

VICINITY MAP

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

310 S. West Avenue  
Fresno CA, 93706

**PROJECT DATA:**

PROJECT NAME:  
FRESNO COUNTY ENVIRONMENTAL COMPLIANCE CENTER SITE IMPROVEMENT AND SHADE STRUCTURE

ADDRESS:  
310 S. WEST AVENUE, FRESNO, CA. 93706

APN: 458-060-72

SITE AREA: 2.68 ACRE

SHADE STRUCTURE COVERED AREA: 3,152 SF

TYPE OF CONSTRUCTION: V-B

OCCUPANCY GROUP: UTILITY AND MISCELLANEOUS (U)

ZONING: M-I LIGHT MANUFACTURING DISTRICT

**SCOPE OF WORK:**

THE WORK CONSISTS OF CONSTRUCTION OF A NEW 3,073 SQUARE FEET SHADE STRUCTURE BUILDING, A 1500 GALLON UNDERGROUND LIQUID RECOVERY TANK, AN EMERGENCY EYEWASH/SHOWER STATION, ASPHALT PAVED DRIVEWAYS, PAVED CONCRETE WORK YARD, PARKING LOT, AND ASSOCIATED SITE IMPROVEMENTS. THE WORK ALSO INCLUDES THE PROSPECTIVE CONTRACTOR'S LABOR AND MATERIAL TO INSTALL HAZMAT AND STORAGE CONTAINERS.

**STRUCTURES UNDER SEPARATE PERMIT:**

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

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

**DEFERRED APPROVAL:**

1. 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 MARSHAL 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 BETWEEN 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 REQUIRED FIRE INSPECTIONS HAVE BEEN COMPLETED BY THE FIRE DEPARTMENT.

**GENERAL NOTES:**

1. 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 (1) ONE NFPA CLASS 2A-10BC 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.
11. CONSTRUCTION WASTE MANAGEMENT PLAN MUST BE FINALIZED PRIOR TO OCCUPANCY.

**FRESNO FIRE DEPARTMENT NOTES:**

1. 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 WEBSITE 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 10-50408.4 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 10-50412.2.3.

**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 1 - 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 11 - 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 (GA AMENDED)
- 2019 NFPA 72, NATIONAL FIRE ALARM CODE (GA AMENDED); SEE UL STD. 1911 FOR "VISUAL DEVICES"

**SHEET INDEX:**

60.0 COVER

**CIVIL SHEETS 8 SHEETS**

- C1.0 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
- C7.0 EROSION CONTROL DETAILS
- C8.0 CONSTRUCTION DETAILS

**ARCHITECTURAL SHEETS 9 SHEETS**

- A1.1 OVERALL SITE PLAN
- A1.2 ENLARGED SITE PLAN
- A2.1 FLOOR PLAN & EXTERIOR ELEVATIONS
- A2.2 SECTION & DETAILS
- A2.3 CONTAINERS: HAZMAT CONTAINER REUSE CENTER, USED OIL STORAGE
- A2.4 CONTAINERS: SEATRAN STORAGE CONTAINERS, HAZMAT-FREEZE TANK STORAGE UNIT, ANTI-FREEZE TANK STORAGE UNIT
- A3.1 CALGREEN COMPLIANCE SHEET 1
- A3.2 CALGREEN COMPLIANCE SHEET 2
- A3.3 CALGREEN COMPLIANCE SHEET 3

**STRUCTURAL SHEETS 5 SHEETS**

- S1.1 STRUCTURAL NOTES
- S1.2 STRUCTURAL NOTES
- S2.1 FOUNDATION PLAN
- S2.2 ROOF FRAMING PLAN
- S3.1 STRUCTURAL DETAILS

**PLUMBING SHEETS 3 SHEETS**

- P1.0 PLUMBING SITE PLAN
- P1.3 SHADE STRUCTURE PLUMBING PLAN
- P2.0 PLUMBING SCHEDULE AND DETAILS

**ELECTRICAL SHEETS 6 SHEETS**

- E1.1 ELECTRICAL NOTES AND SYMBOLS
- E1.2 LIGHTING SCHEDULES AND DETAILS
- E1.3 POWER DETAILS AND SCHEDULES
- E1.4 TITLE 24 COMPLIANCE DOCUMENTS
- E2.1 ELECTRICAL SITE PLAN
- E3.1 SHADE STRUCTURE/ ELECTRICAL PLANS

**LANDSCAPE SHEETS 4 SHEETS**

- L1.0 IRRIGATION PLAN
- L2.0 PLANTING PLAN
- L3.0 LANDSCAPE DETAILS
- L4.0 LANDSCAPE NOTES AND IPELO

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  
E-MAIL: TPEREZ@FRESNOCOUNTY.GOV

**CONSULTANTS:**

CIVIL / LANDSCAPE ENGINEER OF RECORD:

LARS ANDERSEN & ASSOCIATES, INC.  
DANIEL ZOLDAK  
LIC # RCE 66124  
4614 N. JAGGUELYN AVE.  
FRESNO CA, 93722  
OFFICE: 554-276-2190  
E-MAIL: LAINFO@LARSANDERSEN.COM

STRUCTURAL ENGINEER OF RECORD:

556 STRUCTURAL ENGINEERS, LLP  
MICHAEL PAROLINI  
LIC # 5405  
2405 NORTH FRESNO STREET, SUITE 120  
FRESNO CA, 93720  
OFFICE: 554-434-2120  
E-MAIL: MICHAEL.PAROLINI@556SE.COM

MECHANICAL / PLUMBING ENGINEER OF RECORD:

LAWRENCE ENGINEERING GROUP  
MICHAEL CANTEMI  
LIC # 122558  
7084 NORTH MAPLE AVENUE, SUITE 101  
FRESNO CA, 93720  
OFFICE: 554-431-0101  
E-MAIL: MIKE@LEGFRESNO.COM

ELECTRICAL ENGINEER OF RECORD:

HARDIN DAVIDSON ENGINEERING  
SCOTT DAVIDSON  
LIC # E17850  
356 FOLLASKY AVENUE SUITE 200  
CLOVIS CA, 93612  
OFFICE: 554-323-4495  
E-MAIL: SD@HARDIN-DAVIDSON.COM

ARCHITECTURAL CONSULTANT:

DYSON & JANZEN ARCHITECTS  
1245 N. WISHON AVE. SUITE 101  
FRESNO CA, 93728  
OFFICE: 554-447-6370  
E-MAIL: ADYSON@DYSONJANZEN.COM

The Information on this Drawing is acceptable and shall define the Scope of Work to develop this Project. Any significant changes to the Scope of Work shall be approved by the Client Department.

Submitted by: \_\_\_\_\_

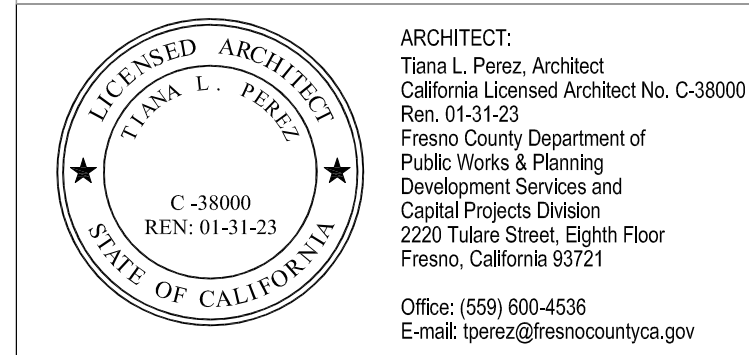
Title: \_\_\_\_\_

Date: \_\_\_\_\_

Accepted by: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_



**Fresno County Environmental Compliance Center Phase 1: 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 2018 ECC

Sheet Content:  
Cover Sheet

Fresno County Department of Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No.  
**G0.0**

2	Bid Addendum 2 5-21-2021	A	Plan Review Corrections 5-21-2021
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**CONSTRUCTION GENERAL PERMIT NOTE**

**WDD#:**

EXEMPT-UNDER 1 ACRE OF DISTURBED SOIL  
 WAIVER

NOI/SWPPP

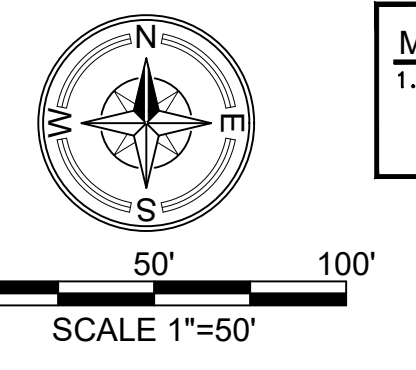
RISK LEVEL 1  
 RISK LEVEL 2  
 RISK LEVEL 3

**NOTE:**

- IF CONSTRUCTION SCHEDULE CHANGES CONTRACTOR IS TO NOTIFY OSP TO DETERMINE IF WAIVER NOI/SWPPP REQUIREMENTS CHANGE.
- CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION OF SWPPP REQUIREMENTS IF A WAIVER IS NO LONGER VALID DUE TO CONSTRUCTION SCHEDULE CHANGES.
- CONTRACTOR IS TO OBTAIN SWPPP AND PRDS FROM QSD.

**ABBREVIATIONS:**

AC	ASPHALT CONCRETE	C.S.P.	CORRUGATED STEEL PIPE	GAR. BARK.	GRADE BREAK	R/W	RIGHT-OF-WAY
AP	ASSESSORS PARCEL NUMBER	D	DIRT	L	LENGTH	SD	SLOPE, SOUTH
BEG.	BEGIN	D/W	DRIVEWAY	LP	GUTTER LIP	S	STORM DRAIN
B/W, BMW	BACK OF CONC. WALK	EEC	END OF CURB	LS	LANDSCAPE AREA	SW	SWALES
BOB	BOTTOM OF BASIN	ELEV.	ELEVATION	LTV	LEFT	ATC, T/C	TOP OF CURB
C	CURB, CONCRETE	EPA	EDGE OF AC PAVEMENT	N.T.S.	NOT TO SCALE	TOB	TOB OF BASIN
CHG. ELK.	CHAIN LINK (FENCE)	EXIST., (E)	EXISTING	OH	OVERHEAD UTILITY LINES	TYP.	TYPICAL
JCL	CENTER LINE	E OH	ELECTRIC OVERHEAD	P. PAVE.	PAVEMENT	TRW	TOP OF WALL
C.N.S.	COMPACTED NATIVE UPGRADE	FL	LOWLINESS	PROP.	PROPOSED	VR.	VARIABLE, VARIABLE
CONC.	CONCRETE	FWY, F/W	FRONT OF WALK	R	RADIUS, RIGHT	W	WATER
CONST.	CONSTRUCT	HW	HIGH WATER	RIEL.	RELOCATE, RELATIVE	WES	WATER SERVICE



**Monumentation Note:**

1. 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.

**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 N0°07'03"E PER PARCEL MAP NO. 2008-15, 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, OR FLOODING HAZARD TO ITSELF AND SURROUNDING PROPERTIES.

DANIEL J. ZOLDAK, PE \_\_\_\_\_ DATE \_\_\_\_\_  
 LIC. No.: \_\_\_\_\_ EXP: \_\_\_\_\_

**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, SALTING, 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 SWEEPED.

**NOTES:**

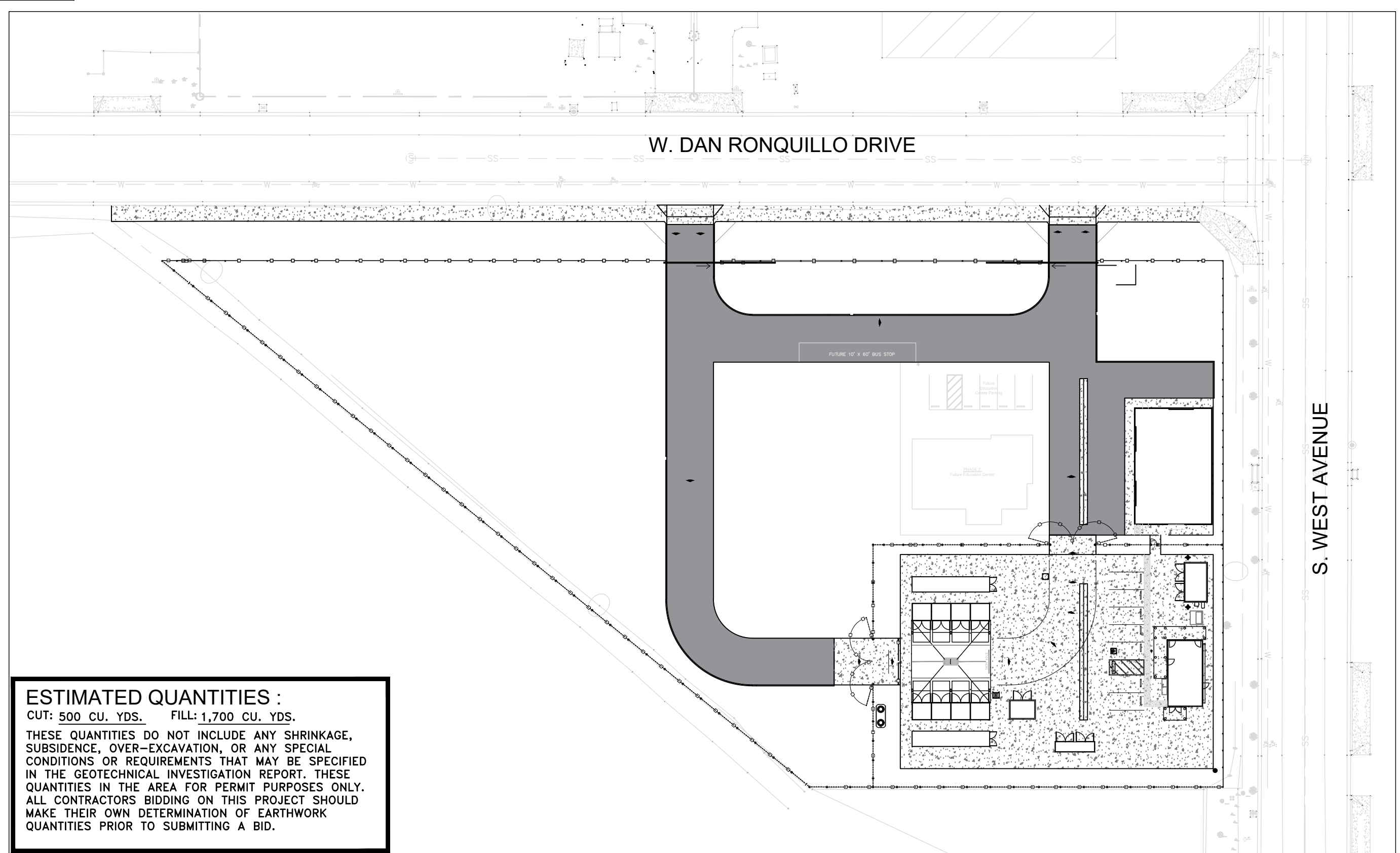
- IN THE EVENT OF CONFLICTING PROVISIONS BETWEEN THE SPECIFICATIONS AND DRAWINGS; THE MORE SPECIFIC WILL TAKE PRECEDENCE OVER THE LESS SPECIFIC; THE MORE STRINGENT WILL TAKE PRECEDENCE OVER THE LESS STRINGENT. ON ALL THE DRAWINGS, FIGURES TAKE PRECEDENCE OVER SCALED DIMENSIONS. SCALING OF DIMENSIONS, IF DONE IS DONE AT CONTRACTOR'S OWN RISK.
- NO OPEN BURNING SHALL OCCUR ON THE PROJECT SITE UNLESS A LAND CLEARING PERMIT IS OBTAINED FROM THE DISTRICT.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL PROVIDE THE COUNTY OF FRESNO AND LARS ANDERSEN & ASSOCIATES, INC. WITH AN AS-BUILT M/LA PLANS. PLANS ARE TO BE SUBMITTED UPON COMPLETION OF PROJECT PRIOR TO ACCEPTANCE.
- 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.
- 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.
- 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.
- 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 MEASURES 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.



**ESTIMATED QUANTITIES:**

CUT: 500 CU. YDS. FILL: 1,700 CU. YDS.

THESE QUANTITIES DO NOT INCLUDE ANY SHRINKAGE, SUBSIDENCE, OVER-EXCAVATION, OR ANY SPECIAL CONDITIONS OR REQUIREMENTS THAT MAY BE SPECIFIED IN THE GEOTECHNICAL INVESTIGATION REPORT. THESE QUANTITIES IN THE AREA FOR PERMIT PURPOSES ONLY. ALL CONTRACTORS BIDDING ON THIS PROJECT SHOULD MAKE THEIR OWN DETERMINATION OF EARTHWORK QUANTITIES PRIOR TO SUBMITTING A BID.

**LOCATION PLAN**

**STANDARD LEGEND & SYMBOLS:**

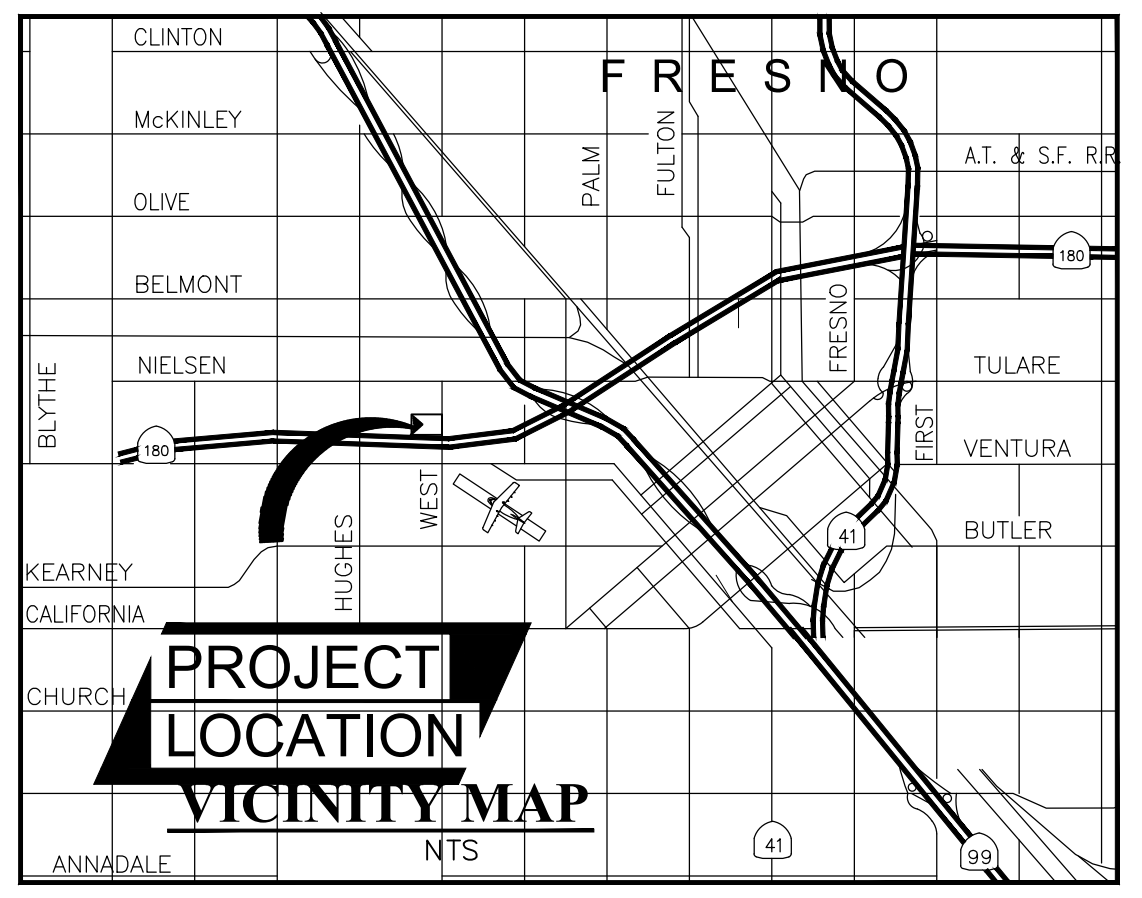
	EXISTING TREE
	EXISTING LANDSCAPE BUSHES
	CENTERLINE
	EXISTING CONCRETE CURB
	EXISTING CONCRETE CURB & GUTTER
	EXISTING CHAIN LINK FENCE
	EXISTING BLOCK WALL FENCE
	EXISTING POWER POLE
	EXISTING RIGHT-OF-WAY LINE
	EXISTING TRAFFIC SIGN
	EXISTING NATURAL GAS LINE
	EXISTING WATER MAIN AND GATE VALVE
	EXISTING EDGE OF AC PAVEMENT
	PROPOSED CHAIN LINK FENCE
	PROPOSED GROUND SLOPE
	PROPOSED CONCRETE CURB & GUTTER
	PROPOSED CONCRETE CURB
	PROPOSED CONCRETE SIDEWALK
	PROPOSED OFF-SITE AC PAVING
	PROPOSED TRENCH BACKFILL AND SURFACE REPLACEMENT AREA
	PROPOSED STORM DRAIN PIPE AND OUTFALL STRUCTURE
	PROPOSED SAWDUST LINE
	PROPOSED CATCH BASIN/CURB INLET
	CONSTRUCTION NOTES SYMBOL

**SHEET INDEX**

SHEET NO.	DESCRIPTION
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

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

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



**GENERAL CONSTRUCTION NOTES:**

- ALL CURB AND/OR GUTTER SHALL BE WATER TESTED UNDER THE DIRECTION AND IN THE PRESENCE OF THE ENGINEER AND/OR PROJECT REPRESENTATIVE.
- ALL UTILITY MANHOLES/BOXES AFFECTED BY THIS PROJECT SHALL BE ADJUSTED TO GRADE AS NECESSARY AND INCLUDED IN THIS WORK.
- 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.
- 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.
- RELATIVE COMPACTION TESTS MUST BE WITHIN TWO PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT TO BE CONSIDERED AS PASSING.
- THE COSTS OF ALL REPEAT TESTING REQUIRED FOR ACCEPTANCE OF WORK SHALL BE FULLY BORNE BY THE CONTRACTOR.
- ALL WATER MAIN VALVES (CAP AND LID) SHALL BE ADJUSTED TO GRADE.
- ADJUSTMENT TO BUILDING PAD ELEVATIONS OR PARKING LOT GRADES TO ACHIEVE EARTHWORK BALANCE SHALL BE MADE ONLY WITH APPROVAL OF THE ENGINEER.
- 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.
- 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.
- 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 EXCAVATION REAS CAPS REQUIRED TO BE PROVIDED FOR REPLACEMENT OF EXISTING MONUMENTS SHALL BE DONE SOLELY AT THE CONTRACTORS EXPENSE.
- NOT USED.
- 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.
- ALL GRADING SHALL CONFORM TO THE UNIFORM BUILDING CODE APPENDIX J, C.B.C. 2019.
- 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.
- IT IS THE CONTRACTOR'S RESPONSIBILITY FOR THE LOCATION AND PROTECTION OF ALL UTILITIES.
- 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.
- ALL SITE WORK SHALL BE IN CONFORMANCE WITH TITLE 24 OF CALIFORNIA ADMINISTRATIVE CODE.
- 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 DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO 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.
- 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.
- 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.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE O.S.H.A. REGULATIONS.
- 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 DESIGN PROFESSIONAL.
- UNDERGROUND UTILITY TRENCH BACKFILL TO BE TESTED AND WRITTEN REPORT SUBMITTED TO THE BUILDING OFFICIAL BY THE SOILS ENGINEER.
- ALL GRADING AND EROSION CONTROL SHALL BE DONE IN CONFORMANCE WITH CURRENT STATE BMP'S.
- ALL RELATIVE COMPACTION ON STREETS SHALL CONFORM TO SECTION 19-5.03 OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS LATEST EDITION (TYPICAL).
- PRIOR TO EXCAVATION, CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES. CALL 811 TO HAVE UTILITIES LOCATED AND MARKED.
- DUST CONTROL SHALL CONFORM TO THE PROVISIONS IN SECTION 10 OF THE STATE STANDARD SPECIFICATIONS.
- 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.
- 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.
- ALL PORTLAND CEMENT CONCRETE TO BE 3,500 PSI UNLESS NOTED OTHERWISE.
- 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.
- CONTRACTOR SHALL HAVE ONE COPY OF FMCD AND FRESNO COUNTY STANDARD AND SPECIFICATIONS BOOK ON-SITE DURING CONSTRUCTION.

	Bid Addendum 2 5-21-2021		Plan Review Corrections 5-21-2021
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**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 2018 ECC

**Sheet Content:**

COVER SHEET

Fresno County Department of  
 Public Works and Planning  
 Capital Projects

2220 Tulare Street, 8th Floor  
 Fresno, California 93721



**Sheet No. C1.0**

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

PREPARED UNDER THE DIRECTION OF:

DANIEL J. ZOLDAK  
 FCE 66124



## GENERAL NOTES :

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.  
B. TRENCH BACKFILL.  
C. 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)  
F. 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 TO CONFIRM THICKNESS OF BASE ROCK.

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 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	100
PERCENT PASSING NO. 4 SIEVE	85-100
PERCENT PASSING NO. 200 SIEVE	10-40
MAXIMUM 12	MAXIMUM 12
EXPANSION INDEX (ASTM D4829)	LESS THAN 15
R-VALUE	MINIMUM 40*
MINIMUM RESISTIVITY (OHMS-CM)	>5,000
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, 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 THE SOILS ENGINEER 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 CODE.

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 A.M. TO 5:00 P.M. ON WEEKENDS WITH WRITTEN APPROVAL OF THE PUBLIC WORKS DIRECTOR.

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 CONSTRUCTION.
- 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 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 FREETBOARD.
- 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 ANY ONE TIME.

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 CORNER 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."

## ASPHALT PAVEMENT

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 SURFACE 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, WHICHEVER IS MOST STRINGENT.

## 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 GEOTECHNICAL 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 SITE, 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.

64. NOT USED

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 (INCLUDING PHOTOGRAPHER'S WORK ASSOCIATED WITH THE FINAL REPAIR) WILL BE THE CONTRACTOR'S. AIR 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, CRACKING OR JOINT FAILURE OR ANY PIPE NOT LAID TO TRUE LINE AND GRADE, SHALL BE REPLACED. ALL COST ASSOCIATED WITH THE FINAL REPAIR AND COLORED DVD WILL BE THE CONTRACTORS.

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 FINISHING OF THE FINISHED PAVEMENT GRADE. AFTER THE SITE IS PAVED AND COLORED DVD TO THE PROJECT'S ENGINEER AFTER THE FINAL CAMERA INSPECTION.

70. NOT USED.

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 HAVE 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 CHLORINATION, 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 GOVERNING AGENCIES.

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 THERON.

78. ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. EXCEPT AS NOTED ON PLAN.

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 LINES.

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 GRADE 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 ACHIEVED.

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 FINE 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.

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 PERSONNEL.

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



98. GRADING

99. 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.

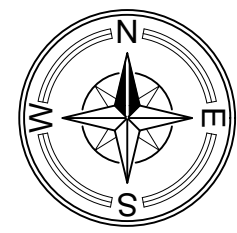
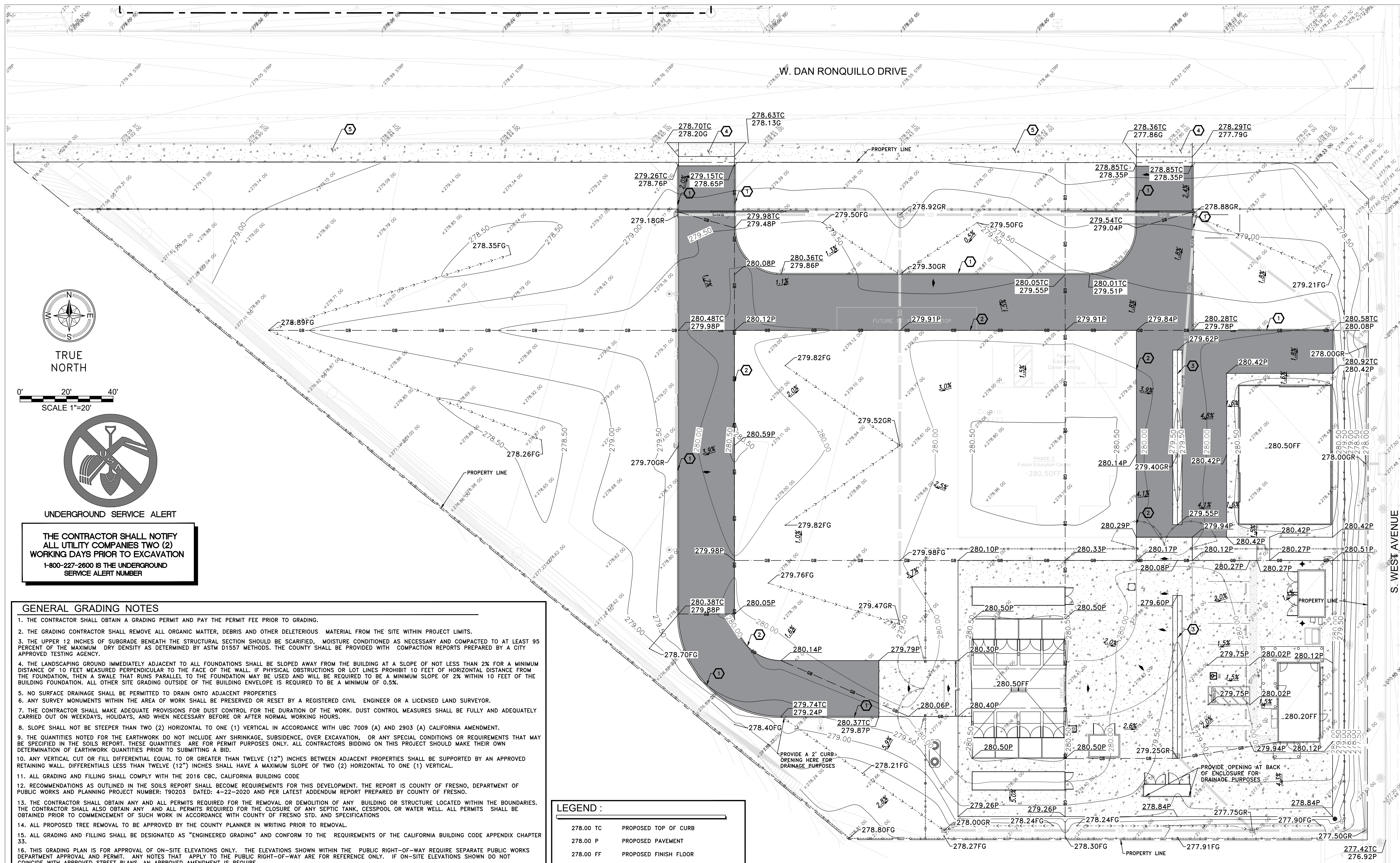
99. THE SOILS REPORT SHALL BE STRICTLY ADHERED TO IN THE GRADING AND CONSTRUCTION OF THE PROJECT.

## AIR QUALITY

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 SHALL BE MADE AVAILABLE FOR DISTRICT INSPECTION UPON REQUEST.  
-FOR EACH PROJECT PHASE, MAINTAIN RECORDS OF (1) THE CONSTRUCTION START AND END DATES AND (2) THE DATE OF ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY, IF APPLICABLE.

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TRUE NORTH

0' 20' 40'  
SCALE 1"=20'



UNDERGROUND SERVICE ALERT

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

**GENERAL GRADING NOTES**

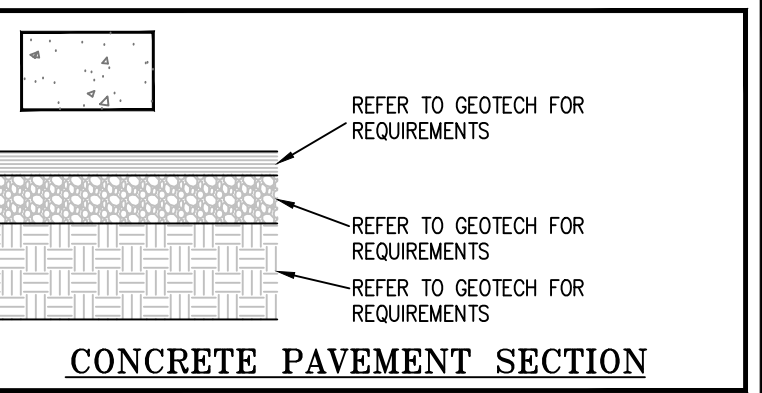
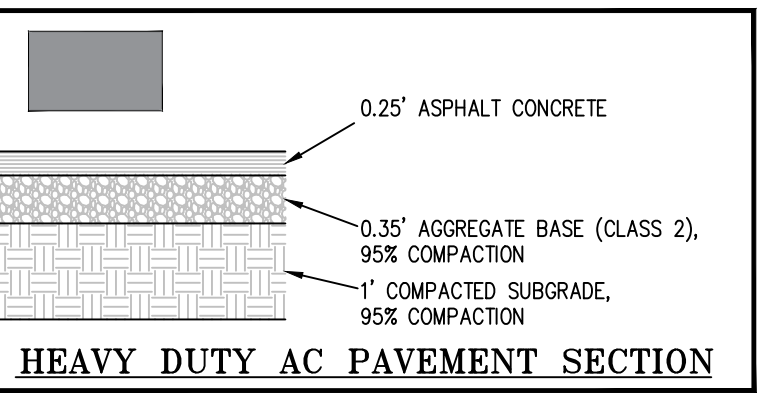
1. THE CONTRACTOR SHALL OBTAIN A GRADING PERMIT AND PAY THE PERMIT FEE PRIOR TO GRADING.
2. THE GRADING CONTRACTOR SHALL REMOVE ALL ORGANIC MATTER, DEBRIS AND OTHER DELETERIOUS MATERIAL FROM THE SITE WITHIN PROJECT LIMITS.
3. THE UPPER 12 INCHES OF SUBGRADE BENEATH THE STRUCTURAL SECTION SHOULD BE SCARIFIED, MOISTURE CONDITIONED AS NECESSARY AND COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 METHODS. THE COUNTY SHALL BE PROVIDED WITH COMPACTION REPORTS PREPARED BY A CITY APPROVED TESTING AGENCY.
4. THE LANDSCAPING GROUND IMMEDIATELY ADJACENT TO ALL FOUNDATIONS SHALL BE SLOPED AWAY FROM THE BUILDING AT A SLOPE OF NOT LESS THAN 2% FOR A MINIMUM DISTANCE OF 10 FEET MEASURED PERPENDICULAR TO THE FACE OF THE WALL. IF PHYSICAL OBSTRUCTIONS OR LOT LINES PROHIBIT 10 FEET OF HORIZONTAL DISTANCE FROM THE FOUNDATION, THEN A SWALE THAT RUNS PARALLEL TO THE FOUNDATION MAY BE USED AND WILL BE REQUIRED TO BE A MINIMUM SLOPE OF 2% WITHIN 10 FEET OF THE FOUNDATION. ALL OTHER SITE GRADING OUTSIDE OF THE BUILDING ENVELOPE IS REQUIRED TO BE A MINIMUM OF 0.5%.
5. NO SURFACE DRAINAGE SHALL BE PERMITTED TO DRAIN ONTO ADJACENT PROPERTIES.
6. ANY SURVEY MONUMENTS WITHIN THE AREA OF WORK SHALL BE PRESERVED OR RESET BY A REGISTERED CIVIL ENGINEER OR A LICENSED LAND SURVEYOR.
7. THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR DUST CONTROL FOR THE DURATION OF THE WORK. DUST CONTROL MEASURES SHALL BE FULLY AND ADEQUATELY CARRIED OUT ON WEEKDAYS, HOLIDAYS, AND WHEN NECESSARY BEFORE OR AFTER NORMAL WORKING HOURS.
8. SLOPE SHALL NOT BE STEEPER THAN TWO (2) HORIZONTAL TO ONE (1) VERTICAL IN ACCORDANCE WITH UBC 7009 (A) AND 2903 (A) CALIFORNIA AMENDMENT.
9. THE QUANTITIES NOTED FOR THE EARTHWORK DO NOT INCLUDE ANY SHRINKAGE, SUBSIDENCE, OVER EXCAVATION, OR ANY SPECIAL CONDITIONS OR REQUIREMENTS THAT MAY BE SPECIFIED IN THE SOILS REPORT. THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. ALL CONTRACTORS BIDDING ON THIS PROJECT SHOULD MAKE THEIR OWN DETERMINATION OF EARTHWORK QUANTITIES PRIOR TO SUBMITTING A BID.
10. ANY VERTICAL CUT OR FILL DIFFERENTIAL EQUAL TO OR GREATER THAN TWELVE (12") INCHES BETWEEN ADJACENT PROPERTIES SHALL BE SUPPORTED BY AN APPROVED RETAINING WALL. DIFFERENTIALS LESS THAN TWELVE (12") INCHES SHALL HAVE A MAXIMUM SLOPE OF TWO (2) HORIZONTAL TO ONE (1) VERTICAL.
11. ALL GRADING AND FILLING SHALL COMPLY WITH THE 2016 CBC, CALIFORNIA BUILDING CODE.
12. RECOMMENDATIONS AS OUTLINED IN THE SOILS REPORT SHALL BECOME REQUIREMENTS FOR THIS DEVELOPMENT. THE REPORT IS 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. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED FOR THE REMOVAL OR DEMOLITION OF ANY BUILDING OR STRUCTURE LOCATED WITHIN THE BOUNDARIES. THE CONTRACTOR SHALL ALSO OBTAIN ANY AND ALL PERMITS REQUIRED FOR THE CLOSURE OF ANY SEPTIC TANK, CESSPOOL OR WATER WELL. ALL PERMITS SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF SUCH WORK IN ACCORDANCE WITH COUNTY OF FRESNO STD. AND SPECIFICATIONS.
14. ALL PROPOSED TREE REMOVAL TO BE APPROVED BY THE COUNTY PLANNER IN WRITING PRIOR TO REMOVAL.
15. ALL GRADING AND FILLING SHALL BE DESIGNATED AS "ENGINEERED GRADING" AND CONFORM TO THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE APPENDIX CHAPTER 33.
16. THIS GRADING PLAN IS FOR APPROVAL OF ON-SITE ELEVATIONS ONLY. THE ELEVATIONS SHOWN WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRE SEPARATE PUBLIC WORKS DEPARTMENT APPROVAL AND PERMIT. ANY NOTES THAT APPLY TO THE PUBLIC RIGHT-OF-WAY ARE FOR REFERENCE ONLY. IF ON-SITE ELEVATIONS SHOWN DO NOT COINCIDE WITH APPROVED STREET PLANS, AN APPROVED AMENDMENT IS REQUIRED.

**LEGEND :**

- 278.00 TC PROPOSED TOP OF CURB
- 278.00 P PROPOSED PAVEMENT
- 278.00 FF PROPOSED FINISH FLOOR
- 278.00 FG PROPOSED FINISH GRADE
- 278.00 GR PROPOSED GRATE ELEVATION
- 278.00- PROPOSED CONTOURS
- - - - - INSTALL DRAINAGE SWALE PER DETAIL ON SHEET C8.0
- - - - - PROPOSED GRADE BREAK
- - - - - EXISTING GRADE
- - - - - EXISTING CHAIN LINK FENCE
- - - - - EXISTING EDGE OF PAVEMENT
- - - - - EXISTING GROUND COUNTOUR

**GRADING AND DRAINAGE CONSTRUCTION SYMBOLS**

1. INSTALL 6" AC DIKE PER DETAIL ON SHEET C8.0. PROVIDE A 2' WIDE OPENING EVERY 10' O.C. FOR DRAINAGE PURPOSES.
  2. INSTALL REDWOOD HEADER AT PAVEMENT EDGE PER DETAIL ON SHEET C8.0.
  3. INSTALL CONCRETE VALLEY GUTTER PER DETAIL ON SHEET C8.0.
  4. INSTALL 24" WIDTH COMMERCIAL DRIVEWAY ENTRANCE PER CITY OF FRESNO STD. P-2.
  5. INSTALL 8" WIDE CONCRETE SIDEWALK BEHIND EXISTING CURB AND GUTTER PER CITY OF FRESNO STD. P-5.
- ENCROACHMENT PERMIT REQUIRED FROM THE CITY OF FRESNO



**FLOOD INFORMATION**

THIS PROPERTY IS LOCATED IN ZONE "X" OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 06019C2110H, WHICH BEARS AN EFFECTIVE DATE OF 02/18/2009 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE AND AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR APPLY FOR A VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY. ZONE "X" DENOTES AREAS MODERATE TO LOW RISK.

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

PREPARED UNDER THE DIRECTION OF:  
*Daniel J. Zoldak*  
DANIEL J. ZOLDAK FCE 66124

2	Bid Addendum 2 5-21-2021	▲	Plan Review Corrections 5-21-2021
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**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 2018 ECC

**Sheet Content:**  
GRADING PLAN

Fresno County Department of  
Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No. C3.0



**UTILITY NOTES :**

- ALL WATER MAIN INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF 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.
- 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 BERTSSEN "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 WITH CONCRETE MARKER.
- 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 LABOR FOR THE UTILITIES.
- CONTRACTOR TO PROVIDE A 30" MINIMUM COVER FOR WATER PIPES LESS THAN 12" AND 36" MINIMUM COVER FOR PIPES LARGER THAN 12" OR AS NOTED PER MANUFACTURERS SPECIFICATIONS WHICHEVER IS MORE STRINGENT.
- ALL ONSITE SANITARY SEWER P.V.C. PIPE SHALL CONFORM TO ASTM SPECIFICATIONS D-3034-SDR 26.
- 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.
- NO MATERIAL GREATER THAN 4" IN ANY DIMENSION SHALL BE PLACED WITHIN ONE FOOT OF ANY PIPE, MANHOLE OR STRUCTURE.
- 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.
- CONTRACTOR SHALL OBTAIN ENCROACHMENT PERMIT PRIOR TO START OF WORK FOR ANY WORK IN THE CITY RIGHT-OF-WAY.
- 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.
- 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.
- 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 SHALL BE PC 305.
- 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.
- NOTIFY U.S.A. AT 811 AT LEAST TWO WORKING DAYS PRIOR TO STARTING TRENCHING.
- 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.
- CONTRACTOR TO PROVIDE 2 HOUR @200PSI HYDROSTATIC PRESSURE TEST. CONTRACTOR TO NOTIFY FIRE DEPARTMENT OF JOINTS AND FITTINGS BEFORE TRENCHES ARE BACKFILLED.
- CONTRACTOR TO FLUSH UNDERGROUND FIRE SYSTEM PRIOR TO CONNECTION TO FIRE SPRINKLER SYSTEM.
- 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.
- ALL BACK FLOW PREVENTORS (BFPs) SHALL HAVE SECURITY CAGES, PAINTED GREEN.
- PRIVATE HYDRANTS SHALL BE PAINTED SILVER WITH WEATHER RESISTANT PAINT PER FIRE DEPARTMENTS REQUIREMENTS. ENTIRE HYDRANT SHALL BE PAINTED.
- 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.
- 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 LATERAL 6" ABOVE FINISH GRADE/FLOOR. IF BUILDING STUB IS NOT READY, INSTALL TEMPORARY FIRE MAIN CAP AT PIPE END.
- INSTALL FIRE HYDRANT WITH 4 BOLLARD POST AROUND HYDRANT PER CITY STANDARD DRAWING W-23.
- INSTALL GATE VALVE PER CITY STANDARD DRAWING W-3.

**SEWER CONSTRUCTIONS NOTES**

- 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.

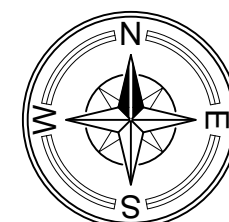
**STORM DRAIN CONSTRUCTIONS NOTES**

- 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 INSPECTOR.
- INSTALL SDR-26 GRAVITY STORM SEWER PIPE PER ASTM F-679. SIZE AS NOTED ON PLANS.
- INSTALL CATCH BASIN TYPE E INLET PER FMFCD STANDARD DWG. A-5.

**LARS ANDERSEN & ASSOCIATES, INC.**  
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 PHONE 559 276-2790 FAX 559 276-0850

PREPARED UNDER THE DIRECTION OF:

*Daniel J. Zoldak*  
 DANIEL J. ZOLDAK  
 FCE 66124



TRUE NORTH

0' 20' 40'  
 SCALE 1"=20'



UNDERGROUND SERVICE ALERT

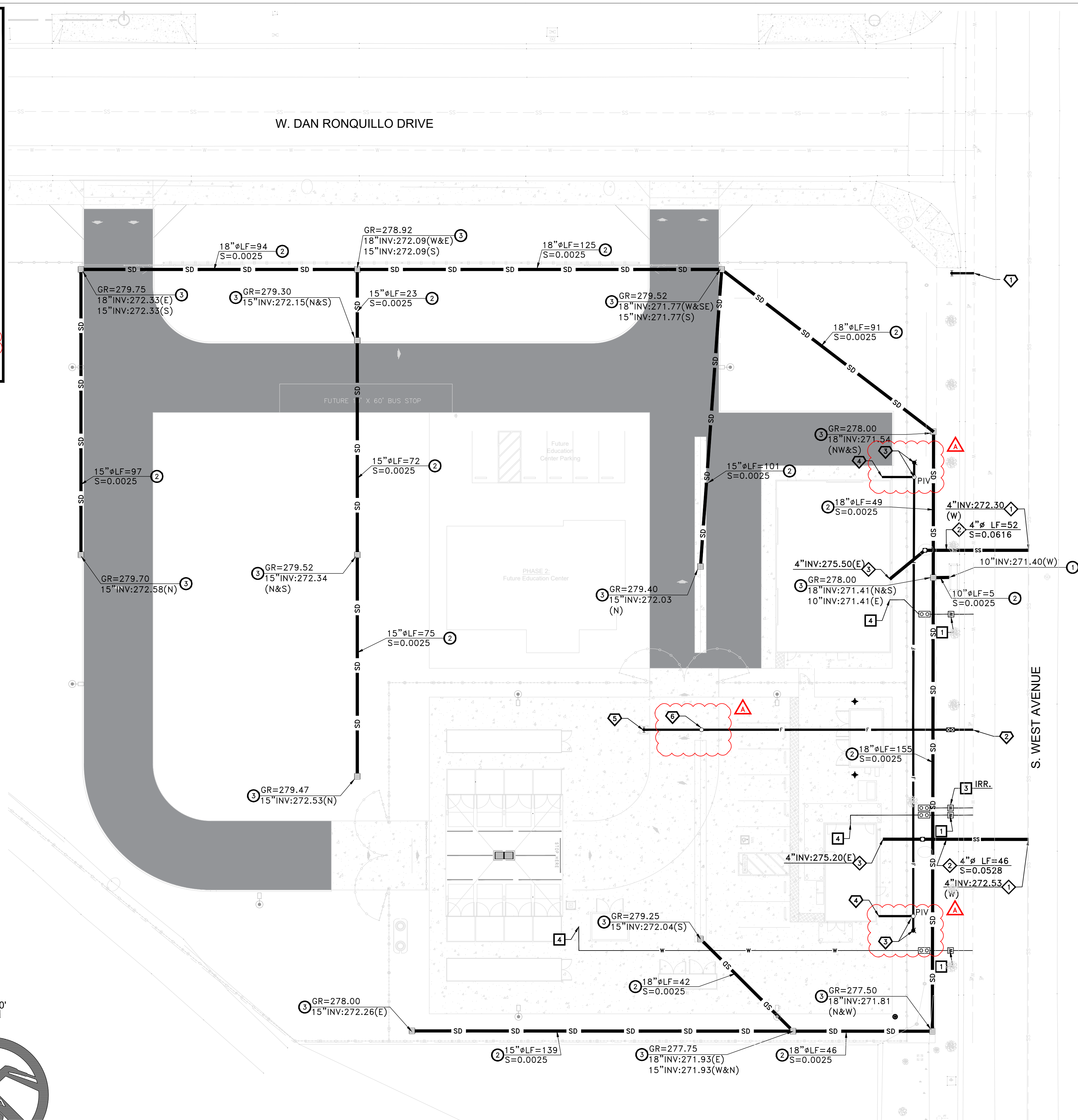
**THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TWO (2) WORKING DAYS PRIOR TO EXCAVATION**  
 1-800-227-2600 IS THE UNDERGROUND SERVICE ALERT NUMBER

**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 FACILITY.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD PLANS DATED APRIL 1, 2011 AND REVISIONS THERETO.



