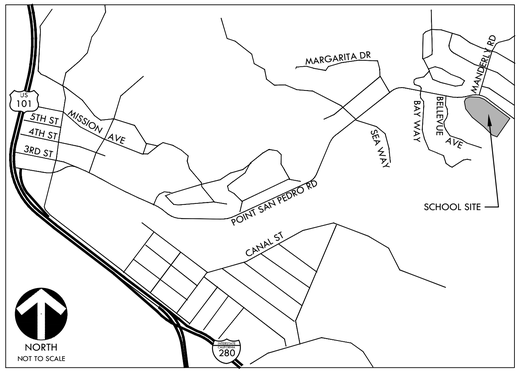
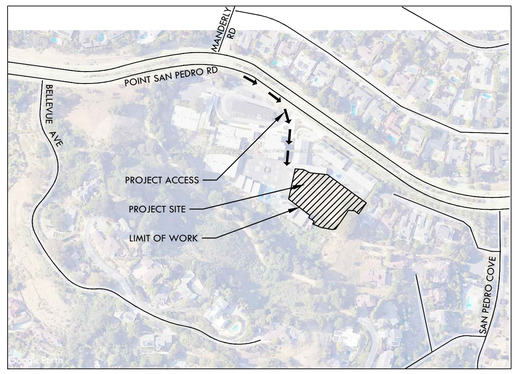
PROJECT MAPS



VICINITY MAP



SITE MAP

CONSTRUCTION DRAWINGS FOR

SAN PEDRO ELEMENTARY SCHOOL ATHLETIC FIELD IMPROVEMENTS

498 POINT SAN PEDRO RD
SAN RAFAEL, CA 94901
VERDE DESIGN, INC. PROJECT NO. 2401200

PREPARED BY

REGISTERED PROFESSIONAL ENGINEER — DEVIN CONWAY — No. C-56494 — Signature — EXPIRATION DATE: June 30, 2025 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — STEPHEN R. ZAJICEK — No. E 10372 — Exp. 09-30-26 — ELECTRICAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — ERIC N. KREAGER — No. SE 3266 — Exp. 3-31-2025 — STRUCTURAL — STATE OF CALIFORNIA

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FBA Job Number: 1175.008

MKM & Associates
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ESTABLISHED 1983
5880 Commerce Blvd. Suite 105
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CONTACT INFORMATION

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SAN RAFAEL CITY SCHOOLS	TIM RYAN	(415) 492-3285
CIVIL ENGINEER/ LANDSCAPE ARCHITECT		
VERDE DESIGN INC.	WES DOWNING	(707) 800-4204
	DEVIN CONWAY	(408) 850-3420
ELECTRICAL ENGINEER		
FBA ENGINEERING	STEPHEN ZAJICEK	(949) 852-9995
STRUCTURAL ENGINEER		
MKM STRUCTURAL ENGINEERS	ERIC KREAGER	(707) 578-8185
	NICK STUART	

SCOPE OF WORK

SCOPE OF WORK TO INCLUDE BUT NOT LIMITED TO: SITE DEMOLITION AND REMOVAL OF EXISTING FENCING AND TURF. PROPOSED IMPROVEMENTS INCLUDE CONSTRUCTION OF NEW SYNTHETIC TURF MULTI-SPORT PLAYING FIELD WITH STRIPING FOR KICKBALL AND SOCCER, 12 FOOT TALL BACKSTOP, PLANTERS WITH SHADE TREES, SEAT WALL, KINDERGARTEN SYNTHETIC TURF AREA WITH 6 FOOT TALL PERIMETER FENCING, FOUR POST WOVEN SHADE STRUCTURE, PICNIC TABLES, BENCHES, AND PLANTING OF SOUND BARRIER TREES

BID ALTERNATES

BID ALTERNATE #01 (ADD ALTERNATE): ELECTRICAL OUTLETS AND CAMERA CONDUITS
IF BID ALTERNATE IS ACCEPTED, SCOPE OF WORK TO INCLUDE BUT NOT LIMITED TO: INSTALLATION OF NEW POWER OUTLETS AT NEW SHADE STRUCTURE AND CONDUITS FOR FUTURE CAMERA AT SHADE STRUCTURES.

APPLICABLE CODES

1. 2022 CBC CHAPTER 35: PROVIDE ALL THE APPLICABLE/ADOPTED STANDARDS. WHERE A PARTICULAR STANDARD IS REFERENCED IN THE CODE BUT DOES NOT APPEAR AS AN ADOPTED STANDARD IT MAY STILL BE USED. APPLY ONLY THE PORTION OF THE STANDARD THAT IS APPLICABLE TO THE CODE SECTION WHERE THE STANDARD IS REFERENCED, NOT THE ENTIRE STANDARD.

   2022 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
   2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
   (2021 INTERNATIONAL BUILDING CODE VOLUMES 1-2)
   2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
   (2020 NATIONAL ELECTRICAL CODE)
   2022 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R.
   (2021 UNIFORM MECHANICAL CODE)
   2022 CALIFORNIA PLUMBING CODE (CDC), PART 5, TITLE 24 C.C.R.
   (2021 UNIFORM PLUMBING CODE)
   2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.
   2022 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
   (2021 INTERNATIONAL FIRE CODE AND 2022 CALIFORNIA AMENDMENTS)
   2022 CALIFORNIA EXISTING BUILDING CODE, PART 10, TITLE 24 C.C.R.
   (2021 INTERNATIONAL EXISTING BUILDING CODE)
   2021 CALIFORNIA "GREEN" BUILDING REQUIREMENTS OR CAL GREEN, PART 11, TITLE 24 C.C.R.
   2022 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
   2022 TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

   LIST OF FEDERAL CODES AND STANDARDS (IF APPLICABLE)
   AMERICANS WITH DISABILITIES ACT (ADA), TITLE II OR TITLE III
   FOR TITLE II: UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS) — 28 CFR 35.151(C)
   OR ADA STANDARDS FOR ACCESSIBLE DESIGN (APPENDIX A OF 28 CFR PART 35)
   FOR TITLE III: ADA STANDARDS FOR ACCESSIBLE DESIGN (APPENDIX A OF 28 CFR PART 36) — 28 CFR 36.406
   2010 AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN

NOTE: TITLE II APPLIES TO PROJECTS FUNDED AND/OR USED BY STATE AND LOCAL GOVERNMENT SERVICES. TITLE III COVERS PUBLIC ACCOMMODATIONS AND COMMERCIAL FACILITIES. DEPENDING ON THE USE AND FUNDING, BOTH TITLE MAY APPLY TO THE PROJECT.

NFPA 13	AUTOMATIC SPRINKLER SYSTEMS	2022 EDITION
NFPA 14	STANDPIPE SYSTEMS	2019 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2021 EDITION
NFPA 17A	WET CHEMICAL EXTINGUISHING SYSTEMS	2021 EDITION
NFPA 20	STATIONARY FIRE PUMPS	2019 EDITION
NFPA 24	PRIVATE FIRE SERVICE MAINS	2019 EDITION
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE (CALIFORNIA AMENDED) (NOTE SEE UL STANDARD 1971 FOR "VISUAL DEVICES)	2022 EDITION
NFPA 253	CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS	2023 EDITION
NFPA 2001	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2022 EDITION
ASME 17.1	ELEVATOR STANDARD	2019 EDITION

REFERENCE CODE SECTIONS FOR APPLICABLE STANDARDS - 2022 CALIFORNIA BUILDING CODE (FOR SFM) REFERENCED STANDARDS CHAPTER 35

ADA STANDARD FOR ACCESSIBLE DESIGN (APPENDIX A OF 28 CFR PART 36)

2. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER REPRESENTATIVE BEFORE PROCEEDING WITH THE WORK.

3. ALL EXISTING FIRE EXTINGUISHING SYSTEMS ARE IN COMPLIANCE WITH UL 300, CBC 904.11, CFC 904.11.

GENERAL NOTES

1. PRIOR TO BIDDING, THE GENERAL CONTRACTOR SHALL VISIT & INSPECT THE SITE & FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AFFECTING THE NEW WORK. THE GENERAL CONTRACTOR SHALL NOT DISPUTE, COMPLAIN OR ASSERT THAT THERE IS ANY MISUNDERSTANDING IN REGARDS TO LOCATION, EXTENT, NATURE OR AMOUNT OF WORK TO BE PERFORMED UNDER THIS CONTRACT DUE TO THE CONTRACTOR'S FAILURE TO INSPECT THE SITE. CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS, REQUIRING WORK, WHICH ARE NOT COVERED IN THE CONTRACT DOCUMENTS.
2. NO CONSTRUCTION SHALL COMMENCE WITHOUT THE OFFICIAL NOTICE TO PROCEED FROM THE OWNER.
3. THE GENERAL CONTRACTOR & SUBCONTRACTORS ARE RESPONSIBLE FOR LOCATING & VERIFYING ALL EXISTING UNDERGROUND UTILITIES IN ALL AREAS OF NEW WORK PRIOR TO COMMENCEMENT OF EXCAVATION. EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ROUTING LOCATIONS AS BEST DETERMINED FROM EXISTING DRAWINGS AND THE OWNER, BUT SHOULD NOT BE CONSTRUED TO REPRESENT ALL OF THE EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES THAT MAY BE AFFECTED BY NEW FACILITIES IN THIS CONTRACT. VERIFY ACTUAL LOCATION AND DEPTH OF UTILITIES, AND REPORT POTENTIAL CONFLICTS TO THE OWNER PRIOR TO EXCAVATING FOR NEW FACILITIES.
4. CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO PROTECT ALL EXISTING UTILITIES, WHETHER SHOWN OR NOT, IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO EXISTING UTILITIES CAUSED BY ITS OPERATIONS.
5. THE CONTRACTOR SHALL PROTECT ALL EXISTING ITEMS WITHIN SITE IMPROVEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR ALL DAMAGED AREAS TO THEIR ORIGINAL CONDITION OR BETTER AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
6. DIMENSIONS AND LOCATIONS OF EXISTING FACILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER.
7. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA FIRE CODE AND ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES, AS WELL AS ADAPTED STANDARDS.
8. ALL NOTES ARE FOR GENERAL REFERENCE IN CONJUNCTION WITH, AND AS A SUPPLEMENT TO, THE WRITTEN SPECIFICATIONS AND DETAILS ASSOCIATED WITH THE CONTRACT DOCUMENTS.
9. THIS DRAWING SET SHALL BE USED IN CONJUNCTION WITH THE CSI FORMAT SPECIFICATIONS PUBLISHED IN BOOK FORM. COMBINED, THEY ARE HEREIN REFERRED TO AS THE "CONTRACT DOCUMENTS".
10. DIMENSIONS ON WORKING DRAWINGS TAKE PRECEDENCE OVER MEASURED ELEMENTS. CONTRACTOR SHALL NOT SCALE DRAWINGS.
11. ALL TYPICAL DETAILS SHALL APPLY UNLESS NOTED OTHERWISE.
12. CONTRACTOR SHALL PROVIDE ADEQUATE DUST CONTROL AND KEEP MUD AND DEBRIS OFF THE PUBLIC RIGHT-OF-WAY AT ALL TIMES.
13. ALL TRENCHES AND EXCAVATIONS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH THE APPLICABLE SECTIONS OF CALIFORNIA AND FEDERAL O.S.H.A. REQUIREMENTS AND OTHER APPLICABLE SAFETY ORDINANCES. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR TRENCH SHORING DESIGN AND INSTALLATION.
14. ANY ALTERATIONS OF EXISTING FACILITIES TO ACCOMMODATE THE INSTALLATION OF NEW WORK SHALL BE REVIEWED BY THE OWNER PRIOR TO COMMENCING WORK.
15. CONTRACTOR SHALL COORDINATE ALL WORK TO AVOID DISTURBING STUDENTS OR TEACHERS DURING SCHOOL HOURS. ANY DISRUPTION OF THE UTILITIES MUST BE COORDINATED AND APPROVED BY THE OWNER AND INSPECTOR OF RECORD PRIOR TO COMMENCING WORK.
16. ALL TEMPORARY WORK SHALL BE CONSIDERED A PART OF THIS CONTRACT AND NO EXTRA CHARGES WILL BE ALLOWED. THIS SHALL INCLUDE MINOR ITEMS OF MATERIAL OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS AND INTENT OF THE PROJECT.
17. THE PLANS AND SPECIFICATIONS DO NOT UNDERTAKE TO SHOW OR LIST EVERY ITEM TO BE PROVIDED, BUT RATHER TO DEFINE THE REQUIREMENTS FOR A FULL AND WORKING SYSTEM FROM THE STANDPOINT OF THE END USER. FOR THIS REASON, WHEN AN ITEM NOT SHOWN OR LISTED IS CLEARLY NECESSARY FOR PROPER CONTROL/OPERATION OF EQUIPMENT WHICH IS SHOWN OR LISTED, THE CONTRACTOR SHALL PROVIDE AN ITEM WHICH WILL ALLOW THE SYSTEM TO FUNCTION PROPERLY AT NO INCREASE IN PRICE.
18. ALL CONTRACTORS SHALL REMOVE TRASH AND DEBRIS STEMMING FROM THEIR WORK ON A DAILY BASIS. PROJECT SITE SHALL BE MAINTAINED IN A CLEAN AND ORDERLY CONDITION.
19. THE DETAILS REFLECT THE DESIGN INTENT FOR TYPICAL CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND SHALL INCLUDE, IN HIS SCOPE, THE COST FOR COMPLETE FINISHED INSTALLATIONS, INCLUDING ANOMALIES, OF ALL TRADES.
20. NO WORK SHALL COMMENCE WITH UNAPPROVED MATERIALS. ANY WORK DONE WITH UNAPPROVED MATERIALS AND EQUIPMENT IS AT THE CONTRACTOR'S RISK AND IS SUBJECT TO REJECTION AND REPLACEMENT. SEE SPECIFICATIONS FOR SUBMITTAL AND SUBSTITUTION REQUIREMENTS.
21. CONSTRUCTION MATERIALS STORED ON THE SITE SHALL BE PROPERLY STACKED AND PROTECTED SO AS TO PREVENT DAMAGE OR DETERIORATION UNTIL USED. FAILURE IN THIS REGARD MAY BE CAUSE FOR REJECTION OF MATERIAL AND/OR WORK.
22. ALL EQUIPMENT SHALL BE FABRICATED FROM FIELD VERIFIED DIMENSIONS AND APPROVED SHOP DRAWINGS. COORDINATE MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT.
23. CONTRACTOR SHALL PERFORM THEIR CONSTRUCTION AND OPERATIONS IN A MANNER WHICH WILL NOT ALLOW HARMFUL POLLUTANTS TO ENTER THE STORM DRAIN SYSTEM. TO ENSURE COMPLIANCE, THE CONTRACTOR SHALL IMPLEMENT THE APPROPRIATE BEST MANAGEMENT PRACTICE (BMP) AS OUTLINED IN THE BROCHURES ENTITLED "BEST MANAGEMENT PRACTICE FOR THE CONSTRUCTION INDUSTRY" ISSUED BY THE CALIFORNIA STORM WATER QUALITY ASSOCIATION, NONPOINT SOURCE POLLUTION CONTROL PROGRAM, TO SUIT THE CONSTRUCTION SITE AND JOB CONDITION. THE CONTRACTOR SHALL PRESENT THEIR PROPOSED BMP AT THE PRECONSTRUCTION MEETING FOR DISCUSSION AND APPROVAL.
24. CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION FENCING PER CONTRACT DOCUMENTS TO SERVE LIMIT OF WORK AREAS. FENCING MAY BE ADJUSTED DURING CONSTRUCTION BASED ON CONSTRUCTION SEQUENCE OR THE OWNER'S DIRECTION.
25. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT IN THE STREET RIGHT-OF-WAY SHALL NOT BE PERMITTED.

SHEET INDEX (XX Sheets)

* THESE DRAWINGS AND/OR SPECIFICATIONS AND/OR CALCULATIONS HAS BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

1) DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND
2) COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTION 17302 AND 81138 OF THE EDUCATION CODE AND SECTIONS 4-336 , 4-341 AND 4-344" OF TITLE 24, PART 1. (TITLE 24, PART 1, SECTION 4-317 (B))

SIGNATURE OF THE ARCHITECT/ENGINEER
ERIC KREAGER, S.E., MKM & ASSOCIATES

LICENSE # S3266
EXP. DATE 3/31/25

C0.0

COVER SHEET

50% SUBMITTAL - 11/01/24

SAN PEDRO ELEMENTARY SCHOOL ATHLETIC FIELD IMPROVEMENTS

DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_C0.0 CVR.dwg
PLOT DATE: 11-01-24 PLOTTED BY: station5

EXISTING CONDITIONS NOTES

1. THIS TOPOGRAPHIC SURVEY WAS PROVIDED BY BKF. (TELEPHONE): (707) 5838527 (ADDRESS): 200 4TH STREET, SUITE 300, SANTA ROSA, CA, 95401.
2. NOTE THAT THIS IS NOT A COMPLETE UNDERGROUND SURVEY. THIS DRAWING CONTAINS ONLY PARTIAL INFORMATION FOR THE EXISTING IRRIGATION, SANITARY SEWER, STORM DRAIN SYSTEMS, ETC. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS.

TOPOGRAPHIC NOTES

UNAUTHORIZED CHANGES & USES: THE PROFESSIONAL PREPARING THIS MAP WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THIS MAP. CHANGES TO THIS MAP MUST BE REQUESTED IN WRITING AND MUST BE APPROVED BY THE PROFESSIONAL.

THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES SHOWN ON THIS SHEET ARE APPROXIMATE AND ARE BASED ON OBSERVED TOPOGRAPHIC SURFACE FEATURES AND AVAILABLE INFORMATION. THE PROFESSIONAL PREPARING THIS MAP ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THESE FACILITIES OR FOR THE INADVERTENT OMISSION OF RELATED INFORMATION.

TREE DIAMETERS ARE MEASURED AT CHEST HEIGHT (54"). DRIPLINE DIAMETERS AND TREE SPECIES ARE APPROXIMATE ONLY AND SHOULD BE VERIFIED BY A CERTIFIED ARBORIST.

