City of Los Banos

County of Merced — State of California

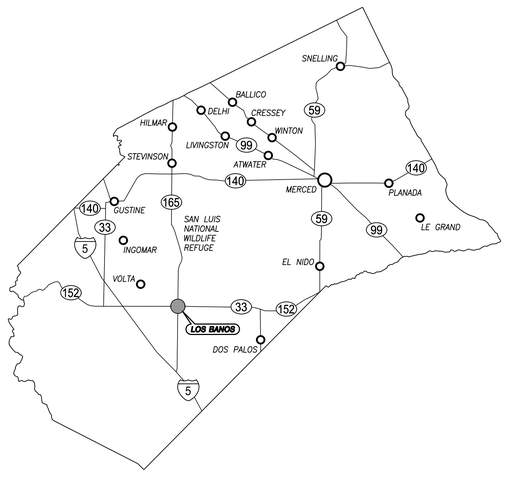
ANIMAL SHELTER SITE



STATE MAP
NO SCALE



AREA MAP
1"=250'



MERCED COUNTY
NO SCALE

SHEET INDEX

1 – COVER
2 – NOTES
3 – TOPOGRAPHIC SURVEY
4 – SITE PLAN
5 – GRADING PLAN
6 – DETAILS SHEET
7 – DETAILS SHEET

BENCHMARK

BM HS1373 NAVD 88

BASIS OF BEARINGS AND COORDINATES

HORIZONTAL COORDINATES ARE ASSUMED.

Point Table

Point #	Elevation	Northing	Easting	Description
101	121.87	1844433.23	6453523.04	SET 80D
300	121.84	1844463.39	6453626.92	SET 80D
301	122.75	1844557.73	6453566.24	SET 80D
302	121.65	1844577.78	6453639.65	SET 80D

UTILITY CONTACTS

PGE
Brian Nugent
705 "P" Street, Fresno, 93760
209-903-2969
Brian.nugent@pge.com

Comcast
Frank Castro
2441 N. Grove Industrial Drive,
Fresno, CA 93727
559-455-4202
frank_castro@comcast.com

Grassland Water District
Rob Koecher
200 W Willmott Ave,
Los Banos, CA 93635
(209) 826-5188
rkocher@gwdwater.org

811 Know what's below. Call before you dig.

WARNING POWERLINES OVERHEAD

L:\PROJECTS\2022\220150\ACAD\IMPROVEMENTS\SITE\220150-CVLDWG 9/25/2024 11:43 AM

REVISIONS

NO.	DATE	BY	DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER ★ ANDREW A. SUPINGER ★ NO. 75909 ★ CIVIL ★ STATE OF CALIFORNIA

9-25-24
DATE

SPENCER A. SUPINGER
PROJECT ENGINEER
R.C.E. 75909

QK
2016 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2066
WWW.QKINC.COM
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave,
Los Banos, CA 93635
(209) 827 - 7035

ANIMAL SHELTER REHABILITATION
OVERALL SITE
COVER SHEET

PROJECT NO.: 220150
DRAWN BY: AJS
QA/QC BY: SAS
SCALE: AS SHOWN
SHEET NO.: 1 OF 7

GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OFFICE OF THE CITY PUBLIC WORKS DEPARTMENT AT LEAST ONE (1) WORKING DAY IN ADVANCE OF BEGINNING ANY PHASE OF WORK.
2. INFORMATION ON EXISTING UTILITIES WAS TAKEN FROM THE DATA AVAILABLE. THE ENGINEER AND CITY ASSUME NO LIABILITY FOR THE ACCURACY OR COMPLETENESS OF SUCH RECORD DATA. THERE MAY BE EXISTING UTILITIES WHICH ARE NOT SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL KNOWN OR SUSPECTED UTILITY LOCATIONS IN THE FIELD BEFORE EXCAVATING TRENCHES. CONTRACTOR SHALL NOTIFY "UNDERGROUND SERVICE ALERT" FOR LOCATIONS OF UNDERGROUND UTILITIES TWO WORKING DAYS PRIOR TO EXCAVATING. (CALL TOLL FREE 1-800-642-2444). GAS LINES, ETC. ARE NOT SHOWN IN THE PROFILE BECAUSE THEIR DEPTH IS UNKNOWN.
3. CONTRACTOR SHALL CAREFULLY EXPOSE BY HAND EXCAVATION ANY INTERFERING EXISTING UTILITIES AND SHALL PROVIDE PROTECTION FOR THESE UTILITIES DURING NEW CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING THE REPAIR OF DAMAGED UTILITIES TO THE SATISFACTION THE APPLICABLE UTILITY COMPANY, AT HIS SOLE EXPENSE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY REMOVAL OR BRACING, IF NECESSARY, OF ALL TELEPHONE OR POWER POLES IN THE VICINITY OF CONSTRUCTION.
5. CONTRACTOR SHALL CAREFULLY PROTECT EXISTING PAVEMENT SO THAT THE LEAST POSSIBLE AMOUNT OF PAVEMENT IS REMOVED OR DAMAGED.
6. CONSTRUCTION AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, (E.G. REPLACE PAVEMENT, RESEED GRASS AREAS, REPAIR DRIVEWAYS AND FENCES, RE-ESTABLISH DRAINAGE DITCHES AND DRAINAGE PATTERNS, REINSTATE OR REPLACE CULVERTS & SIGNS, REPAIR REPAIR LANDSCAPING, SPRINKLER, ETC.)
7. THE CONTRACTOR SHOULD TAKE ADEQUATE STEPS TO ENSURE THAT FOREIGN MATTER DOES NOT ENTER THE PIPELINES. PIPELINES WILL NOT BE ACCEPTED UNTIL ALL FOREIGN MATTER IS REMOVED (I.E. SAND, DIRT, ETC.), TO THE SATISFACTION OF ENGINEER OR RESPONSIBLE AGENCY.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS, LABOR, ETC, NECESSARY TO KEEP THE EXISTING LINES IN SERVICE.
9. CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF APPLICABLE GOVERNMENT AGENCIES, INCLUDING, BUT NOT LIMITED TO: STATE AND COUNTY HEALTH DEPTS, MERCED CO. DEPT. OF PUBLIC WORKS, CITY OF LOS BANOS, CALTRANS ETC.
10. CONTRACTOR SHALL COORDINATE WITH MAIL CARRIERS IN ORDER TO PROVIDE ACCESS TO MAIL BOXES.
11. CROSS TRENCHES ON ALL STREETS SHALL BE COMPACTED AND PAVED WITH TEMPORARY PAVING THE SAME DAY THE PAVEMENT CUT IS MADE, AND PERMANENT PAVING SHALL BE COMPLETED WITHIN 45 DAYS.
12. EXISTING WATER AND SEWER SERVICE LOCATIONS ARE NOT SHOWN AS INFORMATION WAS NOT AVAILABLE OR WAS INACCURATE.
13. WORK IS TO OCCUR WITHIN THE RIGHT-OF-WAYS AND EASEMENTS.
14. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS, BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL, AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.
15. COMPACTION TESTS: THE OWNER IS TO ARRANGE FOR ALL COMPACTION TESTS IN STREETS AND EASEMENTS AS REQUIRED BY THE CITY OF LOS BANOS, AT THE OWNERS EXPENSE. RETESTS SHALL BE PAID BY THE CONTRACTOR.
16. DUST CONTROL: APPROPRIATE DUST CONTROL TO BE PROVIDED, FOR THE ALLEVIATION OR PREVENTION OF DUST NUISANCE, AT THE CONTRACTOR'S EXPENSE AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
17. CONTRACTORS SHALL GIVE 48 HOURS ADVANCE NOTIFICATION FOR INSPECTIONS UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE.
18. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
19. ALL WORK SHALL BE IN COMPLIANCE WITH CAL-OSHA CODES WITH ATTENTION DIRECTED TOWARDS SECTION 1541 DEALING WITH SLOPING AND SHORING TRENCH WALLS.
20. A TRENCHING PERMIT WILL BE REQUIRED PER CALIFORNIA LABOR CODE, SECTION 6424, FOR ANY TRENCHING DEEPER THAN FIVE FEET.
21. THESE IMPROVEMENT PLANS HAVE BEEN PREPARED WITH THE INTENT THAT QK INC. WILL BE PERFORMING THE CONSTRUCTION STAKING FOR THE ENTIRE PROJECT. IF, HOWEVER, THE CONSTRUCTION STAKING IS PERFORMED BY ANOTHER ENGINEERING OR SURVEYING FIRM, NOTICE IS HEREBY GIVEN THAT THE FIRM OF QK INC. WILL NOT ASSUME ANY RESPONSIBILITY FOR ERRORS OR OMISSIONS, IF ANY, WHICH MIGHT OCCUR IF ANOTHER FIRM DOES THE CONSTRUCTION STAKING, AND WHICH COULD HAVE BEEN AVOIDED, CORRECTED OR MINIMIZED IF QK INC. HAD PERFORMED THE STAKING WORK.
22. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE REMOVAL OR RELOCATION OF ALL EXISTING UTILITIES WITH THE RESPECTIVE UTILITY COMPANY. COST OF THIS COORDINATION IS TO BE INCLUDED IN THE PRICES BID FOR THE VARIOUS IMPROVEMENTS TO COMPLETE THE PROJECT.
23. ALL IMPROVEMENTS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE COUNTY OF MERCED, THE CITY OF LOS BANOS STANDARDS AND THE 2023 EDITION OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
24. CONTRACTOR SHALL COORDINATE ALL CONNECTIONS AND SHUT DOWN OF WATER FACILITIES WITH CITY OF LOS BANOS.
25. IT IS RECOMMENDED THAT THE FIRM OF QUAD KNOPF INC. BE RETAINED TO PERFORM FIELD OBSERVATIONS DURING CONSTRUCTION. QUAD KNOPF INC. ASSUMES NO RESPONSIBILITY FOR COMPLIANCE WITH THESE IMPROVEMENTS PLANS UNLESS THE FIRM IS RETAINED TO PERFORM FIELD OBSERVATIONS DURING THE CONSTRUCTION PHASE.
26. CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM THE COUNTY OF MERCED ROADS DEPARTMENT FOR WORK IN COUNTY ROAD RIGHT OF WAY. OWNER TO ASSIST CONTRACTOR WITH THIS PROCESS OF PERMIT ISSUE.
27. CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM CALTRANS FOR WORK IN STATE HIGHWAY RIGHT OF WAY. OWNER TO ASSIST CONTRACTOR WITH THIS PROCESS OF PERMIT ISSUE.
28. CONTRACTOR TO PROVIDE PRODUCT CERTIFICATION FOR ALL MATERIALS IN ACCORDANCE WITH NSF-ANSI 60 & 61 REQUIREMENTS TO OWNER.
29. CONTRACTOR TO PROVIDE INSTALLATION, TESTING, CONNECTION AND TIE-IN SCHEDULE TO ENGINEER FOR REVIEW AND APPROVAL.

CONSTRUCTION NOTES

1. CONSTRUCTION OF PUBLIC WATER AND SEWER FACILITIES SHALL BE IN ACCORDANCE WITH THE STANDARDS OF THE CITY OF LOS BANOS. FULL SETS OF THE STANDARDS ARE AVAILABLE FOR PURCHASE AT THE OFFICE OF CITY OF LOS BANOS PUBLIC WORKS, 411 MADISON AVENUE, LOS BANOS, CA 93635. TEL. 209-827-70566.
2. CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (USA) AT 811 OR 1-800-227-2600 A MINIMUM OF 48 HOURS PRIOR TO DIGGING.
3. SEE CITY LOS BANOS STANDARDS FOR WATER SYSTEM SPECIFICATIONS. NOTE THAT ALL WATER MAIN PIPE IS PRESSURE CLASS 305.
4. THE MINIMUM CLEARANCE AT CROSSINGS BETWEEN NEW WATER LINES AND UTILITIES OTHER THAN SEWER SHALL BE 4".
5. THE MINIMUM CLEARANCE BETWEEN NEW WATER SERVICES AND THE EXISTING UNDERGROUND UTILITIES (STORM DRAIN, SEWER, AND GAS) SHALL BE 4" MINIMUM. THE CONTRACTOR SHALL ADHERE TO THE MINIMUM BENDING RADIUS FOR THE SPECIFIED SERVICE SIZE. IF IT IS NECESSARY TO BEND THE SERVICES OVER OR UNDER ANY EXISTING UTILITIES, UNDER NO CIRCUMSTANCES ARE THE SERVICES TO HAVE LESS THAN THE MINIMUM COVER REQUIRED PER CITY STANDARDS.
6. DELIVER 2 SETS OF MATERIAL SUBMITTALS TO THE DEPARTMENT OF FISH AND WILDLIFE 10 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
7. NOTE THAT EXISTING WATER PIPE MATERIAL MAY BE ASBESTOS CEMENT PIPE (AC PIPE). CONTRACTOR SHALL CUT, REMOVE AND DISPOSE OF AC PIPE PER APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
8. CONTRACTOR SHALL POTHOLE EXISTING UTILITIES AT ALL PROPOSED UTILITY CROSSINGS PRIOR TO CONSTRUCTION TO VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES. ALSO POTHOLE EXISTING WATER AND SEWER LINES AT CONNECTION POINTS TO VERIFY LOCATION, DEPTH, MATERIAL AND SIZE.
9. SEE CITY STANDARD FOR TRENCHING AND BACKFILL REQUIREMENTS.
10. SEE DETAIL C3-2 FOR THRUST BLOCK DETAIL TO BE USED AT ALL BENDS, TEE, CROSSES AND ENDS.
11. CONTRACTOR SHALL OBTAIN ENCROACHMENT PERMIT FROM MERCED COUNTY PUBLIC WORKS - ROADS DEPARTMENT FOR ALL WORK IN COUNTY ROAD RIGHT-OF-WAY. ALL WORK IN COUNTY RIGHT-OF-WAY SHALL MEET MERCED COUNTY STANDARDS.
12. ALL WATER PIPELINE MATERIAL AND INSTALLATION SHALL MEET CITY OF LOS BANOS STANDARDS, INCLUDING TESTING.

LEGEND

AR	ACCESS RAMP
BLD	BUILDING
BLD OH	BUILDING OVERHANG
BOL ●	BOLLARD
BSW	BACK OF SIDEWALK
C	CONCRETE
ELEC	ELECTRIC VAULT
ELEC BOX	ELECTRIC BOX
EP	EDGE OF PAVEMENT
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOWLINE
GAS VLV	GAS VALVE
LIP	LIP OF GUTTER
OG	ORIGINAL GROUND
P	PAVEMENT
PP	POWERPOLE
SD DI	STORM DRAIN DRAIN INLET
TC	TOP OF CURB
TFC	TOP FACE OF CURB
SSMH (S)	SANITARY SEWER MANHOLE
SS VLV	SANITARY SEWER VALVE
WATR PUMP	WATER PUMP
WM	WATER METER
WV	WATER VALVE
WD TC	WOOD TOP OF CURB
ELEC UG —(UE)—	ELECTRIC UNDERGROUND
FNC CL	CHAIN LINK FENCE
FNC WI	WROUGHT IRON FENCE
GR	GUARD RAILS
—(OE)—	ELECTRIC OVERHEAD
—(G)—	GAS LINE
—(SS)—	STORM DRAIN LINE
—(W)—	WATER LINE
	CHAIN LINK FENCE
	TREE
	EXISTING CONCRETE
	EXISTING PAVEMENT
	PROPOSED LANDSCAPE
	PROPOSED CONCRETE
	GRAVEL
	PROPOSED PAVEMENT

REVISIONS

ID	DATE	BY	DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER SPENCER A. SUPINGER NO. 75909 CIVIL STATE OF CALIFORNIA

SPENCER A. SUPINGER R.C.E. 75909
PROJECT ENGINEER
9-25-24
DATE

QK
2816 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2266
WWW.QKINC.COM
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7056

ANIMAL SHELTER REHABILITATION
OVERALL SITE
NOTES AND LEGEND

PROJECT NO.: 220150
DRAWN BY: AJS
QA/QC BY: SAS
SCALE: NO SCALE
SHEET NO.: 2 OF 7

L:\PROJECTS\2022\220150\AC40\IMPROVEMENTS\SITE\220150-NOTES.DWG 9/25/2024 11:43 AM

SCALE: 1" = 10'

AIRPORT ROAD

EXISTING BUILDING

EXISTING SS CLEANOUT

9 LF

TREE

DEMOLITION KEY NOTES

1. EXISTING FENCE TO BE REMOVED
2. EXISTING FENCE TO REMAIN
3. EXISTING BUILDING, PROTECT IN PLACE
4. EXISTING 2" WATER
5. EXISTING 1 ½ " BACKFLOW PREVENTER
6. EXISTING 1" WATER
7. ABANDONED SEWER
8. EXISTING 4" SEWER
9. EXISTING CONCRETE CURB

REVISIONS

ID	DATE	BY	DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER
SPENCER A. SUPINGER
NO. 75909
CIVIL
STATE OF CALIFORNIA

9-25-24
DATE

SPENCER A. SUPINGER, R.C.E. 75909
PROJECT ENGINEER

QK
TEL: (209) 723-0866
2916 PARK AVENUE
MERCED, CA 95348
WWW.QKINC.COM
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

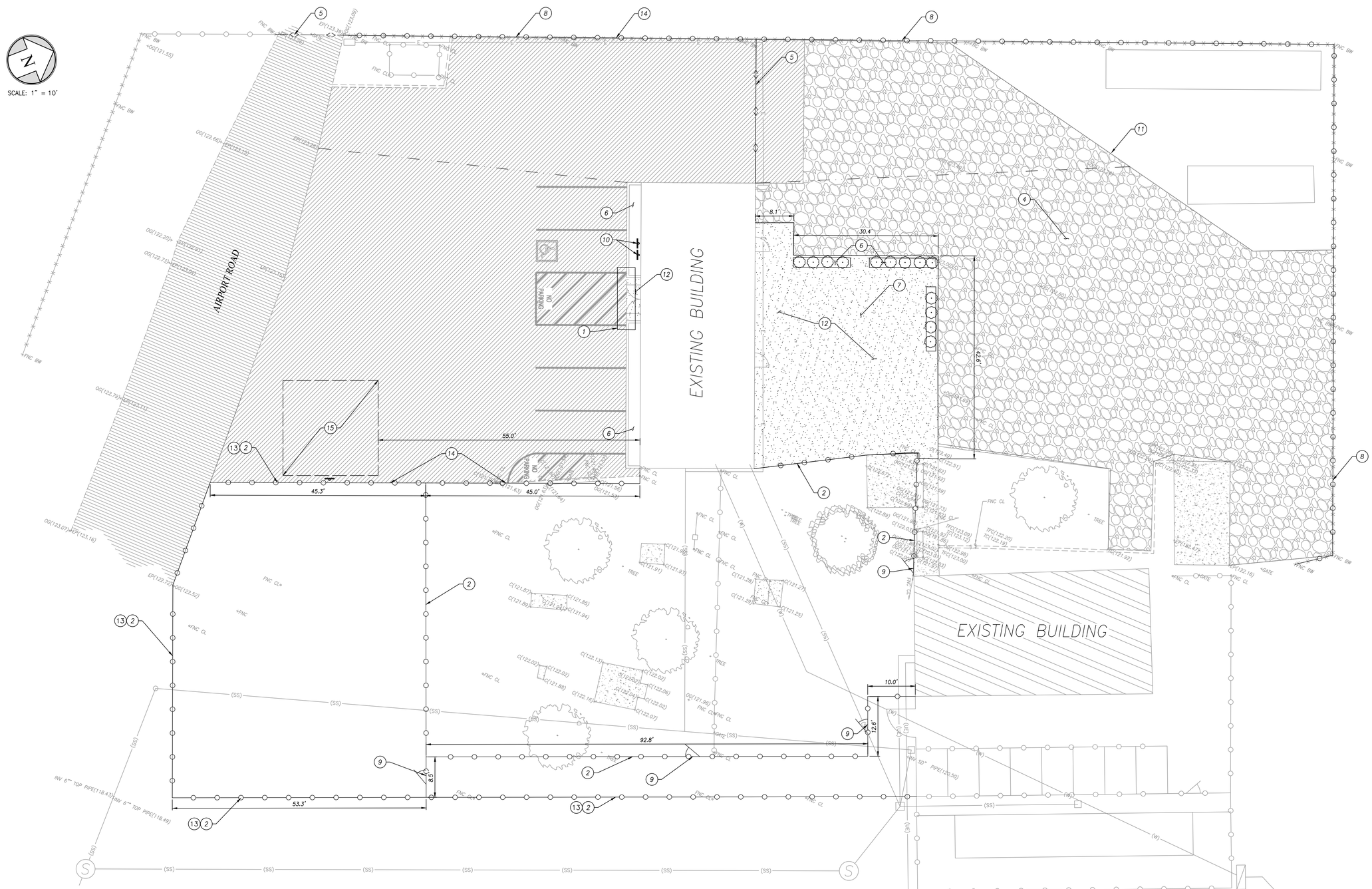
CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave,
Los Banos, CA 93635
(209) 827 - 7056