2	Bid Addendum 2 5-21-2021	A	Plan Review Corrections 5-21-2021
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**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 2018 ECC

**Sheet Content:**

UTILITY PLAN

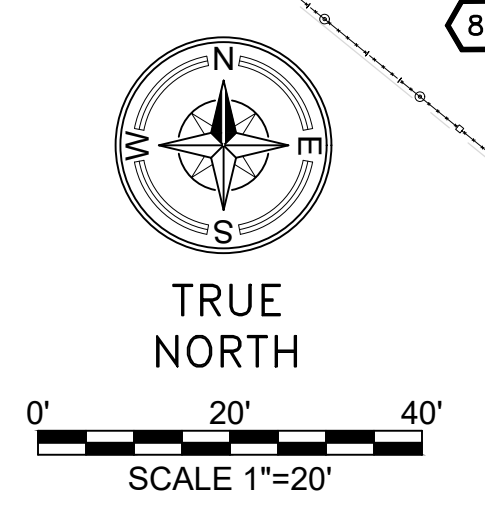
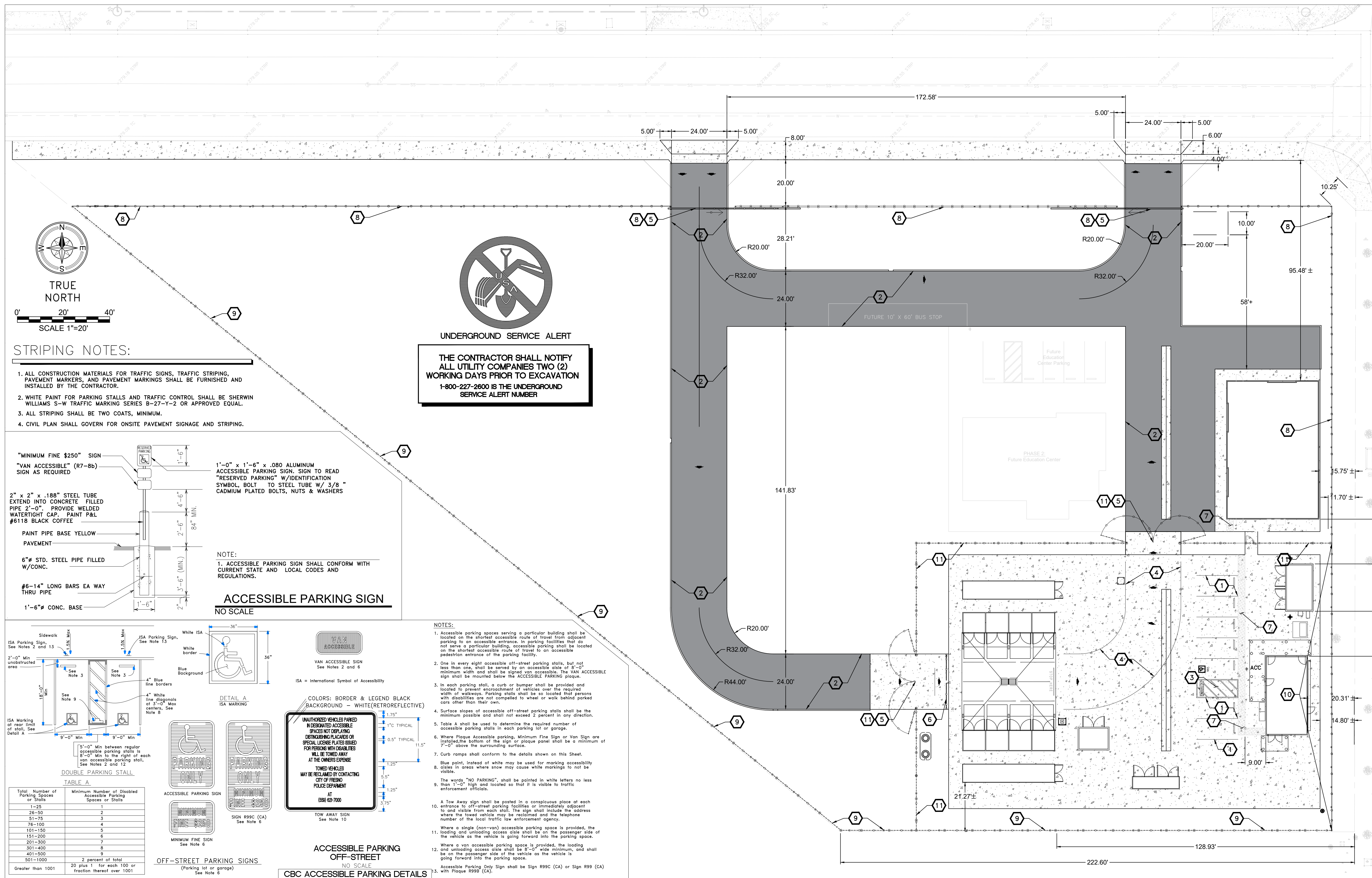
Fresno County Department of  
 Public Works and Planning  
 Capital Projects



2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No. C4.0

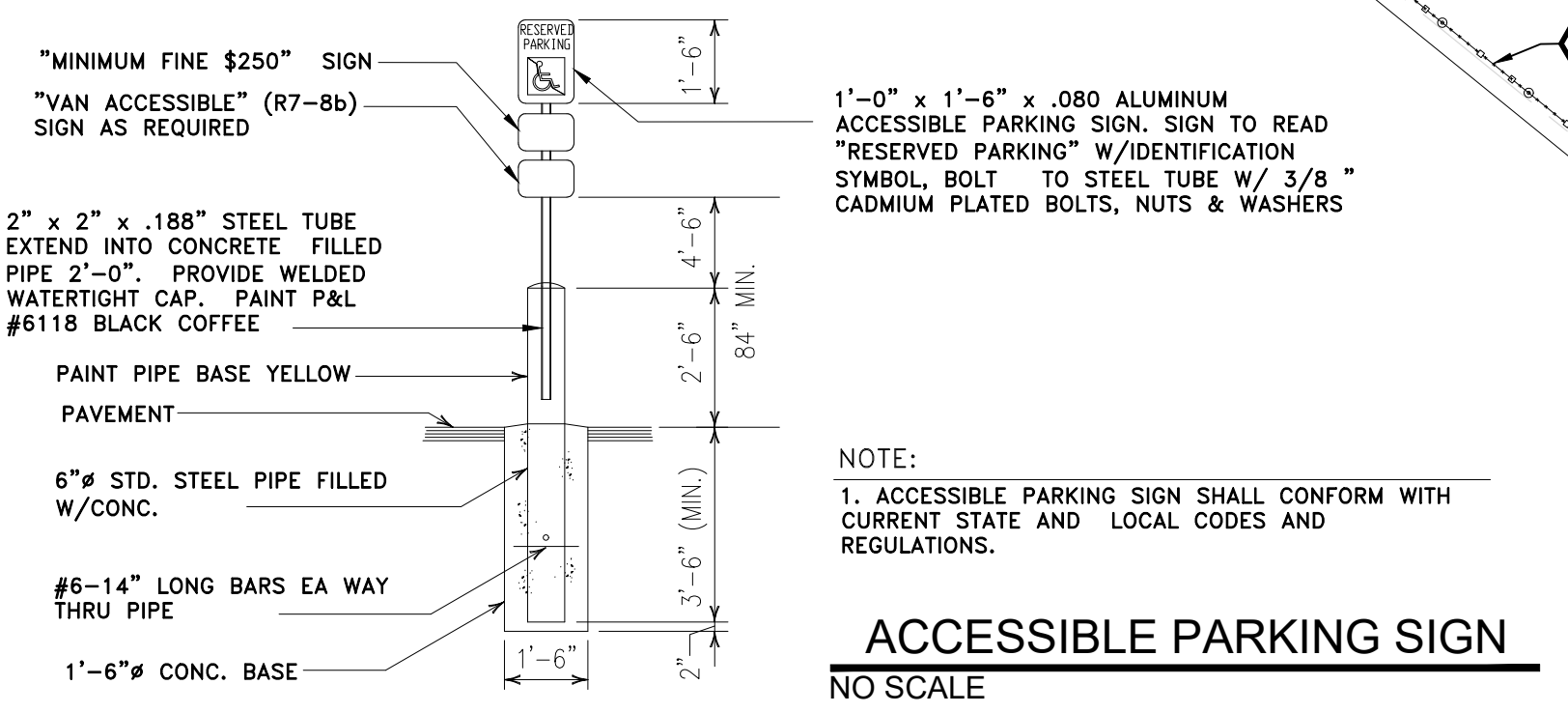




**STRIPING NOTES:**

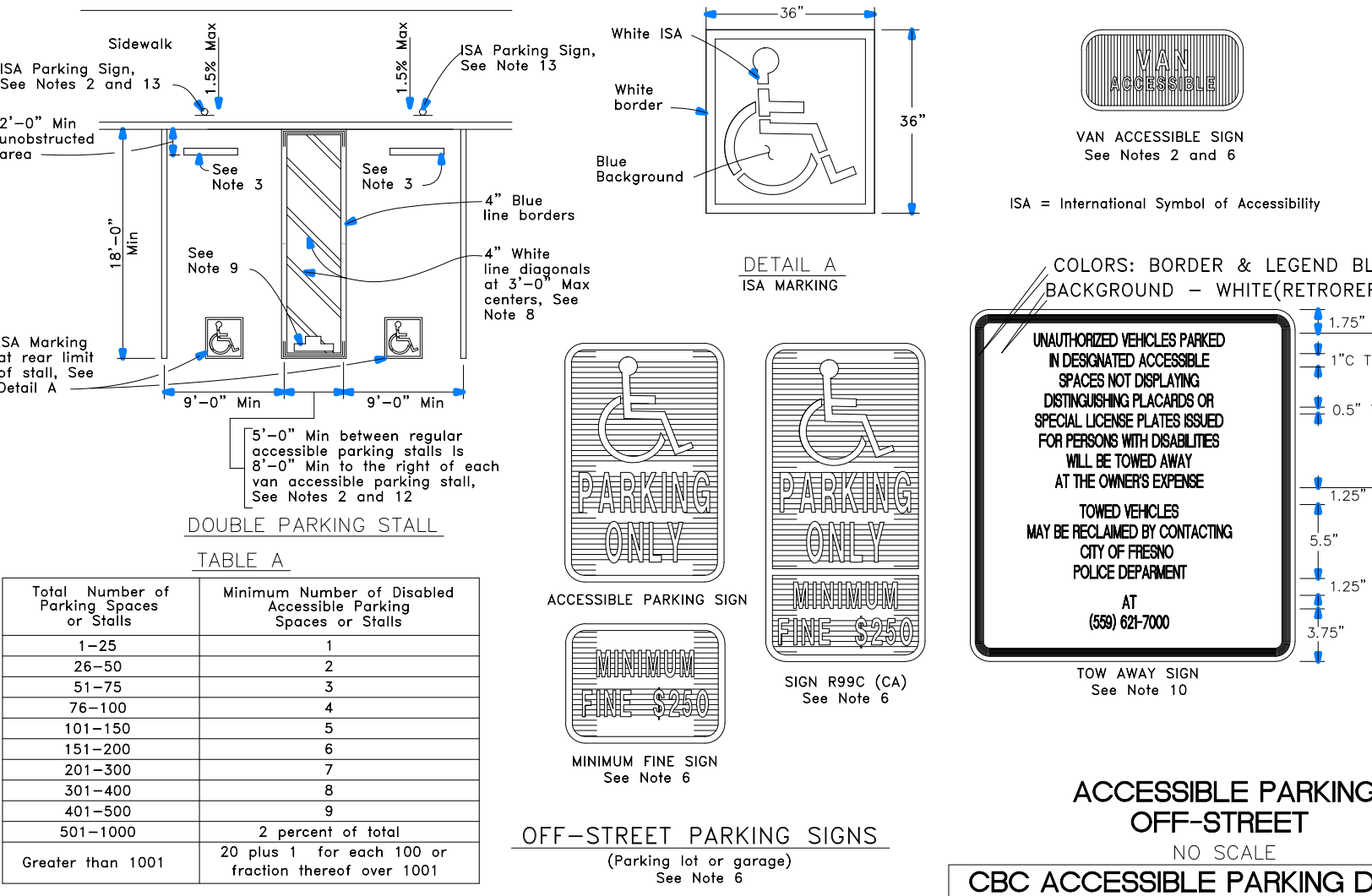
1. ALL CONSTRUCTION MATERIALS FOR TRAFFIC SIGNS, TRAFFIC STRIPING, PAVEMENT MARKERS, AND PAVEMENT MARKINGS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
2. WHITE PAINT FOR PARKING STALLS AND TRAFFIC CONTROL SHALL BE SHERWIN WILLIAMS S-W TRAFFIC MARKING SERIES B-27-Y-2 OR APPROVED EQUAL.
3. ALL STRIPING SHALL BE TWO COATS, MINIMUM.
4. CIVIL PLAN SHALL GOVERN FOR ONSITE PAVEMENT SIGNAGE AND STRIPING.

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

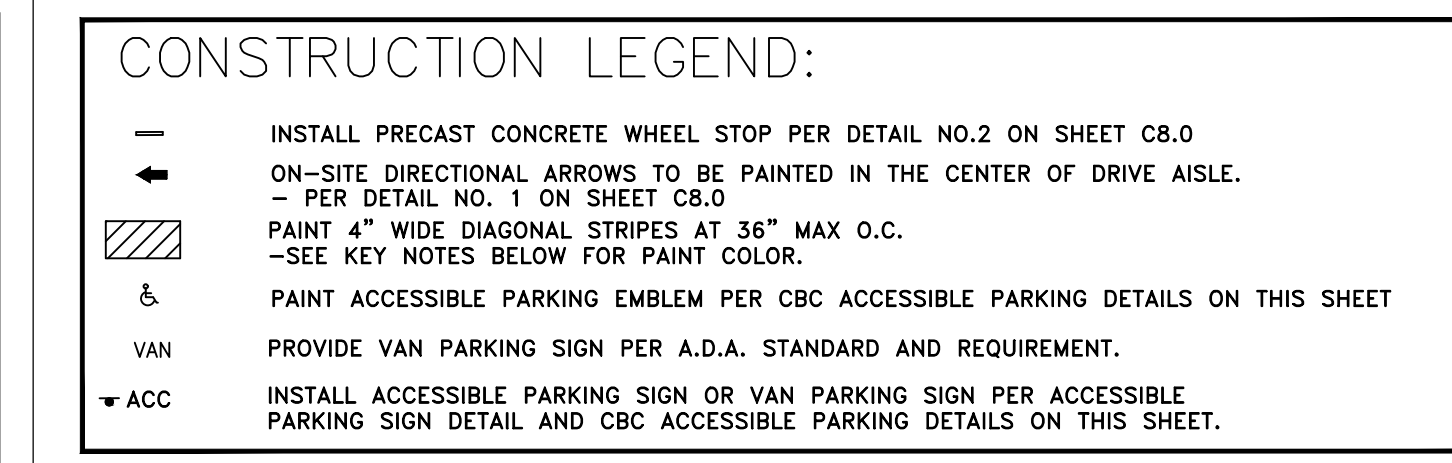


**ACCESSIBLE PARKING SIGN**  
**NO SCALE**

**NOTE:**  
 1. ACCESSIBLE PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.



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



- CONSTRUCTION LEGEND AND SYMBOLS :**
- 1 4" WHITE STRIPES (TWO COAT MINIMUM, ALKYD BASE SYNTHETIC RESIN, FEDERAL SPEC. TTP-115), TYPICAL ON ALL PARKING LINES. PER MUNICIPAL CODE 10-5.105
  - 2 PAINT FACE OF AC CURB RED WITH CONTRASTING WHITE LETTERING STATING "NO PARKING FIRE LANE"
  - 3 PAINT 4" WIDE DIAGONAL WHITE STRIPES ACCESSIBLE PARKING LOADING AND ACCESSIBLE PEDESTRIAN ROUTE AT 3" O.C. WITH 4" WIDE BLUE PERIMETER STRIPE, 2 COATS. PAINT "NO PARKING" WHITE LETTERING, 12" MINIMUM HIGH AND VISIBLE TO TRAFFIC ENFORCEMENT OFFICIALS. STRIPED AREA TO BE 2% MAX. IN ANY DIRECTION. SEE CBC ACCESSIBLE PARKING DETAILS ON THIS SHEET.
  - 4 PAINT 6" WIDE RED STRIPE WITH CONTRASTING WHITE LETTERING STATING "NO PARKING FIRE LANE"
  - 5 INSTALL CITY OF FRESNO FIRE PADLOCK MODEL 21B700 SERIES.
  - 6 INSTALL TRAFFIC CONTROL GATE.
  - 7 INSTALL 36" WIDE DETECTABLE WARNING STRIP (TRUNCATED DOMES) PER C.B.C. STANDARDS AND REQUIREMENTS CBC CODE 11B-705.1.1, AND 11B-705.1.2.
  - 8 CONSTRUCT 6'-0" WROUGHT IRON FENCE WITH MANUAL ROLLING GATES AS SHOWN. SEE DETAILS ON SHEET C8.0
  - 9 CONSTRUCT 6'-0" CHAIN LINK FENCE. SEE DETAIL NO. 3 ON SHEET C8.0
  - 10 CONSTRUCT 6'-0" WROUGHT IRON FENCE WITH PRIVACY SCREEN. SEE DETAIL NO. 3 ON SHEET C8.0
  - 11 CONSTRUCT 6'-0" CHAIN LINK FENCE WITH PRIVACY SLATS. CONSTRUCT GATE AND MANGATE OPENINGS AS SHOWN. MANGATE TO CONFORM TO A.D.A. STANDARDS AND REQUIREMENTS. SEE DETAIL NO. 3 ON SHEET C8.0

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**Project:**  
 Fresno County  
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 Site Improvement and Shade Structure  
 Project Address: 310 S. West Avenue, Fresno CA 93706  
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 Project No. T90203  
 File Path: G:\Capital \Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center \ 00 2018 ECC

**Sheet Content:**  
 HORIZONTAL CONTROL, SIGNAGE AND STRIPING PLAN

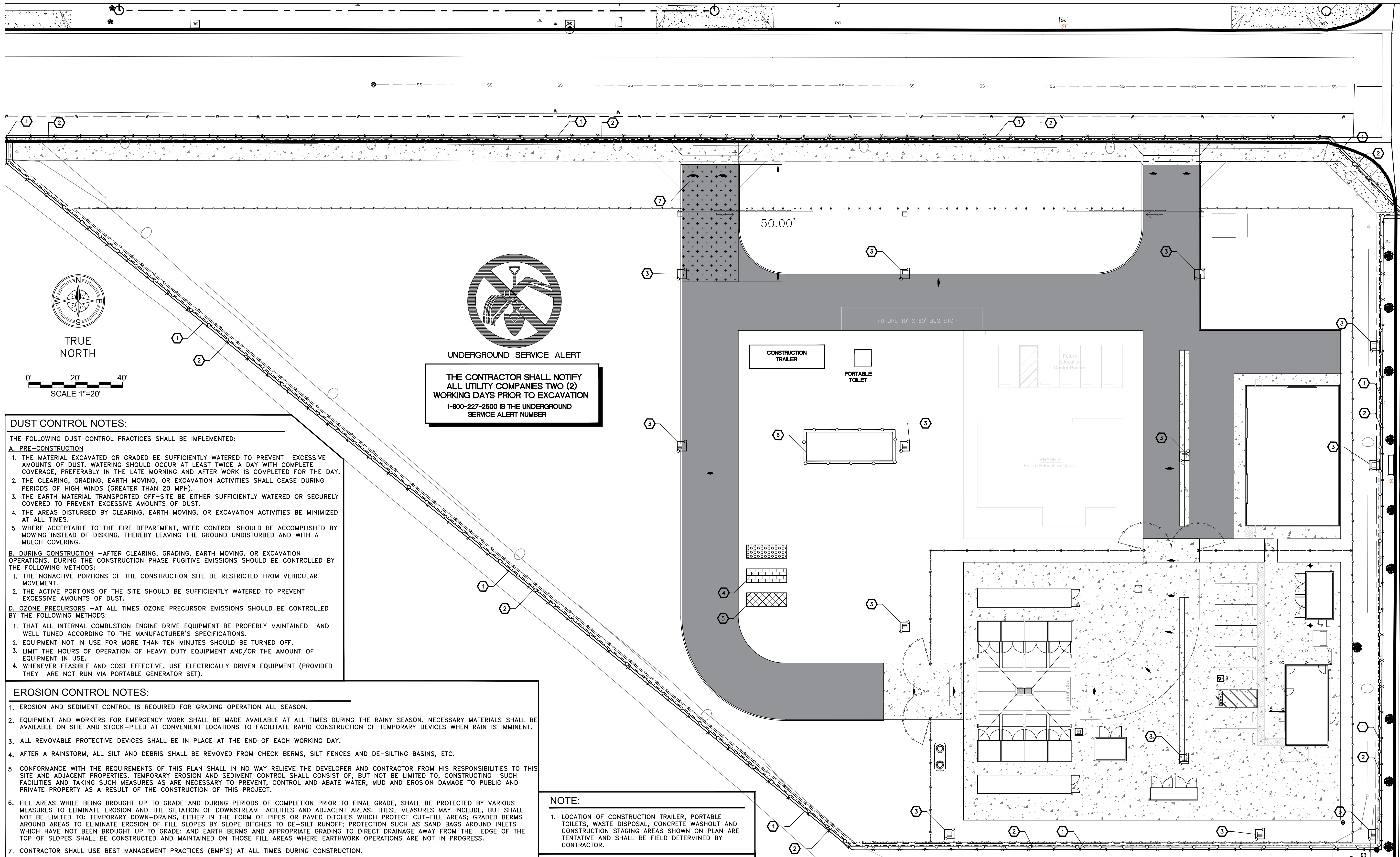
Fresno County Department of Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No. C5.0

**LARS ANDERSEN & ASSOCIATES, INC.**  
 CIVIL ENGINEERS - LAND SURVEYORS - PLANNERS  
 4694 WEST JACQUELYN AVENUE - FRESNO, CA 93722  
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PREPARED UNDER THE DIRECTION OF:  
  
 DANIEL J. ZOLDAK  
 FCE 66124





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

**DUST CONTROL NOTES:**

THE FOLLOWING DUST CONTROL PRACTICES SHALL BE IMPLEMENTED:

**A. PRE-CONSTRUCTION**

1. THE MATERIAL EXCAVATED OR GRADED BE SUFFICIENTLY WATERED TO PREVENT EXCESSIVE AMOUNTS OF DUST. WATERING SHOULD OCCUR AT LEAST TWICE A DAY WITH COMPLETE COVERAGE, PREFERABLY IN THE LATE MORNING AND AFTER WORK IS COMPLETED FOR THE DAY.
2. THE CLEARING, GRADING, EARTH MOVING, OR EXCAVATION ACTIVITIES SHALL CEASE DURING PERIODS OF HIGH WINDS (GREATER THAN 20 MPH).
3. THE EARTH MATERIAL TRANSPORTED OFF-SITE BE EITHER SUFFICIENTLY WATERED OR SECURELY COVERED TO PREVENT EXCESSIVE AMOUNTS OF DUST.
4. THE AREAS DISTURBED BY CLEARING, EARTH MOVING, OR EXCAVATION ACTIVITIES BE MINIMIZED AT ALL TIMES.
5. WHERE ACCEPTABLE TO THE FIRE DEPARTMENT, WEED CONTROL SHOULD BE ACCOMPLISHED BY MOWING INSTEAD OF DISKING, THEREBY LEAVING THE GROUND UNDISTURBED AND WITH A MULCH COVERING.

**B. DURING CONSTRUCTION** - AFTER CLEARING, GRADING, EARTH MOVING, OR EXCAVATION OPERATIONS, DURING THE CONSTRUCTION PHASE FUGITIVE EMISSIONS SHOULD BE CONTROLLED BY THE FOLLOWING METHODS:

1. THE NONACTIVE PORTIONS OF THE CONSTRUCTION SITE BE RESTRICTED FROM VEHICULAR MOVEMENT.
2. THE ACTIVE PORTIONS OF THE SITE SHOULD BE SUFFICIENTLY WATERED TO PREVENT EXCESSIVE AMOUNTS OF DUST.

**D. OZONE PRECURSORS** - AT ALL TIMES OZONE PRECURSOR EMISSIONS SHOULD BE CONTROLLED BY THE FOLLOWING METHODS:

1. THAT ALL INTERNAL COMBUSTION ENGINE DRIVE EQUIPMENT BE PROPERLY MAINTAINED AND WELL TUNED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
2. EQUIPMENT NOT IN USE FOR MORE THAN TEN MINUTES SHOULD BE TURNED OFF.
3. LIMIT THE HOURS OF OPERATION OF HEAVY DUTY EQUIPMENT AND/OR THE AMOUNT OF EQUIPMENT IN USE.
4. WHENEVER FEASIBLE AND COST EFFECTIVE, USE ELECTRICALLY DRIVEN EQUIPMENT (PROVIDED THEY ARE NOT RUN VIA PORTABLE GENERATOR SET).

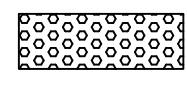
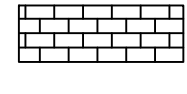

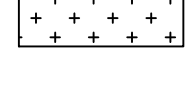
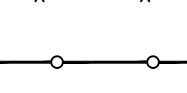



**EROSION CONTROL NOTES:**

1. EROSION AND SEDIMENT CONTROL IS REQUIRED FOR GRADING OPERATION ALL SEASON.
2. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCK-PILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
3. ALL REMOVABLE PROTECTIVE DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY.
4. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS, SILT FENCES AND DE-SILTING BASINS, ETC.
5. CONFORMANCE WITH THE REQUIREMENTS OF THIS PLAN SHALL IN NO WAY RELIEVE THE DEVELOPER AND CONTRACTOR FROM HIS RESPONSIBILITIES TO THIS SITE AND ADJACENT PROPERTIES. TEMPORARY EROSION AND SEDIMENT CONTROL SHALL CONSIST OF, BUT NOT BE LIMITED TO, CONSTRUCTING SUCH FACILITIES AND TAKING SUCH MEASURES AS ARE NECESSARY TO PREVENT, CONTROL AND ABATE WATER, MUD AND EROSION DAMAGE TO PUBLIC AND PRIVATE PROPERTY AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT.
6. FILL AREAS WHILE BEING BROUGHT UP TO GRADE AND DURING PERIODS OF COMPLETION PRIOR TO FINAL GRADE, SHALL BE PROTECTED BY VARIOUS MEASURES TO ELIMINATE EROSION AND THE SILTATION OF DOWNSTREAM FACILITIES AND ADJACENT AREAS. THESE MEASURES MAY INCLUDE, BUT SHALL NOT BE LIMITED TO: TEMPORARY DOWN-DRAINS, EITHER IN THE FORM OF PIPES OR PAVED DITCHES WHICH PROTECT CUT-FILL AREAS; GRADED BERMS AROUND AREAS TO ELIMINATE EROSION OF FILL SLOPES BY SLOPE DITCHES TO DE-SILT RUNOFF; PROTECTION SUCH AS SAND BAGS AROUND INLETS WHICH HAVE NOT BEEN BROUGHT UP TO GRADE; AND EARTH BERMS AND APPROPRIATE GRADING TO DIRECT DRAINAGE AWAY FROM THE EDGE OF THE TOP OF SLOPES SHALL BE CONSTRUCTED AND MAINTAINED ON THOSE FILL AREAS WHERE EARTHWORK OPERATIONS ARE NOT IN PROGRESS.
7. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES (BMP'S) AT ALL TIMES DURING CONSTRUCTION.
8. EROSION, SEDIMENT AND DUST CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH COUNTY'S GRADING AND EROSION CONTROL ORDINANCE. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT ADJACENT PROPERTY AT ALL TIMES DURING CONSTRUCTION. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR SO AS NOT TO CAUSE ANY MUD, SILT OR DEBRIS ONTO PUBLIC OR ADJACENT PROPERTY. ANY MUD OR DEBRIS ON PUBLIC PROPERTY SHALL BE REMOVED IMMEDIATELY.

**NOTE:**

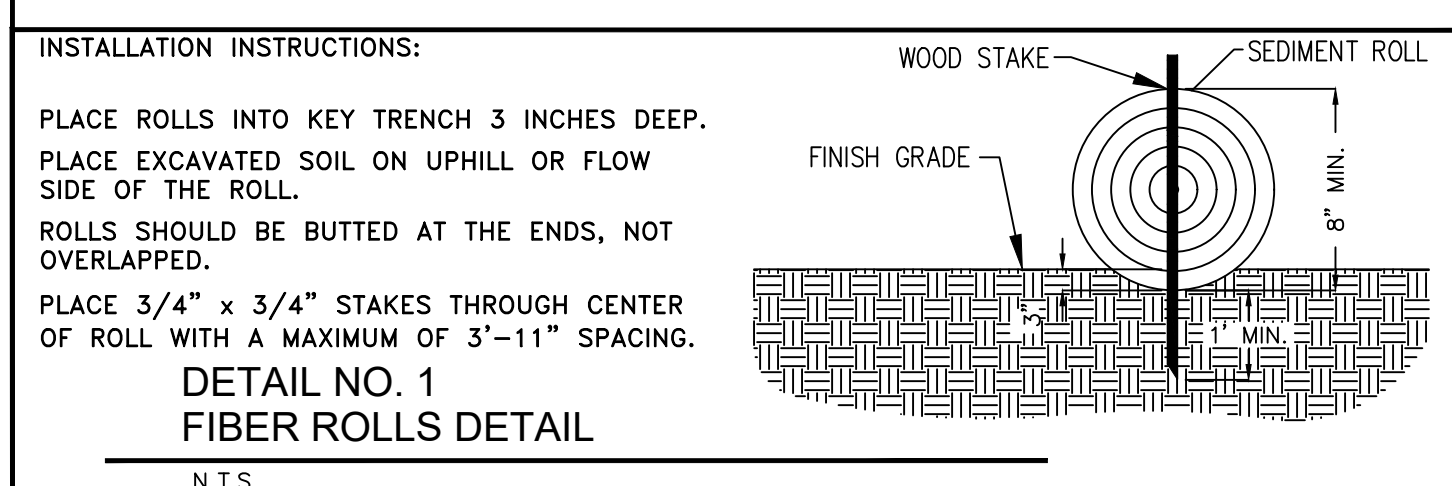
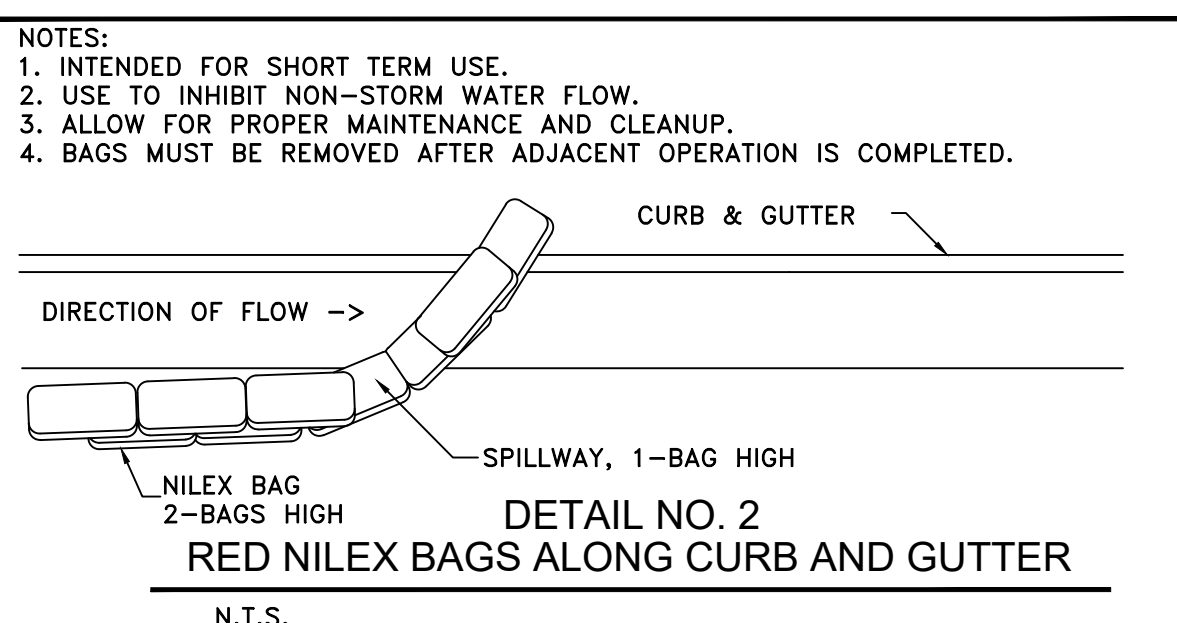
1. LOCATION OF CONSTRUCTION TRAILER, PORTABLE TOILETS, WASTE DISPOSAL, CONCRETE WASHOUT AND CONSTRUCTION STAGING AREAS SHOWN ON PLAN ARE TENTATIVE AND SHALL BE FIELD DETERMINED BY CONTRACTOR.

**EROSION CONTROL LEGEND**

	MATERIAL STORAGE AREA SEE SHEET C8.1 FOR DETAIL, CONTRACTOR TO LOCATE.
	CONCRETE WASH OUT SEE SHEET C8.1 FOR DETAIL, CONTRACTOR TO LOCATE.
	CONSTRUCTION STAGING AREA.
	STABILIZED CONSTRUCTION ENTRANCE/EXIT, AND TIRE WASH.
	CONSTRUCTION FENCE, CONTRACTOR TO PROVIDE TEMPORARY CONSTRUCTION FENCE.
	FIBER ROLL BARRIER OR SILT FENCE AS REQUIRED.
	ACTIVE AREAS OF SOIL DISTURBANCE.
	INLET PROTECTION.


**EROSION SYMBOL NOTES:**


1. INSTALL SECURITY FENCE AND GATES WITH DUST PROTECTION SHEETS OR SILT FENCE PER DETAIL 4 ON SHEET C7.0 OR APPROVED EQUAL.
2. INSTALL CONTINUOUS ROW OF FIBER ROLLS AS NEEDED FOR EROSION CONTROL PER DETAIL 1 ON THIS SHEET. INSTALL IN OTHER LOCATIONS AS WEATHER AND OTHER CONDITIONS REQUIRE.
3. INSTALL STORM DRAIN INLET PROTECTION PER DETAIL 2 ON THIS SHEET.
4. INSTALL CONCRETE WASHOUT PER CASQA BMP WM-8.
5. CONSTRUCT CONSTRUCTION STAGING AREA. CONTRACTOR TO REPAIR ANY DAMAGE TO ASPHALT AS REQUIRED.
6. INSTALL WASTE DISPOSAL PER CASQA BMP WM-5 AND WM-6.
7. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT AND TIRE WASH AT EXIT PER CASQA BMP TC-1 AND TC-3.





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PREPARED UNDER THE DIRECTION OF:

  
 DANIEL J. ZOLDAK  
 FCE 66124



	Bid Addendum 2 5-21-2021		Plan Review Corrections 5-21-2021
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**Project:**

Fresno County  
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 Site Improvement and Shade Structure  
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**Sheet Content:**

EROSION CONTROL PLAN

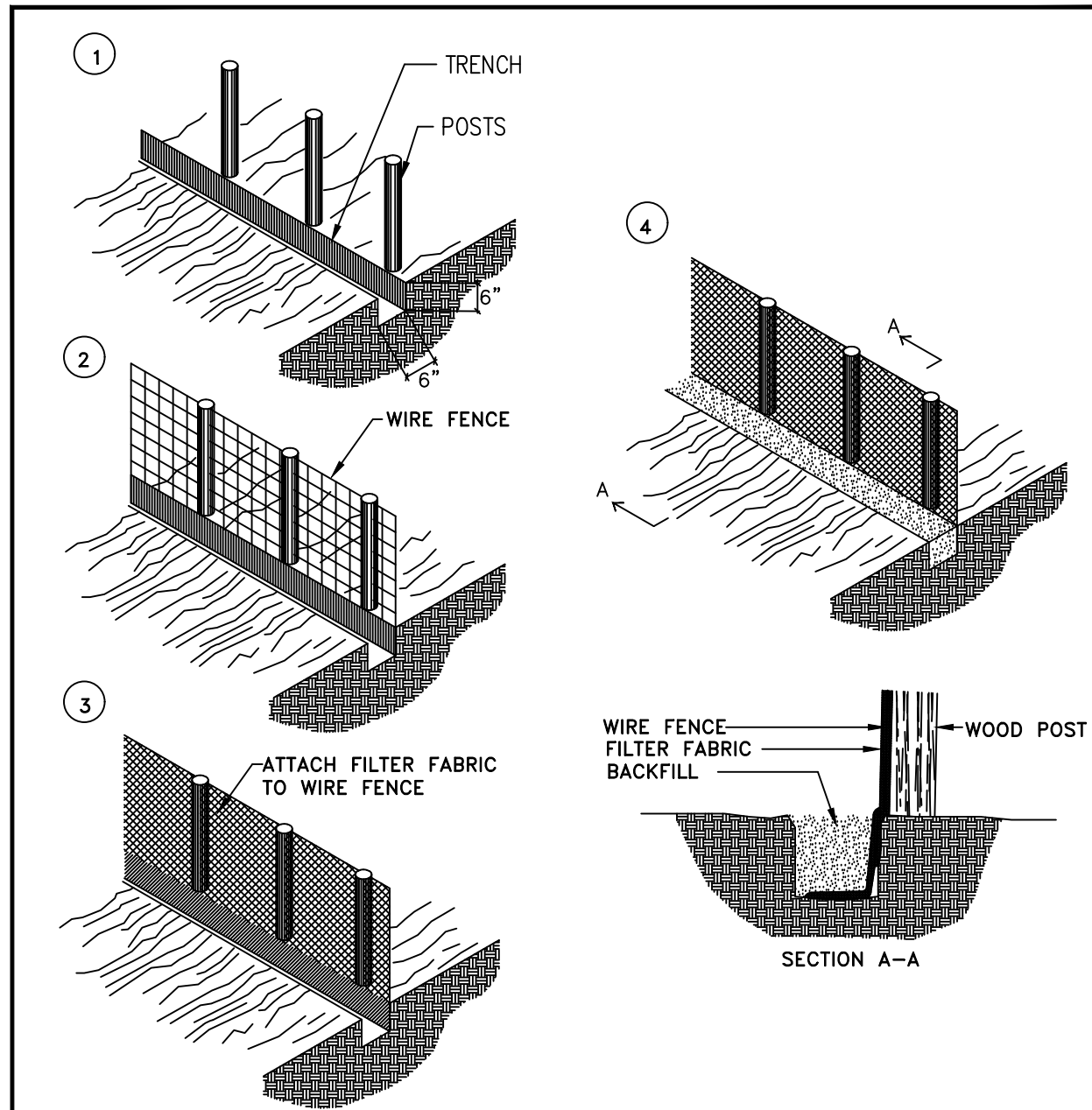
Fresno County Department of  
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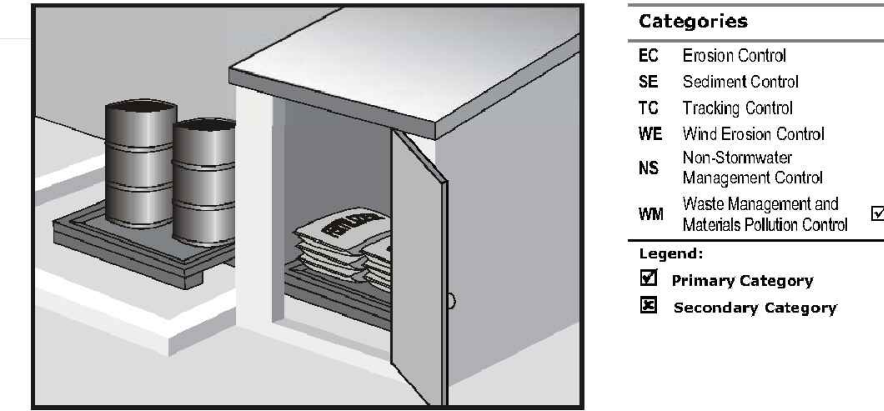


**Sheet No. C6.0**





**Material Delivery and Storage WM-1**

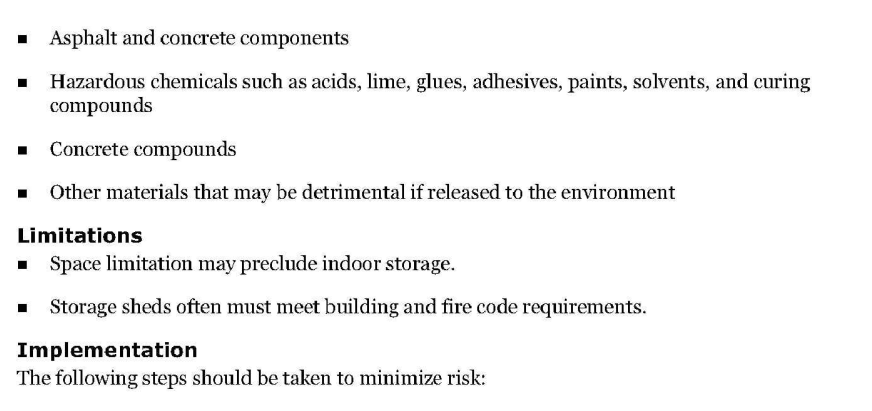


**Description and Purpose**  
Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated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

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

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

**Material Delivery and Storage WM-1**

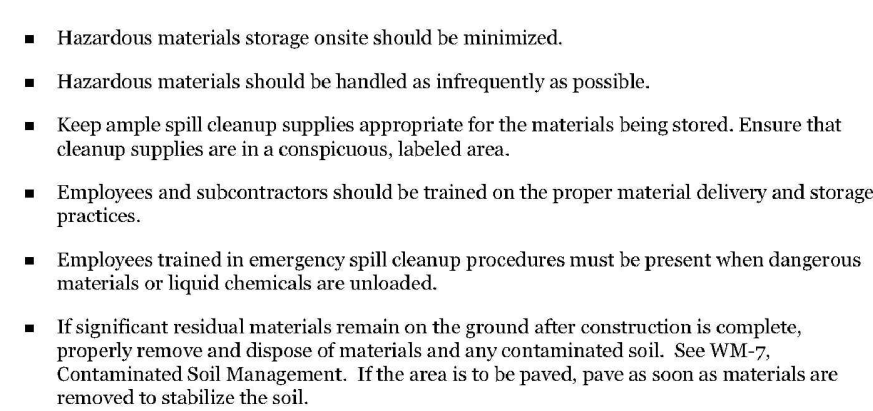


**Description and Purpose**  
Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated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

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

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

**Material Delivery and Storage WM-1**

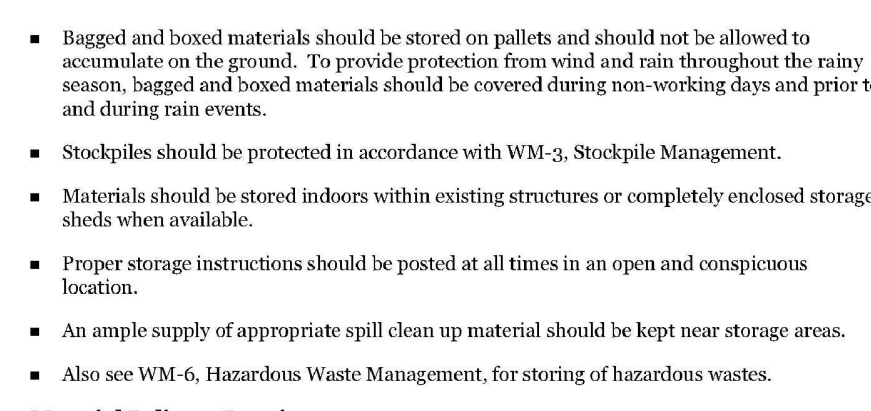


**Description and Purpose**  
Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated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

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

**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 THAT IT WILL NOT ERODE.
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 DIRECTED BY THE CITY.
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**

1. 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 DRIVEN 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, THE 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 WIRE 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 WIRE DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM NO. 6 APPLYING.
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.

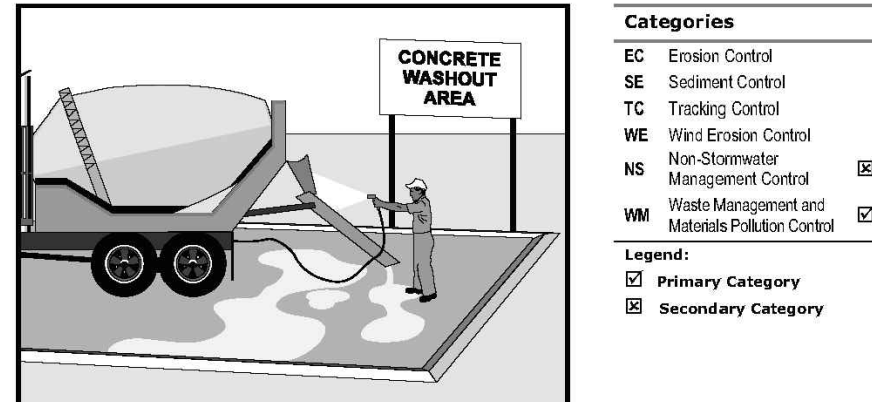
**DETAIL NO. 3 SILT FENCE DETAIL**

NOT TO SCALE

**Material Delivery and Storage WM-1**

- Repair or replace perimeter controls, containment structures, covers, and liners as needed to maintain proper function.
- References**  
Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.
- Coastal Nonpoint Pollution Control Program: System Development and Approval Guidelines, Working Group Working Paper; USEPA, April 1992.
- Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2005.
- Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

**Concrete Waste Management WM-8**



**Description and Purpose**  
Prevent the discharge of pollutants to stormwater from concrete washout 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 you are subject to these requirements).

- Suitable Applications**  
Concrete waste management procedures and practices are implemented on construction projects when:
- Concrete is used as a construction material or where concrete 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.

**Concrete Waste Management WM-8**

- Concrete tracks and other concrete-coated equipment are washed onsite.
  - Mortar-mixing stations exist.
  - Stucco mixing and spraying.
  - See also NS-8, Vehicle and Equipment Cleaning.
- Limitations**  
• Offsite washout of concrete wastes may not always be possible.
- Multiple washouts** may be needed to assure adequate capacity and to allow for evaporation.
- Implementation**  
The following steps will help reduce stormwater pollution from concrete wastes:
- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
  - Store dry and wet materials under cover, away from drainage areas. Refer to WM-1, Material Delivery and Storage for more information.
  - Avoid mixing excess amounts of concrete.
  - Perform washout of concrete trucks in designated areas only, where washout will not reach stormwater.
  - 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.
  - Do not allow excess concrete to be dumped onsite, except in designated areas.

**Concrete Waste Management WM-8**

- Arrange for contractor's superintendent or representative to oversee and enforce concrete 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 made.
- 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 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.
  - Concrete slurry residue should be disposed in a temporary washout facility (as described in 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.

**Concrete Waste Management WM-8**

- 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 washout procedures.
- Temporary washout facilities should be lined to prevent discharge to the underlying ground or surrounding areas.
- 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 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)

- 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 (e.g., NLEX-BAG).
- 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 material.
- 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 material.

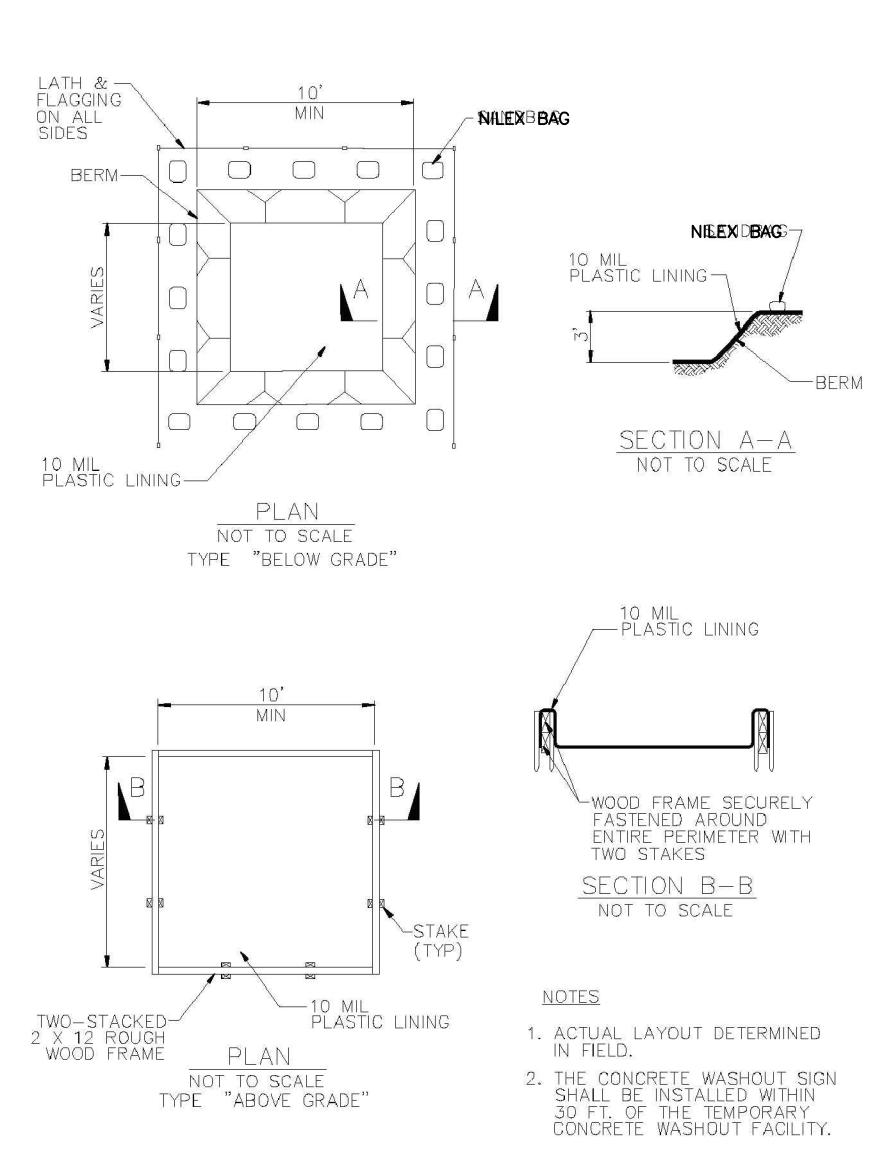
**Concrete Waste Management WM-8**

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

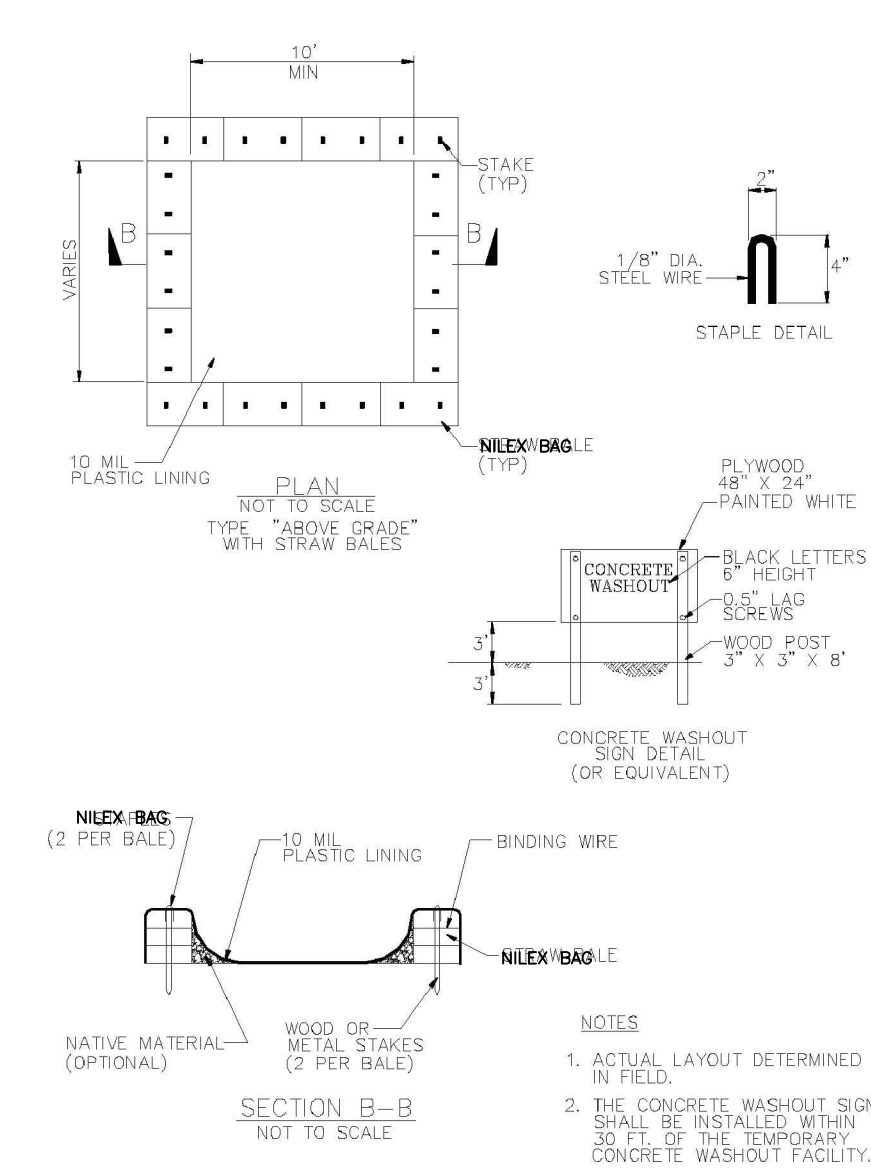
- Costs**  
All of the above are low cost measures. Roll-off concrete washout facilities can be more costly than other measures due to removal and replacement; however, provide a cleaner alternative to traditional washouts. The type of washout facility, size, and availability of materials will determine the cost of the washout.
- Inspection and Maintenance**  
• 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 conclusion of rain events.
- 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. Hardened concrete materials should be removed and properly disposed or recycled in accordance with federal, state or local regulations.
  - Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.
  - Inspect washout facilities for damage (e.g. torn liner, evidence of leaks, signage, etc.). Repair all identified damage.