BENCHMARK: SCRIBED 'X' IN CONCRETE, LOCATION SHOWN HEREON, ELEVATION 21.71' (DATUM NAVD 88 BY GPS OBSERVATIONS UTILIZING THE CALIFORNIA SURVEY & DRAFTING SUPPLY VSN.)

FIELD SURVEY DATE: JULY 9TH AND AUGUST 19TH, 2024

EXISTING CONDITIONS LEGEND

ABBREVIATIONS

AC	ASPHALT CONCRETE	SD	STORM DRAIN
AD	AREA DRAIN	SDCO	STORM DRAIN CLEANOUT
CO	CLEAN OUT	SS	SANITARY SEWER
COMM	COMMUNICATION	SSCO	SANITARY SEWER CLEANOUT
DS	RAINWATER DOWN SPOUT	TC	TOP FACE OF CURB
ELEV	ELEVATION	TG	TOP OF GRATE
EB	ELECTRIC UTILITY BOX	TW	TOP OF WALL
EP	EDGE OF PAVEMENT	TYP	TYPICAL
FF	FINISHED FLOOR	UB	UTILITY BOX
GI	GRATE INLET	VERT	TOP OF VERTICAL PIPE
GM	GAS METER	VLT	VAULT
INV	BOTTOM INSIDE OF PIPE	WB	WATER UTILITY BOX

SYMBOLS & LEGEND

- BENCHMARK
- WATER VALVE
- FIRE HYDRANT
- SPRINKLER
- FIRE DEPARTMENT CONNECTION
- POST INDICATOR VALVE
- LAMP POST
- TREE
- FENCE
- HANDRAIL
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND COMMUNICATION LINE
- UNDERGROUND SEWER LINE
- STORM DRAIN
- CONCRETE
- DETECTABLE WARNING

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STAMP

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BRANDON J. BORBAT
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STATE OF CALIFORNIA

CONSULTANT

BKF ENGINEERS
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www.bkf.com

SHEET TITLE

EXISTING CONDITIONS AND SURVEY PLAN

PROJECT NAME

SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS

498 POINT SAN PEDRO RD
SAN RAFAEL, CA
94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY	CHECKED BY
-	WD/DC
DATE ISSUED	SCALE
11/01/24	1"=10'-0"

PROJ. NO. 2401200

SHEET NO. L1.1 OF X SHEETS

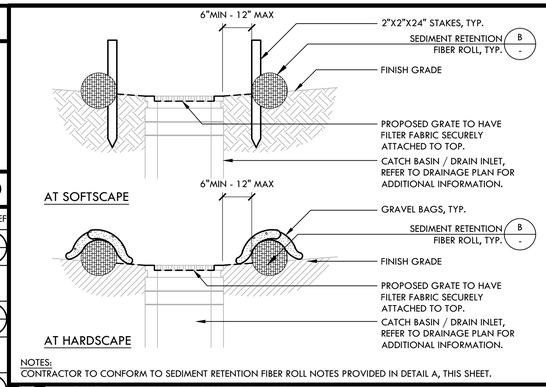
DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_L1.1 EXC.dwg
PLOT DATE: 10-29-24 PLOTTED BY: station5

EROSION AND SEDIMENT CONTROL NOTES

1. EROSION AND SEDIMENT CONTROL SHALL BE CONSTRUCTED DURING FIRST WEEK OF CONSTRUCTION.
2. EROSION AND SEDIMENT CONTROL SHALL REMAIN THROUGHOUT CONSTRUCTION AND BE REMOVED AND DISPOSED OF DURING MAINTENANCE PERIOD.
3. EROSION AND SEDIMENT CONTROL MAY BE ADJUSTED THROUGH CONSTRUCTION WITH APPROVAL OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
4. CONTRACTOR SHALL SWEEP STREETS AND PARKING AREAS AFFECTED BY CONSTRUCTION WITH STREET SWEEPER AS REQUIRED TO KEEP PAVING CLEAN OF CONSTRUCTION DEBRIS.

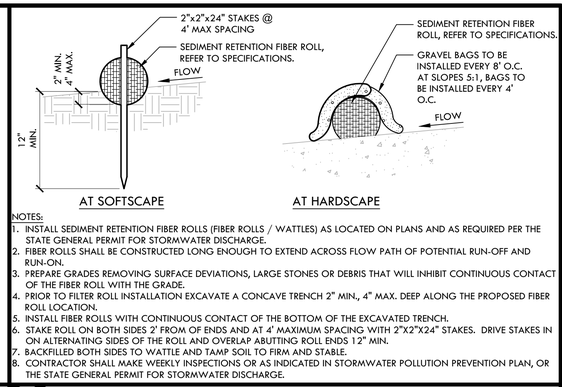
EROSION AND SEDIMENT CONTROL LEGEND

SYM	DESCRIPTION	DTL REF
1	FILTER FABRIC TO BE SECURELY ATTACHED TO DRAINAGE STRUCTURE TOP AND PERIMETER WADDLE	A -
	LIMIT OF WORK	
	FILTER ROLL BARRIER	B -
	TEMPORARY CONSTRUCTION FENCING	
	CONSTRUCTION WASHOUT AREA - PROVIDE A WASHOUT BIN FOR CONSTRUCTION WASHOUT AND REMOVE AT END OF CONSTRUCTION.	C -
	CONSTRUCTION STAGING AREA	
	STABILIZED CONSTRUCTION ENTRY	D -
	DIRECTION OF SURFACE FLOW	
	CONTRACTOR ACCESS	



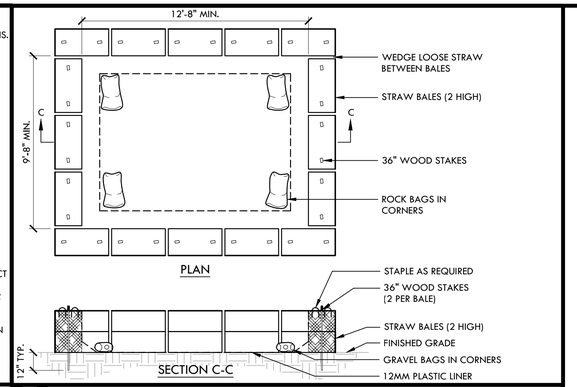
NOTES:
CONTRACTOR TO CONFORM TO SEDIMENT RETENTION FIBER ROLL NOTES PROVIDED IN DETAIL A, THIS SHEET.

A STORM DRAIN INLET FILTER FOR EXISTING AND PROPOSED STORM DRAINS — NTS

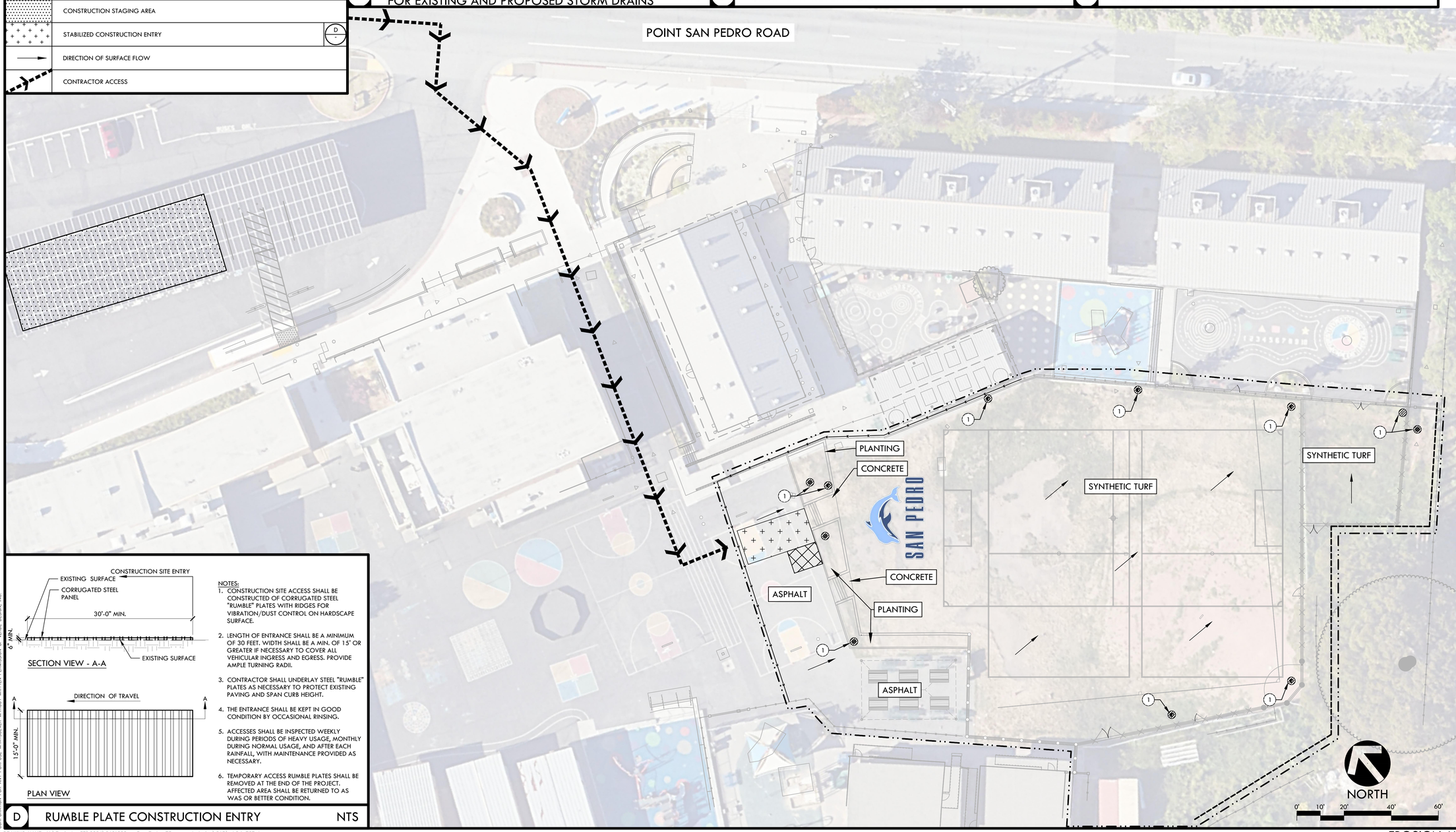


NOTES:
1. INSTALL SEDIMENT RETENTION FIBER ROLLS (FIBER ROLLS / WATTLES) AS LOCATED ON PLANS AND AS REQUIRED PER THE STATE GENERAL PERMIT FOR STORMWATER DISCHARGE.
2. FIBER ROLLS SHALL BE CONSTRUCTED LONG ENOUGH TO EXTEND ACROSS FLOW PATH OF POTENTIAL RUN-OFF AND RUN-ON.
3. PREPARE GRADES REMOVING SURFACE DEVIATIONS, LARGE STONES OR DEBRIS THAT WILL INHIBIT CONTINUOUS CONTACT OF THE FIBER ROLL WITH THE GRADE.
4. PRIOR TO FILTER ROLL INSTALLATION EXCAVATE A CONCAVE TRENCH 2" MIN., 4" MAX. DEEP ALONG THE PROPOSED FIBER ROLL LOCATION.
5. INSTALL FIBER ROLLS WITH CONTINUOUS CONTACT OF THE BOTTOM OF THE EXCAVATED TRENCH.
6. STAKE ROLL ON BOTH SIDES 2' FROM OF ENDS AND AT 4' MAXIMUM SPACING WITH 2"X2"X24" STAKES. DRIVE STAKES IN ON ALTERNATING SIDES OF THE ROLL AND OVERLAP ABUTTING ROLL ENDS 12" MIN.
7. BACKFILLED BOTH SIDES TO WATTLE AND TAMP SOIL TO FIRM AND STABLE.
8. CONTRACTOR SHALL MAKE WEEKLY INSPECTIONS OR AS INDICATED IN STORMWATER POLLUTION PREVENTION PLAN, OR THE STATE GENERAL PERMIT FOR STORMWATER DISCHARGE.

B SEDIMENT RETENTION FIBER ROLL — NTS



C TEMPORARY CONCRETE WASHOUT FACILITY



NOTES:
1. CONSTRUCTION SITE ACCESS SHALL BE CONSTRUCTED OF CORRUGATED STEEL "RUMBLE" PLATES WITH RIDGES FOR VIBRATION/DUST CONTROL ON HARDSCAPE SURFACE.
2. LENGTH OF ENTRANCE SHALL BE A MINIMUM OF 30 FEET. WIDTH SHALL BE A MIN. OF 15' OR GREATER IF NECESSARY TO COVER ALL VEHICULAR INGRESS AND EGRESS. PROVIDE AMPLE TURNING RADII.
3. CONTRACTOR SHALL UNDERLAY STEEL "RUMBLE" PLATES AS NECESSARY TO PROTECT EXISTING PAVING AND SPAN CURB HEIGHT.
4. THE ENTRANCE SHALL BE KEPT IN GOOD CONDITION BY OCCASIONAL RINSING.
5. ACCESSES SHALL BE INSPECTED WEEKLY DURING PERIODS OF HEAVY USAGE, MONTHLY DURING NORMAL USAGE, AND AFTER EACH RAINFALL, WITH MAINTENANCE PROVIDED AS NECESSARY.
6. TEMPORARY ACCESS RUMBLE PLATES SHALL BE REMOVED AT THE END OF THE PROJECT. AFFECTED AREA SHALL BE RETURNED TO AS WAS OR BETTER CONDITION.

D RUMBLE PLATE CONSTRUCTION ENTRY — NTS

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fax: 408.985.7260
www.VerdeDesignInc.com

STAMP

REGISTERED PROFESSIONAL ENGINEER
DEVIN CONWAY
No. C-56494
Signature
EXPIRATION DATE: June 30, 2025
CIVIL
STATE OF CALIFORNIA

CONSULTANT

SHEET TITLE
EROSION AND SEDIMENT CONTROL PLAN

PROJECT NAME
SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS
498 POINT SAN PEDRO RD
SAN RAFAEL, CA
94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

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11/01/24	1" = 20'-0"

PROJ. NO. 2401200

SHEET NO. L2.1 OF X SHEETS

DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_L2.1 ECP.dwg
PLOT DATE: 11-01-24 PLOTTED BY: station5

DEMOLITION NOTES

1. THE CONTRACTOR SHALL PERFORM ALL CLEARING, DEMOLITION, REMOVAL OF OBSTRUCTIONS AND SITE PREPARATIONS NECESSARY FOR THE PROPER EXECUTION OF ALL WORK CONTAINED IN THE CONTRACT DOCUMENTS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND PROVIDE THE REQUIRED COORDINATION FOR THEIR TEMPORARY DISCONNECTION, PROTECTION, REMOVAL AND/OR STORAGE AS MAY BE REQUIRED DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH THE OWNER TO DETERMINE WHETHER TEMPORARY SERVICES ARE NECESSARY.
3. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID SUBMITTAL TO DETERMINE THE EXACT EXTENT AND DEPTH OF SITE DEMOLITION REQUIRED AND VERIFY COMPLIANCE WITH DRAWINGS. THE OWNER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
4. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DEEMED TO BE APPROXIMATIONS ONLY. ALL DISCREPANCIES BETWEEN WHAT IS SHOWN AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) AT (800) 227-2600 PRIOR TO ANY DEMOLITION OR EXCAVATION. UPON COMPLETION OF USA MARKING OPERATIONS, CONTRACTOR SHALL RECORD ALL UTILITY MARKINGS ON A SEPARATE SET OF DRAWINGS. THIS SET SHALL BE KEPT ON-SITE FOR REFERENCE FOR DURATION OF CONTRACT. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD CONFLICTS ARISE AND REDIRECT WORK TO AVOID DELAY.
5. ALL EXISTING ITEMS ARE TO REMAIN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING, AT CONTRACTOR'S EXPENSE, ANY EXISTING ITEM DAMAGED OR DESTROYED BY CONSTRUCTION OPERATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY AND ALL DAMAGES TO ADJACENT PROPERTIES. THE DAMAGED ITEMS SHALL BE RESTORED TO AN "AS-WAS" OR BETTER CONDITION OR REPLACED PER THE DISCRETION OF THE OWNER'S REPRESENTATIVE.
6. REFER TO SPECIFICATIONS FOR ADDITIONAL CLEARING, GRUBBING, TOPSOIL STOCKPILING AND OTHER PERTINENT INFORMATION.

DEMOLITION LEGEND

SYM	DESCRIPTION
	LIMIT OF WORK / CONSTRUCTION FENCING
	EXISTING SURFACE VEGETATION SHALL BE REMOVED PER SPECIFICATIONS. CLEAR AND GRUB AREAS WHERE SYNTHETIC TURF OR PAVING WILL BE INSTALLED. CONTRACTOR SHALL STOCKPILE 4" OF TOPSOIL AS NEEDED FOR NEW PLANTING. UNUSED TOP SOIL AND SUBSOIL TO BE OFF-HAULED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
	DEMOLISH AND REMOVE EXISTING HARDSCAPE PAVING INCLUDING BASE MATERIAL. CONTRACTOR TO DISPOSE OF IN A LEGAL MANNER.
R	TREE TO REMAIN AND BE PROTECTED AND PRUNED, REFER TO SPECIFICATION SECTION 32 01 90 - EXISTING VEGETATION PROTECTION

SYM	DESCRIPTION
	DEMOLISH AND REMOVE EXISTING FENCE, INCLUDING GATES, POSTS, HARDWARE, FABRIC AND FOOTINGS
	SAWCUT EXISTING ASPHALT PAVING

DEMOLITION ITEMS

ITEMS TO BE DEMOLISHED AND/OR REMOVED

1. ALL EXISTING IRRIGATION WITHIN FIELD SHALL BE REMOVED. IRRIGATION VALVES AND HEADS TO BE SALVAGED AND TURNED OVER TO DISTRICT.

ITEMS TO BE DEMOLISHED AND/OR REMOVED

2. BACKSTOP TO BE DEMOLISHED AND REMOVED.
3. DRAIN STRUCTURE TO BE DEMOLISHED AND REMOVED.
4. DRAIN LINE TO BE DEMOLISHED AND REMOVED.