ANIMAL SHELTER REHABILITATION
OVERALL SITE
DEMOLITION PLAN

PROJECT NO.:	220150
DRAWN BY:	IN
QA/QC BY:	SAS
SCALE:	AS SHOWN
SHEET NO.:	3 OF 7

L:\PROJECTS\2022\220150\ACAD\IMPROVEMENTS\SITE\220150-TOPO.DWG 9/25/2024 11:43 AM

SCALE: 1" = 10'



SITE KEY NOTES

1. SHADE STRUCTURE INSTALLED BY OTHERS
2. NEW 8' CHAIN LINK FENCE. SEE DETAIL 1 ON SHEET 6
3. NEW 8' CHAIN LINK FENCE WITH NETTING AND MISTERS. SEE DETAIL 1 ON SHEET 6
4. PLACE GRAVEL PER DETAIL 3 ON SHEET 7
5. PROPOSED AUTOMATED GATE, SEE ELECTRICAL PLANS
6. SEE SHEET 2 OF LANDSCAPE PLANS
7. PROPOSED ACCESSIBLE BENCHES/SITTING AREA
8. NEW 6' CHAIN LINK FENCE. SEE DETAIL 1 ON SHEET 6
9. INSTALL 3' GATE. SEE DETAIL 1 ON SHEET 6
10. INSTALL SIGNS: R100B (CA), R99C (CA), R7-8B. INSTALL AT LEAST 2' BEHIND CURB OR ON BUILDING
11. PLACE EDGE OF GRAVEL AGAINST 90% RC EARTH
12. CONCRETE PER DETAIL 4 ON SHEET 7
13. PRIVACY SLATS ON PERIMETER FENCING
14. INSTALL REDWOOD HEADERBOARD PER DETAIL 5 ON SHEET 7
15. 20' X 20' EMERGENCY EVACUATION AREA. INSTALL "EMERGENCY EVACUATION AREA" SIGN

GENERAL NOTES

1. ALL EXISTING UTILITIES SHOWN AS RECORD INFO THAT IS NOT CONCLUSIVE. CONTRACTOR RESPONSIBLE TO POTHOLE AND LOCATE EXISTING UTILITIES.
2. WATER SUPPLY LATERALS SHALL BE TRENCHED SEPARATELY FROM THE TRENCHES SERVICING SEWER AND STORM DRAIN LATERALS.
3. EXISTING CONDITIONS DO NOT INCLUDE ONSITE STORMWATER MANAGEMENT FACILITIES TO CAPTURE STORMWATER FLOW FROM THE SUBJECT PROPERTY. ALL RUNOFF FROM THE SITE SHALL BE FLOW OVERLAND TO AN AREA APPROVED BY THE LOS BANOS PUBLIC WORKS.

REVISIONS

ID	DATE	BY	DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER
SPENCER A. SUPINGER
No. 75909
CIVIL
STATE OF CALIFORNIA

9-25-24
DATE

SPENCER A. SUPINGER
PROJECT ENGINEER
R.C.E. 75909

QUAD KNOPF, INC.
2016 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2066
WWW.QKINC.COM
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

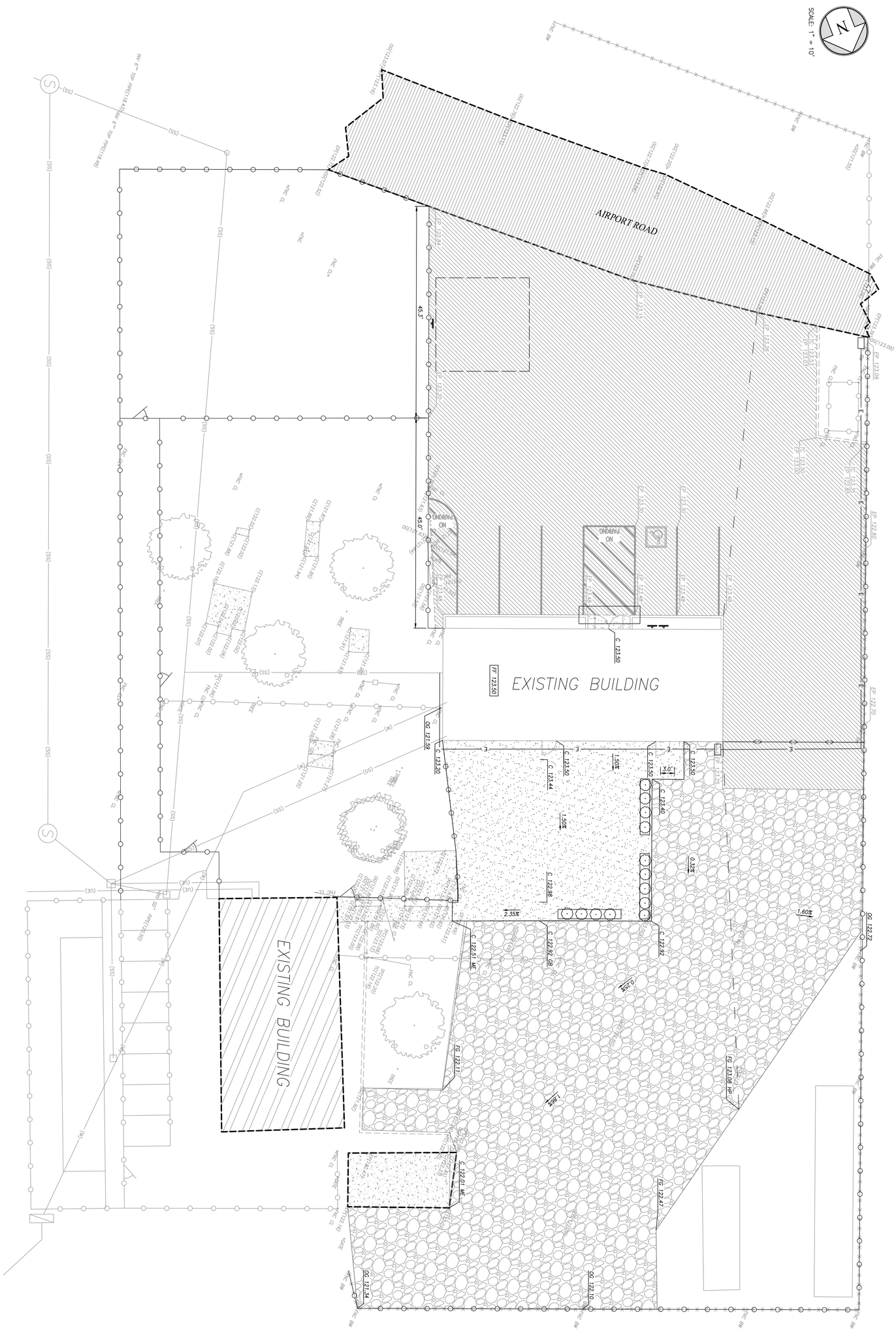
CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave,
Los Banos, CA 93635
(209) 827 - 7056

ANIMAL SHELTER REHABILITATION
OVERALL SITE
SITE PLAN

PROJECT NO.:	220150
DRAWN BY:	AJS
QA/QC BY:	SAS
SCALE:	AS SHOWN
SHEET NO.:	4 OF 7

L:\PROJECTS\2022\220150\ACAD\IMPROVEMENTS\SITE\220150-SP.DWG 9/25/2024 11:43 AM

L:\PROJECTS\2022\220150\ACAD\IMPROVEMENTS\SITE\220150-GP.DWG 9/25/2024 11:43 AM



PROJECT NO.:	220150
DRAWN BY:	AS
CHK'D BY:	SS
SCALE:	AS SHOWN
SHEET NO.:	5 OF 7

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave,
Los Banos, CA 93635
(209) 827 – 7056

ANIMAL SHELTER REHABILITATION
OVERALL SITE
GRADING PLAN

2816 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2066
WWW.QKINC.COM

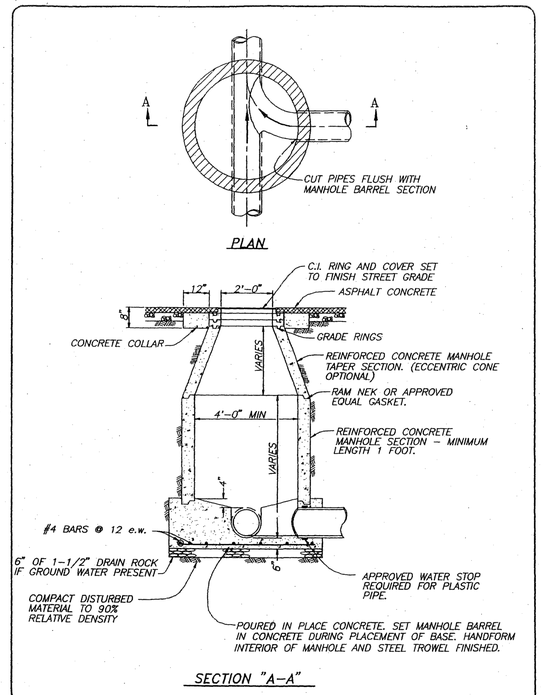
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

9-25-24
DATE

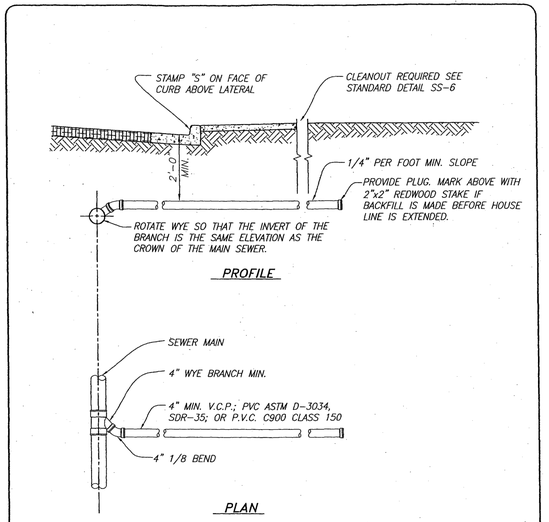
SPENCER A. SUPINGER
PROJECT ENGINEER
R.C.E. 75909

REGISTERED PROFESSIONAL ENGINEER
SPENCER A. SUPINGER
NO. 75909
CIVIL
STATE OF CALIFORNIA

REVISIONS			
ID	DATE	BY	DESCRIPTION



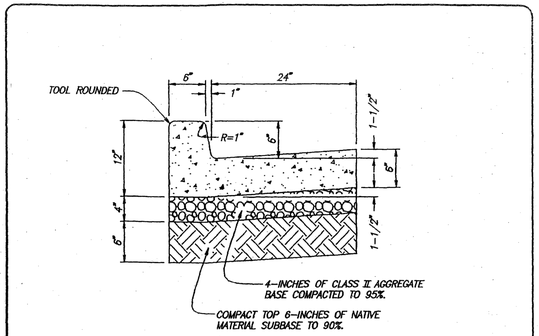
DATE APPROVED: 6-15-94	SANITARY SEWER	STANDARD DETAIL
APPROVED BY: Donald L. Herman	TYPICAL MANHOLE	SS-1
DRAWN: R.D. HILL II DATE: 02/04/94	CITY OF LOS BANOS	



NOTES:

1. LATERALS SHALL HAVE SAME BEDDING & BACKFILL AS SEWER MAIN. TRENCH WIDTH FOR 4" OR SMALLER LINES SHALL BE SUFFICIENT TO ALLOW MECHANICAL COMPACTION OF BACKFILL AROUND CONDUIT.
2. SEWER SERVICE SHALL HAVE A MINIMUM OF 2' COVER AT PROPERTY LINE WHENEVER LATERAL DEPTH AND SERVICE SLOPE OF 1/4" PER FOOT (MIN.) PERMIT. SERVICE MUST BE DEEP ENOUGH TO SERVE ADJACENT PROPERTY.
3. WHEN THE LATERAL SEWER DEPTH IS SUCH THAT 2' COVER AT PROPERTY LINE CANNOT BE MET, THE LATERAL MUST BE ENCASED IN CONCRETE IN THE TRAVELED RIGHT OF WAY OR PVC PIPE MEETING THE REQUIREMENTS OF AWWA C900 CLASS 150 MUST BE USED.

DATE APPROVED: 10-06-04	SANITARY SEWER	STANDARD DETAIL
APPROVED BY:	4-INCH SEWER SERVICE	SS-5
DRAWN: R.D.HILL II DATE: 01/04/94	CITY OF LOS BANOS	



STANDARD CURB AND GUTTER SECTION

NOTES:

1. CITY SHALL APPROVE SUBGRADE & BASEROCK PREPARATION PRIOR TO PLACEMENT OF CONCRETE.
2. ON CURB AND GUTTER REPLACEMENT, 6-INCHES OF CLASS II AGGREGATE BASE COMPACTED TO 95% OVER UNDISTURBED NATIVE MATERIAL SUBBASE MAY BE USED IN LIEU OF 4-INCHES OF CLASS II AGGREGATE BASE (95% COMPACTION) OVER 6-INCHES OF NATIVE MATERIAL SUBBASE (90% COMPACTION).
3. SOIL DENSITIES ARE EXPRESSED AS A PERCENTAGE OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 1557.
4. CURB HEIGHT SHALL BE 6-INCHES UNLESS OTHERWISE SPECIFIED.

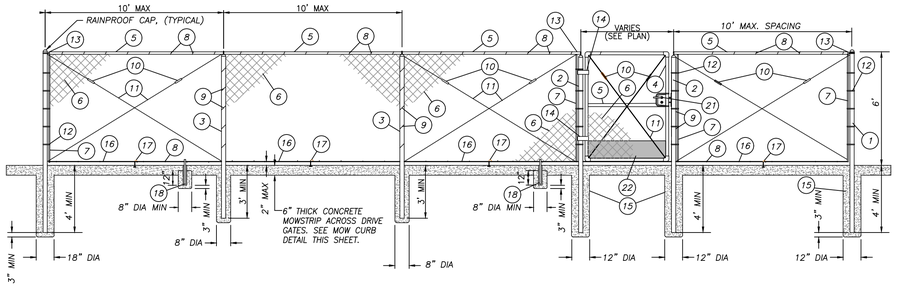
DATE APPROVED: 1-19-94	STREET IMPROVEMENTS	STANDARD DETAIL
APPROVED BY: Donald L. Herman	STANDARD CURB & GUTTER SECTION	ST-5
DRAWN: ALEX BUENROSTRO DATE: 7/01/93	CITY OF LOS BANOS	

FENCE AND GATE ITEMS TO BE FURNISHED AND INSTALLED:

1. 6-5/8" OD GALVANIZED STEEL GATE POST (18.97 LB/FT).
2. 2-7/8" OD GALVANIZED STEEL CORNER, WALK GATE OR END POST (5.79 LB/FT).
3. 2-3/8" OD GALVANIZED STEEL LINE POST POST (3.65 LB/FT).
4. 2" OD GALVANIZED STEEL GATE FRAME (2.72 LB/FT).
5. 1-5/8" OD GALVANIZED STEEL HORIZONTAL RAIL (2.27 LB/FT).
6. 2" x 2" MESH x 9 GAUGE GALVANIZED FENCE FABRIC WITH KNUCKLED TOP AND BOTTOM. MESH SHALL INCLUDE POLYETHYLENE PRIVACY SLATS, COLOR: STANDARD TAN FENCE FABRIC TO BE GALVANIZED BEFORE WEAVING (GBW).
7. 1/4" x 3/4" GALVANIZED STEEL STRETCHER BAR.
8. 9 GAUGE (0.148" DIA) GALVANIZED STEEL TIE WIRES OR HOG RINGS AT 15" MAXIMUM SPACING. MINIMUM OF 8 TIE WIRES PER EACH 10' HORIZONTAL RAIL OR TENSION WIRE.
9. 6 GAUGE (0.192" DIA) GALVANIZED STEEL POST CLIPS AT 14" MAXIMUM SPACING. MINIMUM 5 POST CLIPS FOR EACH 6' POST
10. GALVANIZED ADJUSTABLE TURNBUCKLE FOR 3/8" DIAMETER TRUSS ROD.
11. 3/8" DIAMETER GALVANIZED STEEL ADJUSTABLE TRUSS ROD. TRUSS RODS REQUIRED FOR ALL GATE POST PANELS, END OR CORNER POST PANELS.
12. 1/8" THICK GALVANIZED STEEL STRETCHER BAR TENSION BAND AT 12" MAXIMUM SPACING. MINIMUM OF 6 TENSION BANDS FOR EACH 6' POST SECTION AND 12 TENSION BAND FOR EACH 12' POST SECTION.
13. GALVANIZED RAIL ENDS.
14. HEAVY DUTY MALLEABLE IRON HINGE.
15. CONCRETE FOOTING, TYPICAL.
16. 7 GAUGE (0.180" DIA) GALVANIZED STEEL TENSION WIRE.
17. 3/8" x 6" GALVANIZED HOOK BOLT WITH NUT, EMBEDDED IN MOWSTRIP MIDWAY BETWEEN POSTS.
18. INSTALL GATE HOLDBACK AT LOCATIONS DIRECTED BY THE ENGINEER.
19. GALVANIZED STEEL PIPE SLEEVE FOR GATE DROP ROD.
20. ADA ACCESSIBLE SELF-CLOSING GATE LATCH.
21. ALL WALK GATES SHALL HAVE ADA COMPLIANT HARDWARE ALONG PATH OF TRAVEL, LOCKABLE LEVER TYPE GATE LATCH, RHODES SCHLAGE LEVER LOCK WITH RHODES SCHLAGE LOCK BOX WITH MODEL NO80PD KEYED LOCK OR APPROVED EQUAL. OTHERWISE, INSTALL LOCKABLE GATE LATCH.
22. PROVIDE 10" HIGH, 1/4" THICK GALVANIZED STEEL PLATES WELDED ON THE INSIDE AND OUTSIDE OF THE BOTTOM FULL WIDTH OF THE GATE. REPAIR ALL DAMAGED GALVANIZED SURFACES AND WELDS PER FENCE SPECIFICATION. INSTALL KICK PLATE AT ADA ACCESSIBLE AREAS. THE KICK PLATE AND WELDS SHALL BE GALVANIZED FOR CORROSION RESISTANCE.