- References**  
Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.
- Stormwater Quality Handbooks - Construction Site Best Management Practices (BMP) Manual, State of California Department of Transportation (Caltrans), November 2000, Updated March 2005.
- Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

**Concrete Waste Management WM-8**



**Concrete Waste Management WM-8**



	Bid Addendum 2 5-21-2021		Plan Review Corrections 5-21-2021
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**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 1 American Ave Landfill \ T90203 Environmental Compliance Center\ 00 2018 ECC

**Sheet Content:**  
EROSION CONTROL DETAILS

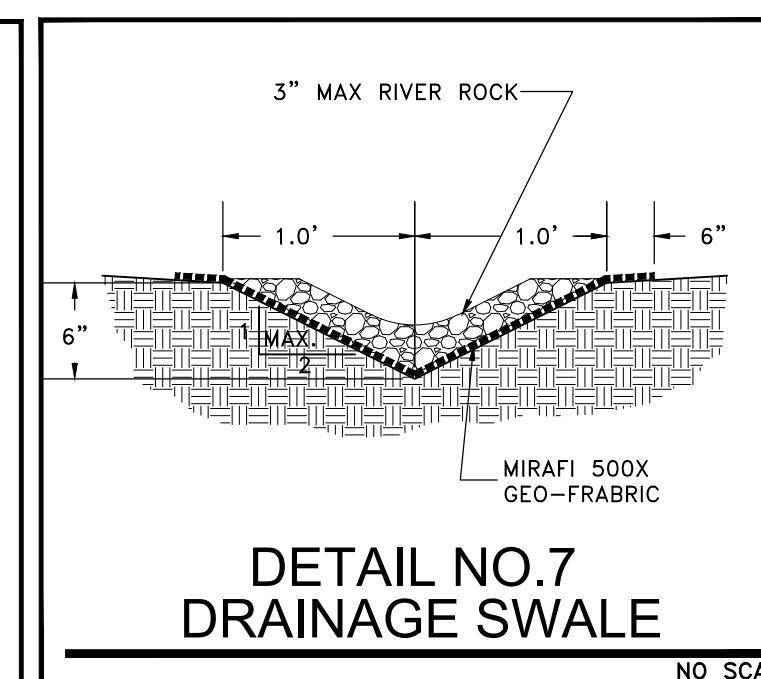
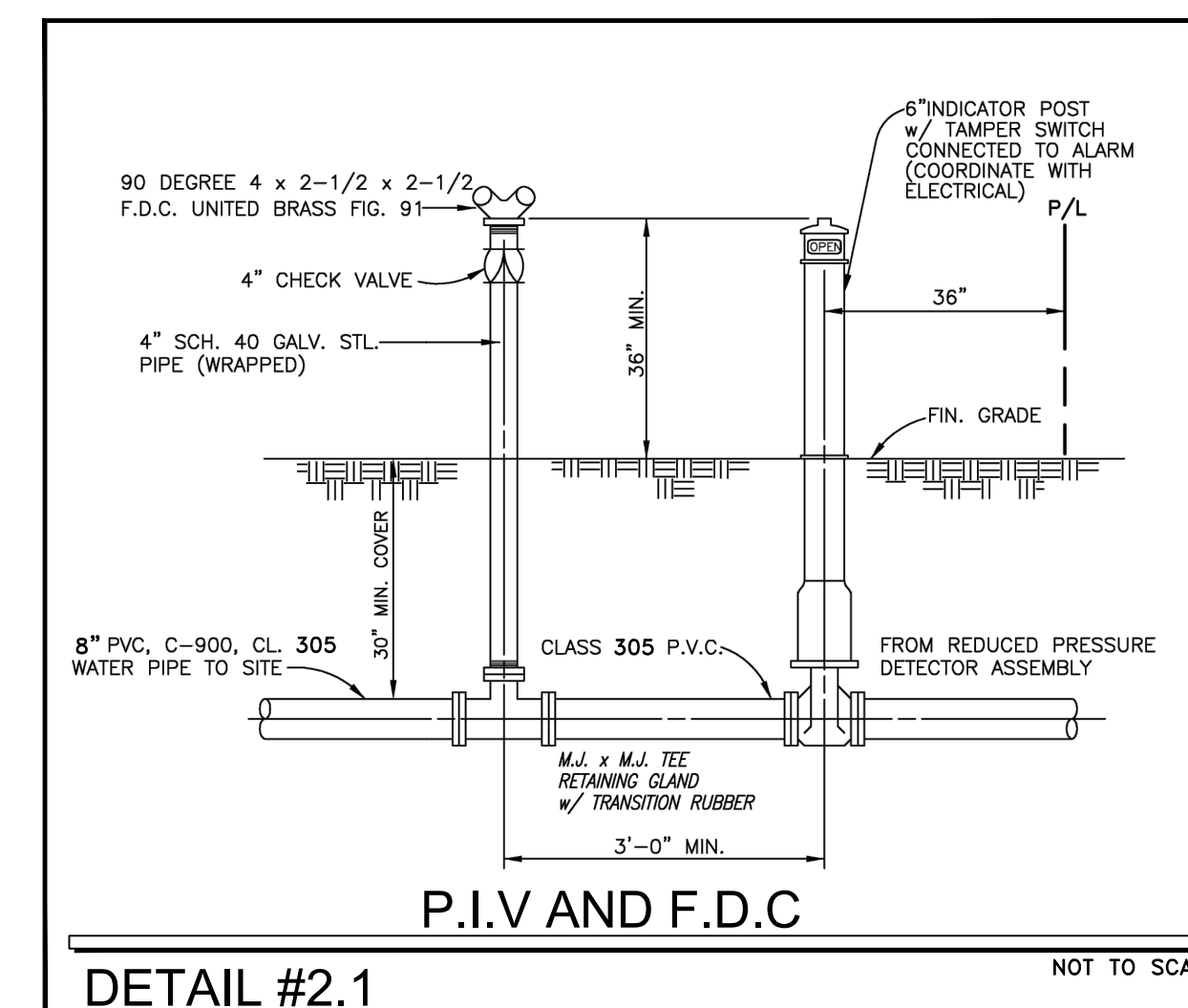
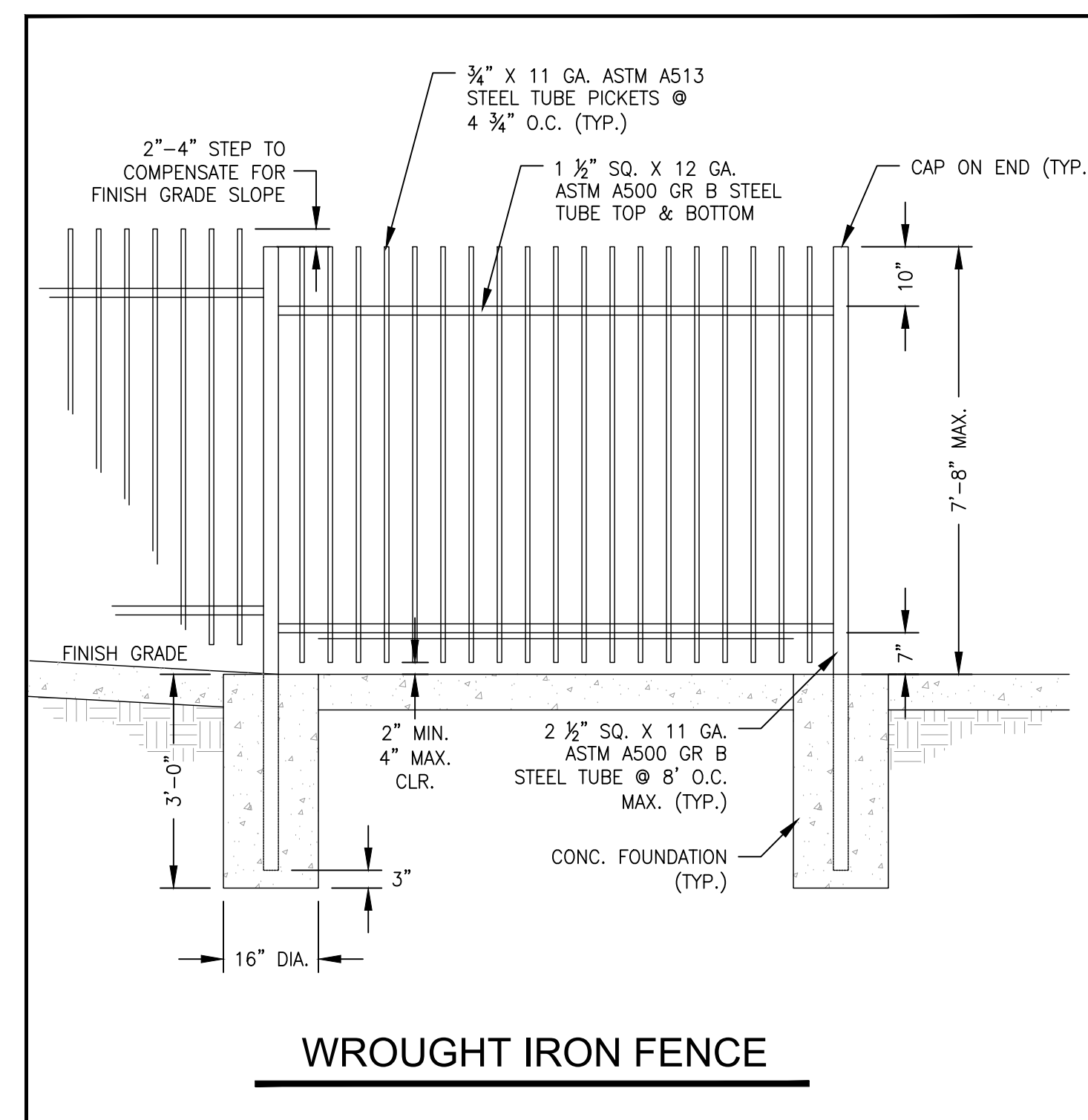
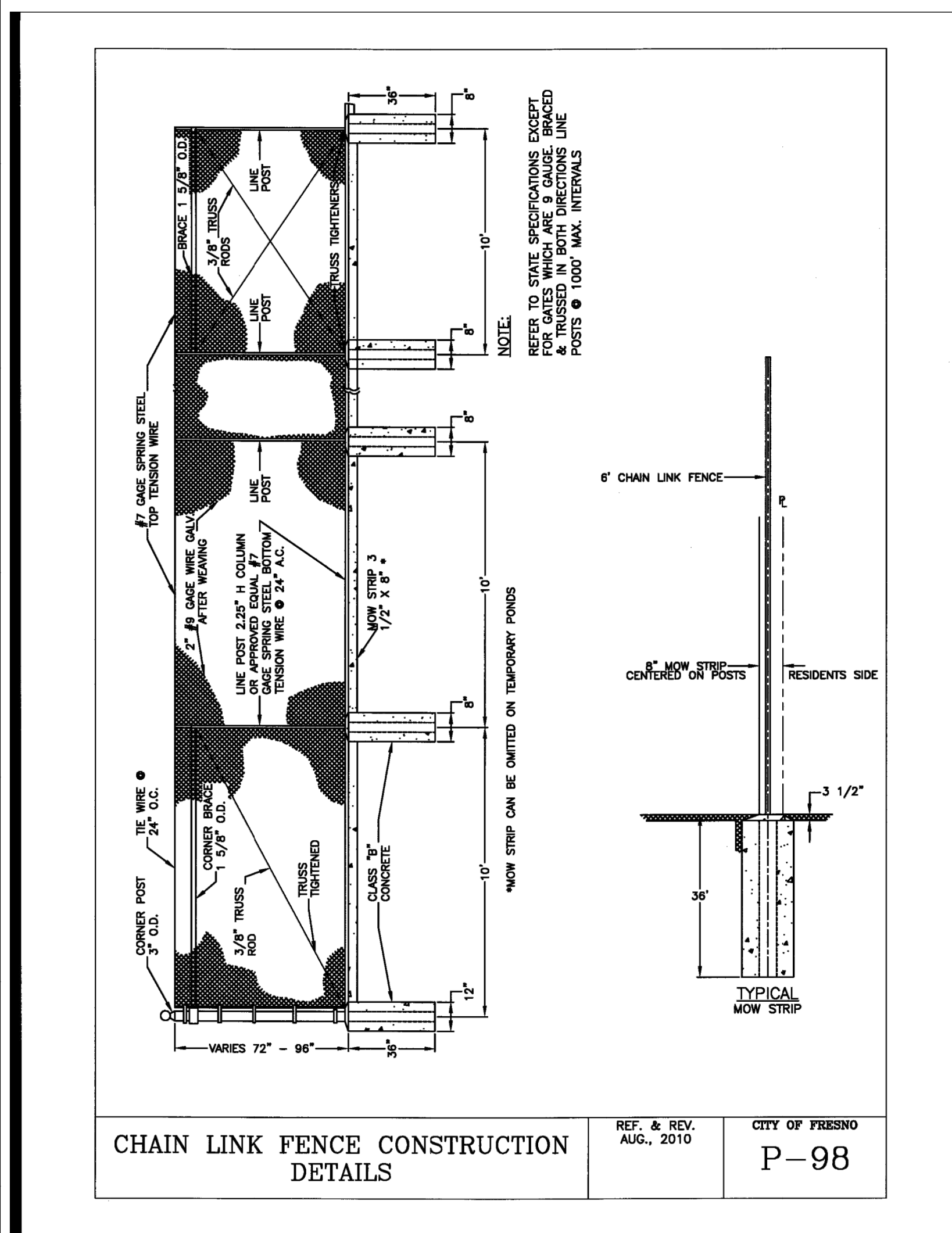
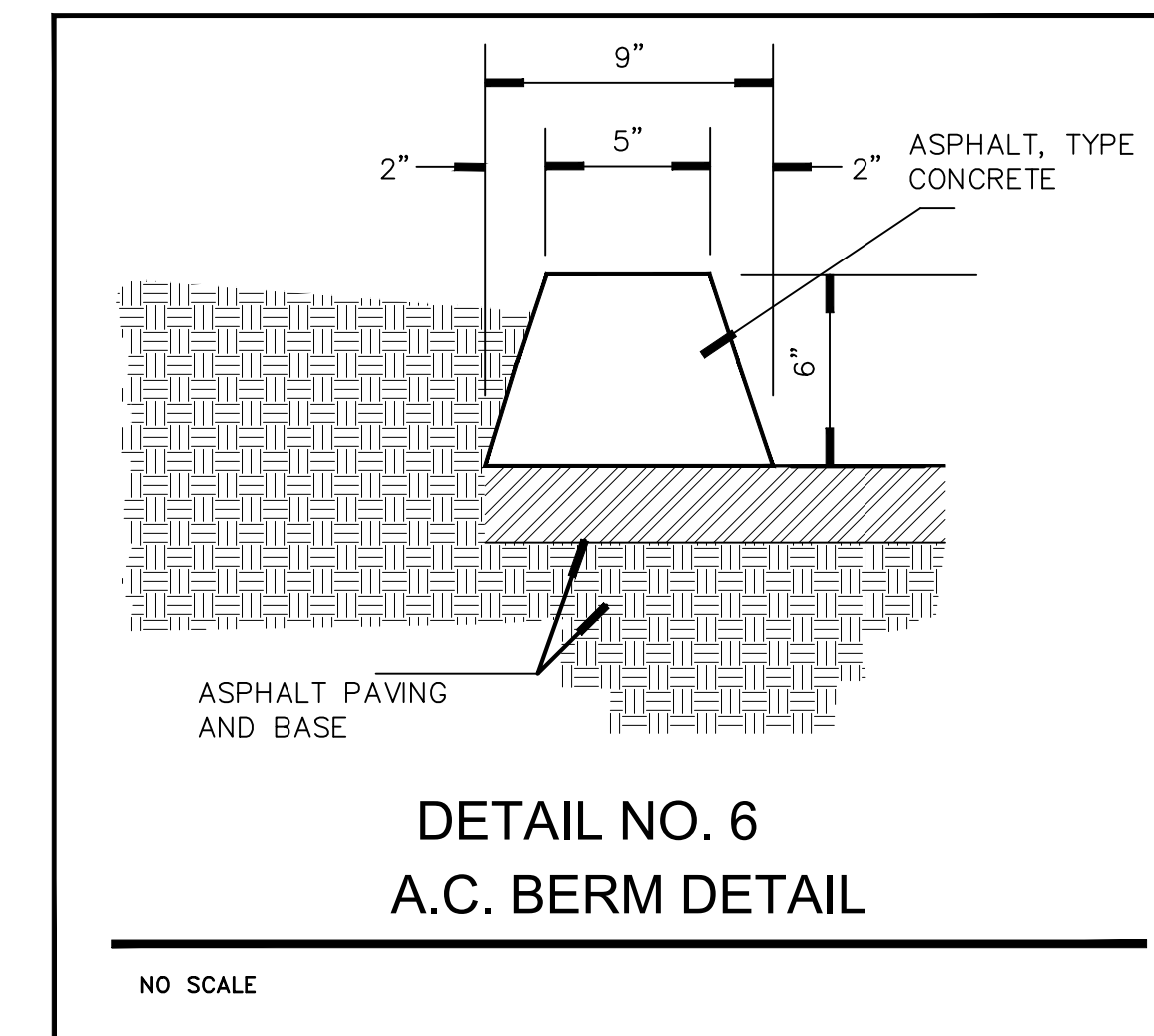
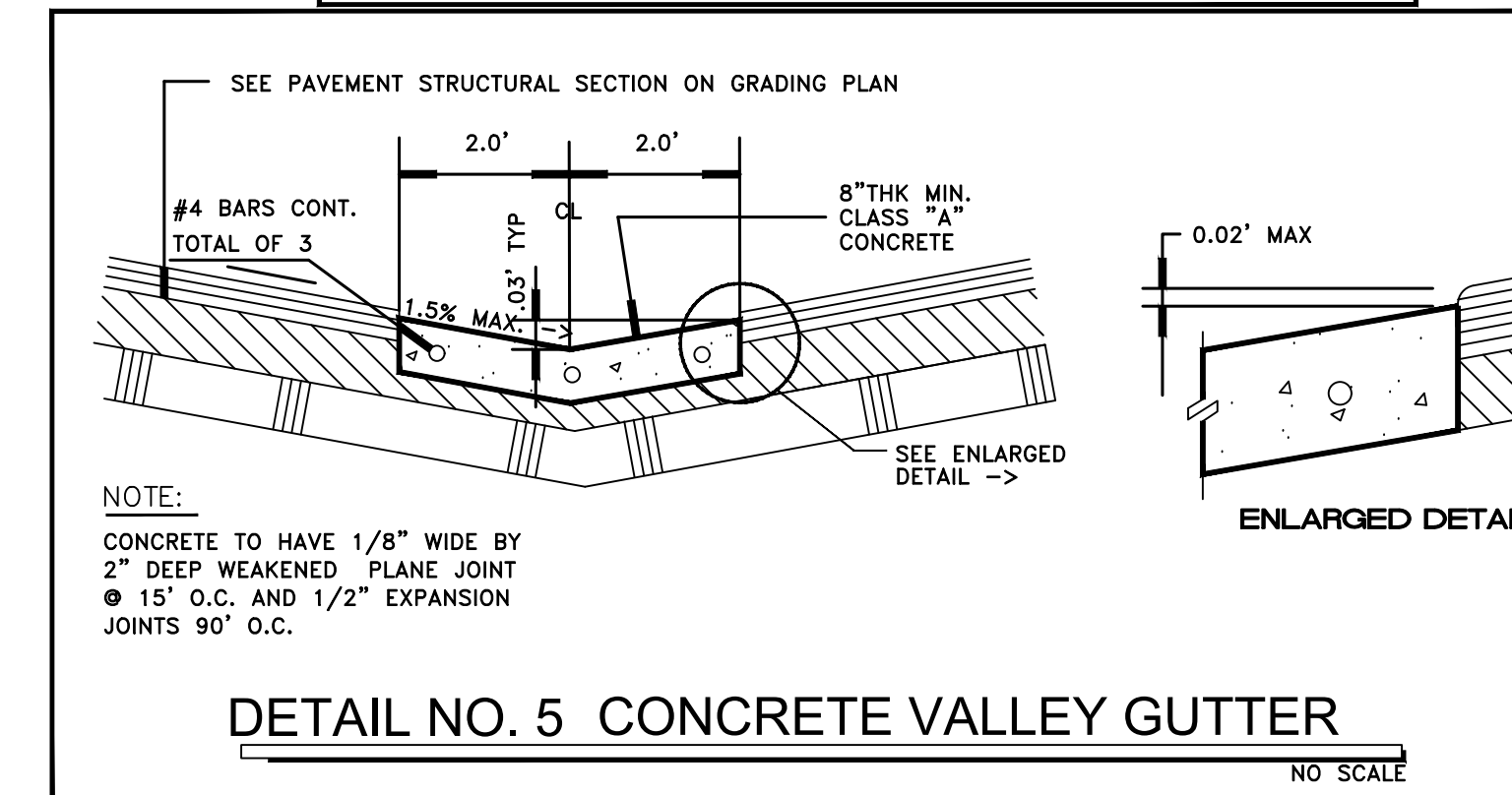
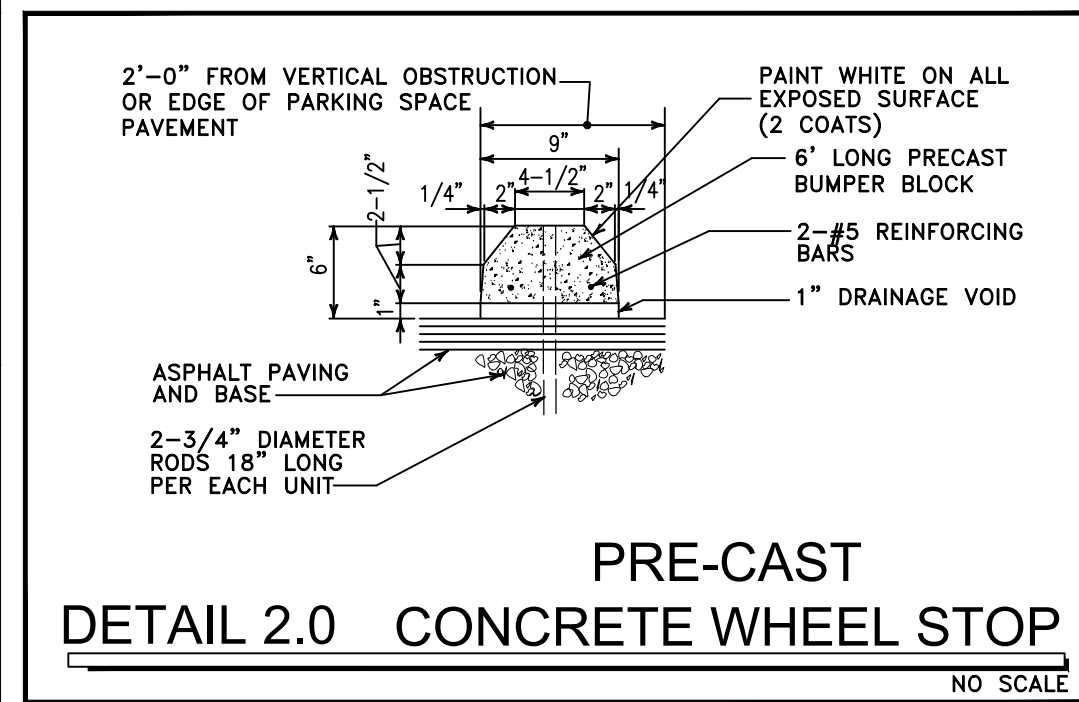
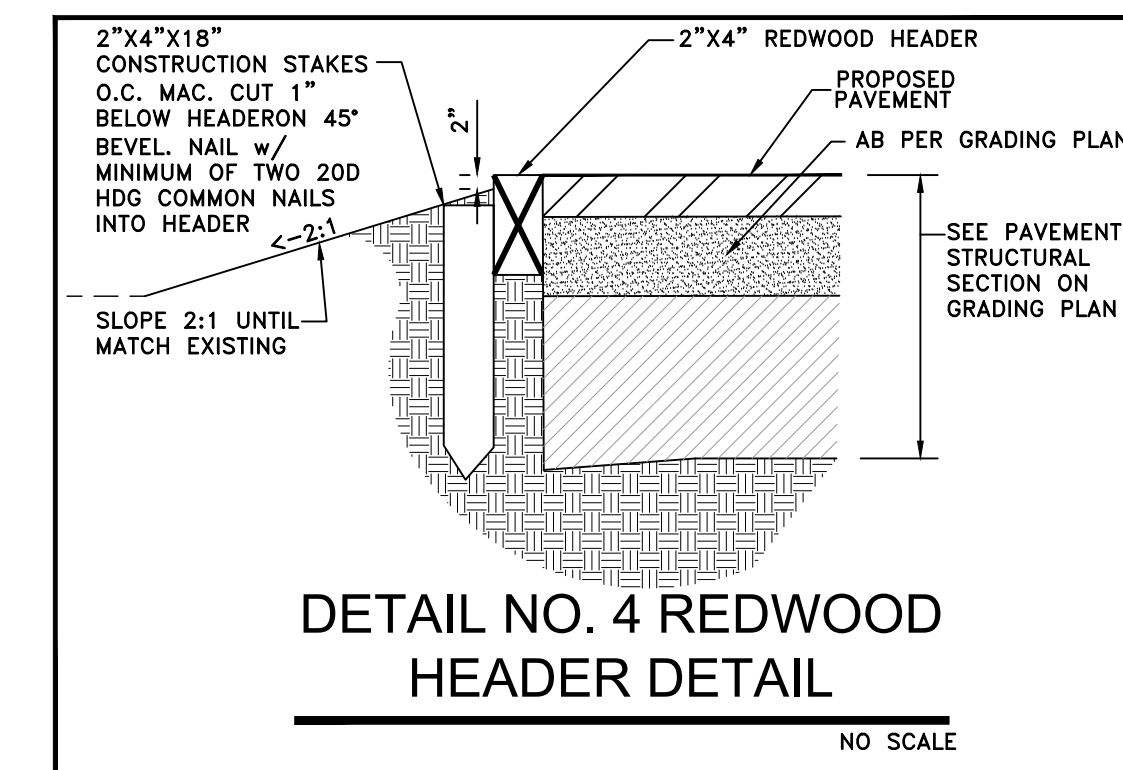
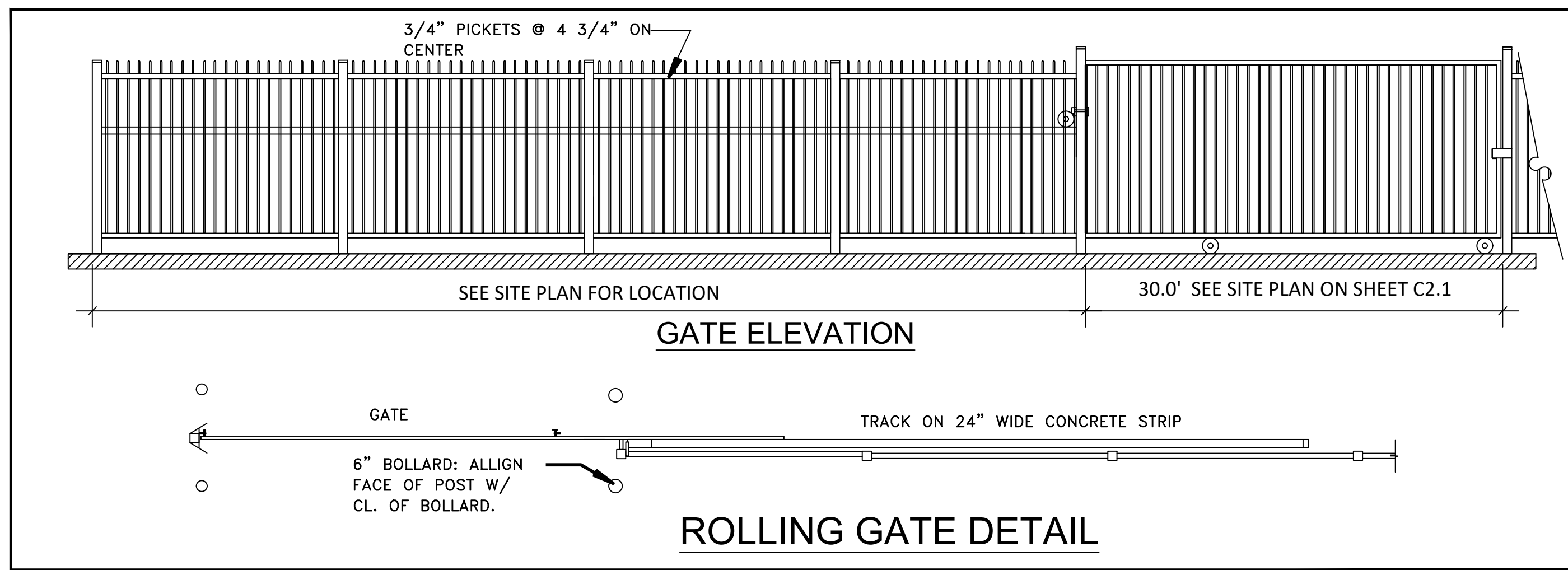
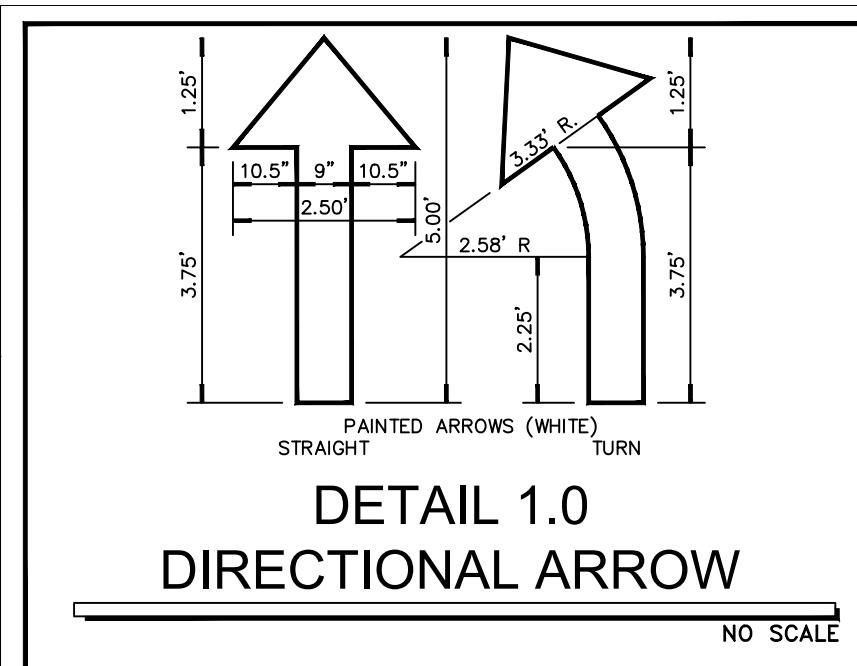
Fresno County Department of Public Works and Planning Capital Projects  
2220 Tulare Street, 8th Floor Fresno, California 93721

Sheet No. C7.0

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

PREPARED UNDER THE DIRECTION OF:  
  
DANIEL J. ZOLDAK  
REGISTERED PROFESSIONAL ENGINEER  
NO. 66124  
CIVIL  
STATE OF CALIFORNIA  
FCE 66124





2	Bid Addendum 2 5-21-2021	A	Plan Review Corrections 5-21-2021
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**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  
 2018 ECC

**Sheet Content:**  
 CONSTRUCTION DETAILS

Fresno County Department of  
 Public Works and Planning  
 Capital Projects

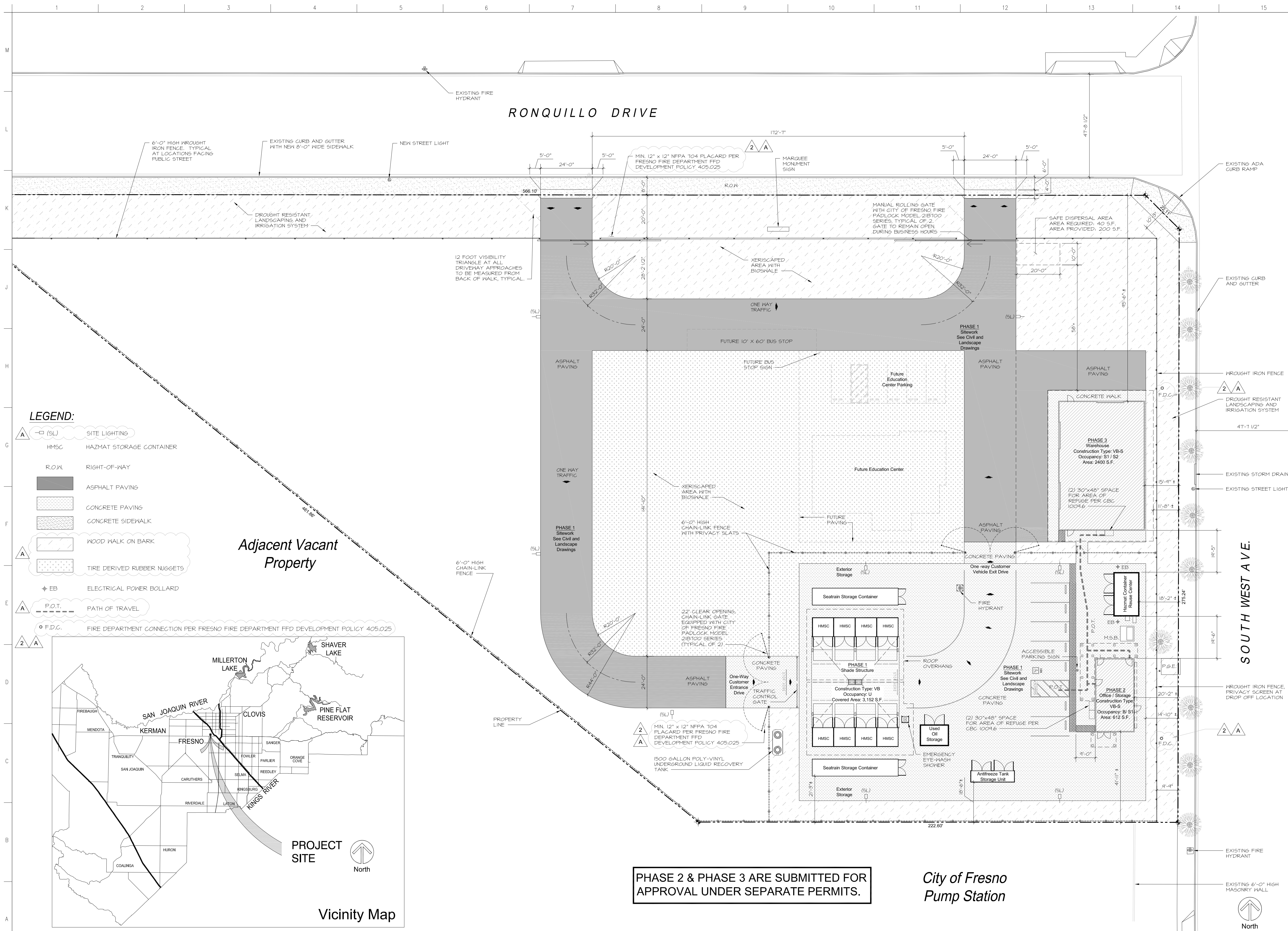
2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No. C8.0

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

PREPARED UNDER THE DIRECTION OF:  
  
 DANIEL J. ZOLDAK  
 REGISTERED PROFESSIONAL ENGINEER  
 DANIEL J. ZOLDAK  
 No. 66124  
 CIVIL  
 STATE OF CALIFORNIA  
 FCE 66124





- LEGEND:**
- △ (SL) SITE LIGHTING
  - HMSC HAZMAT STORAGE CONTAINER
  - ROWL RIGHT-OF-WAY
  - ASPHALT PAVING
  - CONCRETE PAVING
  - CONCRETE SIDEWALK
  - WOOD WALK ON BARK
  - TIRE DERIVED RUBBER NUGGETS
  - EB ELECTRICAL POWER BOLLARD
  - P.O.T. PATH OF TRAVEL
  - F.D.C. FIRE DEPARTMENT CONNECTION PER FRESNO FIRE DEPARTMENT FFD DEVELOPMENT POLICY 405.025

Adjacent Vacant Property

PHASE 2 & PHASE 3 ARE SUBMITTED FOR APPROVAL UNDER SEPARATE PERMITS.

City of Fresno  
Pump Station

**FRESNO FIRE NOTES:**

- TURNS IN PRIVATE DRIVES FOR FIRE APPARATUS ACCESS SHALL HAVE MINIMUM 44'-0" CENTERLINE TURN RADIUS.
- EMERGENCY VEHICLES ACCESS SHALL BE DESIGNATED BY PAINTING THE CURB RED (TOP AND SIDE) AND STENCILING FIRE LANE NO PARKING IN 3 INCHES WHITE LETTERS ON THE MOST VERTICAL CURB, AT LEAST EVERY 50 FEET. IF NO CURB IS PRESENT, A MINIMUM 6 INCHES WIDE RED STRIPE SHALL BE PAINTED ALONG THE EDGE OF THE ROADWAY WITH "FIRE LANE" IN 3 INCHES WHITE LETTERS AT LEAST EVERY 50 FEET. (FFD DEVELOPMENT POLICY 403.005)
- PROVIDE APPROVED POLICE/FIRE BY PASS ("BEST") PADLOCK MODEL 218100 SERIES OR ELECTRIC CYLINDER SWITCH MODEL INTB2) ON DRIVE ACCESS GATES. ALL ELECTRIFIED SHALL BE EQUIPPED WITH BEST ELECTRIC CYLINDER LOCK INTB2. A KNOX PADLOCK MAY NOT BE USED IN PLACE OF THE BEST PADLOCK MODEL 218100. THESE LOCKS CAN BE PURCHASED ONLY THROUGH SIERRA LOCK AND GLASS, 1560 N. PALM AVENUE, FRESNO CA 93712.
- PROVIDE SIGNS 17"x22" MINIMUM AT ALL PUBLIC ENTRANCE DRIVES TO THE PROPERTY WHICH STATE "WARNING - VEHICLES STOPPED, PARKED OR LEFT STANDING IN FIRE LANES WILL BE IMMEDIATELY REMOVED AT OWNER'S EXPENSE - 22658(A) CALIFORNIA VEHICLE CODE - FRESNO POLICE DEPARTMENT 621-2300".
- FIRE HYDRANTS AND ACCESS ROADS SHALL BE INSTALLED, TESTED AND APPROVED AND SHALL BE MOUNTED SERVICEABLE PRIOR TO AND DURING ALL PHASES OF DEVELOPMENT THE 4 1/2 INCH OUTLET SHALL FACE THE ACCESS LANE.
- THE PROPOSED ON SITE HYDRANTS SHALL BE EQUIPPED WITH AN 8 INCH MAIN AND A FIRE FLOW OF 1500 GPM.
- NFPA 704 PLACARDS ARE FURNISHED BY OWNER, CONTRACTOR TO INSTALL.

**LICENSED ARCHITECT**  
**TRIANA L. PEREZ**  
 STATE OF CALIFORNIA  
 C-38000  
 REN: 01-31-23  
 E-mail: tperez@fresnocountyca.gov

ARCHITECT:  
 Triana 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

**Fresno County Environmental Compliance Center**  
**Phase 1: 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 1\Projects 1\Building Numbers 1\American Ave Landfill 1\T90203 Environmental Compliance Center 00 2018 ECC

**Sheet Content:**  
 Overall Site plan

Fresno County Department of  
 Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**A1.1**

2	Bid Addendum 2 5-21-2021	A	Plan Review Corrections 5-21-2021
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**LIST OF CONTENTS STORED AT THE FACILITY**

- Warehouse**  
 Building type: VB  
 Occupancy: S  
 Materials Planned to be stored include the following: No Flammable and no Explosive.
- A. Universal Waste**
- Dry cell batteries
  - Fluorescent bulbs
  - Ballasts
  - Metal cabinets
- B. E-Waste**
- Used computers
  - Used electronics
  - Small appliances
  - Battery operated items
  - Flat screen tv's
  - Mattresses
- Office Building & Storage**  
 Building type: VB  
 Occupancy: B & S  
 Materials Planned to be stored in the storage include the following:
- Clothing
  - Personal protective gear
  - Safety glasses
  - Gloves
  - Tyvek Suits
  - Plastic trash bags
  - Soap
  - Absorbent and spill remediation materials
- Shade Structure: Hazardous**  
 Material Storage Containers  
 Building type: VB  
 Occupancy: H2- H3 and H4  
 NFPA Placard provided.
- Antifreeze Tank Storage Unit**  
 Building type: VB  
 Occupancy: H2- H3 and H4  
 NFPA Placard provided.
- Used Oil Storage**  
 Building type: VB  
 Occupancy: H2- H3 and H4  
 NFPA Placard provided.
- Hazmat Container Reuse Center**  
 Building type: VB  
 Occupancy: H2- H3 and H4  
 NFPA Placard provided.
- Seatrain Storage Containers**  
 Building type: VB  
 Occupancy: S
- 1. Universal Waste**
- Dry cell batteries
  - Fluorescent bulbs
  - Ballasts
  - Metal cabinets
- 2. E-Waste**
- Used computers
  - Used electronics
  - Small appliances
  - Battery operated items
  - Flat screen tv's
- Exterior Storage**  
 Materials: Empty wood pallets, drums metal and plastic

Type of Waste	No. of Containers/Weight	Type of Container
Motor Oil	1	1,000 g AST
Automotive Coolant	1	140 gallons
U-waste, Electronics	4000	Lbs.
U-waste Lamps	2000	Linear feet in boxes/drums
Alkaline Batteries	8	55 gal drum
Rechargeable Batteries	4	55 gal drum
Corrosive Acid	8	55 gal drum
Corrosive Base	17	55 gal drum
Cyanide	1	5 gal drum
Aerosols	1	55 gal drum
Flammable Liquid	6	55 gal drum
Flammable Solid	1	Cubic yard
Fertilizer Solids	2	55 gal drum
Latex Paint	20	Cubic yard
Lead Acid Batteries	1	Box of 32
Oil Base Paint	30	Cubic yard
Oxidizer Liquid	1	30 gal drum
Oxidizer Solid	1	30 gal drum
Poison Liquid	25	55 gal drum
Poison Solid	25	Cubic yard
PCB Ballasts	1	55 gal drum
Non-RCRA Oil	6	55 gal drum
Asbestos Roof Tar	1	55 gal drum

**PHASE 2 & PHASE 3 ARE SUBMITTED FOR APPROVAL UNDER SEPARATE PERMITS.**

**PHASE 3 Warehouse**  
 Construction Type: VB-S  
 Occupancy: S-1/ S-2  
 Area: 2400 S.F.  
 NOT THIS SCOPE

**Hazmat Container Reuse Center (OFCI)**

**PHASE 2 Office/Storage Building**  
 Construction Type: VB-S  
 Occupancy: B / S1  
 Area: 612 S.F.  
 NOT THIS SCOPE

**Seatrain Storage Container (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**HMSC (OFCI)**

**PHASE 1 Shade Structure**  
 Construction Type: VB  
 Occupancy: U  
 Covered Area: 3,152 S.F.

**Emergency Eye Wash**

**Used Oil Storage (OFCI)**

**Antifreeze Tank Storage Unit (OFCI)**

- GENERAL NOTES:**
1. SWING GATES AT BOTH ENTRY AND EXIT GATE LOCATIONS SHALL BE EQUIPPED WITH A CITY OF FRESNO FIRE DEPARTMENT LOCK.
  2. THERE SHALL BE NO VERTICAL OFFSET GREATER THAN 1/2" ALONG THE ENTIRE PATH OF TRAVEL FROM THE PUBLIC WAY/ACCESSIBLE PARKING STALL INTO THE OFFICE BUILDING OR TOILET BUILDING.
  3. ENTIRE SURFACE BETWEEN CONCRETE SLAB AND FENCE SHALL BE 2" MINIMUM GRAVEL (CLASS II AGGREGATE) OVER 10 MIL. BLACK VISQUEEN. VISQUEEN SHALL BE LAPPED A MINIMUM OF 36" INCHES AT SEAMS. VISQUEEN SHALL BE LAID OVER MACHINE COMPACTED SOIL FOLLOWING GRADES SHOWN ON CIVIL DRAWINGS. VISQUEEN SHALL NOT BE VISIBLE ONCE GRAVEL HAS BEEN PLACED. COMPACTION TESTING WILL NOT BE REQUIRED.
  4. SEE PLUMBING DRAWINGS FOR SPECIFICATIONS AND MOUNTING OF EMERGENCY SHOWER EYEWASH.
  5. THIS PERMIT DOES NOT INCLUDE ANY HIGH-STORAGE (PER CFC) OR RACK STORAGE OVER 8 FEET IN HEIGHT. ANY SUCH PROPOSED STORAGE WILL REQUIRE SUBMITTAL OF PLANS AND APPLICATION FOR PERMIT(S). 2019 CFC, CHAPTER 32.

- LEGEND:**
- (SL) SITE LIGHTING
  - HMSC HAZMAT STORAGE CONTAINER
  - R.O.W. RIGHT-OF-WAY
  - ASPHALT PAVING
  - CONCRETE PAVING
  - WOOD WALK ON BARK
  - TIRE DERIVED RUBBER NUGGETS
  - EB ELECTRICAL POWER BOLLARD
  - P.O.T. PATH OF TRAVEL
  - F.D.C. FIRE DEPARTMENT CONNECTION PER FRESNO FIRE DEPARTMENT FED DEVELOPMENT POLICY 405.025
  - OFCI OWNER FURNISHED CONTRACTOR INSTALLED. SEE SHEETS 2.3 AND 2.4 FOR CONTRACTOR'S SCOPE FOR OFCI CONTAINERS

**LICENSED ARCHITECT**  
 TIANA L. PEREZ  
 STATE OF CALIFORNIA  
 ARCHITECT:  
 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  
 E-mail: tperez@fresnocountyca.gov

**Fresno County Environmental Compliance Center**  
**Phase 1: 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 2018 ECC

**Sheet Content:**  
 Enlarged Site plan

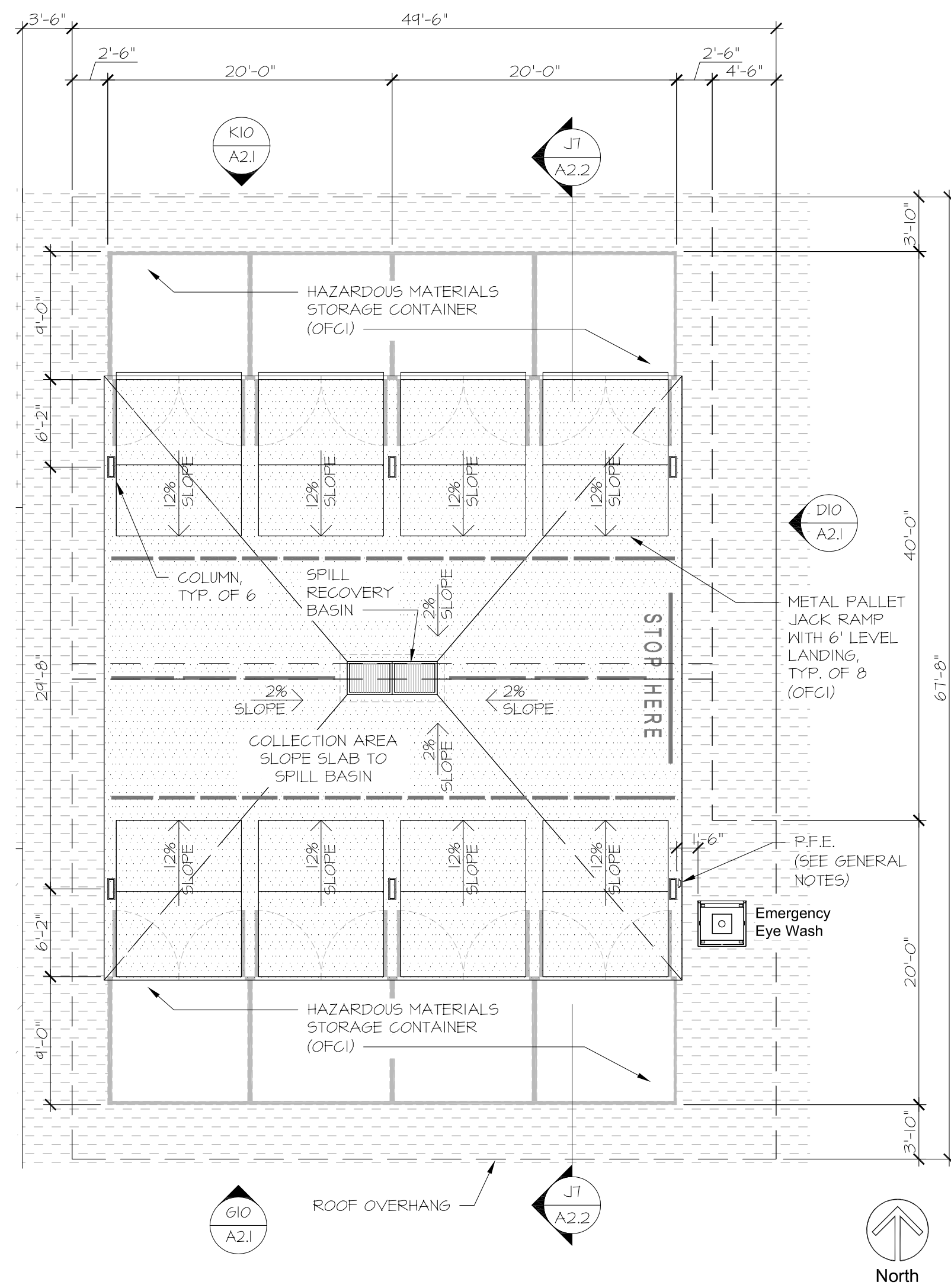
Fresno County Department of Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**A1.2**

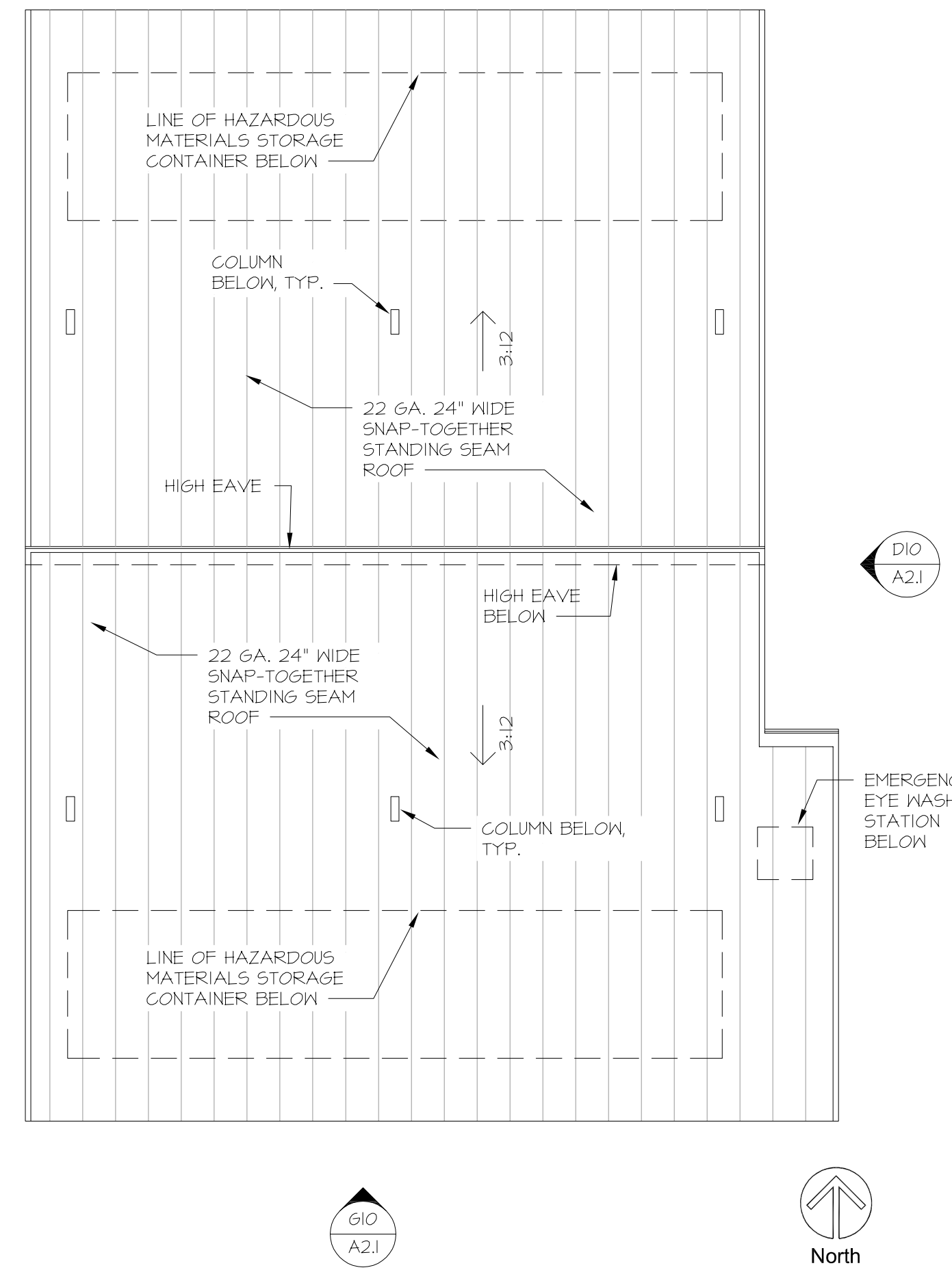
2	Bid Addendum 2 5-21-2021	A	Plan Review Corrections 5-21-2021
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**A1 Enlarged Site Plan**  
 Scale: 1"=10'-0"

