucets.** Metering faucets shall not deliver more than 0.20 gallons per cycle. **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]. Note: Where complying faucets are unavailable, aerators or other means may be used to achieve 5,303,4 COMMERCIAL KITCHEN EQUIPMENT. **5.303.4.1 Food Waste Disposers.** Disposers shall either modulate the use of water to no more than 1 apm 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 8 gpm of water. Note: This code section does not affect local jurisdiction authority to prohibit or require disposer **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. 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. **SECTION 5.304 OUTDOOR WATER USE** 5.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. 1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code of Regulations Title 23, Chapter 2.7, Division 2. 2. MWELO and supporting documents, including a water budget calculator, are available at: https://www.water.ca.gov/. 5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. For public schools and community colleges landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, California Code of Regulations, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35. Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of the MWELO. **5.304.6.1** Newly constructed landscapes. New construction projects with an aggregate landscape area equal to or greater than 500 square feet. **5.304.6.2 Rehabilitated landscapes.** Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet. DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE **EFFICIENCY SECTION 5.401 GENERAL** 5.401.1 SCOPE. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting. **SECTION 5.402 DEFINITIONS 5.402.1 DEFINITIONS.** The following terms are defined in Chapter 2 (and are included here for reference) ADJUST. To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust BALANCE. To proportion flows within the distribution system, including sub-mains, branches and terminals, according to design quantities. BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements. ORGANIC WASTE. Food waste, green waste, landscape and pruning wste, nonhazardous wood waste, and food soiled paper waste that is mixed in with food waste. **TEST.** A procedure to determine quantitative performance of a system or equipment

SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT **5.407.1 WEATHER PROTECTION.** Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1402.2 (Weather Protection), manufacturer's installation instructions or local ordinance, whichever is more stringent. 5.407.2 MOISTURE CONTROL. Employ moisture control measures by the following methods.

**5.407.2.1 Sprinklers.** Design and maintain landscape irrigation systems to prevent spray on structures. 5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings as follows:

**5.407.2.2.1 Exterior door protection.** Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:

- 1. An installed awning at least 4 feet in depth. The door is protected by a roof overhang at least 4 feet in depth.
- . The door is recessed at least 4 feet. 4. Other methods which provide equivalent protection.

**5.407.2.2.2 Flashing.** Install flashings integrated with a drainage plane.

# SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND

**5.408.1 CONSTRUCTION WASTE MANAGEMENT.** Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or neet a local construction and demolition waste management ordinance, whichever is more stringent.

5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan that:

- 1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
- bulk mixed (single stream). 3. Identifies diversion facilities where construction and demolition waste material collected will be taken. 4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated

2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or

by weight or volume, but not by both. 5.408.1.2 Waste Management Company. Utilize a waste management company that can provide verifiable

Note: The owner or contractor shall make the determination if the construction and demolition waste material

documentation that the percentage of construction and demolition waste material diverted from the landfill

will be diverted by a waste management company.

### Exceptions to Sections 5.408.1.1 and 5.408.1.2:

complies with this section.

CalRecycle's web site

- Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle
- facilities capable of compliance with this item do not exist. 3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities

5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.

**5.408.1.4 Documentation.** Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1, through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

- 1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located at www.bsc.ca.gov/Home/CALGreen.aspx may be used to assist in documenting compliance
- 2. Mixed construction and demolition debris processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

**5.408.2 UNIVERSAL WASTE. [A]** Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Jniversal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents.

Note: Refer to the Universal Waste Rule link at: http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/OEAR-A\_REGS\_UWR\_FinalText.pdf

**5.408.3 EXCAVATED SOIL AND LAND CLEARING DEBRIS.** 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

**Exception:** Reuse, either on or off-site, of vegetation or soil contaminated by disease or pest infestation.

- 1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.
- 2. For a map of know pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture. (www.cdfa.ca.gov)

# 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

**Exception:** Rural jurisdictions that meet and apply for the exemption in Public Resources Code 42649.82 (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

**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

5.410.2 COMMISSIONING, [N] New buildings 10,000 square feet and over, 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. For I-occupancies that are not regulated by OSHPD or for I-occupancies and -occupancies that are not regulated y the California Energy Code Section 100.0 Scope, all requirements in Sections

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements

Commissioning requirements shall include:

- Owner's or Owner representative's project requirements.
- 2. Basis of design. 3. Commissioning measures shown in the construction documents.
- 4. Commissioning plan. Functional performance testing. 6. Documentation and training.

7. Commissioning report.

- Unconditioned warehouses of any size. 2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within
- 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.

- 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 des 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.
- Building sustainable goals. 3. Indoor environmental quality requirements.
- 4. Project program, including facility functions and hours of operation, and need for after hours
- 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:

- Renewable energy systems. 2. Landscape irrigation systems.
- Water reuse system.

**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: General project information.

- Commissioning goals. 3. Systems to be commissioned. Plans to test systems and components shall include:
- a. An explanation of the original design intent.
- Functions to be tested.
- d. Conditions under which the test shall be performed.
- e. Measurable criteria for acceptable performance. 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

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.
- 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. System/equipment 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 system/equipment.

**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

5.410.4 TESTING AND ADJUSTING. New bulldings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting system and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific

**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. Renewable energy systems.
- Landscape irrigation systems. 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 guaranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related

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.

**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<sup>0</sup> 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 o 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 l⊢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-propoelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

ELECTRIC VEHICLE CHARGING STATION(S) (EVCSj). 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 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 hdrochlorofluorocarbon, 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 nundreths of a gram (g O³/g ROC).

product (excluding container and packaging).

ozone formation in the troposphere.

PSIG. Pounds per square inch, guage. **REACTIVE ORGANIC COMPOUND (ROC).** Any compound that has the potential, once emitted, to contribute to

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this

article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of

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.

or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected o remote compressor units or condensing units. VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with

SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet

vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain nydrogen 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.

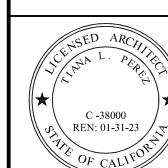
SECTION 5.503 FIREPLACES 5.503.1 FIREPLACES. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves 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 and during storage on the construction site until final startup of the heating, cooling and ventilation equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.



Tiana L. Perez, Architect California Licensed Architect No. C-38000 Fresno County Department of Public Works & Planning Development Services and Capital Projects Division 2220 Tulare Street, Eighth Floor Fresno, California 93721

Office: (559) 600-4536

E-mail: tperez@fresnocountyca.gov

Fresno County

Project No. T90203

**Environmental Compliance Center** Phase 1: Site Improvement and Shade

Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72 Issue Date:

File Path: G:Capital \ Projects \ Building Numbers \ American

Ave Landfill \ T90203 Environmental Compliance Center\ 00

CAL GREEN COMPLIANCE SHEET 2

**Sheet Content:** 

Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor Fresno, California 93721

Sheet No



# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

TABLE 5 504 4 3 - VOC CONTENT LIMITS FOR ARCHITECTURAL

NONRESIDENTIAL MANDATORY MEASURES, SHEET 3 (January 2020, Includes August 2019 Supplement)

5.504.4 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with Sections 5.504.4.1 through

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5,504.4.1 and 5,504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing

TABLE 5.504.4.1 - ADHESIVE VOC LIM	<b>11</b> T <sub>1,2</sub>	
Less Water and Less Exempt Compounds in Grams per Liter		
ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT	
INDOOR CARPET ADHESIVES	50	
CARPET PAD ADHESIVES	50	
OUTDOOR CARPET ADHESIVES	150	
WOOD FLOORING ADHESIVES	100	
RUBBER FLOOR ADHESIVES	60	
SUBFLOOR ADHESIVES	50	
CERAMIC TILE ADHESIVES	65	
VCT & ASPHALT TILE ADHESIVES	50	
DRYWALL & PANEL ADHESIVES	50	
COVE BASE ADHESIVES	50	
MULTIPURPOSE CONSTRUCTION ADHESIVES	70	
STRUCTURAL GLAZING ADHESIVES	100	
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250	
OTHER ADHESIVES NOT SPECIFICALLY LISTED	50	
SPECIALTY APPLICATIONS		
PVC WELDING	510	
CPVC WELDING	490	
ABS WELDING	325	
PLASTIC CEMENT WELDING	250	
ADHESIVE PRIMER FOR PLASTIC	550	
CONTACT ADHESIVE	80	
SPECIAL PURPOSE CONTACT ADHESIVE	250	
STRUCTURAL WOOD MEMBER ADHESIVE	140	
TOP & TRIM ADHESIVE	250	
SUBSTRATE SPECIFIC APPLICATIONS		
METAL TO METAL	30	
PLASTIC FOAMS	50	
POROUS MATERIAL (EXCEPT WOOD)	50	
WOOD	30	
FIBERGLASS	80	

- 1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER. THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.
- 2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF

TABLE 5.504.4.2 - SEALANT VOC LI	MIT
Less Water and Less Exempt Compounds in Gran	ns per Liter
SEALANTS	CURRENT VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NONPOROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

NOTE: FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THESE TABLES, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

5.504.4.3.1 Aerosol Paints and coatings. Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS				
COATING CATEGORY	CURRENT VOC LIMIT			
FLAT COATINGS	50			
NONFLAT COATINGS	100			
NONFLAT HIGH GLOSS COATINGS	150			
SPECIALTY COATINGS				
ALUMINUM ROOF COATINGS	400			
BASEMENT SPECIALTY COATINGS	400			
BITUMINOUS ROOF COATINGS	50			
BITUMINOUS ROOF PRIMERS	350			
BOND BREAKERS	350			
CONCRETE CURING COMPOUNDS	350			
CONCRETE/MASONRY SEALERS	100			
DRIVEWAY SEALERS	50			
DRY FOG COATINGS	150			
FAUX FINISHING COATINGS	350			
FIRE RESISTIVE COATINGS	350			
FLOOR COATINGS	100			
FORM-RELEASE COMPOUNDS	250			
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500			
HIGH-TEMPERATURE COATINGS	420			
INDUSTRIAL MAINTENANCE COATINGS	250			
LOW SOLIDS COATINGS1	120			
MAGNESITE CEMENT COATINGS	450			
MASTIC TEXTURE COATINGS	100			
METALLIC PIGMENTED COATINGS	500			
MULTICOLOR COATINGS	250			
PRETREATMENT WASH PRIMERS	420			
PRIMERS, SEALERS, & UNDERCOATERS	100			
REACTIVE PENETRATING SEALERS	350			
RECYCLED COATINGS	250			
ROOF COATINGS	50			
RUST PREVENTATIVE COATINGS	250			
SHELLACS:				
CLEAR	730			
OPAQUE	550			
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100			
STAINS	250			
STONE CONSOLIDANTS	450			
SWIMMING POOL COATINGS	340			
TRAFFIC MARKING COATINGS	100			
TUB & TILE REFINISH COATINGS	420			
WATERPROOFING MEMBRANES	250			
WOOD COATINGS	275			
WOOD PRESERVATIVES	350			
ZINC-RICH PRIMERS	340			

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following: Manufacturer's product specification 2. Field verification of on-site product containers

5.504.4.4 Carpet Systems. All carpet installed in the building interior shall meet at least one of the testing and

- product requirements:
- 1. Carpet and Rug Institute's Green Label Plus Program. 2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as CDPH Standard Method V1.1 or Specification 01350).

NSF/ANSI 140 at the Gold level or higher; Scientific Certifications Systems Sustainable Choice; or

5. Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria listed in the CHPS High Performance Product Database.

**5.504.4.4.1 Carpet cushion.** All carpet cushion installed in the building interior shall meet the

requirements of the Carpet and Rug Institute Green Label program.

5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.

**5.504.4.5 Composite wood products.** Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in

> **5.504.4.5.3 Documentation.** Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

- 1. Product certifications and specifications. 2. Chain of custody certifications.
- 3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see
- CCR, Title 17, Section 93120, et seq.). 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the
- Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S 5. Other methods acceptable to the enforcing agency.

TABLE 5.504.4.5 - FORMALDEHYDE LIMITS <sub>1</sub>	
MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER M	ILLION
PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD2	0.13

1 VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD. AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM F 1333 FOR ADDITIONAL INFORMATION, SEE CALIFORNIA CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16 INCHES (8 MM).

**5.504.4.6 Resilient flooring systems.** For 80 percent of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following:

- . Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program; 2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010.
- 3. Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria and listed in the CHPS High Performance Product Database; or 4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools

5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

**Exceptions:** Existing mechanical equipment.

5.504.5.3.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV

5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL. Where outdoor areas are provided for smoking. prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building a already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

SECTION 5.505 INDOOR MOISTURE CONTROL

5.505.1 INDOOR MOISTURE CONTROL. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures, see

SECTION 5.506 INDOOR AIR QUALITY

5.506.1 OUTSIDE AIR DELIVERY. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements For Ventilation) of the California Energy Code, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

5.506.2 CARBON DIOXIDE (CO2) MONITORING. For buildings or additions equipped with demand control ventilation, CO<sub>2</sub> sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).

SECTION 5.507 ENVIRONMENTAL COMFORT

5.507.4 ACOUSTICAL CONTROL. Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413, or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either the prescriptive or performance method in

**Exception:** Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking

**Exception:** [DSA-SS] For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

**5.507.4.1 Exterior noise transmission, prescriptive method.** Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport.

- 1. Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan 2. Ldn or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.
- 2. Within the 65 CNEL or Ldn noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.
- 5.507.4.1.1. Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L<sub>eq</sub> - 1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of

at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30). **5.507.4.2 Performance Method.** For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does

**5.507.4.2.1 Site Features.** Exterior features such as sound walls or earth berms may be utilized as

not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation.

appropriate to the building, addition or alteration project to mitigate sound migration to the interior. 5.507.4.2.2 Documentation of Compliance. An acoustical analysis documenting complying interior

sound levels shall be prepared by personnel approved by the architect or engineer of record. 5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant

spaces and public places shall have an STC of at least 40.

Note: Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: www.toolbase.org/PDF/CaseStudies/stc\_icc\_ratings.pdf.

SECTION 5.508 OUTDOOR AIR QUALITY 5.508.1 Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration and fire suppression

equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

5.508.1.1 Chlorofluorocarbons (CFCs). Install HVAC, refrigeration and fire suppression equipment that do not

**5.508.1.2 Halons.** Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potentia (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.

Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO<sub>2</sub>), and potentially other refrigerants.

**5.508.2.1 Refrigerant piping.** Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than 1/4 inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

**5.508.2.1.1 Threaded pipe.** Threaded connections are permitted at the compressor rack.

**5.508.2.1.2 Copper plpe.** Copper tubing with an OD less than 1/4 inch may be used in systems with a refrigerant charge of 5 pounds or less.

5.508.2.1.2.1 Anchorage. One-fouth-inch OD tubing shall be securely clamped to a rigid base to

keep vibration levels below 8 mils.

5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.

**Exception:** Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's

**5.508.2.1.4 Elbows.** Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

5.508.2.2 Valves. Valves Valves and fittings shall comply with the California Mechanical Code and as

**5.508.2.2.1 Pressure relief valves.** For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.

**5.508.2.2.1.1 Pressure detection.** A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.

**5.508.2.2.2 Access valves.** Only Schrader access valves with a brass or steel body are

**5.508.2.2.2.1 Valve caps.** For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.

**5.508.2.2.2.2 Seal caps.** If designed for it, the cap shall have a neoprene O-ring in place. **5.508.2.2.2.1 Chain tethers.** Chain tethers to fit ovr the stem are required for valves designed to have seal caps.

**Exception:** Valves with seal caps that are not removed from the valve during stem

5.508.2.3 Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances.

**5.508.2.3.1 Coil coating.** Consideration shall be given to the heat transfer efficiency of coil coating to

5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device tha indicates the level of refrigerant in the receiver.

**5.508.2.5 Pressure testing.** The system shall be pressure tested during installation prior to evacuation and

5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and

appropriate tracer gas to bring system pressure up to 300 psig minimum. 5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same

5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.

5.508.2.6.1 First vacuum. Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and

**5.508.2.6.2 Second vacuum.** Pull a second system vacuum to a minimum of 500 microns and hold for 30

5.508.2.6.3 Third vacuum. Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.

# **CHAPTER 7**

# **INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS**

# 702 QUALIFICATIONS

**702.1 INSTALLER TRAINING.** HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and esponsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC system Examples of acceptable HVAC training and certification programs include but are not limited to the following:

- . State certified apprenticeship programs.
- Public utility training programs. 3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. 4. Programs sponsored by manufacturing organizations.

# 5. Other programs acceptable to the enforcing agency.

**702.2 SPECIAL INSPECTION [HCD].** When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

- 1. Certification by a national or regional green building program or standard publisher. 2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building
- performance contractors, and home energy auditors. 3. Successful completion of a third party apprentice training program in the appropriate trade.
- 4. Other programs acceptable to the enforcing agency.

project they are inspecting for compliance with this code.

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code. 2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate

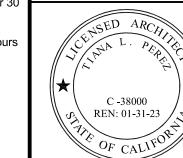
homes in California according to the Home Energy Rating System (HERS).

[BSC-CG] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The

area of certification shall be closely related to the primary job function, as determined by the local agency. Note: Special inspectors shall be independent entities with no financial interest in the materials or the

# 703 VERIFICATIONS

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.



Tiana L. Perez, Architect California Licensed Architect No. C-38000 Fresno County Department of Public Works & Planning Development Services and Capital Projects Division 2220 Tulare Street, Eighth Floor Fresno, California 93721

Office: (559) 600-4536

E-mail: tperez@fresnocountyca.gov Fresno County Environmental Compliance Center Phase 1: Site Improvement and Shade