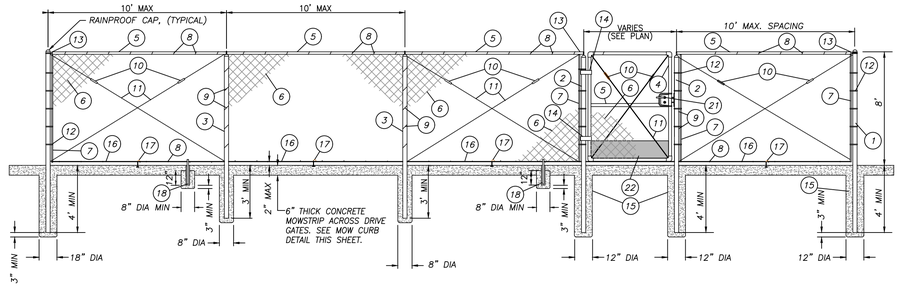
NOTES ON FENCING AND GATES:

1. DOUBLE TRUSS RODS ARE REQUIRED IN PANEL ADJACENT TO GATE POSTS AND AT ALL FENCE CORNERS.
2. ALL GATE CORNERS AND SUPPORT POINTS SHALL BE FASTENED TOGETHER WITH AND REINFORCED WITH MALLEABLE IRON FITTINGS DESIGNED FOR THAT PURPOSE. WELDED CONNECTIONS WILL NOT BE ALLOWED.
3. TACK WELD ALL GATE HINGE AND LATCH COLLAR TO POST.
4. ALL AREAS AFFECTED BY WELDING, TRIMMED ENDS OF BOLTS, STRETCHER BARS, TRUSS RODS OR ANY EXPOSED STEEL SHALL BE PAINTED AND GALVANIZED PER SPECIFICATIONS.
5. ALL ADA ACCESSIBLE GATES SHALL HAVE LEVER TYPE LATCH AND 10" KICK PLATES INSTALLED ON THE INSIDE AND OUTSIDE BOTTOM OF THE GATE, TYPICAL.
6. ALL EXIT ACCESS GATES SHALL BE EQUIPPED WITH PANIC HARDWARE.



6' CHAIN LINK FENCE AND WALK GATE

NTS



8' CHAIN LINK FENCE AND WALK GATE

NTS

1 FENCE AND GATE DETAILS

NO SCALE

REVISIONS

NO.	DATE	BY	DESCRIPTION

PROFESSIONAL ENGINEER
SPENCER A. SUPINGER
No. 75909
REGISTERED
CIVIL
STATE OF CALIFORNIA

SPENCER A. SUPINGER
PROJECT ENGINEER
R.C.E. 75909
9-25-24
DATE

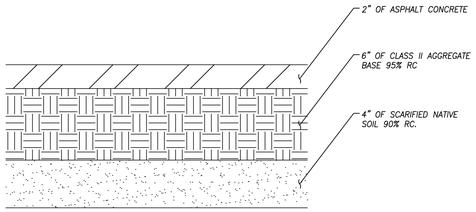
QK
2815 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2066
WWW.QKINC.COM
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave,
Los Banos, CA 93635
(209) 827 - 7035

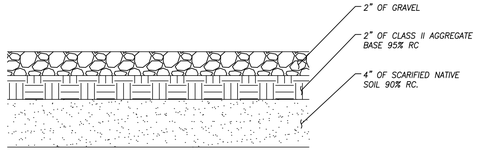
ANIMAL SHELTER REHABILITATION
OVERALL SITE
DETAILS SHEET

PROJECT NO.:	220150
DRAWN BY:	AJS
QA/QC BY:	SAS
SCALE:	AS SHOWN
SHEET NO.:	6 OF 7

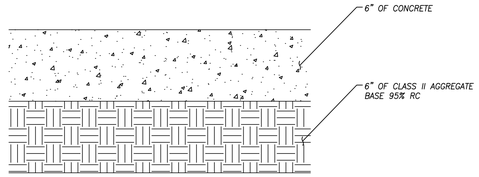
L:\PROJECTS\2022\220150\ACAD\IMPROVEMENTS\SITE\220150-DET.DWG 9/25/2024 11:43 AM



2 ASPHALT PAVING SECTION — NO SCALE



3 GRAVEL SECTION — NO SCALE



4 CONCRETE SECTION — NO SCALE

NOTE:

1. HEADER BOARD TO BE INSTALLED AT EDGES OF PAVEMENT EXCEPT WHERE JOINING EXISTING PAVEMENT.
2. HEADER BOARD TO BE INSTALLED TO FINISH GRADE PRIOR TO PAVING.
3. HEADER BOARD SHALL BE REDWOOD OR PRESSURE-TREATED DOUGLAS FIR.
4. 2" X 4" X 18" STAKES SHALL BE REDWWOD OR PRESSURE-TREATED DOUGLAS FIR.

5 HEADERBOARD — NO SCALE



NOTE: For symbol details, see Standard Highway Signs, Appendix, "Handicapped".

R99C (CA)

6 R99C (CA) SIGNAGE — NO SCALE



R100B (CA)

7 R100B (CA) SIGNAGE — NO SCALE

NO.	DATE	BY	DESCRIPTION

REVISIONS

REGISTERED PROFESSIONAL ENGINEER SPENCER A. SUPINGER NO. 75909 CIVIL STATE OF CALIFORNIA

SPENCER A. SUPINGER, R.C.E. 75909
PROJECT ENGINEER
9-25-24
DATE

QK
TEL: (209) 723-2066
WWW.QKINC.COM
2814 PARK AVENUE
MERCED, CA 95348
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7035

ANIMAL SHELTER REHABILITATION
OVERALL SITE
DETAILS SHEET

PROJECT NO.:	220150
DRAWN BY:	AJS
QA/QC BY:	SAS
SCALE:	AS SHOWN
SHEET NO.:	7 OF 7

L:\PROJECTS\2022\220150\ACAD\IMPROVEMENTS\SITE\220150-DET.DWG 9/25/2024 11:43 AM

260500 ELECTRICAL WORK FOR COMMON RESULTS:

1. ELECTRICAL INSTALLATION SHALL COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, INCLUDING THE FOLLOWING:
TITLE 24, CCR, PART 2, 2022 CBC
TITLE 24, CCR, PART 3, 2022 CEC
TITLE 24, CCR, PART 4, 2022 CMC
TITLE 24, CCR, PART 9, 2022 CFC
TITLE 24, CCR, PART 6, 2022 CALIFORNIA ENERGY CODE
TITLE 24, CCR, PART 11, 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
ALL APPLICABLE LOCAL CODES

2. ELECTRICAL CONTRACTOR SHALL VERIFY POWER, TELEPHONE AND CABLE TV SERVICES AT SITE PRIOR TO BIDDING. SERVICES TO CONFORM TO UTILITY COMPANY REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL ARRANGE FOR SERVICE INSTALLATIONS PER UTILITY COMPANY REQUIREMENTS AND PAY ALL CUSTOMER CHARGED SERVICE COSTS. COORDINATE WITH OWNER AND UTILITY COMPANY FOR SERVICE INSTALLATION.

3. CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, LICENSES, ETC. REQUIRED TO CARRY ON AND COMPLETE THE WORK.

4. PROVIDE ALL LABOR, MATERIALS, TOOLS, PLANT EQUIPMENT, TRANSPORTATION AND PERFORM ALL OPERATIONS NECESSARY FOR ANY REASONABLE INCIDENTAL TO PROPER EXECUTION AND COMPLETION OF ALL "ELECTRICAL WORK" WHETHER SPECIFICALLY MENTIONED OR NOT; ALL AS INDICATED, SPECIFIED HEREIN, AND/OR IMPLIED THEREBY TO CARRY OUT THE APPARENT INTENT THEREOF.

5. ALL MATERIALS SHALL BE NEW AND LISTED WITH THE UNDERWRITERS' LABORATORIES, INC., SHALL MEET THEIR REQUIREMENTS AND SHALL BEAR THEIR LABEL WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL SERVICE IS REGULARLY FURNISHED BY THAT AGENCY.

6. ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH THE SIZE AND LOCATIONS OF EQUIPMENT ARE SHOWN TO SCALE WHEREVER POSSIBLE, CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION AT THE SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT AND INSTALLING HIS WORK TO AVOID INTERFERENCE WITH OTHER TRADES.

7. WORK SHOWN ON THE DRAWINGS TO BE INSTALLED UNDERGROUND SHALL BE INSTALLED AT LEAST 24" BELOW GRADE UNLESS OTHERWISE NOTED. BACKFILL IN 6" THICK, PROPERLY MOISTENED LAYERS, SOLIDLY PACKED AND IRON TAMPED TO A DENSITY NOT LESS THAN THAT OF ADJACENT, UNDISTURBED EARTH. RESTORE SURFACES, ROADWAYS, WALKS, CURBS, WALLS AND EXISTING UNDERGROUND INSTALLATIONS TO ORIGINAL CONDITION IN AN ACCEPTABLE MANNER.

8. ALL ELECTRICAL EQUIPMENT EXPOSED TO THE WEATHER SHALL BE LISTED FOR EXTERIOR USE.

9. ALL U.L. LISTED EQUIPMENT SHALL BE INSTALLED AS PER THEIR LISTING OR LABELING.

10. IN LOCATIONS WHERE ELECTRICAL EQUIPMENT WOULD BE EXPOSED TO PHYSICAL DAMAGE, ENCLOSURES OR GUARDS SHALL BE SO ARRANGED AND OF SUCH STRENGTH AS TO PREVENT SUCH DAMAGE.

11. CONFLICTS BETWEEN SPECIFICATIONS AND PLANS:

a. ANY CONFLICT BETWEEN ELECTRICAL SPECIFICATIONS AND ELECTRICAL PLANS; OR BETWEEN ELECTRICAL PLANS AND PLANS OF ANOTHER DISCIPLINE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND A RESOLUTION RECEIVED PRIOR TO PROCUREMENT OR INSTALLATION OF THE ITEM IN QUESTION.

b. IF THE CONTRACTOR PROCEEDS WITH THE WORK WITHOUT RECEIVING ANY RESOLUTION TO THE CONFLICT HE/SHE DOES SO AT HIS/HER OWN RISK AND SHALL RECTIFY THE WORK TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER OR ENGINEER.

260500.02. SUBMITTALS:

PROVIDE THE FOLLOWING SUBMITTALS FOR REVIEW AND APPROVAL.

1. EACH SHALL BE SUBMITTED SEPARATELY TO AVOID DELAYS IN THE REVIEW OF ONE SUBMITTAL IN HOLDING UP REVIEW OF THE REMAINDER.

a. SERVICE SWITCHBOARD
b. LIGHTING CONTROLS
c. PANEL BOARDS
d. BASIC ELECTRICAL MATERIALS
e. LIGHT FIXTURES

260500.03. WORKING CLEARANCES FOR ELECTRICAL SWITCHGEAR:

1. PROVIDE WORKING SPACES FOR ELECTRICAL PANELS AND SWITCHGEAR TO COMPLY WITH CEC 110.26.

2. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL TRADES INVOLVED TO ENSURE THE CLEARANCES REQUIRED BY ITEM 1 ABOVE ARE PROVIDED.

260526. GROUNDING:

1. GROUND AND BOND ALL EQUIPMENT AS REQUIRED BY GOVERNING CODES AND SPECIFICALLY INCLUDING SWITCHBOARD, PANELBOARDS, MOTOR CASES, METAL PIPING SYSTEMS, STRUCTURAL STEEL, ETC.

2. PROVIDE GROUND WIRES IN ALL FEEDERS AND BRANCH CIRCUITS, SIZE PER CEC TABLE 250.122

3. ALL GROUND WIRES SHALL BE INSULATED GROUND WIRES.

260529. INSTALLATION OF SUPPORT SYSTEMS

1. RACEWAYS, CABLE ASSEMBLIES, BOXES, CABINETS, AND FITTINGS SHALL BE SECURELY FASTENED IN PLACE PER CEC ARTICLE 300.11. SUPPORT WIRES THAT DO NOT PROVIDE SECURE SUPPORT SHALL NOT BE PERMITTED AS THE SOLE SUPPORT. SUPPORT WIRES AND ASSOCIATED FITTINGS THAT PROVIDE SECURE SUPPORT AND THAT ARE INSTALLED IN ADDITION TO THE CEILING GRID SUPPORT WIRES SHALL BE PERMITTED AS THE SOLE SUPPORT. WHERE INDEPENDENT SUPPORT WIRE ARE USED, THEY SHALL BE SECURED AT BOTH ENDS. CABLES AND RACEWAYS SHALL NOT BE SUPPORTED BY CEILING GRIDS.

2. FURNISH ALL NECESSARY FOUNDATIONS, SUPPORTS, BACKING, ETC., FOR ALL ELECTRICAL ENCLOSURES, CONDUITS AND EQUIPMENT.

3. ATTACH ALL BOXES, CABINETS, ETC. TO WOOD WITH WOOD OR LAG SCREWS, TO METAL WITH MACHINE SCREWS OR BOLTS AND TO CONCRETE WITH EXPANSION ANCHORS AND MACHINE SCREWS OR BOLTS.

4. RIGID STEEL CONDUIT SHALL BE SUPPORTED AT INTERVALS NOT GREATER THAN 10 FT, ELECTRICAL METALLIC TUBING AT INTERVALS NOT GREATER THAN 5 FT.

5. A SUPPORT SHALL BE PROVIDED NOT MORE THAN 3 FT. FROM ANY CHANGE IN DIRECTION. ADDITIONAL SUPPORTS TO THOSE SPECIFIED ABOVE SHALL BE INSTALLED WHERE REQUIRED TO SUIT JOB CONDITIONS AND TO PROVIDE A SECURE INSTALLATION. ALL HANGERS AND SUPPORTS SHALL BE THE PRODUCTS OF ONE MANUFACTURER.

260533. PULL OR JUNCTION BOXES:

1. INSTALL WHERE INDICATED, OR AS REQUIRED BY CODE, PULL BOXES AND JUNCTION BOXES OF SUFFICIENT SIZE AND CAPACITY TO FACILITATE ALL WIRING. BOXES SHALL BE SIZED TO PROPERLY ACCOMMODATE ALL CONDUCTORS ENTERING SAME.

2. BOXES SHALL BE OF THE SHAPE AND SIZE BEST SUITED FOR THE PARTICULAR APPLICATION AND SHALL BE SUPPORTED DIRECTLY TO STRUCTURAL MEMBERS, FRAMING OR BLOCKING BY MEANS OF SCREWS, ANCHORS, BOLTS OR EMBEDDED IN MASONRY.

A. SWITCH AND RECEPTACLE BOX SHALL BE ONE PIECE DRAWN OR STAMPED STEEL BOXES MINIMUM SIZE SHALL BE FOUR INCHES (4") SQUARE. BOXES SHALL BE FITTED WITH FLUSH DEVICE COVERS, PLASTER RINGS, OR TILE SWITCH RINGS IN MASONRY IN AREA WHERE EXPOSED WIRING IS PERMISSIBLE, BOXES SHALL BEFITTED WITH SURFACE TYPE COVERS.

260550. WIRING METHODS: LINE VOLTAGE SYSTEMS (120V AND ABOVE):

1. ALL WIRING SHALL BE INSTALLED IN CONDUITS. CONDUITS SHALL BE RUN CONCEALED IN WALLS AND CEILINGS WHERE FEASIBLE. ALL CONDUITS INSTALLED SURFACE ON WALL SHALL BE PAINTED TO MATCH WALL FINISH. MOUNT EXTERIOR CONDUITS ON WALL ON GALVANIZED UNISTRUTS. ALL SURFACE CONDUIT INSTALLATION/ RUNS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION.

2. MINIMUM CONDUIT SIZE SHALL BE 1/2" ABOVE GRADE AND 3/4" UNDERGROUND.

3. MINIMUM ACCEPTABLE CONDUITS ARE:

A. GALVANIZED RIGID STEEL - FOR USE ON:

(1) EXTERIOR WALL SURFACES.

B. GALVANIZED STEEL EMT FOR USE:

(1) CONCEALED IN INDOOR FINISHED SPACES.
(2) EXPOSED INSIDE ELECTRICAL & MECHANICAL ROOMS.

C. LIQUID TIGHT STEEL FLEX:

(1) FOR FINAL CONNECTION TO OUTDOOR EQUIPMENT. LENGTH SHALL NOT EXCEED 36".

D. FLEXIBLE STEEL CONDUIT:

(1) FOR INDOOR FINAL CONNECTION TO RECESSED LIGHT FIXTURES. LENGTH SHALL NOT EXCEED 72".
(2) FOR INDOOR FINAL CONNECTION TO HVAC EQUIPMENT. LENGTH SHALL NOT EXCEED 36".

E. "PVC" SCHEDULE 40:

(1) FOR CONDUITS RUN UNDERGROUND AND FOR UNDER BUILDING SLAB.
(2) CONDUIT STUBUPS THROUGH THE FLOOR OR GRADE SHALL BE IN PVC WRAPPED RIGID STEEL CONDUIT. PVC WRAPPING SHALL EXTEND 6" ABOVE FINISHED FLOOR OR GRADE.
(3) NOT PERMITTED FOR WIRING ABOVE FINISHED FLOOR INSIDE BUILDINGS.

F. ALUMINUM CONDUITS, IMC CONDUITS OR ALUMINUM FITTINGS ARE NOT APPROVED FOR USE ON THIS PROJECT.

G. ALL CONDUIT FITTINGS SHALL BE MALLEABLE IRON/STEEL.

H. COUPLING:

(1) EMT COUPLING - APPLETON TWC-CS SERIES
(2) EMT CONNECTOR - APPLETON TW-CSI SERIES
(3) FLEX CONDUIT CONNECTOR - T&B "TITE BITE", INSULATED
(4) LIQUID TIGHT FLEX CONDUIT CONNECTOR - APPLETON "STB" SERIES UP TO 2", "ST" SERIES OVER 2".

I. RIGID STEEL CONDUIT CONNECTED TO BOXES AND CABINETS SHALL BE FITTED WITH TWO LOCKNUTS AND INSULATING BUSHING, OA "A" SERIES. PROVIDE GROUNDING BUSHING OZ "BL" SERIES WHERE LOCKNUTS AND BUSHING IS NOT USED. CONDUITS CONNECTED TO BOXES EXPOSED TO WEATHER/MOISTURE SHALL BE FITTED WITH WATERTIGHT SEALING HUBS OF STEEL OR MALLEABLE IRON WITH SEALING RING AND INSULATED THREAT, T & B 370 SERIES.

J. TYPE NM AND NMC CABLES SHALL NOT BE USED ON THIS PROJECT.

K. THE PROJECT DRAWINGS ARE LAID OUT USING SOLID CONDUITS AND CABLES PULLED THROUGH SUCH CONDUITS. MC CABLES MAY BE UTILIZED AS DESCRIBED BELOW, WITH RESTRICTIONS NOTED.

(1) PRIOR APPROVAL OF OWNER/ARCHITECT OR ENGINEER REQUIRED.

(2) MC CABLES SHALL BE AS MANUFACTURED BY SOUTHWIRE TYPE EZ-MC DURACLAD TYPE WITH LIGHT WEIGHT STEEL ARMOR AND INSULATED GREEN GROUNDING CONDUCTORS OR APPROVED EQUAL.

(3) SHALL BE USED FOR BRANCH CIRCUITS ONLY AS NOTED BELOW.

(a) CANNOT BE USED ANYWHERE EXPOSED.
(b) LIGHTING: VERTICAL DROPS IN WALL FOR LIGHT SWITCHES FORM JBOX IN CEILING. HORIZONTAL RUNS IN CEILING SHALL BE IN SOLID STEEL CONDUITS.
(c) POWER RECEPTACLES:

(A) FOR UNDERGROUND HOMERUNS: SOLID CONDUIT VERTICAL RISER IN WALL FROM UNDERGROUND CONDUIT TO FIRST RECEPTACLE JBOX. THEN HORIZONTAL RUNS WITHIN WALLS TO OTHER RECEPTACLE BOXES IN MC CABLE.

(B) FOR OVERHEAD HOMERUNS: VERTICAL DROPS FROM JBOX IN CEILING THEN HORIZONTAL RUNS WITHIN WALLS TO OTHER RECEPTACLES. HORIZONTAL RUNS IN CEILING SHALL BE IN SOLID STEEL CONDUITS.

(d) NO OTHER USE IS PERMITTED WITHOUT SPECIFIC WRITTEN APPROVAL OF THE ARCHITECT OR ENGINEER.

(4) ALL FITTINGS AND TERMINATIONS FOR THE MC CABLING SYSTEM SHALL BE METAL AND SUITABLE AND LISTED FOR SUCH USE.

(5) ALL SUPPORTS, ATTACHMENTS SPACING SHALL BE PER CEC 330.30.

(6) FOR MULTI-WIRE BRANCH CIRCUITS SUCH CABLES SHALL HAVE MULTIPLE NEUTRALS, ONE FOR EACH CIRCUIT.