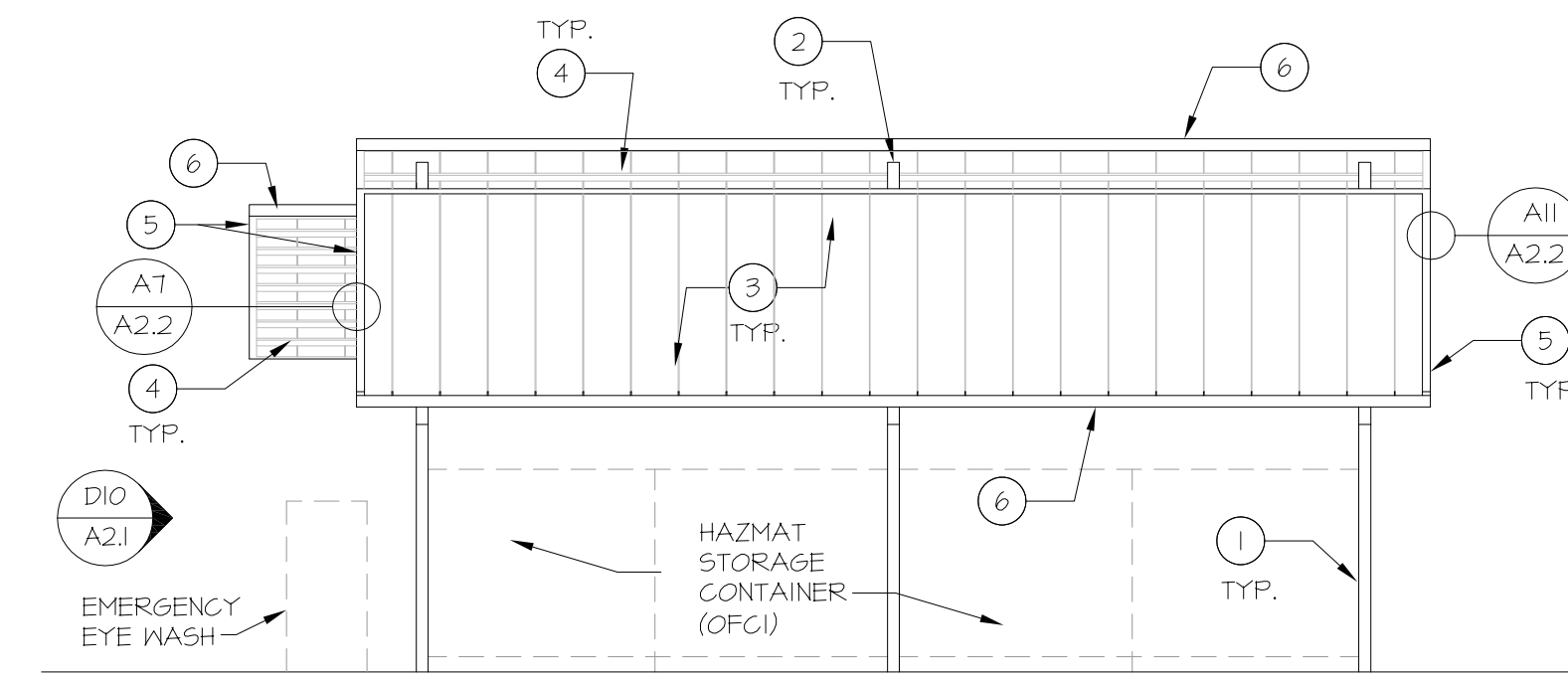




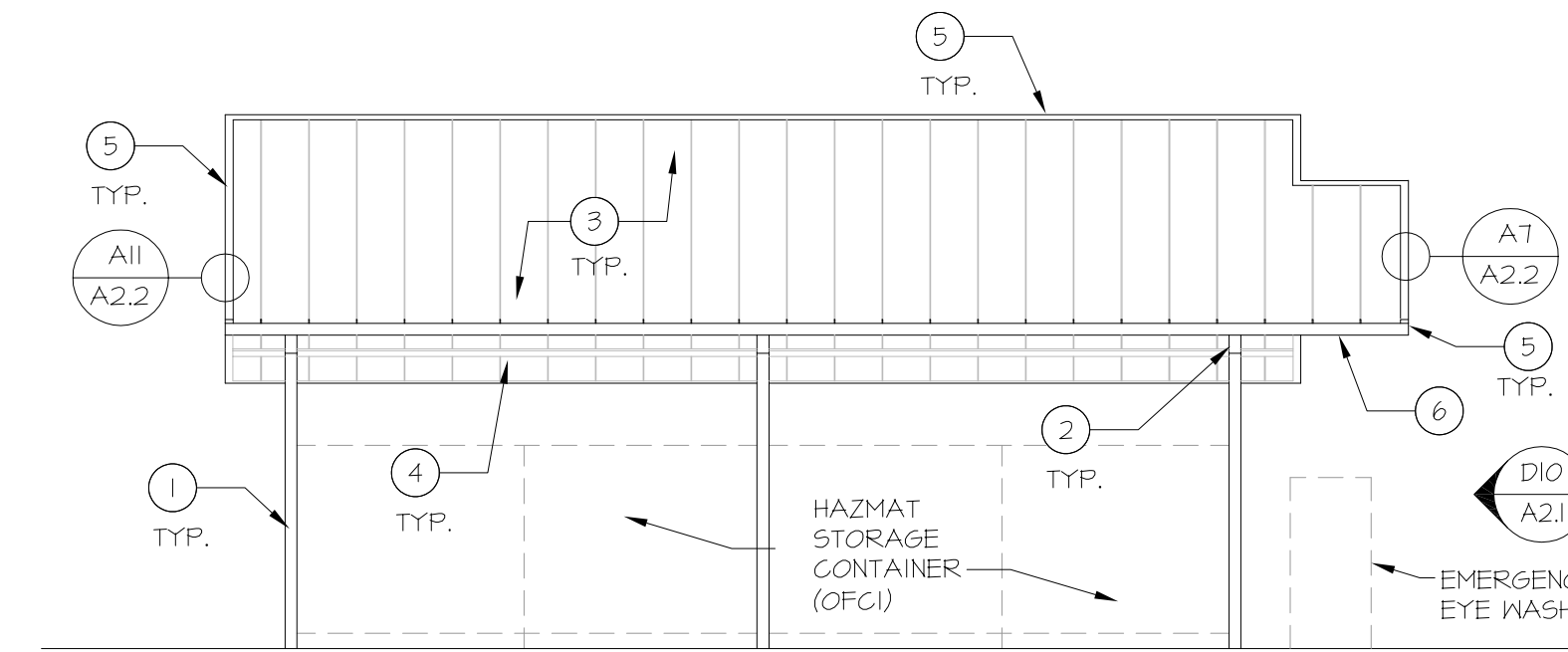
**A1 Floor Plan**  
Scale: 1/8"=1'-0"



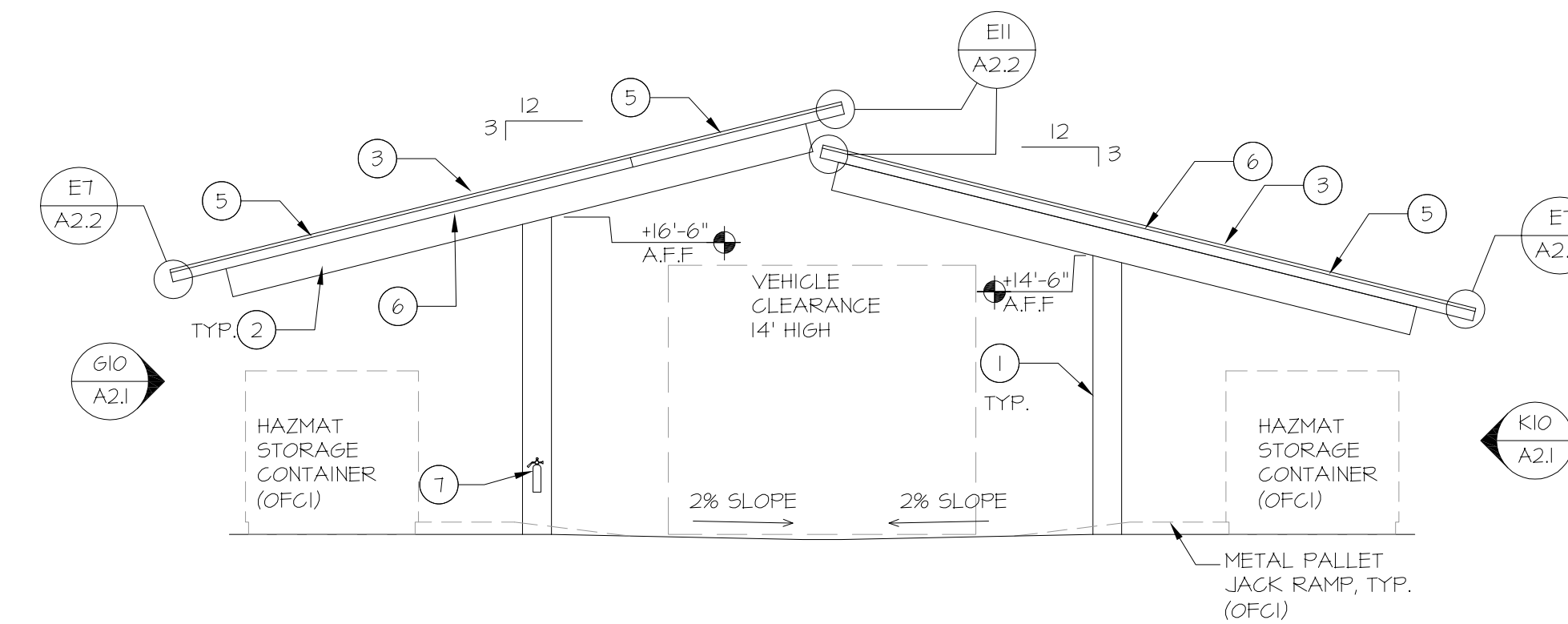
**A6 Roof Plan**  
Scale: 1/8"=1'-0"



**K10 Exterior Elevation**  
Scale: 1/8"=1'-0"



**G10 Exterior Elevation**  
Scale: 1/8"=1'-0"



**D10 Exterior Elevation**  
Scale: 1/8"=1'-0"

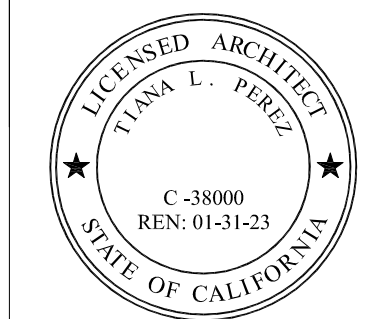
**ELEVATION KEYNOTES**

- METAL BUILDING COLUMN PER PRE-ENGINEERED METAL BUILDING MANUFACTURER.
- METAL BUILDING RIGID FRAME PER PRE-ENGINEERED METAL BUILDING MANUFACTURER.
- 22 GA. 24" WIDE SNAP-TOGETHER STANDING SEAM ROOF, SEE SPECIFICATIONS.
- METAL BUILDING PURLIN PER PRE-ENGINEERED METAL BUILDING MANUFACTURER.
- 24 GA. 6:1 FLASHING/ TRIM, SEE DETAILS.
- METAL FASCIA PER PRE-ENGINEERED METAL BUILDING MANUFACTURER.
- 4A.40B.C PORTABLE FIRE EXTINGUISHER INSTALLED AT 48" MAX. A.F.F. TO TOP OF EXTINGUISHER (4" MAX. PROJECTION) WITH 75-FOOT MAX. TRAVEL DISTANCE.

**LEGEND:**

OFCI OWNER FURNISHED CONTRACTOR INSTALLED ITEMS. REFER TO GENERAL NOTE 9 IN DETAIL A/THIS SHEET AND SHEETS A2.3 AND 2.4

**A10 Exterior Elevation Notes**  
Scale: N.T.S.



ARCHITECT:  
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**Fresno County Environmental Compliance Center Phase 1: 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 2018 ECC

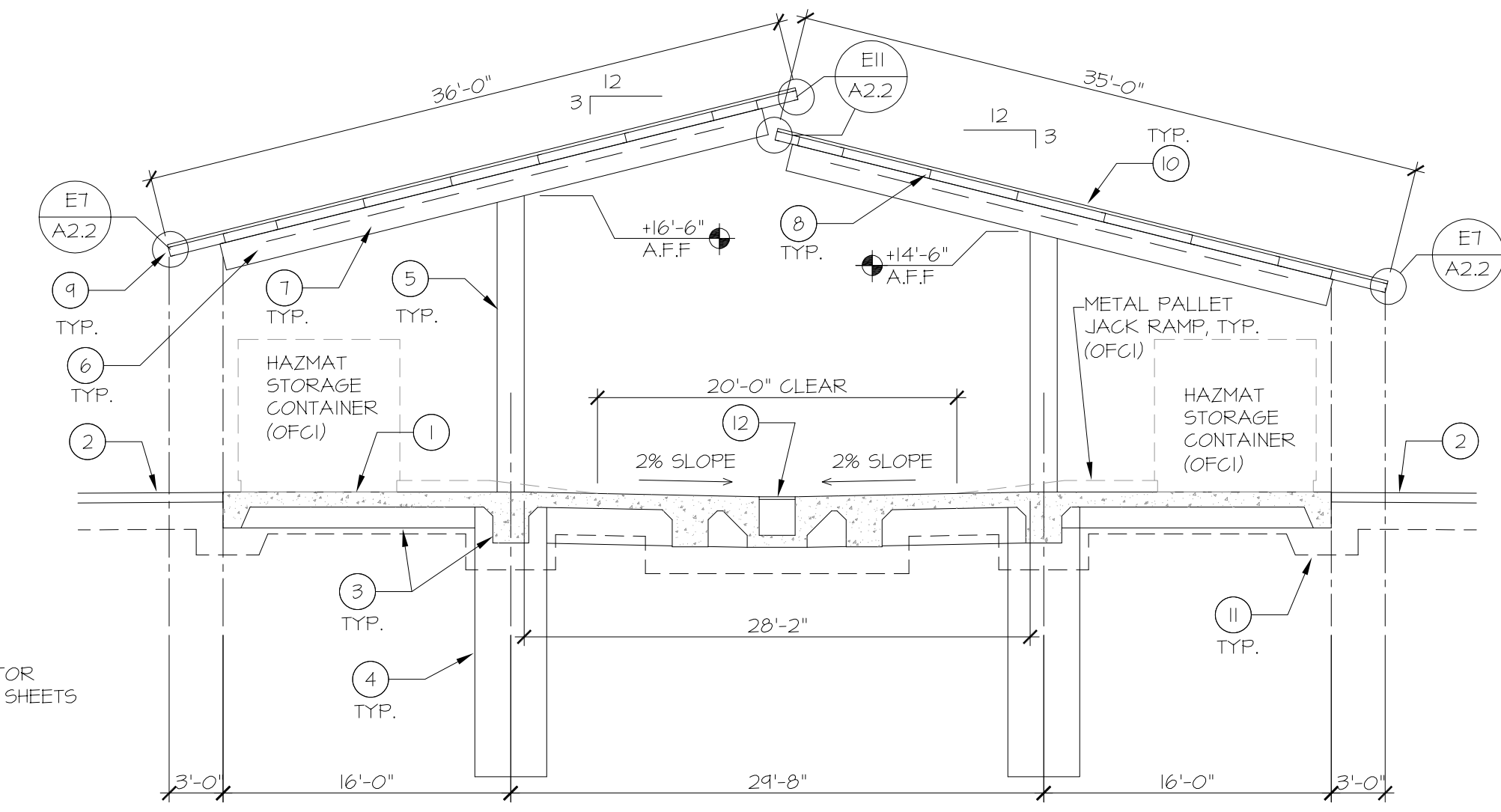
**Sheet Content:**  
Floor Plan & Exterior Elevations

Fresno County Department of Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No.  
**A2.1**

Bid Addendum 2 5-21-2021  
Plan Review Corrections 5-21-2021



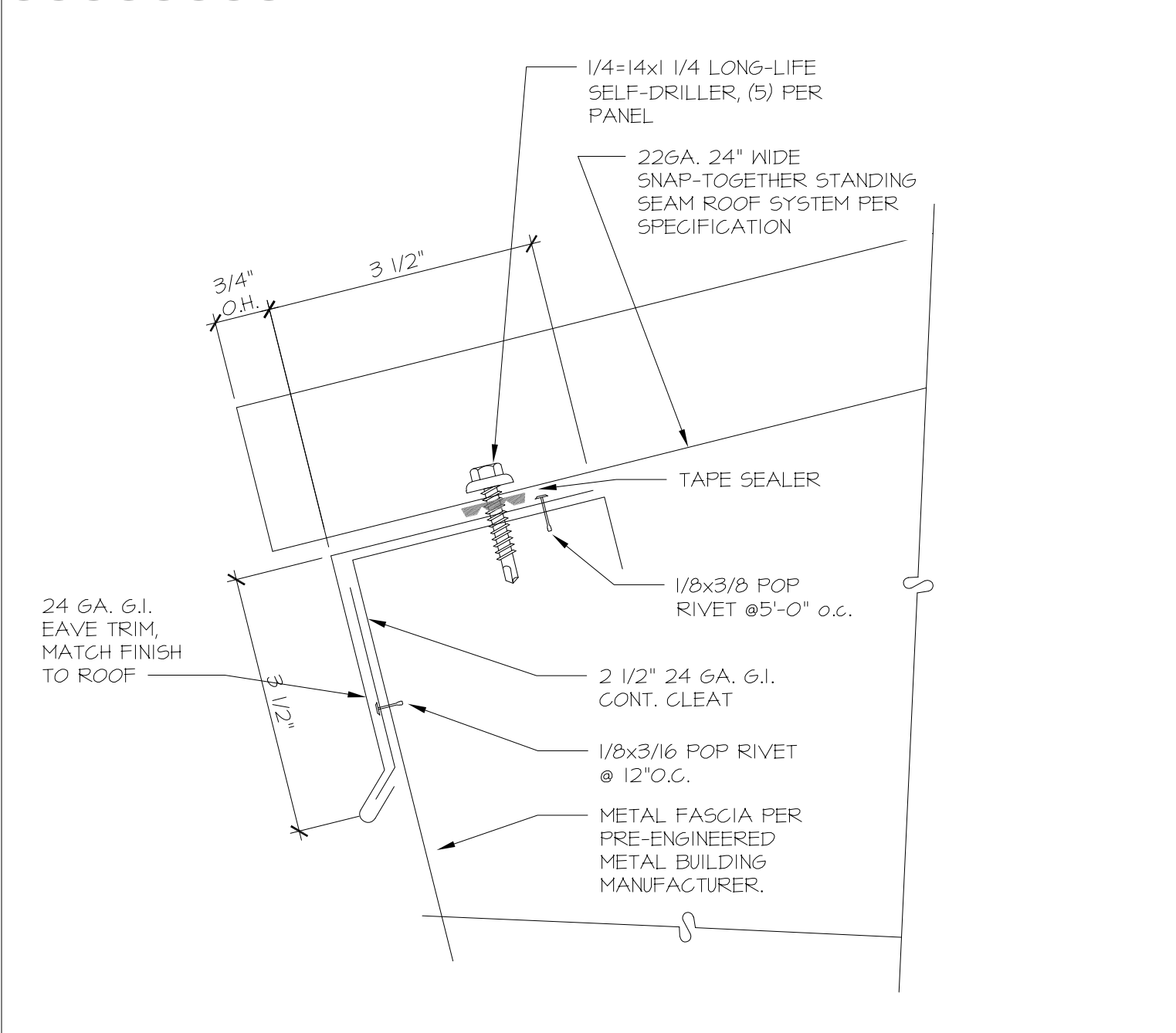


- SECTION KEYNOTES (X)**
- 10" CONCRETE SLAB, SEE STRUC. DWGS.
  - 6.5" CONCRETE PAVEMENT, SEE CIVIL DWGS.
  - CONCRETE TIE BEAM, SEE STRUC. DWGS.
  - DRILLED PIER FOOTING BELOW COLUMN, SEE STRUC. DWGS.
  - METAL BUILDING COLUMN PER PRE-ENGINEERED METAL BUILDING MANUFACTURER.
  - METAL BUILDING BEAM PER PRE-ENGINEERED METAL BUILDING MANUFACTURER.
  - METAL BUILDING RIGID FRAME PER PRE-ENGINEERED METAL BUILDING MANUFACTURER.
  - METAL BUILDING PURLIN PER PRE-ENGINEERED METAL BUILDING MANUFACTURER.
  - METAL FASCIA PER PRE-ENGINEERED METAL BUILDING MANUFACTURER.
  - 22 GA. 24" WIDE SNAP-TOGETHER STANDING SEAM ROOF, SEE SPECIFICATIONS.
  - AGGREGATE FILL/ENGINEERED SOIL PER SOIL REPORT. ADDITIONALLY REFER TO CIVIL AND STRUCTURAL DRAWINGS.
  - DRAINAGE BASIN, SEE STRUCTURAL DWGS.

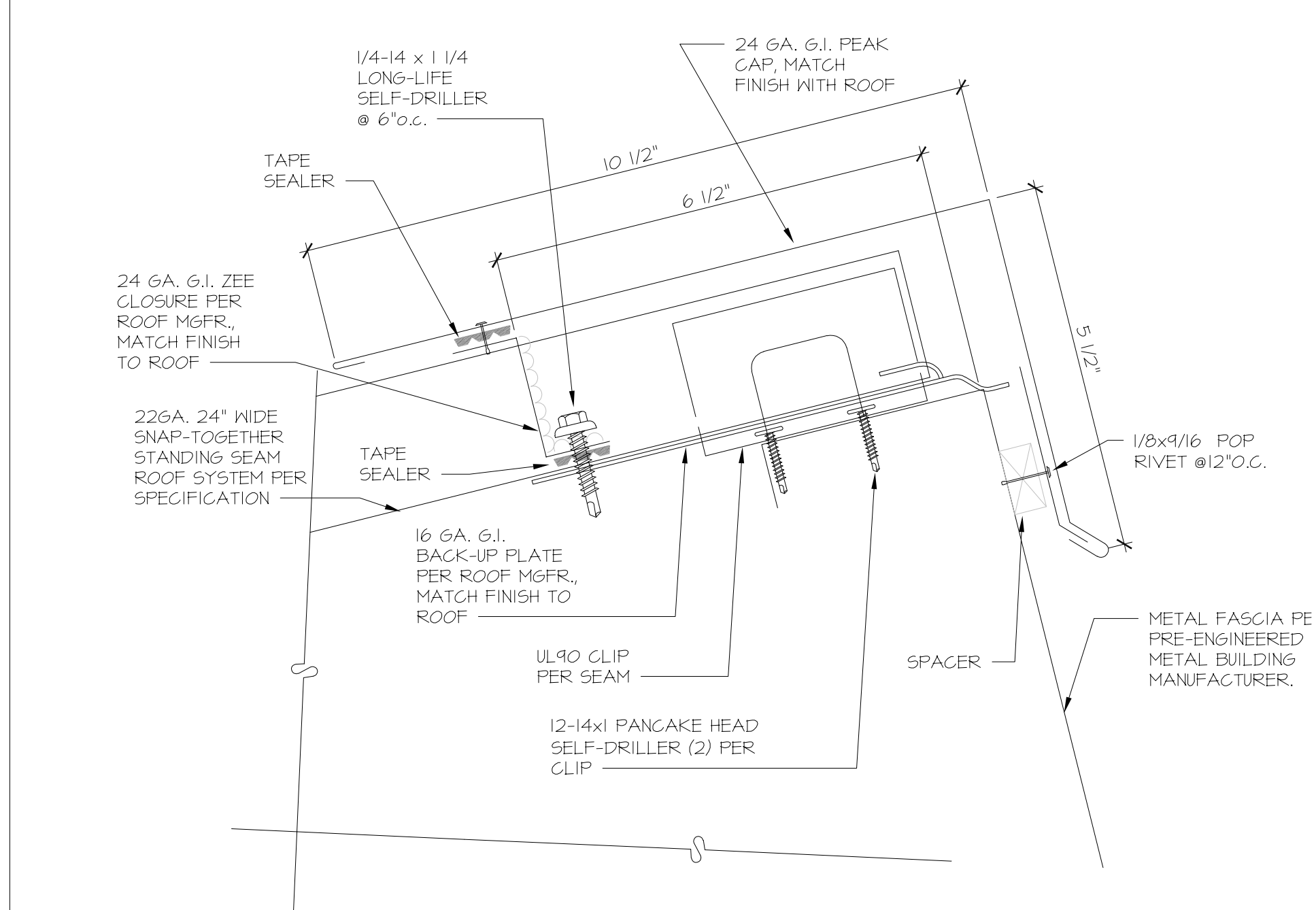
**LEGEND:**

OFCI OWNER FURNISHED CONTRACTOR INSTALLED ITEMS, REFER TO SHEETS A2.3 AND 2.4

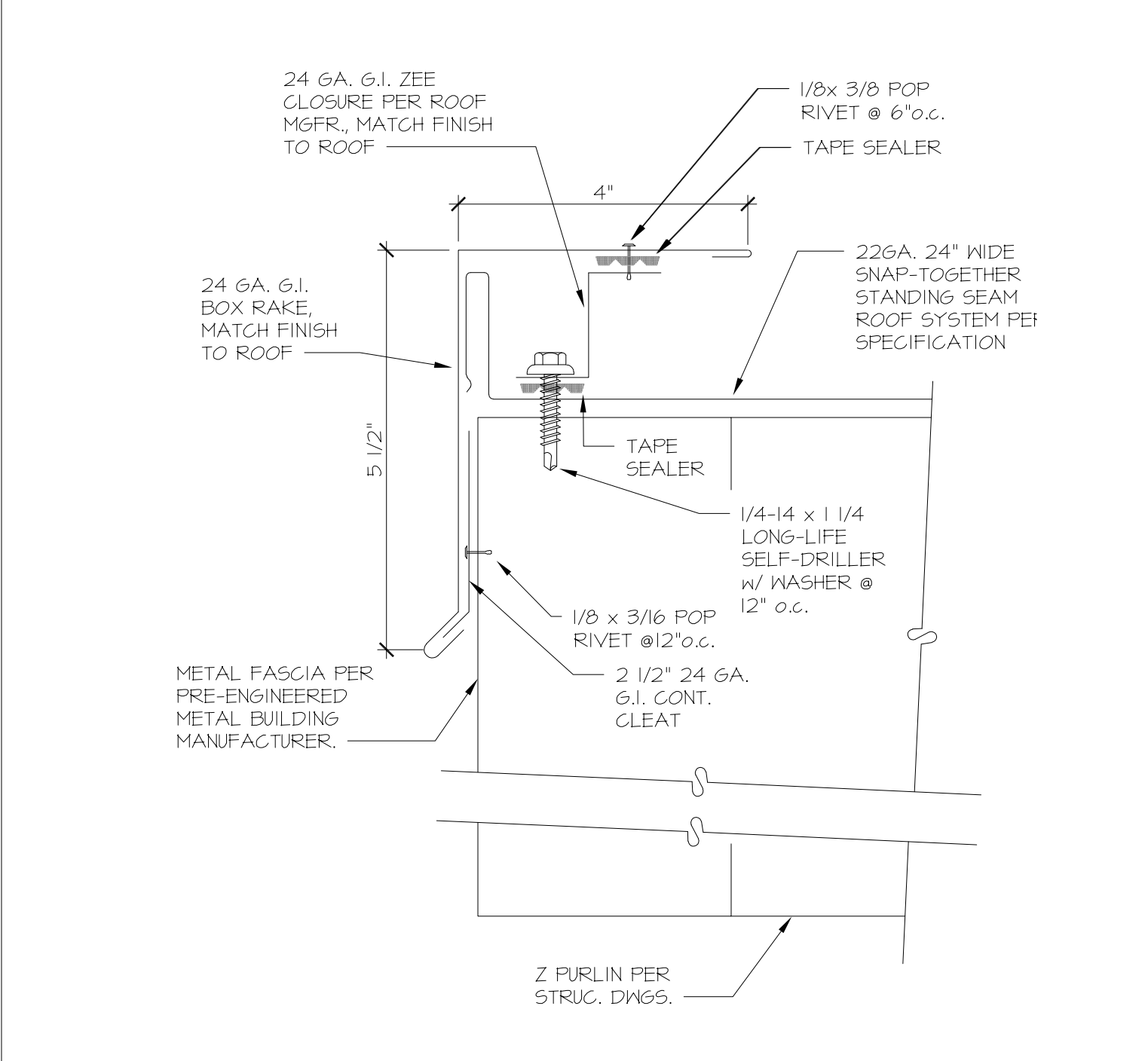
**J7 Section**  
Scale: 1/8"=1'-0"



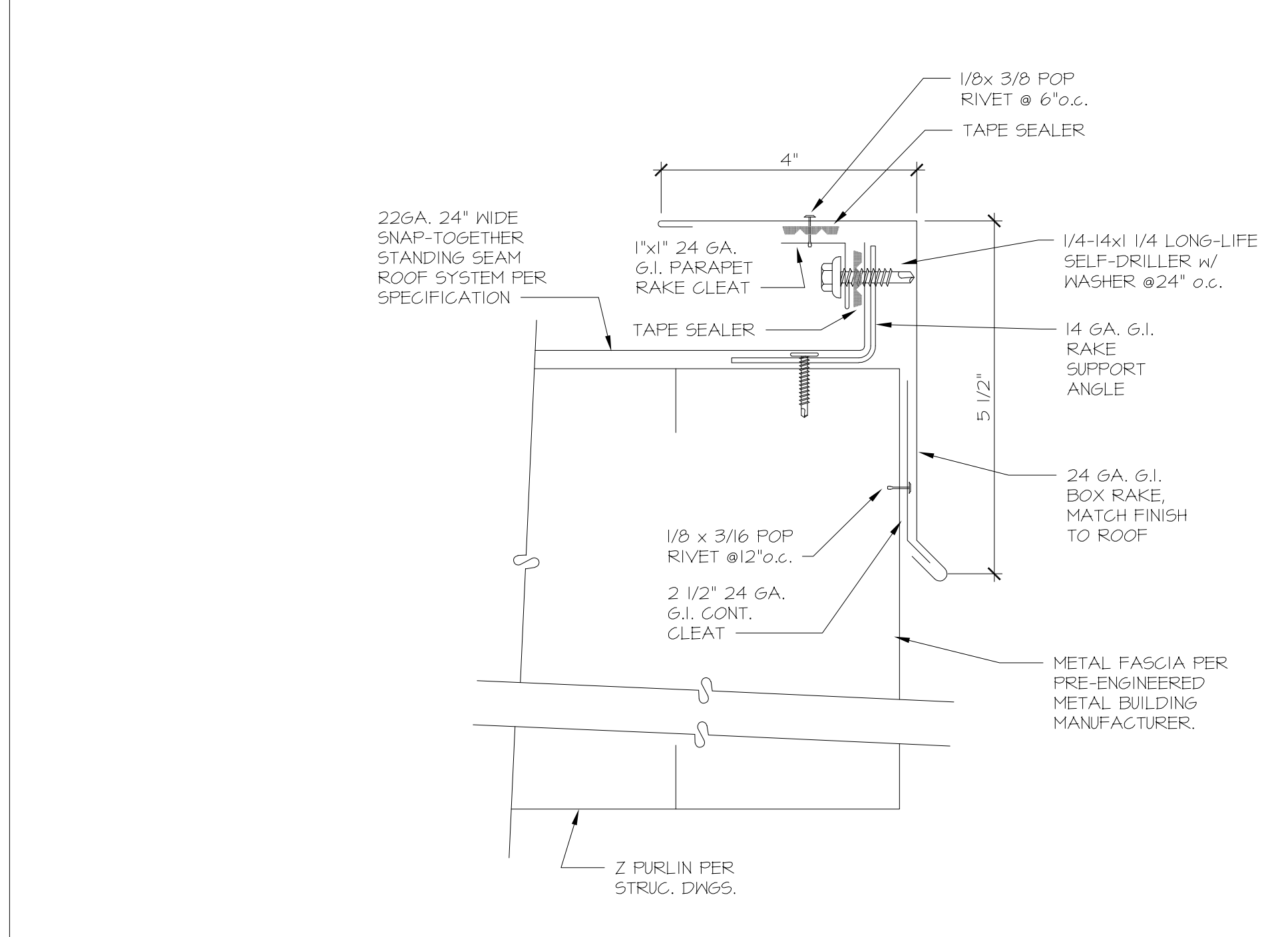
**E7 Eave Detail**  
Scale: 6"=1'-0"



**E11 Ridge Detail**  
Scale: 6"=1'-0"



**A7 Rake Detail**  
Scale: 6"=1'-0"



**A11 Ridge Detail**  
Scale: 6"=1'-0"

**LICENSED ARCHITECT**  
TIANA L. PEREZ  
ARCHITECT  
Tiana L. Perez, Architect  
California Licensed Architect No. C-38000  
Ren. 01-31-23  
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**Fresno County Environmental Compliance Center**  
**Phase 1: 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 2018 ECC

**Sheet Content:**  
Sections & Details

Fresno County Department of  
Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

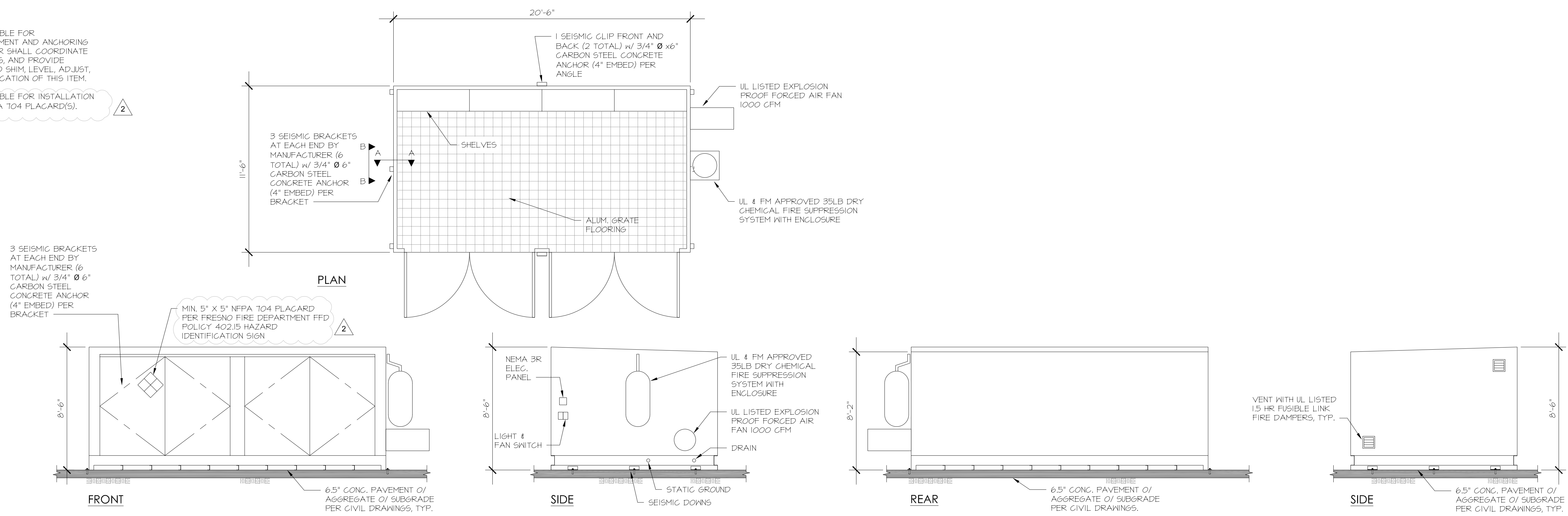
Sheet No.  
**A2.2**

2	Bid Addendum 2 5-21-2021	A	Plan Review Corrections 5-21-2021
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**GENERAL NOTES:**

- CONTRACTOR IS RESPONSIBLE FOR OFF-LOADING, SITE PLACEMENT AND ANCHORING OF THIS ITEM. CONTRACTOR SHALL COORDINATE DELIVERY, FURNISH ANHORS, AND PROVIDE LABOR AND MATERIALS TO SHIM, LEVEL, ADJUST, AND SECURE THE FINAL LOCATION OF THIS ITEM.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF OWNER FURNISHED NFPA T04 PLACARD(S).

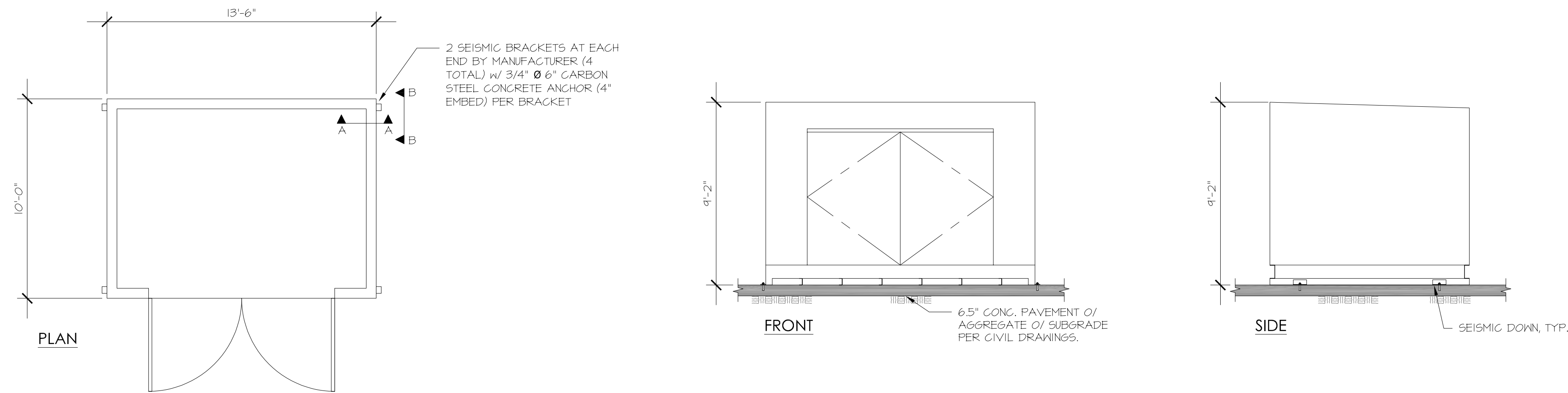


**G1 HAZMAT CONTAINER REUSE CENTER (2HR FIRE RATED)**

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

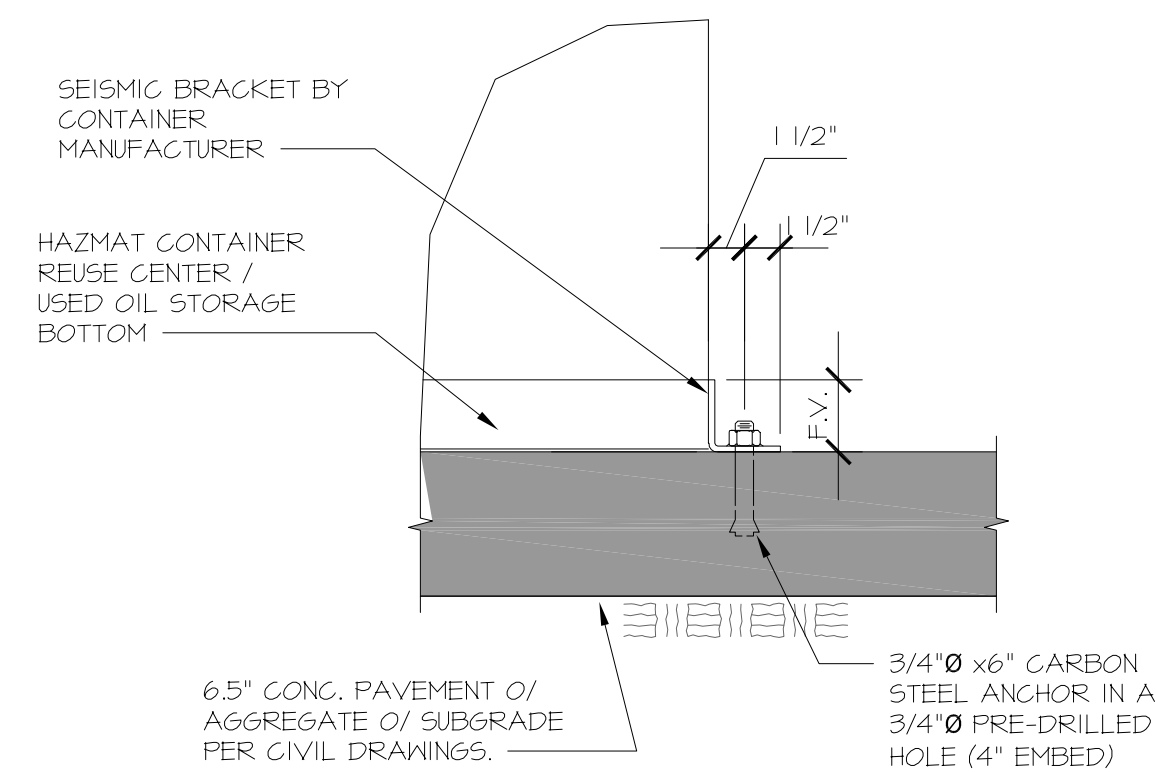
**GENERAL NOTES:**

- CONTRACTOR IS RESPONSIBLE FOR OFF-LOADING, SITE PLACEMENT AND ANCHORING OF THIS ITEM. CONTRACTOR SHALL COORDINATE DELIVERY, FURNISH ANHORS, AND PROVIDE LABOR AND MATERIALS TO SHIM, LEVEL, ADJUST, AND SECURE THE FINAL LOCATION OF THIS ITEM.



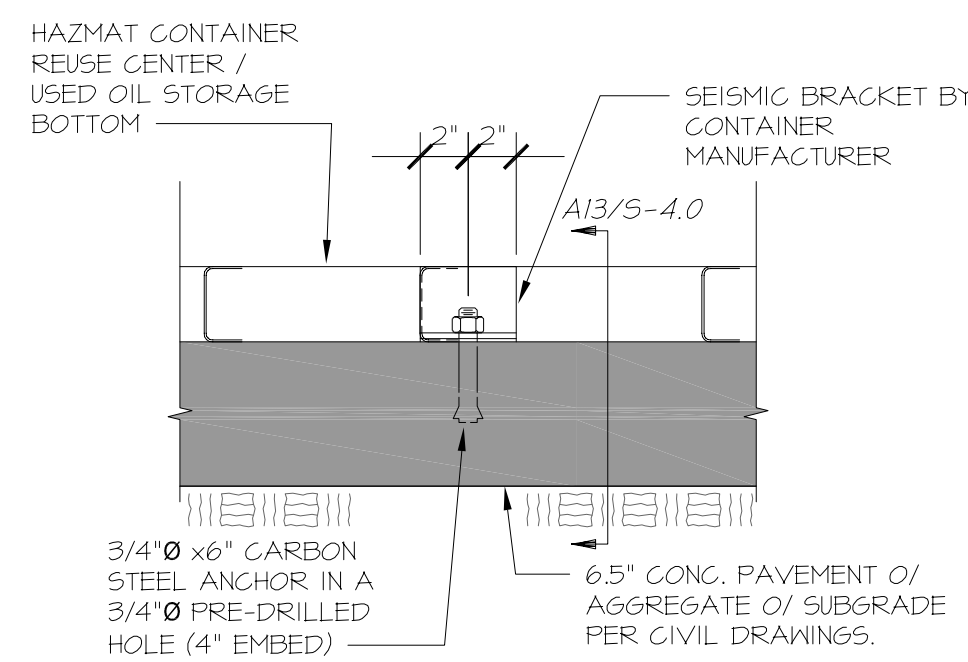
**D1 USED OIL STORAGE (2 HOUR FIRE RATED)**

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



**A1 Anchoring Detail A-A**

Scale: 1 1/2"=1'-0"



**A5 Anchoring Detail B-B**

Scale: 1 1/2"=1'-0"

**A8 Not Used**

Scale:-



ARCHITECT:  
Tiana L. Perez, Architect  
California Licensed Architect No. C-38000  
REN: 01-31-23  
Fresno County Department of  
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2220 Tulare Street, Eighth Floor  
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Office: (559) 600-4536  
E-mail: tperez@fresnocountyca.gov

**Fresno County  
Environmental Compliance Center  
Phase 1: 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  
2018 ECC

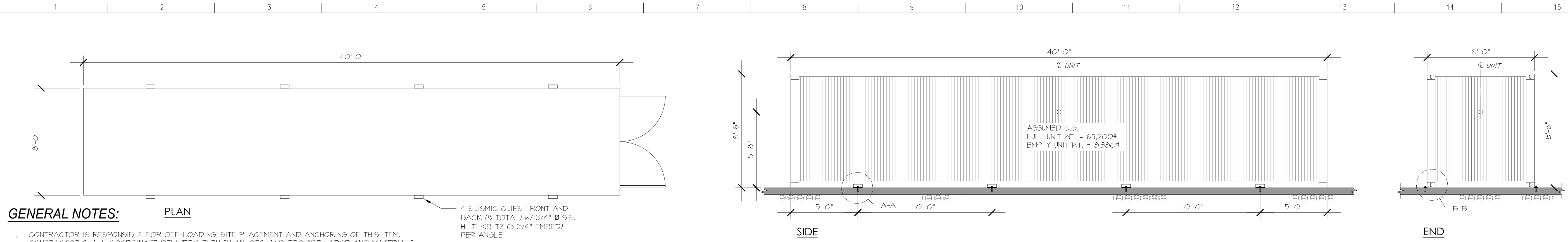
**Sheet Content:**  
Site Containers:  
Hazmat Container Reuse Center  
Used Oil Storage

Fresno County Department of  
Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

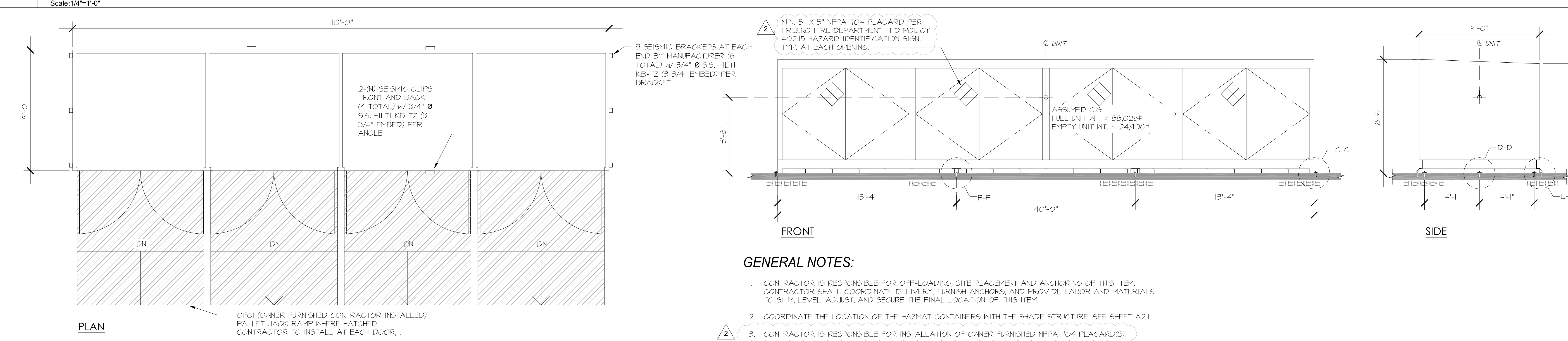
Sheet No.  
**A2.3**

<b>Bid Addendum 2</b> 5-21-2021	<b>Plan Review Corrections</b> 5-21-2021
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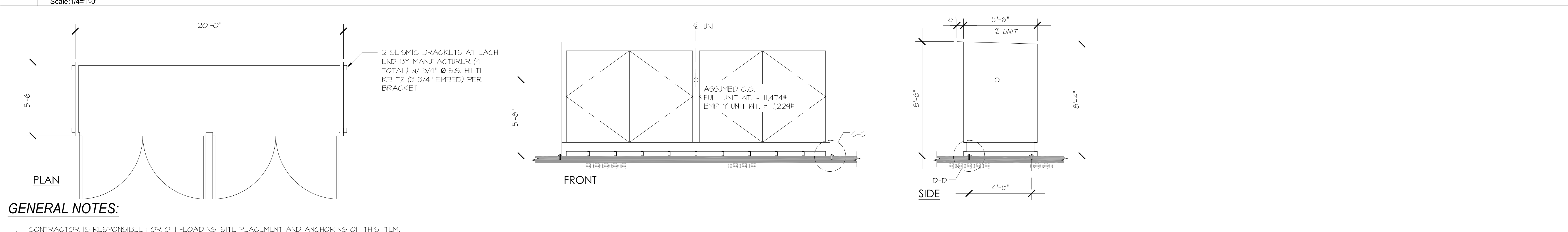




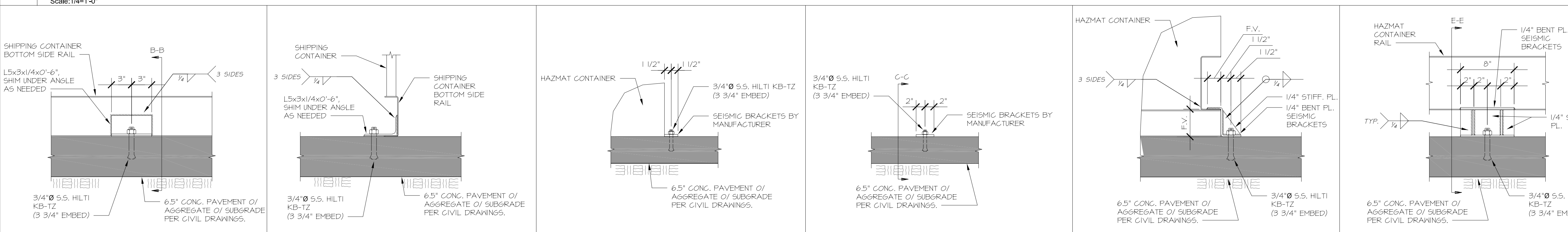
**K1 SEATRRAIN STORAGE CONTAINER**



**F1 HAZMAT STORAGE CONTAINERS (2HR FIRE RATED)**



**C1 ANTI-FREEZE TANK STORAGE UNIT (2HR FIRE RATED)**



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

Project Address: 310 S. West Avenue, Fresno CA 93706  
APN: 458-060-72  
Issue Date: 5-21-2021  
Project No. T90203  
File Path: G:\Capital \ Projects \ Building Numbers \ American Ave Landfill \ T90203 Environmental Compliance Center \ 00 2018 ECC

**Sheet Content:**

- Site Containers:
- Seatrtrain Storage Containers
- Hazmat Storage Containers
- Anti-Freeze Tank Storage Unit

Fresno County Department of Public Works and Planning Capital Projects

2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No. **A2.4**

Bid Addendum 2 5-21-2021

Plan Review Corrections 5-21-2021





# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

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

Y	RESP. PARTY	= YES	= NOT APPLICABLE
N/A	RESP. PARTY	= ARCHITECT	= ENGINEER
		= OWNER	= CONTRACTOR
		= INSPECTOR	

### 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 3 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 permitted work.