ITEMS TO BE PROTECTED OR RELOCATED

- A FENCE / GATE TO REMAIN AND BE PROTECTED.
- B HARDSCAPE TO REMAIN AND BE PROTECTED.

ITEMS TO BE PROTECTED OR RELOCATED

- C DRAIN STRUCTURE TO REMAIN AND BE PROTECTED.
- D ELECTRICAL, COMMUNICATION, AND DATA LINES AND COMPONENTS TO REMAIN AND BE PROTECTED. REFER TO ELECTRICAL PLANS FOR INFORMATION.
- E CONCRETE EDGE, EDGEBAND, AND/OR CURB, INCLUDING FOOTING TO REMAIN AND BE PROTECTED.
- F WALL TO REMAIN AND BE PROTECTED.
- G EXISTING SHADE STRUCTURE TO REMAIN AND BE PROTECTED.
- H DRAIN LINE TO REMAIN AND BE PROTECTED.

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REGISTERED PROFESSIONAL ENGINEER
DEVIN CONWAY
No. C-56494
Signature
EXPIRATION DATE: June 30, 2025
CIVIL
STATE OF CALIFORNIA

CONSULTANT

SHEET TITLE
DEMOLITION PLAN

PROJECT NAME
SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS
498 POINT SAN PEDRO RD
SAN RAFAEL, CA 94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
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2401200	
SHEET NO.	
L3.1 OF X SHEETS	

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PLOT DATE: 11-01-24 PLOTTED BY: station5

GRADING NOTES

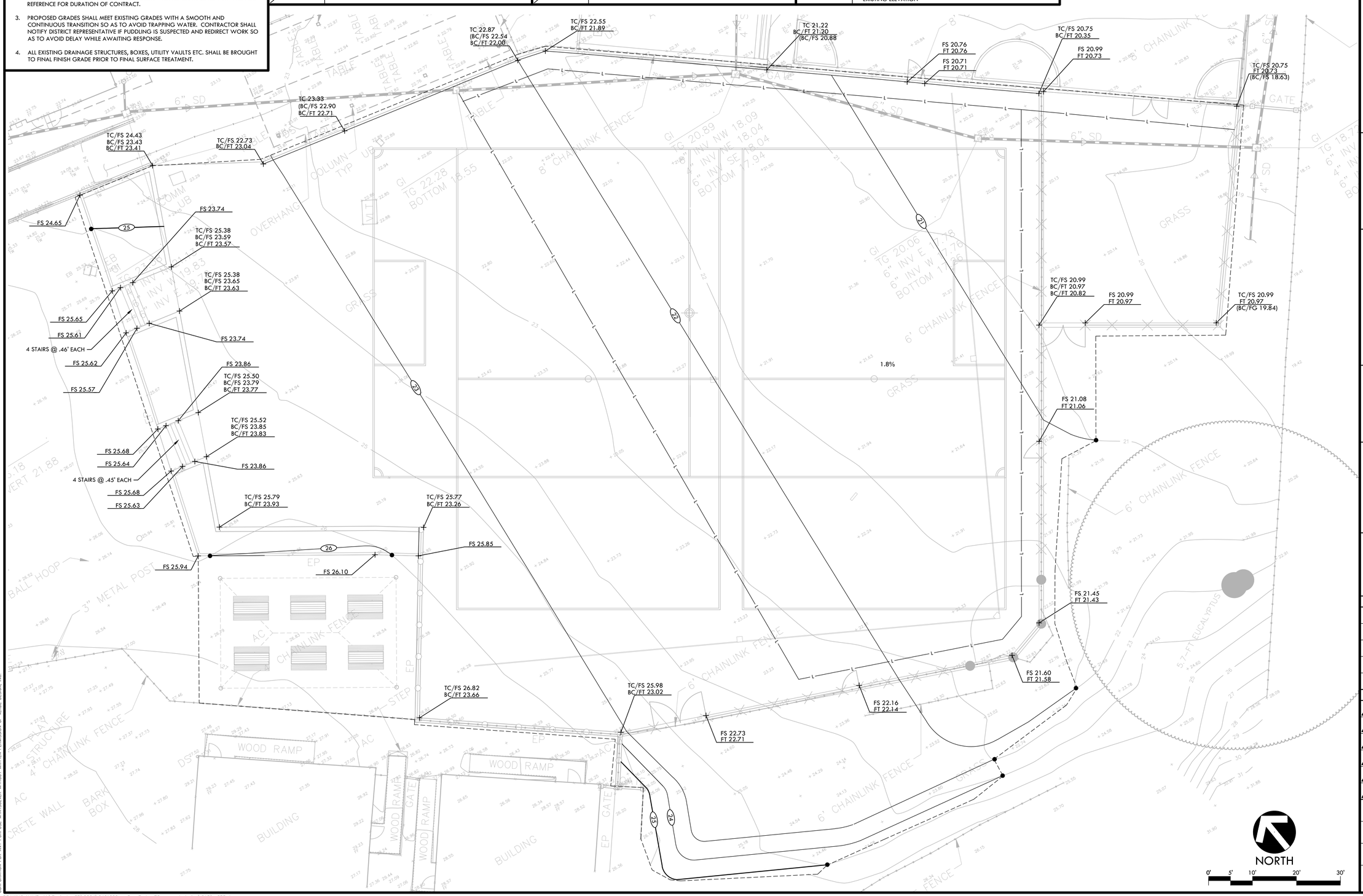
1. EXISTING GRADES ARE BASED ON INFORMATION PROVIDED BY: BKF Engineering. CONTRACTOR SHALL VERIFY EXISTING GRADES FOR ACCURACY PRIOR TO THE START OF GRADING, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD CONFLICTS ARISE AND REDIRECT WORK TO AVOID DELAY.
2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DEEMED TO BE APPROXIMATIONS ONLY. ALL DISCREPANCIES BETWEEN WHAT IS SHOWN AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL CONTACT UNDER GROUND SERVICE ALERT (USA) AT (800) 227-2600 PRIOR TO ANY DEMOLITION OR EXCAVATION. UPON COMPLETION OF USA MARKING OPERATIONS, CONTRACTOR SHALL RECORD ALL UTILITY MARKINGS ON A SEPARATE SET OF DRAWINGS. THIS SET SHALL BE KEPT ON-SITE FOR REFERENCE FOR DURATION OF CONTRACT.
3. PROPOSED GRADES SHALL MEET EXISTING GRADES WITH A SMOOTH AND CONTINUOUS TRANSITION SO AS TO AVOID TRAPPING WATER. CONTRACTOR SHALL NOTIFY DISTRICT REPRESENTATIVE IF PUDDLING IS SUSPECTED AND REDIRECT WORK SO AS TO AVOID DELAY WHILE AWAITING RESPONSE.
4. ALL EXISTING DRAINAGE STRUCTURES, BOXES, UTILITY VAULTS ETC. SHALL BE BROUGHT TO FINAL FINISH GRADE PRIOR TO FINAL SURFACE TREATMENT.

GRADING LEGEND

SYM	DESCRIPTION
30	PROPOSED CONTOUR
FG 32.00	PROPOSED FINISH GRADE ELEVATION OF SOFTSCAPE
FT 32.00	PROPOSED ELEVATION OF TOP OF SYNTHETIC TURF INFILL
FS 32.00	PROPOSED FINISH SURFACE ELEVATION OF HARDSCAPE

SYM	DESCRIPTION
RIM 31.00	LOW POINT/ RIM ELEVATION OF DRAIN
SG 32.00	PROPOSED FINISH SUGRADE ELEVATION
TC 32.50	TOP OF CURB
BC 32.50	BOTTOM OF CURB

SYM	DESCRIPTION
L	LOW POINT OF FIELD
	CONFORM TO EXISTING GRADE
	LIMIT OF GRADING - CONFORM TO EXISTING GRADES AT THIS LINE
21	EXISTING CONTOUR
21.1	EXISTING ELEVATION



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SHEET TITLE
GRADING PLAN

PROJECT NAME
SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS
498 POINT SAN PEDRO RD
SAN RAFAEL, CA 94901

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GRADING PLAN

DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_GRD.dwg
PLOT DATE: 10-29-24 PLOTTED BY: station5

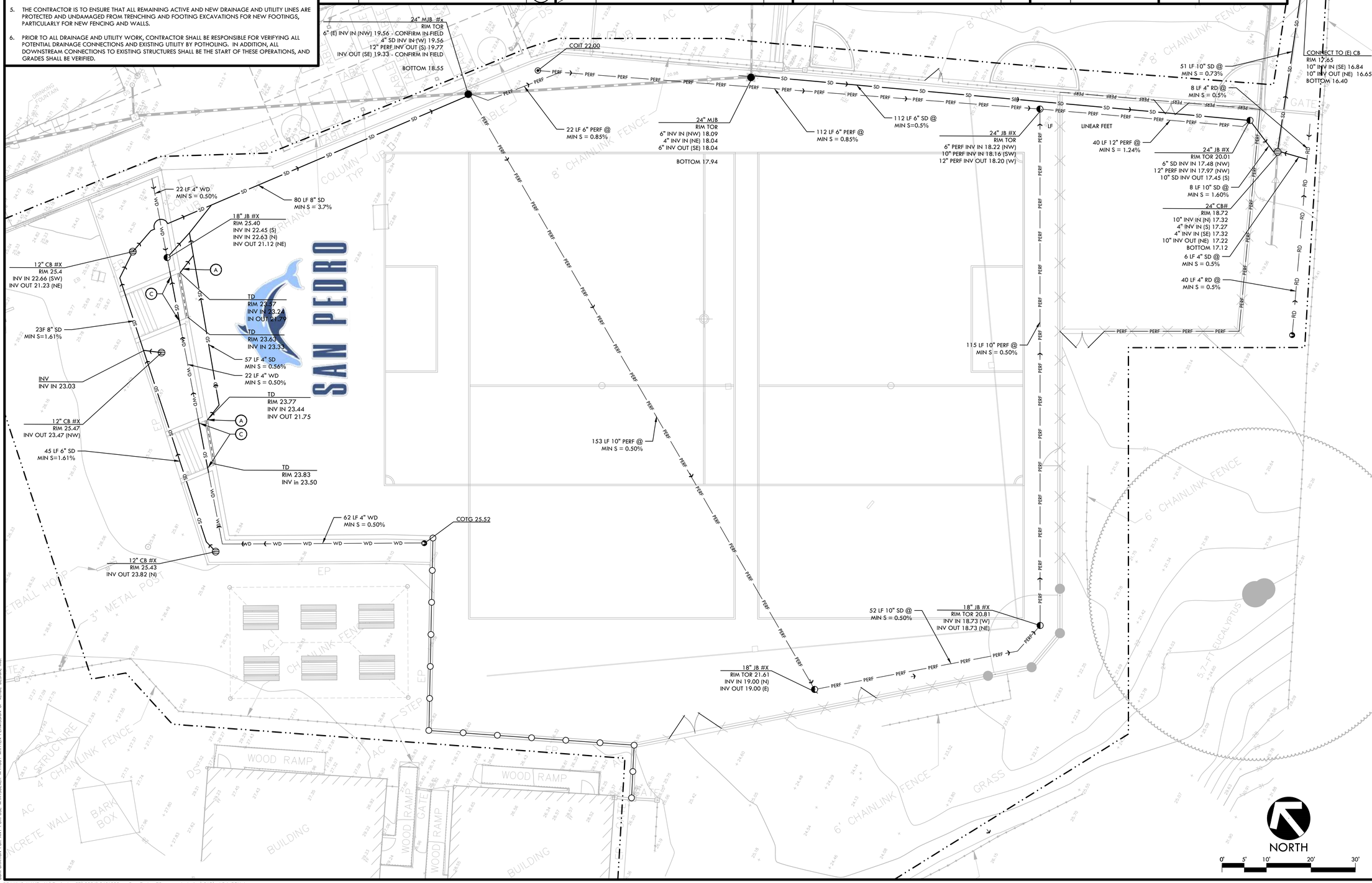
DRAINAGE & UTILITY NOTES

1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES, AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES, AND SERVICES SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DEEMED TO BE APPROXIMATIONS ONLY. ALL DISCREPANCIES BETWEEN WHAT IS SHOWN AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DISTRICT REPRESENTATIVE. THE CONTRACTOR SHALL CONTACT UNDER GROUND SERVICE ALERT (USA) AT (800) 227-2600 PRIOR TO ANY DEMOLITION OR EXCAVATION. UPON COMPLETION OF USA MARKING OPERATIONS, CONTRACTOR SHALL RECORD ALL UTILITY MARKINGS ON A SEPARATE SET OF DRAWINGS. THIS SET SHALL BE KEPT ON-SITE FOR REFERENCE FOR DURATION OF CONTRACT.
2. ALL EXISTING DRAINAGE STRUCTURES, BOXES, UTILITY VAULTS ETC. TO REMAIN, SHALL BE BROUGHT TO FINAL FINISH GRADE PRIOR TO FINAL SURFACE TREATMENT.
3. THE CONTRACTOR IS TO PROTECT DRAINAGE SYSTEM FROM DEBRIS, INCLUDING SOIL, ROCK MATERIAL, AND TRASH FROM ENTERING THE PIPE DURING CONSTRUCTION. CONTRACTOR SHALL AVOID PLACING CONSTRUCTION VEHICLES OVER INSTALLED DRAINAGE TRENCHES TO PREVENT CRUSHING OF PIPE.
4. COORDINATE ALL SLEEVING AND UTILITY LOCATIONS AS SHOWN ON THE PLANS AND DETAILS CONTAINED WITHIN THESE CONTRACT DOCUMENTS.
5. THE CONTRACTOR IS TO ENSURE THAT ALL REMAINING ACTIVE AND NEW DRAINAGE AND UTILITY LINES ARE PROTECTED AND UNDAMAGED FROM TRENCHING AND FOOTING EXCAVATIONS FOR NEW FOOTINGS, PARTICULARLY FOR NEW FENCING AND WALLS.
6. PRIOR TO ALL DRAINAGE AND UTILITY WORK, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL POTENTIAL DRAINAGE CONNECTIONS AND EXISTING UTILITY BY POTHOLING. IN ADDITION, ALL DOWNSTREAM CONNECTIONS TO EXISTING STRUCTURES SHALL BE THE START OF THESE OPERATIONS, AND GRADES SHALL BE VERIFIED.

DRAINAGE & UTILITY LEGEND

SYM	DESCRIPTION	DETAIL NUMBER / SHEET NUMBER
	LIMIT OF WORK	
	CATCH BASIN (CB), SIZE PER PLAN	
	JUNCTION BOX (JB), SIZE PER PLAN	
	MODIFIED JUNCTION BOX (MJB) IN SYNTHETIC TURF	
	CLEANOUT IN SYNTHETIC TURF (COIT)	
	CLEANOUT IN SOFTSCAPE (COTG)	
	TRENCH DRAIN (TD)	
SD	SOLID WALL STORM DRAIN (SD)	
PERF	PERFORATED SUBDRAIN LINE (PERF)	
RD	ROCK DRAIN (RD)	
WD	WALL DRAIN (WD)	
A	TRENCH DRAIN CATCH BASIN AND CONNECTION TO STORM DRAIN LINE	
B	CONNECT NEW CATCH BASIN TO EXISTING DRAIN LINE, CONFIRM IN FIELD	
C	WALL DRAIN TO SOLID STORM DRAIN CONNECTION	

SYM	DESCRIPTION
RIM	RIM ELEVATION
INV	INVERT
TOR	TOP OF ROCK
S=0.5%	SLOPE
MIN.	MINIMUM
N, S, W, E	NORTH, SOUTH, WEST, EAST
(E)	EXISTING
LF	LINEAR FEET



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EXPIRATION DATE: June 30, 2025
CIVIL
STATE OF CALIFORNIA