6. CONDUCTORS SHALL BE COPPER CONDUCTORS TYPE THHN/THWN UNLESS OTHERWISE NOTED OR REQUIRED BY CODE.

7. ALL DEVICES, CONDUITS, RACEWAYS AND CABLES SHOWN ARE NEW TO BE PROVIDED UNLESS OTHERWISE NOTED.

8. FLASH AND COUNTERFLASH ALL ITEMS PASSING THROUGH THE ROOF.

9. THE OWNER RESERVES THE RIGHT TO RELOCATE ALL LIGHTING, OUTLETS AND SWITCHES BEFORE THEY ARE ROUGHED IN AT NO EXTRA COST.

10. SEPARATION OF WIRING OF DIFFERENT VOLTAGE CLASSIFICATIONS:

260551. INSTALLATION OF RACEWAYS AND FITTINGS:

1. CONCEAL RACEWAYS WITHIN CEILINGS, WALLS, AND FLOORS EXCEPT WHERE EXPOSED RACEWAYS ARE SPECIFICALLY PERMITTED.

2. WHERE CONDUIT IS ALLOWED TO BE EXPOSED, INSTALL THE CONDUIT PARALLEL WITH OR AT RIGHT ANGLES TO STRUCTURAL MEMBERS, WALLS, AND LINES OF THE BUILDING.

3. INSTALL WHERE INDICATED, OR AS REQUIRED BY CODE, PULLBOXES AND JUNCTION BOXES OF SUFFICIENT SIZE TO FACILITATE WIRING. BOXES SHALL BE SIZED TO PROPERLY ACCOMMODATE ALL CONDUCTORS ENTERING SAME.

4. DO NOT INSTALL CONDUIT OR TUBING WHICH HAS BEEN CRUSHED OR DEFORMED.

5. RUN CONDUCTORS OF SAME CIRCUIT IN SAME CONDUIT. RUN CONDUCTORS OF DIFFERENT VOLTAGE SYSTEMS IN SEPARATE CONDUITS.

6. INSTALL NO CONDUCTORS UNTIL WORK WHICH MIGHT CAUSE DAMAGE TO SUCH CONDUCTORS OR THE CONDUIT HAS BEEN COMPLETED.

7. KEEP ALL CONDUITS AT LEAST SIX INCHES AWAY FROM THE COVERING ON HOT WATER OR STEAM PIPES.

8. CAP RACEWAY ENDS DURING CONSTRUCTION. CLEAN OR REPLACE CONDUITS IN WHICH WATER OR FOREIGN MATTER HAVE ACCUMULATED, TO THE SATISFACTION OF THE ARCHITECT.

9. CONDUITS SHALL BE SUPPORTED WITH STRAPS, WITH GALVANIZED MALLEABLE SPLIT RING AND ROD FOR INDIVIDUAL RUNS OR WITH KINDORF OR UNISTRUT CHANNEL SUPPORTS FOR MULTIPLE RUNS. DISTANCE BETWEEN SUPPORTS SHALL NOT EXCEED 10 FEET. CONDUITS SHALL BE SUPPORTED INDEPENDENTLY OF ONE ANOTHER.

10. CONDUITS CONNECTED TO BOXES AND CABINETS SHALL BE FITTED WITH TWO LOCKNUTS AND INSULATED BUSHING, OA "A" SERIES.

11. CONDUITS NOT CONNECTED WITH LOCKNUTS AND BUSHINGS SHALL BE FITTED WITH GROUNDING BUSHING, OZ "BL" SERIES, U. L. APPROVED AND BONDED.

12. CONDUIT STRAPS FOR INDIVIDUAL RUNS SHALL BE SECURED BY TOGGLE BOLTS ON HOLLOW MASONRY, EXPANSION ANCHORS ON SOLID CONCRETE OR MASONRY, MACHINE SCREWS OR BOLTS ON METAL SURFACES AND WOOD SCREWS ON WOOD CONISTRUCTION. THE USE OF NAILS TO ANCHOR STRAPS ON WOOD CONSTRUCTION IS PROHIBITED. STRAPS SHALL BE TWO HOLE MALLEABLE IRON OR SNAP-TYPE STEEL WITH RIBBED BACK, GALVANIZED OR CADMIUM PLATED.

13. PLACEMENT OF ALL BOXES SHALL BE GOVERNED BY APPLICABLE ARCHITECTURAL AND STRUCTURAL REQUIREMENTS.

14. CONDUIT FITTINGS: EXCEPT WHERE OTHERWISE NOTED, CONDUIT FITTINGS SHALL BE APPLETON OR APPROVED EQUAL. UNILETS SHALL BE MALLEABLE IRON AND FITTED WITH COVERS AND GASKETS.

15. TELEPHONE AND SIGNAL CONDUIT BENDS WHERE REQUIRED SHALL HAVE A RADIUS OF TEN TIMES THE CONDUIT TRADE SIZE.

16. PROVIDE PULL TAPE IN ALL EMPTY CONDUITS.

260573. ARC FLASH HAZARDS:

1. PROVIDE WARNING LABEL ON ELECTRICAL EQUIPMENT OF POSSIBLE ARC FLASH HAZARDS PER C.E.C. 110.16.

260800. TESTING:

1. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND IMPROPER GROUNDS. TEST ALL WIRING AND CONNECTIONS FOR CONTINUITY AND GROUNDS BEFORE ANY FIXTURES OR EQUIPMENT ARE CONNECTED AND WHERE SUCH TESTS INDICATE FAULTY INSULATION OR OTHER DEFECTS, THEY SHALL BE LOCATED, REPAIRED AND RETESTED AT THE CONTRACTOR'S EXPENSE. PROVIDE ALL INSTRUMENTS TO MAKE SUCH TESTS.

2. DEMONSTRATE TO THE OWNER AND THE ARCHITECT, THAT THE ENTIRE INSTALLATION IS COMPLETE, IN PROPER OPERATING CONDITION AND THAT THE CONTRACT HAS BEEN PROPERLY AND FULLY EXECUTED.

260800.01. CERTIFICATE OF COMPLETION:

1. ACCEPTANCE OF THE CONTRACT FOR THIS WORK INCLUDES THIS GUARANTEE: THE CONTRACTOR GUARANTEES THAT HE HAS PERFORMED THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. CONTRACTOR AGREES TO REPLACE OR REPAIR, AS NEW ANY DEFECTIVE WORK, MATERIALS, OR PART WHICH MAY APPEAR WITHIN ONE YEARS (1) OF FINAL ACCEPTANCE, IF, IN THE OPINION OF THE ARCHITECT OR THE OWNER, THE DEFECT IS DUE TO WORKMANSHIP OR MATERIAL.

260800.02. WARRANTIES, GUARANTEES, CERTIFICATES, ETC.:

1. WARRANTIES, GUARANTEES, CERTIFICATES, ETC. THAT ARE FURNISHED AND AVAILABLE FOR EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED UNDER THIS SECTION SHALL BE PROPERLY FILLED OUT AS OF DATE OF ACCEPTANCE OF THE WORK BY THE OWNER AND SHALL BE DELIVERED TO THE ARCHITECT.

262400. MAIN SERVICE SWITCHBOARD:

1. SQUARE D, EATON, OR APPROVED EQUAL, METAL ENCLOSED UNIT WITH UGPS, METERING SECTION, MAIN DISCONNECT AND GROUP MOUNTED, MOULDED CASE BRANCH CIRCUIT BREAKERS COMPLETE WITH INTERCONNECTING BUS IN A FACTORY ASSEMBLED, INTEGRATED UNIT. ARRANGEMENT AND RATINGS OF EQUIPMENT ARE SHOWN ON DRAWINGS. UNIT SHALL MEET ALL UTILITY COMPANY REQUIREMENTS.

2. SWITCHBOARD SHALL BE ENCLOSED STRUCTURE OF CODE GAUGE STEEL PLATES WITH REMOVABLE FRONT. FULL FRONT ACCESS SHALL BE PROVIDED FOR CONNECTIONS AND OPERATIONS. FRONT SECTIONS SHALL BE ATTACHED WITH MACHINE SCREWS, EVENLY SPACED. HINGED DOOR SHALL HAVE VAULT TYPE HANDLES AND LOCKS. UNITS SHALL BE NEMA 3R FOR OUTDOOR INSTALLATION AND NEMA 1 FOR INDOOR INSTALLATION.

3. ALL BUSES SHALL BE COPPER OR ALUMINUM SIZED TO CONFORM TO UL TO LIMIT TEMPERATURE RISE. ALL BUS CONNECTIONS SHALL BE BOLTED. BUSES SHALL BE BRACED TO WITHSTAND, AS A MINIMUM, THE SHORT CIRCUIT CURRENT INDICATED ON DRAWINGS. BUSES SHALL BE SEQUENCE PHASED AND SHALL RUN FULL HEIGHT.

4. SERVICE SWITCHBOARD SHALL HAVE PERMANENTLY INSTALLED USER-ACCESSIBLE METERING OF TOTAL ELECTRICAL ENERGY USE PER TABLE 130.5-A OF THE 2016 CALIFORNIA ENERGY CODE. AS A MINIMUM THIS REQUIRES THE FOLLOWING:

d. INSTANTANEOUS KW DEMAND.
e. HISTORICAL PEAK KW DEMAND.
f. RESETTABLE KWH.

5. THE DISTRIBUTION SECTION SHALL BE SET UP TO PERMIT IN FUTURE THE DESEGREGATED MEASUREMENT OF ELECTRICAL LOAD ENERGY USES DOWNSTREAM FROM THE SERVICE ACCORDING TO TABLE 130.5-B OF THE 2016 CALIFORNIA ENERGY CODE.

6. PROVIDE "SPACES" INDICATED ON DRAWINGS WITH ALL NECESSARY MOUNTING HARDWARE PERMITTING EASY FUTURE INSTALLATION OF BREAKERS IN THE FIELD.

7. PROVIDE INCOMING SERVICE TERMINALS, METERING SECTIONS, CTs, ETC. IN ACCORDANCE WITH THE UTILITY COMPANY AND PLANS.

8. PROVIDE A COPPER GROUND BUS.

262417. PANEL BOARDS:

1. UNITS SHALL BE FLUSH OR SURFACE MOUNTED AS INDICATED ON THE PANEL SCHEDULE, WITH THE NUMBER AND SIZE OF BREAKERS AS INDICATED ON THE PANEL SCHEDULE. SINGLE POLE, TWO POLE, AND THREE POLE BREAKERS SHALL BE BOLT-ON TYPE. MULTIPLE POLE BREAKERS SHALL HAVE COMMON INTERNAL TRIP CONNECTION. SINGLE POLE BREAKERS SHALL NOT BE TIED AT HANDLES TO FORM MULTIPLE POLE BREAKERS. THE PANEL DOORS SHALL BE DOOR-IN-DOOR CONSTRUCTION AND SHALL HAVE FLUSH TYPE LOCKS, ALL LOCKS SHALL BE KEYED ALIKE AND HAVE TYPEWRITTEN DIRECTORIES INDICATING FIXTURES, EQUIPMENT, OR OUTLETS SERVICE BY EACH BREAKER. PANELS SHALL HAVE COPPER BUSSING.

2. DEVICE COVERS FOR DEVICES LOCATED IN DAMP LOCATIONS SHALL COMPLY WITH CEC 406.9(A).

3. DEVICE COVERS FOR DEVICES LOCATED IN WET LOCATIONS SHALL COMPLY WITH CEC 406.9(B).

262729. DISCONNECT SWITCHES:

1. UNITS SHALL BE HEAVY DUTY FUSED DISCONNECT SWITCHES, TWO OR THREE POLE TYPE, WHERE INDICATED ON THE DRAWINGS, OR AS REQUIRED BY CODE. SWITCHES AND FUSES SHALL BE AS REQUIRED BY THE LOADS SERVING.

2. DISCONNECTS FOR FRACTIONAL HORSE POWER MOTORS SHALL BE MOTOR-RATED TOGGLE TYPE DISCONNECTS.

3. DISCONNECTS FOR SINGLE PHASE MOTORS SHALL BE SINGLE PHASE AND NOT THREE PHASE.

4. LOCATE DISCONNECTS IN ACCORDANCE WITH CEC 430.102. ENSURE ALL CODE-REQUIRED CLEARANCES.

265100. LIGHTING:

1. ALL LUMINARIES SHALL BE CERTIFIED BY THE MANUFACTURER TO THE CALIFORNIA ENERGY COMMISSION:

A. ALL LUMINARIES SPECIFIED ON THIS PROJECT SHALL BE AS NOTED IN THE "LIGHT FIXTURE SCHEDULE" ON THESE PLANS. NO SUBSTITUTES ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.

B. ALL INTERIOR LUMINARIES SHALL BE PROVIDES WITH 0-10V DIMMING LED DRIVERS.

C. ALL EXTERIOR LUMINARIES SHALL BE PROVIDED WITH 0-10V DIMMING LED DRIVERS WITH INTEGRAL MOTION SENSORS WHERE SO NOTED.

ELECTRICAL LEGEND

LIGHTING FIXTURES
- WALL MOUNT
- POLE MOUNT AREA LIGHT

BASIC LIGHTING CONTROLS
- LIGHT SWITCH, +48" TO TOP OF BOX

ELECTRICAL POWER
- ALL LINE VOLTAGE WIRING IN CONDUIT, SEE GENERAL NOTES
- TICKS = # OF #12 WIRE, SHORT = HOT, LONG = NEUTRAL, DOT = GROUND, DASHED = UNDERGROUND
- UNLESS NOTED OTHERWISE
- 120V OUTLET, +18" TO BOTTOM OF BOX (MINIMUM)
- • GFI = GROUND FAULT INTERRUPTER
- JUNCTION BOX
- MOTOR / DISCONNECT
- PANELBOARD
- TRANSFORMER / SWITCHBOARD AS NOTED
- FUSE DISCONNECT
- MANUAL MOTOR STARTER DISCONNECT

DRAFTING NOTATIONS
- # — NUMBERED NOTE, SEE SCHEDULE
- # — EQUIPMENT TAG, SEE SCHEDULE
- A / E-# — REFERENCE TO A DETAIL VIEW "A" ON SHEET E-2
- —— NEW ELECTRICAL
- – – – – EXISTING ELECTRICAL OR DEMOLISHED WHERE NOTED
- (e) (E) EXISTING DEVICE, TO REMAIN IN OPERATION
- (r) (R) REMOVE DEVICE, KEEP REMAINDER OF CIRCUIT IN OPERATION
- (RR) REMOVE, REPLACE AND RECONNECT DEVICE ON EXISTING CIRCUIT
- (RL) REMOVE, RELOCATE AND RECONNECT DEVICE ON EXISTING CIRCUIT, EXTEND CIRCUIT

ONE LINE DIAGRAM
- BUS / SWITCHBOARD
- PANEL
- GROUND
- METER
- CURRENT TRANSFORMER
- CIRCUIT BREAKER 50 AMP RATED, 3 POLE
- GFI = GROUND FAULT INTERRUPTER
- AFCI = ARC FAULT CIRCUIT INTERRUPTER
- POTENTIAL TRANSFORMER
- DRY TYPE TRANSFORMER

ABBREVIATIONS

(e),(E)	EXISTING
(R)	REMOVE
(RL)	REMOVE RELOCATE
(RR)	REMOVE REPLACE
&	AND
A, AMP	AMPERE
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
A.I.C.	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
C	CONDUIT
CKT.	CIRCUIT
CO	CONDUIT ONLY
CU	COPPER
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
KVA	KILOVOLT AMPERE
KW	KILOWATT
LC	LIGHTING CONTACTOR
MAX.	MAXIMUM
M.C.	MECHANICAL CONTRACTOR
MIN.	MINIMUM
NL	NIGHT LIGHT
NO.	NUMBER
PB	PULLBOX
P.C.	PLUMBING CONTRACTOR
SP	SPACE
UG	UNDERGROUND
U.O.N.	UNLESS OTHERWISE NOTED
V	VOLT
W/	WITH
WP	WEATHERPROOF

HCS Engineering
50 years
4512 Feather River Dr ●E, Stockton, CA 95219
209-478-8270 | www.hcs-eng.com
☒ Richard C. Smith, PE richard@hcs-eng.com
☐ Bhupendra Patel, PE bhupendra@hcs-eng.com
☐ Elizabeth Aguilar elizabeth@hcs-eng.com

PROJECT # 2023.173

REVISIONS				
ID	DATE	BY	DESCRIPTION	
1	2024-09-10	LM	COORDINATION	

REGISTERED PROFESSIONAL ENGINEER
RICHARD C. SMITH
No. E14303
Exp. 6-30-25
ELECTRICAL
STATE OF CALIFORNIA

PROJECT ENGINEER R.C.E. 27

DATE

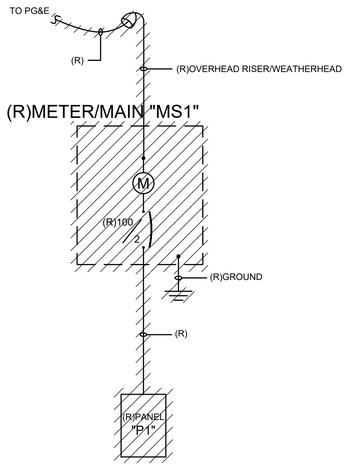
QK
TEL: (209) 722-2066
2916 PARK AVENUE
MERCED, CA 95340

COPYRIGHT © QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209)827-7000

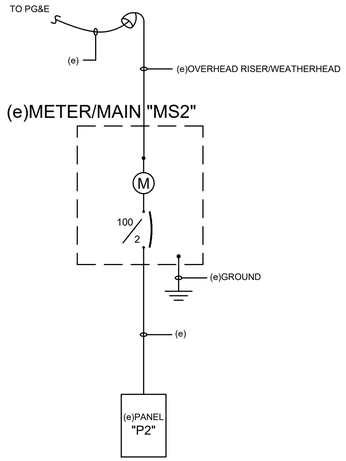
ANIMAL SHELTER REHABILITATION

PROJECT NO.:	220150
DRAWN BY:	
QA/QC BY:	
SCALE:	
SHEET NO.:	



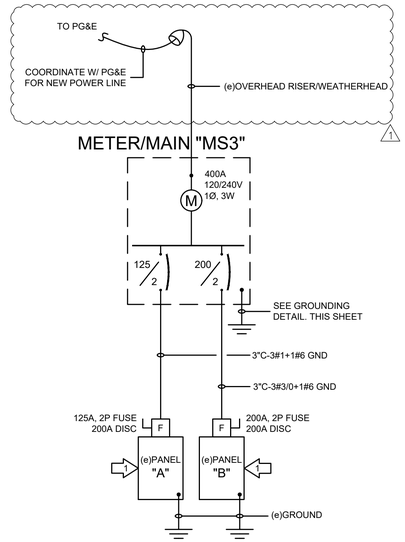
ONE LINE DIAGRAM

SCALE: N.T.S.



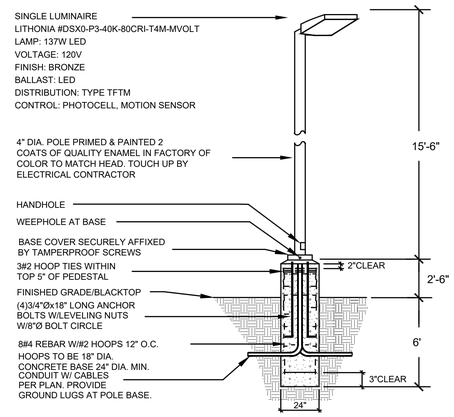
ONE LINE DIAGRAM

SCALE: N.T.S.



ONE LINE DIAGRAM

SCALE: N.T.S.



DOG RUN LUMINAIRE

SCALE: N.T.S.