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 banner will be used.

#### 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 ensuring compliance.

**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 GBSG)  
301.5 HEALTH FACILITIES. (see GBSG)

### 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 shall 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:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

### CHAPTER 5 NONRESIDENTIAL MANDATORY MEASURES

#### DIVISION 5.1 PLANNING AND DESIGN

##### SECTION 5.101 GENERAL

**5.101.1 SCOPE.** 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:

- 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.
- 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 which 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 zero-emission vehicle standards.

**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 nonproft 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 ordinance.
- 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.
  - Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
    - Scheduling construction activity during dry weather, when possible.
    - Preservation of natural features, vegetation, soil, and buffers around surface waters.
    - Drainage swales or lined ditches to control stormwater flow.
    - Mulching or hydroseeding to stabilize disturbed soils.
    - Erosion control to protect slopes.
    - Protection of storm drain inlets (gravel bags or catch basin inserts).
    - Perimeter sediment control (perimeter silt fence, fiber rolls).
    - 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.
  - 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.
    - Material handling and waste management.
    - Building materials stockpile management.
    - Management of washout areas (concrete, paints, stucco, etc.).
    - Control of vehicle/equipment fueling to contractor's staging area.
    - Vehicle and equipment cleaning performed off site.
    - Spill prevention and control.
    - Other housekeeping BMPs acceptable to the enforcing agency.

##### 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 or 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 through 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 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 applicable local ordinance, whichever is stricter.

**5.106.4.1.1 Short-term bicycle 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.

**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-occupant vehicular parking spaces being added, with a minimum of one bicycle parking facility.

**5.106.4.1.4** For new shall 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:

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

**Note:** Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.

##### 5.106.4.2 Bicycle parking. [DSA-SS]

For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2

**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 bicycle parking.** Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable bicycle parking facilities shall be convenient from the street or staff parking area and shall meet one of the following:

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

**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:

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
26-50	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:

- The type and location of the EVSE.
- A listed raceway capable of accommodating a 208/240-volt dedicated branch circuit.
- The raceway shall not be less than trade size 1".
- 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.
- 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.
- 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.
- Plan design shall be based upon 40-ampere minimum branch circuits.
- 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.
- 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 on one or more of the following conditions:

- Where there is insufficient electrical supply.
- 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 project.

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*

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]

Outdoor lighting systems shall be designed and installed to comply with the following:

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

##### Exceptions: [N]

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

##### Note: [N]

- See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.
- 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.
- 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

ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
<b>MAXIMUM ALLOWABLE BACKLIGHT RATING - 2</b>					
Luminaire greater than 2 mounting heights (MH) from property line	N/A	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1-2 MH from property line	N/A	B2	B3	B4	B4
Luminaire back hemisphere is 0.5-1 MH from property line	N/A	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	B0	B0	B1	B2
<b>MAXIMUM ALLOWABLE UPLIGHT RATING (U)</b>					
For area lighting -	N/A	U0	U0	U0	U0
For all other outdoor lighting including decorative luminaires	N/A	U1	U2	U3	UR
<b>MAXIMUM ALLOWABLE GLARE RATING (G)</b>					
Luminaire greater than 2 MH from property line	N/A	G1	G2	G3	G4
Luminaire front hemisphere is 1-2 MH from property line	N/A	G0	G1	G1	G2
Luminaire front hemisphere is 0.5-1 MH from property line	N/A	G0	G0	G1	G1
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	G0	G0	G0	G1

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 California Administrative Code.

- For property lines that about 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 about 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.
- 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.
- 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".
- 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.

**5.106.10 GRADING AND PAVING.** Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

- Swales.
  - Water collection and disposal systems.
  - French drains.
  - Water retention gardens.
  - Other water measures which keep surface water away from buildings and aid in groundwater recharge.
- Exception:** Additions and alterations not altering the drainage path.

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

**5.106.12.1 Surface parking areas.** Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 50 percent of the parking area within 15 years.

**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 included in the total area calculations.

**5.106.12.2 Landscape areas.** Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade of 20% of the landscape area within 15 years.

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

**5.106.12.3 Hardscape areas.** Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade over 20 percent of the hardscape area within 15 years.

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

#### DIVISION 5.2 ENERGY EFFICIENCY

##### SECTION 5.201 GENERAL

**5.201.1 Scope [BSC-CG].** California Energy Code (DSA-SS). For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

#### DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

##### SECTION 5.301 GENERAL

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

##### SECTION 5.302 DEFINITIONS

**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 are two major influences on the amount of water that needs to be applied to the landscape.

**FOOTPRINT AREA [DSA-SS].** The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

**METERING FAUCET.** A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The volume or cycle duration can be fixed or adjustable.

**GRAYWATER.** Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry tubs, but does not include waste water from kitchen sinks or dishwashers.

**MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO).** The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

**MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) [HCD]** The California model ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

**POTABLE WATER.** Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

**POTABLE WATER [HCD]** Water that is satisfactory for drinking, culinary, and domestic purposes, and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority Having Jurisdiction.

**RECYCLED WATER.** Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur [Water Code Section 13050 (n)]. Simply put, recycled water is water treated to remove waste matter attaining a quality that is suitable to use the water again.

**SUBMETER.** A meter installed subordinate to a site meter. Usually used to measure water intended for one purpose, such as landscape irrigation. For the purposes of CALGreen, a dedicated meter may be considered a submeter.

**WATER BUDGET.** Is the estimated total landscape irrigation water use which shall not exceed the maximum applied water allowance calculated in accordance with the Department of Water Resources Model Efficient Landscape Ordinance (MWELO).

##### SECTION 5.303 INDOOR WATER USE

**5.303.1 METERS.** Separate submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

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

- For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
- Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:
  - Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).
  - Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).
  - Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW).







# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

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

Y = YES  
N/A = NOT APPLICABLE  
RESP. PARTY = RESPONSIBLE PARTY  
A = ARCHITECT  
E = ENGINEER  
O = OWNER  
C = CONTRACTOR  
I = INSPECTOR

**5.504.4 FINISH MATERIAL POLLUTANT CONTROL.** Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.6.

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

- 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.
- Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.

**TABLE 5.504.4.1 - ADHESIVE VOC LIMIT<sup>1,2</sup>**

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
<b>SPECIALTY APPLICATIONS</b>	
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
<b>SUBSTRATE SPECIFIC APPLICATIONS</b>	
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/CURHTMLR1168.PDF](http://www.arb.ca.gov/DRDB/SC/CURHTMLR1168.PDF)

**TABLE 5.504.4.2 - SEALANT VOC LIMIT**

Less Water and Less Exempt Compounds in Grams per Liter	
SEALANTS	CURRENT VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
<b>SEALANT PRIMERS</b>	
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 VOC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(a)(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 9 Rule 49.

**TABLE 5.504.4.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS<sup>2,3</sup>**

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
<b>SPECIALTY COATINGS</b>	
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 COATINGS <sup>1</sup>	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

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

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

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
- 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:

- Carpet and Rug Institute's Green Label Plus Program.
- 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
- 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 (17CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in Table 5.504.4.5.

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

- Product certifications and specifications.
- Chain of custody certifications.
- Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
- 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 SS standards.
- Other methods acceptable to the enforcing agency.

**TABLE 5.504.4.5 - FORMALDEHYDE LIMITS:**

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION	
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 FIBERBOARD <sup>2</sup>	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 E 1333. FOR ADDITIONAL INFORMATION, SEE CALIFORNIA CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

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;
- 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;
- Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria and listed in the CHPS High Performance Product Database; or
- Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).

**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 rating.

**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 as further prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, 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 5.407.2 of this code.

**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 1201, (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 (CO<sub>2</sub>) 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 1201(c)(4).

**SECTION 5.507 ENVIRONMENTAL COMFORT**

**5.507.4 ACUSTICAL 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 Section 5.507.4.1 or 5.507.4.2.

**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 structures and utility buildings.

**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:

- Within the 65 CNEL noise contour of an airport.

**Exceptions:**

- L<sub>eq</sub> or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICLUZ) plan.
- L<sub>eq</sub> 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.

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

**5.507.4.2.1 Site Features.** Exterior features such as sound walls or earth berms may be utilized as 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 soundlevels 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 a 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.toobase.org/PDF/CaseStudies/sic\\_jcc\\_ratings.pdf](http://www.toobase.org/PDF/CaseStudies/sic_jcc_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 contain CFCs.

**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 potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.

**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 pipe.** 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-fourth-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 recommendations.

**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 and fittings shall comply with the *California Mechanical Code* and as follows.

**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 permitted for use.

**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.

**5.508.2.2.2.2.1 Chain ladders.** Chain ladders to fit over 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 operation.

**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 maximize energy efficiency.

**5.508.2.4 Refrigerant receivers.** Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device that 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 charging.

**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 gauge.

**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 Evacuation.** The system shall be evacuated after pressure testing and prior to charging.

**5.508.2.6.1 First vacuum.** Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and hold for 30 minutes.

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

**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 responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

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

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

**Notes:**

- Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
- 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-CC]** 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 project they are inspecting for compliance with this code.

**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.

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Fresno County  
Environmental Compliance Center  
Phase 1: 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 \ 1 American Ave Landfill \ T90203 Environmental Compliance Center \ 00 2018 ECC

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

Sheet No.  
**A3.3**



# STRUCTURAL NOTES

## GENERAL NOTES

- The following notes, typical details and schedules shall apply to all phases of this project unless otherwise shown or noted.
- Specific notes and details shall take precedence over general notes and typical details.
- All materials and workmanship shall conform to the minimum standards of the 2019 edition of the California Building Code (CBC) and such other regulating agencies exercising authority over any portion of the work. The contractor shall have a current copy of the CBC (print or digital version) on the job site.
- The Construction Documents shall consist of these notes, details, schedules, plans, drawings, and Specifications.
- All specifications, including but not limited to materials and products, shall be those put forth in the Construction Documents. No substitutions shall be permitted to be used or assumed to be used in the bidding or construction process without written approval by the Engineer of Record.
- The Contractor shall examine the Construction Documents and shall notify the Engineer of Record of any discrepancies they may find before proceeding with the work.
- All information on existing conditions shown on drawings are based on best present knowledge available, but without guarantee of accuracy. The Contractor shall verify and be responsible for all dimensions and conditions at the site and shall notify the Engineer of Record of any discrepancies between actual site conditions and information shown on or in the Construction Documents before proceeding with work.
- The Contractor shall immediately notify the Engineer of Record of any condition which in their opinion might endanger the stability of the structure or cause distress of the structure.
- The Contractor shall provide temporary bracing and shoring for all structural members as required for structural stability of the structure during all phases of construction.
- All work shall conform to the best practice prevailing in the various trades comprising work. The Contractor shall be responsible for coordinating the work of all trades.
- These Construction Documents represent the finished structure, and do not indicate the method of construction. The Contractor shall supervise and direct the work and shall be solely responsible for construction means, methods, techniques, sequences and procedures.
- The Contractor shall take all steps necessary to ensure proper alignment of the structure after the installation of all structural and finish materials. This shall include any necessary preloading of the structure to determine final position of the completed work.
- These notes, details, drawings and Specifications (Construction Documents) do not carry necessary provisions for construction safety. These documents and all phases of construction are to be governed, at all times, by applicable provisions of the current California Occupational Safety and Health Act.
- Where any conflict occurs between the requirements of federal, state and local laws, codes, ordinances, rules and regulations, the most stringent shall govern.
- Inspection and approval for shops used for fabrication of structural load bearing members, components, materials or assemblies shall conform to CBC Section 1704.2.5.
  - Labeling (as required or specified) shall be provided in accordance with CBC Section 1703.5.
  - Evaluation and follow-up inspection services (as required or specified), shall conform to CBC Section 1703.6.
- The Contractor shall refer to the Specifications for information not covered by these drawings and General Notes.
- Observation visits to the project site by field representatives of the Engineer of Record (support services) shall not include inspections of safety or protective measures, nor construction procedures, techniques or methods. Any support services performed by Engineer of Record during any phase of construction, shall be distinguished from continuous and detailed inspection services (as required by any regulating governmental agency, e.g. the Authority Having Jurisdiction) provided by others. These support services, whether of material or work, are performed solely for the purpose of assisting in quality control and in achieving conformance with contract documents, but do not guarantee Contractor's performance and shall not be construed as supervision of construction.
- Provide openings and supports as required per typical details and notes for mechanical, plumbing, and electrical equipment, vents, ducts, piping, etc. All mechanical, plumbing and electrical equipment shall be properly braced against lateral forces.
- Refer to drawings by other disciplines to coordinate with Structural Drawings. Any discrepancy between these drawings shall be referred to the Architect or Engineer of Record for clarification prior to the start of construction.
- Written dimensions shall have precedence over scaled dimensions.
- Drawings (notes, schedules, details and plans) shall have precedence over Structural Calculations.
- In the event that certain features of the construction are not fully shown on the drawings or called for in the General Notes or Specifications, their construction shall be of the same character as for similar conditions that are shown or called for.
- The Contractor shall have a copy of the Project Geotechnical Investigation on the job site.
- ASTM designation and all standards refer to the latest amendments.
- These structural Construction Documents shall not be modified without prior written approval of the Engineer of Record.
- Only structural working drawings approved by the Authority Having Jurisdiction are permitted to be used for construction on this project. All other drawings or documents are obsolete and are not permitted on the job site, nor shall they be used for any construction purposes. Contractors using unapproved drawings or documents are solely responsible for all work not performed in accordance with the "approved" drawings.
- Refer to Architectural Drawings for all fire protection requirements.

## SHOP DRAWING AND CONTRACTOR SUBMITTAL REVIEW

- Shop Drawings or Contractor Submittals should be provided for the fabrication (or proportioning) of the following (but not limited to) components or elements.
  - Concrete mix designs
  - Reinforcing Bar
  - Structural Steel
  - Substitute or alternate materials
- The Contractor shall be responsible for the production of Shop Drawings or Contractor Submittals, the distribution of documents to the Engineer of Record for review, incorporation of any noted revisions made by the Engineer of Record into the documents, and final approval.
- Shop drawings shall not be a reproduction of structural drawing sheets.
- 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 retain a complete copy of submittal package.
- The Contractor shall allow sufficient time for the Engineer of Record to thoroughly review submittal package (10 working days, minimum).
- 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.

## GRADING

- Prior to general site grading, existing vegetation, existing underground utilities, and any debris shall be stripped and disposed of outside the construction limits. We estimate the depth of stripping to be less than 4 inches. Stripped topsoil, less any debris, may be stockpiled and reused for landscape purposes. Organics which remain below stripping depth may be incorporated into the fill areas as long as the total amount of organics does not exceed 3 percent, by weight, of the fill material (ASTM D-2974).
- During site demolition and prior to actual site grading, a reasonable search shall be conducted to locate any undocumented fill soils, wells, trees, or existing utilities that may exist within the area of construction. Any obstructions shall be removed from the project area. If any areas or pockets of soft or saturated soils or void spaces made by burrowing animals, undocumented fill, or other disturbed soil are encountered, they shall be over-excavated to firm native material and replaced with engineered fill constructed as recommended in the project Geotechnical Report. Excavations for removal of the above items shall be backfilled with engineered fill. Any wells not to remain shall be abandoned in accordance with the requirements of the County of Fresno Environmental Health Department.
- After stripping the site and performing any necessary removals indicated above, the exposed surface (in areas of overexcavation or stripped surface in areas to receive fill) shall be scarified to a depth of 6 inches, uniformly moisture conditioned to at or near optimum moisture content and compacted to the requirements for engineered fill. Shall site grading be performed during or subsequent to wet weather, near-surface site soils may be significantly above optimum moisture content. These conditions could hamper equipment maneuverability and efforts to compact site soils to the recommended compaction criteria. Diking to aerate, chemical treatment, replacement with drier material, stabilization with a geotextile fabric or grid, or other methods may be required to reduce excessive soil moisture and facilitate earthwork operations. Any consideration of chemical treatment (e.g. lime) to facilitate construction would require additional soil chemistry evaluation and could affect landscape areas.
- All engineered fill soils shall be nearly free of organic or other deleterious debris and less than 3 inches in maximum dimension. The native soil materials, exclusive of debris, may be used as Engineered Fill provided they contain less than 3 percent organics by weight (ASTM D-2974). Any imported fill materials, if any, to be used for engineered fill shall be sampled and tested by the project Geotechnical Engineer prior to being transported to the site.
- Soils used for engineered fill shall be uniformly moisture-conditioned to at least the optimum moisture content, placed in horizontal lifts less than 8 inches in loose thickness, and compacted to at least 90 percent relative compaction. Diking and/or blending may be required to uniformly moisture-condition soils used for engineered fill.

## FOUNDATION

- Unexpected soil conditions: Allowable values and foundation design are based upon soil conditions shown by test borings as presented in the project Geotechnical Investigation. Actual soil conditions which deviate from that shown in the test borings shall be reported to the Project Geotechnical Engineer immediately.
- See project Geotechnical Investigation for compaction, fill, backfilling, and site preparation requirements and procedures.
- Excavate all foundations to required depths into compacted fill or natural soil.
  - All foundation excavations shall be inspected and approved by the project Geotechnical Engineer, prior to forming and placement of reinforcing and/or concrete.
  - Foundation excavations shall be cut square and smooth with firm level bottoms.
  - Care shall be taken not to over-excavate foundations at lower elevations and prevent disturbing soils around higher elevations.
- Footings shall be poured in neat excavations, without side forms whenever possible.
- Moisten sides and bottom of excavations several times prior to concrete placement.
- Foundations shall not be poured until all required reinforcing bar, sleeves, inserts, conduits, pipes, formwork, etc. are properly placed and inspected by the Authority Having Jurisdiction.
- De-water footing excavations and foundation block-outs to maintain dry working conditions.

## CAST-IN-PLACE DEEP FOUNDATIONS

- Excavations for deep foundations shall be performed in compliance with local grading codes and ordinances as well as CBC Chapters 18 and 33, and as recommended by the Geotechnical Investigation.
- Provide Special Inspection in accordance with CBC Section 1705.8 and Table 1705.8.
- Excavations for deep foundations shall be approved by the Project Geotechnical Engineer prior to placing of concrete.
- Reinforcing bar for deep foundations shall be reviewed and approved by the Special Inspector and Structural Observer prior to placing in excavation.
- De-water deep foundation excavations as required to maintain dry working conditions.
- Deep foundations are to be poured by end of day after completion of drilling operation. All concrete for a particular deep foundation shall be on the job site prior to drilling the hole.
- The Contractor shall be responsible for all shoring, bracing, etc. necessary to support cut and/or fill banks, existing structures during excavation, and the forming and placement of concrete.
- Bottom of deep foundation excavations shall be thoroughly cleaned prior to placement of concrete.

## REINFORCING BAR

- All reinforcing bar shall be deformed intermediate grade bars conforming to ASTM A615, Grade 60 ( $f_y = 60$  ksi), unless noted otherwise.
  - Grade 40 ( $f_y = 40$  ksi) may be used for #3 bars and smaller.
- Reinforcing bar shall not be welded, unless noted or detailed otherwise.
- To hold reinforcing bars in their true position and prevent displacement, standard tie and anchorage devices shall be provided. Placing of reinforcement shall conform to ACI 318-14 Section 26.6.2.
- Shop drawings for fabrication of any reinforcing bar shall be provided by the Contractor and submitted to the Engineer of Record for their review and approval, prior to fabrication.
- Refer to typical details for minimum splice length and minimum radius of bend for reinforcing bar.
- All reinforcing bar splices shall be staggered 24", unless noted or detailed otherwise.
- All reinforcing bar bends shall be made cold.
- Fabrication, erection and placement of reinforcing bar shall conform to Concrete Reinforcing Steel Institute Manual of Standard Practice.
- Reinforcing bar shall be clean of rust, grease or other material likely to impair bond.

## CONCRETE

- Concrete shall have a minimum ultimate compressive strength ( $f'_c$ ) as outlined below. All concrete shall be regular weight (unless noted otherwise).

Location	$f'_c$ at 28 Days	Max. w/c Ratio	Slump	Air Content
Footings & Slab on Grade	5,000 psi	0.40	4" ±1"	1.50%
- Maximum Fly Ash content shall be 15%, by weight, of total cementitious materials and shall conform to ASTM C618.
- All concrete work shall comply with CBC Chapter 19 and ACI 318-14 and latest edition of ACI Manual of Concrete Practice.
- Special Inspection (as required or specified) shall conform to CBC Chapter 17.
- Cement shall be Portland Cement Type II/V and shall conform to ASTM C150.
- Aggregates shall conform to ASTM C33; provide aggregates from a single source.
- Water shall conform to ASTM C94 and be potable.
- All splices are to be Class B unless specifically noted otherwise.
- Minimum concrete cover over reinforcing bar shall be:

Concrete cast against and permanently exposed to earth or weather	3"
Concrete placed against forms, but exposed to earth or weather	2"
Slabs, wall & joists, not exposed to earth or weather	¾"
Beams, girders & columns, not exposed to earth or weather	1½"
- Reinforcing bars larger than #8 are not permitted unless noted otherwise.
- Location of all construction joints, other than specified, shall be approved by Architect/Engineer of Record prior to pouring. Construction joints shall be thoroughly air and water cleaned and heavily roughened so as to expose coarse aggregates. All surfaces to receive concrete shall be maintained continuously wet at least three hours in advance of pouring.
- All reinforcing steel, anchor bolts, dowels, inserts and any other hardware to be set in concrete shall be well secured in position prior to pouring of concrete.
- The Contractor shall obtain approval from Architect/Engineer of Record prior to placing sleeves, pipes, ducts, chases, coring and openings on or through structural concrete beams, walls, floors and roof slabs, unless specifically detailed or noted. All pipes or conduits passing through concrete members shall be sleeved with standard steel pipes. See typical detail for pipe through footing.
- Vibrate all concrete (including slabs on grade) as it is placed, with a mechanical vibrator operated by experienced personnel. The vibrator shall be used to consolidate the concrete, not transport it. Reinforcing and forms shall not be vibrated.
- Formwork design and removal shall conform to ACI 318-14 Section 26.11. Remove forms in accordance with the following minimum schedule:

Side forms of footings	72 hours & 70% of design strength
Edge forms of slab on grade	72 hours & 70% of design strength
- Concrete shall not free fall more than six feet. Use tremie, pump or other approved methods.
- Concrete shall be maintained in a moist condition for a minimum of 5 days after placement or concrete surfaces shall be cured with liquid membrane-forming curing compound conforming to ASTM C309, Type 1, Class A. Curing compound shall be approved by the Engineer of Record.
- The Contractor may use concrete admixtures as a construction means and methods to execute Construction Documents. Use of admixture is solely the responsibility of the Contractor.
- Concrete mix designs shall be prepared by the concrete supply plant. Each mix design shall be submitted with current supporting data to the Engineer of Record for review and approval. Each mix design shall be stamped and signed by a Civil or Structural Engineer licensed in the state of the project jurisdiction.
- Only one grade of concrete shall be allowed on project site at any one time.
- Unless noted otherwise, construction and control joints shall be provided in all concrete slabs, and shall be located such that the area within joints does not exceed 375 sq. ft., and is roughly square.
  - For all structural slabs (suspended or on grade) where Architecturally exposed conditions are desired, the Contractor shall provide control joint layout for review by Architect and Engineer of Record.
- Every opening exceeding 24" (in either direction) shall have a minimum of 2-#5 (U.N.O.) directly adjacent to all sides as well as top and bottom (unless at foundation). Reinforcing bars shall extend a minimum of 24" past edge of opening.
- Dowel all concrete walls and columns to supporting concrete with bars of the same size and spacing as vertical bars in wall and columns. Do not "hickey" bars. All dowels shall be vertical.
- Provide a minimum of 2-#5 continuous horizontally at tops of walls and vertically at ends of walls, unless noted otherwise.
- Concrete strength shall be verified by standard cylinder tests (in accordance with CBC Section 1705.3) made by a testing laboratory approved by the Authority Having Jurisdiction.
- Concrete placed when the air temperature has fallen to, or is expected to fall below 40° shall conform to ACI 318-14 Section 26.5.4 and ACI 306R-16.
- Concrete placed during hot weather shall conform to ACI 318-14 Section 26.5.5 and ACI 305R-14.
- Conduits and sleeves placed within structural concrete shall not be tied directly to structural reinforcement.
  - "1" clear distance shall be maintained between conduits/sleeves and reinforcing bar.
  - Do not run conduit in slabs or in concrete filled metal decking unless the layout has been approved by the Engineer of Record

# STRUCTURAL DESIGN VALUES

All values reported are unfactored and strength level, unless noted otherwise

Gravity Design Data	Value
Dead Loads:	
Roof Dead Load	By Others
* Allowance for PV system in Roof Dead Load	By Others
Live Loads:	
Roof Live Load (Reducible)	20 psf
Snow Loads:	
Ground Snow Load, $P_g$	0 psf
Deflection Criteria:	
Roof, Total Load	L/240
Roof, Live Load	L/360
Floor, Total Load	L/240
Floor, Live Load	L/360
Wind Design Data	Value
Design Wind Speed (3-sec gust), $V_{ULT}$	105 mph
Risk Category	II
Exposure Category	C
Applicable Internal Pressure Coefficient	± 0.00
Design Wind Pressure(s) for Components & Cladding (Not specifically designed by the Registered Design Professional, and to be modified by applicable factors per ASCE 7)	$q_s = 20.9$
Earthquake Design Data	Value
Risk Category	II
Importance Factor, $I_e$	1.5
Mapped Spectral Response Accelerations	$S_s = 0.62$ g $S_1 = 0.24$ g
Site Class	D
Spectral Response Coefficients	$S_{m1} = 0.55$ g $S_{m2} = 0.34$ g
Seismic Design Category	D
Analysis Procedure Used	Equivalent Lateral Force Procedure (ASCE 7, 12.8)
Basic Seismic-Force Resisting System	Cantilevered Column System: Steel Ordinary Cantilever Column Systems
Response Modification Coefficient	$R = 1.25$
Seismic Response Coefficient	$C_s = 0.66$
Design Base Shear	$V = C_s W_o$
Geotechnical Design Data	Value
Geotechnical Report prepared by: County of Fresno (Report No.190203)	Dated: April 22, 2020
Allowable Soil Bearing Pressure (DL + LL), Continuous Footing:	1290B + 2290D psf
Allowable Soil Bearing Pressure (DL + LL), Square Footing:	1030B + 2290D psf
Design Active Pressure, $P_a$	32 pcf
Design At-Rest Pressure, $P_a$	75 pcf
Design Passive Pressure, $P_p$	500 pcf
Design Coefficient of Friction, $f_1$	0.49

# STRUCTURAL OBSERVATION

- Structural Observation is the visual observation of the structural system by a Registered Design Professional for general conformance to the approved construction documents at significant construction stages and at completion of the structural system. Structural Observation does not include or waive the responsibility for the inspection required by Section 110, 1704 or other Sections of the California Building Code.
- All Structural Observation shall be provided in accordance with CBC Sections 1702 and 1704.6.
- The owner shall employ the Engineer of Record to perform Structural Observation in accordance with CBC Section 1704.6. The Engineer of Record may designate another Engineer or Architect to perform Structural Observation.
- The contractor shall notify this office 48-72 hours in advance of requesting a Structural Observation.
- Structural Observation is required at significant construction stages and at completion of the structural system, as follows:
  - Footing excavations completed, footing reinforcing bars in-place, embedded items in place, mechanical, plumbing and electrical items in place and prior to concrete placement.
    - Anchorage for Simpson Steel Strong-walls
    - Building retaining wall footing dowels
  - Slab on grade reinforcing bars in place and embedded items in place, prior to concrete placement.
  - Retaining wall reinforcement in place, prior to placement of concrete/grout.
  - Wood framing completed and plywood nailing completed, but not closed in.
  - All structural work completed including the installation of mechanical, plumbing, and electrical items.
- The Structural Observer shall submit to the Authority Having Jurisdiction a written statement that the site visits have been made and identifying any structural deficiencies that, to the best of their knowledge, have not been resolved.

# ABBREVIATIONS

A.B.	Anchor Bolt	IBC	International Building Code
ABV.	Above	ICC	International Code Council
ACI	American Concrete Institute	ICF	Insulated Concrete Form
ADDL	Additional	ID	Inside Diameter
ADJ.	Adjacent	IN.	Inch, inches
AHJ	Authority Having Jurisdiction	INT.	Interior
AISC	American Institute of Steel Construction	JST.	Joist
AIRC	American Institute of Timber Construction	ksi	Kips per Square Inch
AOR	Architect of Record	MB	Machine Bolt
APA	American Plywood Association	LL	Live Load
APPROX.	Approximate(ly)	LW	Lightweight
ASCE	American Society of Civil Engineers	LSL	Laminated Strand Lumber
		LVL	Laminated Veneer Lumber
ARCH.	Architect, Architecture	MAX.	Maximum
ASTM	American Society of Testing and Materials	MB	Machine Bolt
		MBM	Metal Building Manufacturer
ATR	All Thread Rod	MECH.	Mechanical
AWS	American Welding Society	MSE	Mechanically Stabilized Earth
		MFR.	Manufactured, Manufacturer
BLDG.	Building	MIN.	Minimum
BLK.	Block	MPH	Miles per Hour
BLKD.	Blocked	MTL.	Metal
BLK'G	Blocking		
BM.	Beam		
B.O.	Bottom of	(N)	New
BOT.	Bottom	NDS	National Design Specification
BRG.	Bearing	N.T.S.	Not to Scale
b/t	Between		
		o.c.	On Center
CAC	California Administrative Code	o/	Over
CANT.	Canities	OD	Outside Diameter
CB	California Building Code	OSB	Oriented Strand Board
CIP	Cast-in-place	OSHPD	Office of State Health Planning and Development
CJ	Control Joint		
CJP	Complete Joint Penetration	OWSJ	Open Web Steel Joist
C	Centerline		
CLG.	Ceiling	PEN.	Penetration
CLR.	Clear	PLATE	Plate
CMU	Concrete Masonry Unit	PLYWD.	Plywood
COL.	Column	PIP	Partial Joint Penetration
CONC.	Concrete	psi	Pounds per Square Inch
CONN.	Connection	PSF	Pounds per Square Foot
CONST.	Construction	PSL	Parallel Strand Lumber
CONT.	Continue, Continuous	(Paralam)	
CSK.	Countersink	PERF.	Pre-Engineered Metal Building
		PERF.	Perforated
Ø	Diameter	PTDF	Pressure Treated Douglas Fir
d	Penny	PW	Puddle Weld
DBL.	Double		
DCW	Demand Critical Weld	Q.A.	Quality Assurance
DET.	Detail	Q.C.	Quality Control
DEMO	Demolition		
DF	Douglas Fir	RBS	Reduced Beam Section
DIAG.	Diagonal	RDWD	Redwood
DL	Dead Load	REBAR	Reinforcing Bar
DSA	Division of State Architect	REINF.	Reinforcement
DWGS.	Drawings	RET.	Retaining
		REQ'D	Required
EA.	Each		
E.F.	Each Face	S.F.	Square Feet
ELEC.	Electric, Electrical	SH.	Sheet
ELEV.	Elevation	SHT'G	Sheathing
EMBED.	Embedded, Embedment	SIM.	Similar
E.N.	Edge Nailing	SIP	Structural Insulated Panel
EOR	Engineer of Record	SJI	Steel Joist Institute
EQ.	Equal	SLRS	Seismic Load Resisting System
EQUIP.	Equipment	SMS	Sheet Metal Screw
E.S.	Each Side	SQ	Square
E.W.	Each Way	SS	Select Structural
(E)	Existing	STAGGD	Staggered
EXP.	Expansion	STD.	Standard
EXT.	Exterior	STL.	Steel
		SW	Shearwall
		SEOR	Structural Engineer of Record
GA.	Gauge	UNBLKD.	Unblocked
GALV.	Galvanized	U.N.O.	Unless Noted Otherwise
GEOR	Geotechnical Engineer of Record	URM	Unreinforced Masonry
GLB	Glued-Laminated Beam	VERT.	Vertical
GYP. BD.	Gypsum Board	VIF	Verify in Field
		w/	With
HDR.	Header	w/c	Water/Cement Ratio
HD.	Holdown	WD.	Wood
HORIZ.	Horizontal	W.P.	Working Point
HSS	Hollow Steel Section	W.S.M.F.	Welded Steel Moment Frame
HT.	Height	WSS	Welded Steel Stud
		WT.	Weight
		WWM	Welded Wire Mesh

# SYMBOLS

	Concrete Footing
	Cast-in-Place Drilled Concrete Pier -Refer to Schedule
	Reference Note
	Detail Number Reference
	Sheet Number Reference



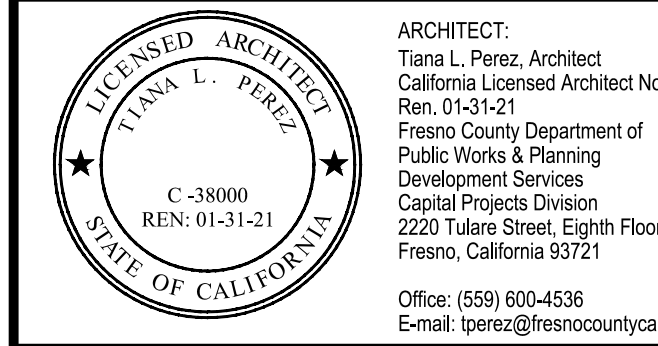
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DATE SIGNED: 12/01/2020

California Occupational Safety and Health Act

Quality Assurance  
Quality Control  
Reduced Beam Section  
Redwood  
Reinforcing Bar  
Reinforcement  
Retaining  
Required  
Square Feet  
Sheet  
Sheathing  
Similar  
Structural Insulated Panel  
Steel Joist Institute  
Seismic Load Resisting System  
Sheet Metal Screw  
Square  
Select Structural  
Staggered  
Standard  
Steel  
Shearwall  
Structural Engineer of Record  
Top and bottom  
Tongue and Groove  
Threaded  
Top of  
Triple  
Typical



**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:

## STRUCTURAL NOTES

Fresno County Department of Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

# Sheet No.:

# S1.1



# STRUCTURAL NOTES, CONTINUED

## STRUCTURAL STEEL AND WELDING

- All structural steel construction shall conform to AISC 360-16 and AISC 341-16.
  - All structural steel shall be fabricated in an approved fabrication shop. Inspection and approval of fabrication shops shall conform to CBC Section 1704.2.5.

- All structural steel shall conform to the following specifications:

Steel Shape	ASTM Specification	Min. Yield 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

- All structural steel shall be hot dipped galvanized.
- Special Inspection shall be provided for all structural steel and welding, in accordance with CBC Chapter 17.

- 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).

- No field welding permitted, unless specifically noted otherwise.
- No holes other than those specifically detailed shall be allowed through structural steel members. Burning of holes is not permitted.

- All welding shall conform to AWS D1.1 and D1.8 specifications for welding. (E-70XX Electrodes).

- Provide hot dip galvanizing or 3" minimum concrete cover around all structural steel below grade.

## STEEL DECK

- Steel deck shall be cold rolled, structural quality steel sheet conforming to CBC Section 2210 and the following specifications:

Finish	ASTM Specification	Min. Yield Stress, F <sub>y</sub> (ksi)
Phosphatized/Painted, Painted/Painted, or Mill Finished steel deck	A1008	50
Galvanized steel deck	A653	50

- Shop drawings for the fabrication of steel deck shall be submitted to Engineer of Record for their review, prior to fabrication.

- All deck side locks shall be compatible.

- Steel deck shall have a prime painted finish, unless noted otherwise.

- Steel deck sheets shall be continuous over a minimum of 3 supports (2 spans).

- Steel deck shall be placed on the supporting framework with a minimum end lap of 2 inches, centered over the supports, unless detailed otherwise.

- 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 Drawings.

- No holes shall be cut into steel deck unless noted or detailed otherwise.

- Weld metal shall penetrate all layers of deck material at each end and side joints and have good fusion to the supporting members.

- Electrodes E70 with a minimum size of 5/16".

- Welding of structural steel steel, welder qualification requirements, welding procedures and welding electrodes shall conform to CBC Section 2210 and AWS D1.3.

- Continuous inspection is required for steel deck welding.

- Galvanizing shall conform to ASTM A924.

## LIGHT WEIGHT STRUCTURAL STEEL FRAMING

- 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.
  - All studs, joists, accessories and components shall conform to CBC Section 2210 and have a minimum yield stress (F<sub>y</sub>) of 50 ksi, unless noted otherwise.

- All framing components shall be cut square for attachment to perpendicular members, or as required for an angular fit against abutting members.

- All components shall be securely fastened together.
  - Fastening shall be with self-drilling screws or welds as noted.
  - Screw and weld size, type, location and spacing shall be as per manufacturer's requirements, except where noted or detailed otherwise.
  - Wire tying of components shall not be permitted.

- Welding shall comply with current AWS practice. All welds shall be touched up with zinc rich paint.

- Studs shall be plumbed, aligned and securely attached to flanges of both upper and lower tracks.

- Splices in studs shall not be permitted.

- Joists shall be located directly over bearing studs.

- Provide joist bridging per manufacturer's requirements.

- Components shall be held firmly in position until properly fastened.

- 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 5/8" gypsum wall board or plywood sheathing for the entire length and height of the wall.

- Ceiling roof/soffit joists and studs shall have a min. of 10" unpunched steel at all end supports.

# SPECIAL INSPECTION

## GENERAL NOTES

- All Special Inspection shall be provided in accordance with CBC Section 1704 and 1705.

- 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:
  - Acknowledgement of awareness of the special requirements contained in the statement of special inspections;
  - Acknowledgement that control will be exercised to obtain conformance with the construction documents approved by the Authority Having Jurisdiction;
  - Procedures for exercised control within the contractor's organization, the method and frequency of reporting and the distribution of the reports; and
  - 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.

## SOILS

### Verification and Inspection

- Verify materials below shallow foundations are adequate to achieve design bearing capacity.

- Verify excavations are extended to proper depth and have reached proper material.

- Perform classification and testing of compacted fill materials.

- Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.

- Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.

### Notes: Soils

- CBC Section 1705.6 and Table 1705.6

- 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

### Verification and Inspection

- Verify element materials, sizes and lengths comply with the requirements.

- Determine capacities of test elements and conduct additional load tests, as required.

- Inspect driving operations and maintain complete and accurate records for each element.

- 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.

- For steel elements, perform additional inspections in accordance with CBC Section 1705.2.

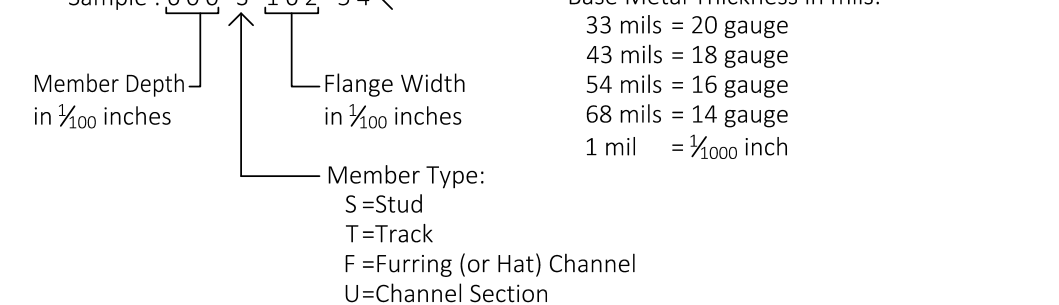
- For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1705.3.

- For specialty elements, perform additional inspections as determined by the Registered Design Professional in Responsible Charge.

### Notes: Driven Pile Foundation

- CBC Section 1705.7 and Table 1705.7

## COLD FORMED STEEL FRAMING LEGEND



## CONCRETE CONSTRUCTION<sup>a,c</sup>

Verification and Inspection	Cont.	Periodic	Referenced Standard	2019 CBC Reference
-----------------------------	-------	----------	---------------------	--------------------

- Inspection of reinforcing steel including prestressing tendons, and placement.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1 - 26.6.3	1908.4

- Reinforcing bar welding:
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	AWS D1.4 ACI 318: 26.6.4	

- Verify weldability of reinforcing bar other than ASTM A706.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	AWS D1.4 ACI 318: 26.6.4	

- Inspect single-pass fillet welds, maximum 5/16".
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	AWS D1.4 ACI 318: 26.6.4	

- Inspect all other welds.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓		

- Inspection of anchors cast in concrete.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 17.8.2	

- Inspect anchors post-installed in hardened concrete member.<sup>b,d</sup>

- Adhesive anchors installed in horizontally or upward inclined orientations to resist sustained tension loads.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 17.8.2.4	

- Mechanical anchors and adhesive anchors not defined in 4.a.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 17.8.2	

- Verifying use of required design mix.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3

- Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ASTM C172 ASTM C31 ACI 318: 26.5.26.12	1908.10

- Inspection of concrete and shotcrete placement for proper application techniques.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 26.5	1908.6, 1908.7, 1908.8

- Verify maintenance of specified curing temperature and techniques.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 26.5.3 - 26.5.5	1908.9

- Inspection of prestressed concrete:
  - Application of prestressing forces.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 26.10	
  - Grouting of bonded prestressing tendons.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 26.9	

- Inspect erection of precast concrete members.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 26.9	

- Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 26.11.12	

- Inspect formwork for shape, location and dimensions of the concrete member being formed.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓	ACI 318: 26.11.1.2 (b)	

### Notes: Concrete Construction

- Where applicable, see also CBC Section 1705.12, Special Inspections for seismic resistance

- 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.

- CBC Section 1705.3 and Table 1705.3

- See Special Cases Special Inspection for more requirements

## SPECIAL CASES

### Verification and Inspection

- Adhesive anchors (Epoxy)
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓		

- 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)
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓		

- All other installations of adhesive anchors.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓		

### Mechanical anchors

- Inspection of anchors installed in hardened concrete.
 

Cont.	Periodic	Referenced Standard	2019 CBC Reference
	✓		

## STEEL CONSTRUCTION<sup>a,b</sup>

Verification and Inspection	Cont.	Periodic
-----------------------------	-------	----------

### Required verification and inspection of steel construction

- Material verification of structural steel, cold-formed steel deck, high-strength bolts, nuts and washers:
 

Cont.	Periodic
	✓

- For structural steel, identification markings to conform to AISC 360, or ASTM Standards Specified in approved Construction Documents. Manufacturer's certificate of compliance required.
 

Cont.	Periodic
	✓

- Material verification of structural steel or cold-form steel deck:
  - Identification markings to conform to ASTM standards specified in the approved construction documents.
 

Cont.	Periodic
	✓
  - Manufacturer's certified test reports.
 

Cont.	Periodic
	✓

- Inspection of high-strength bolting:
  - Snug-tight joints
 

Cont.	Periodic
	✓
  - Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist off bolt or direct tension indicator methods of installation
 

Cont.	Periodic
	✓
  - Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation
 

Cont.	Periodic
	✓

- Material verification of weld filler materials:
  - Identification markings to conform to AWS specification in the approved Construction Documents
 

Cont.	Periodic
	✓
  - Manufacturer's certificate of compliance required
 

Cont.	Periodic
	✓

- Inspection of welding:
  - Structural steel and cold formed steel deck:
    - Complete and partial joint penetration groove welds
 

Cont.	Periodic
	✓
    - Multi-pass fillet welds
 

Cont.	Periodic
	✓
    - Single-pass fillet welds > 5/16"
 

Cont.	Periodic
	✓
    - Plug and slot welds
 

Cont.	Periodic
	✓
    - Single-pass fillet welds < 5/16"
 

Cont.	Periodic
	✓
    - Floor and roof deck welds<sup>2</sup>

Cont.	Periodic
	✓
  - Reinforcing steel:<sup>2</sup>
    - Verification of weldability of reinforcing steel other than ASTM A706.
 

Cont.	Periodic
	✓
    - 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.
 

Cont.	Periodic
	✓
    - Shear reinforcement
 

Cont.	Periodic
	✓
    - Other reinforcing steel
 

Cont.	Periodic
	✓

- Inspection of steel frame joint details for compliance:
  - Details such as bracing and stiffening
 

Cont.	Periodic
	✓
  - Member locations
 

Cont.	Periodic
	✓
  - Application of joint details at each connection
 

Cont.	Periodic
	✓

### Inspection tasks prior to welding

- Welder qualification records and continuity records
 

Cont.	Periodic
	✓

- Welding procedure specifications (WPS) available
 

Cont.	Periodic
	✓

- Manufacturer certifications for welding consumables available
 

Cont.	Periodic
	✓

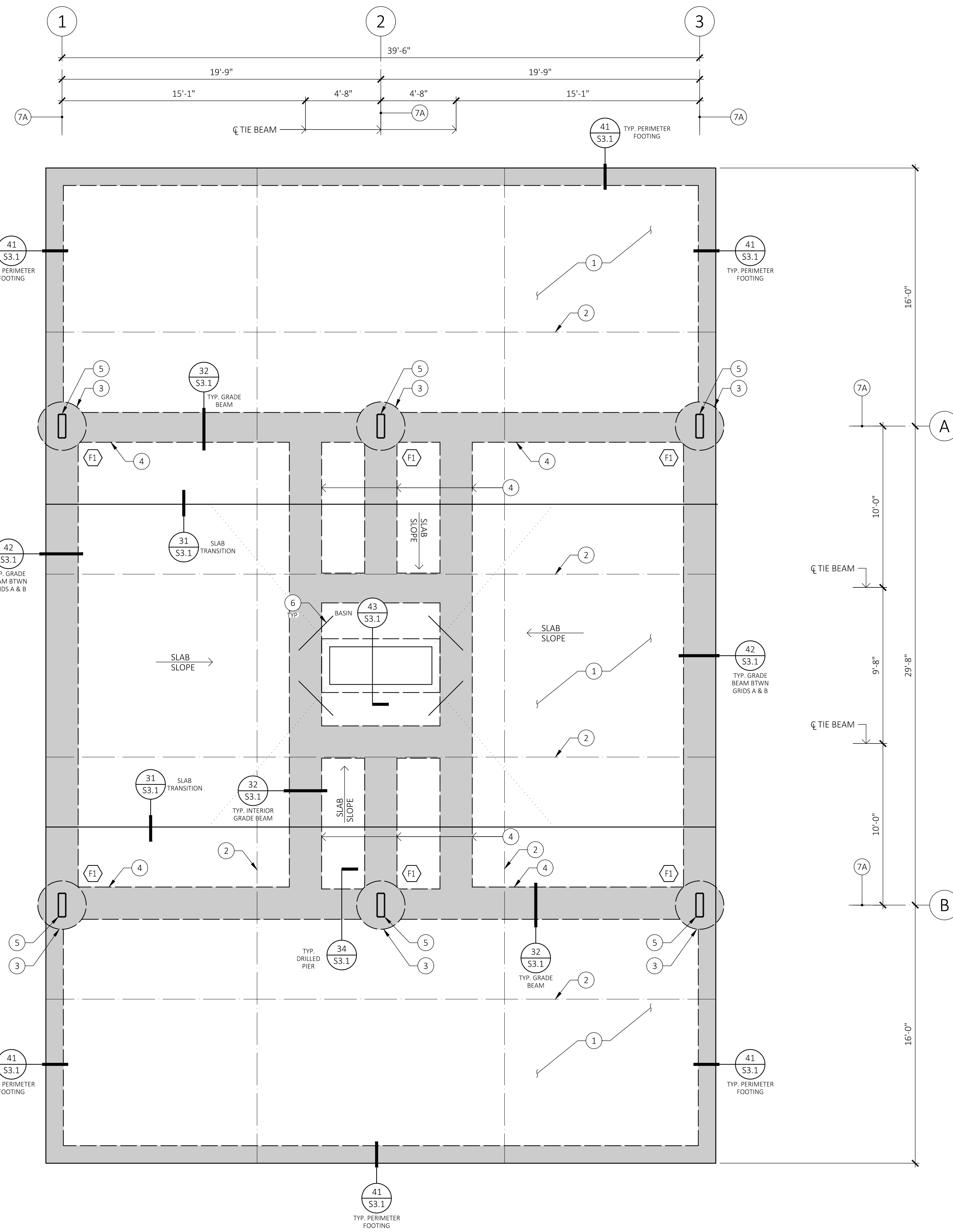
- Material identification (type/grade)
 

Cont.	Periodic
	✓

- Welder identification system<sup>6</sup>

Cont.	Periodic
	✓





**FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"

(VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS AND EXISTING CONDITIONS)

**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 compacted
  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, & 24/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
- ⑦ Structural gridline reference
  - A. Centerline of column

Footing Size and Reinforcing			Allowable Reactions (Service)		
Mark	Dimensions	Reinforcing	Vertical (Downward) [k]	Uplift [k]	Moment [k-ft]
(F1)	SEE DETAIL 34/S3.1	SEE DETAIL 34/S3.1	23.0	17.0	310

THE FOUNDATION DESIGN IS BASED ON ASSUMED BUILDING REACTIONS AND ARE SUBJECT TO CHANGE. THE BUILDING REACTIONS SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO PLACING FOOTINGS.



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**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:**

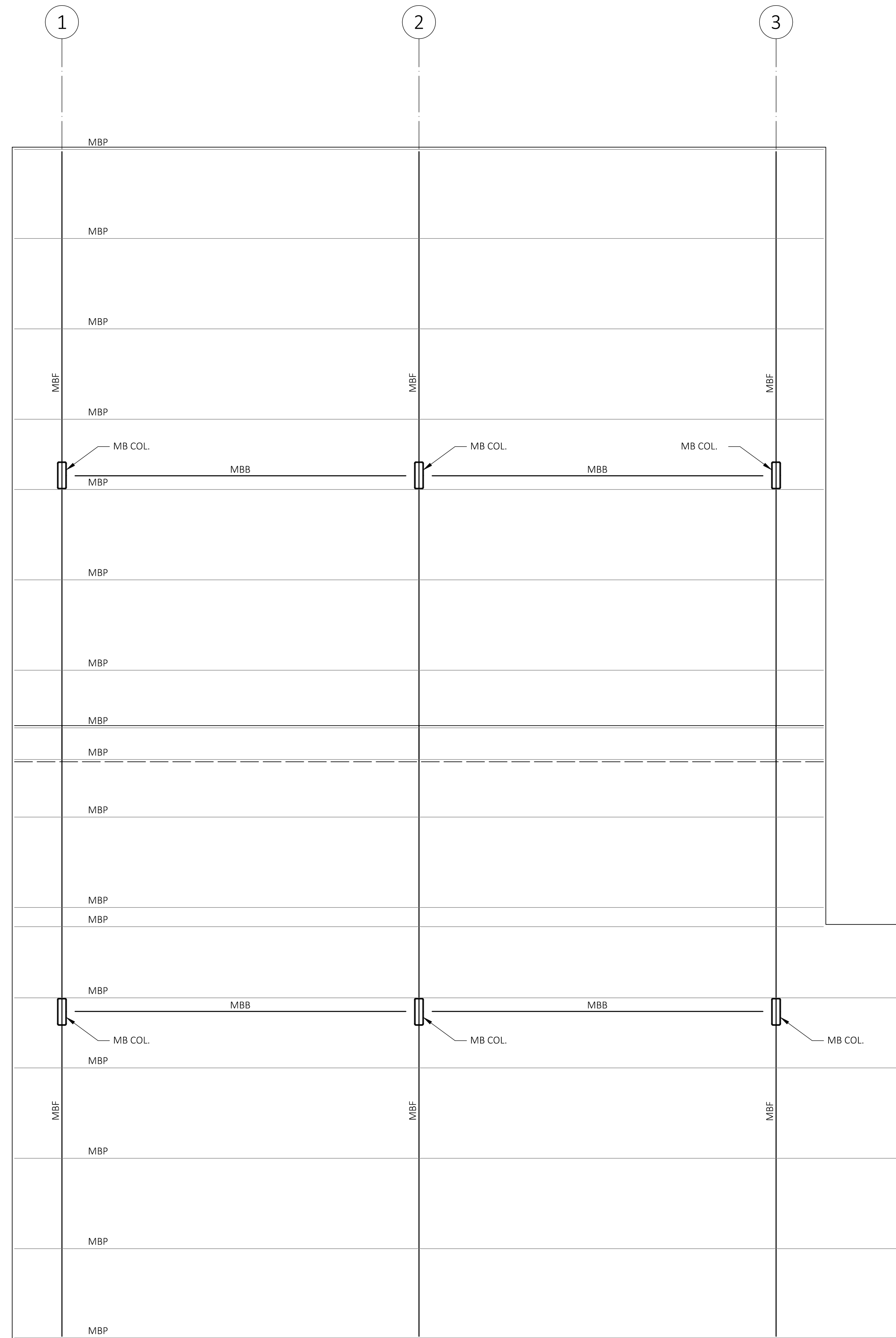
**FOUNDATION PLAN**



Sheet No.:

**S2.1**





**GENERAL FRAMING NOTES:**

- A. See Structural Notes, Sheets S1.1 & S1.2
- B. Refer to Architectural Floor Plans for interior non-bearing walls, soffits, and eave details, and miscellaneous non-structural details and requirements.