Project Address: 310 S. West Avenue, Fresno CA 93706

APN: 458-060-72 Issue Date: Project No. T90203

File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00

**Sheet Content: CAL GREEN COMPLIANCE SHEET 3** 

Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor

Fresno, California 93721

### STRUCTURAL NOTES STRUCTURAL DESIGN VALUES **ABBREVIATIONS** All values reported are unfactored and strength level, unless noted otherwise Anchor Bolt International Building Code CONCRETE **GENERAL NOTES** International Code Council Gravity Design Data ABV. Value Above American Concrete Institute ACI ICF Insulated Concrete Form 1. The following notes, typical details and schedules shall apply to all phases of this project 1. Prior to general site grading, existing vegetation, existing underground utilities, and any 1. Concrete shall have a minimum ultimate compressive strength ( $f'_c$ ) as outlined below. All Dead Loads: ADD'L Additional Inside Diameter unless otherwise shown or noted. debris shall be stripped and disposed of outside the construction limits. We estimate the concrete shall be regular weight (unless noted otherwise). By Others Roof Dead Load SSG Structural Engineers, LLP ADJ. Adjacent Inch, Inches depth of stripping to be less than 4 inches. Stripped topsoil, less any debris, may be AHJ INT. f'c at 28 | Max. w/c Authority Having Jurisdiction Interior By Others 2. Specific notes and details shall take precedence over general notes and typical details. \* Allowance for PV system in Roof Dead Load stockpiled and reused for landscape purposes. Organics which remain below stripping depth Slump Air Content location Days Ratio AISC American Institute of Steel may be incorporated into the fill areas as long as the total amount of organics does not 3. All materials and workmanship shall conform to the minimum standards of the 2019 Construction exceed 3 percent, by weight, of the fill material (ASTM D-2974). ooting & Slab on Grade 5,000 psi 1.50% 0.40 4" ±1" Roof Live Load (Reducible) 20 psf AITC American Institute of Timber edition of the California Building Code (CBC) and such other regulating agencies exercising THESE DRAWINGS, NOTES AND DETAILS ARE Kips per Square Inch Construction authority over any portion of the work. The contractor shall have a current copy of the 2. During site demolition and prior to actual site grading, a reasonable search shall be INSTRUMENTS OF SERVICE AND ARE THE PROPERTY Snow Loads: AOR Architect of Record OF SSG STRUCTURAL ENGINEERS, LLP. ALL CBC (print or digital version) on the job site. conducted to locate any undocumented fill soils, wells, trees, or existing utilities that may 2. Maximum Fly Ash content shall be 15%, by weight, of total cementitious materials and shall Ground Snow Load, P. 0 psf DRAWINGS, INFORMATION, SPECIFICATIONS, IDEAS, APA American Plywood Association LL Live Load exist within the area of construction. Any obstructions shall be removed from the project conform to ASTM C618. DESIGNS AND ARRANGEMENTS REPRESENTED 4. The Construction Documents shall consist of these notes, details, schedules, plans, APPROX. Lightweight area. If any areas or pockets of soft or saturated soils or void spaces made by burrowing Deflection Criteria: Approximate(lv) WITHIN THESE DOCUMENTS SHALL REMAIN THE animals, undocumented fill, or other disturbed soil are encountered, they shall be 3. All concrete work shall comply with CBC Chapter 19 and ACI 318-14 and latest edition of ACI drawings, and Specifications. ASCE LSL Laminated Strand Lumber American Society of Civil PROPERTY OF THE ENGINEER. NO PART THEREOF Roof, Total Load L/240 over-excavated to firm native material and replaced with engineered fill constructed as LVL Laminated Veneer Lumber SHALL BE COPIED, DISCLOSED TO OTHERS OR USED Manual of Concrete Practice. Engineers L/360 Roof, Live Load IN CONNECTION WITH ANY WORK OR PROJECT 5. All specifications, including but not limited to materials and products, shall be those put recommended in the project Geotechnical Report. Excavations for removal of the above ARCH. Architect, Architecture OTHER THAN THE SPECIFIC PROJECT FOR WHICH items shall be backfilled with engineered fill. Any wells not to remain shall be abandoned in 4. Special Inspection (as required or specified) shall conform to CBC Chapter 17. forth in the Construction Documents. No substitutions shall be permitted to be used or MAX Floor, Total Load L/240 ASTM American Society of Testing Maximum THEY HAVE BEEN PREPARED AND DEVELOPED assumed to be used in the bidding or construction process without written approval by MB accordance with the requirements of the County of Fresno Environmental Health Machine Bolt and Materials WITHOUT THE EXPRESSED WRITTEN CONSENT OF Floor, Live Load L/360 the Engineer of Record. MBM 5. Cement shall be Portland Cement Type II/V and shall conform to ASTM C150. Metal Building Manufacturer THE ENGINEER. COPYRIGHT 2020. ATR All Thread Rod Wind Design Data Value MECH. Mechanical AWS American Welding Society 3. After stripping the site and performing any necessary removals indicated above, the exposed 6. Aggregates shall conform to ASTM C33; provide aggregates from a single source. 6. The contractor shall examine the Construction Documents and shall notify the Engineer of MSE Mechanically Stabilized Earth Design Wind Speed (3-sec gust), V<sub>ULT</sub> 105 mph Record of any discrepancies they may find before proceeding with the work. surface (in areas of overexcavation or stripped surface in areas to receive fill) shall be MFR. Manufactured, Manufacturer BLDG. scarified to a depth of 6 inches, uniformly moisture conditioned to at or near optimum 7. Water shall conform to ASTM C94 and be potable. Risk Category MIN. BLK. Minimum Block 7. All information on existing conditions shown on drawings are based on best present moisture content and compacted to the requirements for engineered fill. Shall site grading MPH Miles per Hour **Exposure Category** BLKD. Blocked be performed during or subsequent to wet weather, near-surface site soils may be 8. All splices are to be Class B unless specifically noted otherwise. knowledge available, but without guarantee of accuracy. The Contractor shall verify and MTL. Metal BLK'G Blocking Applicable Internal Pressure Coefficient $\pm 0.00$ be responsible for all dimensions and conditions at the site and shall notify the Engineer of significantly above optimum moisture content. These conditions could hamper equipment BM. Beam Record of any discrepancies between actual site conditions and information shown on or maneuverability and efforts to compact site soils to the recommended compaction criteria. 9. Minimum concrete cover over reinforcing bar shall be: Design Wind Pressure(s) for Components & Cladding $q_z = 20.9$ (N) New B.O. Bottom of in the Construction Documents before proceeding with work. Disking to aerate, chemical treatment, replacement with drier material, stabilization with a (Not specifically designed by the Registered Design Professional, and to be modified NDS National Design Specification BOT. Bottom Concrete cast against and permanently exposed to earth or weather 3" geotextile fabric or grid, or other methods may be required to reduce excessive soil moisture by applicable factors per ASCE 7) BRG. Bearing N.T.S. Not to Scale The Contractor shall immediately notify the Engineer of Record of any condition which in and facilitate earthwork operations. Any consideration of chemical treatment (e.g. lime) to Concrete placed against forms, but exposed to earth or weather b/t Between Earthquake Design Data Value their opinion might endanger the stability of the structure or cause distress of the facilitate construction would require additional soil chemistry evaluation and could affect O.C. On Center Slabs, wall & joists, not exposed to earth or weather 3/4" landscape areas. IV Risk Category California Administrative Code Outside Diameter Beams, girders & columns, not exposed to earth or weather 1½" OD CANT. 9. The Contractor shall provide temporary bracing and shoring for all structural members as Importance Factor, I<sub>e</sub> 1.5 Cantilever 4. All engineered fill soils shall be nearly free of organic or other deleterious debris and less OSB Oriented Strand Board CBC California Building Code required for structural stability of the structure during all phases of construction. than 3 inches in maximum dimension. The native soil materials, exclusive of debris, may be Mapped Spectral Response Accelerations $S_s = 0.62 g$ 10. Reinforcing bars larger than #8 are not permitted unless noted otherwise. Office of State Health Planning CIP used as Engineered Fill provided they contain less than 3 percent organics by weight (ASTM Cast-in-place $S_1 = 0.24 g$ 10. All work shall conform to the best practice prevailing in the various trades comprising and Development D-2974). Any imported fill materials, if any, to be used for engineered fill shall be sampled Control Joint 11. Location of all construction joints, other than specified, shall be approved by work. The Contractor shall be responsible for coordinating the work of all trades. Complete Joint Penetration Open Web Steel Joist and tested by the project Geotechnical Engineer prior to being transported to the site. Architect/Engineer of Record prior to pouring. Construction joints shall be thoroughly air and Spectral Response Coefficients $S_{DS} = 0.55 g$ Centerline water cleaned and heavily roughened so as to expose coarse aggregates. All surfaces to 11. These Construction Documents represent the finished structure, and do not indicate the PEN. $S_{D1} = 0.34 g$ Penetration Soils used for engineered fill shall be uniformly moisture-conditioned to at least the optimum Ceiling receive concrete shall be maintained continuously wet at least three hours in advance of method of construction. The Contractor shall supervise and direct the work and shall be Plate moisture content, placed in horizontal lifts less than 8 inches in loose thickness, and CLR. Clear Seismic Design Category solely responsible for construction means, methods, techniques, sequences and PLYWD. Plvwood compacted to at least 90 percent relative compaction. Disking and/or blending may be CMU Concrete Masonry Unit Equivalent Lateral Force Procedure Analysis Procedure Used procedures. Partial Joint Penetration required to uniformly moisture-condition soils used for engineered fill. COL. Column 12. All reinforcing steel, anchor bolts, dowels, inserts and any other hardware to be set in (ASCE 7, 12.8) CONC. Pounds per Square Inch psi Concrete concrete shall be well secured in position prior to pouring of concrete. 12. The Contractor shall take all steps necessary to ensure proper alignment of the structure PSF Pounds per Square Foot CONN. Connection Basic Seismic-Force Resisting Cantilevered Column System: after the installation of all structural and finish materials. This shall include any necessary CONST. PSL Parallel Strand Lumber Construction 13. The Contractor shall obtain approval from Architect/Engineer of Record prior to placing Steel Ordinary Cantilever Column Systems preloading of the structure to determine final position of the completed work. CONT. Continue, Continuous 1. Unexpected soil conditions: Allowable values and foundation design are based upon soil (Paralam) sleeves, pipes, ducts, chases, coring and openings on or through structural concrete beams, CSK. PEMB conditions shown by test borings as presented in the project Geotechnical Investigation. R= 1.25 Countersink Pre-Engineered Metal Building Response Modification Coefficient walls, floors and roof slabs, unless specifically detailed or noted. All pipes or conduits passing 13. These notes, details, drawings and Specifications (Construction Documents) do not carry Actual soil conditions which deviate from that shown in the test borings shall be reported to PERF. Perforated through concrete members shall be sleeved with standard steel pipes. See typical detail for necessary provisions for construction safety. These documents and all phases of $C_s = 0.66$ Seismic Response Coefficient PTDF the Project Geotechnical Engineer immediately. Diameter Pressure Treated Douglas Fir construction are to be governed, at all times, by applicable provisions of the current pipe through footing. Design Base Shear $V = C_S W_D$ PW Pennv Puddle Weld California Occupational Safety and Health Act. 2. See project Geotechnical Investigation for compaction, fill, backfilling, and site preparation 14. Vibrate all concrete (including slabs on grade) as it is placed, with a mechanical vibrator Double Geotechnical Design Data Value requirements and procedures. DCW Q.A. Demand Critical Weld Quality Assurance 14. Where any conflict occurs between the requirements of federal, state and local laws, operated by experienced personnel. The vibrator shall be used to consolidate the concrete, Geotechnical Report prepared by: Dated: DET. Detail Q.C. Quality Control not transport it. Reinforcing and forms shall not be vibrated. codes, ordinances, rules and regulations, the most stringent shall govern. 3. Excavate all foundations to required depths into compacted fill or natural soil. County of Fresno (Report No.T90203) April 22, 2020 DEMO Demolition A. All foundation excavations shall be inspected and approved by the project Geotechnical RBS 15. Formwork design and removal shall conform to ACI 318-14 Section 26.11. Remove forms in Reduced Beam Section 15. Inspection and approval for shops used for fabrication of structural load bearing members, Douglas Fir Allowable Soil Bearing Pressure (DL + LL), Continuous Footing: 1290B + Engineer, prior to forming and placement of reinforcing and/or concrete. components, materials or assemblies shall conform to CBC Section 1704.2.5. accordance with the following minimum schedule: Diagonal RDWD Redwood 2290D psf Foundation excavations shall be cut square and smooth with firm level bottoms A. Labeling (as required or specified) shall be provided in accordance with CBC Section REBAR Reinforcing Bar Dead Load Care shall be taken not to over-excavate foundations at lower elevations and prevent Side forms of footings 72 hours & 70% of design strength DSA REINF. Reinforcement Division of State Architect Allowable Soil Bearing Pressure (DL + LL), Square Footing: 1030B + disturbing soils around higher elevations. B. Evaluation and follow-up inspection services (as required or specified), shall conform DWGS. Retaining 2290D psf Drawings Edge forms of slab on grade 72 hours & 70% of design strength to CBC Section 1703.6. REQ'D Required 4. Footings shall be poured in neat excavations, without side forms whenever possible. Design Active Pressure, Pa 32 pcf Each 16. The Contractor shall refer to the Specifications for information not covered by these 16. Concrete shall not free fall more than six feet. Use tremie, pump or other approved methods. S.F. Square Feet E.F. Each Face Design At-Rest Pressure, Pa 75 pcf 5. Moisten sides and bottom of excavations several times prior to concrete placement. drawings and General Notes. SHT. ELEC. Sheet Electric, Electrical 17. Concrete shall be maintained in a moist condition for a minimum of 5 days after placement 500 pcf Design Passive Pressure, Pp SHT'G ELEV. Sheathing Elevation 6. Foundations shall not be poured until all required reinforcing bar, sleeves, inserts, conduits, or concrete surfaces shall be cured with liquid membrane-forming curing compound 17. Observation visits to the project site by field representatives of the Engineer of Record Design Coefficient of Friction. f. SIM. Similar pipes, formwork, etc. are properly placed and inspected by the Authority Having Jurisdiction. EMBED. Embedded, Embedment conforming to ASTM C309, Type 1, Class A. Curing compound shall be approved by the (support services) shall not include inspections of safety or protective measures, nor Structural Insulated Panel Edge Nailing Engineer of Record. STRUCTURAL OBSERVATION construction procedures, techniques or methods. Any support services performed by EOR Engineer of Record Steel Joist Institute De-water footing excavations and foundation block-outs to maintain dry working conditions Engineer of Record during any phase of construction, shall be distinguished from Seismic Load Resisting System Equal 18. The Contractor may use concrete admixtures as a construction means and methods to continuous and detailed inspection services (as required by any regulating governmental Sheet Metal Screw EQUIP. Equipment execute Construction Documents. Use of admixture is solely the responsibility of the agency, e.g. the Authority Having Jurisdiction) provided by others. These support services, 1. Structural Observation is the visual observation of the structural system by a SQ. Square E.S. Fach Side CAST-IN-PLACE DEEP FOUNDATIONS whether of material or work, are performed solely for the purpose of assisting in quality Registered Design Professional for general conformance to the approved Select Structural Each Way E.W. control and in achieving conformance with contract documents, but do not guarantee construction documents at significant construction stages and at completion of STAGG'D Staggered 19. Concrete mix designs shall be prepared by the concrete supply plant. Each mix design shall Existing 1. Excavations for deep foundations shall be performed in compliance with local grading codes Contractor's performance and shall not be construed as supervision of construction. the structural system. Structural Observation does not include or waive the ARCHITECT: STD. be submitted with current supporting data to the Engineer of Record for review and Standard Expansion and ordinances as well as CBC Chapters 18 and 33, and as recommended by the Tiana L. Perez, Architect responsibility for the inspection required by Section 110, 1704 or other Sections of EXT. STL. approval. Each mix design shall be stamped and signed by a Civil or Structural Engineer Exterior California Licensed Architect No. C-38000 18. Provide openings and supports as required per typical details and notes for mechanical, Geotechnical Investigation. the California Building Code. licensed in the state of the project jurisdiction. SW Shearwall plumbing, and electrical equipment, vents, ducts, piping, etc. All mechanical, plumbing Fresno County Department of SEOR Structural Engineer of Record Fabricated and electrical equipment shall be properly braced against lateral forces. 2. Provide Special Inspection in accordance with CBC Section 1705.8 and Table 1705.8. 2. All Structural Observation shall be provided in accordance with CBC Sections 1702 Public Works & Planning 20. Only one grade of concrete shall be allowed on project site at any one time. FDN. Foundation Development Services Finish floor Top and bottom 19. Refer to drawings by other disciplines to coordinate with Structural Drawings. Any Capital Projects Division B. Excavations for deep foundations shall be approved by the Project Geotechnical Engineer 21. Unless noted otherwise, construction and control joints shall be provided in all concrete REN: 01-31-2 T&G Tongue and Groove 2220 Tulare Street, Eighth Floor discrepancy between these drawings shall be referred to the Architect or Engineer of FLR. Floor The owner shall employ the Engineer of Record to perform Structural Observation prior to placing of concrete. slabs, and shall be located such that the area within joints does not exceed 375 sq. ft., and is Fresno, California 93721 Record for clarification prior to the start of construction. THR'D Threaded Face of \_\_\_\_\_ in accordance with CBC Section 1704.6. The Engineer of Record may designate roughly square. FRMG. T.O. Top of \_\_\_\_\_ Framing another Engineer or Architect to perform Structural Observation. Office: (559) 600-4536 A. For all structural slabs (suspended or on grade) where Architecturally exposed 4. Reinforcing bar for deep foundations shall be reviewed and approved by the Special 20. Written dimensions shall have precedence over scaled dimensions. FT. TRL. Foot,Feet Triple E-mail: tperez@fresnocountyca.gov conditions are desired, the Contractor shall provide control joint layout for review by Inspector and Structural Observer prior to placing in excavation. FTG. TYP. Footing Typical 4. The contractor shall notify this office 48-72 hours in advance of requesting a Architect and Engineer of Record. 21. Drawings (notes, schedules, details and plans) shall have precedence over Structural Structural Observation. 5. De-water deep foundation excavations as required to maintain dry working conditions. Project: Calculations. Gauge UNBLKD. Unblocked 22. Every opening exceeding 24" (in either direction) shall have a minimum of 2-#5 (U.N.O.) GALV. Galvanized U.N.O. Unless Noted Otherwise directly adjacent to all sides as well as top and bottom (unless at foundation). Reinforcing Structural Observation is required at significant construction stages and at 22. In the event that certain features of the construction are not fully shown on the drawings Deep foundations are to be poured by end of day after completion of drilling operation. All GEOR Geotechnical Engineer of URM Unreinforced Masonry completion of the structural system, as follows: bars shall extend a minimum of 24" past edge of opening. Fresno County or called for in the General Notes or Specifications, their construction shall be of the same concrete for a particular deep foundation shall be on the job site prior to drilling the hole. Record character as for similar conditions that are shown or called for. **Environmental Compliance Center** GLB Glued-Laminated Beam VERT. A. Footing excavations completed, footing reinforcing bars in-place, embedded Vertical 23. Dowel all concrete walls and columns to supporting concrete with bars of the same size and GYP. BD. Gypsum Board Verify in Field items in place, mechanical, plumbing and electrical items in place and prior to VIF spacing as vertical bars in wall and columns. Do not "hickey" bars. All dowels shall be Site Improvement and Shade Structure The Contractor shall be responsible for all shoring, bracing, etc. necessary to support cut 23. The Contractor shall have a copy of the Project Geotechincal Investigation on the job site. concrete placement. and/or fill banks, existing structures during excavation, and the forming and placement of Project Address: 310 S. West Avenue, Fresno CA 93706 HDR. Anchorage for Simpson Steel Strong-walls Header 24. ASTM designation and all standards refer to the latest amendments. APN: 458-060-72 Building retaining wall footing dowels HD. 24. Provide a minimum of 2-#5 continuous horizontally at tops of walls and vertically at ends of Holdown Water/Cement Ratio w/c Issue Date: 06/24/2020 HORIZ. walls, unless noted otherwise. Horizontal WD. 8. Bottom of deep foundation excavations shall be thoroughly cleaned prior to placement of 25. These structural Construction Documents shall not be modified without prior written Project No. S19406A B. Slab on grade reinforcing bars in place and embedded items in place, prior to HSS Hollow Steel Section W.P. Working Point approval of the Engineer of Record. 25. Concrete strength shall be verified by standard cylinder tests (in accordance with CBC concrete placement. Height W.S.M.F. Welded Steel Moment Frame Section 1705.3) made by a testing laboratory approved by the Authority Having Jurisdiction. Welded Steel Stud WSS 26. Only structural working drawings approved by the Authority Having Jurisdiction are C. Retaining wall reinforcement in place, prior to placement of concrete/grout. WT. Weight permitted to be used for construction on this project. All other drawings or documents 26. Concrete placed when the air temperature has fallen to, or is expected to fall below 40° shall WWM Welded Wire Mesh are obsolete and are not permitted on the job site, nor shall they be used for any **Sheet Content:** conform to ACI 318-14 Section 26.54 and ACI 306R-16. D. Wood framing completed and plywood nailing completed, but not closed in. 1. All reinforcing bar shall be deformed intermediate grade bars conforming to ASTM A615, construction purposes. Contractors using unapproved drawings or documents are solely Grade 60 ( $f_v = 60 \text{ ksi}$ ), unless noted otherwise. responsible for all work not performed in accordance with the "approved" drawings. 27. Concrete placed during hot weather shall conform to ACI 318-14 Section 26.5.5 and ACI E. All structural work completed including the installation of mechanical, A. Grade 40 ( $f_v = 40 \text{ ksi}$ ) may be used for #3 bars and smaller. **SYMBOLS** plumbing, and electrical items. 27. Refer to Architectural Drawings for all fire protection requirements. 2. Reinforcing bar shall not be welded, unless noted or detailed otherwise. 28. Conduits and sleeves placed within structural concrete shall not be tied directly to structural The Structural Observer shall submit to the Authority Having Jurisdiction a written STRUCTURAL NOTES statement that the site visits have been made and identifying any structural 3. To hold reinforcing bars in their true position and prevent displacement, standard tie and SHOP DRAWING AND CONTRACTOR SUBMITTAL REVIEW 1" clear distance shall be maintained between conduits/sleeves and reinforcing bar. Concrete Footing deficiencies that, to the best of their knowledge, have not been resolved. anchorage devices shall be provided. Placing of reinforcement shall conform to ACI 318-14 B. Do not run conduit in slabs or in concrete filled metal decking uniless the layout has 1. Shop Drawings or Contractor Submittals should be provided for the fabrication (or been approved by the Engineer of Record Cast-in-Place Drilled Concrete Pier proportioning) of the following (but not limited to) components or elements. 4. Shop drawings for fabrication of any reinforcing bar shall be provided by the Contractor and -Refer to Schedule A. Concrete mix designs submitted to the Engineer of Record for their review and approval, prior to fabrication. Reinforcing Bar Structural Steel (#) Fresno County Department of Reference Note 5. Refer to typical details for minimum splice length and minimum radius of bend for D. Substitute or alternate materials Public Works and Planning reinforcing bar. 2. The Contractor shall be responsible for the production of Shop Drawings or Contractor Detail Number Reference Capital Projects Submittals, the distribution of documents to the Engineer of Record for review, 6. All reinforcing bar splices shall be staggered 24", unless noted or detailed otherwise. Sheet Number Reference incorporation of any noted revisions made by the Engineer of Record into the documents, 7. All reinforcing bar bends shall be made cold. and final approval. 2220 Tulare Street, 8th Floor Fresno, California 93721 8. Fabrication, erection and placement of reinforcing bar shall conform to Concrete 3. Shop drawings shall not be a reproduction of structural drawing sheets. Reinforcing Steel Institute Manual of Standard Practice. 4. When the Contractor submits shop drawings or other submittals to the Engineer of Record for review, submittal package shall contain sufficient copies that the Engineer of Record may 10. Reinforcing bar shall be clean of rust, grease or other material likely to impair bond. Sheet No.: retain a complete copy of submittal package. 5. The Contractor shall allow sufficient time for the Engineer of Record to thoroughly review submittal package (10 working days, minimum). 6. Review of Shop Drawings or Contractor Submittal by Engineer of Record does not in any way constitute approval of submittal package. Engineer of Record's review is for general conformance with the design concept and contract documents. Review shall not be construed as relieving the Contractor from compliance with the contract documents.

## STRUCTURAL NOTES, CONTINUED SPECIAL INSPECTION

## STRUCTURAL STEEL AND WELDING

- 1. All structural steel construction shall conform to AISC 360-16 and AISC 341-16. A. All structural steel shall be be fabricated in an approved fabrication shop. Inspection and approval of fabricaiton shops shall conform to CBC Section 1704.2.5.
- 2. All structural steel shall conform to the following specifications:

	<b>5</b> .	
Steel Shape	ASTM Specificaiton	Min. Yeild Stress, F <sub>y</sub> (ksi)
Angle, Channel	A36	36
Plates, Bars, Rounds	A36	36
Wide Flange	A992	50
Pipe	A53, Grade B	35
HSS Tube	A500, Grade C	50
HSS Round	A500, Grade C	46

- 3. All structural steel shall be hot dipped galvanized.
- 4. Special Inspection shall be provided for all structural steel and welding, in accordance with CBC Chapter 17.
- 5. All structural steel shall be fabricated, erected and welded in accordance with AISC Specifications for Structural Steel Buildings (AISC 360-16) and Code of Standard Practice for Steel Buildings and Bridges (AISC 303-16).
- 6. No field welding permitted, unless specifically noted otherwise.
- 7. No holes other than those specifically detailed shall be allowed through structural steel members. Burning of holes is not permitted.
- 8. All welding shall conform to AWS D1.1 and D1.8 specifications for welding. (E-70XX Electrodes).
- 9. Provide hot dip galvanizing or 3" minimum concrete cover around all structural steel below STEEL DECK
- 1. Steel deck shall be cold rolled, structural quality steel sheet conforming to CBC Section 2210 and the following specifications: ASTM Specification Min. Yeild Stress, F<sub>v</sub> (ksi) Phosphatized/Painted, A1008 Painted/Painted, or Mill Finished steel deck 50 Galvanized steel deck A653
- 2. Shop drawings for the fabrication of steel deck shall be submitted to Engineer of Record for their review, prior to fabrication.
- 3. All deck side locks shall be compatible.
- 4. Steel deck shall have a prime painted finish, unless noted otherwise.
- 5. Steel deck sheets shall be continuous over a minimum of 3 supports (2 spans).
- 6. Steel deck shall be placed on the supporting framework with a minimum end lap of 2 inches, centered over the supports, unless detailed otherwise.
- 7. Steel deck shall be erected and fastened in accordance with the Manufacturer's Specifications and erection layout, as well as requirements set forth in these Structural
- 8. No holes shall be cut into steel deck unless noted or detailed otherwise.
- 9. Weld metal shall penetrate all layers of deck material at each end and side joints and have good fusion to the supporting members.
- 10. Electrodes E70 with a minimum size of  $\frac{1}{8}$ ".
- 11. Welding of structural sheet steel, welder qualification requirements, welding procedures and welding electrodes shall conform to CBC Section 2210 and AWS D1.3.
- 12. Continuous inspection is required for steel deck welding.
- 13. Galvanizing shall conform to ASTM A924.

# LIGHT WEIGHT STRUCTURAL STEEL FRAMING

- 1. All studs, joists, and accessories shall be of the type, size, gauge and spacing shown on the drawings and shall be manufactured by an agency approved by the Steel Stud Manufacturer's Association. A. All studs, joists, accessories and components shall conform to CBC Section 2210 and
- 2. All framing components shall be cut squarely for attachment to perpendicular members, or as required for an angular fit against abutting members.

have a minimum yield stress  $(F_v)$  of 50 ksi, unless noted otherwise.

- 3. All components shall be securely fastened together.
- A. Fastening shall be with self-drilling screws or welds as noted. B. Screw and weld size, type, location and spacing shall be as per manufacturer's
- requirements, except where noted or detailed otherwise. C. Wire tying of components shall not be permitted.
- 4. Welding shall comply with current AWS practice. All welds shall be touched up with zinc rich
- 5. Studs shall be plumbed, aligned and securely attached to flanges of both upper and lower
- 6. Splices in studs shall not be permitted.
- 7. Joists shall be located directly over bearing studs.
- 8. Provide joist bridging per manufacturer's requirements.
- 9. Components shall be held firmly in position until properly fastened.
- 10. All joists and studs shall be braced at 48" o.c. (max.) unless noted or detailed otherwise. At studs, bracing may be omitted when both sides of the wall are sheathed with \%" gypsum wall board or plywood sheathing for the entire length and height of the wall.
- 11. Ceiling roof/soffit joists and studs shall have a min. of 10" unpunched steel at all end

**GENERAL NOTES** 

- All Special Inspection shall be provided in accordance with CBC Section 1704 and
- Where Special Inspection is required, all inspection or testing shall be provided by an "approved agency" in accordance with CBC Section 1702.1, 1703.1 and 1704.1.
- Special Inspectors shall keep records of inspections. The Special Inspector shall furnish inspection reports to the Authority Having Jurisdiction, and to the Architect or Engineer of Record. Reports shall indicate that work inspected was done in conformance to approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the Authority Having Jurisdiction and to the Architect or Engineer of Record prior to the completion of that phase of work. A final report documenting required Special Inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon by the permit applicant and the Authority Having Jurisdiction prior to the start of work.
- Special Inspectors shall be approved by local Authority Having Jurisdiction in accordance with CBC Section 1704.2.1.
- Local Authority Having Jurisdictions may require Special Inspection for "Special Cases" in accordance with CBC Section 1705.1.1
- Contractor's responsibility: Each contractor responsible for the construction of a Main Lateral-Force-Resisting System, listed in the Statement of Special Inspection shall submit a written statement of responsibility to the Authority Having Jurisdiction and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain the following: A. Acknowledgement of awareness of the special requirements contained in the
- statement of special inspections;
- B. Acknowledgement that control will be exercised to obtain conformance with the construction documents approved by the Authority Having Jurisdiction; C. Procedures for exercised control within the contractor's organization, the
- method and frequency of reporting and the distribution of the reports; and
- D. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.
- Refer to Special Inspection requirements by other disciplines not included herein.

	V	erification and Inspection	Cont.	Periodic
_	1	Verify materials below shallow foundations are adequate to achieve the design bearing capacity.		<b>&gt;</b>
	2	. Verify excavations are extended to proper depth and have reached proper material.		<b>✓</b>
	3	. Perform classification and testing of compacted fill materials.		<b>√</b>
	4	. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	>	b
	5	Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.		<b>√</b>

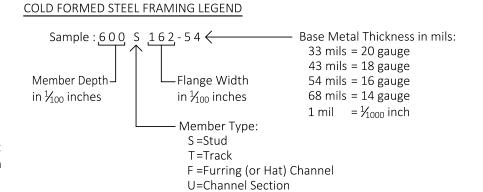
- CBC Section 1705.6 and Table 1705.6
- b. With the approval of the Authority Having Jurisdiction and the recommendation of the Geotechnical Engineer of Record, Special Inspection of grading operations may be periodic per CBC Section 1704.2, Exception 1.