CONSULTANT

SHEET TITLE

DRAINAGE AND UTILITY PLAN

PROJECT NAME

SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS

498 POINT SAN PEDRO RD
SAN RAFAEL, CA
94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

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DRAINAGE AND UTILITY PLAN

LAYOUT NOTES

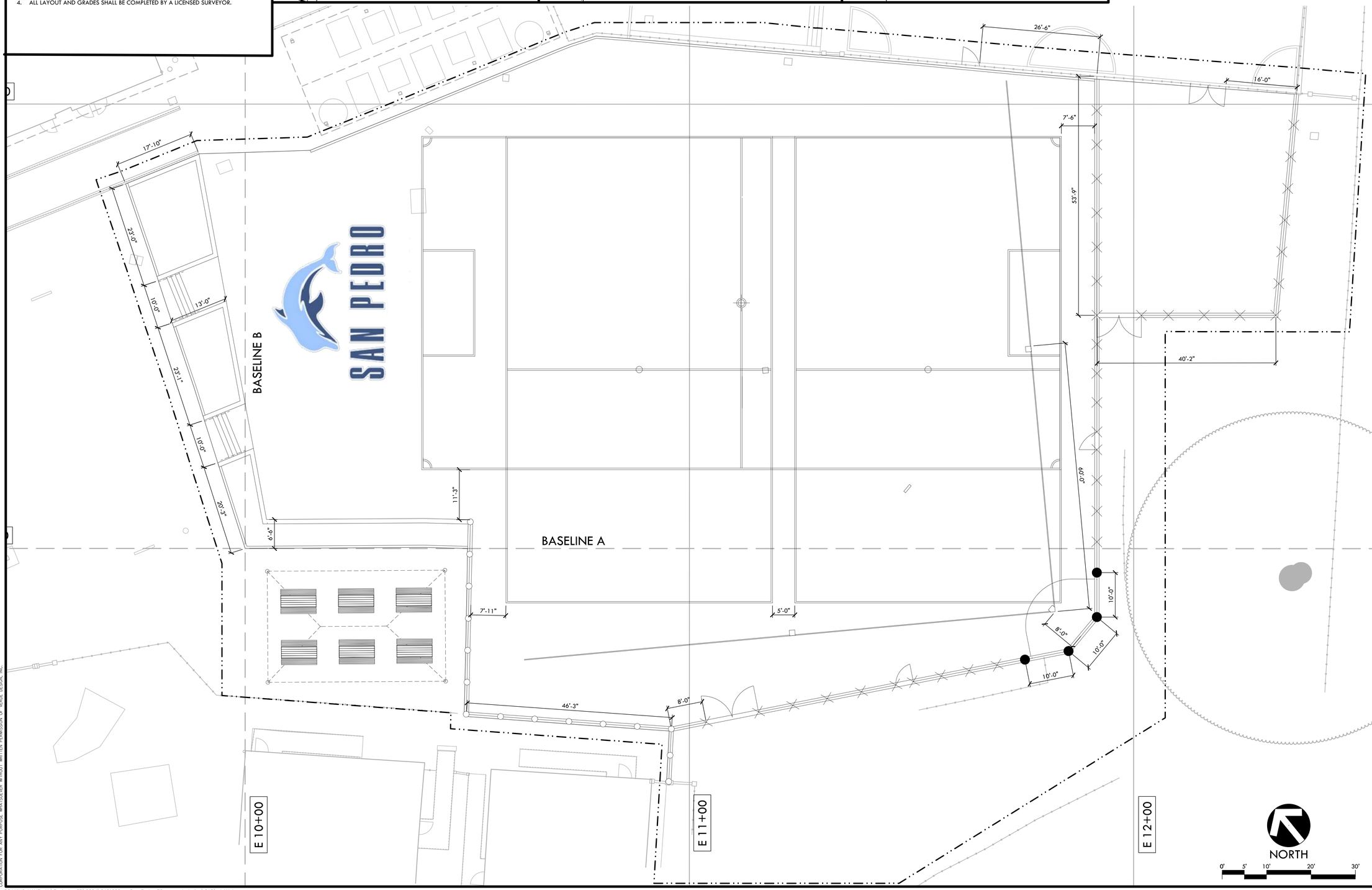
1. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ELEMENTS INCLUDING UTILITY LOCATIONS AND REQUIRED SLEEVING PRIOR TO INSTALLATION. VERIFY CRITICAL DIMENSIONS, REFERENCE POINT LOCATIONS AND CONSTRUCTION CONDITIONS PRIOR TO INITIATING CONSTRUCTION. TEMPORARY BENCHMARKS OR REFERENCE POINTS SHALL BE SET BY THE CONTRACTOR AS NECESSARY. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD DISCREPANCY ARISE AND REDIRECT WORK TO AVOID DELAYS.
2. ALL DIMENSIONS SHALL BE VERIFIED IN FIELD AND CHALKED, STRING LINED OR FLAGGED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY MINOR ADJUSTMENTS MADE TO ACHIEVE OVERALL DESIGN LAYOUT SHALL BE ACCEPTED BY THE OWNER PRIOR TO CONSTRUCTION.
3. LAYOUT IS BASED ON THE POINT(S) OF BEGINNING (P.O.B.) AND BASELINE(S) OR GRID SYSTEM AS SHOWN. DIMENSIONS SHOWN ARE ROUNDED TO THE NEAREST INCH.
4. ALL LAYOUT AND GRADES SHALL BE COMPLETED BY A LICENSED SURVEYOR.

LAYOUT LEGEND

SYM	DESCRIPTION
	LIMIT OF WORK / CONSTRUCTION FENCING
POB	POINT OF BEGINNING SYMBOL
	CONTROL POINT
R10'	RADIUS POINT / CENTER MARK
90°	PROPOSED ANGLE BETWEEN ELEMENTS

SYM	DESCRIPTION
ALIGN	ALIGN EDGES OF ELEMENTS
	BASELINE & GRID
	CONTROL LINE
	CENTER LINES
N 12+21.95 E 12+97.08	NORTHING/EASTING LAYOUT COORDINATE CALLOUT

SYM	DESCRIPTION
(COD)	CENTER OF DRAIN
(COP)	CENTER OF POST
(POB)	POINT OF BEGINNING FOR GRID LAYOUT
(RAD)	RADIUS POINT
(TAN)	TANGENT POINT



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EXPIRATION DATE: June 30, 2025
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CONSULTANT

SHEET TITLE

LAYOUT PLAN

PROJECT NAME

SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS

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LAYOUT PLAN

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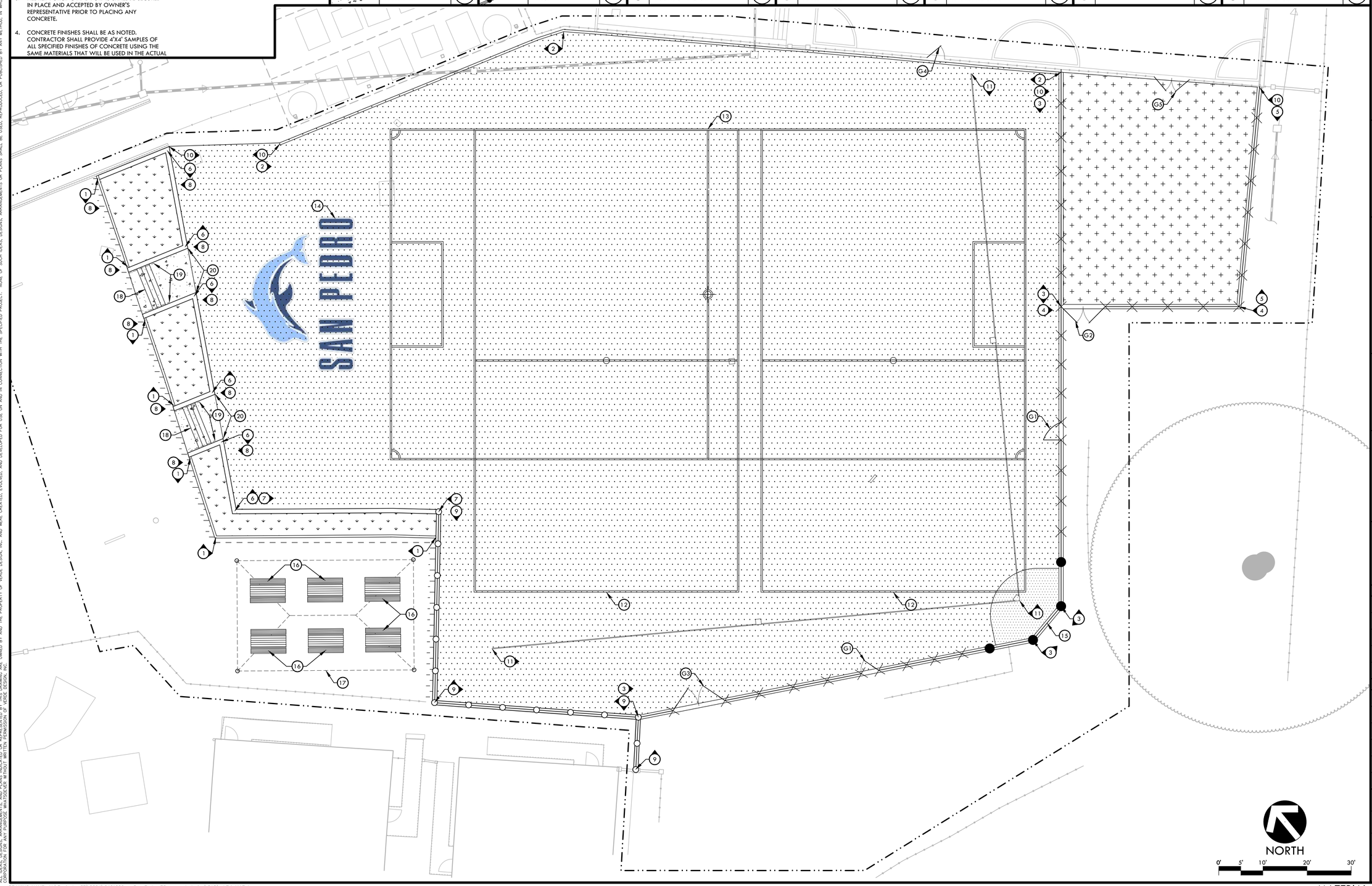
PLOT DATE: 10-29-24 PLOTTED BY: station5

MATERIAL NOTES

1. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ELEMENTS INCLUDING UTILITY LOCATIONS AND REQUIRED SLEEVING PRIOR TO INSTALLATION. VERIFY CRITICAL DIMENSIONS, REFERENCE POINT LOCATIONS AND CONSTRUCTION CONDITIONS PRIOR TO INITIATING CONSTRUCTION. TEMPORARY BENCHMARKS OR REFERENCE POINTS SHALL BE SET BY THE CONTRACTOR AS NECESSARY. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD DISCREPANCY ARISE AND REDIRECT WORK TO AVOID DELAYS.
2. THE INTERFACE OF ALL PROPOSED IMPROVEMENTS TO EXISTING SITE SHALL CONFORM AND BE SMOOTH AND UNIFORM.
3. ALL REINFORCING AND FORMS SHALL BE SECURED IN PLACE AND ACCEPTED BY OWNER'S REPRESENTATIVE PRIOR TO PLACING ANY CONCRETE.
4. CONCRETE FINISHES SHALL BE AS NOTED. CONTRACTOR SHALL PROVIDE 4'X4' SAMPLES OF ALL SPECIFIED FINISHES OF CONCRETE USING THE SAME MATERIALS THAT WILL BE USED IN THE ACTUAL CONSTRUCTION FOR EACH TYPE SPECIFIED. SAMPLES SHALL BE PREPARED WELL ENOUGH IN ADVANCE OF SCHEDULED CONCRETE POUR TO ALLOW FOR REVIEW AND POSSIBLE RE-POURING OF UNACCEPTABLE SAMPLES. UNACCEPTABLE SAMPLES SHALL BE RE-PREPARED UNTIL ACCEPTED BY THE OWNER'S REPRESENTATIVE. ACCEPTED SAMPLES SHALL BE PROTECTED AND REMAIN ON SITE FOR REFERENCE UNTIL FINAL ACCEPTANCE.
5. ALL FENCES AND GATES SHOWN ON PLAN ARE GRAPHIC REPRESENTATIONS; REFER TO DETAILS AND SPECIFICATIONS FOR PRECISE LOCATION.
6. ASPHALT SHALL NOT BE INSTALLED UNTIL ALL EDGES AND SITE FURNISHING PADS ARE INSTALLED.

MATERIAL LEGEND

SYM	DESCRIPTION	DTL REF
	LIMIT OF WORK	
	SYNTHETIC TURF - GREEN	
	SYNTHETIC TURF - BROWN	
	SYNTHETIC TURF - TEAL	
	CONCRETE PAVING - PEDESTRIAN	
	ASPHALT PAVING	
	PLANTING AREA	
	42" TALL CHAIN LINK FENCE	
	6'-0" TALL CHAIN LINK FENCE	
	12'-0" TALL CHAIN LINK FENCE	
G1	6' TALL x 4' WIDE SWING GATE	
G2	6' TALL x 10' WIDE CHAIN LINK DOUBLE SWING GATE	
G3	6' TALL x 12' WIDE CHAIN LINK DOUBLE SWING GATE	
G4	8' TALL x 4' WIDE SWING GATE	
G5	8' TALL x 8' WIDE CHAIN LINK DOUBLE SWING GATE	
1	6" WIDE CONCRETE EDGEBAND	
2	6" WIDE SYNTHETIC TURF CURB	
3	12" WIDE SYNTHETIC TURF EDGEBAND WITH FENCE	
4	12" WIDE TALL CURB WITH FENCE - TYPE 1	
5	12" WIDE TALL CURB WITH FENCE - TYPE 2	
6	12" WIDE TALL CURB - TYPE 1	
7	12" WIDE TALL CURB - TYPE 2	
8	12" WIDE TALL CURB - TYPE 3	
9	12" WIDE WALL, REFER TO STRUCTURAL PLANS	
10	SYNTHETIC TURF CONNECTION AT EXISTING EDGE	
11	KICKBALL STRIPING	
12	20 x 35 YARD SOCCER STRIPING	
13	25 x 48 YARD SOCCER STRIPING	
14	FIELD LOGO	
15	BACKSTOP	
16	PICNIC TABLE, REFER TO SPECS	
17	SHADE STRUCTURE, REFER TO STRUCTURAL PLANS	
18	STAIRS	
19	STAIR HANDRAIL	
20	CONCRETE THICKEN EDGE AT SYNTHETIC TURF	



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EXPIRATION DATE: June 30, 2025
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CONSULTANT

SHEET TITLE
MATERIAL AND DETAIL REFERENCE PLAN

PROJECT NAME
SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS
498 POINT SAN PEDRO RD
SAN RAFAEL, CA 94901

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11/01/24	1"=10'-0"

PROJ. NO.
2401200

SHEET NO.
L7.1 OF X SHEETS

IRRIGATION NOTES

1. THIS SYSTEM IS DESIGNED TO OPERATE AT A MAXIMUM FLOW OF (XX) GPM WITH A MINIMUM (XX) STATIC P.S.I. AT THE POINT OF CONNECTION. CONTRACTOR SHALL VERIFY PRESSURE PRIOR TO BEGINNING WORK. CONTACT OWNER IMMEDIATELY SHOULD DISCREPANCY ARISE AND RE-DIRECT WORK TO AVOID DELAY.
2. CONTRACTOR SHALL COORDINATE ELECTRICAL SUPPLY WITH GENERAL CONTRACTOR. GENERAL CONTRACTOR SHALL STUB APPROPRIATE POWER SUPPLY IN VICINITY OF CONTROLLER LOCATION.
3. IRRIGATION SYSTEM DESIGN IS DIAGRAMMATIC. WHERE PIPING, VALVES, QUICK COUPLERS, ETC. ARE SHOWN OUTSIDE PLANTING AREAS, OR LIMIT OF WORK; INTENT IS FOR PIPING, VALVES, ETC., TO BE INSTALLED WITHIN PLANTING AREAS OF PROPERTY. INDICATE EXACT LOCATIONS OF IRRIGATION EQUIPMENT ON RECORD DRAWINGS. REFER TO SPECIFICATIONS.
4. CONTRACTOR SHALL PROGRAM CONTROLLER TO ENSURE PROPER IRRIGATION. BASED ON PLANT TYPE, EXPOSURE AND SEASON.
5. CONTRACTOR SHALL USE EXTREME CARE WHERE IT IS NECESSARY TO TRENCH NEAR EXISTING TREES. EXCAVATION IN AREAS EXHIBITING ROOT 3" AND LARGER SHALL BE DONE BY HAND. ROOTS 2" OR LARGER IN DIAMETER DAMAGED IN CONSTRUCTION SHALL BE CLEANLY CUT.
6. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO HEAD LOCATIONS IN FIELD AS NECESSARY.
7. CONTRACTOR SHALL REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

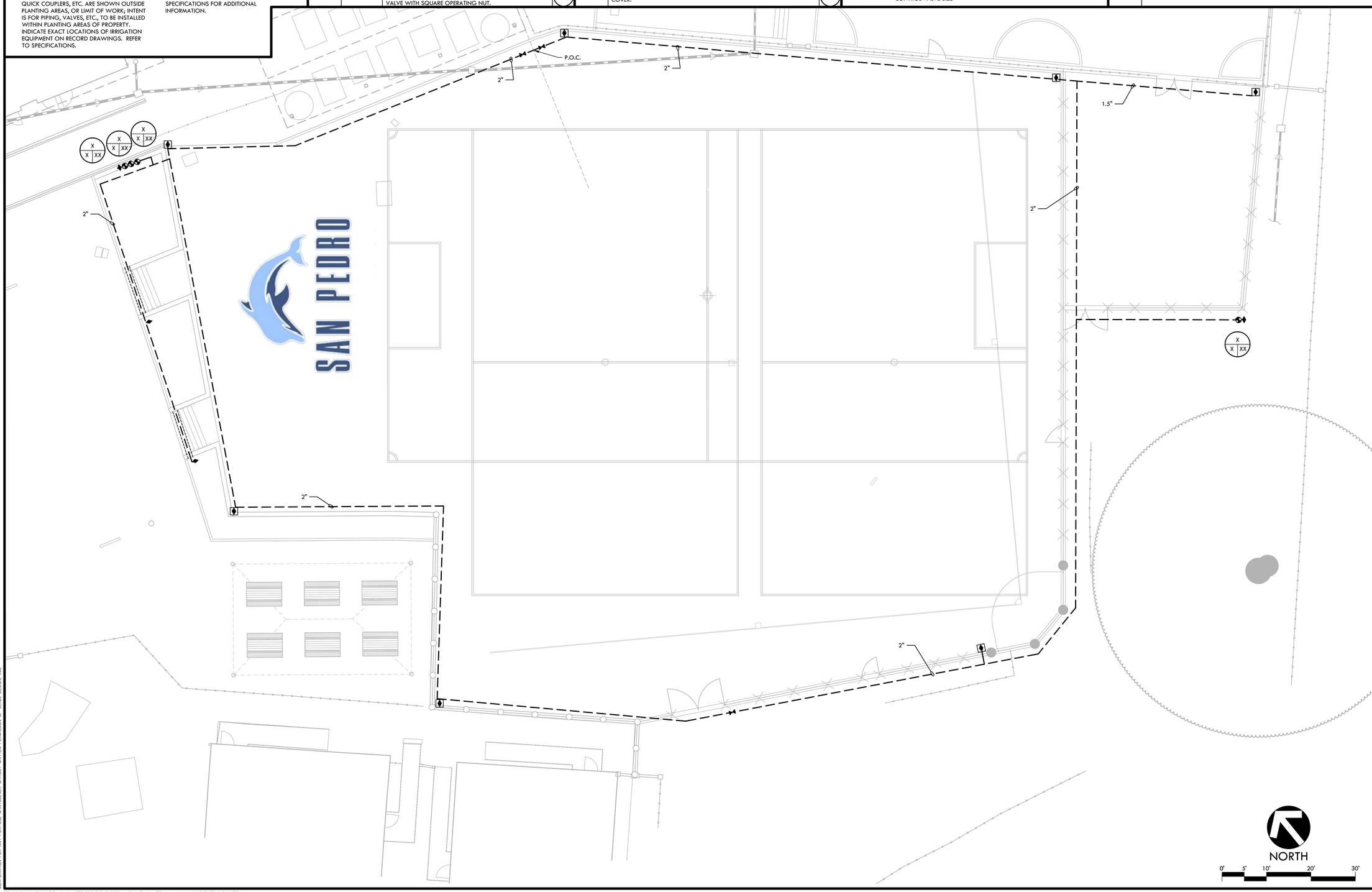
IRRIGATION LEGEND

SYM.	MANUFAC.	MODEL NO./ DESCRIPTION	RAD.	GPM	PSI	DTL REF
○	TORO	FB-50-PC-BUBBLER HEAD 2 PER TREE	-	.50	30	- -
◔ ◓ ◕ ◒	TORO	570S-12P PRX COM WITH 10 'O' Q, H, F, MISC. NOZZLES PRESSURE COMPENSATING	8.5'-10'	.28-1.06	50	- -
◔ ◓ ◕ ◒	TORO	570S-12P PRX COM WITH 12 'O' Q, H, F, MISC. NOZZLES PRESSURE COMPENSATING	10.2'-12'	.39-1.49	50	- -
◍	TORO	P-252 SERIES REMOTE CONTROL VALVE - SIZE AS NOTED				- -
⧗	NIBCO	GATE VALVES 2" AND SMALLER SHALL BE NIBCO T-113. FOR VALVES ABOVE 2" IN SIZE UTILIZE NIBCO F-619 FLANGED VALVE WITH SQUARE OPERATING NUT.				- -