**PRE-ENGINEERED METAL BUILDING COMPONENT LEGEND:**

- PEMBM - Pre-Engineered Metal Building Manufacturer
- MBB - Metal Building Beam by PEMBM
- MBF - Metal Building Rigid Frame by PEMBM
- MBG - Metal Building Girder by PEMBM
- MBP - Metal Building Purlin by PEMBM



**SSG Structural Engineers, LLP**  
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**Project:**  
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 Project Address: 310 S. West Avenue, Fresno CA 93706  
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 Issue Date: 06/24/2020  
 Project No. S19406A

**Sheet Content:**  
 ROOF FRAMING PLAN



**Sheet No.:**  
**S2.2**

**ROOF FRAMING PLAN**

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

(VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS AND EXISTING CONDITIONS)



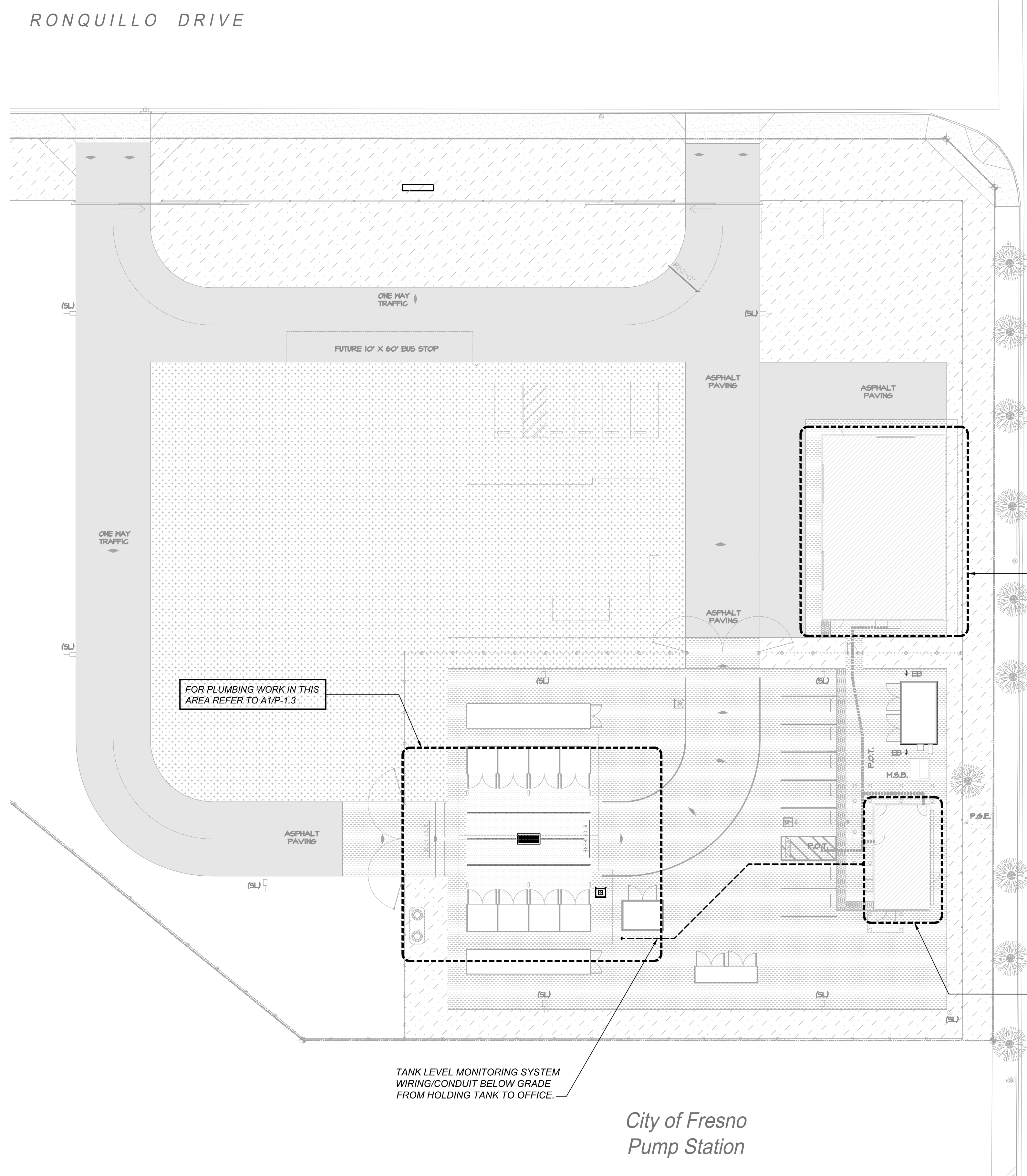






**GENERAL PLUMBING NOTES:**

- 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.
- 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
- 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.
- 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.
- 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.
- FIELD VERIFY THE EXACT LOCATION, DEPTH AND SIZE OF ALL NEW POINTS OF CONNECTION TO EXISTING UTILITIES PRIOR TO COMMENCING NEW UTILITY WORK.
- INSTALLATION OF NEW UTILITIES FROM EXISTING MAINS IN THE STREET SHALL BE DONE IN STRICT ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS.
- 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.
- BACKFLOW PREVENTER SHALL BE INSTALLED AT THE MINIMUM HEIGHT ABOVE FINISH GRADE AS ALLOWED BY GOVERNING AUTHORITY.
- 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.
- 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.



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
---	LOW PRESSURE NATURAL GAS	G
---	CONDENSATE DRAIN	CD
---	EXISTING PIPING	
⊕	FLOOR CLEANOUT	FCO
⊕	CLEANOUT TO GRADE	COTG
⊕	WALL CLEANOUT	WCO
⊕	PIPING TURN UP	
⊕	PIPING TURN DOWN	
⊕	POINT OF CONNECTION	POC
(N)	NEW	
(E)	EXISTING	
---	ABOVE CEILING	ABV CLG
---	BELOW FLOOR	BEL FLR
---	BELOW GRADE	BEL GR
---	TYPICAL	TYP
---	CONTINUATION	CONT
⊕	SHUT-OFF VALVE IN BOX	SOV
⊕	SHUT-OFF VALVE	SOV
⊕	CHECK VALVE	
⊕	PLUG VALVE	
---	FIRE PROTECTION LINE	
---	RAIN WATER LEADER	RWL
---	OVERFLOW DRAIN	OD
---	STORM DRAIN	SD
---	TEPID WATER	TW
////	DEMOLITION	DEMO

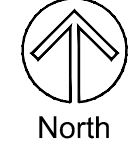
FOR PLUMBING WORK IN THIS AREA REFER TO SEPARATE PERMIT CHECK.

FOR PLUMBING WORK IN THIS AREA REFER TO A1/P-1.3...

FOR PLUMBING WORK IN THIS AREA REFER TO SEPARATE PERMIT CHECK.

TANK LEVEL MONITORING SYSTEM WIRING/CONDUIT BELOW GRADE FROM HOLDING TANK TO OFFICE.

City of Fresno Pump Station



**Fresno County Environmental Compliance Center**  
 Phase 1: 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 2018 ECC

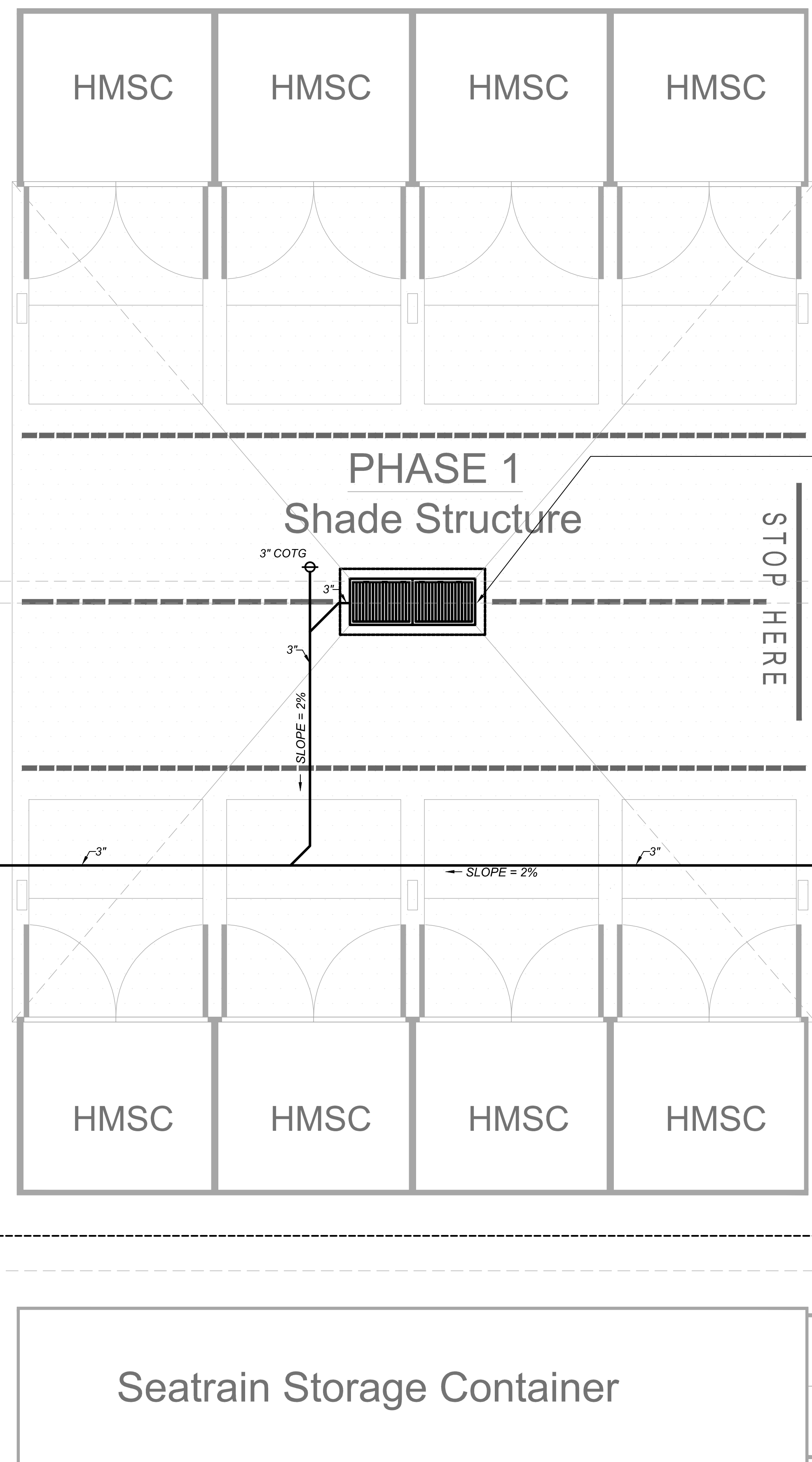
Sheet Content:  
  
**PLUMBING SITE PLAN**



2220 Tulare Street, 8th Floor  
 Fresno, California 93721  
 Sheet No.  
**P1.0**

2	Bid Addendum 2 5-21-2021	Plan Review Corrections 5-21-2021
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VERIFY TANK INLET ELEVATION PRIOR TO SETTING TANK.

ULTRASONIC LEVEL TRANSMITTER FOR TL-1 INSTALLED ON HOLDING TANK.

UNDERGROUND LIQUID RECOVERY STORAGE TANK, ST-1, REFER TO DETAIL C/P-2.0.

CONNECT 3"V TO HOLDING TANK PIPED CONNECTION.

3"V UP ALONG FENCE POST TO 10" ABOVE FINISHED GRADE.

SPILL RECOVERY BASIN. REFER TO STRUCTURAL DRAWINGS.

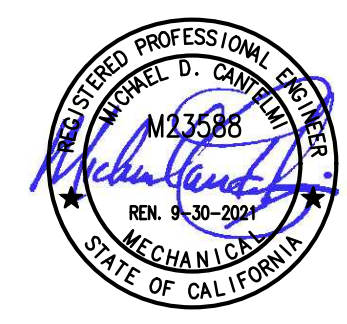
3" COTG. REFER TO DETAIL B/P2.0, TYP.

3"W AND 2" TEPID WATER FOR EMERGENCY SHOWER EYEWASH.

SHOCK ABSORBER, SA-1.  
2" CW UP FROM BEL. GR. FOR TANKLESS WATER HEATER, WH-2. REFER TO DETAIL D/P-2.0.

SOV IN YARD BOX. REFER TO DETAIL A/P-2.0.  
CONNECT 2" CW TO SITE PIPING. REFER TO CIVIL DRAWINGS FOR CONTINUATION.

ROUTE TANK LEVEL MONITORING SYSTEM WIRING/CONDUIT BELOW GRADE TO OFFICE BUILDING. REFER SHEET P-1.0 FOR CONTINUATION.



**LAWRENCE ENGINEERING GROUP**  
7084 N. Maple Ave., Suite 101 Fresno, CA 93720  
(559) 431-0101 19400 FAX (559) 431-1342



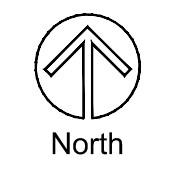
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Sheet Content:  
  
SHADE STRUCTURE PLUMBING PLAN

Fresno County Department of Public Works and Planning Capital Projects  
2220 Tulare Street, 8th Floor Fresno, California 93721

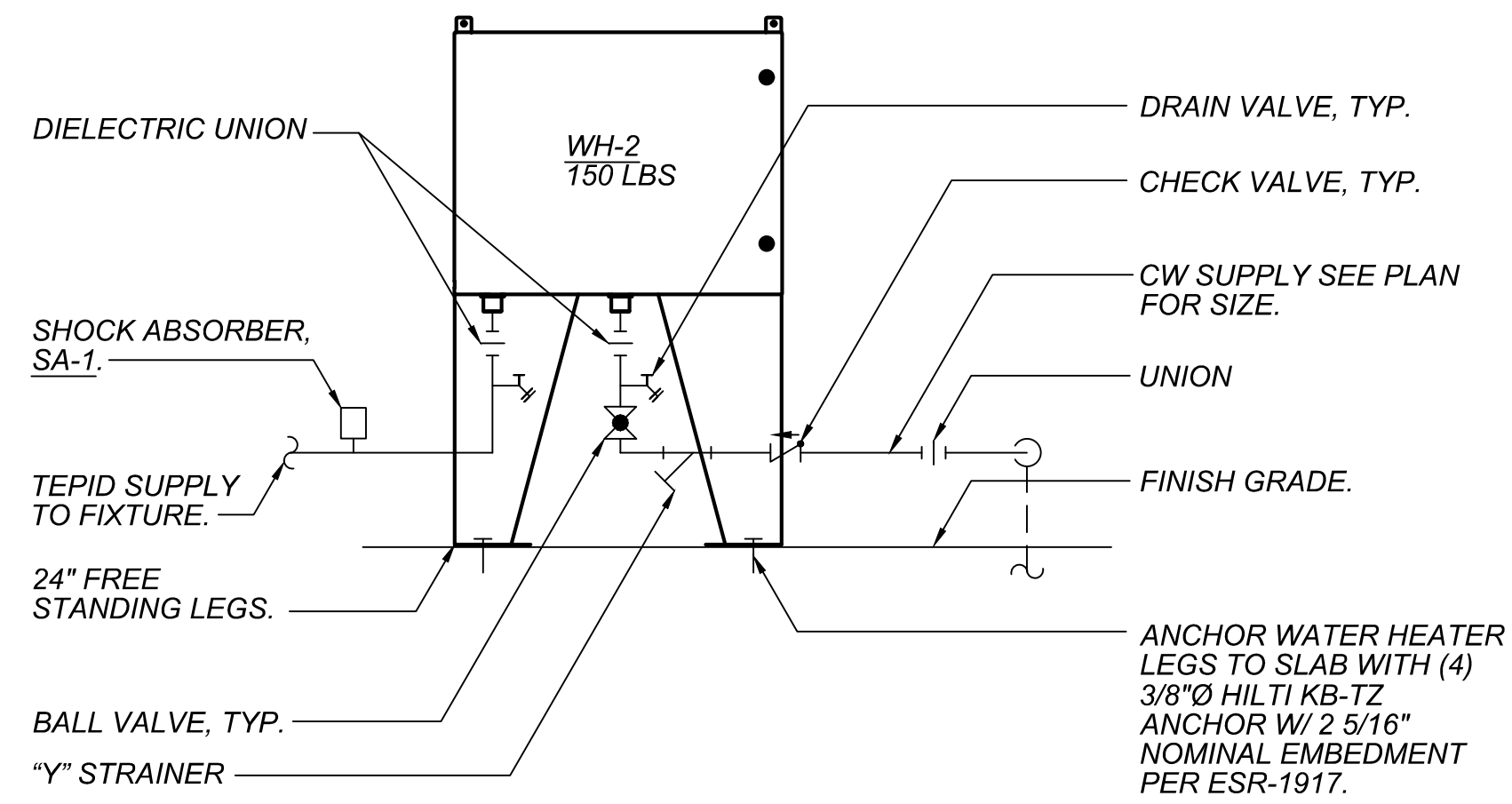
Sheet No.  
**P1.3**

▲ Bid Addendum 2 5-21-2021	▲ Plan Review Corrections 5-21-2021
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PLUMBING FIXTURE AND EQUIPMENT SCHEDULE						
MARK	FIXTURE	CONNECTION SIZES				DESCRIPTION
		S or W	V	CW	HW	
ESE-1	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.
SA-1	SHOCK ABSORBER	-	-	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.
ST-1	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.
TL-1	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.
WH-2	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



**WATER HEATER DETAIL (WH-2)**

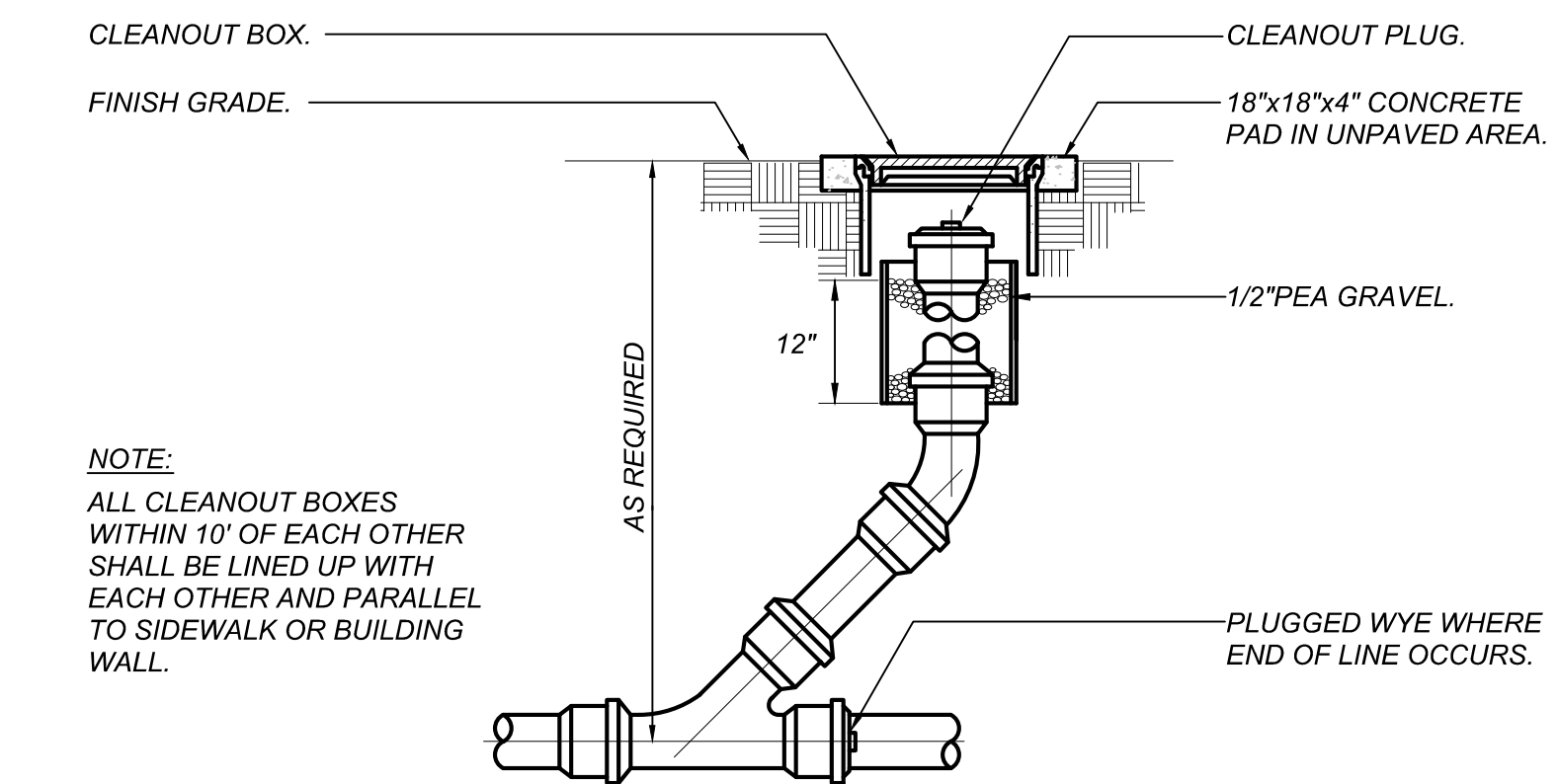
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P-2.0

**SHUT-OFF VALVE IN YARD BOX**

SCALE: DIAGRAMATIC

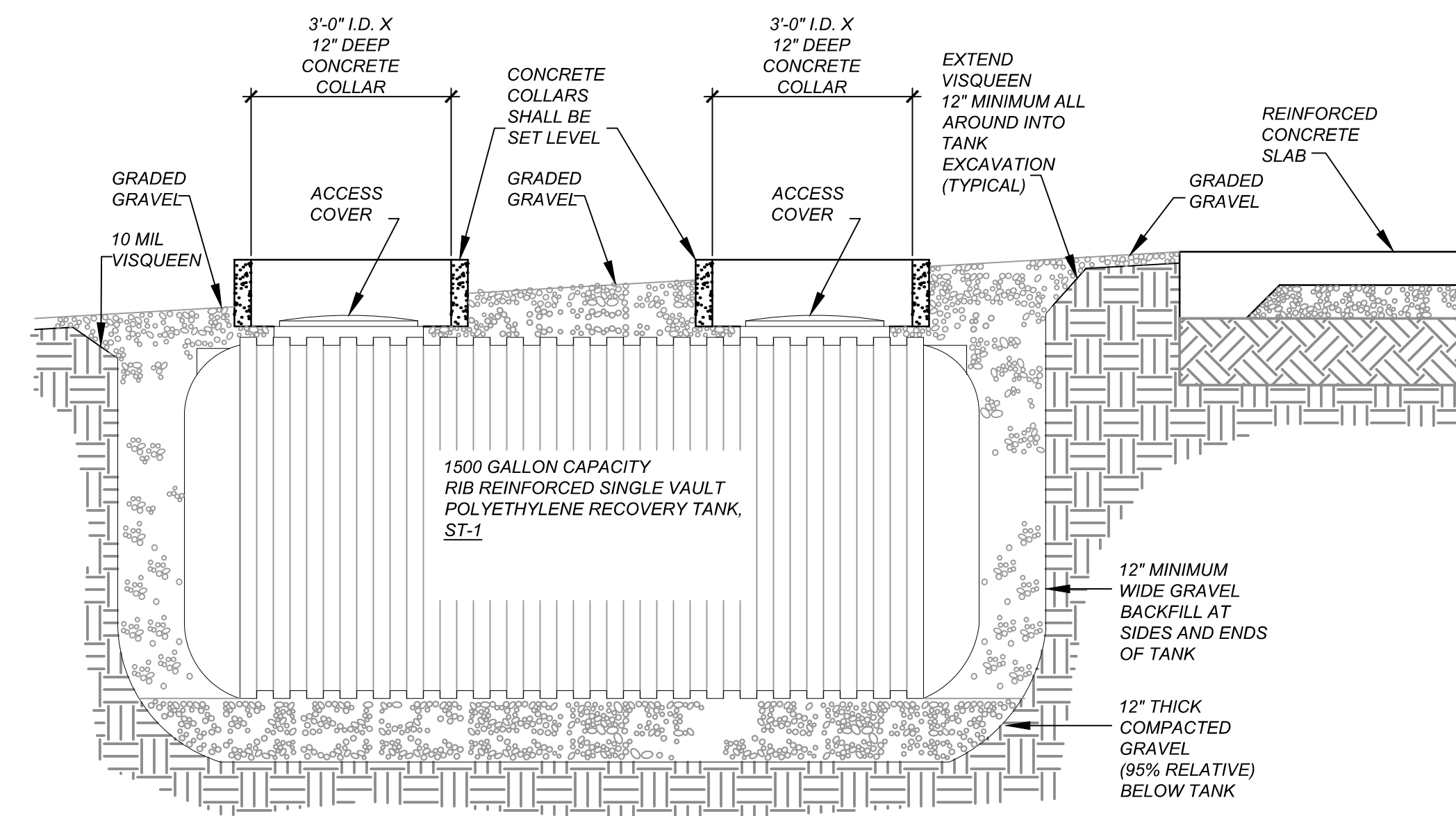
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**CLEANOUT TO GRADE DETAIL**

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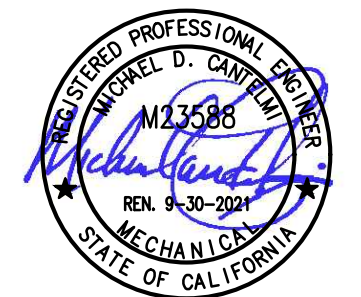
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**LIQUID RECOVERY STORAGE TANK DETAIL**

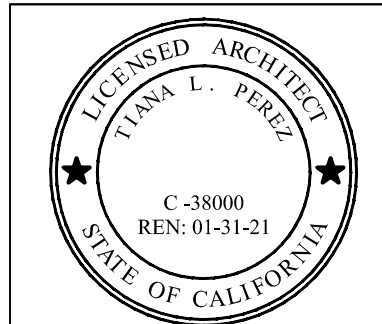
SCALE: N.T.S.

C  
P-2.0



**LAWRENCE ENGINEERING GROUP**

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ARCHITECT:  
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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  
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E-mail: tperez@fresnocountyca.gov

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Sheet Content:  
  
PLUMBING SCHEDULES AND DETAILS

Fresno County Department of Public Works and Planning  
Capital Projects  
2220 Tulare Street, 8th Floor  
Fresno, California 93721

Sheet No.  
**P2.0**

▲ Bid Addendum 2 5-21-2021  
▲ Plan Review Corrections 5-21-2021



# Electrical General Notes

- ALL WORK SHALL MEET THE LATEST ADOPTED ADDITIONS OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24 AND ALL OTHER APPLICABLE REGULATIONS, WHICH INCLUDE:
  - CALIFORNIA BUILDING CODE 2019
  - CALIFORNIA ELECTRICAL CODE 2019
  - NON RESIDENTIAL CEC ENERGY STANDARDS 2019
- NOTHING IN THE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
- 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, 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.
- THE CONTRACTOR SHALL EXAMINE THE SITE AND EXISTING CONDITIONS AND MAKE ALLOWANCES IN THE BID FOR ANY CONDITIONS NOT SHOWN ON THE ELECTRICAL DOCUMENTS.
- 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. VERIFY THE SCOPE OF WORK WITH THE ARCHITECT AND THE GENERAL CONTRACTOR.
- 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 COMPLETE & OPERATING SYSTEM.
- ELECTRICAL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED (UL, CSA ETC.) PER CEC 110.2.
- ELECTRICAL EQUIPMENT SHALL HAVE A SHORT CIRCUIT CURRENT RATING CAPABLE OF WITHSTANDING THE AVAILABLE SHORT CIRCUIT CURRENT PER CEC 110.4. WHERE SERIES COMBINATION RATINGS ARE USED FOR NEW PANELS, PROVIDE A CAUTIONARY LABEL 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.
- PROVIDE MINIMUM 30" WIDE x 78" HIGH x 36" DEEP WORK CLEARANCES IN FRONT OF PANELS, SERVICE OR EQUIPMENT RATED AT 120/208V 3Ø 4W PER CEC 110.26.
- PROVIDE MINIMUM 30" WIDE x 78" HIGH x 42" DEEP WORK CLEARANCES IN FRONT OF PANELS, SERVICE OR EQUIPMENT RATED AT 277/480V 3Ø 4W PER CEC 110.26.
- PROVIDE A PLACARD ON EACH PANELBOARD INDICATING THE LOCATION AND IDENTIFICATION OF THE FEEDER SERVING THE PANEL PER CEC 408.4(B).
- PROVIDE ILLUMINATED EMERGENCY POWER PER 2016 CFC, SECTION 1006.3. EMERGENCY EGRESS LIGHTING SHALL PROVIDE A MINIMUM LUMINANCE OF 1 FOOTCANDLE AT THE WALKING SURFACE FOR A MINIMUM OF 90 MINUTES.
- FIRE ALARM EQUIPMENT SHALL BE SERVED BY DEDICATED FIRE ALARM BRANCH CIRCUITS PER NFPA 72 10.6.5.1.2. THE CIRCUIT 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 10.6.5.2.2, 10.6.5.2.3, 10.6.5.2.4, AND 10.6.5.4.
- WIRING FOR 120/208V AND 277/480V SYSTEMS SHALL BE MIN. #12 AWG THHN/THWN-2 COPPER.
- 120V AND 277V BRANCH CIRCUITS SHALL HAVE DEDICATED NEUTRALS. SHARING NEUTRALS IS NOT ACCEPTABLE.
- FEEDERS SIZE #4 AND LARGER SHALL BE MEGGER TESTED. TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER.
- ALL UNDERGROUND CONDUITS SHALL HAVE MINIMUM 24" COVER. INSTALL GALVANIZED RIGID STEEL RISERS & ELBOWS WHERE RISERS OCCUR. WRAP GRS BELOW GRADE OR PROVIDE PVC COATED GRS. EXPOSED CONDUIT SHALL BE GRS TO B'-O", THEN ENT ABOVE AS APPROPRIATE. UNDER NO CIRCUMSTANCE SHALL PVC CONDUIT BE INSTALLED ABOVE GRADE.
- CONDUIT INSTALLED ABOVE GRADE SHALL BE MIN. 3/4" TRADE SIZE. CONDUIT BELOW GRADE SHALL BE MIN. 1" TRADE SIZE.
- PROVIDE (4) 1" CONDUIT STUBS FROM EACH NEW ELECTRICAL PANEL TO ACCESSIBLE ATTIC SPACE FOR FUTURE USE.
- COLORS/FINISHES/MATERIALS FOR ALL ELECTRICAL DEVICES, PLATES, LIGHT FIXTURES, ETC. SHALL BE CHOSEN BY THE ARCHITECT.
- PROVIDE PERMANENT LOCK-OPEN DEVICES ON CIRCUIT BREAKERS SERVING ELECTRIC WATER HEATERS TO MEET THE REQUIREMENTS OF CEC 422.31.
- 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, 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 PART 1 THRU 7(c).
- 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.
- THE CALIFORNIA STATE LICENSE BOARD (CSLB) "ZERO TOLERANCE POLICY" IN EFFECT FOR NON-COMPLIANT LABOR CODE SECTIONS 3049 AND 2049.2, SECTIONS 204.0 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 THE STATE OF CALIFORNIA.
- 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 EXHAUSTING SYSTEM, HVAC, FIRE SMOKE DAMPERS, ETC.).
- 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 UNITS PER FRESNO FIRE POLICY 401.4.
- SUBMIT TO AND OBTAIN PERMIT FROM THE FIRE PREVENTION DIVISIONS FOR THE INSTALLATION OR MODIFICATION OF THE FIRE ALARM SYSTEM. SEE FPD POLICY 401.02.
- PROVIDE START-UP, TESTING, ADJUSTMENT, AND REPORTING OF BUILDING LIGHTING SYSTEM PER CGBSC 5.410.4.
- ARC-FLASH WARNING SIGNS SHALL BE PROVIDED PER CEC SECTION 110.16.
- FAULT CURRENT SHALL BE CALCULATED AND POSTED PRIOR TO FINAL INSPECTION PER CEC 110.24.

# Electrical Symbols

SYMBOL	DESCRIPTION	NOTES
	POLE WITH SINGLE AREA LUMINAIRE	
	POLE WITH DOUBLE AREA LUMINAIRES	
	POLE WITH POST TOP AREA LUMINAIRE	
	FIXTURE TYPE "A"	REFER TO FIXTURE SCHEDULE
	SURFACE CEILING LIGHT	
	RECESSED DOWN LIGHT	
	WALL LIGHT	
	FIXTURE ON EMERGENCY POWER	PROVIDE UNSWITCHED HOT TO BATT PACKS
	EXIT SIGN, CEILING (ARROWS INDICATE CHEVRONS)	PROVIDE UNSWITCHED HOT TO BATT PACKS
	EXIT SIGN, WALL (ARROWS INDICATE CHEVRONS)	PROVIDE UNSWITCHED HOT TO BATT PACKS
	DEDICATED EMERGENCY LIGHT	PROVIDE UNSWITCHED HOT TO BATT PACKS
	INVERTER	
	SWITCH AT +48" AFF TO TOP OF BOX	20A 2TTV QUIET TOGGLE
	3-WAY SWITCH AT +48" AFF TO TOP OF BOX	20A 2TTV QUIET TOGGLE
	DIMMER SWITCH, TO BE COMPATIBLE WITH CONTROLLED FIXTURES, AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 16 BOX PER SWITCH W/ RING, 1" C. TO ACCESSIBLE ATTIC SPACE
	WALL MOUNTED DUAL TECH OCCUPANCY SENSOR SWITCH, 0-10V DIMMING, AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 16 BOX PER SWITCH W/ RING, 1" C. TO ACCESSIBLE ATTIC SPACE
	WALL MOUNTED ULTRASONIC OCCUPANCY SENSOR SWITCH, W SEPARATE EXHAUST FAN RELAY AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 16 BOX PER SWITCH W/ RING, 1" C. TO ACCESSIBLE ATTIC SPACE
	DIGITAL DIMMER SWITCH, AT +48" AFF TO TOP OF BOX	nLIGHT SYSTEM, ROUGH IN WITH 16 BOX & RING, 1" C. TO ACCESSIBLE ATTIC
	DIGITAL DIMMER SWITCH, WIRELESS, LINE VOLTAGE AT +48" AFF TO TOP OF BOX	nLIGHT AIR SYSTEM, ROUGH IN WITH 16 BOX & RING, 120-277V POWERED
	DIGITAL DIMMER SWITCH W INTEGRAL OCCUPANCY SENSOR AND PHOTOSENSOR AT +48" AFF TO TOP OF BOX	nLIGHT SYSTEM, ROUGH IN WITH 16 BOX & RING, 1" C. TO ACCESSIBLE ATTIC
	DIGITAL "FRESCO" GRAPHICAL TOUCHSCREEN DIMMING CONTROLLER AT +48" AFF TO TOP OF BOX	nLIGHT SYSTEM, ROUGH IN WITH 16 BOX & RING, 1" C. TO ACCESSIBLE ATTIC
	DIGITAL OCCUPANCY SENSOR W PHOTOSENSOR DUAL-TECHNOLOGY CEILING MOUNT	nLIGHT SYSTEM #4CM PDT 10
	DIGITAL OCCUPANCY SENSOR W PHOTOSENSOR DUAL-TECHNOLOGY WALL MOUNT	nLIGHT SYSTEM, ROUGH IN WITH 16 BOX & RING, 1" C. TO ACCESSIBLE ATTIC
	WIRELESS DIGITAL OCCUPANCY SENSOR W PHOTOSENSOR, DUAL-TECHNOLOGY CEILING MOUNT	PROVIDE XPOINT SBOR SENSOR INTERFACE
	DIGITAL GATEWAY	nLIGHT SYSTEM, PROVIDE (1) GATEWAY AT EACH BUILDING AND CONNECT TO LAN. PROVIDE BOX/OUTLET AT GATEWAY LOCATION FOR GATEWAY POWER SUPPLY.
	DIGITAL BRIDGE	nLIGHT SYSTEM, PROVIDE (1) BRIDGE FOR EACH (6) nLIGHT ZONES. CONNECT BRIDGE POWER SUPPLY TO LOCAL LIGHTING CIRCUIT.
	DIGITAL XPOINT WIRELESS BRIDGE	INTERFACE WITH nLIGHT SYSTEM GATEWAY
	DIMMING POWER PACK VERIFY 0-10V, 2- OR 3-WIRE, MLV, OR ELV BY FIXTURE	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING
	DIMMING POWER PACK W EMERGENCY CONTROL RELAY VERIFY 0-10V, 2- OR 3-WIRE, MLV, OR ELV BY FIXTURE	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING
	DMX CONTROLLER PACK	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING
	RECEPTACLE RELAY CONTROLLED BY OCCUPANCY SENSOR	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING. (1) RELAY PER CIRCUIT IN EACH CONTROLLED AREA.
	TERMINAL CABINET	
	DATA OUTLET (RJ-45 CAT6) WITH 2 JACK AT +48" AFF, U.O.N.	4-11/16 SQ. BOX, 16 RING, MODULAR PLATE, & 1 1/2" C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.
	(2) WAP DATA JACKS (RJ-45 CAT6) MOUNTED IN ATTIC SPACE	4-11/16 SQ. BOX, 16 RING, MODULAR PLATE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END.
	(2) WAP DATA JACKS (RJ-45 CAT6) AT +48" AFF, U.O.N.	4-11/16 SQ. BOX, 16 RING, MODULAR PLATE, & 1 1/2" C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.
	WALL MOUNT VOIP OUTLET (RJ-45 CAT6) AT +48" AFF, U.O.N.	4-11/16 SQ. BOX, 16 RING, MODULAR PLATE, & 1 1/2" C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.
	WALL MOUNT DATA/COMM OUTLET AT +48" AFF, U.O.N.	4-11/16 SQ. BOX, 16 RING, MODULAR PLATE, & 1 1/2" C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.
	"MAIN DISTRIBUTION FRAME"	
	"INTERMEDIATE DISTRIBUTION FRAME"	

SYMBOL	DESCRIPTION	NOTES
	SWITCHBOARD	REFER TO POWER SINGLE LINE DIAGRAM
	POWER PANEL	REFER TO PANEL SCHEDULE
	JUNCTION BOX	4-11/16" SQUARE BOX & COVER PLATE MIN.
	DISCONNECT SWITCH, FUSIBLE	REFER TO MECH. PLANS & SPECS.
	MOTOR CONTROLLER/DISCONNECT SWITCH	REFER TO MECH. PLANS & SPECS.
	MOTOR	REFER TO MECH. PLANS & SPECS.
	EXHAUST FAN, CEILING MOUNTED	REFER TO MECH. PLANS & SPECS.
	SINGLE CONVENIENCE OUTLET AT +48" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED
	DUPLEX CONVENIENCE OUTLET AT +48" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED
	QUADPLEX CONVENIENCE OUTLET AT +48" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED
	DUPLEX GFI CONVENIENCE OUTLET AT +48" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED LEVITON #XT8949-W
	QUADPLEX GFI CONVENIENCE OUTLET AT +48" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED LEVITON #XT8949-W
	WEATHERPROOF, GFI OUTLET AT +48" AFF TO BOTTOM OF BOX, U.O.N. W/ WEATHERPROOF IN-USE TYPE COVER	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED LEVITON #XT8949-W
	DUPLEX CONVENIENCE OUTLET AT +48" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED, LEVITON #TR20-SIM CODE COMPLIANT MARKING REQUIRED
	SPLIT-WIRED WITH UNSWITCHED AND SWITCHED BY OCCUPANCY SENSOR	
	QUADPLEX CONVENIENCE OUTLET, CONTROLLED AT +48" AFF TO BOTTOM OF BOX, U.O.N. ONE UNSWITCHED AND ONE SWITCHED BY OCCUPANCY SENSOR	20A SPEC. GRADE, TAMPER-RESISTANT, NEMA GROUNDED, LEVITON #TR20-W AND LEVITON #TR20-S2M CODE COMPLIANT MARKING REQUIRED
	HEAVY DUTY POWER PEDESTAL	SEE DETAIL
	SPECIAL EQUIPMENT OUTLET AT +48" AFF TO BOTTOM OF BOX, U.O.N.	VERIFY REQ'TS W/ EQUIPMENT VENDOR
	26 FLOOR BOX WITH POWER FEED COVER	MAKE CONNECTION TO MODULAR FURNITURE SYSTEM WITH #6 GREEN GROUND WIRE TO G.E.G.
	12" CU GROUND BUS BAR	PROVIDE 120V F.A. CIRCUIT TO DAMPER VIA F.A. RELAY.
	FIRE/SMOKE DAMPER	HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
	PUBLIC ADDRESS SPEAKER, CEILING MOUNTED	RUN 1" C. TO ACCESSIBLE ATTIC SPACE AND HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
	PUBLIC ADDRESS SPEAKER WALL MOUNTED, +120" U.O.N.	RUN 1" C. TO ACCESSIBLE ATTIC SPACE AND HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
	W/ OUTDOOR PUBLIC ADDRESS SPEAKER, WALL MOUNTED, +120" U.O.N.	INTERIOR: 16 J-BOX, 16 RING, MODULAR PLATE, 3/4" C. TO ACCESSIBLE ATTIC SPACE. EXTERIOR: 16 FLUSH BELL BOX, MODULAR PLATE, 3/4" C. TO ACCESSIBLE ATTIC SPACE. PROVIDE (1) CAT6 CABLE AND DATA JACK TO EACH CAMERA PROVISION. VERIFY EXACT REQUIREMENTS PRIOR TO ROUGH-IN.
	SURVEILLANCE (CCTV) CAMERA PROVISION, WALL MOUNTED. VERIFY HEIGHTS AT EACH LOCATION. C-CEILING MOUNTED.	
	RECESSED TV BOX WITH POWER OUTLET, (2) DATA JACKS, HDMI AND CATV JACKS. VERIFY HEIGHT/LOCATION PRIOR TO ROUGH-IN.	MAKE POWER CONNECTION AND PROVIDE 1 1/2" C. STUB TO EXPOSED CABLE SPACE NEAR ROOF. VERIFY HEIGHTS W/ ARCH.
	A/V INPUT HDMI/6A/3.5MM AUDIO/USB JACK WALL PLATE AT +48" AFF	26 BOX, 16 RING, (2) 1 1/4" C. TO ATTIC SPACE. INSTALL CABLES FROM STATION TO TV.
	DEVICES TO BE REMOVED	
	EXISTING CONDUIT/WIRINGS TO BE DEMOLISHED	
	EXISTING DEVICES	
	EXISTING CONDUIT/WIRINGS	
	WIRING IN CONDUIT, BELOW GRADE	3/4" CONDUIT MIN.
	WIRING IN CONDUIT, IN WALL OR CEILING	3/4" CONDUIT MIN.
	LOW VOLTAGE WIRING IN ATTIC SPACE	TYPE PER EQUIPMENT MANUFACTURER
	CONDUIT RISER	3/4" CONDUIT MIN.
	FLEXIBLE CONDUIT	3/4" CONDUIT MIN.
	CONDUIT STUB AND CAP	3/4" CONDUIT MIN.
	CROSS HATCHES INDICATE NUMBER OF #14 AWG CONDUCTORS IN CONDUIT, WHEN MORE THAN TWO. WIRE SIZE INDICATED ON PLANS WHEN OTHER #12 AWG, PROVIDE GROUND PER CEC 250. PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT.	
	CURVED CROSS HATCHES INDICATE #14 AWG PURPLE & GRAY CONDUCTORS FOR DIMMING CONTROL.	3/4" CONDUIT MIN.
	HOME RUN (TO PANEL "A", CIRCUIT "15")	3/4" CONDUIT MIN.
	"EXISTING"	
	"UNLESS OTHERWISE NOTED"	
	"WEATHERPROOF" / NEMA 3R	
	"GROUND FAULT INTERRUPTER"	

**REGISTERED PROFESSIONAL ENGINEER**  
 C. SCOTT DAVIDSON  
 E17850  
 STATE OF CALIFORNIA  
**ELECTRICAL**

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**LICENSED ARCHITECT**  
 TIANA L. PEREZ  
 C-38000  
 REN: 01-31-21  
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**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  
 2018 ECC

**Sheet Content:**  
 Electrical Notes and Symbols

Fresno County Department of  
 Public Works and Planning  
 Capital Projects

2220 Tulare Street, 8th Floor  
 Fresno, California 93721

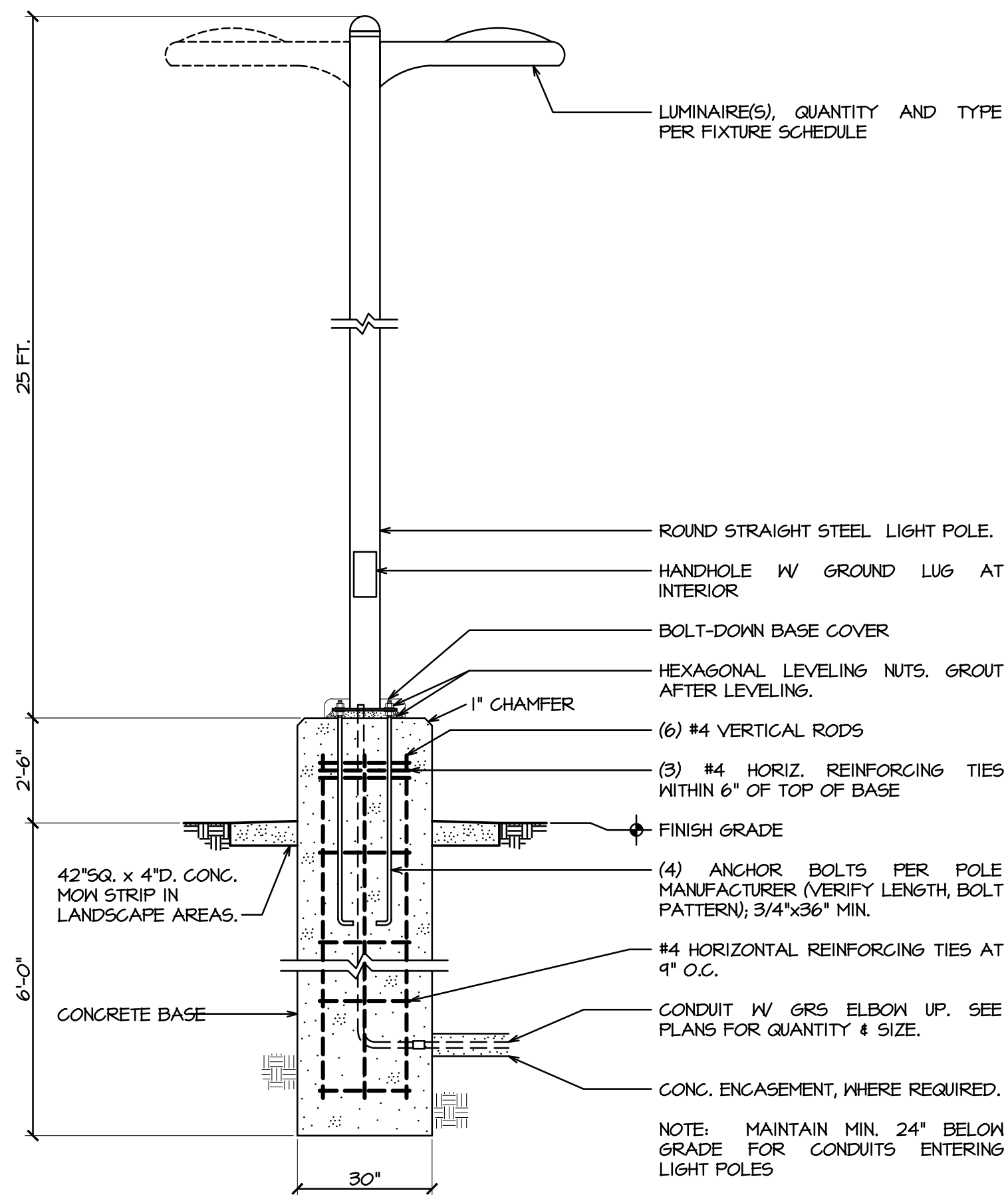
**Sheet No.**  
**E1.1**

	Bid Addendum 2 5-21-2021		Plan Review Corrections 5-21-2021
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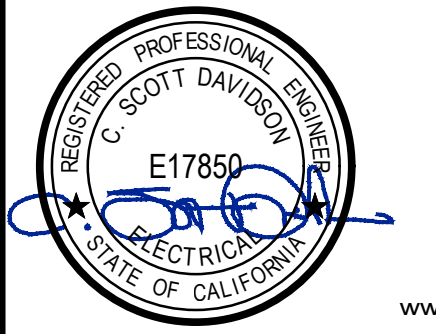
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G	LITHONIA	ZL1N L48 SMR 3000LM FST MVOLT 40K 80CRI WH	LED	25.0	120	SURFACE	
H	LITHONIA	DSXSC LED 20C 700 40K T5M MVOLT SRM XAD	LED	46.0	120	STRUCTURE	
HS	LITHONIA	DSXSC LED 20C 700 40K T5M MVOLT SRM XAD PIRH	LED	46.0	120	STRUCTURE	
P	LUMINAIRE	SWP1212 MIN10 25W 40K MVOLT OP GRY	LED	25.0	120	WALL	
S2	LITHONIA	DSX1 LED P7 40K T2M MVOLT RPA PIRH DNAXD	LED	183.0	208	POLE	INTEGRAL OCC SENSOR. SEE DETAIL A1/E1.1
S3	LITHONIA	DSX1 LED P7 40K T3M MVOLT RPA PIRH DNAXD	LED	183.0	208	POLE	INTEGRAL OCC SENSOR. SEE DETAIL A1/E1.1
S4	LITHONIA	DSX1 LED P7 40K TFTM MVOLT RPA PIRH DNAXD	LED	183.0	208	POLE	INTEGRAL OCC SENSOR. SEE DETAIL A1/E1.1

H1 Light Fixture Schedule

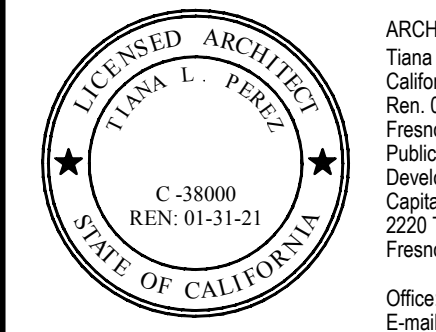


A1 Vehicle Area Pole Light Detail

Scale: None



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**Project:**  
 Fresno County  
 Environmental Compliance Center  
 Site Improvement and Shade Structure  
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 APN: 458-060-72  
 Issue Date:  
 Project No.: T90203  
 File Path: G:\Capital \ Projects \ Building Numbers \ American  
 Ave Landfill \ T90203 Environmental Compliance Center\ 00  
 2018 ECC

**Sheet Content:**  
 Lighting Schedules and Details

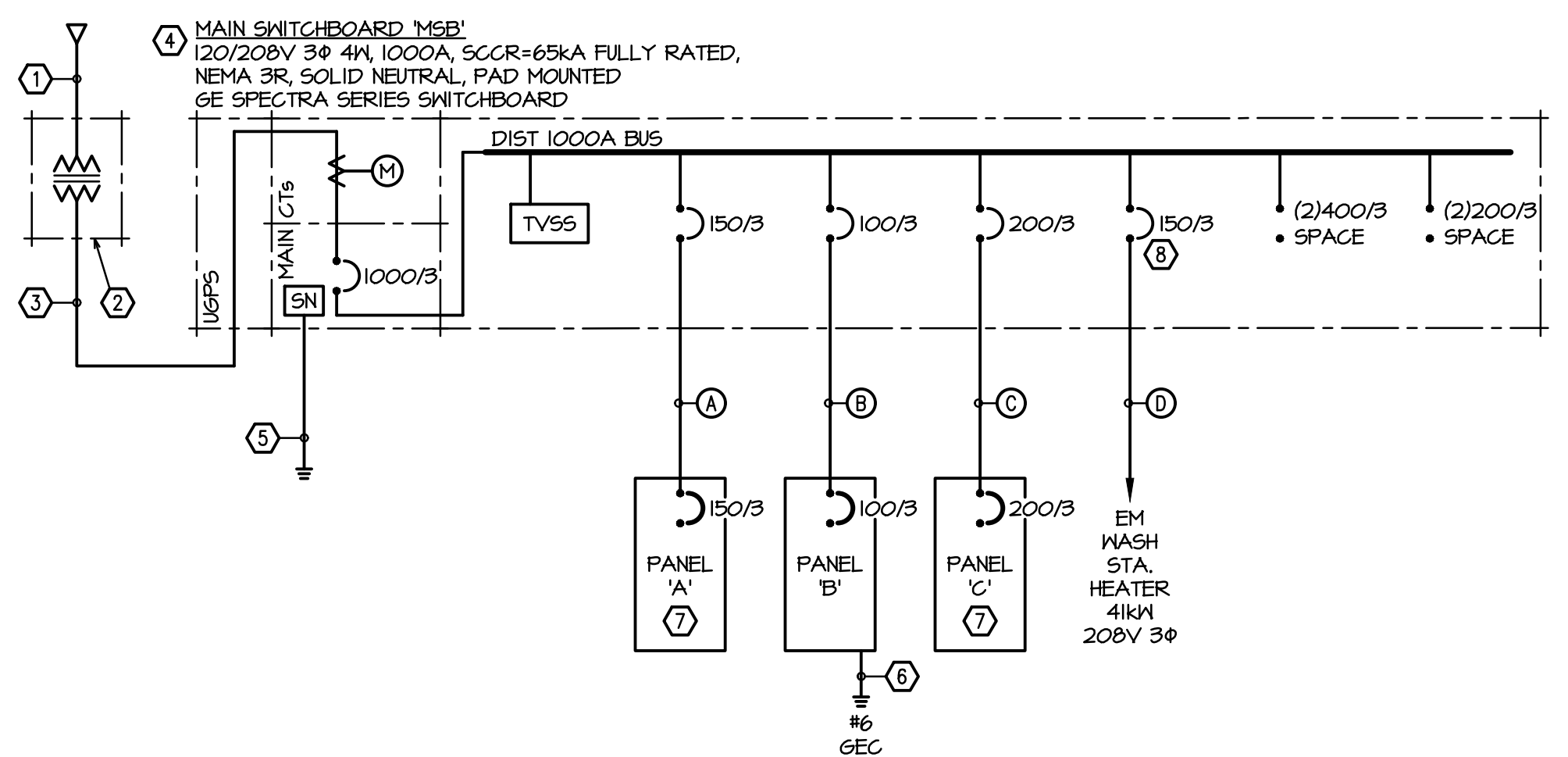
Fresno County Department of  
 Public Works and Planning  
 Capital Projects

2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**E1.2**

▲ Bid Addendum 2 5-21-2021	▲ Plan Review Corrections 5-21-2021
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**LINE DIAGRAM KEY NOTES**

- 4" UTILITY PRIMARY PER RULE 16 DOCS.
- UTILITY TRANSFORMER & CONCRETE PAD PER RULE 16 DOCS.
- (3) 5" UTILITY SECONDARY PER P&E PER RULE 16 DOCS.
- PROVIDE CONCRETE PAD PER DETAIL A6/E2.1.
- GROUND SERVICE PER DETAIL A1/E2.1.
- GROUNDING ELECTRODE CONDUCTOR TO UFER, STRUCTURAL STEEL, METAL WATER PIPE, AND FIRE SPRINKLER RISER.
- PANEL SHOWN FOR REFERENCE ONLY. INCLUDE CONDUIT, FEEDER, AND CONNECTION IN BID.
- PROVIDE LOCK-OUT DEVICE ON THIS BREAKER.