# DRIVEN PILE FOUNDATIONS

Vei	rification and Inspection	Cont.	Periodic
1.	Verify element materials, sizes and lengths comply with the requirements.	<b>✓</b>	
2.	Determine capacities of test elements and conduct additional load tests, as required.	<b>✓</b>	
3.	Inspect driving operations and maintain complete and accurate records for each element.	<b>✓</b>	
4.	Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	<b>✓</b>	
5.	For steel elements, perform additional inspections in accordance with CBC Section 1705.2.		
6.	For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1705.3.		
7.	For specialty elements, perform additional inspections as determined by the Registered Design Professional in Responsible Charge.		

a. CBC Section 1705.7 and Table 1705.7

Notes: Driven Pile Foundation



### CONCRETE CONSTRUCTION<sup>ac</sup> Referenced | 2019 CBC Verification and Inspection Standard | Reference Inspection of reinforcing steel including prestressing tendons, ACI 318: Ch. 20, and placement. 25.2, 25.3, 1908.4 26.6.1 - 26.6.3 Reinforcing bar welding: a. Verify weldability of reinforcing bar other than ASTM A706 AWS D1.4 b. Inspect single-pass fillet ACI 318: 26.6.4 welds, maximum $\frac{5}{16}$ " c. Inspect all other welds. Inspection of anchors cast in ✓ ACI 318: 17.8.2 Inspect anchors post-installed in hardened concrete member. bd a. Adhesive anchors installed in horizontally or upward ACI 318: inclined orientations to 17.8.2.4 resist sustained tension loads. b. Mechanical anchors and ✓ ACI 318: 17.8.2 adhesive anchors not defined in 4.a. Verifying use of required design ACI 318: Ch. 19, 1904.1, 1904.2 26.4.3, 26.4.4 1908.2, 1908.3 Prior to concrete placement, ASTM C172 fabricate specimens for strength tests, perform slump and air ASTM C31 1908.10 ACI 318: 26.5 content tests, and determine 26.12 the temperature of the

## concrete. Inspection of concrete and 1908.6, 1908.7 ACI 318: 26.5 shotcrete placement for proper application techniques. Verify maintenance of specified ACI 318: 26.5.3 curing temperature and 1908.9 - 26.5.5

- Inspection of prestressed concrete:
- a. Application of prestressing ACI 318: 26.10 b. Grouting of bonded
- prestressing tendons. 10. Inspect erection of precast ACI 318: 26.9
- concrete members. Verification of in-situ concrete strength, prior to stressing of ACI 318: tendons in post-tensioned 26.11.12 concrete and prior to removal of
- shores and forms from beams and structural slabs. Inspect formwork for shape, ACI 318: location and dimensions of the 26.11.1.2 (b) concrete member being formed.
- a. Where applicable, see also CBC Section 1705.12, Special Inspections for seismic Specific requirements for Special Inspection shall be included in the research report for the anchor issued by an approved source in accordance with ACI 318-14 Section 17.8.2 or other requirements. Where specific requirements are

not provided, Special Inspection requirements shall be specified by the

Registered Design Professional and shall be approved by the Building Official

- prior to the commencement of the work. c. CBC Section 1705.3 and Table 1705.3
- d. See Special Cases Special Inspection for more requirements

# CDECIAL CASES

Notes: Concrete Construction

31	ECIAL CASES		
Ve	rification and Inspection	Cont.	Periodic
Adł	nesive anchors (Epoxy)		
1.	Inspection of anchors installed in hardened concrete. Installed in horizontally or upwardly inclined orientations to resist sustained tension loads. (Concrete shall be cured for a minimum of 21 days)	<b>/</b>	
2.	All other installations of adhesive anchors.		<b>✓</b>
Me	chanical anchors		
1.	Inspection of anchors installed in hardened concrete.		<b>/</b>

STEE	L CONSTRUCTION <sup>ab</sup>		
Verific	ation and Inspection	Cont.	Periodic
Required	verification and inspection of steel construction		<u> </u>
Material verification of structural steel, cold-formed steel deck, high-strer nuts and washers:			bolts,
a.	For structural steel, identification markings to conform to AISC 360, or ASTM Standards Specified in approved Construction Documents. Manufacturer's certificate of compliance required.		<b>/</b>
2. Mat	erial verification of structural steel or cold-form steel deck:		<u>.I</u>
a.	Identification markings to conform to ASTM standards specified in the approved construction documents.		<b>/</b>
b.	Manufacturer's certified test reports.		<b>✓</b>
3. Insp	pection of high-strength bolting:		
a.	Snug-tight joints		<b>/</b>
b.	Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist off bolt or direct tension indicator methods of installation		<b>✓</b>
C.	Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation	<b>✓</b>	
4. Mat	erial verification of weld filler materials:		
a.	Identification markings to conform to AWS specification in the approved Construction Documents		<b>✓</b>
b.	Manufacturer's certificate of compliance required		✓
5. Insp	pection of welding:		
a.	Structural steel and cold formed steel deck:		
	1) Complete and partial joint penetration groove welds	✓	
	2) Multi-pass fillet welds	<b>✓</b>	
	3) Single-pass fillet welds $> \frac{5}{16}$ "	<b>√</b>	
	4) Plug and slot welds	<b>✓</b>	
	5) Single-pass fillet welds < ⅓ <sub>16</sub> "		<b>/</b>
	6) Floor and roof deck welds <sup>c</sup>		<b>/</b>
b.	Reinforcing steel: <sup>d</sup>		
	Verification of weldability of reinforcing steel other than ASTM A706.		<b>/</b>
	<ol> <li>Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.</li> </ol>	<b>✓</b>	
	3) Shear reinforcement	<b>✓</b>	
	4) Other reinforcing steel		<b>/</b>
6. Insp	pection of steel frame joint details for compliance:		
a.	Details such as bracing and stiffening		<b>/</b>
b.	Member locations		<b>/</b>

Inspection tasks prior to welding

Welder qualification records and continuity records

Welding procedure specifications (WPSs) available

Fit-up of groove welds (including joint geometry):

Control and handling of welding consumables:

Wind speed within limits, precipitation and temperature

Configuration and finish of access holes

Dimensions, cleanliness, tacking

Material identification (type/grade)

Welder identification system<sup>e</sup>

Fit-up of fillet welds:

Check welding equipment

spection tasks during welding

Packaging, exposure control

Environmental conditions:

No welding over cracked tack welds

Manufacturer certifications for welding consumables available

Joint preparation, dimensions, cleanliness, tacking, backing type

S	TEEL CONSTRUCTION, CONTINUED		
Ve	rification and Inspection	Cont.	
Insp	pection tasks during welding (Continued)		_
4.	WPS followed: Settings on welding equipment, travel speed, selected welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained min./max.),proper position (F, V, H, OH)		
5.	Welding techniques: Interpass and final cleaning, each pass within profile limitations		
6.	Placement and installation of steel headed stud anchors	<b>√</b>	
Insp	pection tasks after welding		
1.	Welds cleaned		
2.	Size, length and location of welds	<b>√</b>	
3.	Welds meet visual acceptance criteria: Crack prohibition, weld/base-metal fusion, crater cross section, weld profiles, weld size, undercut, porosity	<b>✓</b>	
4.	Arc strikes	<b>√</b>	
5.	k-Area <sup>f</sup>	<b>√</b>	
6.	Weld access holes in heavy shapes and built-up heavy shapes <sup>h</sup>	<b>√</b>	
7.	Backing removed and weld tabs removed (if required)	<b>√</b>	
8.	Repair activies	<b>√</b>	
9.	Document acceptance or rejection of welded joint or member	<b>√</b>	
10.	No prohibited welds have been added without the approval of the EOR		
Insp	pection tasks prior to bolting <sup>g</sup>		
1.	Manufacturer's certifications available for fastener materials	<b>√</b>	
2.	Fasteners marked in accordance with ASTM requirements		
3.	Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)		
4.	Proper bolting procedure selected for joint detail		
5.	Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements		
6.	Pre-installation certification testing by installation personnel observed and documented for fastener assemblies and methods used		
7.	Proper storage provided for bolts, nuts, washer and other fastener components		
Insp	pection tasks during bolting		
1.	Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required		
2.	Joint brought to the snug-tight condition prior to the pretensioning operation		l

REN: 01-31-2

toward the free edges, see Minimum Bolt Pretension table below Document acceptance or rejection of bolted connections

# Notes: Steel Construction

a. CBC Section 1705.2 and Table 1705.2.2

Fastener component not turned by the wrench prevented from

specification, progressing systematically from the most rigid point

Fasteners are pretensioned in accordance with the RCSC

- b. CBC Section 1707.11.1
- c. AWS D1.3

nspection tasks after bolting

- d. AWS D1.4, ACI 318: Section 3.5.2
- e. The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.
- f. When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3
- g. All methods of installation for high strength bolts shall require verification of pre-tension by a Skidmore-Welhelm calibrator for each batch or source of bolts used (see minimum pre-tension chart below).
- h. After rolled shapes and built-up heavy shapes are welded, visually inspect the weld access hole for cracks

# Minimum Bolt Pretension (kips)

Bolt size inches	Group A (A325, etc.)	Group B. (A490, etc.)
½" Diameter	12	15
⅓" Diameter	19	24
¾" Diameter	28	35
$7\!\!/_8$ " Diameter	39	49
1" Diameter	51	64
1⅓" Diameter	56	80
1¼" Diameter	71	102
1¾" Diameter	85	121



811 El Capitan Way, Suite 240 8405 N. Fresno Street, Suite 120 San Luis Obispo, CA 93401 Fresno, CA 93720

THESE DRAWINGS. NOTES AND DETAILS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF SSG STRUCTURAL ENGINEERS, LLP. ALL DRAWINGS, INFORMATION, SPECIFICATIONS, IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED WITHIN THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF THE ENGINEER. NO PART THEREOF SHALL BE COPIED. DISCLOSED TO OTHERS OR USED IN CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER. COPYRIGHT 2020.





Office: (559) 600-4536 E-mail: tperez@fresnocountyca.gov

# Project: Fresno County

**Environmental Compliance Center** Site Improvement and Shade Structure Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72 Issue Date: 06/24/2020 Project No. S19406A

Tiana L. Perez, Architect

Public Works & Planning

Development Services

Capital Projects Division

Fresno, California 93721

2220 Tulare Street, Eighth Floor

California Licensed Architect No. C-38000

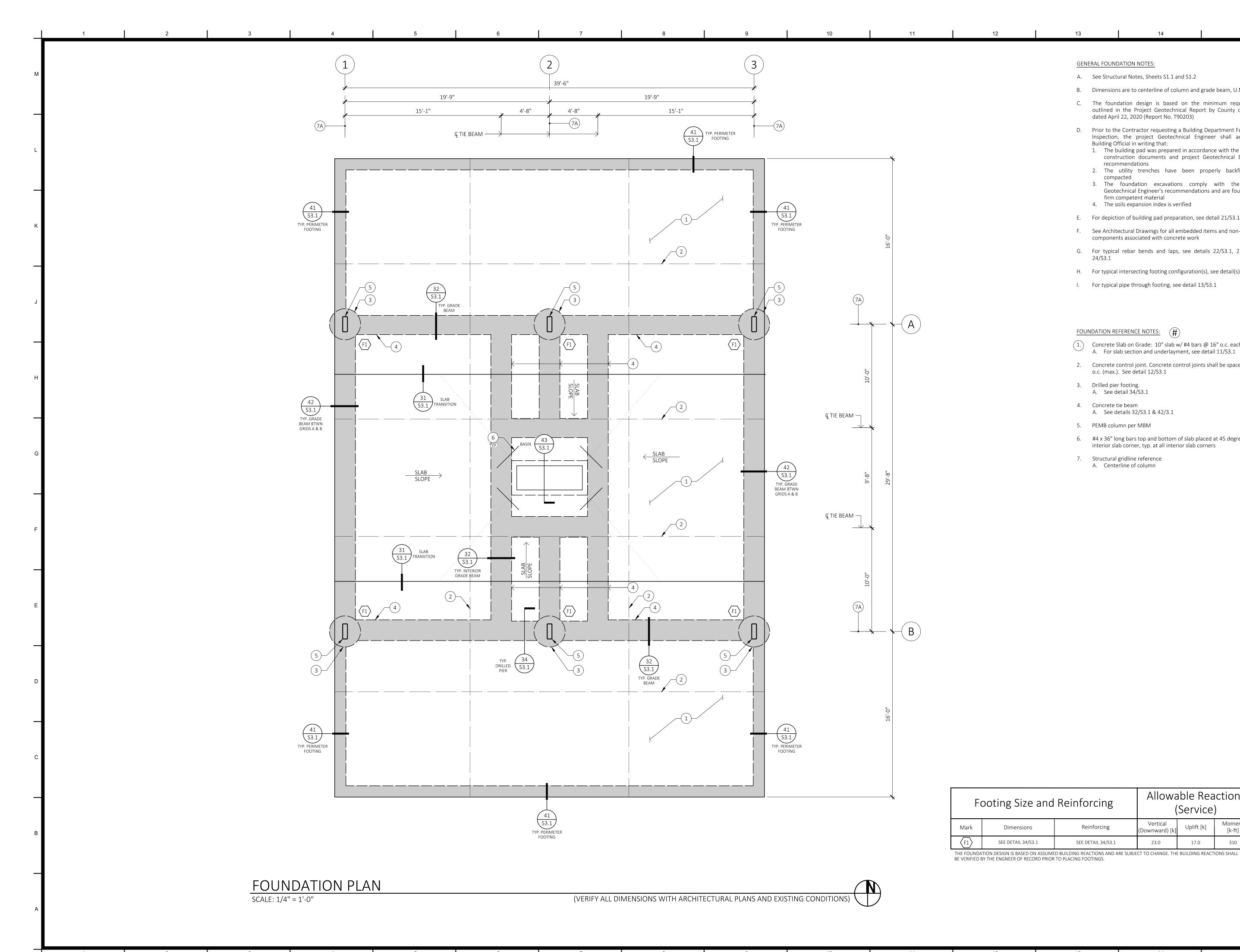
Sheet Content:

STRUCTURAL NOTES

Fresno County Department of Public Works and Planning Capital Projects



Sheet No.:



## GENERAL FOUNDATION NOTES:

- A. See Structural Notes, Sheets S1.1 and S1.2
- B. Dimensions are to centerline of column and grade beam, U.N.O.
- C. The foundation design is based on the minimum requirements outlined in the Project Geotechnical Report by County of Fresno, dated April 22, 2020 (Report No. T90203)
- D. Prior to the Contractor requesting a Building Department Foundation Inspection, the project Geotechnical Engineer shall advise the Building Official in writing that: 1. The building pad was prepared in accordance with the approved
  - construction documents and project Geotechnical Engineer's recommendations 2. The utility trenches have been properly backfilled and
- 3. The foundation excavations comply with the project Geotechnical Engineer's recommendations and are founded into
- firm competent material 4. The soils expansion index is verified
- E. For depiction of building pad preparation, see detail 21/S3.1.
- F. See Architectural Drawings for all embedded items and non-structural components associated with concrete work
- G. For typical rebar bends and laps, see details 22/S3.1, 23/S3.1, &
- H. For typical intersecting footing configuration(s), see detail(s) 14/S3.1
- I. For typical pipe through footing, see detail 13/S3.1

# FOUNDATION REFERENCE NOTES: #

(1.) Concrete Slab on Grade: 10" slab w/ #4 bars @ 16" o.c. each way, T&B. A. For slab section and underlayment, see detail 11/S3.1

- 2. Concrete control joint. Concrete control joints shall be spaced at 15'-0" o.c. (max.). See detail 12/S3.1
- 3. Drilled pier footing.
- A. See detail 34/S3.1
- 4. Concrete tie beam A. See details 32/S3.1 & 42/3.1
- 5. PEMB column per MBM
- 6. #4 x 36" long bars top and bottom of slab placed at 45 degrees to interior slab corner, typ. at all interior slab corners

Allowable Reactions

(Service)

Downward) [I

23.0

[k-ft]

7. Structural gridline reference A. Centerline of column

Reinforcing

SEE DETAIL 34/S3.1

SSG Structural Engineers, LLP 811 El Capitan Way, Suite 240 San Luis Obispo, CA 93401 8405 N. Fresno Street, Suite 120 Fresno, CA 93720

THESE DRAWINGS, NOTES AND DETAILS ARE INSTRUMENTS OF SERVICE AND ARE THE PROPERTY OF SSG STRUCTURAL ENGINEERS, LLP. ALL DRAWINGS, INFORMATION, SPECIFICATIONS, IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED WITHIN THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF THE ENGINEER. NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER. COPYRIGHT 2020.



ARCHITECT: Tiana L. Perez, Architect California Licensed Architect No. C-38000 Ren. 01-31-21
Fresno County Department of Public Works & Planning Development Services Capital Projects Division 2220 Tulare Street, Eighth Floor Fresno, California 93721 Office: (559) 600-4536 E-mail: tperez@fresnocountyca.gov

# Project:

Fresno County Environmental Compliance Center Site Improvement and Shade Structure
Project Address: 310 S. West Avenue, Fresno CA 93706
APN: 458-060-72
Issue Date: 06/24/2020
Project No. S19406A

# Sheet Content:

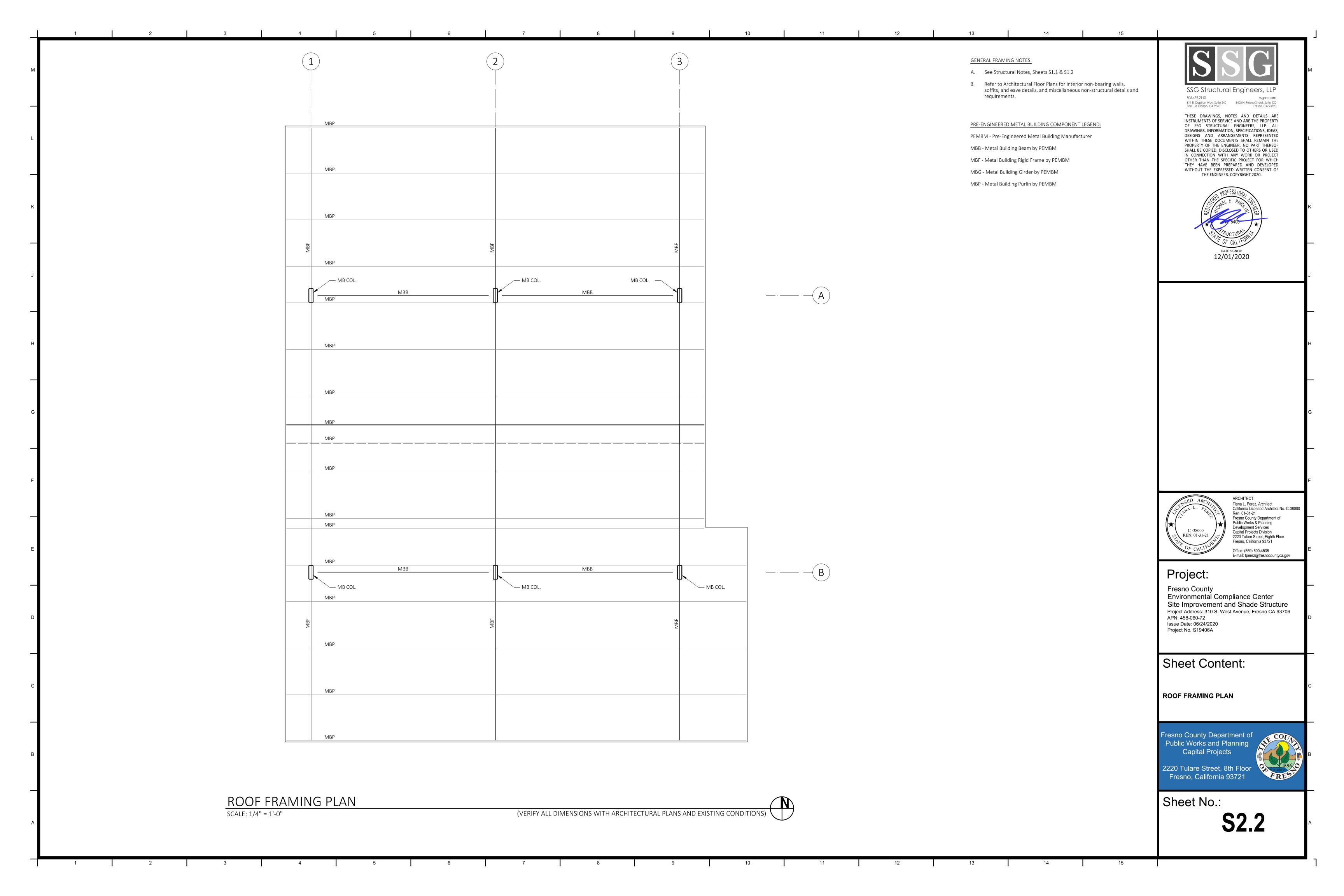
# FOUNDATION PLAN

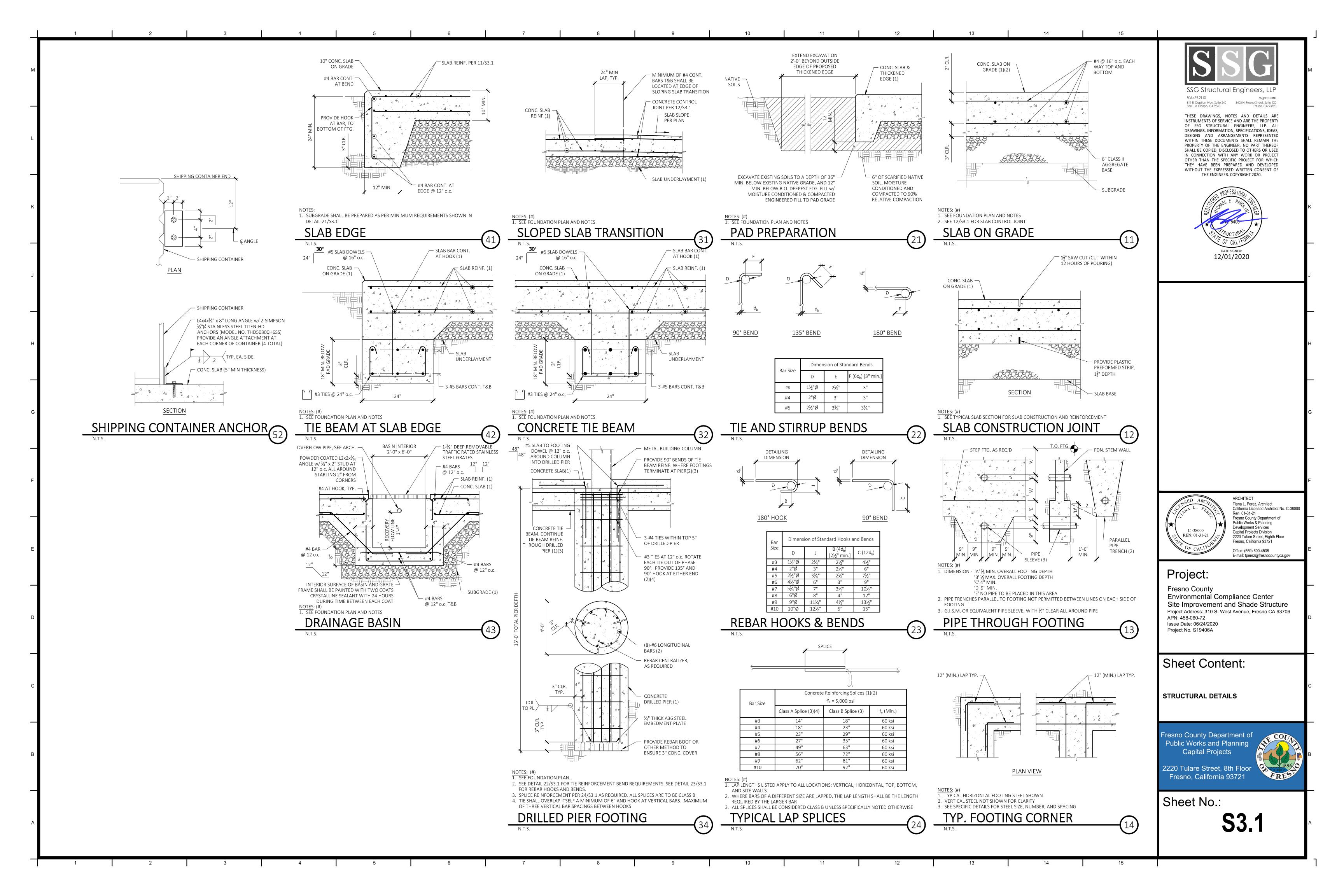
Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor

Fresno, California 93721

Sheet No.:





## **GENERAL PLUMBING NOTES:**

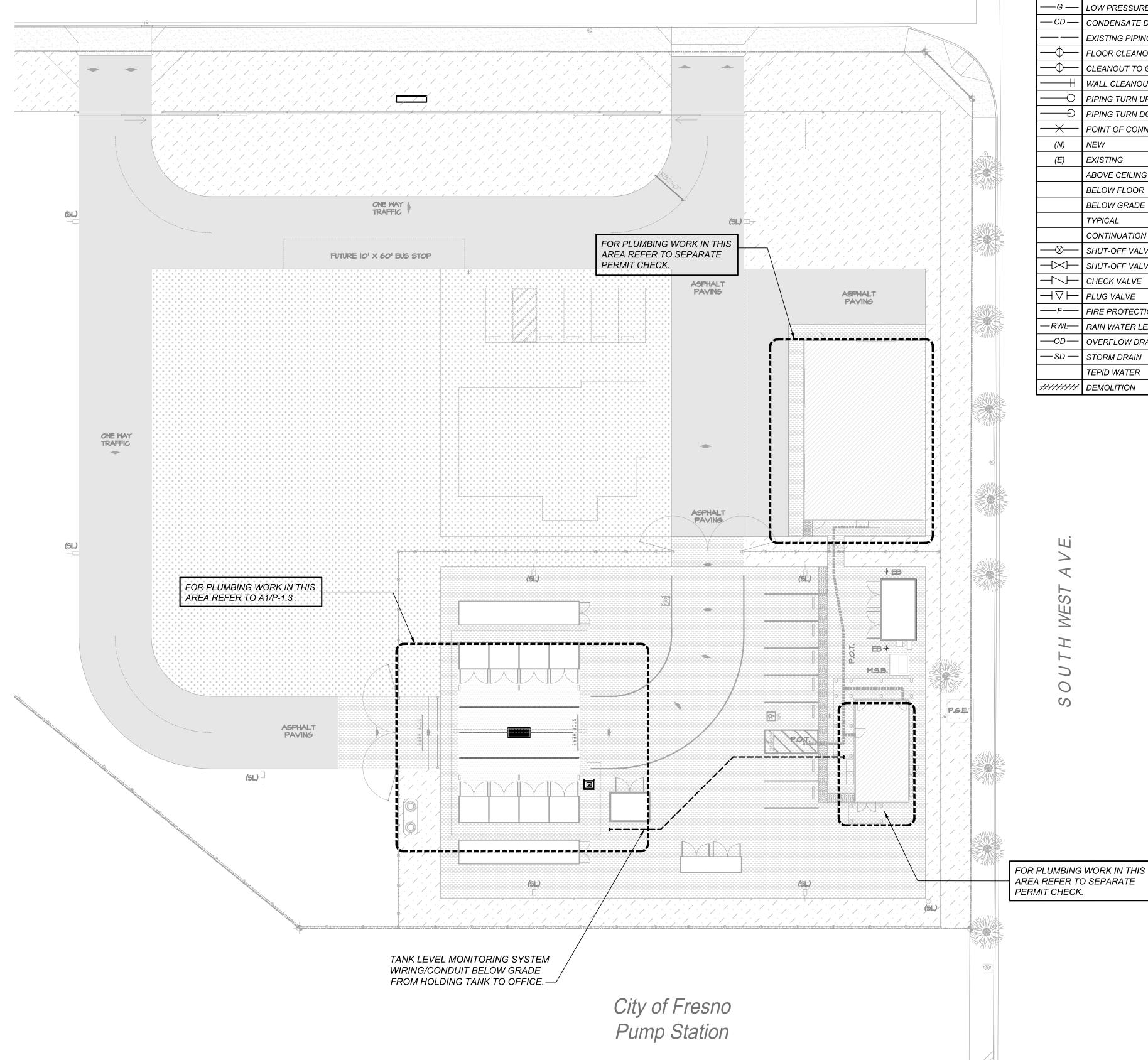
- 1. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO CONSTRUCT THE BUILDING IN ACCORDANCE WITH THE 2019 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WOULD NOT COMPLY WITH SAID TITLE 24. CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUESTED WORK SHALL BE SUBMITTED TO AND APPROVED BY ARCHITECT BEFORE PROCEEDING WITH THE WORK.
- 2. THE APPLICABLE CODES AND REGULATIONS FOR THIS PROJECT INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
- CALIFORNIA CODE OF REGULATIONS
- TITLE 8, INDUSTRIAL RELATIONS TITLE 19, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS TITLE 24, PART 1, ADMINISTRATIVE REGULATIONS 2019 CALIFORNIA BUILDING CODE, PART 2, TITLE 24 CCR
- 2019 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24 CCR 2019 CALIFORNIA MECHANICAL CODE, PART 4, TITLE 24 CCR 2019 CALIFORNIA PLUMBING CODE, PART 5, TITLE 24 CCR 2019 CALIFORNIA FIRE CODE, PART 9, TITLE 24 CCR

## NFPA 101 2016 EDITION

OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT

- 3. LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY. THE PLUMBING BUILDING PLANS HAVE BEEN PREPARED TO MATCH THE ARCHITECTURAL PLANS. IF DIFFERENCES OCCUR, THE ARCHITECTURAL PLANS ARE TO TAKE PRECEDENCE. THE ACTUAL LOCATIONS OF ALL MATERIALS. PIPING. DUCTWORK, FIXTURES, EQUIPMENT, SUPPORTS, ETC. SHALL BE CAREFULLY PLANNED, PRIOR TO INSTALLATION OF ANY WORK, TO AVOID ALL INTERFERENCE WITH EACH OTHER, OR WITH STRUCTURAL, ELECTRICAL, ARCHITECTURAL, OR OTHER ELEMENTS. ALL PIPE OFFSET ELBOWS FOR COORDINATION BETWEEN TRADES ARE NOT SHOWN. CONTRACTOR SHALL INCLUDE SUFFICIENT FUNDS FOR THE COORDINATION OFFSETS IN THE BID. VERIFY THE PROPER VOLTAGE AND PHASE OF ALL EQUIPMENT WITH THE ELECTRICAL PLANS. ALL CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER PRIOR TO INSTALLATION OF ANY WORK OR THE ORDERING OF ANY EQUIPMENT.
- 4. PENETRATIONS OF PIPES, CONDUITS, ETC. IN WALLS OR FLOORS REQUIRING PROTECTED OPENINGS SHALL BE FIRE-STOPPED INCLUDING EXISTING PIPE AND CONDUIT THROUGH NEW WALLS AND FLOORS. SEE SPECS. FIRE STOP MATERIAL SHALL BE A TESTED ASSEMBLY. PENETRATIONS THROUGH FIRE-RATED FLOORS AND WALLS SHALL BE PROTECTED IN ACCORDANCE WITH CBC SECTION 714 AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS. MANUFACTURERS INSTALLATION INSTRUCTIONS SHALL BE PROVIDED FOR REVIEW BY INSPECTION AUTHORITIES. SUBSTITUTIONS OF OR REVISIONS OR ADDITIONS TO APPROVED SYSTEMS SHALL BE SUBMITTED TO THE INSPECTOR OF RECORD AND THE OSHPD FIRE MARSHAL FOR FIELD REVIEW AND APPROVAL.
- 5. ALL PIPING AND CONDUIT SHALL BE SUPPORTED PER MASON WEST, INC. "SEISMIC RESTRAINT COMPONENTS FOR SUSPENDED DISTRIBUTION SYSTEMS", 1ST EDITION, 2019; OSHPD PRE-APPROVED ANCHORAGE OPM-0043-13, OR OTHER OSHPD PRE-APPROVED SYSTEM.
- WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER-DRIVEN PINS IN EXISTING NON-PRESTRESSED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO EXISTING PRE-STRESSED CONCRETE (PRE- OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.
- 7. FIELD VERIFY THE EXACT LOCATION, DEPTH AND SIZE OF ALL NEW POINTS OF CONNECTION TO EXISTING UTILITIES PRIOR TO COMMENCING NEW UTILITY WORK.
- 8. INSTALLATION OF NEW UTILITIES FROM EXISTING MAINS IN THE STREET SHALL BE DONE IN STRICT ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS.
- 9. INSTALLATION, TYPE AND MANUFACTURERS MODELS OF DOMESTIC WATER METERS, BACKFLOW PREVENTERS, FIRE HYDRANTS, DETECTOR CHECK VALVES, MANHOLES, DRAIN INLETS/OUTLETS AND OTHER APPURTENANCE OF SITE UTILITY SYSTEMS SHALL BE DONE IN STRICT ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS.
- 10. BACKFLOW PREVENTER SHALL BE INSTALLED AT THE MINIMUM HEIGHT ABOVE FINISH GRADE AS ALLOWED BY GOVERNING AUTHORITY.
- 11. CONTRACTOR SHALL EXCAVATE AND BACKFILL THE GAS SERVICE TRENCH FOR THE LOCAL GAS UTILITY. THE LOCAL GAS UTILITY SHALL INSTALL THEIR GAS SERVICE LINE TO THE GAS METER. TRENCHING SHALL BE IN ACCORDANCE WITH UTILITY STANDARDS. ALL CHARGES AND FEES INCURRED BY THE UTILITY FOR NEW GAS SERVICE SHALL BE PAID BY THE CONTRACTOR.
- 12. ALL DOMESTIC WATER PIPING SHALL BE A MINIMUM OF 1/2" SIZE UNLESS NOTED OTHERWISE. USE A REDUCING DROP ELL AT FIXTURE CONNECTION WHEN APPLICABLE.

# RONQUILLO DRIVE



	PLUMBING LEGEND	
SYMBOL	ITEM	ABBR.
	SOIL or WASTE	S or W
	VENT	V
	VENT RISER	VR
	VENT THRU ROOF	VTR
	DOMESTIC COLD WATER	CW
	DOMESTIC HOT WATER	HW
	DOMESTIC HOT WATER RETURN	HWR
— G —	LOW PRESSURE NATURAL GAS	G
— CD —	CONDENSATE DRAIN	CD
	EXISTING PIPING	
<del></del> ф	FLOOR CLEANOUT	FCO
<del>_</del> ф	CLEANOUT TO GRADE	СОТС
Н	WALL CLEANOUT	wco
<u> </u>	PIPING TURN UP	
<del></del>	PIPING TURN DOWN	
$\overline{}$	POINT OF CONNECTION	POC
(N)	NEW	
(E)	EXISTING	
	ABOVE CEILING	ABV CLG
	BELOW FLOOR	BEL FLR
	BELOW GRADE	BEL GR
	TYPICAL	TYP
	CONTINUATION	CONT
$-\otimes$	SHUT-OFF VALVE IN BOX	sov
	SHUT-OFF VALVE	sov
<u> </u>	CHECK VALVE	
$\neg \neg \vdash$	PLUG VALVE	
F	FIRE PROTECTION LINE	
-RWL-	RAIN WATER LEADER	RWL
—OD —	OVERFLOW DRAIN	OD
— SD —	STORM DRAIN	SD
	TEPID WATER	TW
	DEMOLITION	DEMO

S





7084 N. Maple Ave., Suite 101 Fresno, CA 93720 (559) 431-0101 19400 FAX (559) 431-1362



Tiana L. Perez, Architect California Licensed Architect No. C-38000 Ren 01-31-21 Fresno County Department of Public Works & Planning Development Services and Capital Projects Division 2220 Tulare Street, Eighth Floor Fresno, California 93721 Office: (559) 600-4536 E-mail: tperez@fresnocountyca.gov

# Project:

Fresno County **Environmental Compliance Center** Site Improvement and Shade Structure Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72 Issue Date:

Project No. T90203 File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00

# **Sheet Content:**

PLUMBING SITE PLAN

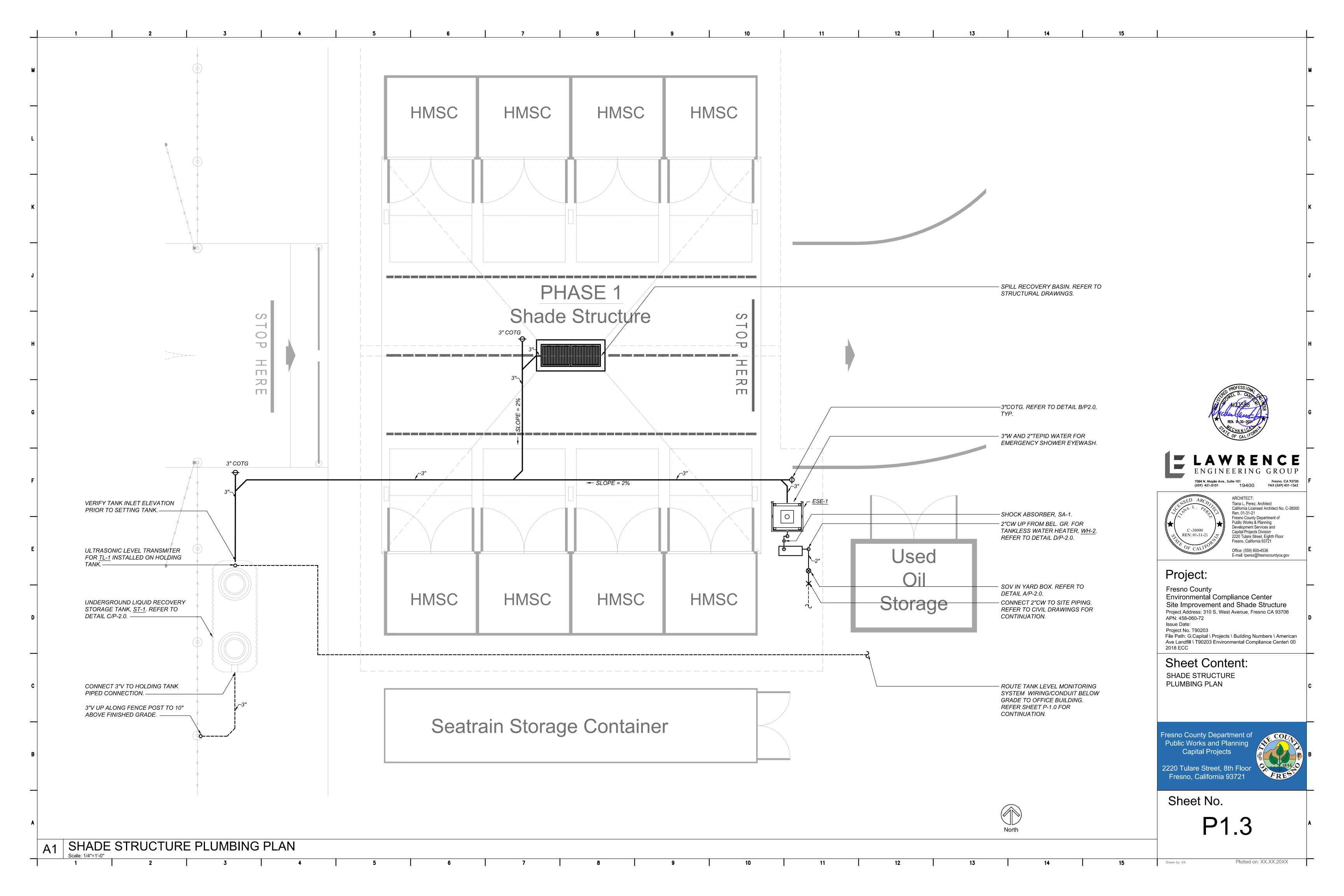
Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor Fresno, California 93721

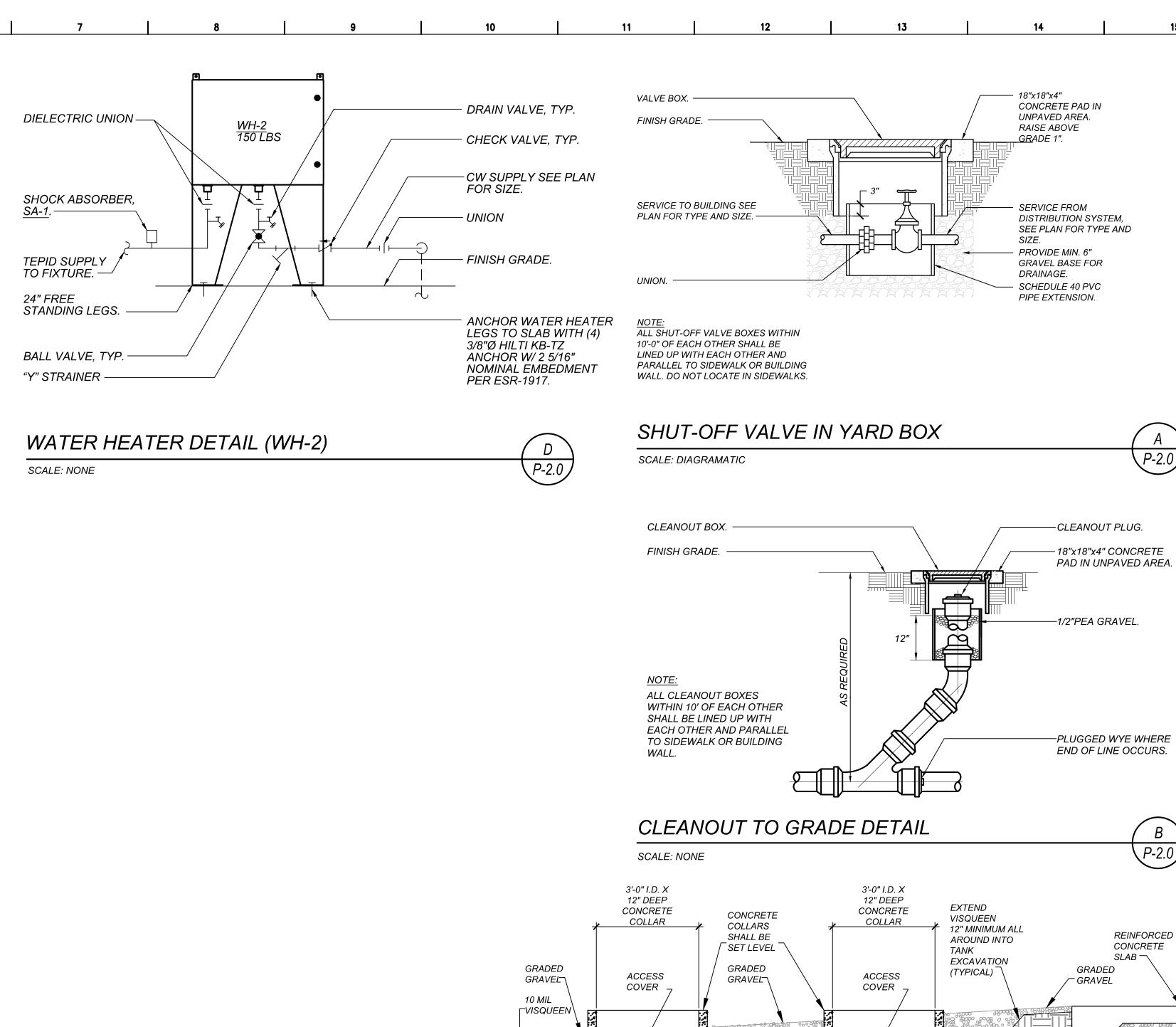
Sheet No.

PLUMBING SITE PLAN

Plotted on: XX.XX.20XX



		PLU	IMBING FIX	KTURE AND	EQUIPME	ENT SCHEDULE		
MARK	FIXTURE		CONNECT	ION SIZES		DESCRIPTION		
WARK	FIXTURE	S or W	V	CW	HW	DESCRIPTION		
<u>ESE-1</u>	EMERGENCY SHOWER EYEWASH	3"	3"	1"	-	HAWS #6506WC BARRIER FREE COMBINATION SHOWER AND EYE/FACE WASH BOOTH, REINFORCED MOLDED FIBERGLASS BOOTH, GALVANIZED STEEL FLOOR GRATE, CHROME PLATE BRASS STAY-OPEN SHOWER AND EYEWASH BALL VALVES, AND UNIVERSAL SIGNS. ANCHOR SHOWER BOOTH TO CONCRETE SLAB WITH (4) 1/2"Ø x 2" MIN. EMBED. PER ESR-1917. HILTI KWIK BOLT TZ CONCRETE ANCHORS.		
<u>SA-1</u>	SHOCK ABSORBER	1	-	1"	-	JAY R. SMITH #5010, (OR ZURN EQUAL) STAINLESS STEEL CONSTRUCTION, P.D.I. SYMBOL "B" FOR UP TO 32 FIXTURE UNITS. INSTALL IN UPWARD POSITION.		
<u>ST-1</u>	STORAGE TANK	3"	3"	-	-	NORWESCO #N-41761 POLYETHYLENE STORAGE TANK, 1,500 GALLON CAPACITY, SINGLE COMPARTMENT, GASKETED MANWAY WITH EXTENSIONS AS REQUIRED, AND 4" INLET/OUTLET.		
<u>TL-1</u>	TANK LEVEL MONITORING SYSTEM	-	-	-	-	OMEGA #LVU503 ULTRASONIC LEVEL TRANSMITTER, 9.8' MEASUREMENT RANGE, 2" NPT SENSOR MOUNTING THREADS, SUPPLY VOLTAGE 14-28 VDC.  OMEGA #DP25B-S-R DIGITAL PROGRAMMABLE PROCESS METER WITH LED DISPLAY, SUPPLY VOLTAGE 115V. PROVIDE PANEL AS REQUIRED.		
<u>WH-2</u>	TANKLESS WATER HEATER (SHADE STRUCTURE)	-	-	1-1/4"	1-1/4"	EEMAX #AP041208-EFD-N4X-FP-SK TANKLESS WATER HEATER WITH STAINLESS STEEL NEMA-4X ENCLOSURE, FREEZE PROTECTION, FACTORY 24" LEGS FOR FREE STANDING APPLICATIONS, 1.0 GPM ACTIVATION FLOW, 12°F RISE AT 23 GPM FLOW. ELECTRICAL REQUIRED: 41 kW, 208V / 3Ø WEIGHT: 150 LBS		

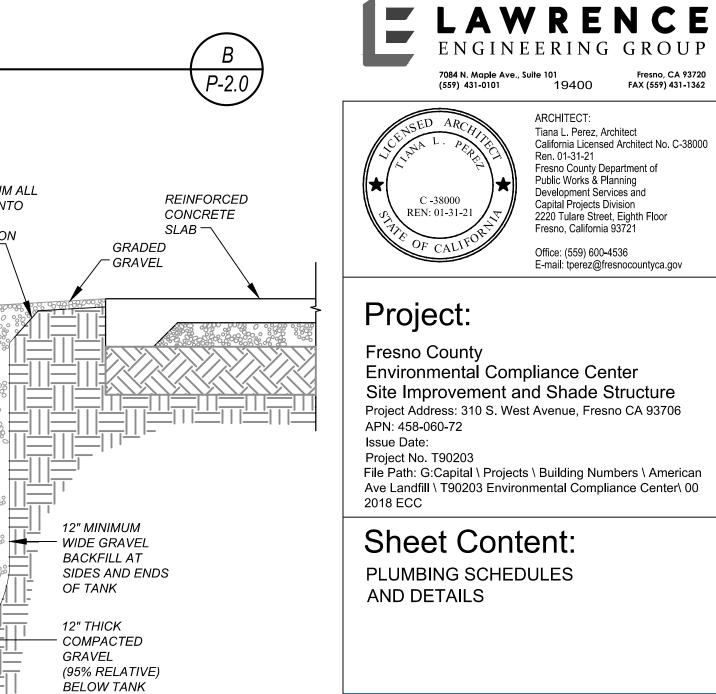


1500 GALLON CAPACITY RIB REINFORCED SINGLE VAULT

POLYETHYLENE RECOVERY TANK,

SCALE: N.T.S.

LIQUID RECOVERY STORAGE TANK DETAIL



P-2.0

OF TANK

GRAVEL

P-2.0

Capital Projects 2220 Tulare Street, 8th Floor Fresno, California 93721

Sheet No.