S1
LED

(e)PANEL P2

LOCATION : EXTERIOR				TITLE 24 CATEGORY: MIXED			
TOTAL KVA : 15.3				CONNECT AMPS: 63.8A			
MOUNTING : SURFACE				VOLTAGE : 120/240V, 1Ø, 3W			
BUSSING : 100A ☐ MCB ☒ MLO				FEEDER : ☐ SEE ONE LINE DIAGRAM			
A.I.C. : (e)				☒ EXISTING			
DESCRIPTION	LOAD	BRKR		BRKR	LOAD	DESCRIPTION	
(e)WALL PLUGS SOUTH/EAST	360	(e)20/1	1	(e)20/1	360	(e)WALL PLUGS NORTH/WEST	2
(e)WH	1200	(e)20/1	3	(e)20/1	200	(e)KENNEL LIGHTS	4
(e)CAT AREA LIGHTS	200	(e)20/1	5	(e)20/1	500	(e)FAN	6
(e)TRAILER		(e)60 / 2	7	(e)30 / 2	3600	(e)	8
NOT IN USE		/ 2	9	/ 2			10
(e)KENNEL FLOOD LIGHTS	200	(e)20/1	11	(e)20/1	360	(e)	12
(e)KENNEL FLOOD LIGHTS	200	(e)20/1	13	(e)50 / 2	6000	(e)HEATER	14
FAN	500	20/1	15	/ 2			16
FAN	500	20/1	17	SP			18
FAN	500	20/1	19	SP			20
SPACE		SP	21	(e)30 / 2	640	(e)TOUGH SHED	22
SPACE		SP	23	/ 2			24
	3660	VA TOTAL			11660		

EXISTING PANEL "A"

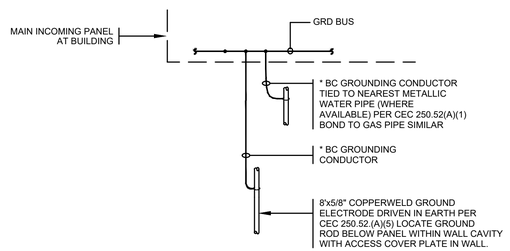
LOCATION : EXTERIOR				TITLE 24 CATEGORY: MIXED			
TOTAL KVA : 17.6				CONNECT AMPS: 73.3A			
MOUNTING : SURFACE				VOLTAGE : 120/240V, 1Ø, 3W			
BUSSING : 125A ☐ MCB ☒ MLO				FEEDER : ☒ SEE ONE LINE DIAGRAM			
A.I.C. : 18,000				☐ EXISTING			
DESCRIPTION	LOAD	BRKR		BRKR	LOAD	DESCRIPTION	
(e)AC-1 (3 TON)	12190	(e)60 / 2	1	(e)20/1	900	(e)RECEPT	2
		/ 2	3	(e)20/1	900	(e)RECEPT	4
			5	(e)20/1	900	(e)RECEPT	6
(e)INT/EXT LIGHTS/EXIT	537	(e)20/1	7	15 / 2	1920	GATE	8
			9	/ 2			10
			11	20/1	240	IRRIGATION CONTROLLER	12
			13				14
			15				16
			17				18
			19				20
			21				22
			23				24
	12727	VA TOTAL			4860		

EXISTING PANEL "B"

LOCATION : EXTERIOR				TITLE 24 CATEGORY: MIXED			
TOTAL KVA : 34.0				CONNECT AMPS: 141.8A			
MOUNTING : SURFACE				VOLTAGE : 120/240V, 1Ø, 3W			
BUSSING : 200A/1 ☐ MCB ☒ MLO				FEEDER : ☒ SEE ONE LINE DIAGRAM			
A.I.C. : 18,000				☐ EXISTING			
DESCRIPTION	LOAD	BRKR		BRKR	LOAD	DESCRIPTION	
(e)AC-1 (3 TON)	12190	(e)60 / 2	1				2
		/ 2	3	(e)20/1	900	(e)RECEPT	4
(e)WATER HEATER	9000	(e)40 / 2	5				6
		/ 2	7	(e)20/1	900	(e)RECEPT	8
(e)DRYER	5000	(e)30 / 2	9	(e)20/1	482	(e)INT/EXT LIGHTS/EXIT	10
		/ 2	11				12
(e)WASHER	1200	(e)20/1	13				14
SPACE		SP	15	(e)20/1	180	(e)FACP	16
(e)RECEPT/GFCI/WP	180	(e)20/1	17	(e)20/1	540	(e)RECEPT	18
POLE LIGHT	173	20/1	19	15 / 2	1920	GATE	20
WALL LIGHTS	165	20/1	21	/ 2			22
LIFT STATION	1200	20/1	23				24
	29108	VA TOTAL			4922		

NUMBERED NOTES THIS SHEET:

1 (e)PANEL TO BE PROVIDED BY MODULAR BUILDING MANUFACTURER. ELECTRICAL CONTRACTOR TO PROVIDE FEEDER AND FUSE DISC. TO (e) MODULAR BUILDING PANEL.



GROUNDING DETAIL

SCALE: N.T.S.

FIXTURE SCHEDULE

TYPE	#LAMPS	W/LAMP	DESCRIPTION	MANUFACTURER'S NO.	LOAD
W1	LED		PARKING AREA LIGHT W/ MOTION SENSOR AND PHOTOCELL & HOUSE SHIELD	LITHONIA #DSX0-LED-P1-40K-80CRI-T3M-MVOLT-PIR-HS	33

REVISIONS

ID	DATE	BY	DESCRIPTION
1	2024-09-10	LM	COORDINATION

REGISTERED PROFESSIONAL ENGINEER
RICHARD C. SMITH
No. E14303
Exp. 6-30-25
ELECTRICAL
STATE OF CALIFORNIA

DATE
PROJECT ENGINEER
R.C.E. 27

QK
TEL: (209) 752-0696
WWW.QKINC.COM
2840 PARK AVENUE
MERCED, CA 95348

COPYRIGHT © QUA KINNEY, INC. UNAUTHORIZED USE PROHIBITED.

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7000

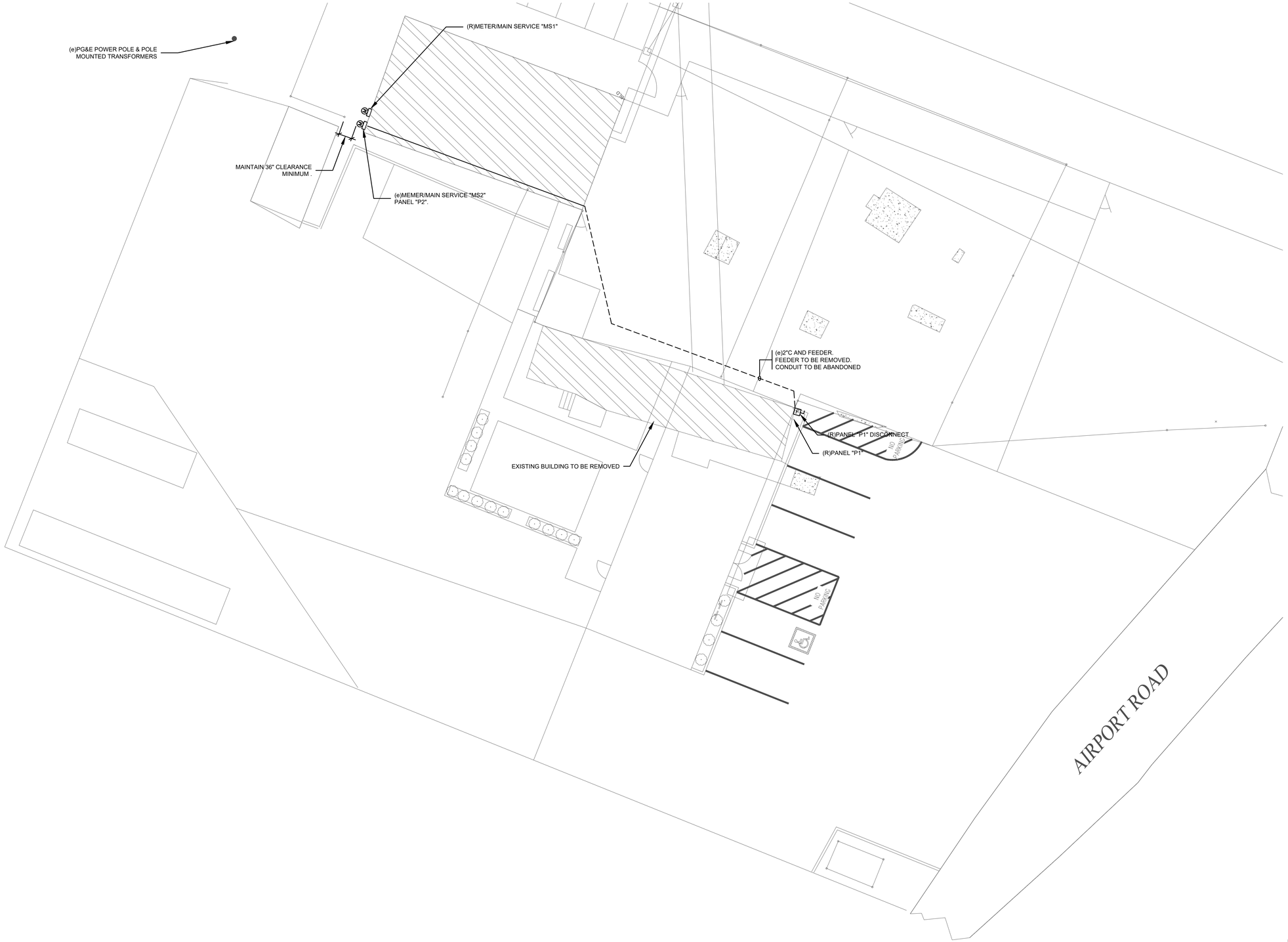
ANIMAL SHELTER REHABILITATION

PROJECT NO.: 220150
DRAWN BY:
QA/QC BY:
SCALE:
SHEET NO.:

.HCS. Engineering
50 years
4512 Feather River Dr ⌀F, Stockton, CA 95219
209-478-8270 | www.hcs-eng.com

■ Richard C. Smith, PE richard@hcs-eng.com
□ Bhupendra Patel, PE bhupendra@hcs-eng.com
□ Elizabeth Aguilar elizabeth@hcs-eng.com

PROJECT # 2023.173



ELECTRICAL DEMOLITION SITE PLAN

SCALE: 1"=10'-0"

NORTH

HCS Engineering
50 years
4512 Feather River Dr #F, Stockton, CA 95219
209-478-8270 | www.hcs-eng.com

- Richard C. Smith, PE richard@hcs-eng.com
- Bhupendra Patel, PE bhupendra@hcs-eng.com
- Elizabeth Aguilar elizabeth@hcs-eng.com

PROJECT # 2023.173

REVISIONS

ID	DATE	BY	DESCRIPTION
1	2024-09-10	LM	COORDINATION

REGISTERED PROFESSIONAL ENGINEER
RICHARD C. SMITH
No. E14303
Exp. 6-30-25
ELECTRICAL
STATE OF CALIFORNIA

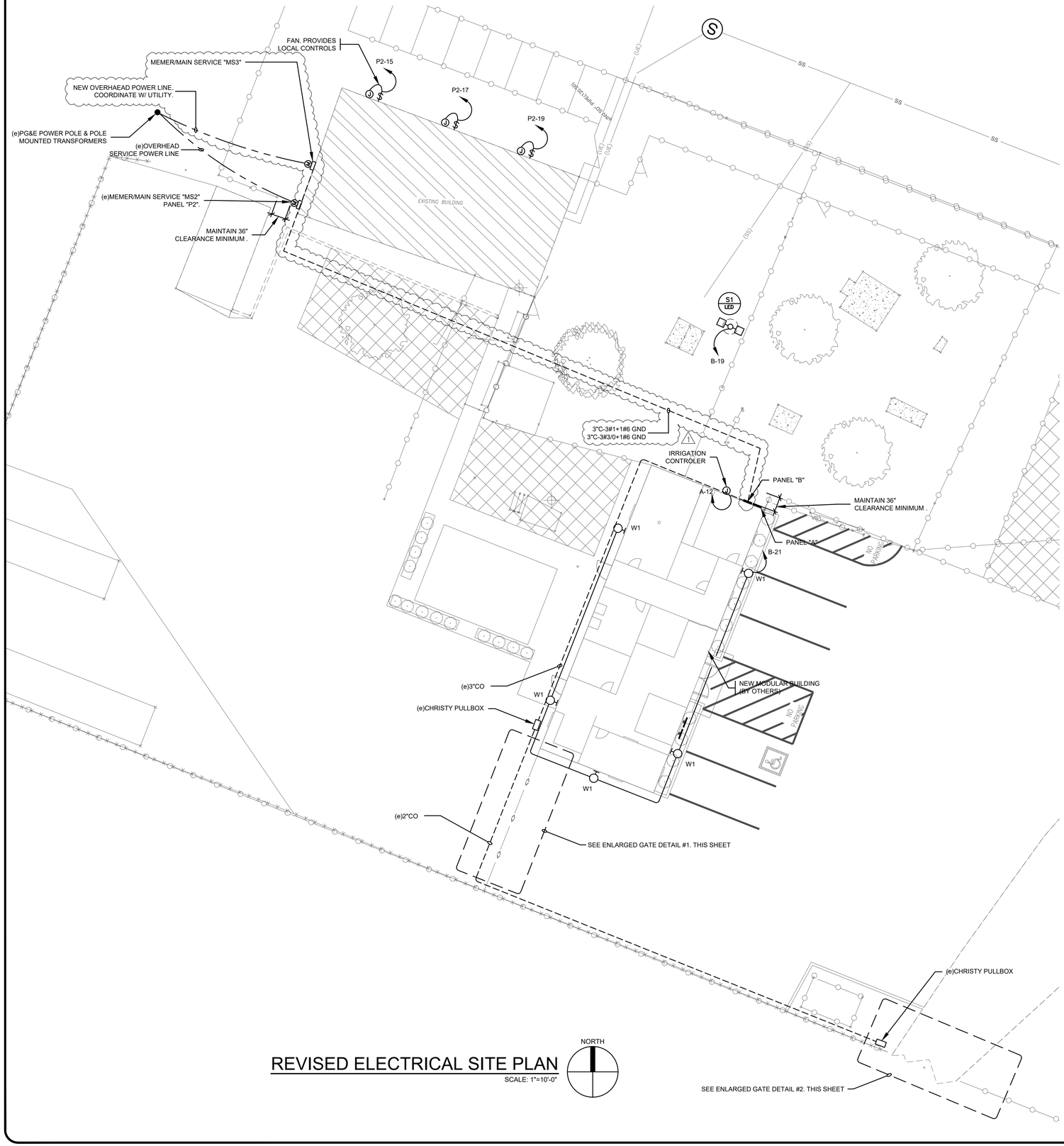
DATE
PROJECT ENGINEER
R.C.E. 27

QK
2016 PARK AVENUE
MERCED, CA 95340
TEL: (209) 723-2066
WWW.QKINC.COM
COPYRIGHT © QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7000

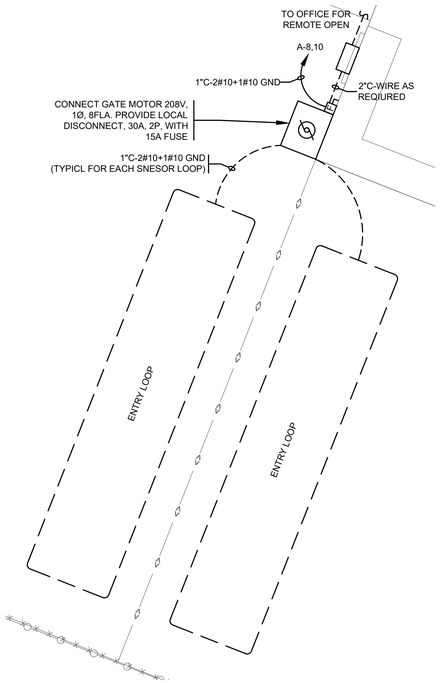
ANIMAL SHELTER REHABILITATION

PROJECT NO.:	220150
DRAWN BY:	
QA/QC BY:	
SCALE:	
SHEET NO.:	



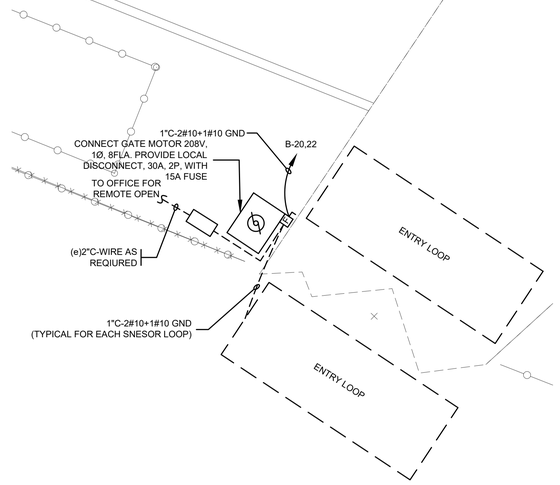
REVISED ELECTRICAL SITE PLAN

SCALE: 1"=10'-0"



ENLARGED GATE DETAIL: #1

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



ENLARGED GATE DETAIL: #2

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

NUMBERED NOTES THIS SHEET:

1. STUB (2)1-1/2"CO FROM PANEL "R2" TO CHRISTY N9 PULLBOX FOR FUTURE GATE. COORDINATE FINAL PULLBOX LOCATION W/ OWNER.

HCS Engineering
50 years
4512 Feather River Dr #F, Stockton, CA 95219
209-478-8270 | www.hcs-eng.com
Richard C. Smith, PE richard@hcs-eng.com
Bhupendra Patel, PE bhupendra@hcs-eng.com
Elizabeth Aguilar elizabeth@hcs-eng.com
PROJECT # 2023.173

REVISIONS				
ID	DATE	BY	DESCRIPTION	
1	2024-09-10	LM	COORDINATION	

REGISTERED PROFESSIONAL ENGINEER RICHARD C. SMITH No. E14303 Exp. 6-30-25 ELECTRICAL STATE OF CALIFORNIA

DATE

PROJECT ENGINEER R.C.E. 27

QK
TEL: (209) 730-9096
2041 PARK AVENUE MERCED, CA 95348 WWW.QKINC.COM

~~CONTRACT DOCUMENTS~~ ~~NOT APPROVED FOR CONSTRUCTION~~ PERMITTING

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7000

ANIMAL SHELTER REHABILITATION

PROJECT NO.:	220150
DRAWN BY:	
QA/QC BY:	
SCALE:	
SHEET NO.:	

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
This document is used to demonstrate compliance with mandatory requirements in 130.5, for electrical systems in newly constructed nonresidential and hotel/motel occupancies and 160.6 and 160.9 for electrical systems in newly constructed multifamily occupancies. Additions and alterations to electrical service systems in nonresidential and hotel/motel occupancies will also use this document to demonstrate compliance per 141.0(a) or 141.0(b)2P for alterations. For multifamily addition or alterations compliance will be documented per 180.1(a) or 180.2 (b)4Bvii		
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:**	**(Page 1 of 4)**
Project Address: 1010 AIRPORT RD	**Date Prepared:**	3/29/2024

A. GENERAL INFORMATION

01	Project Location (city)	LOS BANOS	02	Climate Zone	1
			03	Occupancy Types Within Project:	All Other OccupanciesOfficeSupport Areas

B. PROJECT SCOPE

This table includes electrical systems that are within the scope of the permit application.

01	02	03	04	05	06	07
Electrical Service Designation/ Description	Scope of Work[1]	Rating[2] (kVA)	Utility Provided Metering System Exception to 130.5(a)/ 160.6(a)[3]	System subject to CA Elec Code Article 517 Exception to 130.5(a)and (b)	Demand Response Controls	Provides power to dwelling units/common living areas only in multifamily occupancy
MS3	Add/Alt to feeders and branch circuits only	96	☐	☐	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections 120.2/ 160.3, 130.1/ 160.5, and 130.3/ 160.5, and mechanical, indoor lighting, and sign lighting Certificate of Compliance documents will indicate when demand response controls are required.	☐

[1] FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c)/160.6(c), no other requirements from 130.5/160.6 are required.
[2] If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.
[3] Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:**	**(Page 2 of 4)**
	Date Prepared:	3/29/2024

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through J. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

01		02		03		04	05	06
Service Electrical Metering 130.5(a)/ 160.6(a) (See Table F)	AND	Separation for Monitoring 130.5(b)/ 160.6(b) (See Table G)	AND	Voltage Drop 130.5(c)/ 160.6(c) (See Table H)	AND	Controlled Receptacles 130.5(d)/ 160.6(d) (See Table I)	Electric Ready 160.9 (See Table J)	**Compliance Results**
Yes	AND	Yes	AND	Yes	AND	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. SERVICE ELECTRICAL METERING

This section does not apply to this project.