**FEEDERS**

- 2-1/2" C, 4#1/0, #66.
- 2" C, 4#1, #66.
- 3" C, 4#4/0, #46.
- 2" C, 3#2/0, #66.

**J1 Power Single Line Diagram**

Scale: None

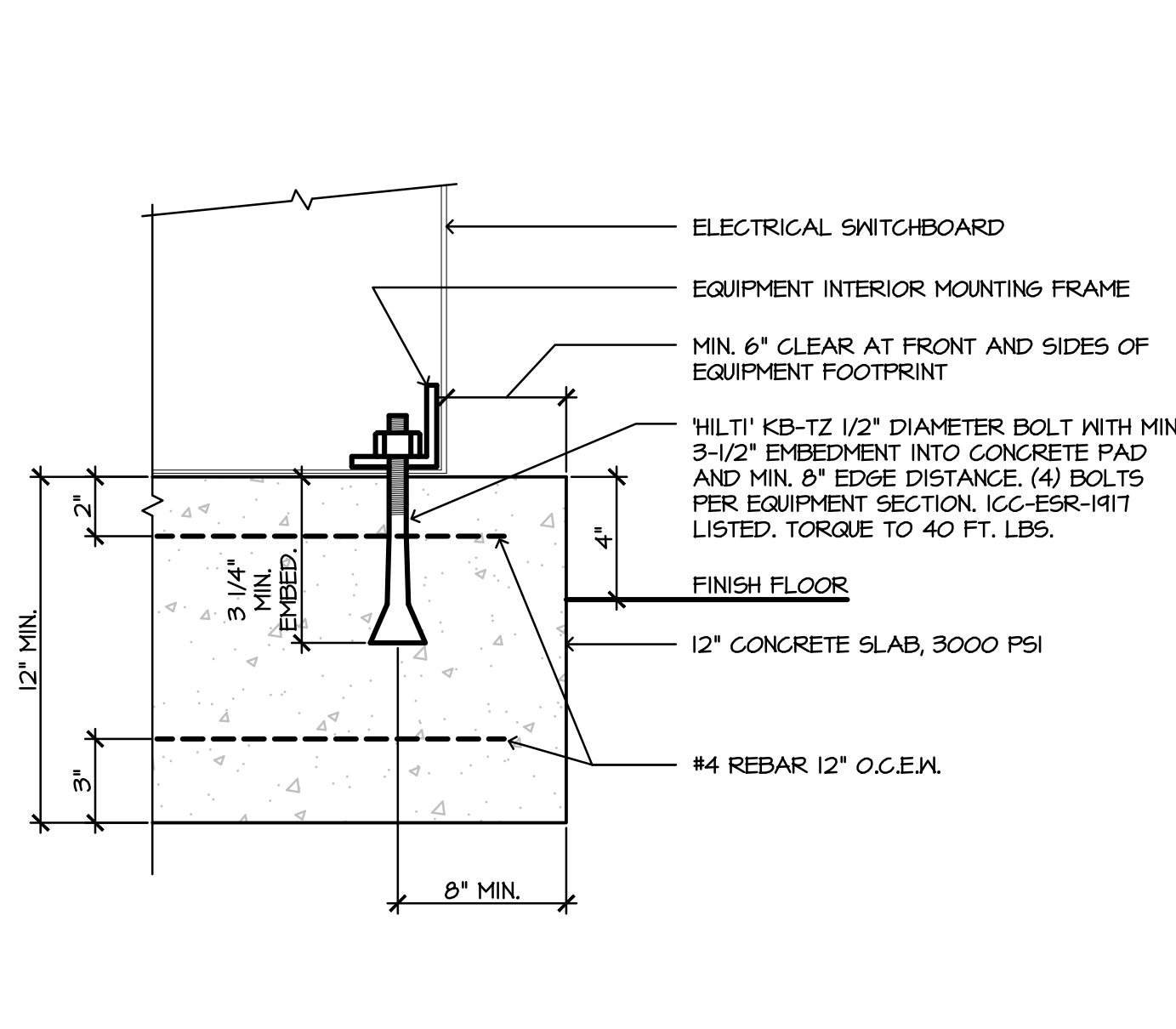
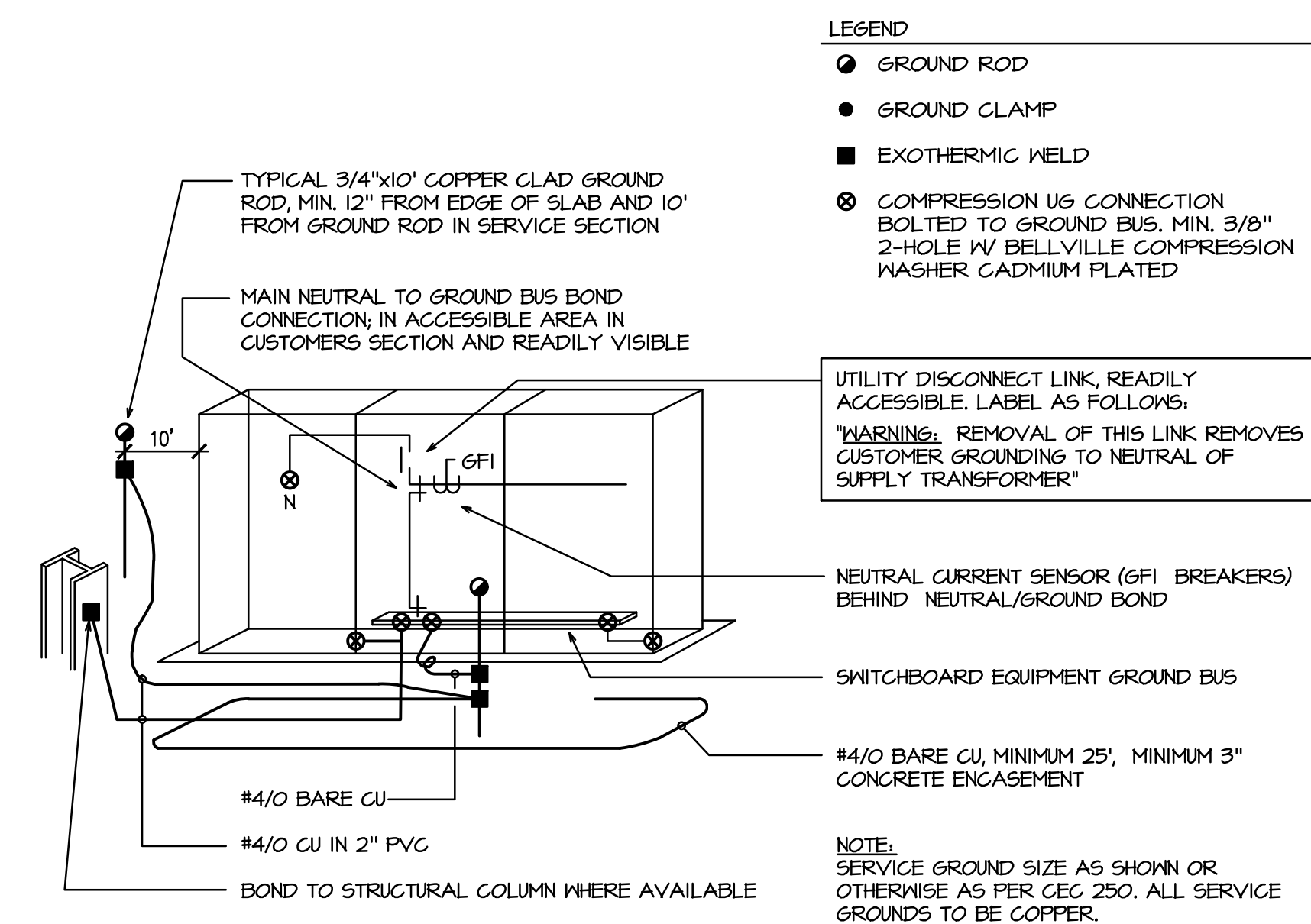
No.	Feeder Origin	Feeder Destination	Potential at Origin (P <sub>i</sub> ) (Volts)	System	Design Current (Amps)	Raceway Type	Sets of Cond.	Conductor Trade Size	Conductor Cross-Sectional Area (CM)	Conductor Material	DC Conductor Material Constant (K)	Q	Distance (ft)	Voltage Drop (VD) (Volts)	Potential at Load (P <sub>L</sub> ) (Volts)	Percent Voltage Drop (%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<sub>ac</sub> / R<sub>dc</sub>)  
 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 x K x Q x I x D / CM  
 VD (three phase) = √3 x K x Q x I x D / CM  
 %VD = VD / P<sub>i</sub> x 100

**E1 Voltage Drop Calculations**

Scale: None



**A1 Service Grounding Detail**

Scale: None

**A6 Concrete Equipment Pad Detail**

Scale: None

**PANEL "A" SCHEDULE**

CKT. NO.	DESCRIPTION	BREAKER		VA	Φ	VA	BREAKER		DESCRIPTION	CKT. NO.
		AMPS	POLE(S)				AMPS	POLE(S)		
1	LIGHTING CONTROL PANEL	15	1	150	A	1000	20	1	OUTLETS - BACKBOARD	2
3	LIGHTS - INTERIOR	15	1	319	B	1000	20	1	OUTLETS - BACKBOARD	4
5	LIGHTS - EXTERIOR	15	2	125	C	1000	20	1	* FIRE SPRINKLER SYSTEM	6
7	LIGHTS - SITE POLES (208V)	15	2	229	A	1000	20	1	OUTLETS - BACKBOARD	8
9	-----	--	--	229	B	540	20	1	OUTLETS - OFFICE	10
11	SPARE	15	1		C	720	20	1	OUTLETS - OFFICE	12
13	SPARE	20	1		A	540	20	1	OUTLETS - OFFICE	14
15	SPARE	20	1		B	720	20	1	OUTLETS - STORAGE	16
17	SPARE	20	1		C	540	20	1	OUTLETS - EXTERIOR, NE RESTROOM	18
19	AIR CONDITIONER ODU-1 / IDU-1	50	2	3120	A	360	20	1	OUTLETS - EXTERIOR, NW RESTROOM	20
21	-----	--	--	3120	B	2000	20	1	HAND DRYER - NE RESTROOM	22
23	AIR CONDITIONER ODU-2 / IDU-2	15	2	936	C	3000	30	1	** WATER HEATER - NE RESTROOM	24
25	-----	--	--	936	A	2000	20	1	HAND DRYER - NW RESTROOM	26
27	EXHAUST FAN EF-2	15	1	696	B	3000	30	1	** WATER HEATER - NW RESTROOM	28
29	SPACE ONLY				C	360	20	1	OUTLETS - HAZMAT CONTAINER	30
31	SPACE ONLY				A	20	1		SPARE	32
33	SPACE ONLY				B	20	1		SPARE	34
35	SPACE ONLY				C	20	1		SPARE	36
37	SPACE ONLY				A	20	1		SPARE	38
39	SPACE ONLY				B	20	1		SPARE	40
41	SPACE ONLY				C	20	1		SPARE	42

LOAD SUMMARY:  
 Φ A 9335 VA  
 Φ B 11624 VA  
 Φ C 6681 VA  
 CONNECTED LOAD: 27.6 KVA  
 MAX CURRENT: 97 A

BUSING: 200A  
 MAIN: 150A  
 NOTES: \* PROVIDE RED LOCK-ON DEVICE FOR F.A. CKTS.  
 \*\* PROVIDE LOCK-OUT DEVICE FOR SERVICE

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

**PANEL "B" SCHEDULE**

CKT. NO.	DESCRIPTION	BREAKER		VA	Φ	VA	BREAKER		DESCRIPTION	CKT. NO.
		AMPS	POLE(S)				AMPS	POLE(S)		
1	CANOPY LIGHTS	15	1	736	A	1176	20	1	LIQUID RECOVERY TANK	2
3	SPARE	15	1		B	500	20	1	NORTH SEA TRAIN	4
5	SPARE	20	1		C	500	20	1	SOUTH SEA TRAIN	6
7	OUTLETS - CANOPY	20	1	360	A	500	15	1	N. LIFT GATE	8
9	OUTLETS - CANOPY	20	1	360	B	500	15	1	S. LIFT GATE	10
11	OUTLETS - CANOPY	20	1	360	C	20	1		SPARE	12
13	OUTLETS - TERMINAL CABINET	15	1	360	A	20	1		SPARE	14
15	SPARE	20	1		B	20	1		SPARE	16
17	SPARE	20	1		C	20	1		SPARE	18
19	SPACE ONLY				A				SPACE ONLY	20
21	SPACE ONLY				B				SPACE ONLY	22
23	SPACE ONLY				C				SPACE ONLY	24
25	SPACE ONLY				A				SPACE ONLY	26
27	SPACE ONLY				B				SPACE ONLY	28
29	SPACE ONLY				C				SPACE ONLY	30

LOAD SUMMARY:  
 Φ A 3132 VA  
 Φ B 1360 VA  
 Φ C 860 VA  
 CONNECTED LOAD: 5.4 KVA  
 MAX CURRENT: 26 A

BUSING: 100A  
 MAIN: 100A

**PANEL "C" SCHEDULE**

CKT. NO.	DESCRIPTION	BREAKER		VA	Φ	VA	BREAKER		DESCRIPTION	CKT. NO.
		AMPS	POLE(S)				AMPS	POLE(S)		
1	LIGHTING CONTROL PANEL	15	1	150	A	500	20	1	OUTLETS - BACKBOARD	2
3	LIGHTS - INTERIOR	20	1		B	500	20	1	OUTLETS - BACKBOARD	4
5	LIGHTS - EXTERIOR	15	1		C	1000	20	1	OUTLETS - BACKBOARD	6
7	MARQUEE SIGN	15	1		A	360	20	1	OUTLETS - INTERIOR	8
9	SPACE ONLY				B	360	20	1	OUTLETS - INTERIOR	10
11	SPACE ONLY				C	360	20	1	OUTLETS - INTERIOR	12
13	ROLL-UP DOOR MOTOR	15	3	444	A	360	20	1	OUTLETS - INTERIOR	14
15	-----	--	--	444	B	500	20	1	* FIRE SPRINKLER SYSTEM	16
17	-----	--	--	444	C	20	1		SPARE	18
19	ROLL-UP DOOR MOTOR	15	3	444	A	20	1		SPARE	20
21	-----	--	--	444	B	20	1		SPARE	22
23	-----	--	--	444	C	20	1		SPARE	24
25	ROLL-UP DOOR MOTOR	15	3	444	A	4800	50	3	OUTLET - FORKLIFT CHARGER	26
27	-----	--	--	444	B	4800	--	--	-----	28
29	-----	--	--	444	C	4800	--	--	-----	30
31	EXHAUST FAN EF-1	20	1	1176	A				SPACE ONLY	32
33	SPACE ONLY				B				SPACE ONLY	34
35	SPACE ONLY				C				SPACE ONLY	36
37	SPACE ONLY				A				SPACE ONLY	38
39	SPACE ONLY				B				SPACE ONLY	40
41	SPACE ONLY				C				SPACE ONLY	42

LOAD SUMMARY:  
 Φ A 8678 VA  
 Φ B 7492 VA  
 Φ C 7492 VA  
 CONNECTED LOAD: 23.7 KVA  
 MAX CURRENT: 72 A

BUSING: 200A  
 MAIN: 200A  
 NOTES: \* PROVIDE RED LOCK-ON DEVICE FOR F.A. CKTS.

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

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ARCHITECT:  
 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  
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 APN: 458-060-72  
 Issue Date:  
 Project No: T90203  
 File Path: G:\Capital\Projects\Building Numbers\1 American Ave Landfill\T90203 Environmental Compliance Center\00 2018 ECC

**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**

▲ Bid Addendum 2 5-21-2021	▲ Plan Review Corrections 5-21-2021
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> File: 20055 - Elec P11 Site & Canopy.dwg > Plotted: 5/21/2021 4:38 PM  
 Drawn by: CMV  
 Plotted on: 21.05.2021







RONQUILLO DRIVE

Adjacent Vacant Property

SOUTH WEST AVE.

City of Fresno Pump Station

KEYNOTES

- EXISTING POLE. PROVIDE RISER PER RULE 16.
- 4" PG&E PRIMARY PER RULE 16.
- POLE 10" x 10" CONCRETE PAD PER RULE 16. MAINTAIN MIN. 24" CLEAR FROM BACK OF PAD TO FENCE.
- (3) 5" PG&E SECONDARY PER RULE 16.
- MAIN SWITCHBOARD 1500' AND CONCRETE PAD.
- POWER CONDUITS AS NOTED. REFER TO POWER SINGLE LINE DIAGRAM FOR FEEDERS.
- POWER VAULT AS NOTED. H2O RATED BOX, EXTENSION AND BOLT-DOWN LID.
- BIOIT LIGHTING PULLBOX, H2O RATED BOX AND BOLT-DOWN LID.
- (2) 4" TO AT&T POINT OF CONNECTION PER AT&T DRAWINGS.
- AT&T 3/8" VAULT.
- (2) 4" AT&T SERVICE.
- LOW VOLTAGE CONDUITS AS NOTED.
- LOW VOLTAGE PULLBOX AS NOTED. H2O RATED BOX, EXTENSION AND BOLT-DOWN LID.
- 1" C. FOR LIGHTING WITH NO CONDUCTORS AND GROUND.
- HP PAD-LOCKABLE HINGED TERMINAL CABINET, 18" x 24" WITH ULTRADRY BACKBOARD, RIN (2) 1/2" C. AND (2) 1" C. TO BLDG. A LOW VOLTAGE BACKBOARD.
- HP PAD-LOCKABLE HINGED TERMINAL CABINET, 12" x 18" WITH ULTRADRY BACKBOARD, RIN (2) 1" C. TO BLDG. A LOW VOLTAGE BACKBOARD.
- HP J-BOX W/ 20A 1-POLE SWITCH DISCONNECT AND 1" C. TO PANEL B.
- CONNECT LIQUID RECOVERY TANK PUMP.
- CONNECT MARGIS SIGN POWER AND DATA. PROVIDE 20A 2-POLE SWITCH DISCONNECT IN HP PAD-LOCKABLE COVER. PROVIDE 3/16" 1/8" (6) 1/8" AND LCP-CONTROLLED SERVICE CONDUCTORS AND GROUND. PROVIDE CAT6 CABLE FROM BPC. PROVIDE 30" x 10" FT. (2) GALD GROUND ROD IN GROUND WELL BOX AND BOND TO SIGN WITH #6 GEC.
- PROVIDE OUTLETS AT EXTERIOR OF CONTAINER. PROVIDE 20A 1-POLE SWITCH DISCONNECT IN HP PAD-LOCKABLE COVER. PROVIDE (4) 4 FT. TYPE (6) INTERIOR LED STRIPS AND WIRE TO (4) DOOR SWITCHES IN PARALLEL TO TURN LIGHTS ON WHENEVER ANY DOOR IS OPENED. UTILIZE 1/2" CABLE AT INTERIOR. DO NOT INFER ANY CIRCUMSTANCES PENETRATE ROOF OF CONTAINER TO MOUNT FIXTURES OR SECURE CABLING.
- PROVIDE LIFTHATCHER MAT "MEGA ARM TOWER" WITH CONTROLLER AND RECEIVER. 10-FOOT LED LIGHTED ARM MOUNTED SLIP GLITCH MAGDOCS. RECEIVER, HEATER MAGOL, AND ELECTRIC EYE MACHROM WITH PROTECTIVE COVER. STUB CONDUIT INTO BASE FROM PULLBOX AND CONNECT OPERATOR 120V. REFER TO STRUCTURAL FOR BASE DETAIL.
- LEVEL TRANSMITTER, RIN 1" C. TO OFFICE BUILDING LVS BACKBOARD.
- EMERGENCY EYE WASH/SHOWER WATER HEATER 60" H 20" W 24" RIN 2" C. TO MSB WITH CONDUCTORS PER SINGLE LINE DIAGRAM. PROVIDE SHUT-OFF LOCKOUT ON SERVING CIRCUIT BREAKER. SEE ALSO PLUMBING DRAWINGS.
- RISE AT RIV AND CONNECT TO OS&Y TAMPER SWITCH, RIN 1" C. TO FIRE SPRINKLER MONITOR PANEL AT THE RESPECTIVE BUILDING.



**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\1 Building Numbers\1 American Ave Landfill\T90203 Environmental Compliance Center\00 2018 ECC

**Sheet Content:**  
Electrical Site Plan



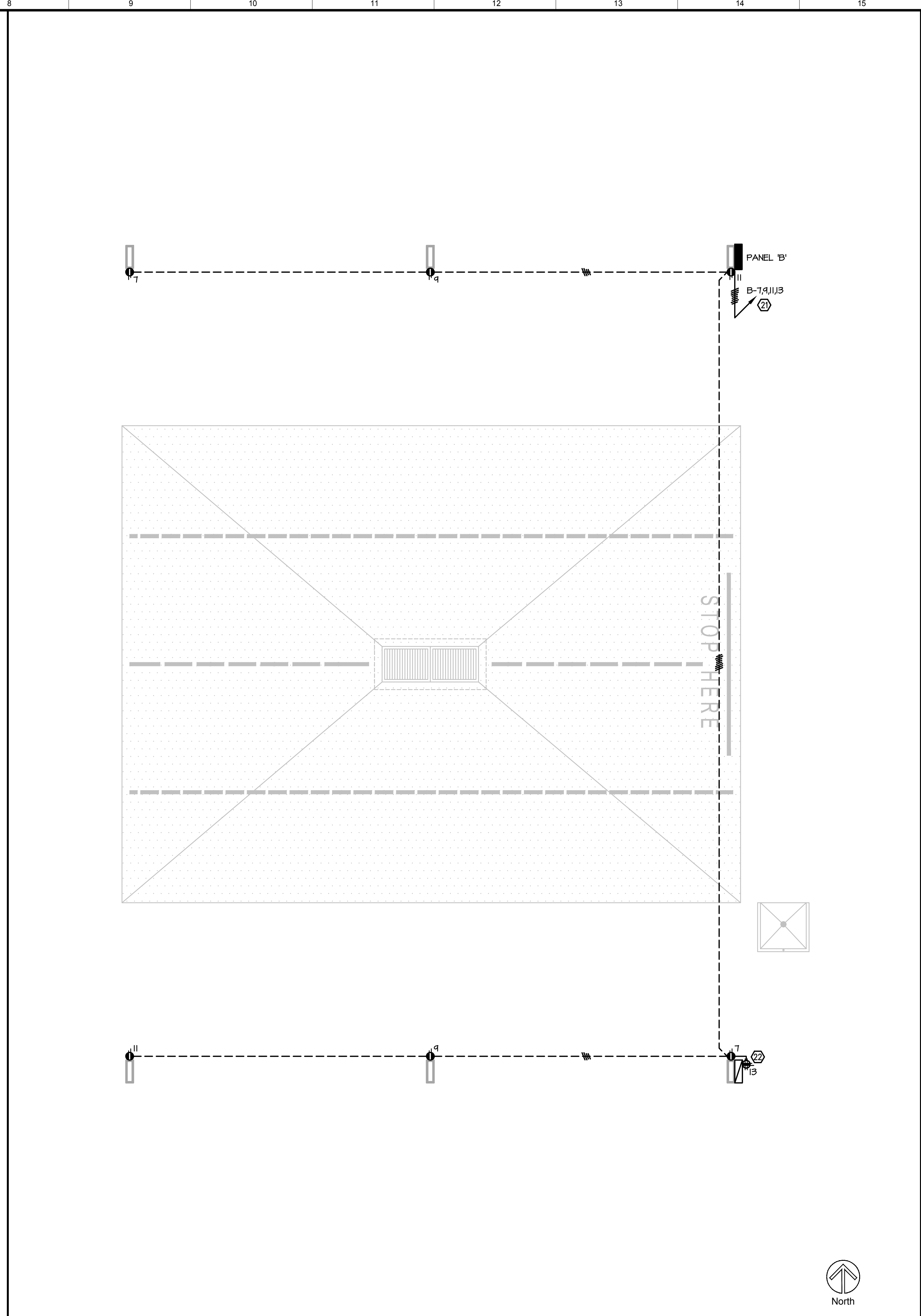
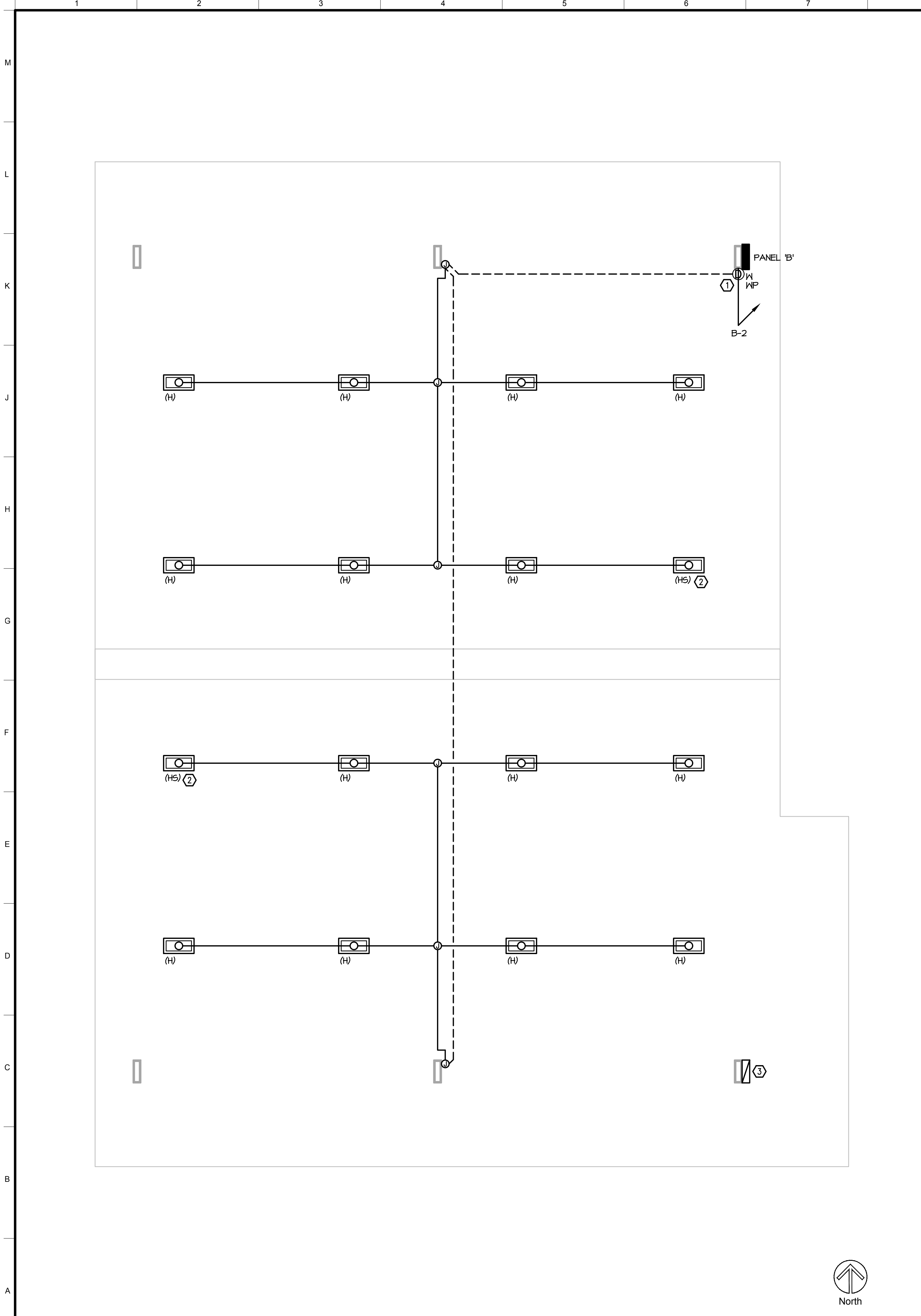
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▲ Bid Addendum 2 5-21-2021	▲ Plan Review Corrections 5-21-2021
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- KEYNOTES**
1. XPOINT WIRELESS SWITCH IN PP COVER.
  2. PROGRAM AMBIENT/OCC SENSOR TO CONTROL ALL FIXTURES. PROGRAM 25% FOR UNOCCUPIED, 100% FOR OCCUPIED. PROGRAM AMBIENT LIGHT LEVEL ON AT DEFAULT LEVEL.
  3. PROVIDE AGILITY XPOINT GATEWAY (MFA-BR6-PPE-HTR) AND MOUNT ABOVE TERMINAL CABINET. INSTALL CONDUIT CHASE BETWEEN GATEWAY AND T.C. FOR ELECTRICAL CONNECTION. PROGRAM GATEWAY ON/OFF SCHEDULE PER OWNER.
  21. RUN #0 CONDUCTORS THROUGHOUT RUN.
  22. INSTALL GFI OUTLETS ON BACKBOARD IN TERMINAL CABINET. SEE SHEET E2J FOR TC SPEC.


**Hardin-Davidson Engineering**  
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 559.323.4995 tel  
 www.hardin-davidson.com




**ARCHITECT:**  
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 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  
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**Sheet Content:**  
 Shade Structure  
 Electrical Plans

Fresno County Department of Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721  


**Sheet No.**  
**E3.1**

 Bid Addendum 2 5-21-2021	 Plan Review Corrections 5-21-2021
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WEST DAN RONQUILLO DRIVE

SOUTH WEST AVENUE

IRRIGATION EQUIPMENT SCHEDULE

KEY	MFR.	DESCRIPTION	MODEL
M		METER- BY OTHERS VERIFY LOCATION	
C	HUNTER	IRRIGATION CONTROLLER VERIFY LOCATION	IC-600-PL WITH ICM-600 EXPANSION MODULES, WALL MOUNT PLASTIC CABINET
⊕	HUNTER	ET SENSOR	WIRELESS SOLAR SYNC, MOUNT PER MFR. INSTRUCTIONS
⊖	WILKINS	LEAD FREE REDUCED PRESSURE BACKFLOW DEVICE W/ CAGE AND POLAR BLANKET	2" 315XL
H	NETAFIM	HYDROMETER	1 1/2" NORMALLY CLOSED, PDH OUTPUT SEE DETAIL
⊗	NIBCO	BRONZE GATE VALVE	T-113, LINE SIZE
⊕	HUNTER	VALVE WITH FILTER & PRESSURE REGULATION	ICZ-101, 150 MESH FILTER PRESSURE REG AT 40 PSI
◆	TORO	QUICK COUPLER	100-SLVC, SUPPLY OWNER W/ 1 MATCHING VALVE KEY & HOSE SWIVEL
⊖	BOWSMITH	FANJET EMITTER 1 PER SHRUB WHERE SHOWN 1 PER TREE	MOD. NO: BLACK-C SEE DETAIL
○	TORO	STREAM SPRAY NOZZLE FOR SHRUBS ON RISER 3" ABOVE GRADE 1 PER SHRUB	10-55Q-PC, ADJUST TO 2' RADIUS SEE DETAIL
---		MAINLINE	SCH. 40 PVC, BURY 18" 24" UNDER DRIVING SURFACE, MIN. SIZE SHOWN 2" UNLESS OTHERWISE NOTED ON PLAN.
---		LATERAL LINES	CL. 200 PVC, BURY 12" 24" UNDER DRIVING SURFACE, MIN. SIZE SHOWN 1" UNLESS OTHERWISE NOTED ON PLAN. IN NO CASE MAY VELOCITY EXCEED 5 FPS.
---		SLEEVING	SCH. 40 PVC, 2 TIMES LARGER THAN IRRIGATION LINE, BURY 24" UNDER DRIVING SURFACE, INSTALL IN SAME TRENCH WHEN POSSIBLE. SEE SPECS/ DETAILS

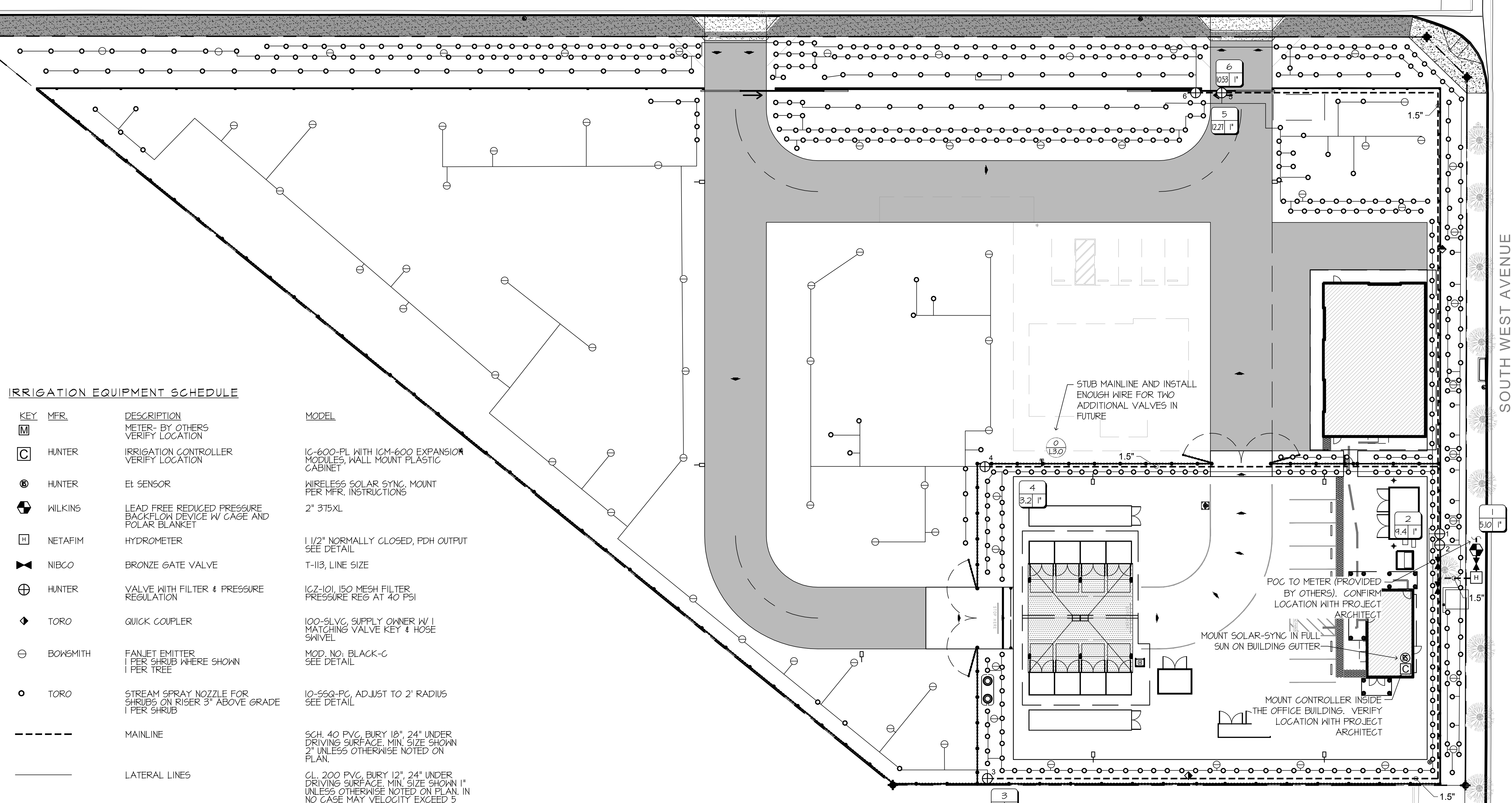
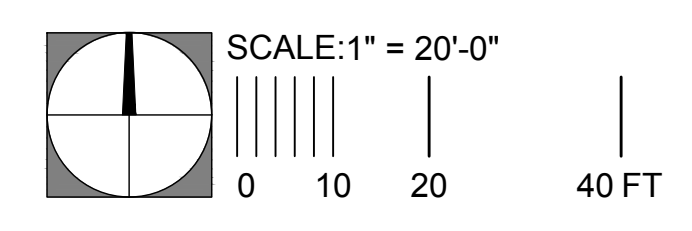
30 ← VALVE NUMBER  
22 1/2" ← VALVE SIZE  
← APPROXIMATE GALLONS  
PER MINUTE

LATERAL PIPE SIZING

0 - 12	GPM: 1"
12 - 28	GPM: 1.5"
28 - 40	GPM: 2"
40 - 55	GPM: 2.5"
55 +	GPM: 3"

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 CIVIL ENGINEERS - LAND SURVEYORS - PLANNERS  
 4804 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 • 5.24.21



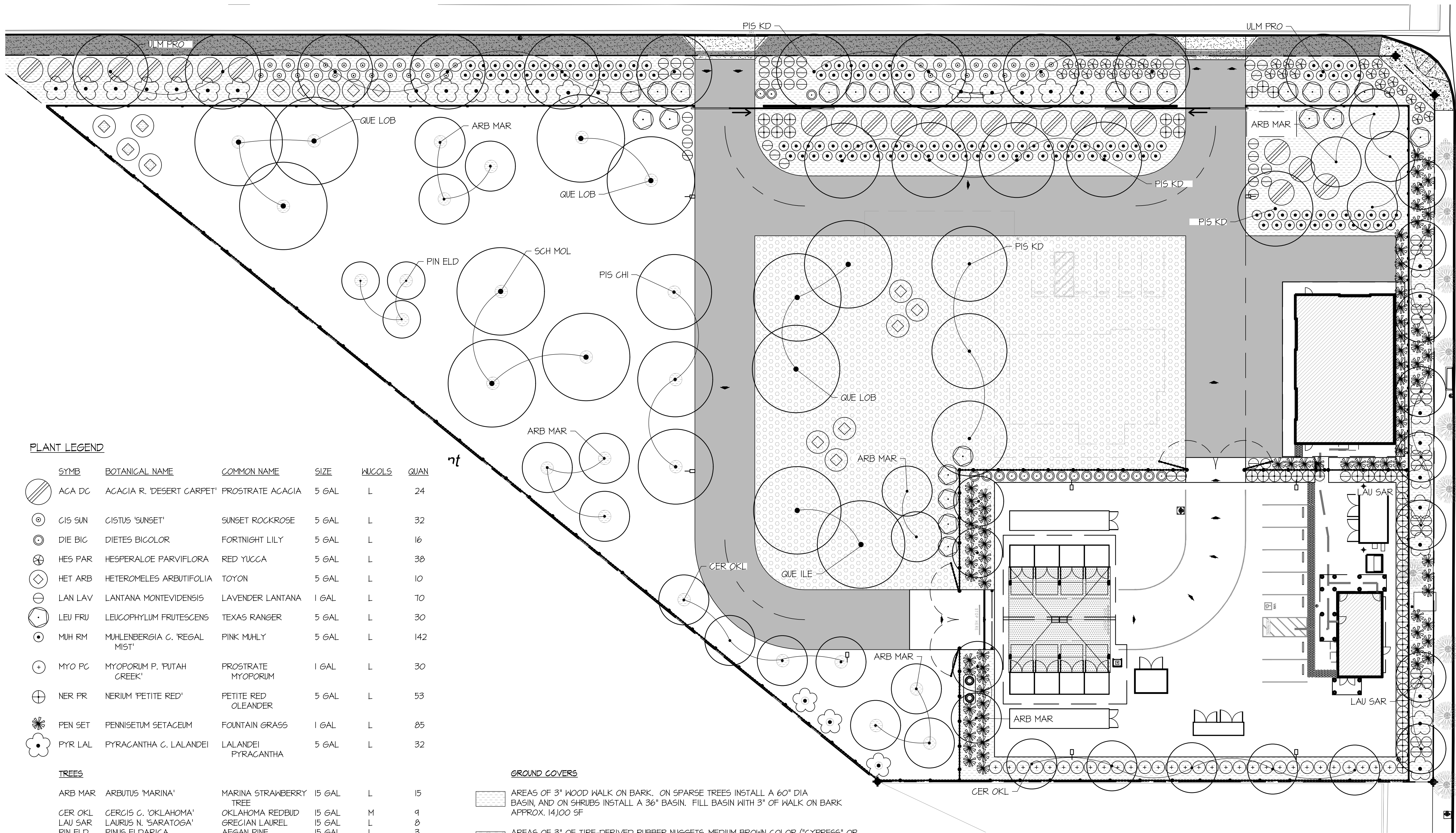
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**Sheet Content:**  
 IRRIGATION PLAN

Fresno County Department of  
 Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

**Sheet No.**  
 L1.0





PLANT LEGEND

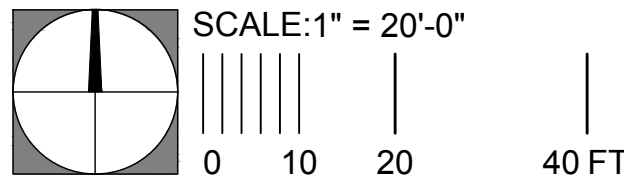
SYMB	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS	QUAN
ACA DC	ACACIA R. 'DESERT CARPET'	PROSTRATE ACACIA	5 GAL	L	24
CIS SUN	CISTUS 'SUNSET'	SUNSET ROCKROSE	5 GAL	L	32
DIE BIC	DIETES BICOLOR	FORTNIGHT LILY	5 GAL	L	16
HES PAR	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL	L	38
HET ARB	HETEROMELES ARBUTIFOLIA	TOYON	5 GAL	L	10
LAN LAV	LANTANA MONTEVIDENSIS	LAVENDER LANTANA	1 GAL	L	70
LEU FRU	LEUCOPHYLUM FRUTESCENS	TEXAS RANGER	5 GAL	L	30
MUH RM	MUHLENBERGIA C. 'REGAL MIST'	PINK MUHLY	5 GAL	L	142
MYO PC	MYOPORUM P. 'PUTAH CREEK'	PROSTRATE MYOPORUM	1 GAL	L	30
NER FR	NERIUM 'PETITE RED'	PETITE RED OLEANDER	5 GAL	L	53
PEN SET	PENNISETUM SETACEUM	FOUNTAIN GRASS	1 GAL	L	85
PYR LAL	PYRACANTHA C. LALANDEI	LALANDEI PYRACANTHA	5 GAL	L	32
<b>TREES</b>					
ARB MAR	ARBUTUS 'MARINA'	MARINA STRAWBERRY TREE	15 GAL	L	15
CER OKL	CERCIS C. 'OKLAHOMA'	OKLAHOMA REDBUD	15 GAL	M	4
LAU SAR	L'AURUS N. 'SARATOGA'	GREGIAN LAUREL	15 GAL	L	8
PIN ELD	PINUS ELDARICA	AFGAN PINE	15 GAL	L	3
PIS CHI	PISTACIA CHINENSIS	CHINESE PISTACHE	15 GAL	L	3
PIS KD	PISTACIA C. 'KEITH DAVEY'	KEITH DAVEY PISTACHE	15 GAL	L	12
QUE ILE	QUERCUS ILEX	HOLLY OAK	15 GAL	L	2
QUE LOB	QUERCUS LOBATA	VALLEY OAK	15 GAL	L	8
SCH MOL	SCHINUS MOLLE	CALIFORNIA PEPPER	15 GAL	L	3
ULM PRO	ULMUS W. 'PROSPECTOR'	PROSPECTOR ELM	15 GAL	L	7

GROUND COVERS

- AREAS OF 3" WOOD WALK ON BARK. ON SPARSE TREES INSTALL A 60" DIA BASIN, AND ON SHRUBS INSTALL A 36" BASIN. FILL BASIN WITH 3" OF WALK ON BARK APPROX. 14,100 SF
- AREAS OF 3" OF TIRE-DERIVED RUBBER NUGGETS, MEDIUM BROWN COLOR ("GYPPRESS" OR "SADDLE BROWN") BY WEST COAST RUBBER RECYCLING, INC, HOLLISTER, CA. (831-634-2800) OR APPROVED EQUAL. SUBMIT SAMPLE FOR APPROVAL BY OWNER PRIOR TO ORDERING OR INSTALLATION. APPROX. 21,000 SF.
- EXISTING TREES TO REMAIN. PROTECT DURING CONSTRUCTION

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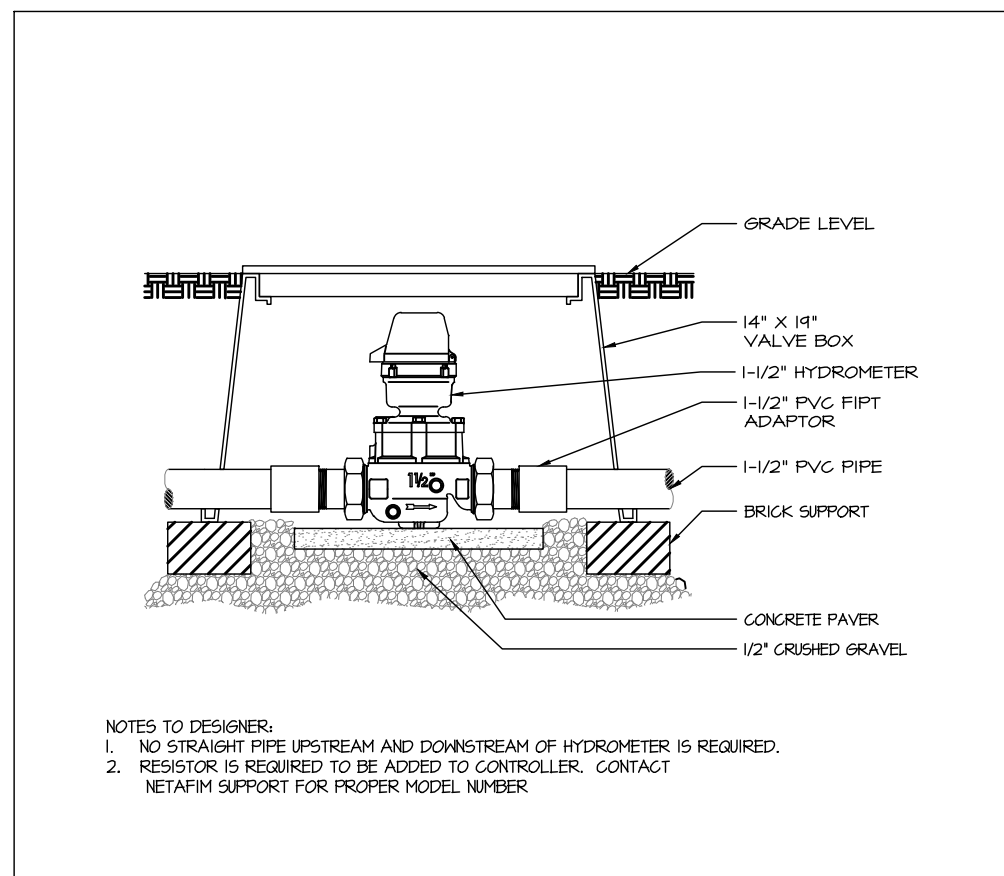
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 File Path: G:\Capital \Projects \Building Numbers \American Ave Landfill \T90203 Environmental Compliance Center\ 00 2018 ECC