Fresno County Department of Public Works and Planning

P2.0

Plotted on: XX.XX.20XX

ENGINEERING GROUP

ARCHITECT: Tiana L. Perez, Architect

Public Works & Planning

Capital Projects Division

Office: (559) 600-4536

Development Services and

Fresno County Department of

2220 Tulare Street, Eighth Floor Fresno, California 93721

E-mail: tperez@fresnocountyca.gov

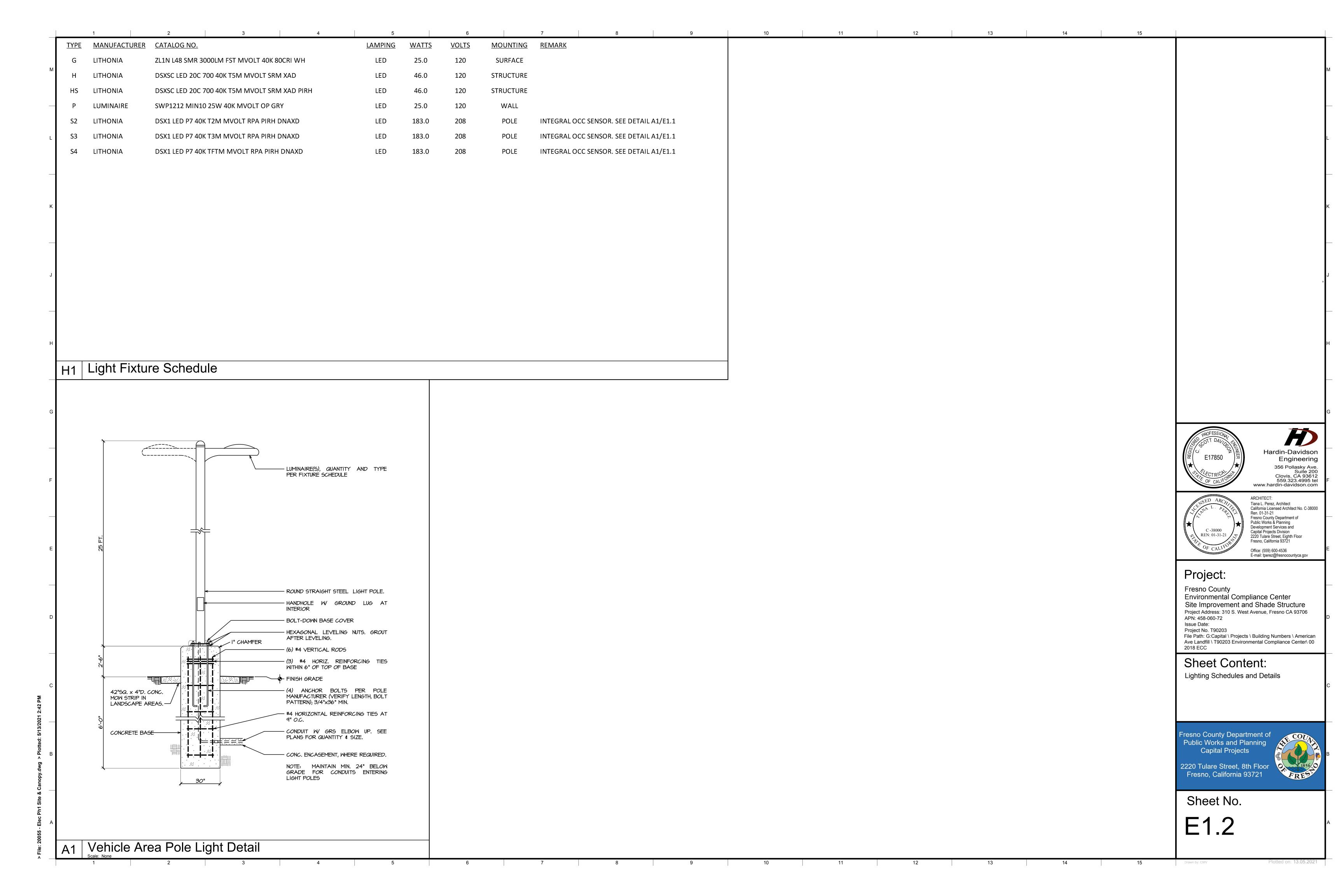
Fresno, CA 93720

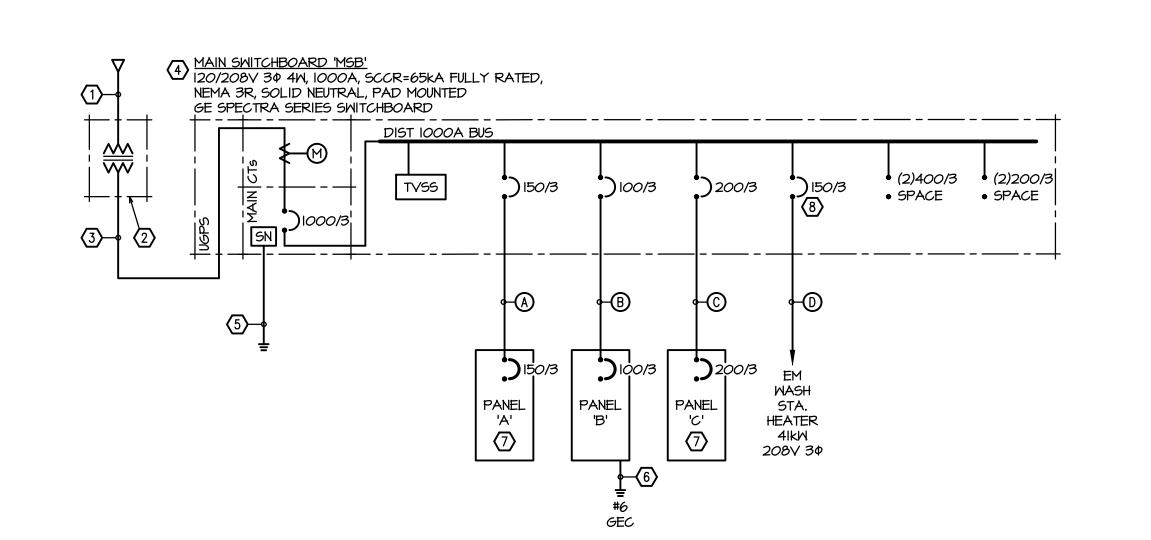
19400 FAX (559) 431-1362

California Licensed Architect No. C-38000

7084 N. Maple Ave., Suite 101 (559) 431-0101 19

ALL WORK SHALL MEET THE LATEST ADOPTED ADDITIONS OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24 AND ALL OTHER	<u>SYMBOL</u>	<u>DESCRIPTION</u>	NOTES Electrical	SYMBOL	<u>DESCRIPTION</u>	<u>NOTES</u>	1
APPLICABLE REGULATIONS, WHICH INCLUDE:	_		<u>INOTES</u>				
CALIFORNIA BUILDING CODE 2019 CALIFORNIA ELECTRICAL CODE 2019		POLE WITH SINGLE AREA LUMINAIRE			SMITCHBOARD	REFER TO POWER SINGLE LINE DIAGRAM	
NON RESIDENTIAL CEC ENERGY STANDARDS 2019	□⊕□	POLE WITH DOUBLE AREA LUMINAIRES		_	POWER PANEL	REFER TO PANEL SCHEDULE	
. NOTHING IN THE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.	• • • • • • • • • • • • • • • • • • •	POLE WITH POST TOP AREA LUMINAIRE		0	JUNCTION BOX	4-II/I6" SQUARE BOX & COVER PLATE MIN.	
. IT IS THE INTENTION OF THESE PLANS AND SPECIFICATIONS TO COVER EVERYTHING REQUIRED TO PROVIDE FOR COMPLETE AND OPERATIVE SYSTEMS. THE CONTRACTOR IS TO FURNISH LABOR, MATERIAL, TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES,	(A)	FIXTURE TYPE "A"	REFER TO FIXTURE SCHEDULE	9	DISCONNECT SWITCH, FUSIBLE	REFER TO MECH. PLANS & SPECS.	
ETC. REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION IS TO BE INCLUDED, WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED.	0	SURFACE CEILING LIGHT		<u> </u>	MOTOR CONTROLLER/DISCONNECT SWITCH	REFER TO MECH. PLANS & SPECS.	
. THE CONTRACTOR SHALL EXAMINE THE SITE AND EXISTING CONDITIONS AND MAKE ALLOWANCES IN THE BID FOR ANY CONDITIONS	0	RECESSED DOWN LIGHT		<b>©</b>	MOTOR	REFER TO MECH. PLANS & SPECS.	
NOT SHOWN ON THE ELECTRICAL DOCUMENTS.	Q —	WALL LIGHT		$\otimes$	EXHAUST FAN, CEILING MOUNTED	REFER TO MECH. PLANS & SPECS.	
THE PLANS AND SPECIFICATIONS ARE INTENDED TO BE USED AS CONSTRUCTION GUIDELINES AND ARE NOT THE TOTAL INSTRUMENT OF CONTRACT DOCUMENTS, IT IS NOT THE INTENTION OF ANY CONSTRUCTION PLANS TO DIVIDE WORK AMONG DIFFERENT TRADES.	<b>←</b>	FIXTURE ON EMERGENCY POWER	PROVIDE UNSWITCHED HOT TO BATT PACKS	Ф	SINGLE CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED	
VERIFY THE SCOPE OF WORK WITH THE ARCHITECT AND THE GENERAL CONTRACTOR.	⊗ ↓	EXIT SIGN, CEILING (ARROWS INDICATE CHEVRONS)	PROVIDE UNSWITCHED HOT TO BATT PACKS		DUPLEX CONVENIENCE OUTLET	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED	
ELECTRICAL ROUTING IS DIAGRAMMATIC ONLY. ACTUAL ROUTING & PHYSICAL CONDITIONS MAY VARY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL ROUTING, CONNECTIONS, & PROVISION OF ALL APPURTENANCES NECESSARY FOR A	Ø	EXIT SIGN, WALL (ARROWS INDICATE CHEVRONS)	PROVIDE UNSWITCHED HOT TO BATT PACKS	Ψ	AT +15" AFF TO BOTTOM OF BOX, U.O.N.		
COMPLETE & OPERATING SYSTEM.	폽	DEDICATED EMERGENCY LIGHT	PROVIDE UNSWITCHED HOT TO BATT PACKS	<b>⊕</b>	QUADPLEX CONVENIENCE OUTLET	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED	
ELECTRICAL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED (UL, CSA ETC.) PER CEC 110.2.	INV	INVERTER		ш.	AT +15" AFF TO BOTTOM OF BOX, U.O.N.	204 CREC CRADE TAMPER REGICTANT NEVA CROWNER	
ELECTRICAL EQUIPMENT SHALL HAVE A SHORT CIRCUIT CURRENT RATING CAPABLE OF WITHSTANDING THE AVAILABLE SHORT CIRCUIT CURRENT PER CEC 110.9. WHERE SERIES COMBINATION RATINGS ARE USED FOR NEW PANELS, PROVIDE A CAUTIONARY LABEL	\$	SMITCH AT +48" AFF TO TOP OF BOX	20A 277V QUIET TOGGLE	<b>(D)</b>	DUPLEX GFI CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED LEVITON #X7899-W	
TO THE SERIES RATED DEVICE COVER STATING "CAUTION - SERIES RATED SYSTEM AMPACITY AVAILABLE" AND IDENTIFY THE COMPONENTS, PER CEC 110.3, 110.22(C), 240.86, AND THE UL RECOGNITION DIRECTORY.	<b>\$</b> ₃	3-WAY SMITCH AT +48" AFF TO TOP OF BOX	20A 27TV QUIET TOGGLE	₩ ₩	QUADPLEX GFI CONVENIENCE OUTLET	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED	
PROVIDE MINIMUM 30" WIDE x 78" HIGH x 36" DEEP WORK CLEARANCES IN FRONT OF PANELS, SERVICE OR EQUIPMENT RATED AT	Ф	DIMMER SMITCH, TO BE COMPATIBLE WITH CONTROLLED FIXTURES, AT +48" AFF TO TOP OF BOX	ROUGH IN WITH IG BOX PER SWITCH W RING, I"C. TO ACCESSIBLE ATTIC SPACE	MOM	AT +15" AFF TO BOTTOM OF BOX, U.O.N.	LEVITON #X7899-W	
120/208V 30 4W PER CEC 110.26.	ф	WALL MOUNTED DUAL TECH OCCUPANCY SENSOR	ROUGH IN WITH IG BOX PER SWITCH W/ RING,	•	WEATHERPROOF, GFI OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED LEVITON #X7899-W	
). PROVIDE MINIMUM 30" WIDE x 78" HIGH x 42" DEEP WORK CLEARANCES IN FRONT OF PANELS, SERVICE OR EQUIPMENT RATED AT 277/480V 30 4W PER CEC 110.26.	Ψ	SWITCH, O-IOV DIMMING, AT +48" AFF TO TOP OF BOX	I"C. TO ACCESSIBLE ATTIC SPACE		W WEATHERPROOF IN-USE TYPE COVER		
PROVIDE A PLACARD ON EACH PANELBOARD INDICATING THE LOCATION AND IDENTIFICATION OF THE FEEDER SERVING THE PANEL	Фeғ	WALL MOUNTED ULTRASONIC OCCUPANCY SENSOR	ROUGH IN WITH IG BOX PER SWITCH W/ RING,	ш	DUPLEX CONVENIENCE OUTLET	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED,	
PER CEC 408.4(B).		SWITCH, W/ SEPARATE EXHAUST FAN RELAY AT +48" AFF TO TOP OF BOX	I"C. TO ACCESSIBLE ATTIC SPACE		AT +15" AFF TO BOTTOM OF BOX, U.O.N. SPLIT-WIRED WITH UNSWITCHED AND	LEVITON #TDR20-SIW CODE COMPLIANT MARKING REQUIRED	
. PROVIDE ILLUMINATED EMERGENCY POWER PER 2016 CFC, SECTION 1006.3. EMERGENCY EGRESS LIGHTING SHALL PROVIDE A MINIMUM LUMINANCE OF I FOOTCANDLE AT THE WALKING SURFACE FOR A MINIMUM OF 90 MINUTES.	<b>(D)</b>	DIGITAL DIMMER SWITCH,	nLIGHT SYSTEM, ROUGH IN WITH IG BOX & RING,		SMITCHED BY OCCUPANCY SENSOR		
. FIRE ALARM EQUIPMENT SHALL BE SERVED BY DEDICATED FIRE ALARM BRANCH CIRCUITS PER NEPA 12 10.6.5.1.2. THE CIRCUIT	•	AT +48" AFF TO TOP OF BOX	I"C. TO ACCESSIBLE ATTIC	#	QUADPLEX CONVENIENCE OUTLET, CONTROLLED AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED, LEVITON #TDR20-W AND LEVITON #TDR20-S2W CODE	
NUMBER SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM EQUIPMENT PER NFPA 10.6.5.2.1. THE CIRCUIT BREAKER SHALL BE EQUIPPED WITH RED HANDLE AND LOCK-ON DEVICE, AND PERMANENTLY IDENTIFIED AS "FIRE ALARM CIRCUIT" PER NFPA 72 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA 12 UNICED AS SECTION OF SALARM CIRCUIT PER NFPA	<b>(() w</b>	DIGITAL DIMMER SWITCH, WIRELESS, LINE VOLTAGE AT +48" AFF TO TOP OF BOX	NLIGHT AIR SYSTEM, ROUGH IN WITH IG BOX & RING,		ONE UNSWITCHED AND ONE SWITCHED	COMPLIANT MARKING REQUIRED	
10.6.5.2.2,   10.6.5.2.3,   10.6.5.2.4, AND   10.6.5.4.   E   U   U   U   U   U   U   U   U   U	<b>6</b>	DIGITAL DIMMER SWITCH W INTEGRAL OCCUPANCY	nLIGHT SYSTEM, ROUGH IN WITH IG BOX & RING,		BY OCCUPANCY SENSOR		
IZOV AND 277V BRANCH CIRCUITS SHALL HAVE DEDICATED NEUTRALS. SHARING NEUTRALS IS NOT ACCEPTABLE.	i Webos	SENSOR AND PHOTOSENSOR	I"C. TO ACCESSIBLE ATTIC	<b>®</b>	HEAVY DUTY POWER PEDESTAL	SEE DETAIL	
FEEDERS SIZE #4 AND LARGER SHALL BE MEGGER TESTED. TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER.	<b>A</b>	AT +48" AFF TO TOP OF BOX		•	SPECIAL EQUIPMENT OUTLET	VERIFY REQ'TS W EQUIPMENT VENDOR	
ALL UNDERGROUND CONDUITS SHALL HAVE MINIMUM 24" COVER. INSTALL GALVANIZED RIGID STEEL RISERS & ELBOWS WHERE	<b>(</b>	DIGITAL "FRESCO" GRAPHICAL TOUCHSCREEN DIMMING, CONTROLLER AT +48" AFF TO TOP OF BOX	NLIGHT SYSTEM, ROUGH IN WITH IG BOX & RING, I"C. TO ACCESSIBLE ATTIC		AT +15" AFF TO BOTTOM OF BOX, U.O.N.  26 FLOOR BOX WITH POWER FEED COVER	MAKE CONNECTION TO MODULAR FURNITURE SYSTEM	
RISERS OCCUR. WRAP GRS BELOW GRADE OR PROVIDE PVC COATED GRS. EXPOSED CONDUIT SHALL BE GRS TO 8'-O", THEN EMT ABOVE AS APPROPRIATE. UNDER NO CIRCUMSTANCE SHALL PVC CONDUIT BE INSTALLED ABOVE GRADE.	<b>(</b> 0 <b>S</b> )	DIGITAL OCCUPANCY SENSOR W PHOTOSENSOR	nLIGHT SYSTEM #nCM PDT IO	\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	12" CU GROUND BUS BAR	WITH #6 GREEN GROUND WIRE TO G.E.C.	
. CONDUIT INSTALLED ABOVE GRADE SHALL BE MIN. 3/4" TRADE SIZE, CONDUIT BELOW GRADE SHALL BE MIN. I" TRADE SIZE.		DUAL-TECHNOLOGY CEILING MOUNT		^^^	FIRE/SMOKE DAMPER	PROVIDE 120V F.A. CIRCUIT TO DAMPER VIA	
PROVIDE (4) I" CONDUIT STUBS FROM EACH NEW ELECTRICAL PANEL TO ACCESSIBLE ATTIC SPACE FOR FUTURE USE.	юs	DIGITAL OCCUPANCY SENSOR W/PHOTOSENSOR DUAL-TECHNOLOGY WALL MOUNT	NLIGHT SYSTEM, ROUGH IN WITH IG BOX & RING, I"C. TO ACCESSIBLE ATTIC			F.A. RELAY.	
O. COLORS/FINISHES/MATERIALS FOR ALL ELECTRICAL DEVICES, PLATES, LIGHT FIXTURES, ETC. SHALL BE CHOSEN BY THE ARCHITECT.	<b>6</b>	WIRELESS DIGITAL OCCUPANCY SENSOR W	PROVIDE XPOINT SBOR SENSOR INTERFACE	8	PUBLIC ADDRESS SPEAKER, CEILING MOUNTED PUBLIC ADDRESS SPEAKER	HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK	PROFESS/O <sub>M</sub>
PROVIDE PERMANENT LOCK-OPEN DEVICES ON CIRCUIT BREAKERS SERVING ELECTRIC WATER HEATERS TO MEET THE REQUIREMENTS		PHOTOSENSOR. DUAL-TECHNOLOGY CEILING MOUNT	FROVIDE AFOINT SOOK SENSOR INTERFACE	1 <b>9</b>	WALL MOUNTED, +120" U.O.N.	RUN I"C. TO ACCESSIBLE ATTIC SPACE AND HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK	PROFESSIONAL PROFE
OF CEC 422.31.	(GW)	DIGITAL GATEWAY	nLIGHT SYSTEM, PROVIDE (I) GATEWAY AT EACH BUILDING	© <sup>WP</sup>	WP OUTDOOR PUBLIC ADDRESS SPEAKER,	RUN I"C. TO ACCESSIBLE ATTIC SPACE AND HOMERUN	Harding Er
2. BEFORE AN OCCUPANCY PERMIT IS GRANTED FOR A NEWLY CONSTRUCTED BUILDING OR AREA, OR NEW LIGHTING SERVING A BUILDING, AREA OR SITE IS OPERATED FOR NORMAL USE, ALL INDOOR AND OUTDOOR LIGHTING CONTROLS SERVING THE BUILDING,	_		AND CONNECT TO LAN. PROVIDE BOX/OUTLET AT GATEMAY LOCATION FOR GATEMAY POWER SUPPLY.	'	WALL MOUNTED, +120" U.O.N.	SPEAKER CABLE TO PA TERMINAL BLOCK	356
AREA OR SITE SHALL BE CERTIFIED AS MEETING THE "ACCEPTANCE REQUIREMENTS" FOR CODE COMPLIANCE IN ACCORDANCE WITH SECTION 130.4. A "CERTIFICATE OF ACCEPTANCE" SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY UNDER SECTION 10-103(a) OF	<b>®</b> R	DIGITAL BRIDGE	nLIGHT SYSTEM, PROVIDE (1) BRIDGE FOR EACH (6)	<u>ا</u> گ	SURVEILLANCE (CCTV) CAMERA PROVISION, WALL	INTERIOR: IG J-BOX, IG RING, MODULAR PLATE, 3/4"C. TO ACCESSIBLE ATTIC SPACE. EXTERIOR: IG FLUSH BELL BOX,	Clov 559
PART I THRU 1(c).	•		nLIGHT ZONES. CONNECT BRIDGE POWER SUPPLY TO	<b>S</b> C Section <b>S</b> C	MOUNTED. VERIFY HEIGHTS AT EACH LOCATION. C=CEILING MOUNTED.	MODULAR PLATE, 3/4"C. TO ACCESSIBLE ATTIC SPACE.	www.hardin-o
3. AT TIME OF "FINAL INSPECTION", ALL CODE REQUIRED SIGN CONTROLS WILL BE REQUIRED TO HAVE BEEN INSTALLED. REFERENCE SECTION 130.4 OF THE 2016 CALIFORNIA ENERGY CODE.		DICITAL VOCINT WINE ECO DEIGO	LOCAL LIGHTING CIRCUIT.	-CAM		PROVIDE (I) CAT6 CABLE AND DATA JACK TO EACH CAMERA PROVISION, VERIFY EXACT REQUIREMENTS PRIOR	ARCHITECT: Tiana L. Perez, Archit
4. THE CALIFORNIA STATE LICENSE BOARD (CSLB) "ZERO TOLERANCE POLICY" IN EFFECT FOR NON-COMPLIANT LABOR CODE	(RX)	DIGITAL XPOINT WIRELESS BRIDGE	INTERFACE WITH nLIGHT SYSTEM GATEWAY			TO ROUGH-IN.	California Licensed A Ren. 01-31-21 Fresno County Depar
SECTIONS 3099 AND 2099.2 , SECTIONS 209.0 AND THE AB 931, AS OF JANUARY 2006, ENFORCEMENT OF LEGAL ACTION WILL BE ISSUED TO ANY C-10 CONTRACTOR WHO WILLFULLY EMPLOYS AN "UNCERTIFIED ELECTRICIAN" TO PERFORM ELECTRICAL WORK IN	(PP)	DIMMING POWER PACK VERIFY 0-10V, 2- OR 3-WIRE, MLV, OR	NLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING	<b>, Γ</b> ∇Ι	RECESSED TV BOX WITH POWER OUTLET, (2) DATA	MAKE POWER CONNECTION AND PROVIDE I 1/2"C. STUB TO	Public Works & Plant  C -38000  Public Works & Plant  Development Service  Capital Projects Divis
THE STATE OF CALIFORNIA.		ELV BY FIXTURE	• • • • • • • • • • • • • • • • • • •		JACKS, HDMI AND CATY JACKS. VERIFY	EXPOSED CABLE SPACE NEAR ROOF. VERIFY HEIGHTS W	Capital Projects Divis REN: 01-31-21 2220 Tulare Street, E Fresno, California 93
5. THE GENERAL CONTRACTOR SHALL COORDINATE THE FIRE ALARM SYSTEM INTERFACES BETWEEN THE FIRE ALARM CONTRACTOR, SPRINKLER CONTRACTOR, MECHANICAL CONTRACTOR, AND ANY OTHER PERTINENT TRADES (FIRE ALARM, SPRINKLER SYSTEM, HOOD	<b>₽</b> PE	DIMMING POWER PACK W EMERGENCY CONTROL RELAY	·	m	HEIGHT/LOCATION PRIOR TO ROUGH-IN.	ARCH.	Office: (559) 600-4536
AND VENT EXTINGUISHING SYSTEM, HVAC, FIRE SMOKE DAMPERS, ETC.).		VERIFY 0-10V, 2- OR 3-WIRE, MLV, OR ELV BY FIXTURE	INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING	AV	A/V INPUT HDMI/VGA/3.5MM AUDIO/USB JACK WALL PLATE AT +18" AFF	2G BOX, IG RING, (2) I 1/4"C. TO ATTIC SPACE. INSTALL CABLES FROM STATION	E-mail: tperéz@fresno
6. WHEN A FIRE ALARM SYSTEM IS PRESENT AND THE TOTAL COMBINED CFM FOR ALL HVAC UNITS IN A FIRE COMPARTMENT IS IN EXCESS OF 2000, DETECTION OF SMOKE IN ANY ONE OF THE DUCT DETECTORS SHALL SHUT OFF THE POWER SOURCES TO ALL THE	<b>⊗</b>	DMX CONTROLLER PACK	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR	中華公	DEVICES TO BE REMOVED	TO TV.	Project:
UNITS PER FRESNO FIRE POLICY 407.4.	_		INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING	.: .:	EXISTING CONDUIT/WIRING TO BE DEMOLISHED		Fresno County
1. PROVIDE START-UP, TESTING, ADJUSTMENT, AND REPORTING OF BUILDING LIGHTING SYSTEM PER CGBSC 5.410.4.	RR	RECEPTACLE RELAY CONTROLLED BY OCCUPANCY SENSOR	NLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING.	0.⊕∇	EXISTING DEVICES		Environmental Compliance Cent
3. ARC-FLASH WARNING SIGNS SHALL BE PROVIDED PER CEC SECTION IIO.I6.			(I) RELAY PER CIRCUIT IN EACH CONTROLLED AREA.	<u> </u>	EXISTING CONDUIT/WIRING		Site Improvement and Shade St Project Address: 310 S. West Avenue, Fresno
. FAULT CURRENT SHALL BE CALCULATED AND POSTED PRIOR TO FINAL INSPECTION PER CEC 110.24.		TERMINAL CABINET			MIRING IN CONDUIT, BELOW GRADE  WIRING IN CONDUIT, IN WALL OR CEILING	3/4" CONDUIT MIN. 3/4" CONDUIT MIN.	APN: 458-060-72 Issue Date:
	$\nabla$	DATA OUTLET (RJ-45 CAT6) WITH 2 JACK AT +18" AFF, U.O.N.	4-II/I6 SQ. BOX, IG RING, MODULAR PLATE, & 1 I/2"C. TO ACCESSIBLE ATTIC	LV	WIRING IN CONDUIT, IN WALL OR CEILING  LOW VOLTAGE WIRING IN ATTIC SPACE	3/4" CONDUIT MIN.  TYPE PER EQUIPMENT MANUFACTURER	Project No. T90203 File Path: G:Capital \ Projects \ Building Numb
		BLUE JACKS & CABLE	SPACE. PULL CABLING TO RESPECTIVE PATCH		CONDUIT RISER	3/4" CONDUIT MIN.	Ave Landfill \ T90203 Environmental Compliar 2018 ECC
		QTY. OF JACKS AS NOTED WHEN > 2	PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.		FLEXIBLE CONDUIT	3/4" CONDUIT MIN.	
	WAP-C	(2) WAP DATA JACKS (RJ-45 CAT6A) MOUNTED	4-11/16 SQ. BOX, IG RING, MODULAR	<del>  </del>	CONDUIT STUB AND CAP	3/4" CONDUIT MIN.	Sheet Content:
	V	IN ATTIC SPACE	PLATE. PULL CABLING TO RESPECTIVE	H	CROSS HATCHES INDICATE NUMBER OF #12 AWG.	3/4" CONDUIT MIN.	Electrical Notes and Symbols
	WAP-W	(2) MAD DATA 14 (15)	PATCH PANEL AND TERMINATE JACKS AT EACH END. 4-11/16 SQ. BOX, 1G RING, MODULAR	<u></u>	CONDUCTORS IN CONDUIT, WHEN MORE THAN TWO. WIRE SIZE INDICATED ON PLANS WHEN OTHER		
	$\nabla$	(2) WAP DATA JACKS (RJ-45 CAT6A) AT +108" AFF, U.O.N.	PLATE, & 1 1/2"C. TO ACCESSIBLE ATTIC		#12 AMG. PROVIDE GROUND PER CEC 250. PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT.		
	<u> </u>		SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END.	<del>\//////////////////////////////////</del>	CURVED CROSS HATCHES INDICATE #14 AWG	3/4" CONDUIT MIN.	
L A A C	, <del>,</del>		REFER TO SPECIFICATIONS.	,,,,	PURPLE & GRAY CONDUCTORS FOR		
	▼	WALL MOUNT VOIP OUTLET (RJ-45 CAT6)	4-11/16 SQ. BOX, 16 RING, MODULAR	A 1	DIMMING CONTROL.  HOME RUN (TO PANEL "A", CIRCUIT "15")	3/4" CONDUIT MIN.	Fresno County Department of Public Works and Planning
		AT +45" AFF, U.O.N.	PLATE, & 1 1/2"C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH	(E)	"EXISTING"	OF TOO TOO THIS.	Capital Projects
			PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.	U.O.N.	"UNLESS OTHERWISE NOTED"		S. Carlotte and the second
I $oldsymbol{I}$	7	WALL MOUNT DATA/COMM OUTLET	4-11/16 SQ. BOX, 16 RING, MODULAR	WP	"WEATHERPROOF" / NEMA 3R		2220 Tulare Street, 8th Floor Fresno, California 93721
I $lacksquare$	•	AT +45" AFF, U.O.N.	PLATE, & 1 1/2"C. TO ACCESSIBLE ATTIC	GFI	"GROUND FAULT INTERRUPTER"		Control na con 21
			SPACE. PULL CABLING TO RESPECTIVE PATCH				
			PANEL AND TERMINATE JACKS AT EACH END.				Chast Nis
			PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.				Sheet No.
	MDF	"MAIN DISTRIBUTION FRAME"					Sheet No.