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This section does not apply to this project.

H. VOLTAGE DROP

This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with 130.5(c)/ 160.6(c). For alterations, only the altered circuits must demonstrate compliance per 141.0(b)2Piii/ 180.2(b)4Bviic.

01	02	03	04	05	
Electrical Service Designation/Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method	Location of Voltage Drop Calculations[1]	Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector	
				Pass	Fail

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:**	**(Page 3 of 4)**
	Date Prepared:	3/29/2024

H. VOLTAGE DROP

MS3	☒	Voltage drop less than 5%	☐	Permitted by CA Elec Code (Exception to 130.5(c))*	Contractor Responsible		☐ ☐

** NOTES: If "Permitted by CA Elec Code *" is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*

[1] FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".

I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

This section does not apply to this project.

J. ELECTRIC READY BUILDINGS

This section does not apply to this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-ELC-E - Must be submitted for all buildings

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:**	**(Page 4 of 4)**
Project Address: 1010 AIRPORT RD	**Date Prepared:**	3/29/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Richard Smith	Documentation Author Signature:
Company: HCS Engineering, Inc.	Signature Date:
Address: 4512 Feather River Dr #F	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Stockton CA 95219	Phone: 2094788270

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Richard Smith	Responsible Designer Signature:
Company: HCS Engineering	Date Signed: 2024-03-29
Address: 4512 Feather River Dr #F	License:
City/State/Zip: Stockton CA 95219	Phone: 2094788270

REVISIONS

ID	DATE	BY	DESCRIPTION
1	2024-09-10	LM	COORDINATION

REGISTERED PROFESSIONAL ENGINEER
RICHARD C. SMITH
No. E14303
Exp. 6-30-25
ELECTRICAL
STATE OF CALIFORNIA

R.C.E. 27

DATE - PROJECT ENGINEER

QK
TEL: (209) 723-0696
2610 PARK AVENUE
MERCED, CA 95348

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7000

ANIMAL SHELTER REHABILITATION

HCS Engineering
50 years
4512 Feather River Dr #F, Stockton, CA 95219
209-478-8270 | www.hcs-eng.com
■ Richard C. Smith, PE richard@hcs-eng.com
□ Bhupendra Patel, PE bhupendra@hcs-eng.com
□ Elizabeth Aguilar elizabeth@hcs-eng.com

PROJECT = 2023.173

PROJECT NO.:	220150
DRAWN BY:	
QA/QC BY:	
SCALE:	
SHEET NO.:	

FILE: C:\Users\12093\Box\HCS\2023\101-200\2023.173 Los Banos Animal Shelter\ET24A.dwg Sep 13, 2024 - 3:15pm 12093

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.	
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:** (Page 1 of 7)
Project Address: 1010 AIRPORT RD	**Date Prepared:** 3/29/2024

A. GENERAL INFORMATION

01	Project Location (city)	LOS BANOS	04	Total Illuminated Hardscape Area (ft²)	11161
02	Climate Zone	12			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐ LZ-0: Very Low - Undeveloped Parkland	☒ LZ-2: Moderate - Urban Clusters	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval			
☐ LZ-1: Low - Rural Areas	☐ LZ-3: Moderately High - Urban Areas				
05	Occupancy Types within Project				
● Office ● Support Areas ● Warehouse					

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02	
☐ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6	
☒ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)?	● Yes ○ No
03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%	0	

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:** (Page 2 of 7)
	Date Prepared: 3/29/2024

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv												Compliance Results	
01		02		03		04		05		06		07	08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
532	+	---	+	---	+	---	+	---	OR	---	=	532	≥	302	COMPLIES
Shielding Compliance (See Table G for Details)															N/A
Controls Compliance (See Table H for Details)															COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:** (Page 3 of 7)
	Date Prepared: 3/29/2024

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H, and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires [2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)1[4]	Field Inspector	
										Pass	Fail
S1	POLE LIGHT	☐ Linear	137	Mfr. Spec	1	New	☐	137	NA: < 6200 lumens	☐	☐
W1	PARKING AREA LIGHT WALL MOUNT	☐ Linear	33	Mfr. Spec	5	New	☐	165	NA: < 6200 lumens	☐	☐
							Total Design Watts:	302			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[2] *FOOTNOTES: Authority Having Jurisdiction may ask for luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)*
[2] *For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*
[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)*

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:** (Page 4 of 7)
	Date Prepared: 3/29/2024

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail
DOG RUN	Photocontrol	Provided	Provided	☐	☐
PARKING	Photocontrol	Provided	NA: Not permitted by H&LS	☐	☐
PATIO	Photocontrol	Provided	NA: Not permitted by H&LS	☐	☐

[1] *FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.*
[2] *Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.*
[3] *Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:** (Page 5 of 7)
	Date Prepared: 3/29/2024

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.
Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

	01			
	"Use it or lose it" Allowance (select all that apply) (select all that apply)			
☒ General Hardscape Allowance Table I (below)	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Alowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
DOG RUN	7050	0.019	134	341	0.2	51.2	185
PARKING	2408	0.019	45.8	280	0.2	42	88
PATIO	1703	0.019	32.4	176	0.2	26.4	59
					Initial Wattage Allowance for Entire Site (Watts):		200
					Instances of Initial Wattage Allowance (LZ 0 only)[1]		
					Total General Hardscape Allowance (Watts):		532

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:** (Page 6 of 7)
	Date Prepared: 3/29/2024

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	DOG RUN ; PARKING ; PATIO ;

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: LOS BANOS ANIMAL SHELTER	**Report Page:** (Page 7 of 7)
Project Address: 1010 AIRPORT RD	**Date Prepared:** 3/29/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Richard Smith	Documentation Author Signature:
Company: HCS Engineering, Inc.	Signature Date: 2024-03-29
Address: 4512 Feather River Dr #F	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Stockton CA 95219	Phone: 2094788270

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Richard Smith	Responsible Designer Signature:
Company: HCS Engineering	Date Signed: 2024-03-29
Address: 4512 Feather River Dr #F	License:
City/State/Zip: Stockton CA 95219	Phone: 2094788270

REVISIONS

ID	DATE	BY	DESCRIPTION
1	2024-09-10	LM	COORDINATION

RICHARD C. SMITH
No. E14303
Exp. 6-30-25
REGISTERED PROFESSIONAL ENGINEER
ELECTRICAL
STATE OF CALIFORNIA

R.C.E. ??
PROJECT ENGINEER
DATE

HCS Engineering
50 years
4512 Feather River Dr #F, Stockton, CA 95219
209-478-8270 | www.hcs-eng.com
☒ Richard C. Smith, PE richard@hcs-eng.com
☐ Bhupendra Patel, PE bhupendra@hcs-eng.com
☐ Elizabeth Aguilar elizabeth@hcs-eng.com

PROJECT # 2023.173

QK
2918 PARK AVENUE
MERCED, CA 95348
TEL: (209) 729-0966
WWW.QUAD-KNOPF.COM

COPYRIGHT © QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7065

ANIMAL SHELTER REHABILITATION

PROJECT NO.: 220150
DRAWN BY:
QA/QC BY:
SCALE:
SHEET NO.:

FILE: C:\Users\12093\Box\HCS\2023\101-200\2023.173 Los Banos Animal Shelter\ET24B.dwg Sep 13, 2024 - 3:15pm 12093

WARNING POWERLINES OVERHEAD

811 Know what's below. Call before you dig.

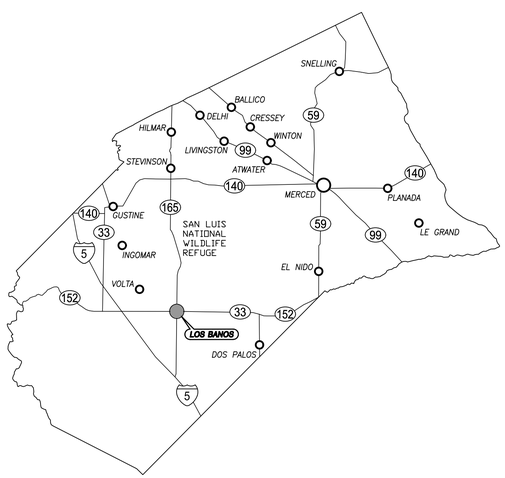
City of Los Banos

County of Merced — State of California

LOS BANOS ANIMAL SHELTER
LANDSCAPE PLANS



STATE MAP
NO SCALE



MERCED COUNTY
NO SCALE



LOCATION MAP
SCALE: 1"=500'

SHEET INDEX

1 - COVER SHEET
2 - LANDSCAPE PLAN
3 - IRRIGATION PLAN
4 - HYDROZONE PLAN
5 - IRRIGATION DETAILS
6 - IRRIGATION AND PLANTING DETAILS
7 - NOTES AND CALCULATIONS

DATE: 03/04/2024

APPLICANT: LOS BANOS ANIMAL SHELTER
1010 AIRPORT ROAD
LOS BANOS, CA 93635
(209) 827-7089

PROJECT LOCATION:
1010 AIRPORT ROAD

PROJECT AREAS:

TOTAL PLANTING AREA	497 SF
TOTAL TURF AREA	1,047 SF
TOTAL LANDSCAPE AREA	1,544 SF

PROJECT TYPE: PUBLIC

WATER SUPPLY: POTABLE, CITY OF LOS BANOS

STATIC PRESSURE: FIELD VERIFY

AT THE TIME OF PROJECT TURNOVER, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:
LANDSCAPE DOCUMENTATION PACKAGE
a. CERTIFICATE OF COMPLETION BY THE REGISTERED LANDSCAPE ARCHITECT
b. SOILS MANAGEMENT REPORT
c. MAINTENANCE SCHEDULE
d. IRRIGATION SCHEDULE

N
10' 0' 10'
SCALE: 1"= 10'

REVISIONS

ID	DATE	BY	DESCRIPTION

LICENSED LANDSCAPE ARCHITECT JAMES MAHONEY No. 5454 STATE OF CALIFORNIA 5-30-25 5-30-24 09-19-24 3-06

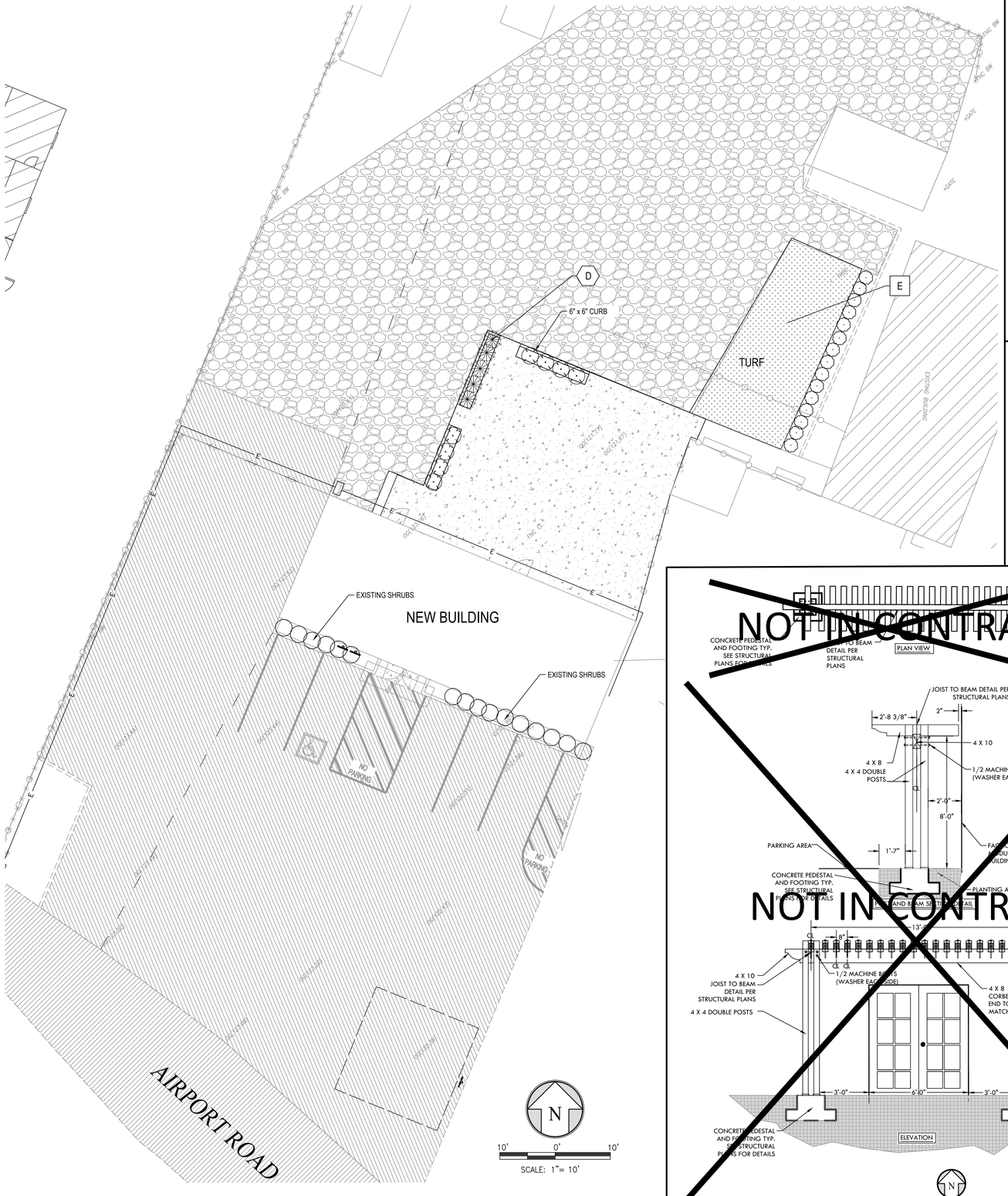
QK
2816 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2066
WWW.QKINC.COM

© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

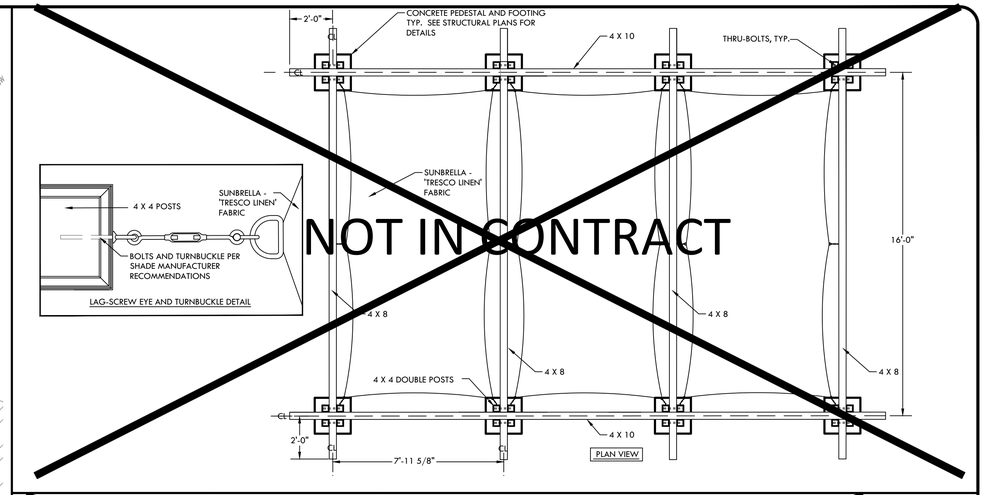
CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7056

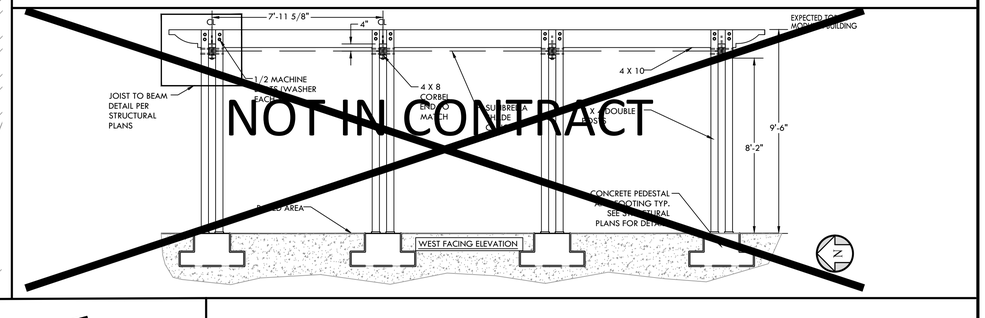
ANIMAL SHELTER REHABILITATION
COVER SHEET

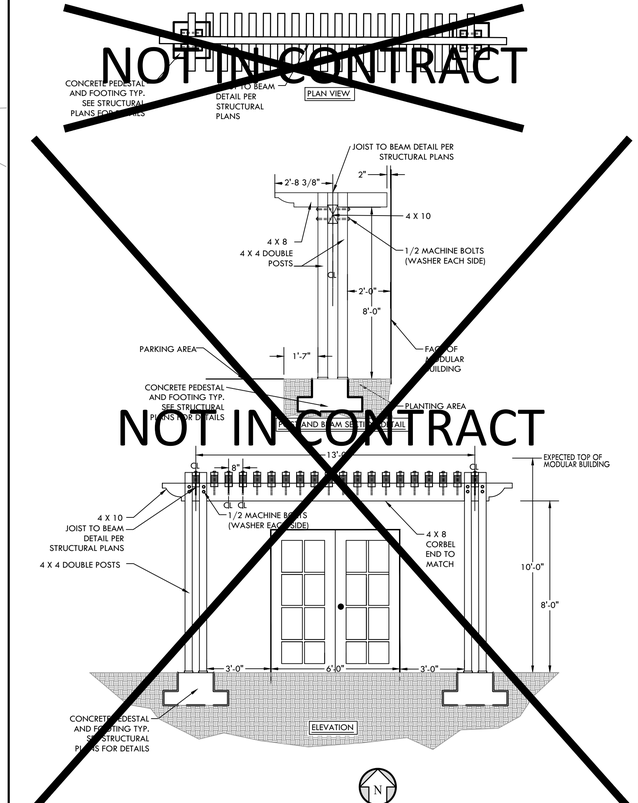
PROJECT NO.: 220150
DRAWN BY: SM/TI
QA/QC BY: JM
SCALE: AS SHOWN
SHEET NO.: 1 OF 7



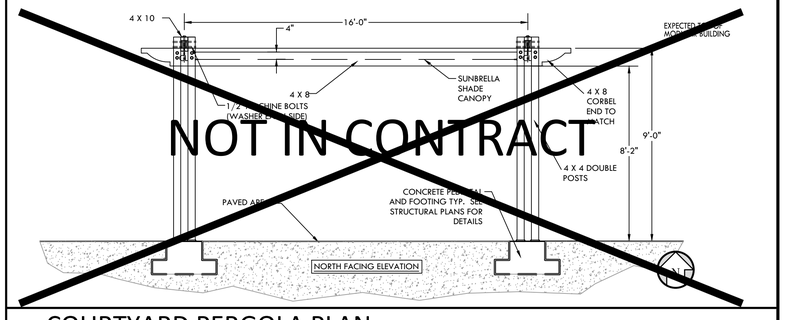
LANDSCAPE PLAN







ENTRY TRELLIS PLAN



COURTYARD PERGOLA PLAN

TREES

SYMBOL	CALLOUT	BOTANICAL NAME/COMMON NAME	SIZE	COMMENTS	WULCOS	QTY
	A	KOELREUTERIA PANICULATA / GOLDENRAIN	24" BOX	STANDARD	M	1

TREES — PLANT CALLOUT

SHRUBS

SYMBOL	CALLOUT	BOTANICAL NAME / COMMON NAME	SIZE	SPACING	WUCOLS	QTY
	B	CALLISTEMON VIMINALIS 'LITTLE JOHN' BOTTLEBRUSH	1 GAL	-	L	17
	C	RHAPHIOLEPSIS UMBELLATE 'MINOR' / YEDDO HAWTHORN	5 GAL	-	L	34
	D	SALVIA LEUCANTHA ' SANTA BARBARA' / MEXICAN BUSH SAGE	5 GAL	-	L	5