**Sheet Content:**  
 PLANTING PLAN

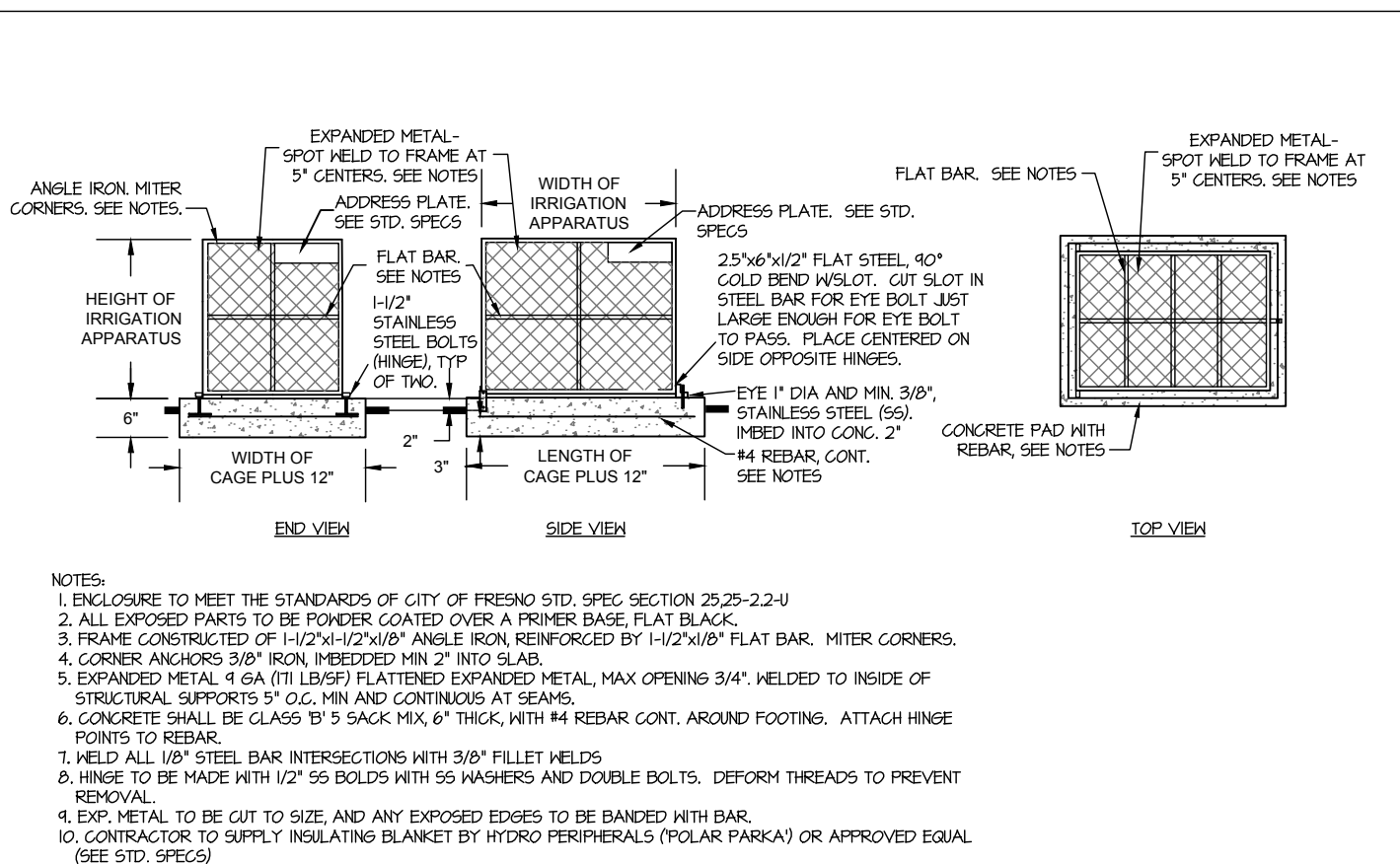
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 Public Works and Planning  
 Capital Projects  
 2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**L2.0**

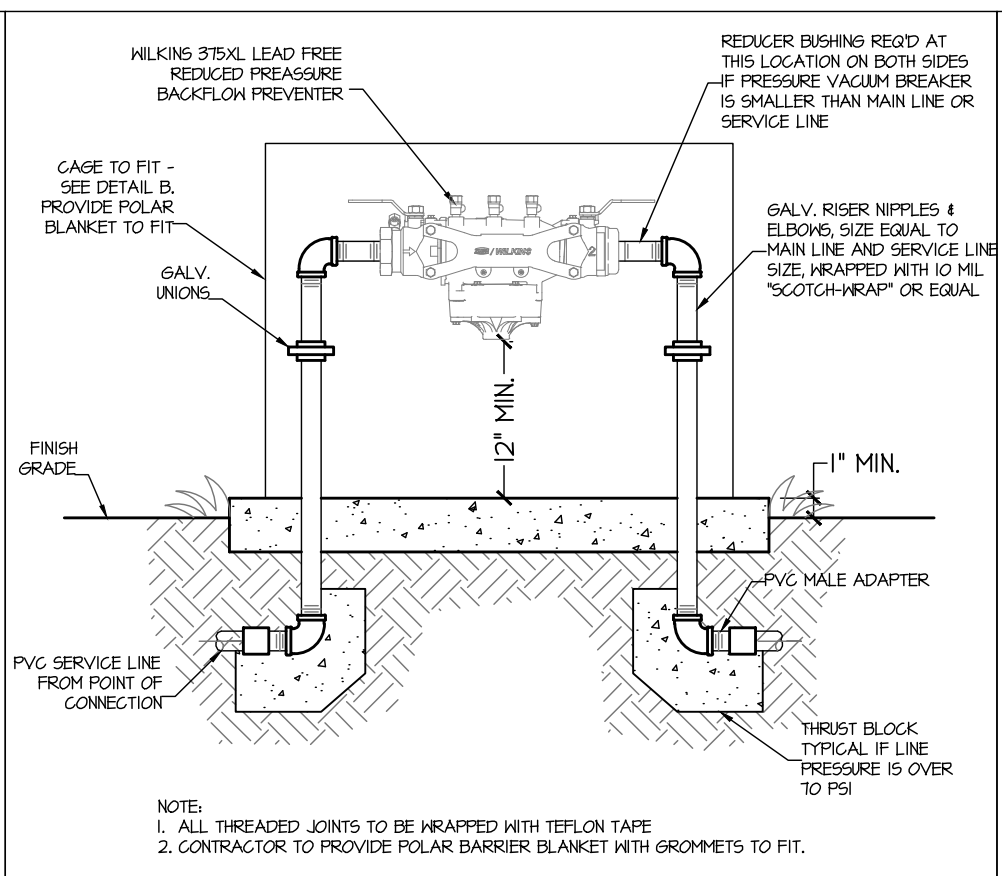




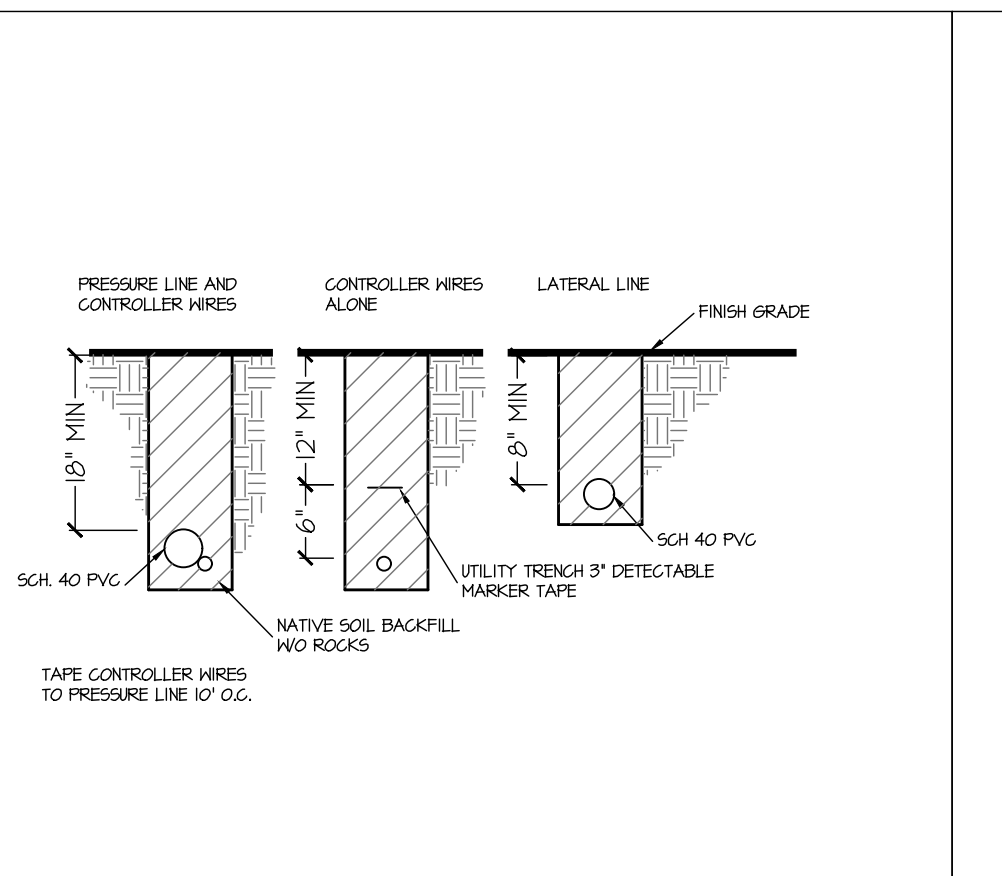
**A HYDROMETER** NTS



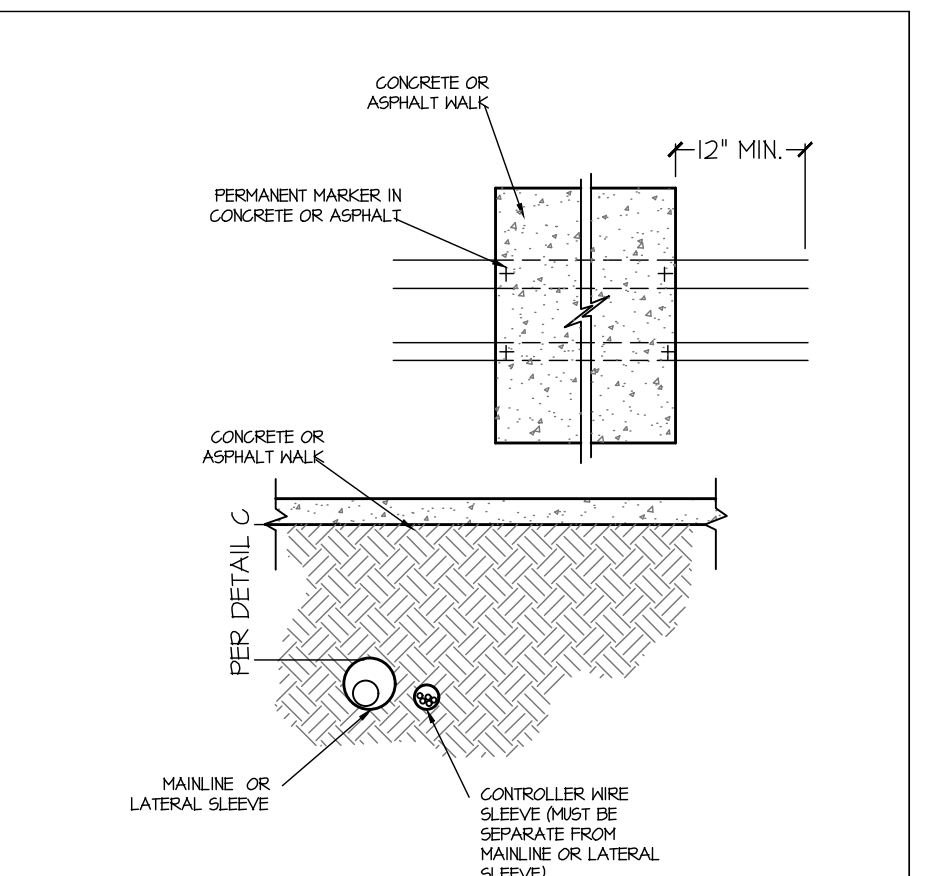
**B BACKFLOW CAGE** NTS



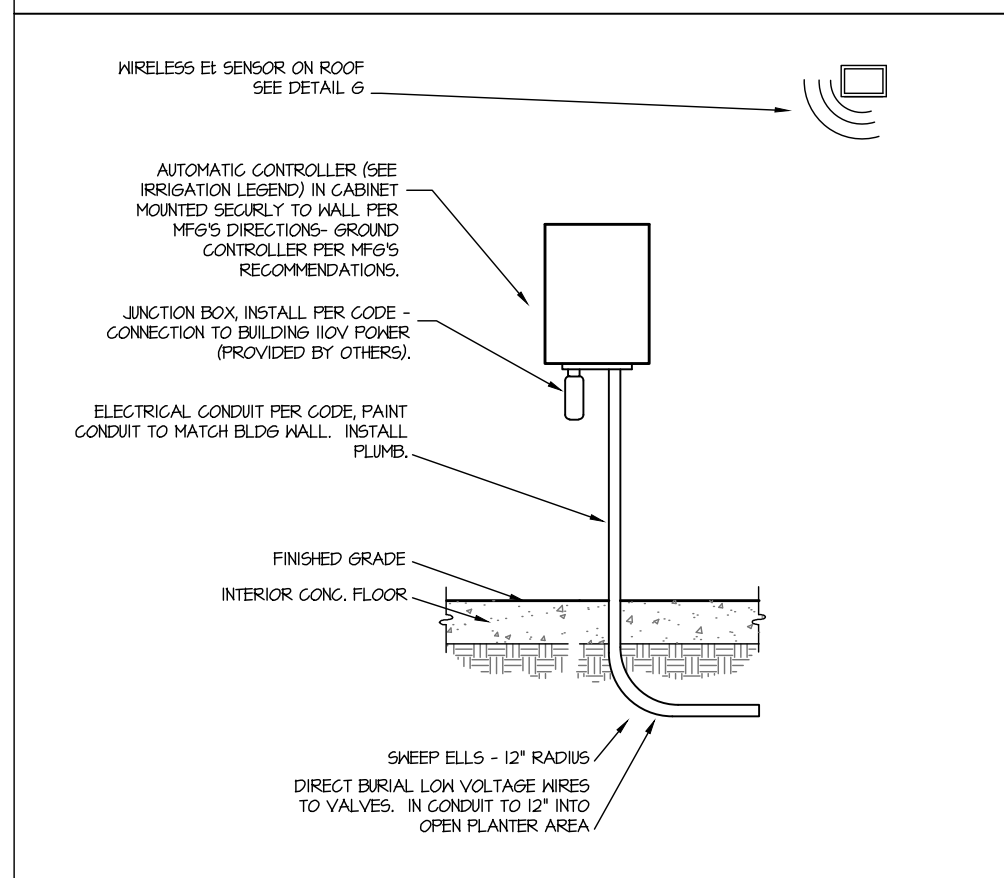
**C BACKFLOW PREVENTER** NTS



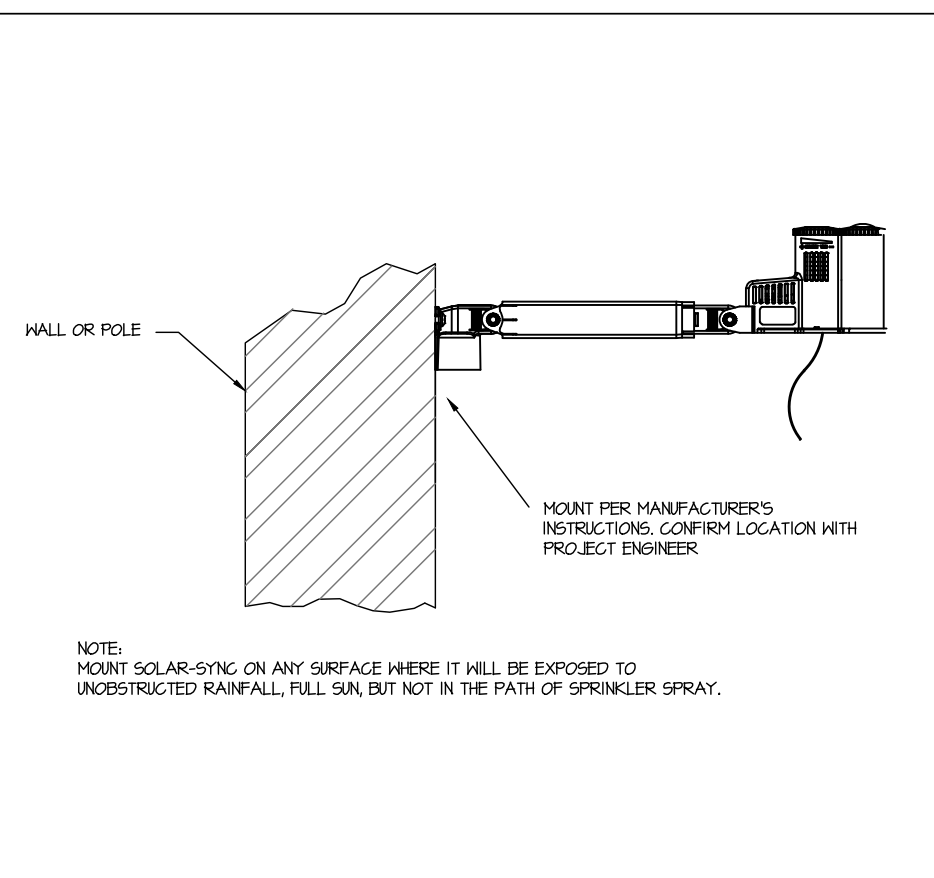
**D TRENCHING DETAIL** NTS



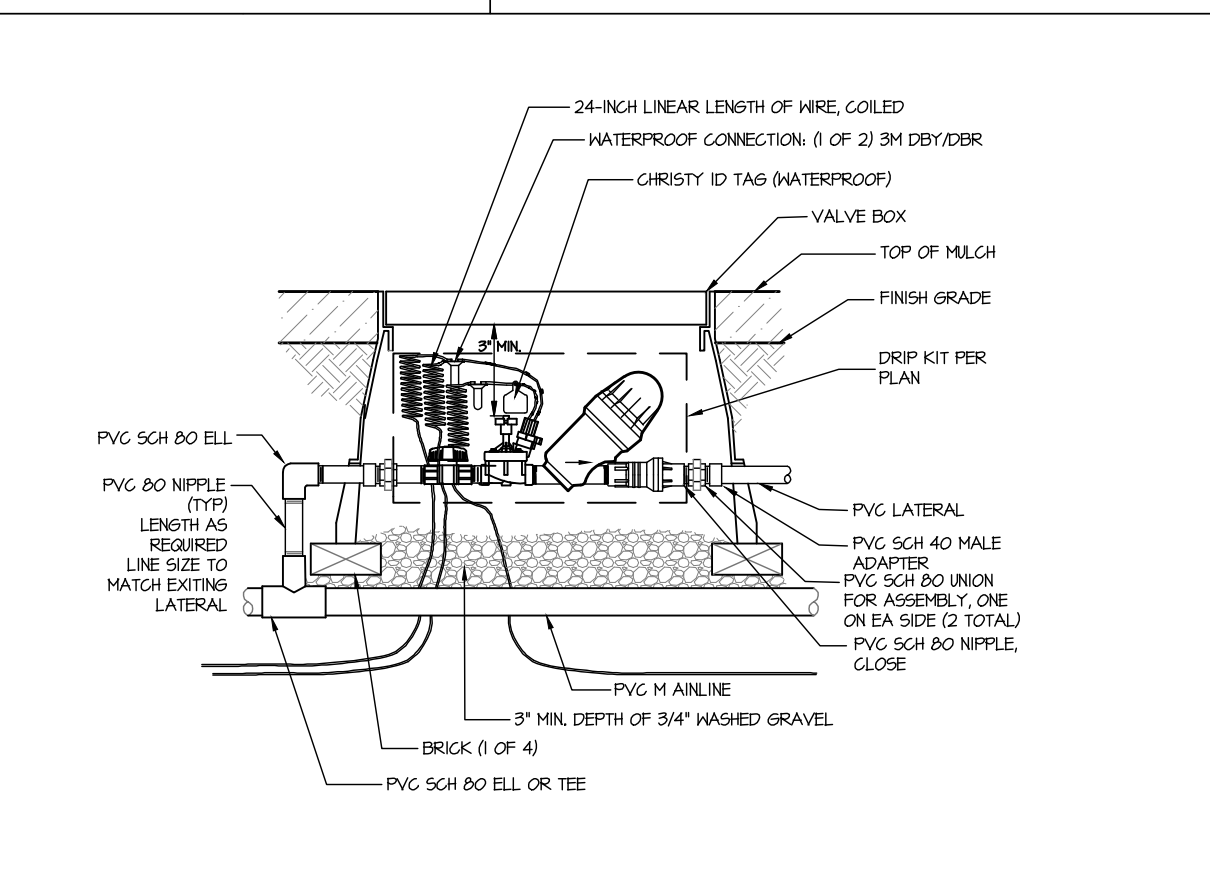
**E SLEEVE DETAILS** NTS



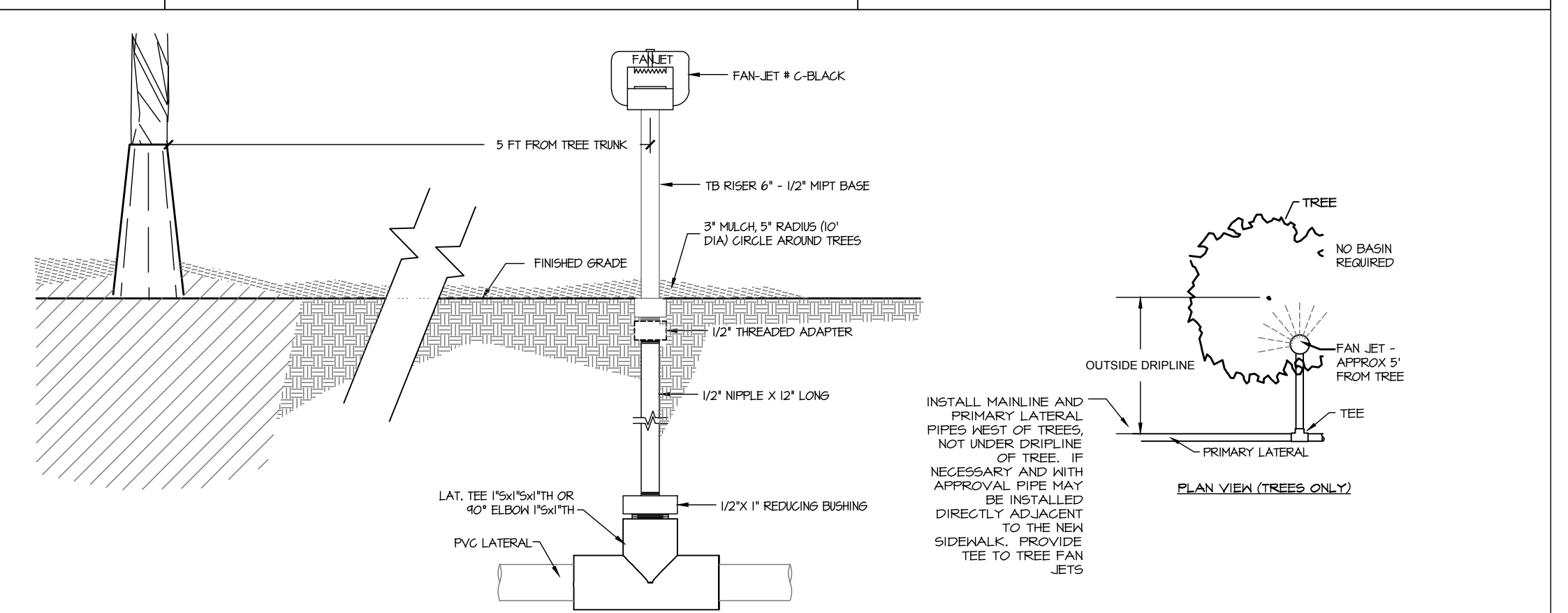
**F WALL MOUNT CONTROLLER** NTS



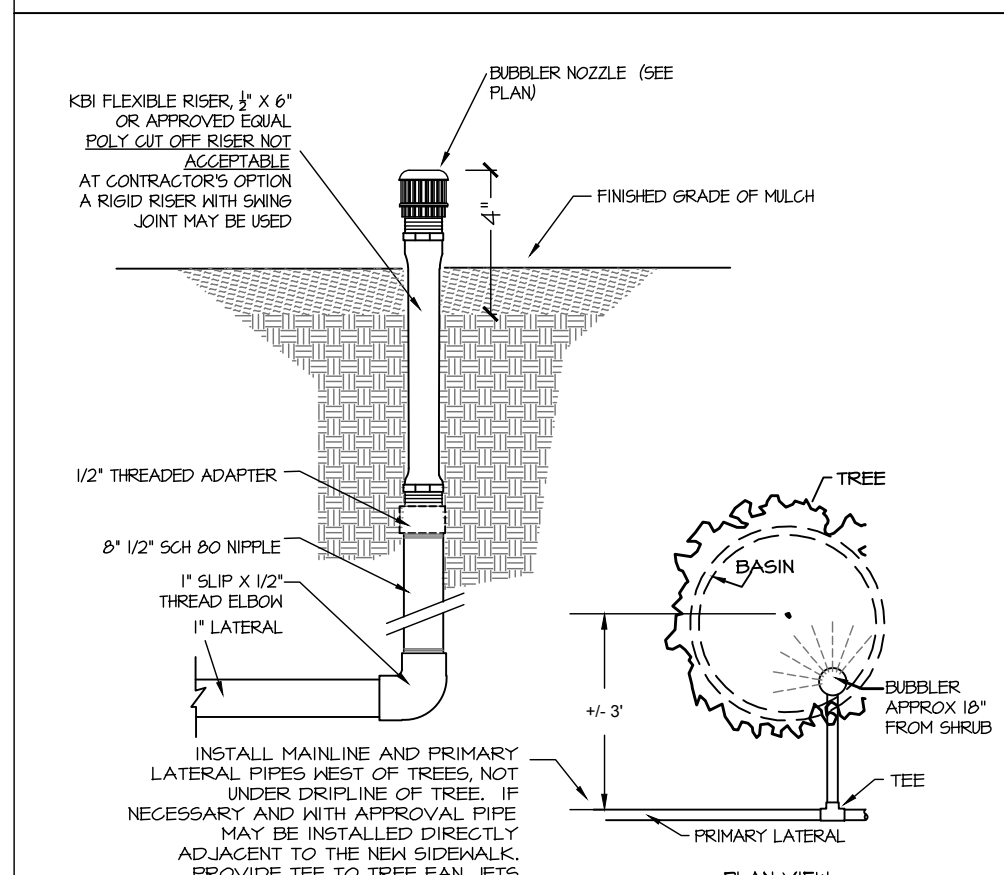
**G SOLAR SYNC** NTS



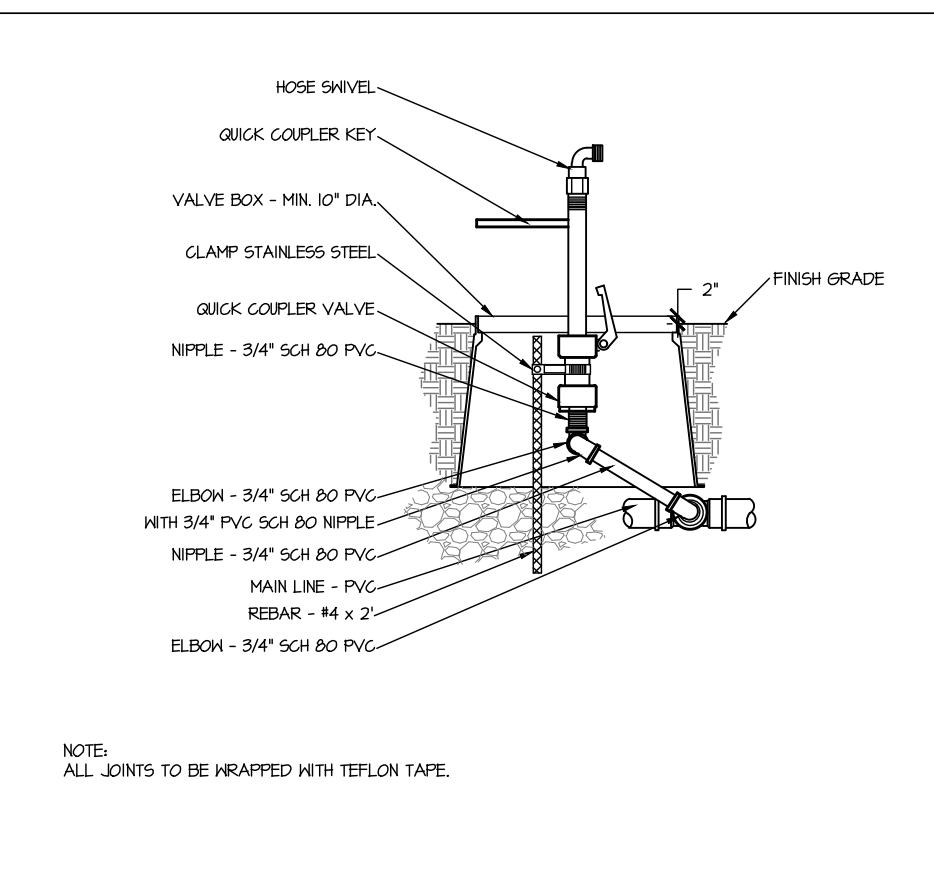
**H DRIP BUBBLER VALVE WITH FILTER** NTS



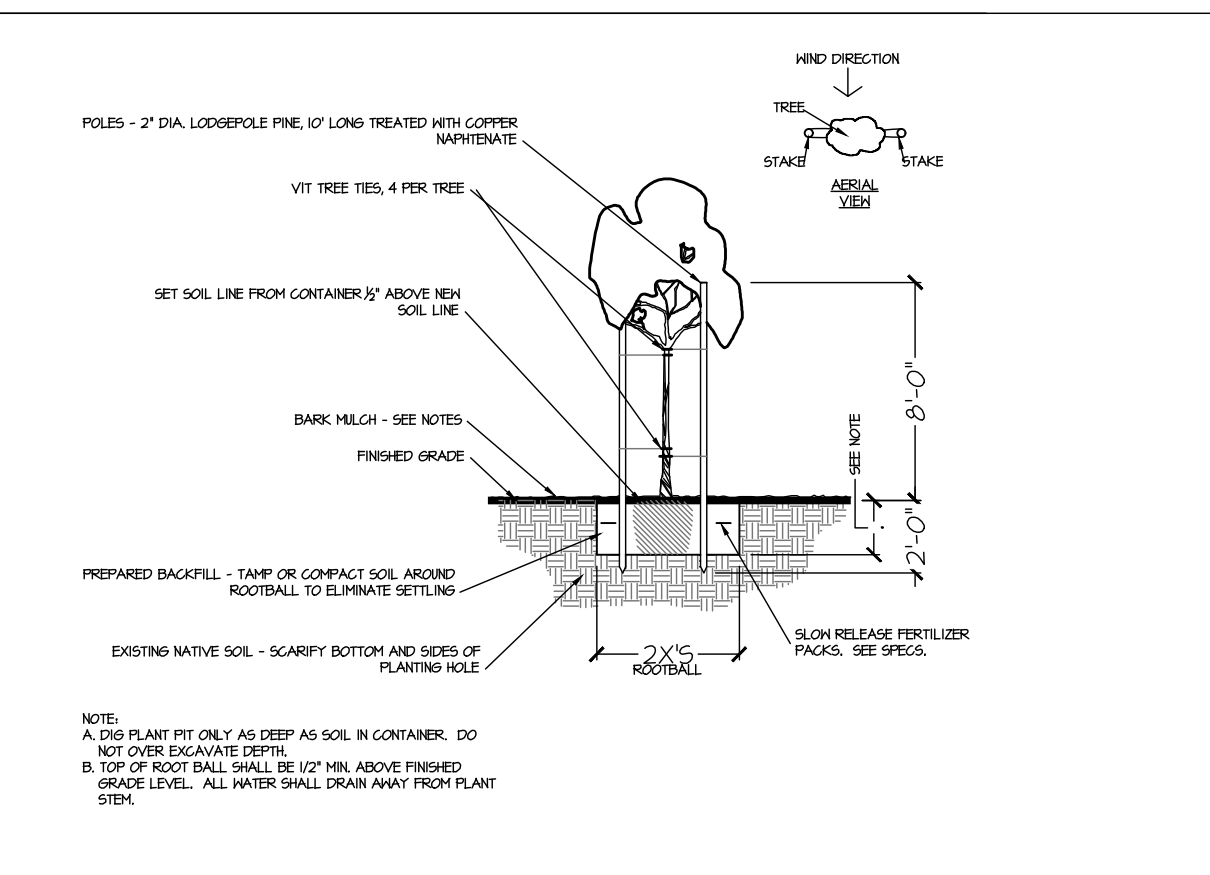
**I FANJET W/ TB RISER ADAPTER** NTS



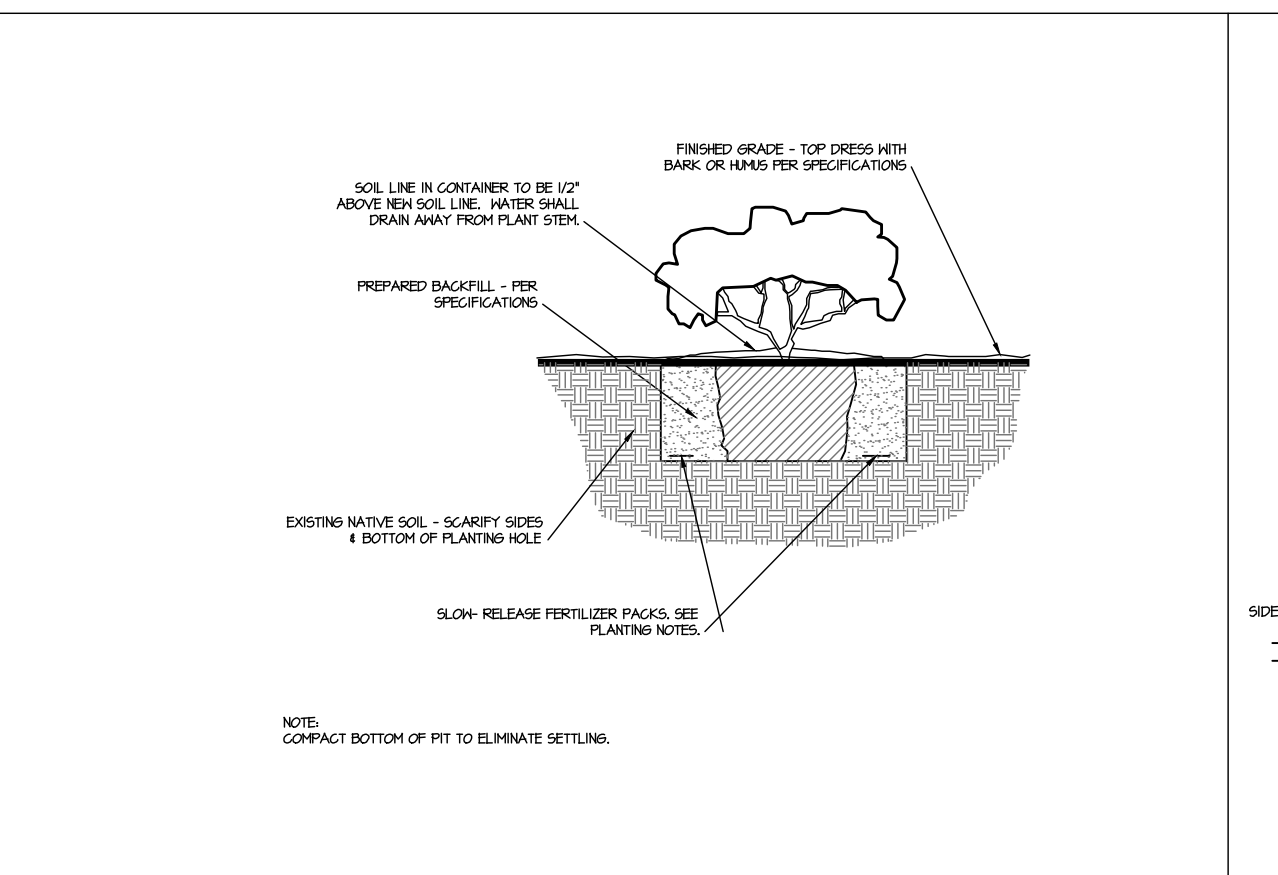
**J SHRUB BUBBLER** NTS



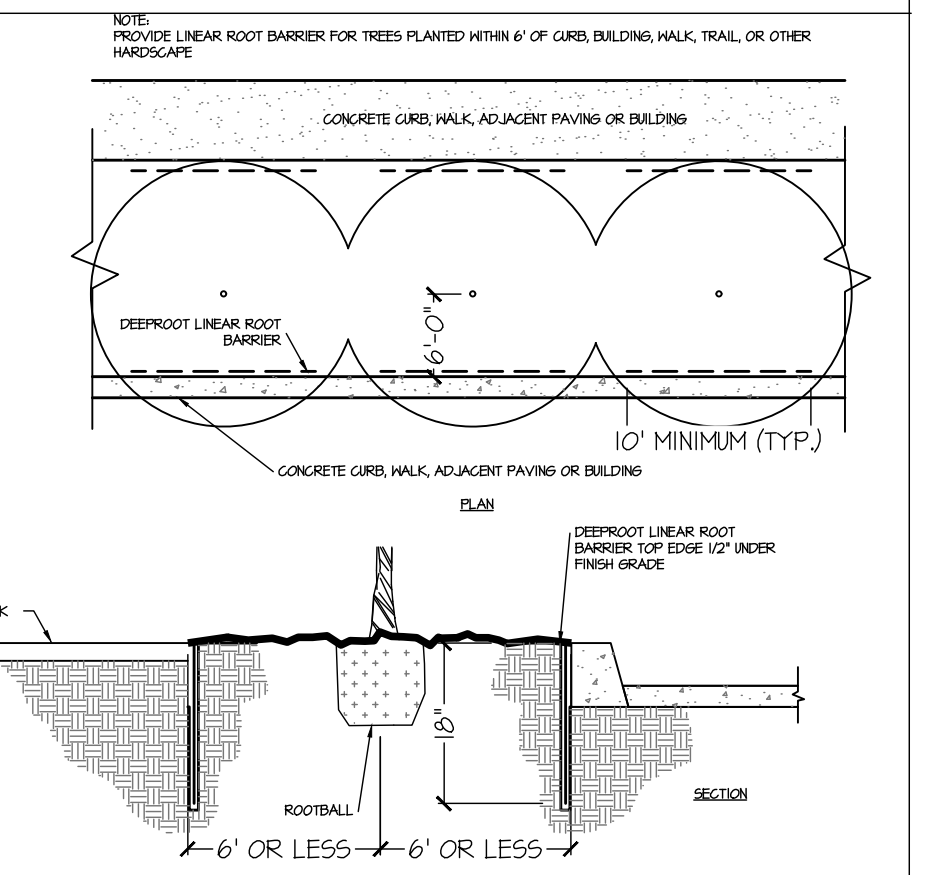
**K QUICK COUPLER, VALVE KEY, & SWIVEL** NTS



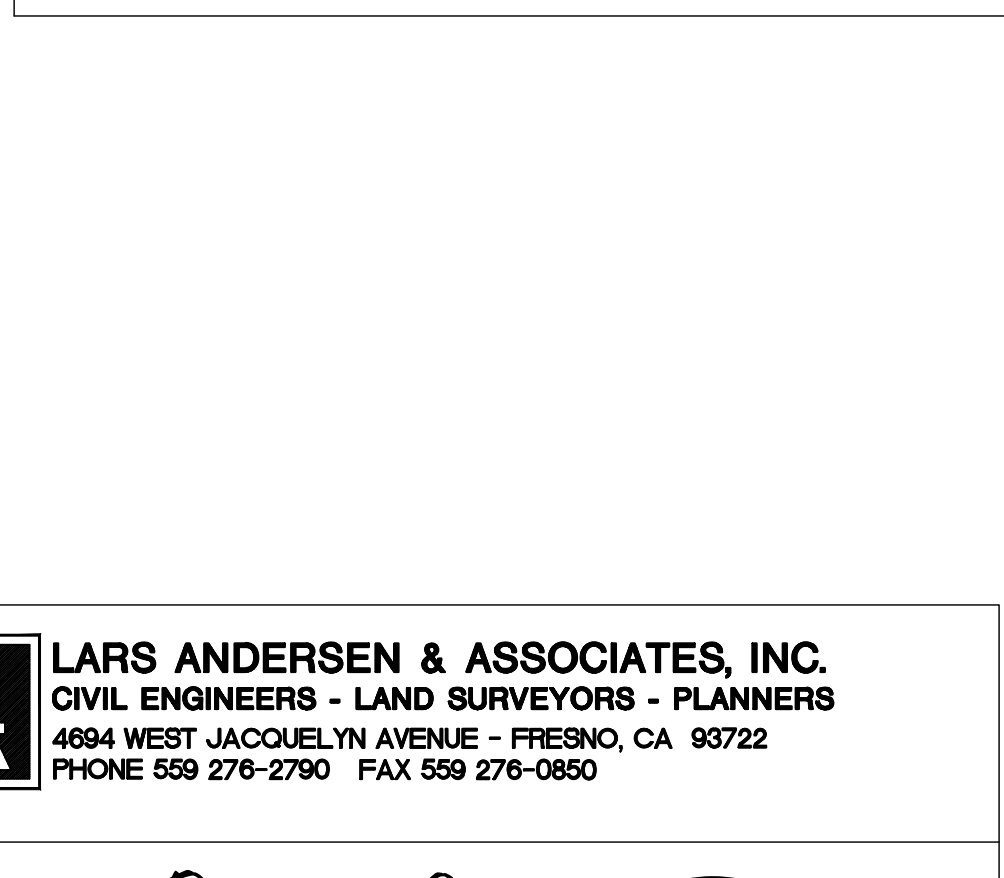
**L TREE PLANTING IN MULCH** NTS



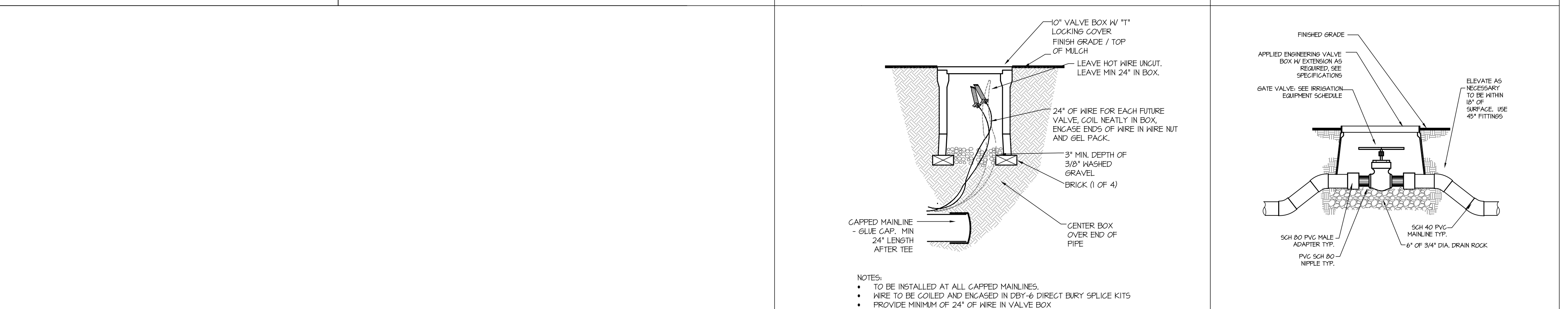
**M SHRUB PLANTING** NTS



**N ROOT BARRIERS** NTS



**O MAINLINE STUB** NTS



**P MAINLINE ISOLATION VALVE** NTS

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**Sheet Content:**  
 LANDSCAPE  
 DETAILS

Fresno County Department of  
 Public Works and Planning  
 Capital Projects

2220 Tulare Street, 8th Floor  
 Fresno, California 93721

Sheet No.  
**L3.0**



**PLANTING NOTES**

**VERIFICATION:**  
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 POWER'S ROLES
- 10' FROM FIRE HYDRANTS & 8' FROM SEWER LINES
- 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.

**CODES:**  
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.

**FINISH GRADE:**  
LANDSCAPE CONTRACTOR SHALL NOT FINE GRADE, AMEND SOIL OR DO ANY PLANTING OR IRRIGATION WORK UNTIL FINAL GRADES ARE ESTABLISHED WITHIN 0.1' BY GENERAL CONTRACTOR.

**FINISH GRADES IN PLANTING AREAS:**  
FINISH GRADES SHALL CONFORM TO GRADING PLAN. FINISH GRADES SHALL BE 1" BELOW ADJACENT HARDSCAPE IN TURF AREAS AND 2" BELOW ADJACENT HARDSCAPE IN SHRUB AREAS. POSITIVE DRAINAGE AWAY FROM BUILDINGS AND

WALKWAYS SHALL BE MAINTAINED.

**PLANT ALLOWANCE:**  
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 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 AUGURED FIT DOES NOT DRAIN SHRUB PITS MUST BE OVEREXCAVATED UNTIL DRAINAGE IS ACHIEVED.

**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 IRRIGATION LINES.

**ROOT BARRIERS:**  
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.

**PLANTING DEPTH:**  
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 1 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.

**DRAINAGE:**  
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" Ø (MIN) AUGER TO A DEPTH OF 48" SOIL REPLACED AND FIT RETESTED. IF FIT FAILS TO DRAIN IN 4 HOURS FIT MUST BE OVEREXCAVATED UNTIL DRAINAGE IS ACHIEVED. IN SHRUB AREAS CONDUCT SAME TEST FOR A MINIMUM OF 1 - 5 GALLON SHRUB PIT PER EACH PLANTING AREA. IF PIT DRAINS NO 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 AUGURED FIT DOES NOT DRAIN SHRUB PITS MUST BE OVEREXCAVATED UNTIL DRAINAGE IS ACHIEVED.

**BACKFILL:**  
BACKFILL FOR PLANTING WITH 50% CLEAN NATIVE SOIL AND 50% NITROLIZED FOREST HUMUS OR NITROLIZED SAND/ST. 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, TAMPE SOIL, ADD FERTILIZER TABLETS THEN COMPLETE BACKFILL. SEE DETAIL. SLOW RELEASE FERTILIZER PACKS SHALL BE ADDED WHEN PLANTING AS FOLLOWS: 1 PER 5 GALLON, 3 PER 5 GALLON, 6 PER 15 GALLON, 12 PER 24" BOX. PROVIDE WATERING BASIN FERTILIZER TABLETS THEN COMPLETE BACKFILL. SEE DETAIL. SLOW RELEASE FERTILIZER PACKS SHALL BE ADDED WHEN PLANTING AS FOLLOWS: 1 PER 5 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 PLANTING TURF.

**SOIL PREPARATION:**  
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.

**FERTILIZER AND AMENDMENTS:**  
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 D6 (AVAILABLE FROM HELENA

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

**HERBICIDES:**  
CONTRACTOR WILL APPLY RONSTAR OR APPROVED EQUAL PER MANUFACTURER'S REQUIREMENTS DURING 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.

**TREES:**  
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 DETAIL.

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

5 GAL.	5"-75"
15 GAL.	75"-15"
24" BOX	15"-25"

**WARRANTY PERIOD/MAINTENANCE PERIOD:**  
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.

**MULCH:**  
THE CONTRACTOR SHALL INSTALL 3" OF WOOD CHIPS OR BARK ON ALL NON-TURF PLANTING AREAS.

**EXISTING TREES:**  
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\\_mgt/downloads/CALFIRE\\_Nursery\\_Standards\\_and\\_Special\\_12.pdf](https://calfire.ca.gov/resource_mgt/downloads/CALFIRE_Nursery_Standards_and_Special_12.pdf) ALL PRUNING SHALL BE INCLUDED IN THE CONTRACTORS BID PRICE  
- ALL ROOTS OVER 2" MUST BE CLEANLY SAWED OFF, NOT RIPPED OUT WITH CONSTRUCTION EQUIPMENT.  
- NO MATERIALS, VEHICLES ETC. MAY BE STORED OR PARKED WITHIN THE DRIPLINE OF THE EXISTING TREES

**CITY OF FRESNO SPECIFICATIONS TAKE PRECEDENCE OVER THESE NOTES, PLANS AND DETAILS.**  
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/16/2016/11/4100collectionssystem/CityofFresnoStandardSpecification.pdf> OR GOOGLE "CITY OF FRESNO STANDARD SPECIFICATIONS" IF CONFLICTS ARE IDENTIFIED CONTACT THE LANDSCAPE ARCHITECT FOR RESOLUTION.

**WATER EFFICIENT LANDSCAPE WORKSHEET**

**Project:** Reference Evapotranspiration MAWA Allowance (.45 for Commercial, .55 for Residential, .65 DSA) **Date:** 6/24/2020

Hydrozone # and Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency*	ETAF (PF/E)	Landscape Area (sf)	ETAF x Area	Estimated Total Water Use (ETWU)	
<b>REGULAR LANDSCAPE AREAS</b>								
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	
						Totals	24696	9146.67
						ETWU Total	289784.69	
						Maximum Allowed Water Allowance (MAWA)	352088.40	

REGULAR LANDSCAPE AREA	
Total ETAF x Area	9146.67
Total Area	24696
Average ETAF	0.37

**ETAF Calculations**

ALL LANDSCAPE AREAS	
Total ETAF x Area	9146.67
Total Area	24696
Sitewide ETAF	0.37

*E	
drip = .81	
spray = .75	

**Project Information**

Project: Environmental Compliance Center	Total Landscape Area:	24696
Location: 310 S. West Ave, Fresno CA 93706	Project Type:	Commercial
Applicant: Fresno County Department of Public Works and Planning Capital Projects	Water Source:	City of Fresno, Potable
<b>Checklist of Provided Documents:</b>		
✓ Water Efficient Worksheet and Budget		
Soil Analysis – to be provided prior to Certificate of Completion		
✓ Planting and Irrigation Plans		
Grading Plans – by Civil		

**WATER BUDGET**

**WATER EFFICIENT LANDSCAPE ORDINANCE CERTIFICATIONS**

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

For the Applicant Date

*[Signature]* 5/24/2021

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"

For the Civil Engineer Date License No.

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, 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.

**WATER BUDGET**

**IRRIGATION NOTES**

**VERIFICATION:**  
THE SYSTEM IS BASED ON 0.5 P.S.I. AND 0.5 P.M. AVAILABLE AT THE DISCHARGE OUTLET OF THE METER, OR OTHER POINT OF CONNECTION, THE CONTRACTOR SHALL VERIFY THE SAME AT THE REAR OF THE CONTROL AT THE CONDS. 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 12 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.

**UTILITIES:**  
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: 1-800-227-2602. 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.

**CODES:**  
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 UL 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 THE CONTRACTOR.

**MATERIALS:**  
ALL MATERIALS SHALL BE INSTALLED IN

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

**INSTALLATION:**  
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 DOCUMENTS.

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. COMPACT BACKFILL AROUND SLEEVES TO 95 % MODIFIED PROCTOR DENSITY WITHIN 2 % OF OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D1557 OR AS DIRECTED BY CIVIL ENGINEER. ANY SETTLING OF BACKFILLED TRENCHES WHICH 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 1 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.

**SLEEVING:**  
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 1' MINIMUM BEYOND ALL PAVING.

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

**LARS ANDERSEN & ASSOCIATES, INC.**  
CIVIL ENGINEERS - LAND SURVEYORS - PLANNERS  
4604 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 • 5.24.21

**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 2018 ECC

**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.**  
**L4.0**

Drawn by: Plotted on: 12.16.2020