# LINE DIAGRAM KEY NOTES ♦

- I. 4"C. UTILITY PRIMARY PER RULE 16 DOCS.
- 2. UTILITY TRANSFORMER & CONCRETE PAD PER RULE 16 DOCS.
- 3. (3) 5"C. UTILITY SECONDARY PER PG&E PER RULE 16 DOCS.
- 4. PROVIDE CONCRETE PAD PER DETAIL A6/E2.I.
- 5. GROUND SERVICE PER DETAIL AI/E2.I.
- 6. GROUNDING ELECTRODE CONDUCTOR TO UFER, STRUCTURAL STEEL, METAL WATER PIPE, AND FIRE SPRINKLER RISER.
- 7. PANEL SHOWN FOR REFERENCE ONLY. INCLUDE CONDUIT, FEEDER, AND CONNECTION IN BID.
- 8. PROVIDE LOCK-OUT DEVICE ON THIS BREAKER.

# FEEDERS O

- A. 2-1/2"C. 4#1/O, 1#6G.
- B. 2"C. 4#I, I#6G.
- C. 3"C. 4#4/O, I#4G.
- D. 2"C. 3#2/O, I#6G.

# J1 Power Single Line Diagram

			Potential at		Design				Conductor Cross-		DC Conductor			Voltage	Potential at	Percent Voltage
			Origin (P <sub>i</sub> )		Current	Raceway	Sets of	Conductor Trade	Sectional Area	Conductor	Material		Distance	Drop (VD)	Load (P <sub>i</sub> )	Drop
No.	Feeder Origin	Feeder Destination	(Volts)	System	(Amps)	Type	Cond.	Size	(CM)	Material	Constant (K)	Q	(ft)	(Volts)	(Volts)	(%VD)
1	MSB	Panel 'A'	208	AC 3-Phase	150	PVC	1	1/0	105600	CU	12.9	0.9836	35	1.09	206.91	0.53
2	MSB	Panel 'B'	208	AC 3-Phase	100	PVC	1	1	83690	CU	12.9	0.9740	125	3.25	204.75	1.56
3	MSB	Panel 'C'	208	AC 3-Phase	200	PVC	1	4/0	211600	CU	12.9	1.0197	135	2.91	205.09	1.40
4	Panel 'A'	Farthest #12 outlet	120	AC 1-Phase	16	Steel	1	12	6530	CU	12.9	1.0101	75	4.79	115.21	3.99
5	Panel 'A'	Farthest #10 outlet	120	AC 1-Phase	16	Steel	1	10	10380	CU	12.9	0.9677	125	4.81	115.19	4.01
6	Panel 'B'	Farthest A/C Unit	208	AC 3-Phase	30	Steel	1	6	26240	CU	12.9	0.9980	45	1.15	206.85	0.55

## Definitions

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

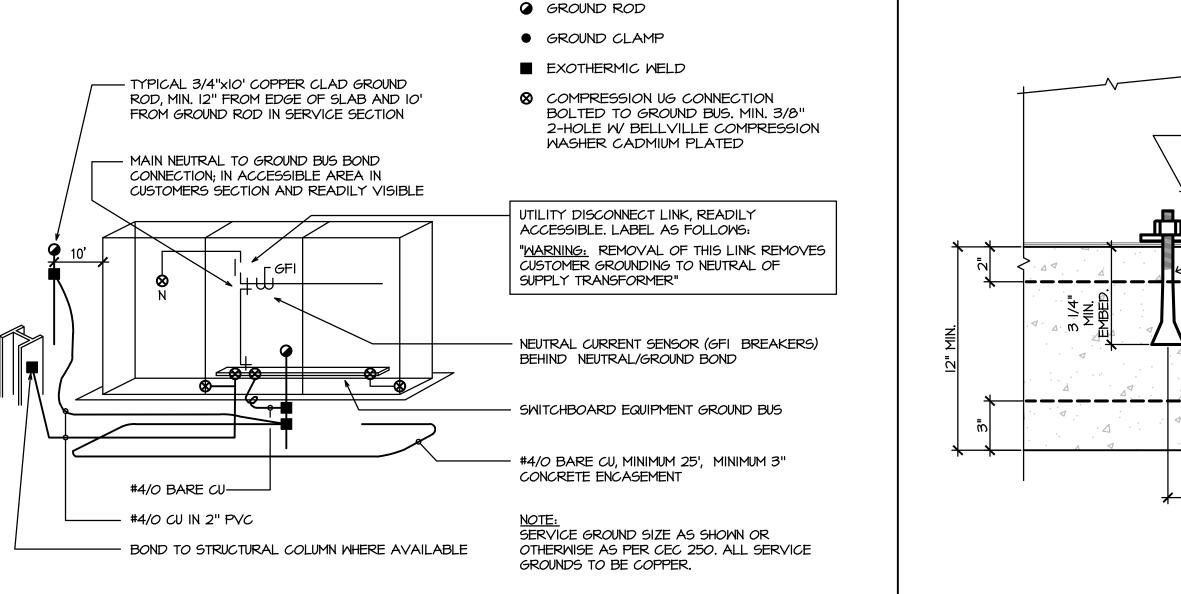
## Formulae

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

LEGEND

E1	Voltage Drop Calculations
E1	Voltage Drop Calculation

Service Grounding Detail



	12" MIN.	A A W W W W W W W W W W W W W W W W W W	<ul> <li>ELECTRICAL SMITCHBOARD</li> <li>EQUIPMENT INTERIOR MOUNTING FRAME</li> <li>MIN. 6" CLEAR AT FRONT AND SIDES OF EQUIPMENT FOOTPRINT</li> <li>'HILTI' KB-TZ I/2" DIAMETER BOLT WITH MIN. 3-1/2" EMBEDMENT INTO CONCRETE PAD AND MIN. 8" EDGE DISTANCE. (4) BOLTS PER EQUIPMENT SECTION. ICC-ESR-1917 LISTED. TORQUE TO 40 FT. LBS.</li> <li>FINISH FLOOR</li> <li>12" CONCRETE SLAB, 3000 PSI</li> <li>#4 REBAR 12" O.C.E.W.</li> </ul>
--	----------	---	--

A6 Concrete Equipment Pad Detail

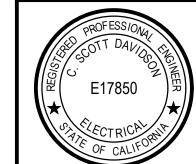
	NEL "A" SCHEDULE		==			<u> </u>		==		
CKT.	DESCRIPTION		AKER	VA	Ф	VA		AKER	DESCRIPTION	CK
NO.			POLE(S)					POLE(S)		NO
1	LIGHTING CONTROL PANEL	15	1	150		1000		1	OUTLETS - BACKBOARD	2
3	LIGHTS - INTERIOR	15	1	319	В	1000		1	OUTLETS - BACKBOARD	4
	LIGHTS - EXTERIOR	15	2	125	С	1000	· ·	1	* FIRE SPRINKLER SYSTEM	6
7	LIGHTS - SITE POLES (208V)	15	2	229	Α	1000		1	OUTLETS - BACKBOARD	8
9				229	В	540	20	1	OUTLETS - OFFICE	10
11	SPARE	15	1		С	720	20	1	OUTLETS - OFFICE	12
13	SPARE	20	1		Α	540	20	1	OUTLETS - OFFICE	14
15	SPARE	20	1		В	720	20	1	OUTLETS - STORAGE	16
17	SPARE	20	1		С	540	20	1	OUTLETS - EXTERIOR, NE RESTROOM	18
19	AIR CONDITIONER ODU-1 / IDU-1	50	2	3120	Α	360	20	1	OUTLETS - EXTERIOR, NW RESTROOM	20
21				3120	В	2000	20	1	HAND DRYER - NE RESTROOM	22
23	AIR CONDITIONER ODU-2 / IDU-2	15	2	936	С	3000	30	1	** WATER HEATER - NE RESTROOM	24
25				936	Α	2000	20	1	HAND DRYER - NW RESTROOM	26
27	EXHAUST FAN EF-2	15	1	696	В	3000	30	1	** WATER HEATER - NW RESTROOM	28
29	SPACE ONLY				С	360	20	1	OUTLETS - HAZMAT CONTAINER	30
31	SPACE ONLY				Α		20	1	SPARE	32
33	SPACE ONLY				В		20	1	SPARE	34
35	SPACE ONLY				С		20	1	SPARE	36
37	SPACE ONLY				Α		20	1	SPARE	38
39	SPACE ONLY				В		20	1	SPARE	40
41	SPACE ONLY				С		20	1	SPARE	4
	LOAD SUMMARY:		ΦА	9335	VA		BUSIN	IG:	200A	
			ΦВ	11624		1	MAIN		150A	
			ΦС	6681		1	NOTES		* PROVIDE RED LOCK-ON DEVICE FOR F.A. CKTS.	
	CONNECTED LOAD:		_	27.6					** PROVIDE LOCK-OUT DEVICE FOR SERVICE	
	MAX CURRENT:			97						

PANEL "A" SCHEDULE FOR REFERENCE ONLY. NOT INCLUDED IN BID.

PΔ	NEL "B" SCHEDULE			120/208\	/ 3Ф 4\	W 50kAIC			INDOOR / SURFACE	
СКТ.	DESCRIPTION	BRE	AKER				BRE	AKER	250001071041	CKT.
NO.	DESCRIPTION	AMPS	POLE(S)	VA	Ф	VA	AMPS	POLE(S)	DESCRIPTION	NO.
1	CANOPY LIGHTS	15	1	736	Α	1176	20	1	LIQUID RECOVERY TANK	2
3	SPARE	15	1		В	500	20	1	NORTH SEA TRAIN	4
5	SPARE	20	1		С	500	20	1	SOUTH SEA TRAIN	6
7	OUTLETS - CANOPY	20	1	360	Α	500	15	1	N. LIFT GATE	8
9	OUTLETS - CANOPY	20	1	360	В	500	15	1	S. LIFT GATE	10
11	OUTLETS - CANOPY	20	1	360	С		20	1	SPARE	12
13	OUTLETS - TERMINAL CABINET	15	1	360	Α		20	1	SPARE	14
15	SPARE	20	1		В		20	1	SPARE	16
17	SPARE	20	1		С		20	1	SPARE	18
19	SPACE ONLY				Α				SPACE ONLY	20
21	SPACE ONLY				В				SPACE ONLY	22
23	SPACE ONLY				С				SPACE ONLY	24
25	SPACE ONLY				Α				SPACE ONLY	26
27	SPACE ONLY				В				SPACE ONLY	28
29	SPACE ONLY				С				SPACE ONLY	30
	LOAD SUMMARY:		ΦА	3132	VA		BUSIN	lG:	100A	
			ΦВ	1360	VA		MAIN	:	100A	
			ΦС	860	VA					
	CONNECTED LOAD:			5.4	kVA					
	MAX CURRENT:			26	Α					

PΑ	NEL "C" SCHEDULE			120/208\	/ 3Ф 4\	N 50kAIC			INDOOR / SURFACE	
CKT.	DESCRIPTION	BRE	AKER	1/4	Φ.	\/A	BRE	AKER	DESCRIPTION	CKT.
NO.	DESCRIPTION	AMPS	POLE(S)	VA	Ф	VA	AMPS	POLE(S)	DESCRIPTION	NO.
1	LIGHTING CONTROL PANEL	15	1	150	Α	500	20	1	OUTLETS - BACKBOARD	2
3	LIGHTS - INTERIOR	20	1		В	500	20	1	OUTLETS - BACKBOARD	4
5	LIGHTS - EXTERIOR	15	1		С	1000	20	1	OUTLETS - BACKBOARD	6
7	MARQUEE SIGN	15	1		Α	360	20	1	OUTLETS - INTERIOR	8
9	SPACE ONLY				В	360	20	1	OUTLETS - INTERIOR	10
11	SPACE ONLY				С	360	20	1	OUTLETS - INTERIOR	12
13	ROLL-UP DOOR MOTOR	15	3	444	Α	360	20	1	OUTLETS - INTERIOR	14
15				444	В	500	20	1	* FIRE SPRINKLER SYSTEM	16
17				444	С		20	1	SPARE	18
19	ROLL-UP DOOR MOTOR	15	3	444	Α		20	1	SPARE	20
21				444	В		20	1	SPARE	22
23				444	С		20	1	SPARE	24
25	ROLL-UP DOOR MOTOR	15	3	444	Α	4800	50	3	OUTLET - FORKLIFT CHARGER	26
27				444	В	4800				28
29				444	С	4800				30
31	EXHAUST FAN EF-1	20	1	1176	Α				SPACE ONLY	32
33	SPACE ONLY				В				SPACE ONLY	34
35	SPACE ONLY				С				SPACE ONLY	36
37	SPACE ONLY				Α				SPACE ONLY	38
39	SPACE ONLY				В				SPACE ONLY	40
41	SPACE ONLY				С				SPACE ONLY	42
	LOAD SUMMARY:		ΦА	8678	VA		BUSIN	IG:	200A	
			ΦВ	7492	VA		MAIN	:	200A	
			ΦС	7492	VA	١ ١	NOTES	<b>)</b> :	* PROVIDE RED LOCK-ON DEVICE FOR F.A. CKTS.	
	CONNECTED LOAD:			23.7	kVA					
	MAX CURRENT:			72	Α					

PANEL "C" SCHEDULE FOR REFERENCE ONLY. NOT INCLUDED IN BID.



Hardin-Davidson
Engineering
356 Pollasky Ave.
Suite 200
Clovis, CA 93612
559.323.4995 tel
www.hardin-davidson.com



California Licensed Architect No. C-38000
Ren. 01-31-21
Fresno County Department of
Public Works & Planning
Development Services and
Capital Projects Division
2220 Tulare Street, Eighth Floor
Fresno, California 93721

Tiana L. Perez, Architect

Office: (559) 600-4536 E-mail: tperez@fresnocountyca.gov

# Project:

Fresno County
Environmental Compliance Center
Site Improvement and Shade Structure
Project Address: 310 S. West Avenue, Fresno CA 93706
APN: 458-060-72
Issue Date:

Issue Date:
Project No. T90203
File Path: G:Capital \ Projects \ Building Numbers \ American
Ave Landfill \ T90203 Environmental Compliance Center\ 00

# Sheet Content:

Power Details and Schedules

Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor Fresno, California 93721

Sheet No.

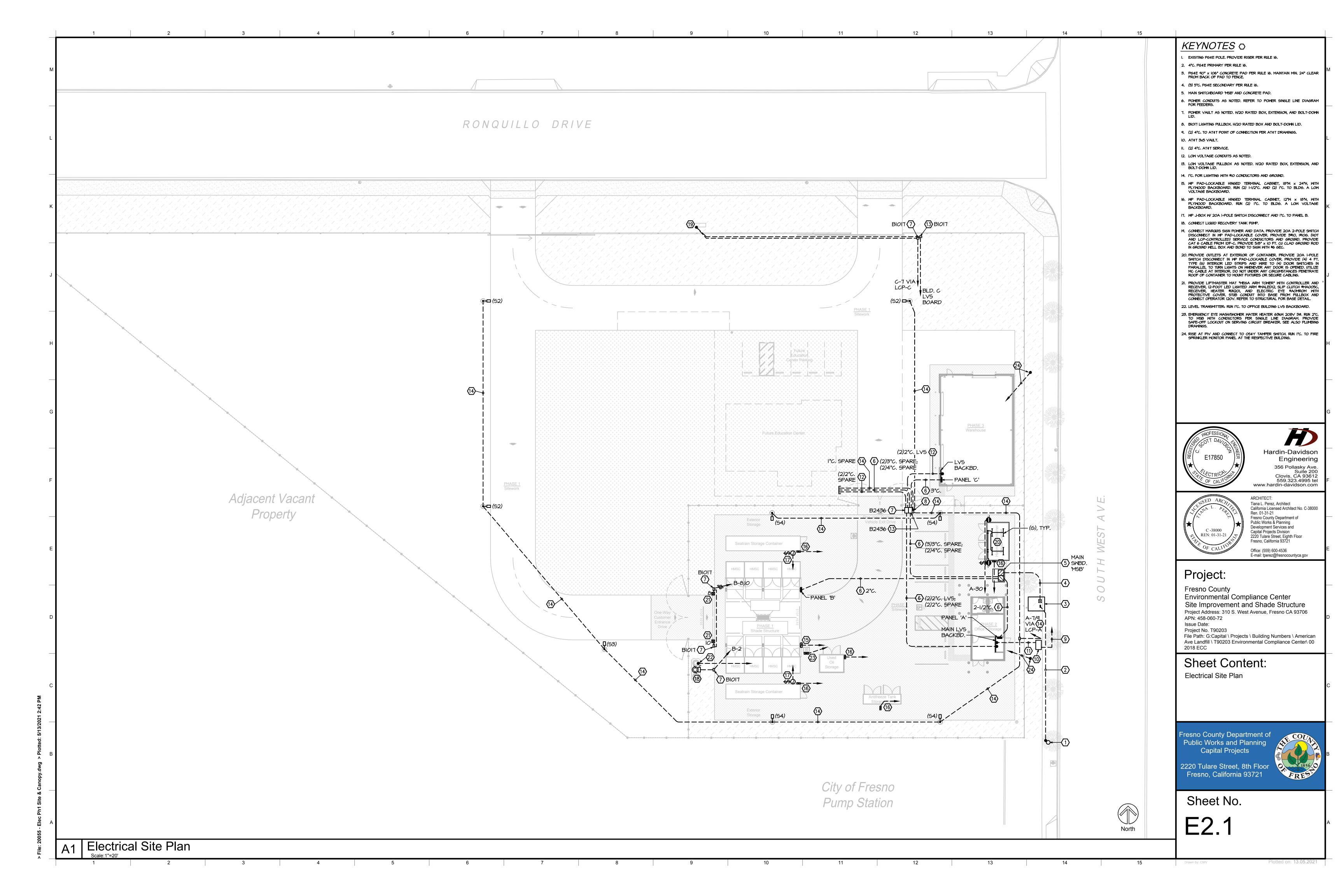
E1.3

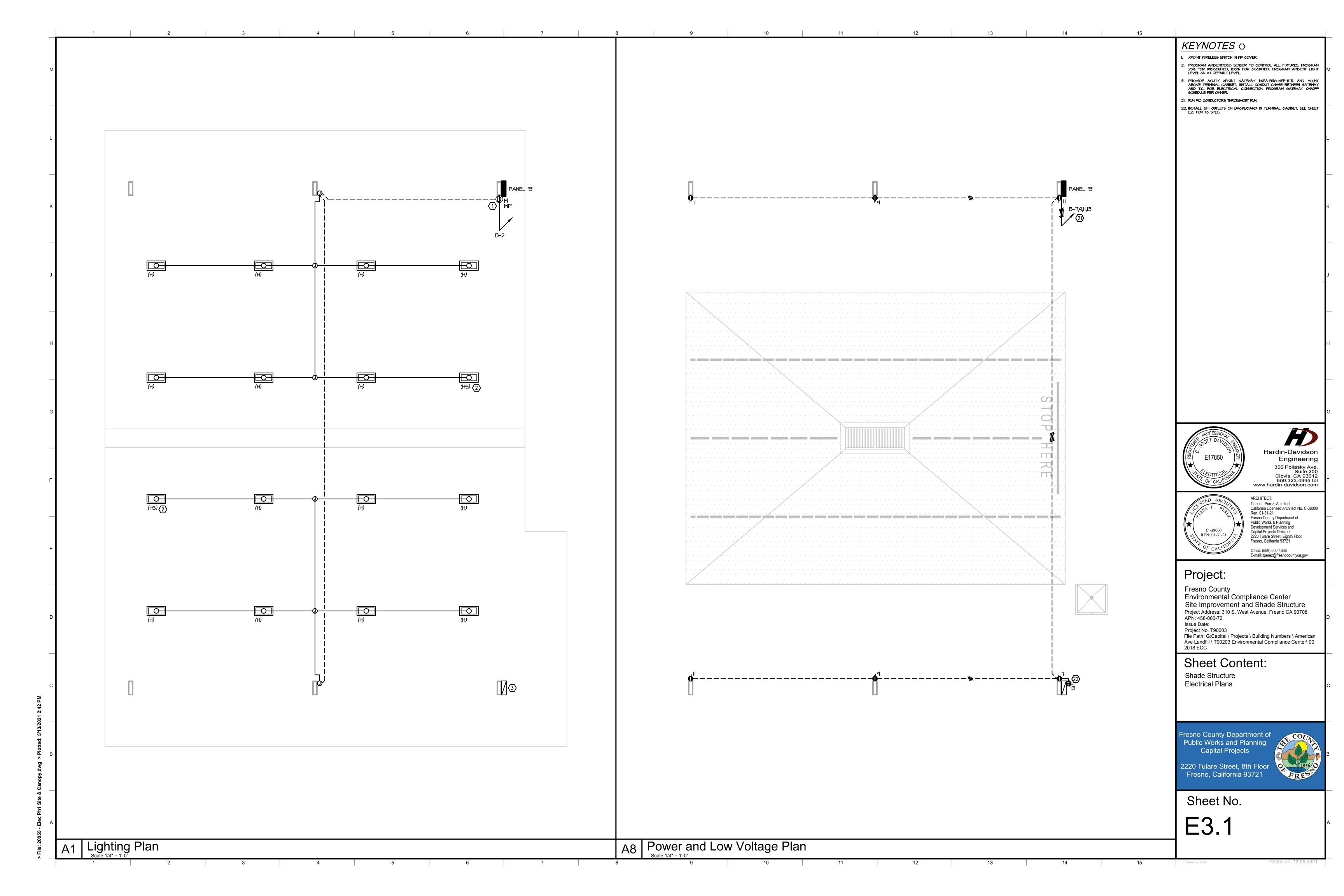
A10 Panel Schedules

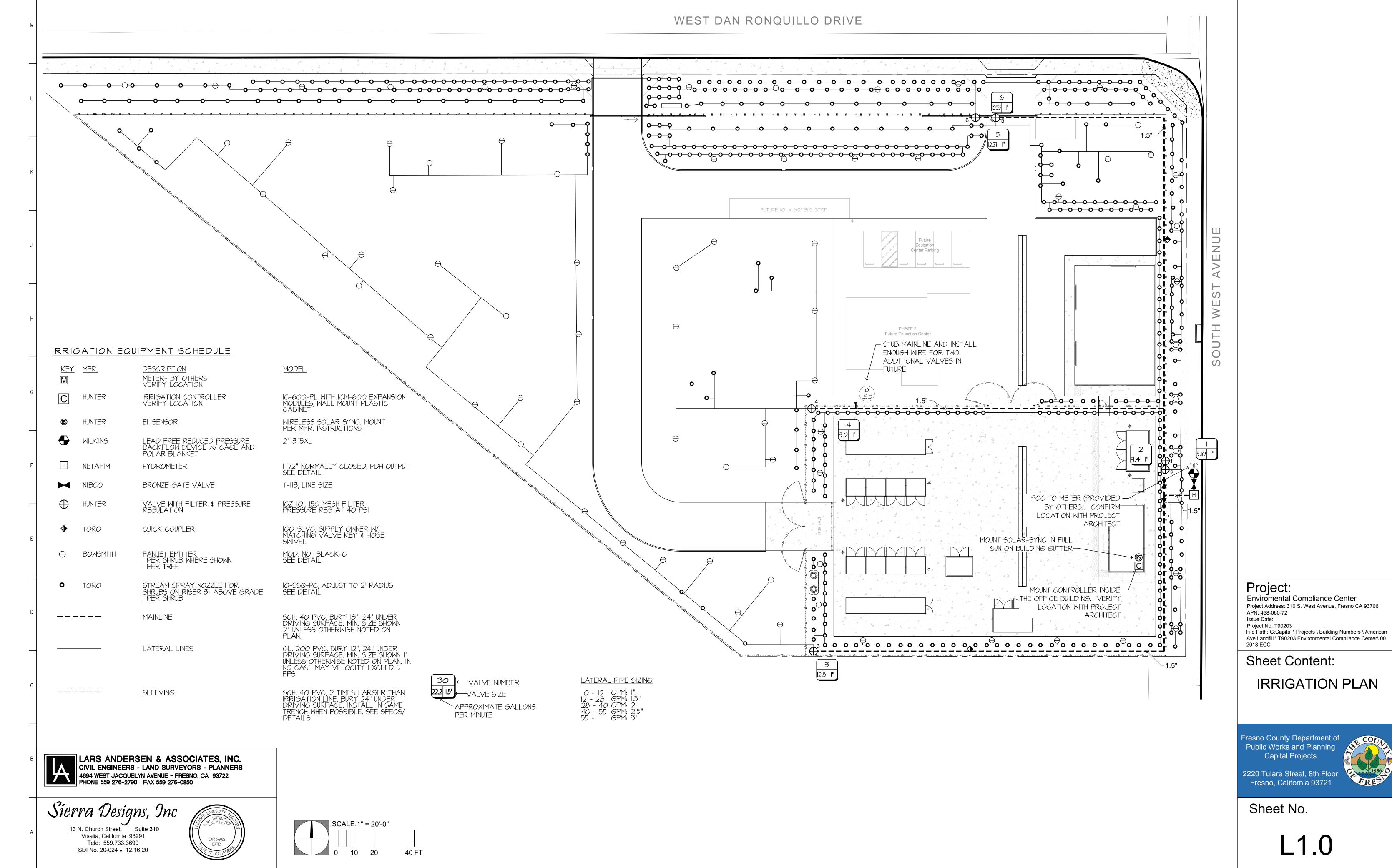
rije. 20030 - Elec Fill Site & Callopy.uwg / Flotteu. 5/15/2021.