SYM.	MANUFAC.	MODEL NO./ DESCRIPTION	RAD.	GPM	PSI	DTL REF
♦	TORO	100-2SL-VLC QUICK COUPLER VALVE IN LANDSCAPE				- -
◈	TORO	100-2SL-VLC QUICK COUPLER VALVE IN SYNTHETIC TURF				- -
		MAIN LINE - 2" AND SMALLER: SCHEDULE 40 PVC WITH SOLVENT-WELD FITTINGS; 2-1/2" AND 3": CLASS 315 PVC WITH RING - TITE CONNECTIONS.				- -
		3/4" LATERAL LINE - SCH 40. PVC PIPE & SOLVENT WELD FITTINGS, WITH 18" COVER.				- -
		1" LATERAL LINE - SCH 40. PVC PIPE & SOLVENT WELD FITTINGS, WITH 18" COVER.				- -

SYM.	MANUFAC.	MODEL NO./ DESCRIPTION	RAD.	GPM	PSI	DTL REF
		1-1/4" LATERAL LINE - SCH 40. PVC PIPE & SOLVENT WELD FITTINGS, WITH 18 COVER.				- -
		1-1/2" LATERAL LINE - SCH 40. PVC PIPE & SOLVENT WELD FITTINGS, WITH 18" COVER.				- -
		IRRIGATION SLEEVE - CLASS 315 PVC, SIZE TO BE TWICE THE DIAMETER OF PIPES WITHIN SLEEVES				- -
1 / 1" | 11.9		CONTROLLER STATION NUMBER / APPROX. GPM FLOW THROUGH VALVE / CONTROL VALVE SIZE				

SYM.	MANUFAC.	MODEL NO./ DESCRIPTION	RAD.	GPM	PSI	DTL REF
A		EXISTING IRRIGATION CONTROLLER. CONTROLLER TO BE RELOCATED FROM ITS EXISTING LOCATION AND REINSTALLED, USING SOME CONNECTIONS METHOD, TO NEW FENCING.				
P.O.C.		POINT OF CONNECTION - TIE PROPOSED MAIN LINE TO 3" EXISTING SUPPLY LINE. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING SUPPLY LINE AND WATER PRESSURE. PROVIDE STATIC WATER PRESSURE RATING TO DISTRICT'S REPRESENTATIVE				



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REGISTERED PROFESSIONAL ENGINEER
DEVIN CONWAY
No. C-56494
Signature
EXPIRATION DATE: June 30, 2025
CIVIL
STATE OF CALIFORNIA

CONSULTANT

SHEET TITLE
IRRIGATION PLAN

PROJECT NAME
SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS
498 POINT SAN PEDRO RD
SAN RAFAEL, CA 94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY	CHECKED BY
WD	WD/DC
DATE ISSUED	SCALE
11/01/24	1"=10'-0"

PROJ. NO. 2401200

SHEET NO. L8.1 OF X SHEETS

DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_L8.1 IRR.dwg
PLOT DATE: 10-29-24 PLOTTED BY: station5

PLANTING NOTES

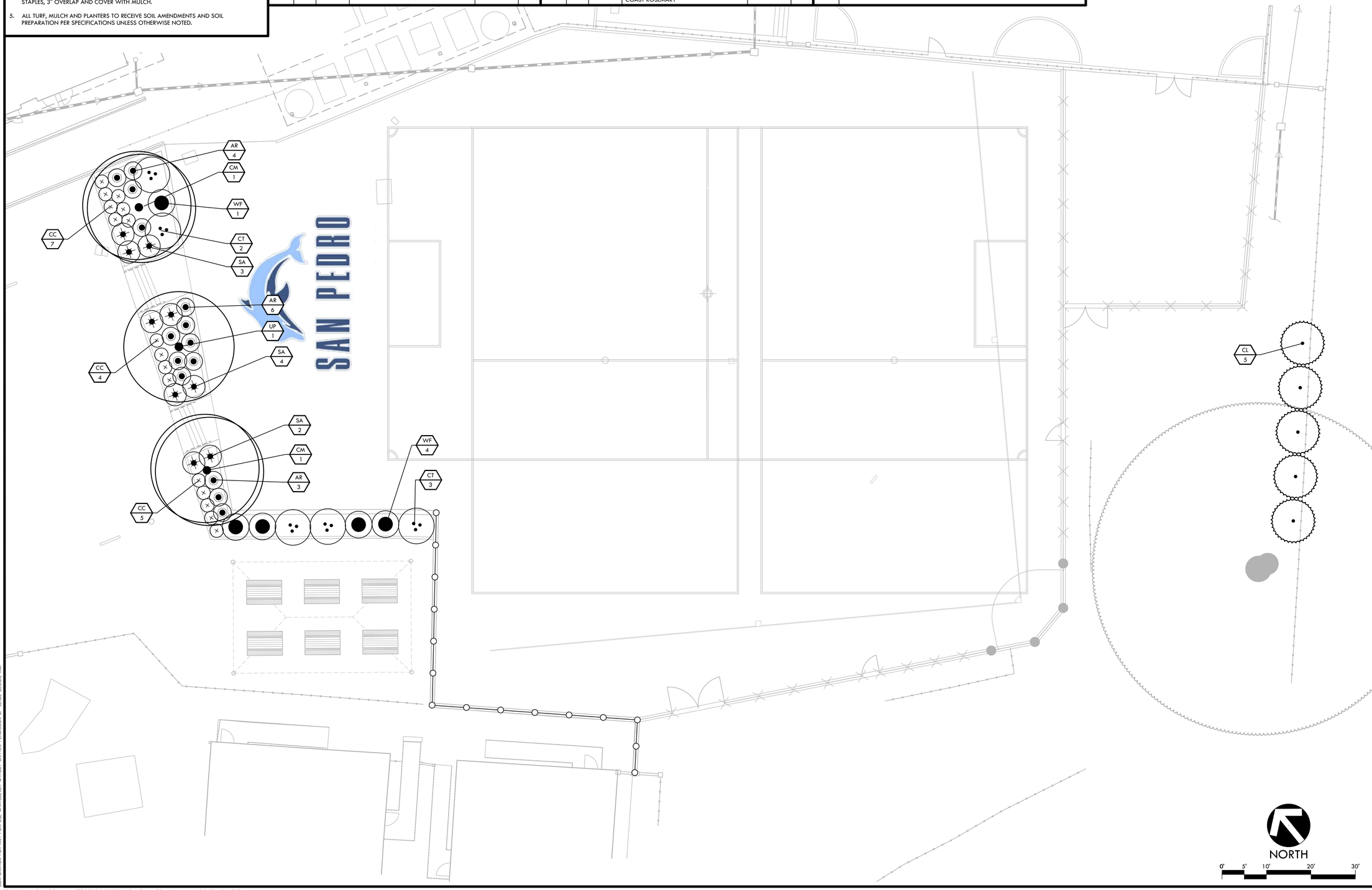
1. CONTRACTOR SHALL PROTECT AND MAINTAIN ALL PLANT MATERIAL FROM TIME OF DELIVERY TO TIME OF FINAL ACCEPTANCE. DISTRICT SHALL NOT BE RESPONSIBLE FOR LOSSES DUE TO VANDALISM, THEFT OR SEVERE WEATHER.
2. CONTRACTOR SHALL PLACE PLANT MATERIALS SO THEY DO NOT INTERFERE WITH IRRIGATION SYSTEM OR INHIBIT REQUIRED COVERAGE. PLANT LOCATIONS MAY BE ADJUSTED AS LONG AS DESIGN INTENT IS NOT COMPROMISED. CONTRACTOR SHALL SET OUT PLANT MATERIAL AS PER PLAN AND RECEIVE ACCEPTANCE FROM DISTRICT'S REPRESENTATIVE WITH RESPECT TO PLANT HEALTH AND LOCATION PRIOR TO INSTALLATION. CONTRACTOR SHALL GIVE MINIMUM 2 WORKING DAYS NOTICE FOR OBSERVATION AND SHALL HAVE ALL PLANT MATERIAL IN SPECIFIED LOCATIONS FOR REVIEW AT ONE TIME. CONTRACTOR SHALL REPLACE ANY MATERIAL AS REQUESTED BY DISTRICT'S REPRESENTATIVE.
3. ALL NON-TURF PLANTING AREAS SHALL RECEIVE A 3" LAYER OF BARK MULCH TOP DRESS (UNLESS NOTED OTHERWISE). REFER TO SPECIFICATIONS.
4. ALL SHRUB AND TREE AREA SHALL RECEIVE A WEED FABRIC LAYER. INSTALL WITH STAPLES, 3" OVERLAP AND COVER WITH MULCH.
5. ALL TURF, MULCH AND PLANTERS TO RECEIVE SOIL AMENDMENTS AND SOIL PREPARATION PER SPECIFICATIONS UNLESS OTHERWISE NOTED.

PLANTING LEGEND

SYM	QTY	SIZE	BOTANICAL/COMMON NAME	SPACING/ COMMENTS	DTL REF
TREES					
CL	5	15 GAL.	CUPRESSUS X LEYLANDII LEYLAND CYPRSS	AS SHOWN	- -
CM	2	24" BOX	LAGESTROEMIA 'NATCHEZ' CRAPE MYRTLE	AS SHOWN	- -
UP	1	24" BOX	ULMUS PARVIFOLIA LACEBARK ELM	AS SHOWN	- -

SYM	QTY	SIZE	BOTANICAL/COMMON NAME	SPACING/ COMMENTS	DTL REF
SHRUBS					
AR	13	5 GAL	ARCTOSTAPHYLAS 'EMERALD CARPET' EMERALD CARPET MANZANITA	4'-0" O.C.	- -
CC	16	5 GAL.	CAREX CONICA 'SNOWLINE' SNOWLINE BIRDFOOT SEDGE	1'-5" O.C.	- -
CT	5	5 GAL.	CEANOTHUS THYRSIFLORUS BLUEBLOSSOM	8'-0" O.C.	- -
SA	9	5 GAL	SALVIA LEUCANTHA MEXICAN BUSH SAGE	5'-0" O.C.	- -
WF	5	5 GAL.	WESTRINGIA FRUTICOSA COAST ROSEMARY	6'-0" O.C.	

SYM	QTY	SIZE	BOTANICAL/COMMON NAME	SPACING/ COMMENTS	DTL REF
GROUND COVERS					
			WILDFLOWER MIX, REFER TO SPECIFICATIONS.		
			SEEDED TURF, REFER TO SPECIFICATIONS.		



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No. C-56494
Signature
EXPIRATION DATE: June 30, 2025
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STATE OF CALIFORNIA

CONSULTANT

LA

SHEET TITLE

PLANTING PLAN

PROJECT NAME

SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS

498 POINT SAN PEDRO RD
SAN RAFAEL, CA
94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY	CHECKED BY
XX	WD/DC
DATE ISSUED: 11/01/24	SCALE: 1"=10'-0"
PROJ. NO.: 2401200	
SHEET NO.: L9.1 OF X SHEETS	

PLANTING PLAN

DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_L9.1 PLT.dwg
PLOT DATE: 10-29-24 PLOTTED BY: stationS

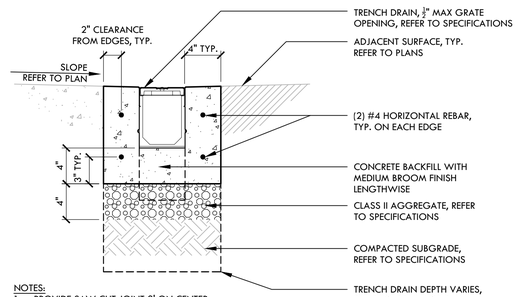
P

L

H

TRENCH DRAIN — NTS

SECTION

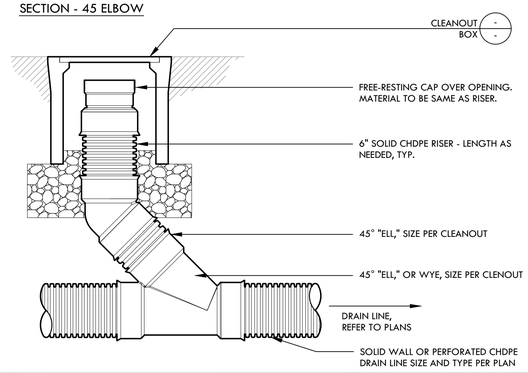


NOTES:
1. PROVIDE SAW CUT JOINT 8' ON CENTER.
2. JOINTS TO BE ON BOTH SIDES OF GRATE.
3. SEE PLANS FOR LOCATIONS.

D

STORM DRAIN CLEANOUT — NTS

SECTION - 45 ELBOW



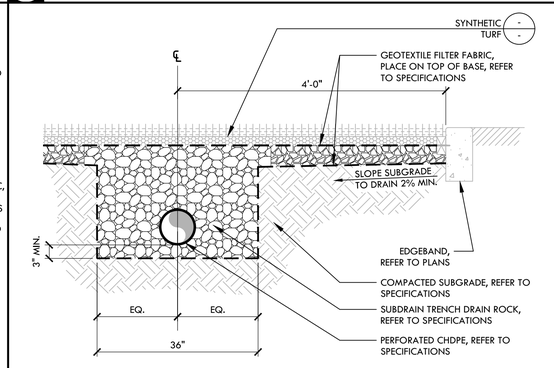
O

K

G

MODIFIED CATCH BASIN IN SYNTHETIC TURF — NTS

SECTION

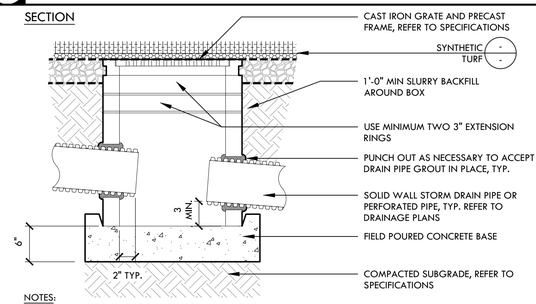


NOTES:
1. ALL PIPING ENTRIES AND EXITS INTO DRAINAGE STRUCTURES SHALL BE GROUTED SMOOTH AND WATERTIGHT USING NON-SHRINK GROUT, TYP.
2. ALL RISERS AND EXTENSIONS SHALL BE CONNECTED WITH AN ADHESIVE PRODUCT (RAMNEK OR EQUIVALENT)

C

JUNCTION BOX - SYNTHETIC TURF — NTS

SECTION

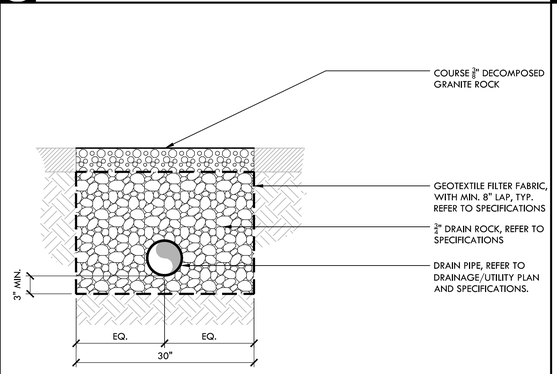


NOTES:
1. SET BOX COVER TO TOP OF PERMEABLE ROCK BASE ELEVATION. VERIFY EXACT LOCATION AND RIM ELEVATION PRIOR TO INSTALLATION.
2. POSITIVE DRAINAGE TO INLET SHALL BE VERIFIED BY CONTRACTOR.
3. ALL PIPING ENTRIES AND EXITS INTO DRAINAGE STRUCTURES SHALL BE GROUTED SMOOTH AND WATERTIGHT USING NON-SHRINK GROUT, TYP.
4. ALL RISERS AND EXTENSIONS SHALL BE CONNECTED WITH AN ADHESIVE PRODUCT, REFER TO SPECIFICATIONS. DO NOT CUT A HOLE IN TURF FOR JUNCTION BOX.

N

J

ROCK DRAIN — NTS



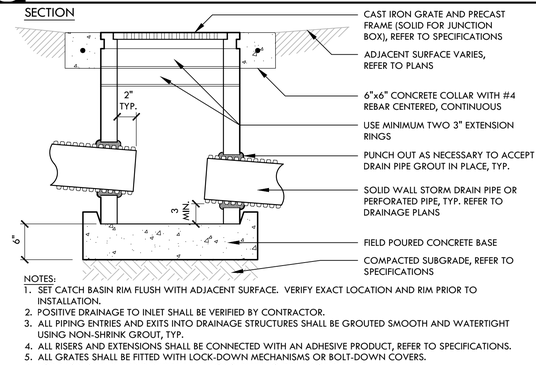
F

PERFORATED SUBDRAIN — NTS

B

CATCH BASIN / JUNCTION BOX — NTS

SECTION

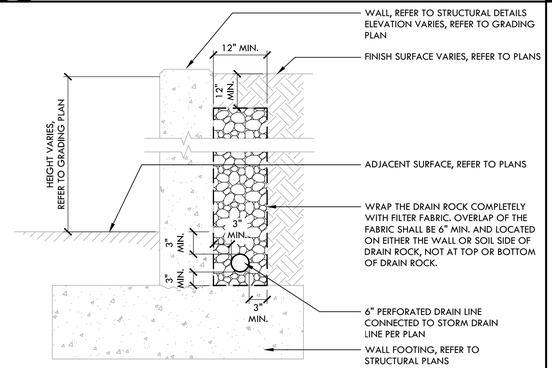


NOTES:
1. SET CATCH BASIN RIM FLUSH WITH ADJACENT SURFACE. VERIFY EXACT LOCATION AND RIM PRIOR TO INSTALLATION.
2. POSITIVE DRAINAGE TO INLET SHALL BE VERIFIED BY CONTRACTOR.
3. ALL PIPING ENTRIES AND EXITS INTO DRAINAGE STRUCTURES SHALL BE GROUTED SMOOTH AND WATERTIGHT USING NON-SHRINK GROUT, TYP.
4. ALL RISERS AND EXTENSIONS SHALL BE CONNECTED WITH AN ADHESIVE PRODUCT, REFER TO SPECIFICATIONS.
5. ALL GRATES SHALL BE FITTED WITH LOCK-DOWN MECHANISMS OR BOLT-DOWN COVERS.
6. FOR BASIN SIZE, RIM AND INVERT ELEVATIONS, REFER TO DRAINAGE PLAN.