SHRUBS — PLANT CALLOUT

TURF

SYMBOL	CALLOUT	BOTANICAL NAME / COMMON NAME	SIZE	SPACING	WUCOLS	QTY
	E	BERMUDAGRASS HYBRID, RIO COLD TOLERANT IMPROVED BERMUDAGRASS (WARM SEASON ZONE 3-5) - STOVER SEEDS	SEED 1000 S.F.	3 LBS PER	H	1,047 SF

TURF — PLANT CALLOUT

LANDSCAPE PLANTING LEGEND

REVISIONS			
NO	DATE	BY	DESCRIPTION

LICENSED LANDSCAPE ARCHITECT — JAMIE MEDEIROS — No. 5445 — 5-30-25 — RENEWAL 08-31-26 — 09-15-24 — 306 — STATE OF CALIFORNIA

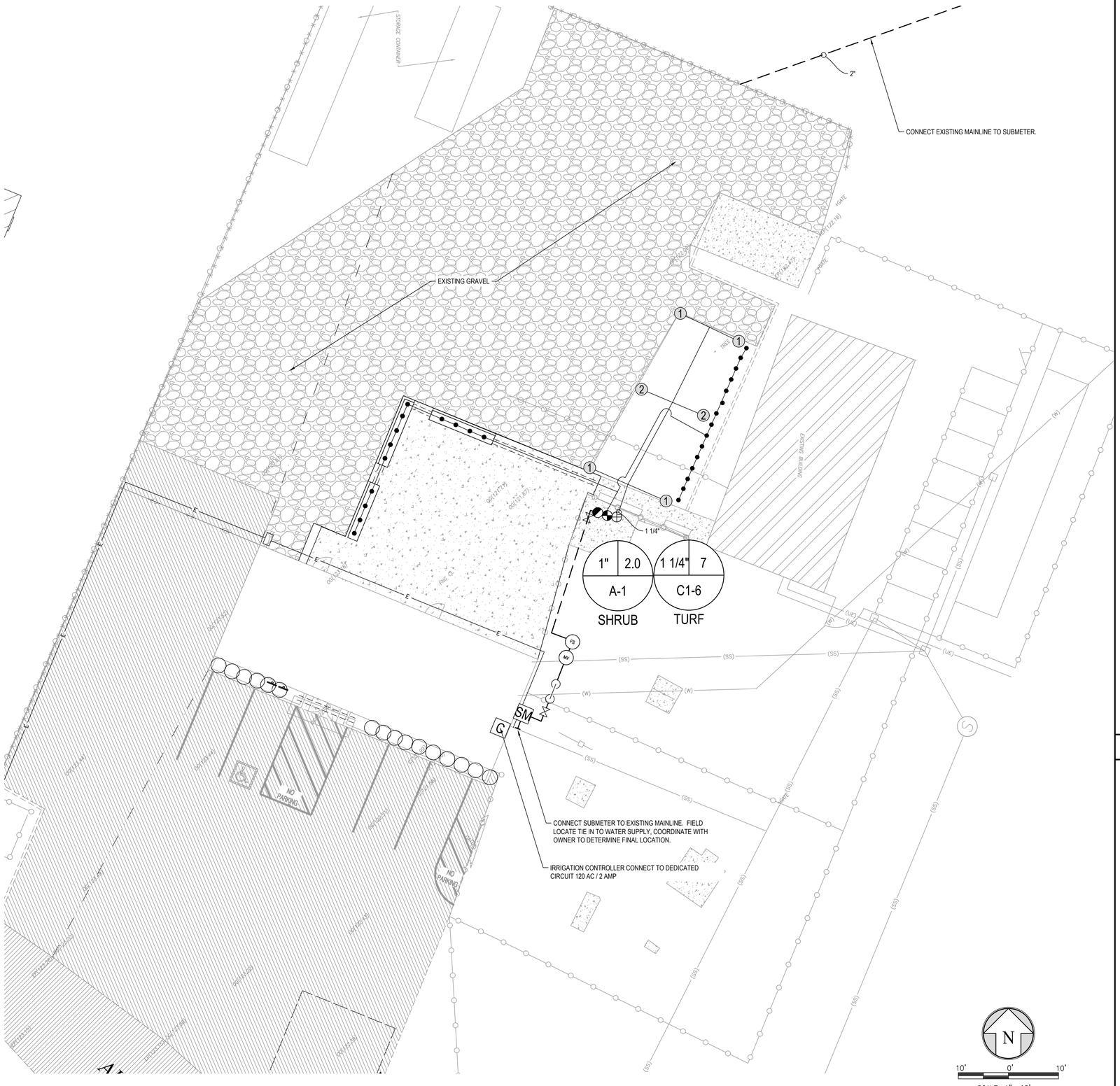
QK
TEL: (209) 723-2066
WWW.QKINC.COM
2816 PARK AVENUE
MERCED, CA 95348
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

CITY OF LOS BANOS PUBLIC WORKS
411 Modison Ave.
Los Banos, CA 93635
(209) 827 – 7056

ANIMAL SHELTER REHABILITATION

LANDSCAPE PLAN

PROJECT NO.:	220150
DRAWN BY:	SM/TI
QA/QC BY:	JM
SCALE:	AS SHOWN
SHEET NO.:	2 OF 7



IRRIGATION PLAN

1 1/2" PVC SCHEDULE 40 MAIN PIPE

PVC SCHEDULE 40 LATERAL PIPE, SEE CHART BELOW FOR SIZE

1 1/2" PVC SCHEDULE 40 SLEEVE, MINIMUM TWICE THE DIAMETER OF THE ENCLOSED PIPE

1 1/2" PVC SCHEDULE 40 SLEEVE, MINIMUM TWICE THE DIAMETER OF THE ENCLOSED PIPE

2" PVC SCHEDULE 40 SLEEVE FOR IRRIGATION WIRING

①②③ 90° - 360° HUNTER MP ROTATOR 1000 SERIES - PRS30-6-MP1000. SEE DETAIL 'L' ON SHEET 5

• TORO DB-04-PC PRESSURE COMPENSATING DRIP BUBBLER ON TORO SUPER FUNNY PIPE FLEXIBLE RISER, 4 GPH. SEE DETAIL 'M' ON SHEET 5

HUNTER RZWS-18-25-CV WITH RZWS-SLEEVE TWO PER TREE, .25 GPM. SEE DETAIL 'B' ON SHEET 5

HUNTER ICZ-101-LF 1" DRIP ZONE VALVE KIT, SEE PLAN FOR SIZE. SEE DETAIL 'F' ON SHEET 5

HUNTER ICV, SEE PLAN FOR SIZE. SEE DETAIL 'D' ON SHEET 5

1 1/2" BALL VALVE SPEARS TRUE UNION 2000, SR THREADED STYLE, 1829 SERIES. INSTALL PER MANUFACTURER REQUIREMENTS.

1 1/2" FEBCO LF8260 BACKFLOW PREVENTER WITH ENCLOSURE CAGE AND INSULATION BLANKET. SEE DETAILS 'E' AND 'F' ON SHEET 6

MV 1 1/2" MASTER VALVE HUNTER IBV-201G-FS

FS 1 1/2" CST FLOW SENSOR

SM 1" SUBWATER METER, REFER TO CIVIL PLANS FOR LOCATIONS. PROVIDE FIELD READING OF STATIC PRESSURE TO LANDSCAPE ARCHITECT

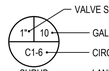
E ELECTRICAL SERVICE PER SEPARATE PLAN

C IRRIGATION CONTROLLER - HUNTER I-CORE IC-600 WITH BUILT IN SOLAR SYNC MODULE, WALL MOUNTED. SEE DETAIL 'H' ON SHEET 5, COORDINATE LOCATION WITH OWNER.

1 1/2" NIBCO 113-K WITH CROSS HANDLE BRASS GATE VALVE. SEE DETAIL 'G' ON SHEET 5

QUICK COUPLER, SEE PLAN FOR SIZE. SEE DETAIL 'J' ON SHEET 5

IRRIGATION PIPE SIZE PVC SCHEDULE 40
3/4" = 8 G.P.M.
1" = 12 G.P.M.
1 1/4" = 22 G.P.M.
1 1/2" = 30 G.P.M.
2" = 50 G.P.M.



NOTES:
1. SUPPLY ELECTRICAL SERVICE FOR IRRIGATION CONTROLLERS AND BOOSTER PUMP.
2. INSTALL IRRIGATION EQUIPMENT IN PLANTER, SHOWN IN HARDSCAPE FOR CLARITY ONLY.

IRRIGATION LEGEND

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.

JOHN H. MCGEE, JR. — LANDSCAPE ARCHITECT
LLA #4454 — LICENSE NUMBER
09-19-24 — DATE

REVISIONS

NO	DATE	BY	DESCRIPTION

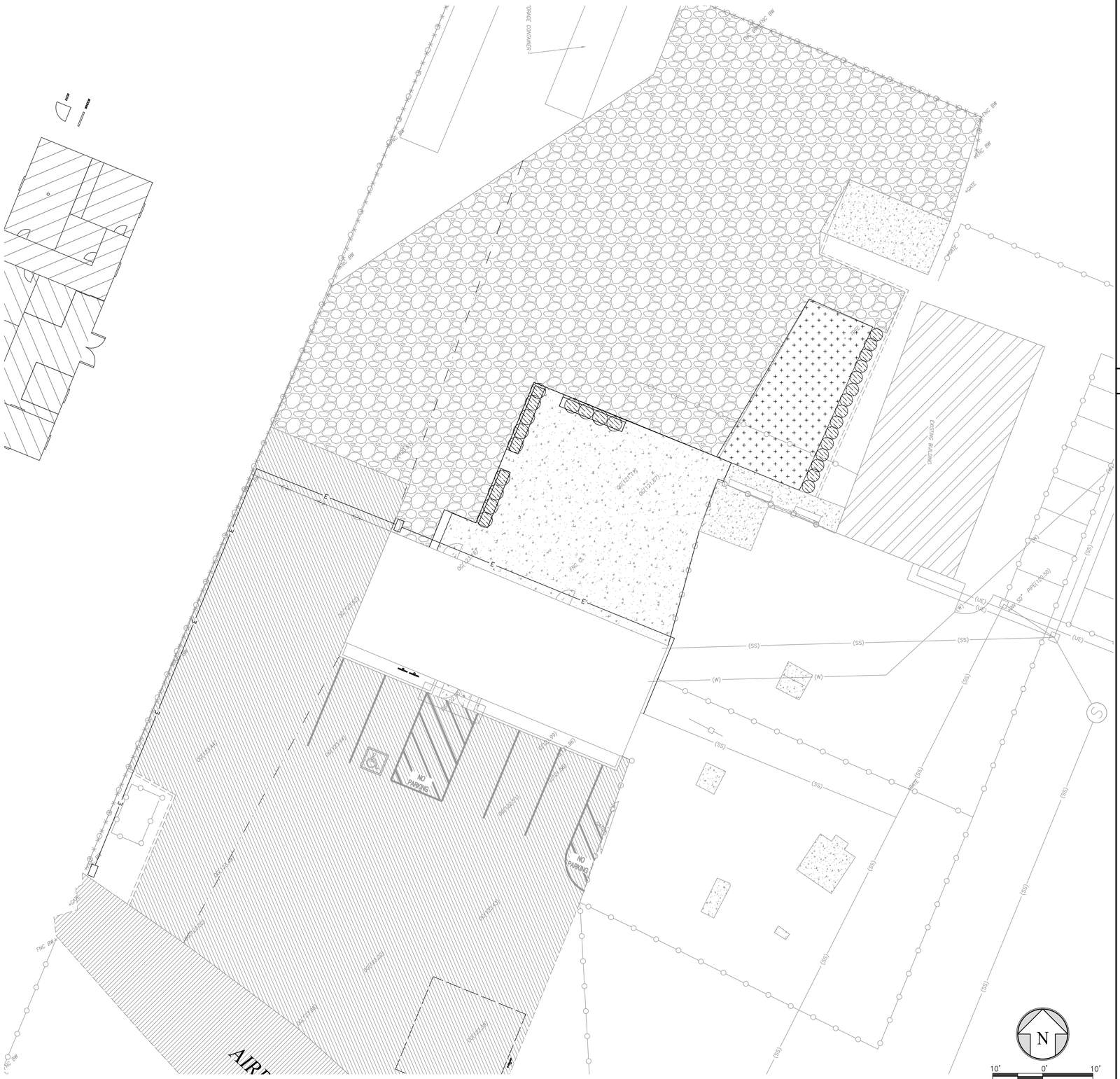
LICENSED LANDSCAPE ARCHITECT — JOHN H. MCGEE, JR. — No. 4454 — 06-30-25 — STATE OF CALIFORNIA

QK
2816 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2066
WWW.QKINC.COM
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 – 7056

ANIMAL SHELTER REHABILITATION
IRRIGATION PLAN

PROJECT NO.: 220150
DRAWN BY: SM/TI
QA/QC BY: JM
SCALE: AS SHOWN
SHEET NO.: 3 OF 7



HYDROZONE LEGEND

HYDROZONE PLAN

NO.	DATE	BY	DESCRIPTION

REVISIONS

LICENSED LANDSCAPE ARCHITECT
No. 5454
JOHN MARTIN MARTINEZ
STATE OF CALIFORNIA
5-30-25
09-19-24
09-19-24
JMM

QUAD KNOPF
2816 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2066
WWW.QKINC.COM
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

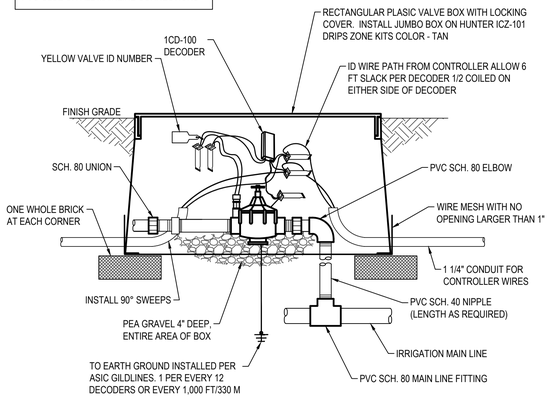
CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 – 7056

ANIMAL SHELTER REHABILITATION
HYDROZONE PLAN

PROJECT NO.:	220150
DRAWN BY:	SM/TI
QA/QC BY:	JM
SCALE:	AS SHOWN
SHEET NO.:	4 OF 7

D | IRRIGATION REMOTE / MASTER VALVE

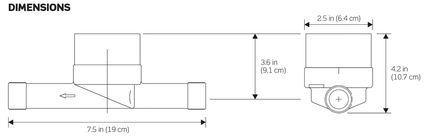
*ALL MAINLINE FITTINGS SCHEDULE 80
QUALITY PURPLE PRIMER AND MEDIUM GREY
PVC GLUE ON ALL MAINLINE CONNECTIONS



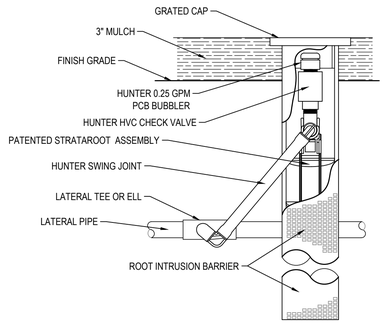
C | WATER SUBMETER



DIMENSIONS

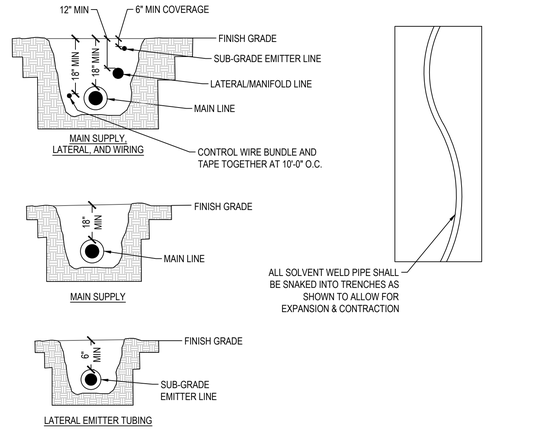


B | TREE BUBBLER



NOTE: INSTALL HUNTER FILTER
FABRIC SLEEVE-#RZWS-SLEEVE

A | TRENCHING



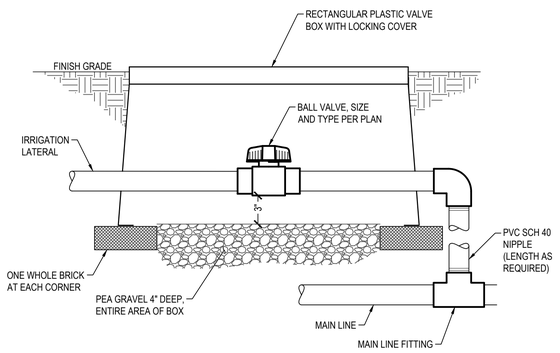
NOT TO SCALE

H | CONTROLLER

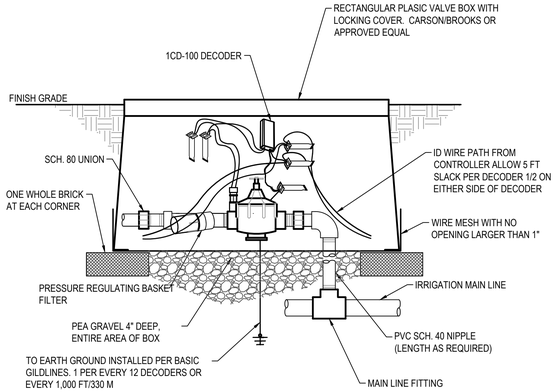
LEGEND:
1. IRRIGATION CONTROLLER (PRO-HC) PER PLAN
2. IRRIGATION CONTROL WIRE IN CONDUIT SIZE AND TYPE PER LOCAL CODES
3. ELECTRICAL SUPPLY CONDUIT CONNECT TO POWER SOURCE, J-BOX INSIDE CONTROLLER
4. ADJACENT SURFACE TO MOUNT CONTROLLER PER PLAN

NOTE:
MOUNT CONTROLLER LCD SCREEN AT EYE LEVEL, CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 VAC POWER SOURCE

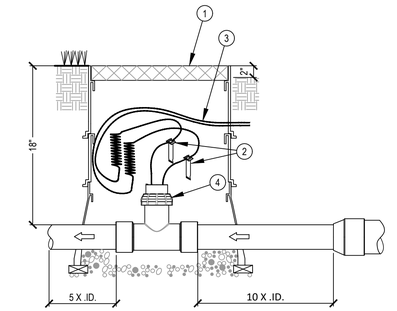
G | BALL VALVE



F | CONTROL ZONE KIT



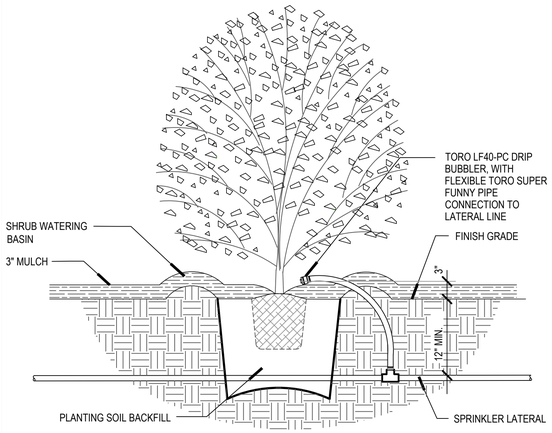
E | FLOW METER



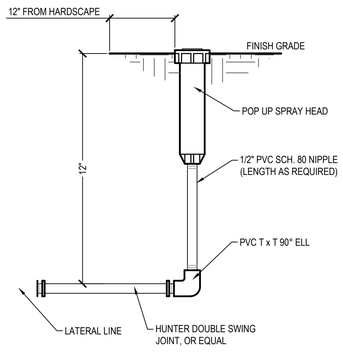
MINIMUM UPSTREAM AND DOWNSTREAM DISTANCES BETWEEN ANY VALVE OR FITTING AND THE FLOW SENSOR

1. PLASTIC VALVE BOX TO PROVIDE ACCESS.
2. WATERPROOF WIRE SPLICE, 3M SCOTCHPACK OF EQUIVALENT.
3. DIRECT BURIAL 1 PAIR, TWISTED SHIELDED CABLE—MINIMUM CONDUCTOR SIZE 20 AWG. DO NOT EXCEED 2,000 FEET IN LAYING DISTANCE FROM FLOW SENSOR TO IRRIGATION CONTROLLER
4. FLOW SENSOR - PER PLAN. SIZE FLOW SENSOR BASED ON REQUIRED G.P.M. NEEDED ON THE PROJECT.