= 1.3

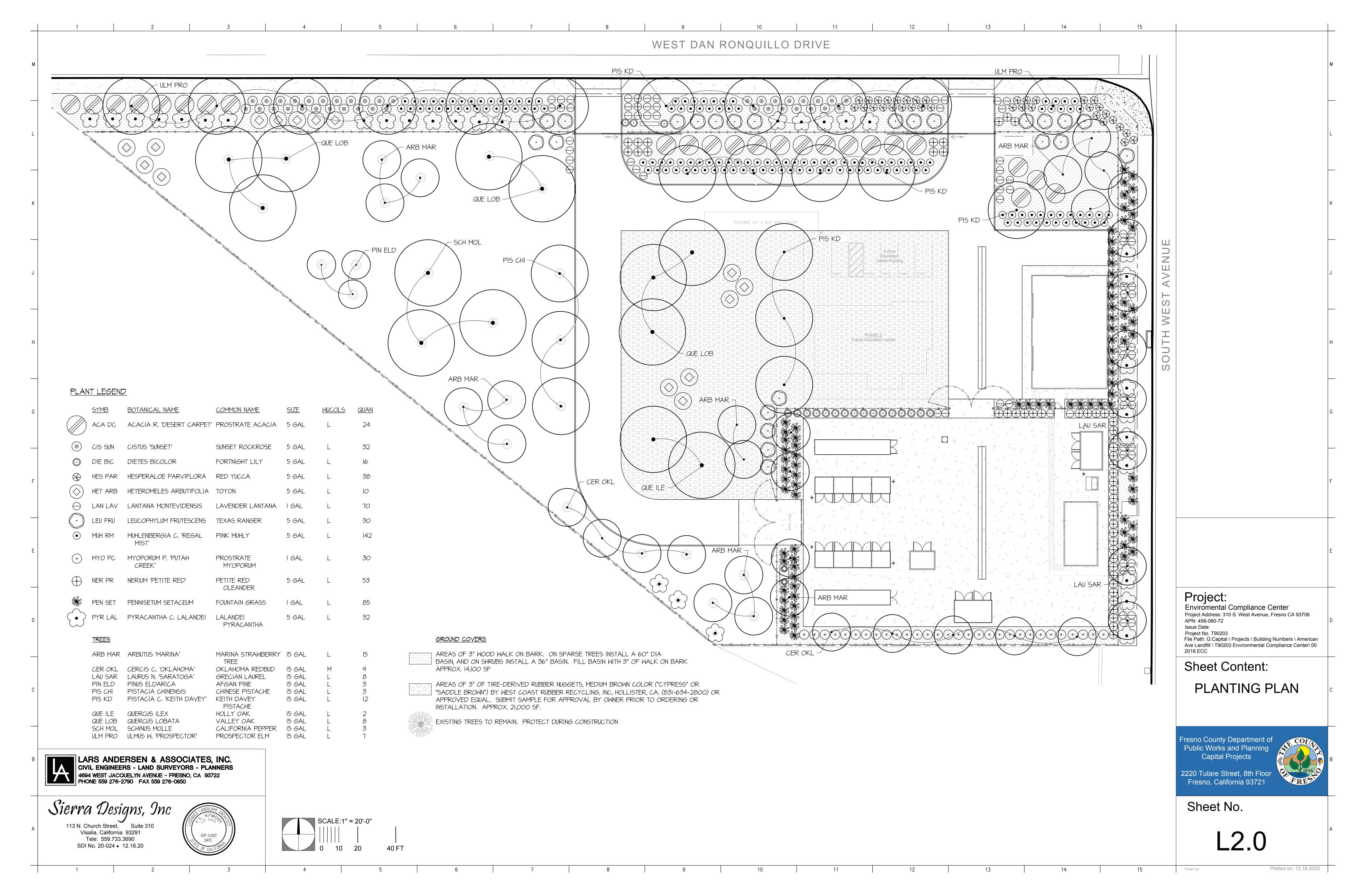
March   Marc	STATE OF CALIFORNIA  Electrical Power Distribution  CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA  Electrical Power Distribution  NRCC-FLC-F  CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA  Electrical Power Distribution  NRCC-ELC-E  CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA  Electrical Power Distribution  NRCC-FIG-E  CALIFORNIA ENERGY COMMISSION	
The content of the	CERTIFICATE OF COMPLIANCE NRCC-ELC	CERTIFICATE OF COMPLIANCE NRCC-ELC-E	CERTIFICATE OF COMPLIANCE NRCC-ELC-E	CERTIFICATE OF COMPLIANCE NRCC-ELC-E	
The state of the	otel/motel occupancies. Additions and alterations to electrical service systems in these occupancies will also use this document to demonstrate compliance per §141.0(a) or 141.0(b)2P for alterations	1 1 1 1			
The state of the s			Check Number for Voltage Dren Field Inspector	Downstatio Autor News	
The state of the s			Designation/Description  Circuit Conductors Compliance Method  Calculations   Calculations   Calculations   Calculations in Construction  Documents  Pass Fail	C. Scott Davidson Company: Signature Date:	
The state of the s	□ Office □ Retail □ Warehouse □ Hotel/Motel □ School □ Support Areas	This table is includes remarks made by the permit applicant to the Authority Having Jurisdiction.	Panel B Voltage drop less than Solution to Permitted by CA Elec Code (Exception to Attached E1.3	Address: CEA/ HERS Certification Identification (if applicable):	
			* NOTES: If "Permitted by CA Elec Code *" is selected under Compliance Method above, please indicate where the exception applies in the space provided below.	City/State/Zip: Phone:	
The state of the s	This table includes electrical systems that are within the scope of the permit application.  01 02 03 04 05	G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING		I certify the following under penalty of perjury, under the laws of the State of California:	
Second Continue	Electrical Service Designation/Description Scope of Work <sup>1</sup> Rating Unity Provided interent system Article 517 Exception to (I/V/A) Exception to 6130 5(a) <sup>2</sup> Article 517 Exception to	service do not need to be shown.		<ol> <li>I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)</li> <li>The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements</li> </ol>	
Marked   M	Panel B New electrical service equipment and 36 🛛 🗖	Load Type per Table 130.5-B 1 Minimum Required Separation of Compliance Method 2 Location of Requirements in Construction Field Inspector		4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.	
The content of the	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a deman	Panel B	Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at	inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.	
The content of the	response signal. Sections §120.2, §130.1 and §130.3 and compliance documents NRCC-MCH, NRCC-LIT and NRCC-LIS wi	Plug Loads and appliances less than 25kVA not required Method 1 E1.3	Field Inspector	Company: Date Signed:	
The state of the s		<sup>1</sup> FOOTNOTES: For each separate load type, up to 10% of the connected load may be of any type.	NRCI-ELC-01-E - Must be submitted for all buildings	Address: License:	
The state of the		Method 2: Switchboards/ motor control centers/ panelboard supply other distribution equipment with loads disaggregated for each load type.  Method 3: Branch circuits serve load types individually and provisions for adding future branch circuit monitoring.	•	Clovis CA 93612 (559) 323-4995	
The content of the	to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.  01 02 03 04 05	See Chapter 8 of the Nonresidential Compliance Manual for more detail on Compliance Methods.			
Fig.	Metering §130.5(a)   Monitoring §130.5(b)   Monitoring §130.5(b)   Monitoring §130.5(d)   M	This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to			
March   Marc		demonstrate compliance with §130.5(c). For alterations, only the altered circuits must demonstrate compliance per §141.0(b)2Piii  01 02 03 04 05			
The content of the	Registration Number: Registration Date/Time: Registration Provider: EnergySo	Registration Number: Registration Date/Time: Registration Provider: EnergySoft	Registration Number: Registration Date/Time: Registration Provider: EnergySoft	Registration Number: Registration Date/Time: Registration Provider: EnergySoft	
Company   Comp					
The control of the	TATE OF CALIFORNIA		STATE OF CALIFORNIA	STATE OF CALIFORNIA	1
March   Marc	Dutdoor Lighting  IRCC-LTO-E  CALIFORNIA ENERGY COMMISSIC	Outdoor Lighting  NRCC-LTD-E  CALIFORNIA ENERGY COMMISSION	Outdoor Lighting NRCC-LTO-E CALIFORNIA ENERGY COMMISSION	Outdoor Lighting NRCC-LTO-E CALIFORNIA ENERGY COMMISSION	
Management   Man	roject Name: Environmental Compliance Center Canopy & Site Report Page: (Page 1 of	Project Name: Environmental Compliance Center Canopy & Site Report Page: (Page 2 of 8)	Project Name: Environmental Compliance Center Canopy & Site Report Page: (Page 3 of 8)	Project Name: Environmental Compliance Center Canopy & Site Report Page: (Page 4 of 8)	
The second of th					
The state of the s	01 Project Location (city) Fresno 04 Total Illuminated Hardscape Area (ft²) 36286	Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer	For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces	This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are	
The state of the	O2 Climate Zone 13 Outdoor Lighting Zone per Title 24 Part 1 \$10.114 or as designated by Authority Having Jurisdiction (AHJ):		replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).	the permit application.	
The state of the s		Hardscape   Per   Sales   Ornamental   Per Specific   Power	01 02 03 04 05 06 07 08 09 10 Cutoff Reg. > Field	"DOES NOT COMPLY" if the notes are left blank.	
Section   Sect		Allowance   Application   Frontage   \$140.7(d)2   \$140.7(	Name or Item Tag  Complete Luminaire Description Tag  Complete Luminaire Description  Watts per   Mattage   Total number   Luminaire   Excluded per   Luminaires   Excluded per   Design Watts   Iumen output   Iumen ou	01 02 03 04 05	
The content of the	5141.0(b)2L for alterations.	(See Table I)	H 25w LFD □ Linear 25 NA8 Default 16 New □ 400 NA: < 6200 □ □	Area Description <u>§130.2(c)1</u> <u>§130.2(c)2</u> <u>§130.2(c)3</u> Pass Fail	
The control of the			S2	Site Astronomical Timer Yes Yes U U  Canopy Astronomical Timer Yes Yes U	
Marriagness	03 04 05		S3 183.0w IED Pole Light		
Figure 1 and			S4   183.0w LED Pole Light   Linear   183   NA8 Default   4   New   Li   732   lumens   Li   Li		
Make the second process of the second proces	Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.  FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.	This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.	* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.		
The state of the s			<sup>1</sup> FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per <u>§130.0(c)</u>		
The state of the s			<sup>3</sup> Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of		
			<sup>4</sup> Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by §130.2(b)		
The state of the s					PROFESS/O <sub>NA</sub>
The state of the s					BOSOTT DAVIDO CE
Signature of the control of the cont					■ ■191
Significant distribution of the control of the cont					
Signature   Sign					559.3
Section   Continue	NRCC-LTO-E CALIFORNIA ENERGY COMMISSIC CERTIFICATE OF COMPLIANCE NRCC-LTO	NRCC-LTO-E CALIFORNIA ENERGY COMMISSION  CERTIFICATE OF COMPLIANCE  NRCC-LTO-E	NRCC-LTO-E CALIFORNIA ENERGY COMMISSION  CERTIFICATE OF COMPLIANCE  NRCC-LTO-E	NRCC-LTO-E  CALIFORNIA ENERGY COMMISSION  CERTIFICATE OF COMPLIANCE  NRCC-LTO-E	www.hardin-da
Part	roject Name: Environmental Compliance Center Canopy & Site Report Page: (Page 5 of	Project Name: Environmental Compliance Center Canopy & Site Report Page: (Page 6 of 8)	Project Name: Environmental Compliance Center Canopy & Site Report Page: (Page 7 of 8)	Project Name: Environmental Compliance Center Canopy & Site Report Page: (Page 8 of 8)	
The contract of the contract o	LIGHTING POWER ALLOWANCE (per §140.7)	M. LIGHTING ALLOWANCE: PER SPECIFIC AREA	P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE	DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	California Licensed Arch Ren. 01-31-21
The property of the contract o	This table includes areas using allowance calculations per §140.7. General Hardscape Allowance is per <u>Table 140.7-A</u> while "Use it or lose it" Allowances are per <u>Table 140.7-B</u> .    General   "Use it or lose it" Allowance (select all that apply) (select all that apply)	This table includes areas using the wattage allowance per specific area from <u>Table 140.7-B</u> . More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.	Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification	Downward Author Name	Fresno County Department Public Works & Planning
The state of the control of the cont	ndicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use Application Table I. Table II	CALCULATED ALLOWANCE (Watts) DESIGN WATTS	Field Inspector	Company: Hardin-Davidson Engineering Address: CEA/ HERS Certification Identification (if applicable):	C -38000 / Capital Projects Division
### Under the control of the control	alculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 0, 1 & 4)	Area Description  Specific Area Type per lable   Specific Area	NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20	356 Pollasky Ave., Suite 200 E17850  City/State/Zip: Phone:	Fresno, California 9372
Section   Sect	Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 2 & 3)	(w/it) (wats) item to		RESPONSIBLE PERSON'S DECLARATION STATEMENT	
This is the control of the control o	Area Wattage Allowance (AWA)  Area Wattage Allowance (AWA)  Total Genera			<ol> <li>The information provided on this Certificate of Compliance is true and correct.</li> <li>I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)</li> </ol>	
With A SE	Area (ft²) Density (W/ft²) (Watts) Perimeter Allowance (Watts) Allowance (Watts)	$^1$ FOOTNOTES: See <u>Table 140.7-B</u> for rules for calculating the specific areas ( $\mathrm{ft}^2$ for these additional lighting allowances.		of Title 24, Part 1 and Part 6 of the California Code of Regulations.  4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations,	Project:
International Compliance Compli	Driveways Asphalt 14315 0.03 357.875 1211 0.4 302.75 660.625	N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)		5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.	Fresno County
Compression of the Compression	<u> </u>			C. Scott Davidson Company: Date Signed:	Environmental Compliance Cente
Part		Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E.  Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at		Address: License:	Project Address: 310 S. West Avenue, Fresno C
Transmit and appropriate in the property of th	***	https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/ Field Inspector		City/State/Zip: Phone:	APN: 458-060-72
Second discovery compared to the property of	his section does not apply to this project.	Pass Fail  NRCI-LTO-01-E - Must be submitted for all buildings			Project No. T90203
Registrate Nations: Regist					Ave Landfill \ T90203 Environmental Compliance
Regressed full control (register) Regres					
A statisting forming fill filling programmers 2500 Name Mean (Section of Section of Sect	Registration Number: Registration Date/Time: Registration Provider: EnergySol	Registration Number: Registration Date/Time: Registration Provider: EnergySoft	Registration Number: Registration Date/Time: Registration Provider: EnerのvSoft	Registration Number: Registration Date/Time: Registration Provider: EnergySoft	
Fresno County Department of Public Works and Planning Capital Projects	A Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.0.001 Report Generated: 2020-07-01 19:02:4	CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.0.001 Report Generated: 2020-07-01 19:02:46	CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.0.001 Report Generated: 2020-07-01 19:02:46	CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.0.001 Report Generated: 2020-07-01 19:02:46	Title 24 Compliance Documents
Public Works and Planning Capital Projects  2220 Tulare Street, 8th Floor	Schema Version: rev 20190401	Softenia Version, 164 2020/002	Solicing Version, by 2020/02	SUITERIN VERSION FOR EVERYOUR	1
Public Works and Planning Capital Projects  2220 Tulare Street, 8th Floor	Schema Version: rev 20190401				1
Public Works and Planning Capital Projects  2220 Tulare Street, 8th Floor	Schema Version: rev 20190401				
Public Works and Planning Capital Projects  2220 Tulare Street, 8th Floor	Schema Version: rev 20190401				
Public Works and Planning Capital Projects  2220 Tulare Street, 8th Floor	Schema Version: rev 20190401				
2220 Tulare Street, 8th Floor	Schema Version: rev 20190401				Fresno County Department of
	Schema Version: rev 20190401				Public Works and Planning
Fresno, California 93721	Schema Version: rev 20190401				Public Works and Planning
	Schema Version: rev 20190401				Public Works and Planning Capital Projects  2220 Tulare Street, 8th Floor
	Schema Version: rev 20190401				Public Works and Planning Capital Projects  2220 Tulare Street, 8th Floor

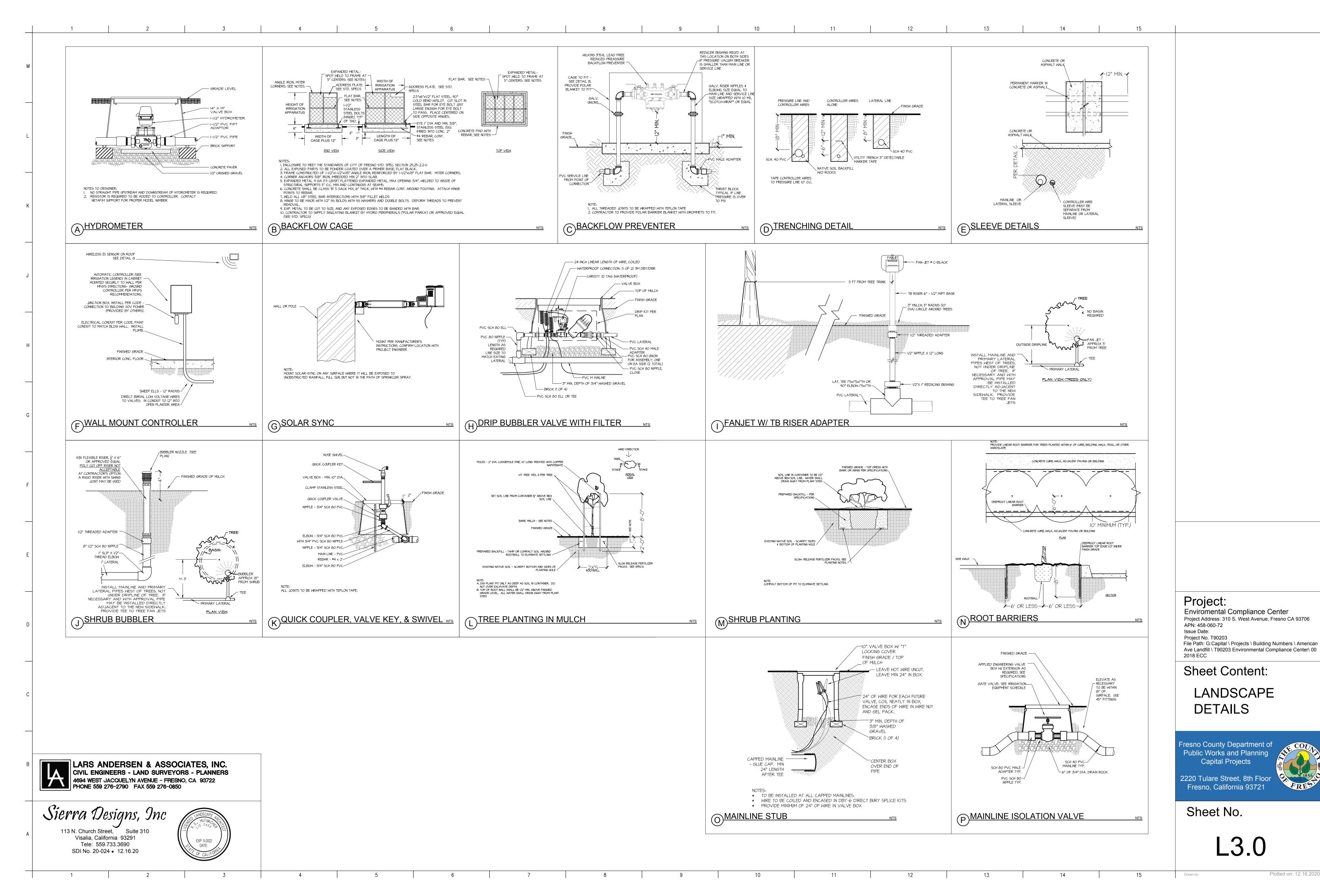






Plotted on: 12.16.2020





Plotted on: 12.16.2020

## PLANTING NOTES

THE CONTRACTOR SHALL CONFIRM AVAILABILITY OF PLANT MATERIALS IMMEDIATELY AFTER THE SIGNING OF THE CONTRACT WITH THE OWNER. SUBSTITUTIONS WITHOUT PRIOR WRITTEN AUTHORIZATION BY THE LANDSCAPE ARCHITECT ARE NOT ALLOWED.

SCHEMATIC:
THE FEATURES ARE SHOWN SCHEMATICALLY FOR GRAPHIC CLARITY. NO UTILITY SURVEY HAS BEEN CONDUCTED. PRIOR TO PLANTING, VERIFY EXACT LOCATIONS WITH THE PROJECT ENGINEER AND OWNER. TREES LOCATIONS SHALL RESPECT THE FOLLOWING OFFSETS FROM UTILITIES: •30' FROM STREET CORNERS FOR VISIBILITY & 15'

FROM DRIVEWAY, STOP SIGNS, ALLEYS, LIGHT POLES AND POWERS POLES •10' FROM FIRE HYDRANTS & 8' FROM SEWER

•5' FROM BUILDINGS OVERHANGS AND 2' FROM ADJACENT CONCRETE AND ADJOINING PROPERTY LINES •3' FROM GAS, ELECTRICAL, AND WATER LINES,

AND ROOF DRAINS IF CONFLICTS ARISE BETWEEN PLANS AND FIELD CONDITIONS NOTIFY PROJECT ENGINEER AND LANDSCAPE ARCHITECT.

ALL PLANTINGS SHALL BE INSTALLED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES AND NURSERY AND MANUFACTURER'S SPECIFICATIONS, RECOMMENDATIONS AND REQUIREMENTS. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY IN WRITING PRIOR TO SIGNING OF A CONTRACT WITH THE OWNER OF ANY CONFLICTS. CONFLICTS NOTED AFTER CONTRACT SIGNING OR AFTER THE COMMENCEMENT OF WORK SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

## ANDSCAPE CONTRACTOR SHALL NOT FINE GRADE, AMEND SOIL OR DO ANY PLANTING OR IRRIGATION WORK UNTIL FINAL GRADES ARE ESTABLISHED

WITHIN O.I' BY GENERAL CONTRACTOR. FINISH GRADES IN PLANTING AREAS: FINISH GRADES SHALL CONFORM TO GRADING PLAN. FINISH GRADES SHALL BE I" BELOW ADJACENT HARDSCAPE IN TURF AREAS AND 2'

BELOW ADJACENT HARDSCAPE IN SHRUB AREAS.