M

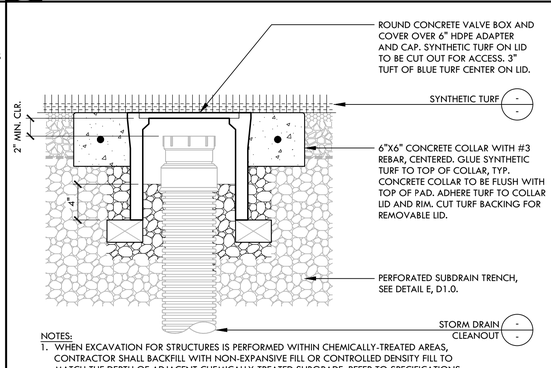
I

WALL DRAIN — NTS



E

CLEANOUT IN SYNTHETIC TURF — NTS

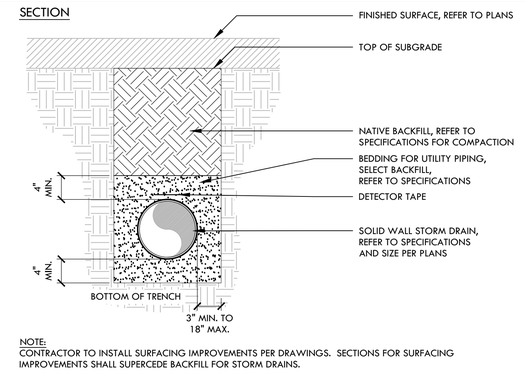


NOTES:
1. WHEN EXCAVATION FOR STRUCTURES IS PERFORMED WITHIN CHEMICALLY-TREATED AREAS, CONTRACTOR SHALL BACKFILL WITH NON-EXPANSIVE FILL OR CONTROLLED DENSITY FILL TO MATCH THE DEPTH OF ADJACENT CHEMICALLY-TREATED SUBGRADE, REFER TO SPECIFICATIONS.

A

TRENCH BACKFILL - SOLID WALL STORM — NTS

SECTION



NOTE:
CONTRACTOR TO INSTALL SURFACING IMPROVEMENTS PER DRAWINGS. SECTIONS FOR SURFACING IMPROVEMENTS SHALL SUPERCEDE BACKFILL FOR STORM DRAINS.

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CONSULTANT

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DRAINAGE AND UTILITY DETAILS

PROJECT NAME
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SAN RAFAEL, CA
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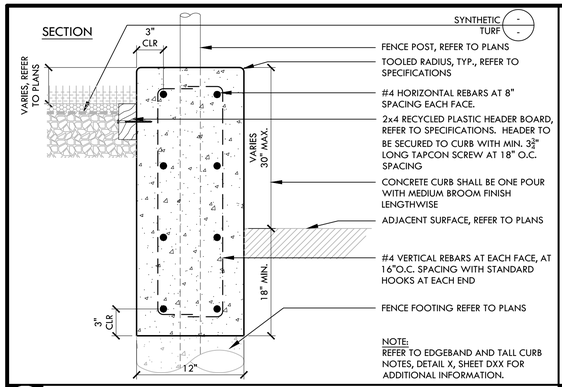
PROJ. NO. 2401200

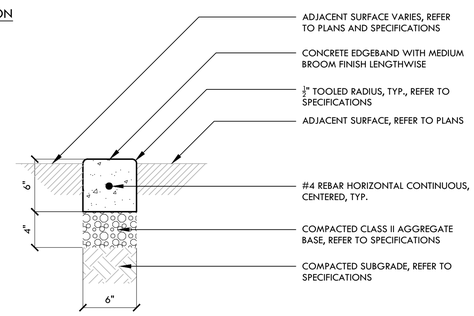
SHEET NO. D1.1 OF X SHEETS

M 12" WIDE TALL CURB WITH FENCE - TYPE 2 NTS

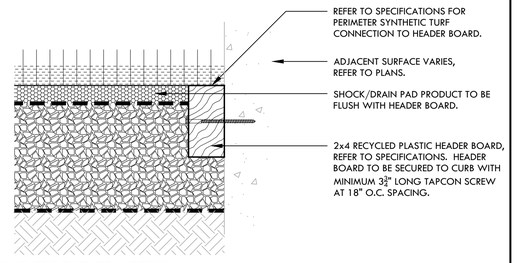


NOTE:
REFER TO EDGEBAND AND TALL CURB NOTES, DETAIL X, SHEET DXX FOR ADDITIONAL INFORMATION.

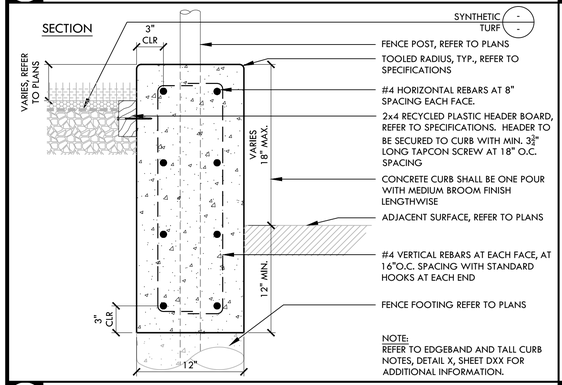
I 6" WIDE EDGEBAND NTS



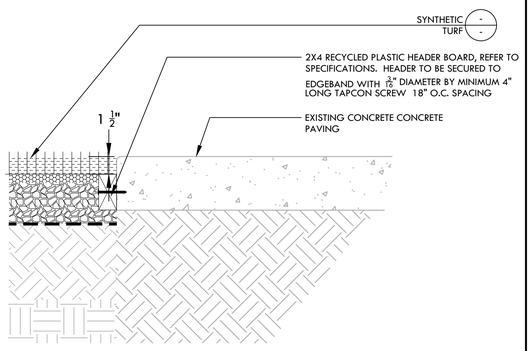
NOTE:
REFER TO EDGEBAND AND TALL CURB NOTES, DETAIL D, THIS SHEET FOR ADDITIONAL INFORMATION.



SYNTHETIC TURF CONNECTION



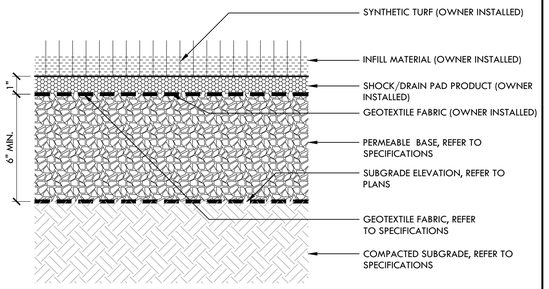
NOTE:
REFER TO EDGEBAND AND TALL CURB NOTES, DETAIL X, SHEET DXX FOR ADDITIONAL INFORMATION.



L 12" WIDE TALL CURB WITH FENCE - TYPE 1 NTS

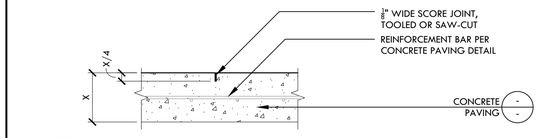
H SYNTHETIC TURF CONNECTION AT EXISTING PAVING NTS

E SYNTHETIC TURF WITH SHOCK/DRAIN PAD NTS

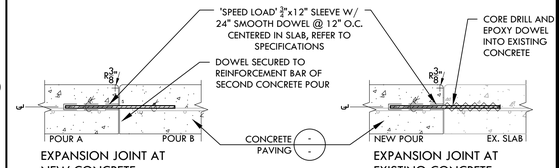


SYNTHETIC TURF SECTION

NOTE:
REFER TO SYNTHETIC TURF NOTES, DETAIL X, THIS SHEET.

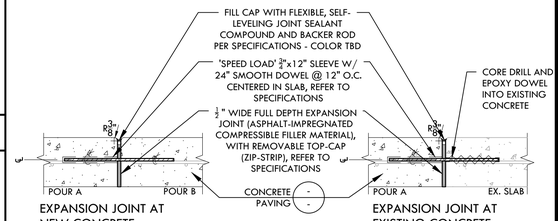


SCORE JOINT
SECTION



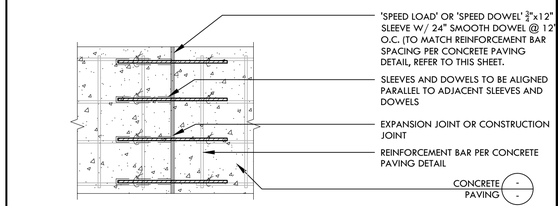
EXPANSION JOINT AT NEW CONCRETE
SECTION

EXPANSION JOINT AT EXISTING CONCRETE
SECTION

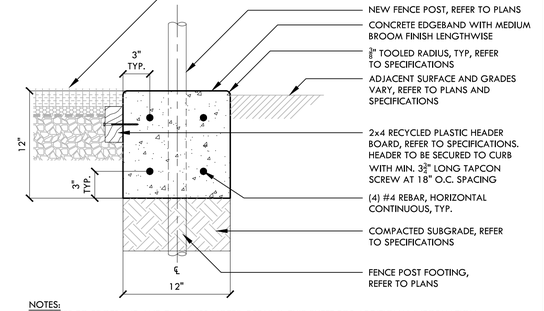


EXPANSION JOINT AT NEW CONCRETE
SECTION

EXPANSION JOINT AT EXISTING CONCRETE
SECTION



CONSTRUCTION / EXPANSION JOINT
PLAN



NOTES:
1. REFER TO EDGEBAND AND TALL CURB NOTES, DETAIL X, THIS SHEET FOR ADDITIONAL INFORMATION.
2. ON LANDSCAPE SIDE, ADJACENT SURFACE HEIGHT VARIES - 3" MAX ONLY, REFER TO GRADING PLAN.

K 12" WIDE EDGEBAND WITH FENCE AT SYNTHETIC TURF NTS

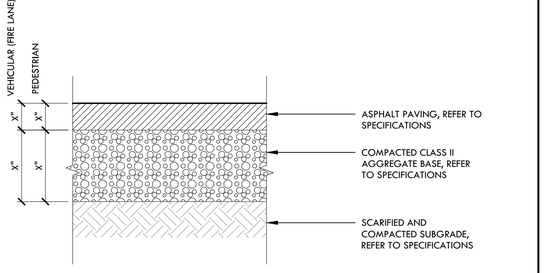
G EDGEBAND AND TALL CURB NOTES NTS

NOTES PERTAIN TO ALL EDGEBAND AND CURB DETAILS:
1. FOR EDGEBANDS AND CURBS WITH FENCING, INSTALL EXPANSION JOINTS AT ALL CORNERS, BEGINNINGS, AND ENDINGS OF RADII, AND AT ALL FENCE POSTS. INSTALL SCORE JOINTS AT 5' O.C. AND OR EVENLY SPACED AND CENTERED BETWEEN POSTS.
2. FOR EDGEBAND AND CURBS WITHOUT FENCING, INSTALL SCORE JOINTS AT 10' O.C. SPACING AND FIBER EXPANSION JOINTS EVERY 20' ON STRAIGHT RUNS. ON CURVED RUNS, FIBER EXPANSION JOINTS SHALL BE SPACED 10' O.C., WITH ALTERNATING SCORE JOINTS AT 5' O.C. SPACING.
3. ALL EXPANSION JOINTS SHALL BE SEALED, PER SPECIFICATIONS.

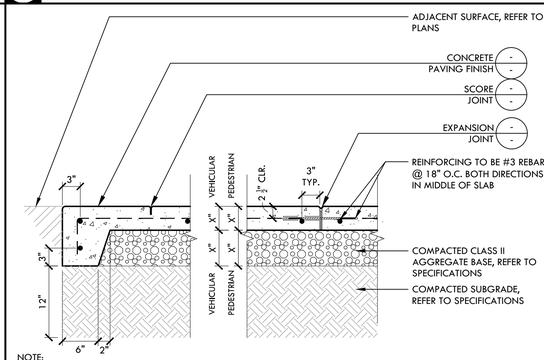
NOTES PERTAIN TO ALL TALL CURB DETAILS:
1. PROVIDE EXPANSION JOINTS AT 16' O.C. SPACING, CENTERED BETWEEN FENCE POSTS.
2. PROVIDE EXPANSION JOINTS AT EACH LOCATION WHERE AN ELEVATION STEP OCCURS BETWEEN CHANGING CURB/EDGEBAND TYPES.
3. AT EXPANSION JOINTS, PROVIDE A 24" LONG #4 DOWEL AT EACH CURB HORIZONTAL REBAR, CENTERED ON THE JOINT., AS PER DETAIL.
4. EXPANSION JOINTS SHALL BE INSTALLED WITH A ¾" CHAMFER BUILT INTO THE FORM WORK, IN ADDITION TO THE FIBER EXPANSION JOINT MATERIAL.
5. PROVIDE A CONTROL JOINT AT EACH FENCE POST. THE VERTICAL JOINT SHALL BE A ¾" CHAMFER BUILT INTO THE FORM WORK. THE HORIZONTAL JOINT, ALONG THE TOP OF CURB, SHALL BE A TOOLED SCORE JOINT, ALIGNED WITH AND MATCHING THE VERTICAL CHAMFER JOINT.
6. ALL EXPANSION JOINTS SHALL BE SEALED PER SPECIFICATION.
7. NO SCORE JOINTS ARE REQUIRED ON TALL CURBS, EXCEPT AS INDICATED AT EACH FENCE POST IN ITEM #5 ABOVE.

FINISHES
EDGEBANDS AND CURBS: MEDIUM BROOM
WALL AND TALL CURBS: MEDIUM SAND BLAST - TOP AND SIDES

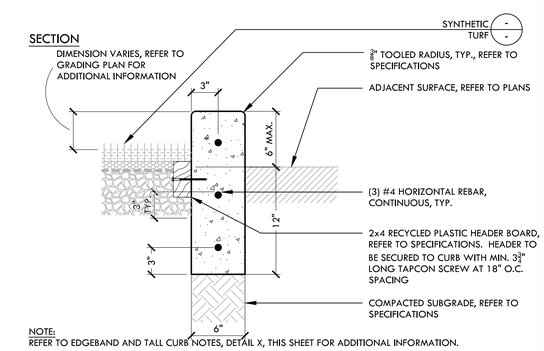
D ASPHALT PAVING NTS



B CONCRETE JOINTS NTS



NOTE:
1. PROVIDE SCORE JOINTS 5' O.C. AND 10' O.C. FOR EXPANSION JOINT UNLESS OTHERWISE NOTED.



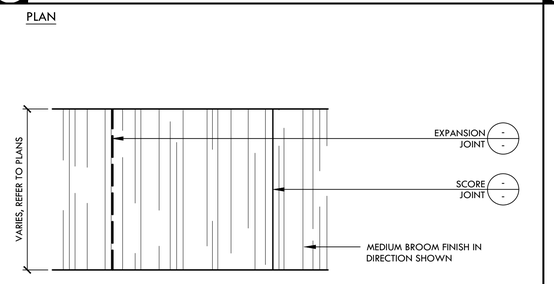
NOTE:
REFER TO EDGEBAND AND TALL CURB NOTES, DETAIL X, THIS SHEET FOR ADDITIONAL INFORMATION.

J 6" WIDE SYNTHETIC TURF CURB NTS

F SYNTHETIC TURF NOTES NTS

NOTES PERTAIN TO ALL DETAILS WITH SYNTHETIC TURF:
1. IDENTIFIED FINISH GRADES OF SYNTHETIC TURF SHALL BE THE TOP OF INFILL MATERIAL. INFILL MATERIAL SHALL BE ¼" BELOW ADJACENT SURFACES UNLESS EDGE IS A VERTICAL CURB.
2. KICKBALL FIELD STRIPING SHALL BE INLAID OR TUFTED 4" WIDE WHITE LINES, UNLESS NOTED OTHERWISE.
3. 20 X 35 YARD SOCCER FIELD STRIPING SHALL BE INLAID OR TUFTED 4" WIDE YELLOW LINES, UNLESS NOTED OTHER WISE.
3. 25 X 48 YARD SOCCER FIELD STRIPING SHALL BE INLAID OR TUFTED 4" WIDE BLUE LINES, UNLESS NOTED OTHER WISE.
4. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND ACCEPTANCE. ALL FIELD MARKINGS SHALL CONFORM TO CURRENT USA SOCCER GUIDELINES.
5. NO MANUFACTURER, CONTRACTOR OR VENDOR LOGOS ARE TO BE INSTALLED UNLESS SPECIFIED.
6. NO CUT OUTS IN TURF SHALL BE MADE UNLESS OTHERWISE NOTED AND ESPECIALLY NO CUT OUTS IN THE FIELD OF PLAY. QUICK COUPLERS AND CLEANOUTS ARE THE ONLY UTILITIES TO BE CUT THROUGH TURF. QUICK COUPLERS ARE LOCATED ON THE PERIMETER AND OUT OF THE FIELD OF PLAY AREAS.