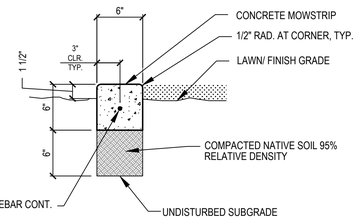
M | SHRUB BUBBLER



L | POP UP SPRAY

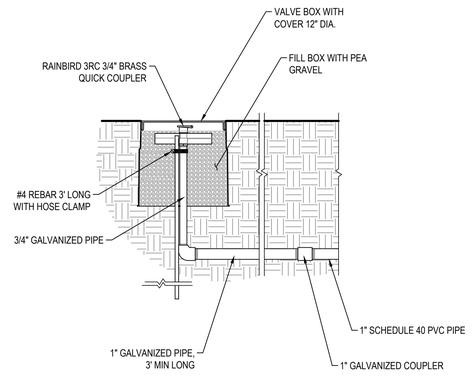


K | 6" X 6" CONCRETE MOWSTRIP



NOTE: CONTROL JOINTS EVERY 10'-0" O.C., EXPANSION JOINTS EVERY 30'-0" O.C.

J | QUICK COUPLER



ID	DATE	BY	DESCRIPTION
			REVISIONS

LICENSED LANDSCAPE ARCHITECT — JIM MAXWELL — No. 5464 — 5-30-25 — STATE OF CALIFORNIA

QK
TEL: (209) 723-2066
WWW.QKINC.COM
2816 PARK AVENUE
MERCED, CA 95348

© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

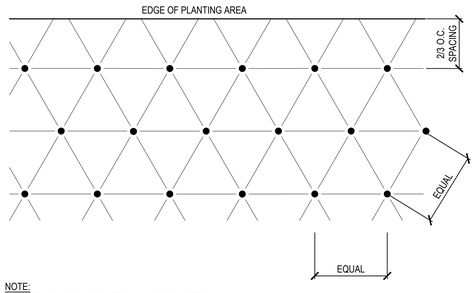
CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7056

ANIMAL SHELTER REHABILITATION
IRRIGATION DETAILS

PROJECT NO.:	220150
DRAWN BY:	SM/TI
QA/QC BY:	JM
SCALE:	NO SCALE
SHEET NO.:	5 OF 7

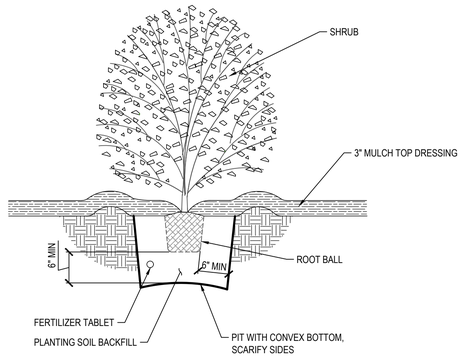
C:\Users\timot\Desktop\Work\Los Banos\Animal Shelter\Drawings\Irrigation Details.dwg, 11/17/2025 1:17:11 PM

D PLANTING GRID SPACING



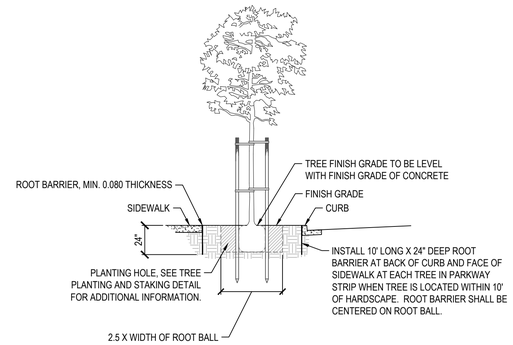
NOTE:
ALL SHRUBS/GROUNDCOVER SHALL BE PLANTED AT EQUAL SPACING (TRIANGULAR) UNLESS OTHERWISE INDICATED ON PLANS. SEE LEGEND FOR SPACING REQUIREMENTS.

C SHRUB PLANTING

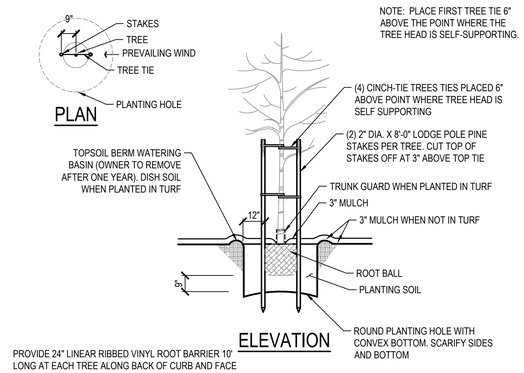


NOTE: PLANTING DEPTH TO BE DICTATED BY POINT OF FIRST ROOT FLAIR (EXCLUDING ADVENTITOUS ROOTS). ROOT BALL TO BE 1" ABOVE FINISH GRADE BY END OF MAINTENANCE PERIOD.

B ROOT BARRIER

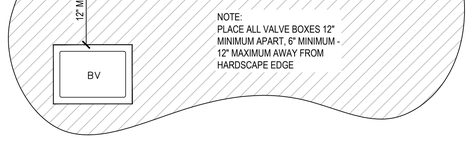


A TREE PLANTING

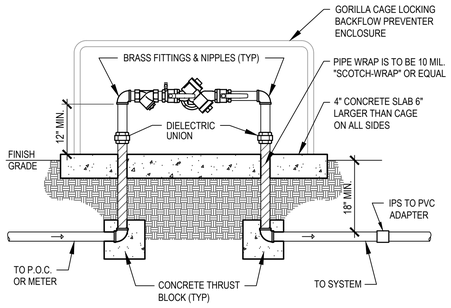


PROVIDE 24" LINEAR RIBBED VINYL ROOT BARRIER 10' LONG AT EACH TREE ALONG BACK OF CURB AND FACE OF CONCRETE WALK WHEN TREE IS PLANTED WITHIN 10' OF CURB OR WALK. UB-24 OR APPROVED EQUAL.

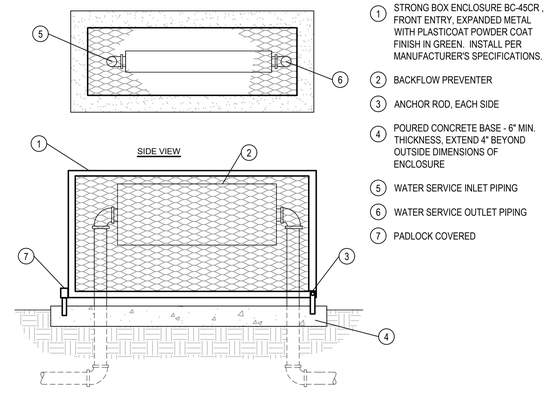
G SEPARATION OF IRRIGATION EQUIPMENT



F BACKFLOW PREVENTER



E BACKFLOW PREVENTER CAGE



1. STRONG BOX ENCLOSURE BC-45CR , FRONT ENTRY, EXPANDED METAL WITH PLASTICOAT POWDER COAT FINISH IN GREEN. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. BACKFLOW PREVENTER
3. ANCHOR ROD, EACH SIDE
4. POURED CONCRETE BASE - 6" MIN. THICKNESS, EXTEND 4" BEYOND OUTSIDE DIMENSIONS OF ENCLOSURE
5. WATER SERVICE INLET PIPING
6. WATER SERVICE OUTLET PIPING
7. PADLOCK COVERED

PROVIDE INSULATION BLANKET FOR BACKFLOW PREVENTER

NO	DATE	BY	DESCRIPTION
			REVISIONS

LICENSED LANDSCAPE ARCHITECT — JAMES MICHAEL — No. 5454 — 5-30-25 — 6-30-24 — 09-19-24 — 3-26 — STATE OF CALIFORNIA

QK
2816 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2066
WWW.QKINC.COM

© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 – 7056

ANIMAL SHELTER REHABILITATION
IRRIGATION AND PLANTING DETAILS

PROJECT NO.:	220150
DRAWN BY:	SM/TI
QA/QC BY:	JM
SCALE:	NO SCALE
SHEET NO.:	6 OF 7

Last Modified: Wednesday, March 27, 2024 11:11:18 AM
Last Saved By: Jessica Martinez
File Name: C:\Users\jessica.martinez\Documents\220150_Animal Shelter_Irrigation_Details_jm.dwg

Los Banos Animal Shelter Rehabilitation - Water Efficient Landscape Worksheet							
Reference Eto	49.8						
Hydrozone/Plant Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (S.F.)	ETAF x Area	Estimated Total Water Use (ETWU)
Regular Landscape Area							
HZ1 - Low (Shrubs)	0.2	Drip	0.81	0.25	440	109	3354
HZ3 - Moderate (Trees)	0.4	Drip	0.81	0.49	255	126	3888
HZ5 -High (Turf)	0.6	Spray	0.74	0.81	1046	2675	82593
				Totals	1741	2910	89836
Special Landscape Area							
				1		0	0
ETWU Total							89836
MAWA Total	Eto	0.62	ETAF	LA	1-ETAF	SLA	
	49.8	0.62	0.45	1741	0.55	0	24190
MAWA-ETWU=							-65646

REVISIONS

ID	DATE	BY	DESCRIPTION



1. THIS DESIGN IS DIAGRAMMATIC. EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND IS TO BE INSTALLED WITHIN PLANTED AREAS.
2. SYSTEM DESIGNED WITH POC TO BE FIELD VERIFIED TO EXISTING MAINLINE. FIELD VERIFY PSI.
3. IRRIGATION CONTROLLER
   A. FURNISH LOW VOLTAGE SYSTEM MANUFACTURED EXPRESSLY FOR CONTROL OF AUTOMATIC CIRCUIT VALVES OF UNDERGROUND IRRIGATION SYSTEMS. PROVIDE UNIT CAPACITY TO SUIT NUMBER OF CIRCUITS REQUIRED.
   B. EXTERIOR CONTROL ENCLOSURE TO BE MANUFACTURER'S STANDARD WEATHERPROOF ENCLOSURE WITH LOCKING COVER, COMPLYING WITH NFPA 70 (NATIONAL ELECTRIC CODE)
   C. TRANSFORMER TO BE INTERNAL TYPE TO CONVERT BUILDING SERVICE VOLTAGE TO CONTROL VOLTAGE OF 24 VOLTS.
   D. EACH CIRCUIT VARIABLE FROM APPROXIMATELY 1 TO 99 MINUTES. INCLUDE SWITCH FOR MANUAL OR AUTOMATIC OPERATION OF EACH CIRCUIT.
   E. ADJUSTABLE DUAL PROGRAM, SOLID STATE ELECTRONIC 24-HOUR CLOCK TO OPERATE ANY TIME OF DAY AND SKIP ANY DAY IN A 7 OR 14 DAY PERIOD. EQUIP WITH BATTERY BACK UP TO MAINTAIN TIME KEEPING DURING POWER OUTAGES. ALLOW FOR MANUAL OR SEMI-AUTOMATIC OPERATION WITHOUT DISTURBING PRESET AUTOMATIC OPERATION.
4. PROVIDE PVC SCHEDULE 40 SLEEVES FOR ALL PIPES AND CONTROL WIRE UNDER PAVING PRIOR TO PAVING. SLEEVE TO BE 2X THE DIAMETER OF THE PIPE.
5. PRESSURE PIPE SHALL COMPLY WITH THE FOLLOWING AND HAVE A MINIMUM 18" COVERAGE:
   A. PVC PLASTIC PIPE, ASTM D 1785 , PVC 1120, SCHEDULE 40, 160 PSI.
   B. GALVANIZED STEEL PIPE, ASTM A 120, SCHEDULE 40.
6. LATERAL PIPE (DOWNSTREAM FROM CIRCUIT VALVES) SHALL COMPLY WITH THE FOLLOWING AND HAVE A MINIMUM 12" COVERAGE:
   A. PVC PLASTIC PIPE, ASTM D 2241 , PVC 1120, SDR 21, 200 PSI.
7. VALVES: MANUFACTURER'S STANDARD, OF TYPE AND SIZE INDICATED, AND AS FOLLOWS:
   A. AUTOMATIC CIRCUIT VALVES: PLASTIC-BODIED GLOBE OR ANGLE VALVES OPERATED BY LOW-VOLTAGE SOLENOID, NORMALLY CLOSED, MANUAL FLOW ADJUSTMENT.
8. VALVE BOX: MANUFACTURER'S STANDARD PLASTIC UNIT, WITH LABELED COVER, FOR EACH GROUP OF VALVES. NO MORE THAN 2 VALVES PER VALVE BOX.
9. IRRIGATION WIRE TO BE 12 AWG MINIMUM. PROVIDE 3 SPARE WIRES FROM THE CONTROLLER TO ALL VALVES. PROVIDE A 5' MINIMUM LOOP FOR EACH WIRE IN EACH VALVE BOX IN CASE OF MAINTENANCE.
10. IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST ALL HEADS FOR MAXIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS. MAKE MINOR ADJUSTMENTS AS NECESSARY TO AVOID PLANTINGS AND OTHER OBSTRUCTIONS, SUCH AS SIGN STANDARDS AND LIGHT POLES.

IRRIGATION NOTES

1. SPRAY A NONSELECTIVE TRANSLOCATIVE HERBICIDE, AS RECOMMENDED BY MANUFACTURER'S SPECIFICATION, TO ERADICATE THE GERMINATED WEEDS. LEAVE SPRAYED PLANTS INTACT FOR AT LEAST 15 DAYS IN COLD WEATHER AND 10 DAYS IN WARM WEATHER.
2. PRIOR TO PLANTING OPERATIONS, CONTRACTOR SHALL PROVIDE SOIL SAMPLES TO A CERTIFIED LAB TO PROVIDE RECOMMENDATIONS FOR SOIL AMENDMENTS TO BE ADDED TO PLANTER BEDS. SAMPLE LOCATIONS ON PLAN FOLLOW SOILS LAB INSTRUCTIONS ON SAMPLES. PROVIDE A COPY OF THE REPORT TO THE CITY AND QK. INCORPORATE COMPOST AT A MINIMUM RATE OF 4 CUBIC YARDS PER 1,000 SQUARE FEET OF PLANTING AREA TO A DEPTH OF 6" INTO THE SOIL. FINAL RECOMMENDATIONS PER APPROVED SOILS REPORT WILL SUPERSEDE RECOMMENDED MINIMUMS.
   NOTE: SOILS WITH GREATER THAN 6% ORGANIC MATTER IN THE TOP 6 INCHES OF SOIL ARE EXEMPT FROM ADDING COMPOST AND TILLING
3. .ALL PLANTER AREAS NOT IN TURF REQUIRE 3" SUPERIOR RED FIR BARK. SEND SAMPLE TO APPROVING AGENCY FOR ACCEPTANCE.
4. AT PLANTING STAGE - TREES SHALL BE ADJUSTED SO AT MATURITY THE DRIP LINE SHALL BE A MINIMUM OF 5 FEET FROM ANY POWER POLE, GUIDE WIRE, AND STREETLIGHT.
5. TILL SOIL A MINIMUM OF 12" AND ADD THE FOLLOWING AMENDMENTS:
   4 CUBIC YARDS OF SUPERIOR ALL GREEN COMPOST PER 1000 S.F.
   50 LBS. OF GYPSUM PER 1000 S.F.
   50 LBS. OF TERRA C HUMATE PER 1000 S.F.
   13 LBS. OF BEST TRIPLE-PRO 15-15-15 PER 1000 S.F.
   4.5 LBS. OF BEST NK BASIC 22-0-6 PER 1000 S.F.
6. PLANTING SOIL MIXTURE: BACKFILL FOR TREES AND SHRUBS PROVIDE SPECIFIED MATERIALS IN NOT LESS THAN THE FOLLOWING QUANTITIES:
   7 PARTS OF SCREENED TOPSOIL, SCREEN PASSING NOT LARGER THAN 1" IN ANY DIRECTION.
   3 PARTS OF SUPERIOR ALL GREEN COMPOST.
   CONTROLLED RELEASE FERTILIZER TABLETS 20-10-5
7. TREES SHALL BE STAKED WITH 2 LODGE POLE PINE TREE STAKES. TREE TIES PER DETAILS.
8. ANY CHANGES IN PLANT MATERIAL MUST BE APPROVED BY THE APPROVING AGENCY IN WRITING.
9. AFTER FINAL APPROVAL OF THE WORK, THE PROJECT SHALL BE MAINTAINED FOR 90 DAYS FROM N.O.C. THIS INCLUDES KEEPING THE PLANTERS COMPLETELY FREE OF TRASH AND WEEDS AT ALL TIMES DURING THE MAINTENANCE PERIOD. ADD A BALANCED FERTILIZER AT A RATE OF 1 L. B. / 1,000 SQUARE FEET 2 WEEKS PRIOR TO CITY'S FINAL ACCEPTANCE.
10. AFTER COMPLETION OF ALL OPERATIONS, CONTRACTOR SHALL REMOVE ALL TRASH, EXCESS SOIL AND OTHER DEBRIS. ALL WALKS, WALLS AND PAVEMENT SHALL BE SWEPT CLEAN; LEAVING THE ENTIRE AREA IN A NEAT, ORDERLY CONDITION.
11. AFTER PLANTING IS COMPLETE, THE CONTRACTOR SHALL APPLY A PRE-EMERGENT HERBICIDE SUCH AS "RONSTAR" TO ALL NON-SEEDED AREAS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
12. TREE MUST CONFORM TO SPECIFICATION GUIDELINES FOR CONTAINER GROWN TREES PER ANSI Z60.1 11. TREES MUST HAVE NURSERY TAGS WITH GENUS, SPECIES AND CULTIVAR.
13. CONTRACTOR IS REQUIRED TO SUBMIT PHOTOS OF ALL PLANT MATERIALS IN THE APPROPRIATE SIZE AND SHAPE FOR APPROVAL FROM QK INC.

PLANTING NOTES

MWELO

Pressure Loss Calculations - Los Banos Animal Shelter Rehabilitation					
Controller: 1	Station: C 1-6	Max: GPM 15	Available PSI: 50		
Main Line Losses					PSI Loss
1 1/2" Meter					0
1 1/2" Backflow Preventor (FEBCO 825Y)					6.5
1 1/2" Main Line					2
1 1/2" Master Valve					0
1 1/2" Ball Valve (SPEARES-1829 SERIES)					0.5
Fittings (10% OR 5 PSI)					0.9
				Sub Total:	9.9
Lateral Section Losses					
1" Hunter (ICZ-101-LE-AS-ADJ)					3
Lateral Pipe					6
Fittings (10% OR 5 PSI)					0.9
				Sub Total:	19.8
PSI Loss for system					
Operating Pressure					30
Elevation Adjustment					0
				Sub Total:	49.8
Available PSI at the Meter					50
Minus total PSI loss for System					49.8
RESIDUAL PSI					0.2

PRESSURE LOSS CALCULATIONS

QK
2816 PARK AVENUE
MERCED, CA 95348
TEL: (209) 723-2066
WWW.QKINC.COM
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

CITY OF LOS BANOS PUBLIC WORKS
411 Madison Ave.
Los Banos, CA 93635
(209) 827 - 7056

ANIMAL SHELTER REHABILITATION
NOTES AND CALCULATIONS

PROJECT NO.: 220150
DRAWN BY: SM/TI
QA/QC BY: JM
SCALE: NO SCALE
SHEET NO.: 7 OF 7

I:\projects\220150 Animal Shelter Rehabilitation\Drawings\Plans\Sheets\7 Notes and Calculations.dwg, 7/17/2025 7:11:17 AM