POSITIVE DRAINAGE AWAY FROM BUILDINGS AND

## WALKWAYS SHALL BE MAINTAINED

IRRIGATION LINES.

THE CONTRACTOR IS REQUIRED TO PROVIDE THE OWNER WITH A COMPLETE PROJECT. HE/SHE SHALL INSTALL ANY AND ALL PLANT MATERIAL AS SHOWN ON THE DRAWINGS AND LEGENDS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS, NOTES OR LEGENDS THE ONE THAT REQUIRES THE GREATER NUMBER OF PLANTS SHALL PREVAIL. THE CONTRACTOR SHALL MAKE ALL NEEDED CHANGES AS DIRECTED BY THE LANDSCAPE ARCHITECT AND PROVIDE THE OWNER WITH A COMPLETE PROJECT AT NO ADDITIONAL COST TO THE OWNER.

## TREE PLANTING: THE CONTRACTOR SHALL BE RESPONSIBLE TO ADEQUATELY PLAN FOR TREE PLANTING WHILE INSTALLING THE IRRIGATION SYSTEM. NO TREES OR SHRUBS SHALL BE PLANTED DIRECTLY ON TOP OF

REQUIRED WHERE TREES ARE WITHIN 6' FROM CURBS, WALLS, PAVEMENT OR OTHER HARDSCAPE, WHETHER ILLUSTRATED ON THE PLANS OR NOT. SEE DETAILS REGARDING ADDITIONAL ROOT BARRIER REQUIREMENTS.

<u>PLANTING DEPTH:</u> THE CONTRACTOR SHALL PLANT ALL PLANTS AS SHOWN ON THE DETAILS. SHOULD THE CONTRACTOR OVERDIG PLANTING HOLES, AND THE PLANT OR PLANTS SETTLE, THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLANT THESE PLANTS CORRECTLY, SHOULD REPLANTING WEAKEN THE PLANT, THE CONTRACTOR SHALL REPLACE THE PLANT IMMEDIATELY. SHOULD ANY PLANTS SETTLE DURING THE ONE YEAR WARRANTY PERIOD, THEY SHALL BE REPLACED BY THE CONTRACTOR. ALL REPLANTING AND REPLACEMENT SHALL BE DONE BY THE CONTRACTOR WITHIN TWO WEEKS OF NOTIFICATION AT NO ADDITIONAL COST TO THE OWNER. ALL REPLACEMENT PLANTING SHALL BE PROVIDED BY THE CONTRACTOR TO MATCH THE SAME SIZE OF THE SURROUNDING PLANTING (I.E. REPLACEMENT PLANTS FOR I GAL SIZE MAY REQUIRE REPLACEMENT BY 5 GAL, 5 GAL BY 15 GAL, 15 GAL BY 24" BOX ETC.). THE LANDSCAPE ARCHITECT SHALL HAVE THE FINAL DETERMINATION

AS TO WHICH PLANTS ARE PLANTED TOO DEEP AND

IF ANY PLANTS HAVE BEEN WEAKENED BY

REPLANTING AND REQUIRE REPLACEMENT.

### ALL TREE PITS SHALL BE TESTED FOR ADEQUATE DRAINAGE BY FILLING PLANT PIT WITH WATER. IF WATER DOES NOT DRAIN IN R 4 HOURS HOLE MUST BE AUGURED WITH AN 8" Φ (MIN) AUGUR TO A DEPTH OF 48", SOIL REPLACED AND PIT RETESTED. IF PIT FAILS TO DRAIN IN 4 HOURS PIT MUST BE OVEREXCAVATED UNTIL DRAINAGE IS ACHIEVED. SEE DETAILS. IN SHRUB AREAS CONDUCT SAME TEST FOR A MINIMUM OF I - 5 GALLON SHRUB PIT PER EACH PLANTING AREA. IF PIT DRAINS NO

AUGURED PIT DOES NOT DRAIN SHRUB PITS MUST BE

OVEREXCAVATED UNTIL DRAINAGE IS ACHIEVED.

FURTHER TESTING IS REQUIRED. IF PIT FAILS TO DRAIN AUGER AS ABOVE. IF AUGURED PIT DRAINS ALL PLANT PITS IN THE PLANTING AREA MUST BE AUGURED AND RESETTLED BEFORE PLANTING. IF

BACKFILL:
BACKFILL FOR PLANTING WITH 50% CLEAN NATIVE SOIL AND 50% NITROLIZED FOREST HUMUS OR NITROLIZED SAWDUST. PLANT TREES AND SHRUBS WITH TOP OF ROOTBALL SLIGHTLY ABOVE GROUND LEVEL. SET PLANT ON NATIVE GRADE. IF HOLE IS OVERDUG, BACKFILL WITH 3/4" GRAVEL TO POINT WHERE PLANT CROWN IS ABOVE GROUND LEVEL SET PLANT, BACKFILL HALFWAY, TAMP SOIL, ADD FERTILIZER TABLETS THEN COMPLETE BACKFILL. SEE DETAIL. SLOW RELEASE FERTILIZER PACKS SHALL BE ADDED WHEN PLANTING AS FOLLOWS: PER I GALLON, 3 PER 5 GALLON, 6 PER 15 GALLON, 12 PER 24" BOX. PROVIDE WATERING BASIN AROUND EACH PLANT. WATER IMMEDIATELY REMOVE BASINS IN TURF AREAS PRIOR TO

REMOVE STONES, ROOTS AND OTHER DEBRIS FROM THE PLANTING AREA. COMPACTED SOIL SHALL BE RETURNED TO A FRIABLE CONDITION. APPLY WATER AS NEEDED TO OBTAIN OPTIMUM MOISTURE CONTENT FOR SOIL PREPARATION AND PLANTING.

PLANTING TURF.

CONTRACTOR TO TAKE SOIL TEST, GET ANALYSIS AND REPORT TO LANDSCAPE ARCHITECT HOW THIS SPECIFICATION SHOULD BE MODIFIED TO MATCH RECOMMENDATIONS. PROVIDE OWNER WITH ADD OR DEDUCT CHANGE ORDER IF NECESSARY. FOR BID PURPOSES: APPLY 20# GYPSUM/1000 SF OF PLANTER, MIX WELL INTO TOP 6". ADD 8# 16-16-16 AND 4# HYDRA-HUME DG (AVAILABLE FROM HELENA

CHEMICALS) PER 1000 SF. BEFORE PLANTING. PROVIDE 4 CY/1000 SF MATURE COMPOST AND TILL INTO TOP 6" OF SOIL. PROVIDE WEIGHT TAGS OR BAG RECEIPTS TO PROJECT ARCHITECT WITH WORK

CONTRACTOR WILL APPLY RONSTAR OR APPROVED EQUAL PER MANUFACTURER'S REQUIREMENTS AFTER PLANTING. CONFORM TO ALL NATIONAL, STATE AND LOCAL REPORTING REQUIREMENTS. CONTRACTOR WILL MAINTAIN THE PROJECT IN A WEED-FREE CONDITION UNTIL END OF MAINTENANCE PERIOD.

ALL TREES SHALL MEET THE REQUIREMENTS OF THE AMERICAN ASSN. OF NURSERYMEN 'AMERICAN STANDARD FOR NURSERY STOCK'. TREES SHALL BE OF EXCELLENT HEALTH WITHOUT DAMAGED OR CIRCLING ROOTS OR FOLIAR DAMAGE FROM FUNGUS, INSECT, SUN OR WIND EXPOSURE OR OTHER BIOLOGICAL OR CLIMATIC CAUSE. THE LANDSCAPE ARCHITECT OR OWNER RESERVE THE RIGHT TO REJECT UNSUITABLE TREES EVEN AFTER PLANTING. CONTRACTOR SHALL REQUEST EVALUATION FROM LANDSCAPE ARCHITECT PRIOR TO PLANTING IF HE/SHE HAS QUESTIONS REGARDING SUITABILITY. IF EVALUATION REQUIRES A SITE VISIT NOT PREVIOUSLY SCHEDULED, THE COST OF THE EVALUATION SHALL BE BORNE BY THE CONTRACTOR. TREES SHALL BE STAKED PER

TREE CALIPER:
TREES WILL HAVE THE FOLLOWING CALIPER AT 6" ABOVE GRADE:



.75"-1.5" 1.5"-2.5"

<u>MARRANTY PERIOD, MAINTENANCE PERIOD:</u> CONTRACTOR SHALL WARRANT PLANTING AND ALL OF ITS COMPONENTS FOR 12 MONTHS AFTER FINAL ACCEPTANCE OF PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND LABOR ASSOCIATED WITH THE GUARANTEE, INCLUDING BUT NOT LIMITED TO THE LOSS OF PLANT MATERIAL OR DAMAGE TO STRUCTURES. CONTRACTOR SHALL PROVIDE MAINTENANCE OF THE PROJECT FOR 90 DAYS BEGINNING AT SUBSTANTIAL COMPLETION OF THE PROJECT.

THE CONTRACTOR SHALL INSTALL 3" OF WOOD CHIPS OR BARK ON ALL NON-TURF PLANTING

<u>EXISTING TREES</u> THERE ARE EXISTING OLIVE TREES TO BE PRESERVED AND PROTECTED ON SITE. AS PART OF THE CONTRACTOR'S WORK, PROVIDE WATER DURING CONSTRUCTION OF SIDEWALK AND OTHER IMPROVEMENTS TO REDUCE ANY APPARENT STRESS

ON THE TREES. - BRANCHES THAT ARE IN THE WAY DURING CONSTRUCTION AND WHICH MUST BE LIFTED FOR PEDESTRIAN CLEARANCE MUST BE PRUNED UNDER THE SUPERVISION OF A LICENSED ARBORIST USING SHARP TOOLS AND AS DIRECTED BY "GUIDELINE SPECIFICATIONS FOR SELECTING, PLANTING, AND EARLY CARE OF YOUNG TREES" (CALFIRE DOCUMENT) AVAILABLE AT: https://calfire.ca.gov/resource\_mqt/downloads /CÄLFIRE\_Nursery\_Standards\_and\_ SpecsII\_12.pdf ALL PRUNING SHALL BE INCLUDED IN THE CONTRACTORS BID PRICE

EQUIPMENT. - NO MATERIALS, VEHICLES ETC MAY BE STORED OR PARKED WITHIN THE DRIPLINE OF THE EXISTING

- ALL ROOTS OVER 2" MUST BE CLEANLY SAWED

OFF, NOT RIPPED OUT WITH CONSTRUCTION

CITY OF FRESNO SPECIFICATIONS TAKE PRECEDENCE OVER THESE NOTES, PLANS AND

ALL WORK SHALL CONFORM TO SECTION 25 AND 26 OF THE CITY OF FRESNO STANDARD SPECIFICATIONS. AVAILABLE AT: https://www.fresno.gov/publicutilities/wp-content /uploads/sites/16/2016/11/4710CollectionSystem CityofFresnoStandardSpecificat.pdf OR´GOOGLE "CITY OF FRESNO STANDARD SPECIFICATIONS" IF CONFLICTS ARE IDENTIFIED CONTACT THE LANDSCAPE ARCHITECT FOR RESOLUTION.

# WATER EFFICIENT LANDSCAPE WORKSHEET

Date: 6/24/2020 Project: 51.1 Reference Evapotranspiration 0.45 MAWA Allowance

							Estimated	
Hydrozone # and Planting	Plant Factor	Irrigation	Irrigation	ETAF	Landscape		Total Water	
Description	(PF)	Method	Efficiency*	(PF/IE)	Area (sf)	ETAF x Area	Use (ETWU)	
REGULAR LANDSCAPE AREAS								
HZ#1 LOW W.U. SHRUBS								
& TREES - V1, V2, V5, & V6	0.3	BUBBLER	0.81	0.37	23830	8825.93	279622.99	
HZ#2 LOW W.U. TREES - V3 & V4	0.3	BUBBLER	0.81	0.37	866	320.74	10161.71	
			1	Totals	24696	9146.67	289784.69	
				ETWU Total				
	Maximum Allowed Water Allowance (MAWA)					352088.40		

## FTAF Calculations

LTAI Calculations							
CAPE AREA		ALL L	ALL LANDSCAPE AREAS				
1	9146.67	Tota	l ETAF x Area	9146.			
	24696	Tota	l Area	2469			
	0.37	Sitev	wide ETAF	0.3			

drip = .81 spray = .75

**Project Information** Total Landscape Area: Project: Environmental Compliance Center Location: 310 S. West Ave, Fresno CA 93706 Commercial Applicant: Fresno County Department of City of Fresno, Potable Water Source: Public Works and Planning

## **Checklist of Provided Documents:**

✓ Water Efficient Worksheet and Budget Soil Analysis – to be provided prior to Certificate of Completion Planting and Irrigation Plans Grading Plans – by Civil

(.45 for Commercial, .55 for Residential, .65 DSA)

# IRRIGATION NOTES

### VERIFICATION: THE SYSTEM IS BASED ON → P.S.I. AND ♠ G.P.M. AVAILABLE AT THE DISCHARGE OUTLET OF THE METER OR OTHER POINT OF CONNECTION. THE CONTRACTOR SHALL VERIFY THE SAME AT THE AWARD OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY IF THE DATA IS SIGNIFICANTLY DIFFERENT AND WOULD ADVERSELY AFFECT THE OPERATION OF THE SYSTEM. SUCH NOTICE SHALL BE IN WRITING AND SHALL OCCUR WITHIN 5 DAYS OF CONTRACT AWARD FOR PROJECTS ANTICIPATED TO TAKE TWO WEEKS OR LONGER OR 2 HOURS PRIOR TO COMMENCEMENT FOR PROJECTS ANTICIPATED TO TAKE TWO WEEKS OR LESS.

SCHEMATIC:
THE SYSTEM FEATURES ARE SHOWN SCHEMATICALLY
FOR GRAPHIC CLARITY. INSTALL ALL PIPING AND VALVES IN COMMON TRENCHES WHERE FEASIBLE AND INSIDE PLANTING AREAS. VALVES AND MAIN LINES SHALL BE LOCATED IN PLANTER AREAS.

<u>UTILITIES:</u> NO UTILITY SURVEY HAS BEEN PERFORMED. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING UNDERGROUND SERVICE ALERT TWO (2) DAYS PRIOR TO THE START OF WORK. PHONE: 1-800-227-2600. DURING TRENCHING OPERATIONS CONTRACTOR SHALL PROTECT EXISTING UTILITIES IN PLACE. IN THE EVENT OF CONFLICT BETWEEN UTILITIES AND TRENCHING OPERATIONS, CONTRACTOR SHALL HAND DIG TRENCH TO AVOID DAMAGE TO EXISTING UTILITIES.

<u>CODES:</u>
THE IRRIGATION SYSTEM AND ALL OTHER MECHANICAL, ELECTRICAL AND STRUCTURAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES AND MANUFACTURER'S SPECIFICATIONS, RECOMMENDATIONS AND REQUIREMENTS. ALL ELECTRICAL EQUIPMENT SHALL BE U.L LISTED. NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING PRIOR TO SIGNING A CONTRACT OWNER OF ANY CONFLICTS. CONFLICTS NOTED AFTER SIGNING OR AFTER THE COMMENCEMENT OF WORK SHALL BE THE SOLE RESPONSIBILITY OF

ALL MATERIALS SHALL BE INSTALLED IN

THE CONTRACTOR.

ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. NOTIFY ARCHITECT PRIOR TO BIDDING IN THE EVENT OF CONFLICTS BETWEEN MANUFACTURER'S RECOMMENDATIONS, PLANS, DETAILS, NOTES, OR SITE FEATURES.

THE LANDSCAPE ARCHITECT SHALL NEITHER HAVE CONTROL OVER OR CHARGE OF, NOR BE RESPONSIBLE FOR, THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, SINCE THESE ARE SOLELY THE CONTRACTOR'S RIGHTS AND RESPONSIBILITIES UNDER THE CONTRACT

EXAMINE AREAS AND CONDITIONS UNDER WHICH IRRIGATION WORK IS TO BE PERFORMED. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

NO PART OF THIS SYSTEM SHALL BE INSTALLED IN ANY LOCATION OR MANNER WHICH MAY ENDANGER THE HEALTH, SAFETY, OR WELFARE OF THE PUBLIC. OPEN EXCAVATIONS SHALL BE BARRICADED OR COVERED. PROVIDE AND MAINTAIN ALL LIGHTS, WARNING SIGNS, BARRICADES, ETC. AS MAY BE REQUIRED OR NECESSARY TO PROTECT THE PUBLIC. ALL ABOVE GROUND EQUIPMENT SHALL BE INSTALLED ADJACENT TO STRUCTURES, FENCES, OR WALLS, OR IT SHALL BE PERMANENTLY BARRICADED IN SUCH A WAY AS TO PREVENT TRIPPING OVER IT OR RUNNING INTO IT INADVERTENTLY.

PROTECT BUILDINGS, WALKS, WALLS AND OTHER PROPERTY FROM DAMAGE. DAMAGE CAUSED TO ASPHALT, CONCRETE, OR OTHER BUILDING MATERIAL SURFACES SHALL BE REPAIRED OR REPLACED AT NO

COST TO THE OWNER. RESTORE DISTURBED AREAS TO ORIGINAL CONDITIONS. EXPENSES DUE TO VANDALISM BEFORE FINAL ACCEPTANCE SHALL BE BORNE BY THE CONTRACTOR.

INSTALL ANY SLEEVING UNDER ASPHALT OF CONCRETE PAVING WIDER THAN 5' PRIOR TO PAVING OPERATIONS TO ACCOMMODATE PIPING. COMPAC BACKFILL AROUND SLEEVES TO 95 % MODIFIED PROCTOR DENSITY WITHIN 2 % OF OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM DI557 OR AS DIRECTED BY CIVIL ENGINEER. ANY SETTLING OF BACKFILLED TRENCHES WHICH A OCCUR DURING GUARANTEE PERIOD SHALL BE REPAIRED AT NO EXPENSE TO THE OWNER, INCLUDING COMPLETE RESTORATION OF DAMAGED PROPERTY.

TRENCH EXCAVATION SHALL FOLLOW, AS MUCH AS POSSIBLE, LAYOUT SHOWN ON DRAWING. DIG TRENCHES STRAIGHT AND SUPPORT PIPE CONTINUOUSLY ON BOTTOM OF TRENCH. TRENCH BOTTOM SHALL BE CLEAN AND SMOOTH WITH ALL ROCK AND DEBRIS REMOVED. TRENCHES FOR PIPING SMALLER THAN 3 INCHES SHALL HAVE A MINIMUM WIDTH OF 7 INCHES.

PROVIDE NOT LESS THAN 6 INCHES OF CLEARANCE BETWEEN EACH LINE, AND NOT LESS THAN 12 INCHES OF CLEARANCE BETWEEN LINES OF OTHER TRADES. ALL IRRIGATION LINES SHOULD BE A MINIMUM OF 18" BELOW BOTTOM OF BASE COURSE UNDER PAVING. SNAKE PIPE IN TRENCH AS MUCH AS POSSIBLE TO ALLOW FOR EXPANSION AND CONTRACTION. DO NOT INSTALL PIPE WITH AIR TEMPERATURE IS BELOW 40F. WHEN PIPE LAYING IS NOT IN PROGRESS, OR AT END OF EACH DAY, CLOSE PIPE ENDS WITH TIGHT PLUG OF CAP. FLUSH EACH LINE COMPLETELY BEFORE INSERTING NOZZLES. PERFORM WORK IN ACCORDANCE WITH GOOD

PRACTICE PREVAILING IN PIPING TRADES.

HEAD ALLOWANCE:
THE CONTRACTOR IS REQUIRED TO PROVIDE THE OWNER WITH A COMPLETE PROJECT. HE/SHE SHALL INSTALL ANY ADDITIONAL HEADS, NOZZLE CHANGES VALVES, IRRIGATION LINES, WIRE, ETC. AS NECESSARY TO ACCOMMODATE ANY NECESSARY FIELD CHANGES. THE CONTRACTOR SHALL MAKE ALL NEEDED CHANGES AS DIRECTED BY THE LANDSCAPE ARCHITECT AND PROVIDE THE OWNER WITH A COMPLETE PROJECT AT NO ADDITIONAL COST TO THE OWNER.

CHECK VALVES:
INSTALL CHECK VALVES AT THE BASE OF ANY LINES OR HEADS THAT DISPLAY LOW END DRAINAGE. THESE SHALL BE INCLUDED IN THE CONTRACTORS PRICE AND SHALL BE ADDED AS DIRECTED BY THE ARCHITECT AND PROVIDE THE OWNER WITH A COMPLETE PROJECT WITH NO ADDITIONAL COST TO THE OWNER.

<u>SLEEVING:</u> THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATELY SIZED SLEEVING FOR ALL IRRIGATION, LIGHTING AND OTHER LANDSCAPE COMPONENTS. THE DRAWINGS ARE INTENDED TO BE A GUIDE ONLY. SLEEVES SHALL BE CLEARLY MARKED DURING CONSTRUCTION AND SHALL OCCUR UNDER ALL PAVED AREAS WIDER THAN 5' AND SHALL EXTEND I' MINIMUM BEYOND ALL PAVING.

ELECTRICAL SERVICE ALL EXPOSED IIOV WIRES SHALL BE PLACED IN RIGID METAL CONDUIT AND HARD WIRED DIRECTLY TO 110Y SERVICE. ALL EXPOSED LOW VOLTAGE WIRE FOR IRRIGATION SHALL ALSO BE PLACED IN RIGID METAL CONDUIT.

WHILE TRENCHES ARE OPEN PLACE ALL LINES UNDER WORKING PRESSURE FOR 2 HOURS UNDER OBSERVATION OF OWNER'S REPRESENTATIVE. REPAIR OR REPLACE ANY DEFECTIVE ELEMENTS AND REPEAT TEST UNTIL ALL VISIBLE LEAKS STOP.

FINAL ACCEPTANCE: OPERATE EACH IRRIGATION ZONE FOR THE LANDSCAPE ARCHITECT. ITEMS DEEMED NOT ACCEPTABLE SHALL BE REPAIRED OR REPLACED TO SATISFACTION.

WARRANTY/GUARANTEE MANUFACTURERS SHALL WARRANTY MATERIALS AGAINST DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. INSTALLER SHALL GUARANTEE WORKMANSHIP FOR THE SAME PERIOD.

<u>CITY OF FRESNO SPECIFICATIONS TAKE</u> <u>PRECEDENCE OVER THESE NOTES, DETAILS</u> AND PLANS. WORK SHALL CONFORM TO SECTION 25 AND 26 OF THE CITY OF FRESNO STANDARD SPECIFICATIONS. AVAILABLE

https://www.fresno.gov/publicutilities/wp-content /uploads/sites/16/2016/11/4710CollectionSystem CityofFresnoStandardSpecificat.pdf OR 7 GOOGLE "CITY OF FRESHO STANDARD SPECIFICATIONS" IF CONFLICTS ARE IDENTIFIED CONTACT THE LANDSCAPE ARCHITECT FOR RESOLUTION.

# WATER EFFICIENT LANDSCAPE ORDINANCE CERTIFICATIONS

2. BY LANDSCAPE ARCHITECT:

For the Civil Engineer

**REGULAR LANDSC** 

Total ETAF x Area

Total Area

Average ETAF

"I/We agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package:

Capital Projects

For the Applicant

"I have complied with the criteria of the ordinance and applied them for the efficient

use of water in the landscape and irrigation plans" 12.16.2020

K. S. Hutmacher, ASLA, RLA #2455 Date 3. BY THE CIVIL ENGINEER

"I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the grading design plan"

4. The LANDSCAPE CONTRACTOR will be required to certify that the project has been installed per plan on the City's Certificate of Completion, available from the City. At this time, Contractor will be also be required to deliver the project Irrigation Schedule,

Date

License No.

Maintenance Schedule and Irrigation Audit to the Owner, with copies to the City. include these services in Bid Price. 5. The Certificate of Completion will also require the Owner to certify that the Landscape

Documentation materials have been received and that the Owner will maintain the project in accordance with the irrigation and maintenance schedules.

# **Project:**

**Environmental Compliance Center** Project Address: 310 S. West Avenue, Fresno CA 93706 APN: 458-060-72 Issue Date:

Project No. T90203 File Path: G:Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center\ 00

# **Sheet Content:**

# LANDSCAPE **NOTES & WELO**

Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor Fresno, California 93721

Sheet No.

Plotted on: 12.16.2020

LARS ANDERSEN & ASSOCIATES, INC. CIVIL ENGINEERS - LAND SURVEYORS - PLANNERS 4694 WEST JACQUELYN AVENUE - FRESNO, CA 93722 PHONE 559 276-2790 FAX 559 276-0850

Sierra Designs, Inc

113 N. Church Street, Suite 310 Visalia, California 93291 Tele: 559.733.3690 SDI No. 20-024 • 12.16.20