C CONCRETE PAVING FINISH NTS



NOTE:
PROVIDE SCORE JOINTS 5' O.C. AND 10' O.C. FOR EXPANSION JOINT UNLESS OTHERWISE NOTED.

A CONCRETE PAVING NTS

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DEVIN CONWAY
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STATE OF CALIFORNIA

CONSULTANT

SHEET TITLE
CONSTRUCTION DETAILS - HARDSCAPE

PROJECT NAME
SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS
498 POINT SAN PEDRO RD
SAN RAFAEL, CA 94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY	CHECKED BY
VERDE	WD/DC
DATE ISSUED	SCALE
11/01/24	AS NOTED

PROJ. NO. 2401200

SHEET NO. D2.1 OF X SHEETS

DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_D2.0_PAV.dwg
PLOT DATE: 10-29-24 PLOTTED BY: station49

O

K

H

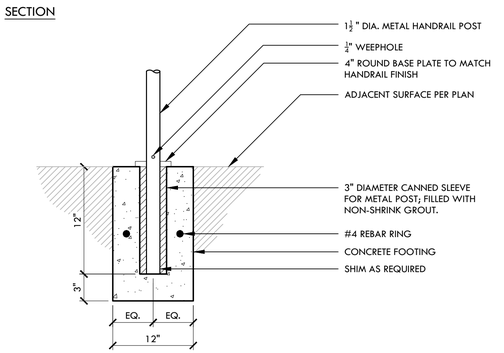
D

N

J

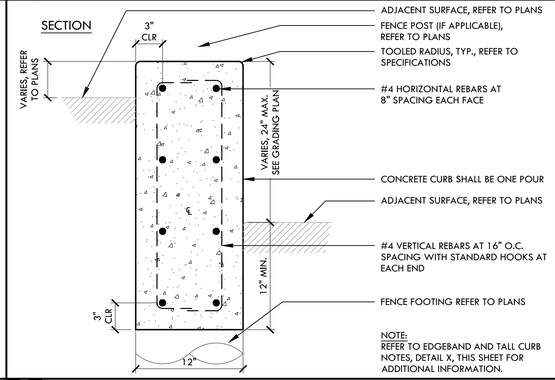
G GUARDRAIL FOOTING NTS

SECTION



C 12" WIDE TALL CURB - TYPE 3 NTS

SECTION



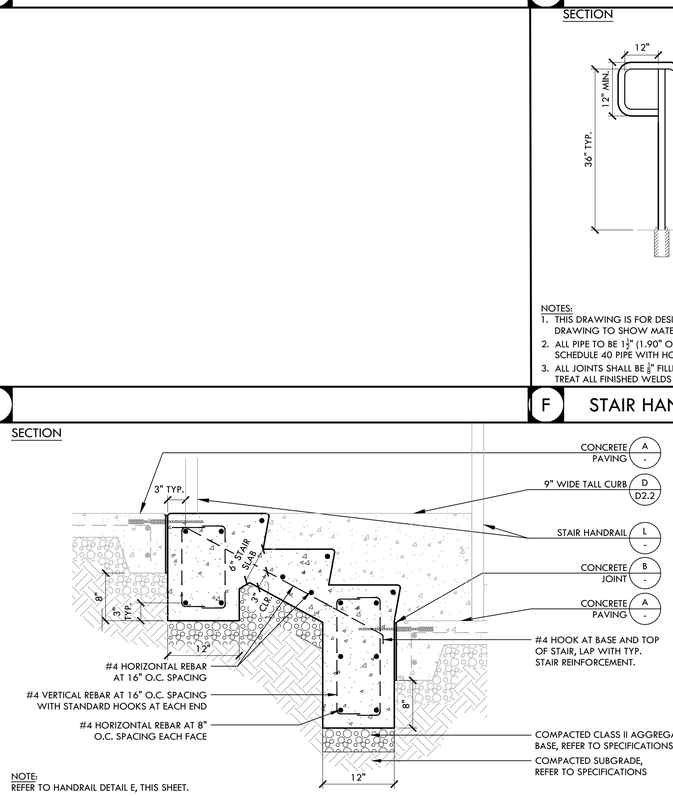
NOTE:
REFER TO EDGEBAND AND TALL CURB NOTES, DETAIL X, THIS SHEET FOR ADDITIONAL INFORMATION.

M

I

F STAIR HANDRAIL NTS

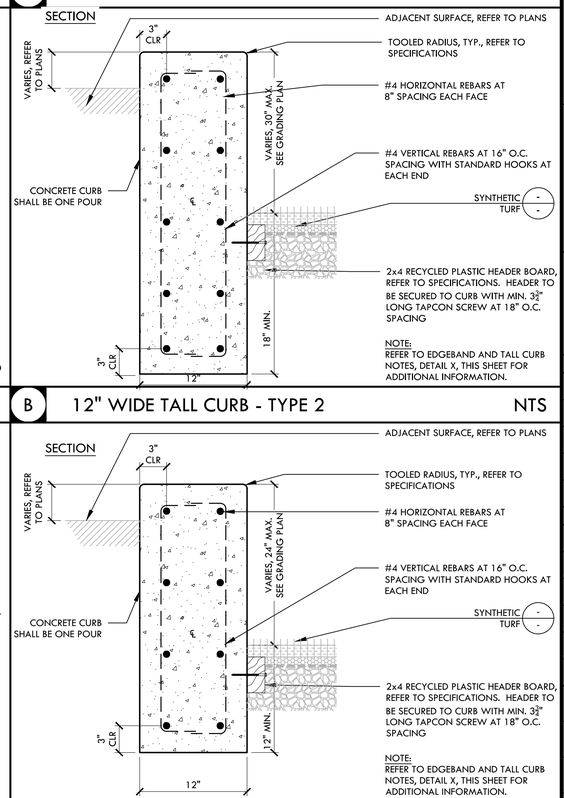
SECTION



NOTES:
1. THIS DRAWING IS FOR DESIGN INTENT ONLY. SUBMIT SHOP DRAWING TO SHOW MATERIAL, WELDS AND FASTENERS.
2. ALL PIPE TO BE 1½" (1.90" O.D.) DIAMETER .145" THICKNESS SCHEDULE 40 PIPE WITH HOT DIPPED GALVANIZED FINISH.
3. ALL JOINTS SHALL BE ⅜" FILLET WELD; GRIND SMOOTH JOINTS; TREAT ALL FINISHED WELDS WITH GALVANIZING.
4. ALL RAILINGS TO BE SHOP FABRICATED FOR FIELD INSTALLATION.
5. PROVIDE 1½" FROM OUTSIDE OF HANDRAIL TO CURB/WALL ADJACENT TO HANDRAIL.

B 12" WIDE TALL CURB - TYPE 2 NTS

SECTION



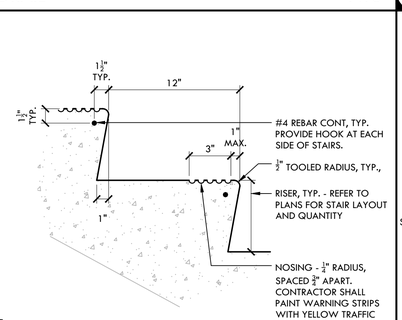
NOTE:
REFER TO EDGEBAND AND TALL CURB NOTES, DETAIL X, THIS SHEET FOR ADDITIONAL INFORMATION.

L

E STAIRS NTS

SECTION

NOTE:
REFER TO HANDRAIL DETAIL E, THIS SHEET.



STAIR ENLARGEMENT

A 12" WIDE TALL CURB - TYPE 1 NTS

SECTION

NOTE:
REFER TO EDGEBAND AND TALL CURB NOTES, DETAIL X, THIS SHEET FOR ADDITIONAL INFORMATION.

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REGISTERED PROFESSIONAL ENGINEER
DEVIN CONWAY
No. C-56494
Signature
EXPIRATION DATE: June 30, 2025
CIVIL
STATE OF CALIFORNIA

CONSULTANT

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PROJ. NO. 2401200

SHEET NO. D2.2 OF X SHEETS

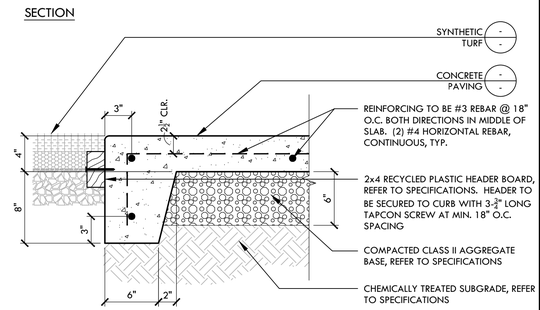
DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_D2.0_PAV.dwg
PLOT DATE: 10-29-24 PLOTTED BY: station49

O

K

H

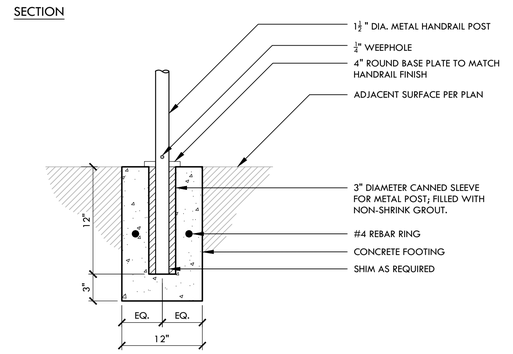
D THICKENED CONCRETE EDGE AT SYNTHETIC TURF — NTS



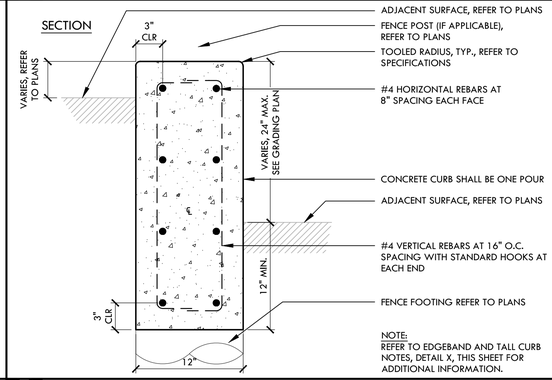
N

J

G GUARDRAIL FOOTING — NTS



C 12" WIDE TALL CURB - TYPE 3 — NTS



M

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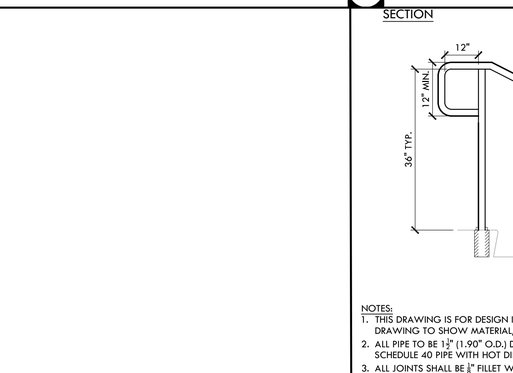
F STAIR HANDRAIL — NTS



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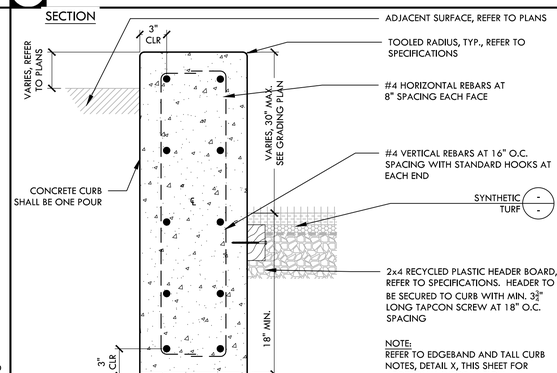
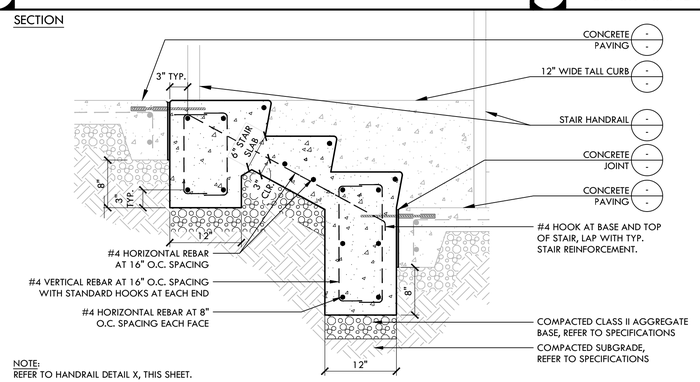
B 12" WIDE TALL CURB - TYPE 2 — NTS

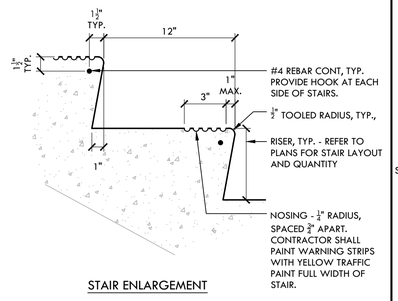


L

E STAIRS — NTS

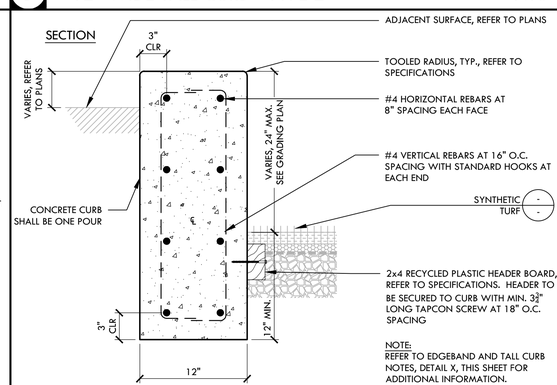


NOTE:
REFER TO HANDRAIL DETAIL X, THIS SHEET.



STAIR ENLARGEMENT

A 12" WIDE TALL CURB - TYPE 1 — NTS



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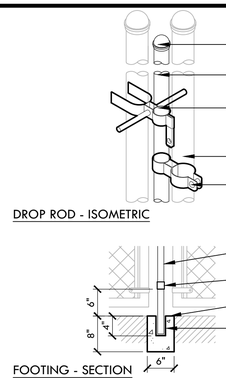
PROJ. NO.
2401200

SHEET NO.
D2.2 OF X SHEETS

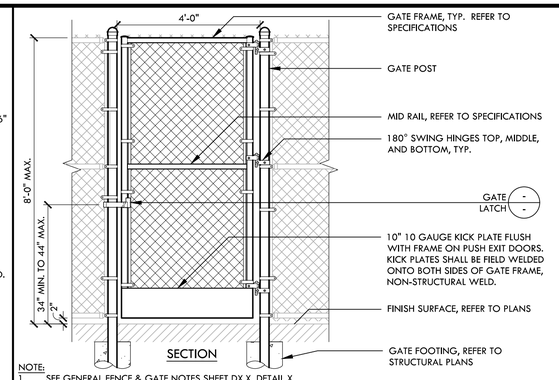
P

L



GATE - DROP REDNTS

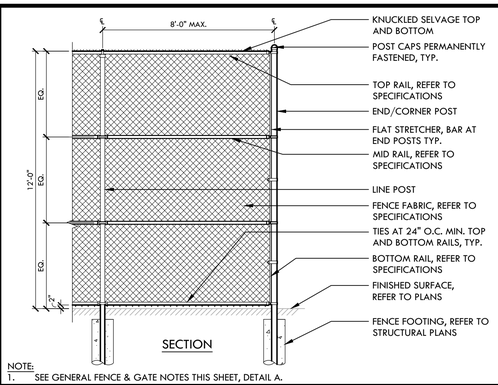
H



NOTE:
1. SEE GENERAL FENCE & GATE NOTES SHEET DX.X, DETAIL X.

8' TALL X 4' WIDE SWING GATENTS

D

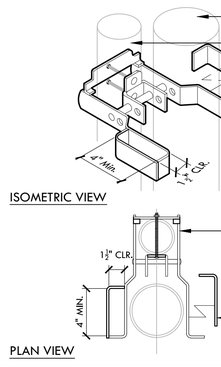


NOTE:
1. SEE GENERAL FENCE & GATE NOTES THIS SHEET, DETAIL A.

12' TALL CHAIN LINK FENCENTS

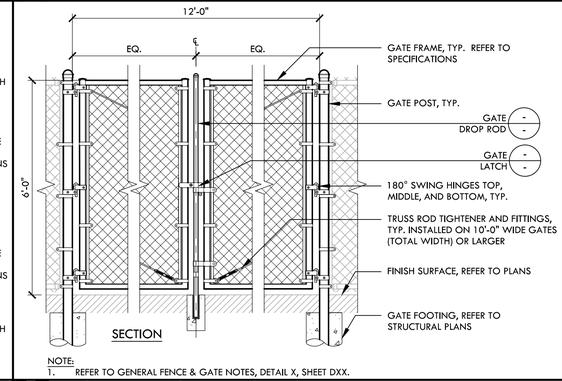
O

K



GATE LATCHNTS

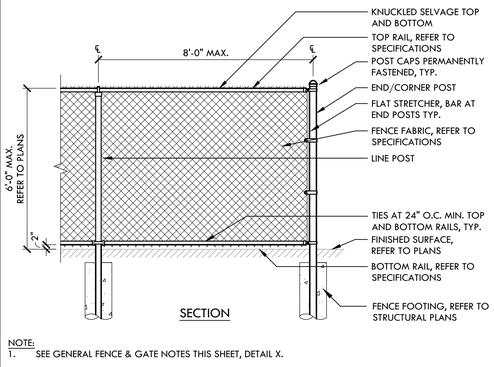
G



NOTE:
1. REFER TO GENERAL FENCE & GATE NOTES, DETAIL X, SHEET DXX.

6' TALL X 10' WIDE CHAIN LINK DOUBLE SWING GATENTS

C

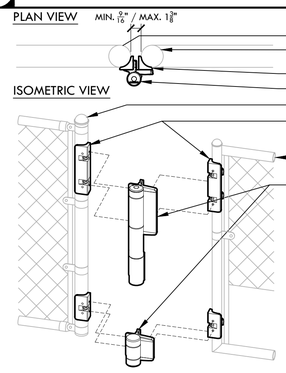


NOTE:
1. SEE GENERAL FENCE & GATE NOTES THIS SHEET, DETAIL X.

6' TALL CHAIN LINK FENCENTS

N

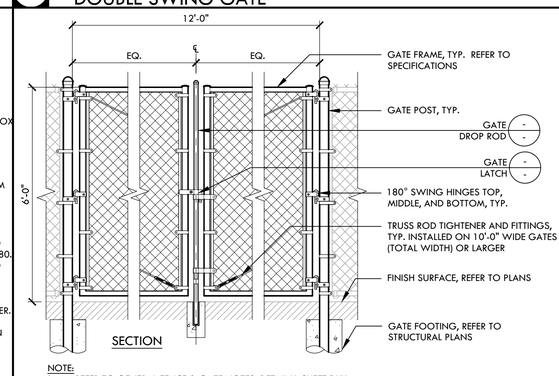
J



NOTES:
1. SELF CLOSING GATE HINGE FOR GATES UP TO 330 LBS. AND 5' WIDE SHALL BE MAMMOTH-180.
2. SELF CLOSING GATE HINGE FOR GATES UP TO 440 LBS. AND 6.5' WIDE SHALL BE MAMMOTH-HD.
3. CHAIN LINK BRACKET ADAPTER SHALL BE MAMMOTH-CLB, FOR POSTS UP TO 4" DIAMETER.
4. FOR POSTS LARGER THAN 4" DIAMETER, CONTRACTOR SHALL SPOT-WELD ANGLE IRON TO POST, SIZED APPROPRIATELY TO MOUNT HINGES.
5. MOUNTING HARDWARE FOR LOCINOX PRODUCTS PROVIDED BY MANUFACTURER.

SELF-CLOSING HINGES AT CHAIN LINK GATENTS

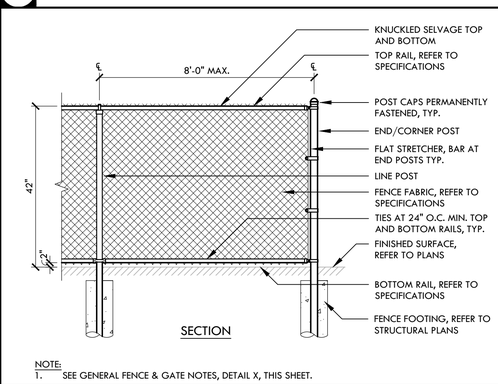
F



NOTE:
1. REFER TO GENERAL FENCE & GATE NOTES, DETAIL X, SHEET DXX.

6' TALL X 12' WIDE CHAIN LINK DOUBLE SWING GATENTS

B

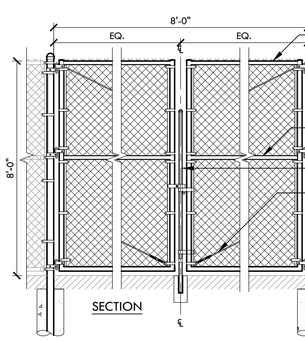


NOTE:
1. SEE GENERAL FENCE & GATE NOTES, DETAIL X, THIS SHEET.

42" TALL CHAIN LINK FENCENTS

M

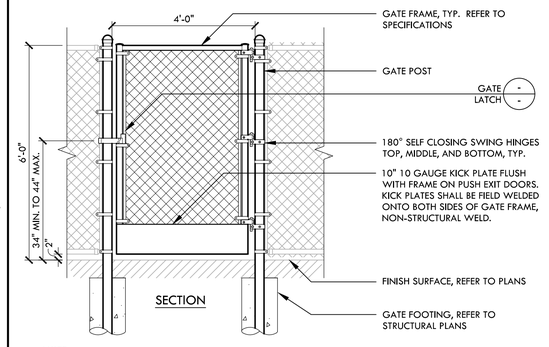
I



NOTE:
1. REFER TO GENERAL FENCE & GATE NOTES, DETAIL X, SHEET DXX.

8' TALL X 8' WIDE CHAIN LINK DOUBLE SWING GATENTS

E



NOTE:
1. REFER TO GENERAL FENCE & GATE NOTES, DETAIL X, SHEET DX.X.

6' TALL X 4' SWING GATENTS

A

FENCE AND GATES NOTESNTS

NOTES PERTAIN TO ALL GATE AND FENCE DETAILS:

1. FENCE FABRIC ON PERIMETER FENCING IS TO BE ON FIELD SIDE. ALL FENCING TO BE GALVANIZED UNLESS INDICATED ON PLANS AS ORNAMENTAL.
2. BOTTOM RAIL TO BE 2" FROM FINISH GRADE, FENCE FABRIC BOTTOM EDGE TO BE 1" FROM FINISH GRADE.
3. SUBMIT SHOP DRAWINGS FOR ACCEPTANCE BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
4. GATES IN ACCESSIBLE PATH OF TRAVEL MUST MEET ENTRY AND EXIT DOOR REQUIREMENTS FOR ACCESSIBILITY PER CALIFORNIA BUILDING CODE (11B-404).
5. FOR PEDESTRIAN GATE , PROVIDE LOCKING DEVICE TO SECURE GATE IN OPEN POSITION WITH NEW SIGN THAT READS, "GATE SHALL REMAIN OPEN DURING HOURS OF OPERATION."
6. ALL PEDESTRIAN SWING GATES SHALL HAVE A KICK PLATE ATTACHMENT.
7. REFER TO PLANS FOR EDGEBAND TYPE UNLESS OTHERWISE NOTED.
8. REFER TO PLANS AND DETAILS FOR FENCING WITH CURBS AND CHANGE IN ELEVATIONS.
9. CANE STOP TO GO DOWN 4" INTO CONCRETE IN CLOSED POSITION AND OPEN POSITION.
10. TACK WELD HINGES TO POSTS AT GATES.
11. DOUBLE SWING GATES THAT ARE INLINE WITH FENCING, GATE POSTS SHALL BE OFFSET FROM THE FENCE TO ALLOW SWING GATES TO OPEN A FULL 180° BACK AGAINST THE FENCE PER PLAN LAYOUT.
12. THE PIPE SIZES INDICATED ARE NPS FOR: STANDARD PIPE SCHEDULE 40.
13. ALL DROP CANES TO HAVE A MECHANISM TO HOLD IN UP POSITION WHEN GATE IS OPEN AND/OR SWINGING. LOCATIONS FOR DROP BAR IN CLOSED AND OPEN POSITIONS TO BE PROVIDED.

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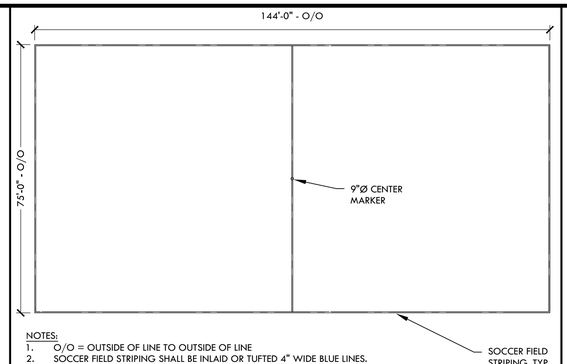
DRAWN BY: VERDE
CHECKED BY: WD/DC
DATE ISSUED: 11/01/24
SCALE: AS NOTED
PROJ. NO.: 2401200
SHEET NO.: D3.1 OF X SHEETS

M

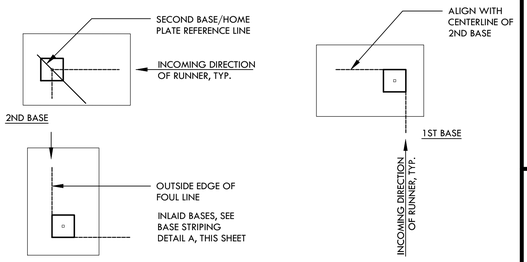
I

E 25 x 45 YARD SOCCER FIELD STRIPING



NOTES:
1. O/O = OUTSIDE OF LINE TO OUTSIDE OF LINE
2. SOCCER FIELD STRIPING SHALL BE INLAID OR TUFTED 4" WIDE BLUE LINES.
3. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND ACCEPTANCE.

C KICKBALL BASE LOCATIONS NTS

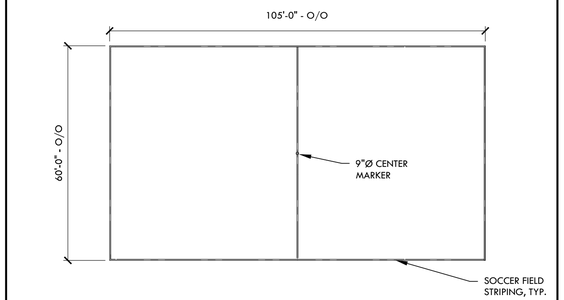


NOTE:
BASE STRIPING IN ACCORDANCE WITH DETAIL A, THIS SHEET.

L

H

D 20 x 35 YARD SOCCER FIELD STRIPING



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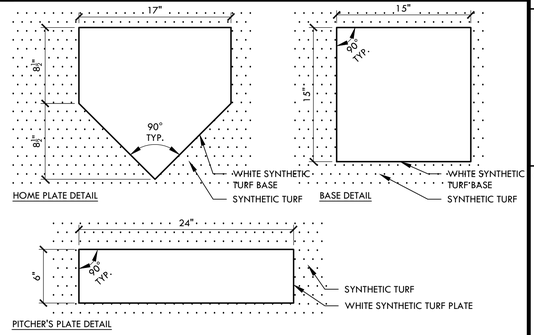
B BASEBALL BASES STRIPING NTS



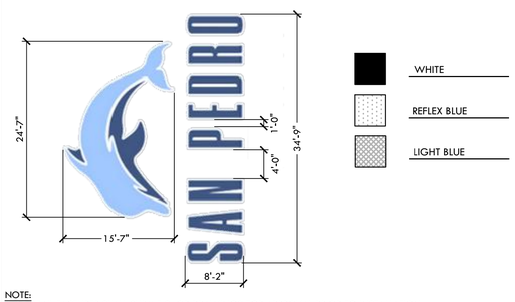
NOTE:
CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND ACCEPTANCE. ALL FIELD MARKINGS SHALL CONFORM TO CURRENT NFHS AND C.I.F. (CALIFORNIA INTERSCHOLASTIC FEDERATION) GUIDELINES.

K

G

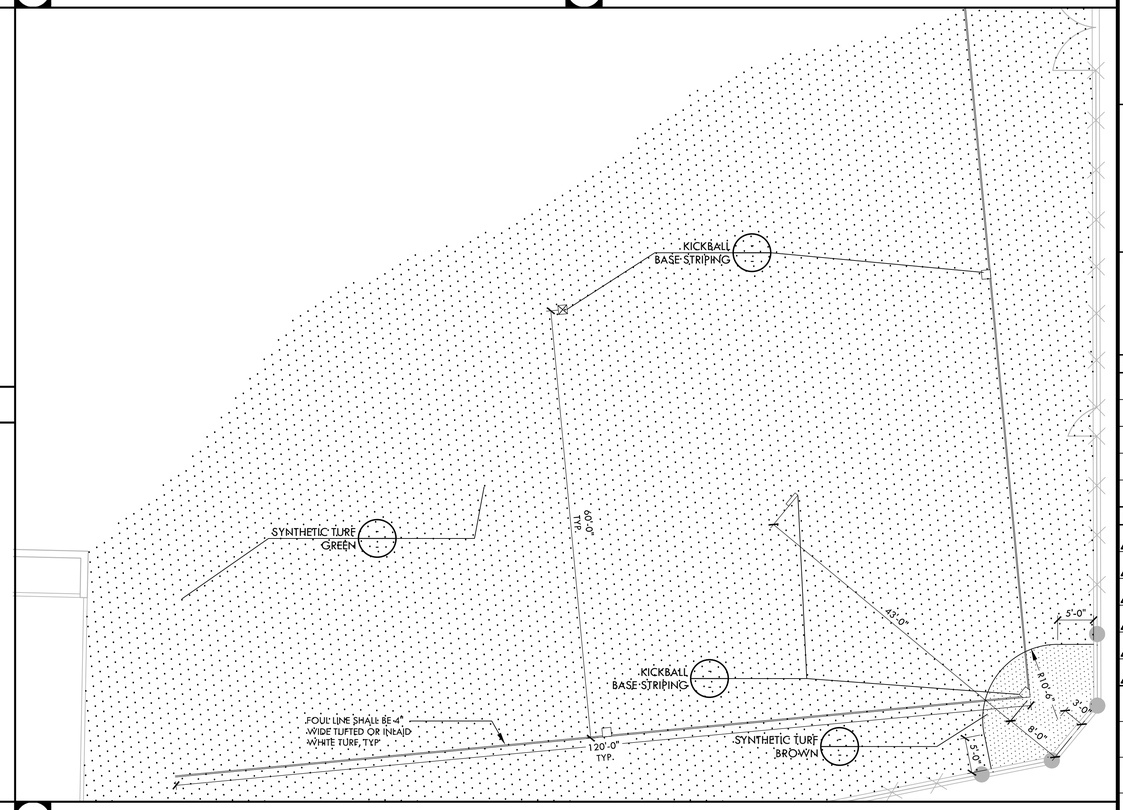
J

F FIELD LOGO NTS



NOTE:
TURF MANUFACTURER SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.

A KICKBALL STRIPING NTS



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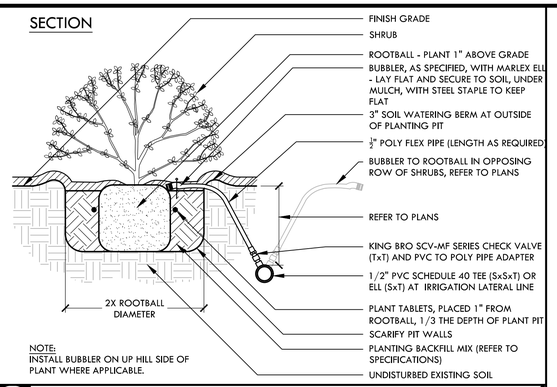
D4.1 OF X SHEETS

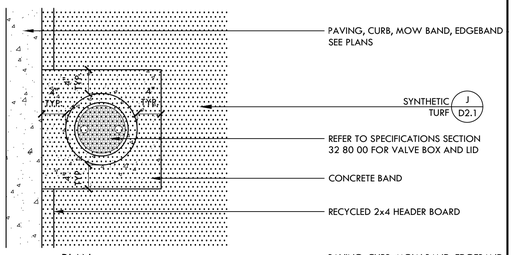
DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_DTL_ATH.dwg
PLOT DATE: 10-29-24 PLOTTED BY: station5

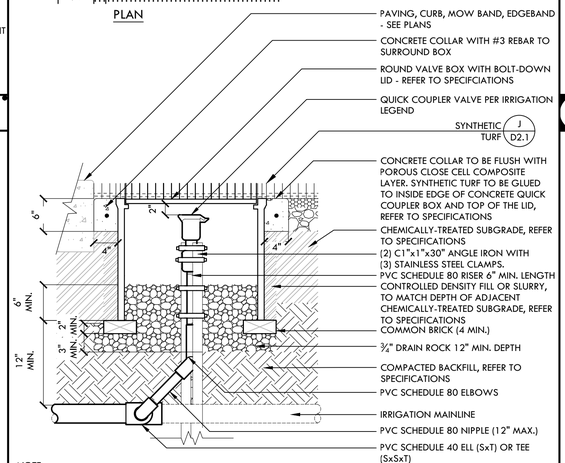
N

K SHRUB PLANTING WITH BUBBLER NTS

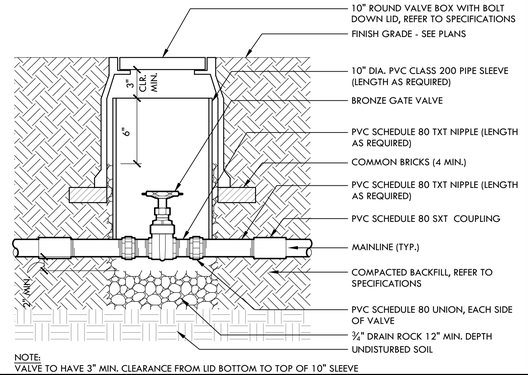


NOTE:
INSTALL BUBBLER ON UP HILL SIDE OF PLANT WHERE APPLICABLE.



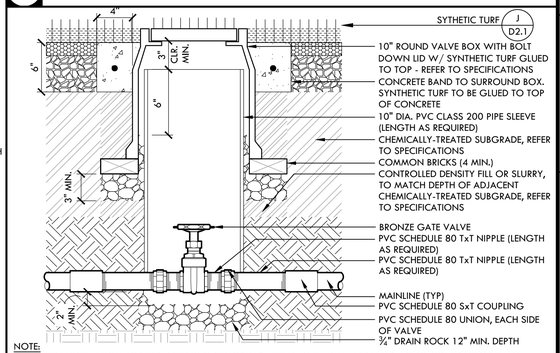


NOTE:
1. WHEN EXCAVATION FOR STRUCTURES IS PERFORMED WITHIN CHEMICALLY-TREATED AREAS, CONTRACTOR SHALL BACKFILL WITH NON-EXPANSIVE FILL OR CONTROLLED DENSITY FILL TO MATCH THE DEPTH OF ADJACENT CHEMICALLY-TREATED SUBGRADE, REFER TO SPECIFICATIONS.



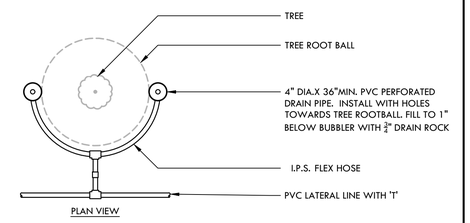
NOTE:
VALVE TO HAVE 3" MIN. CLEARANCE FROM LID BOTTOM TO TOP OF 10" SLEEVE

D GATE VALVE - 2" AND SMALLER IN SIZE NTS



NOTE:
1. WHEN EXCAVATION FOR STRUCTURES IS PERFORMED WITHIN CHEMICALLY-TREATED AREAS, CONTRACTOR SHALL BACKFILL WITH NON-EXPANSIVE FILL OR CONTROLLED DENSITY FILL TO MATCH THE DEPTH OF ADJACENT CHEMICALLY-TREATED SUBGRADE, REFER TO SPECIFICATIONS.

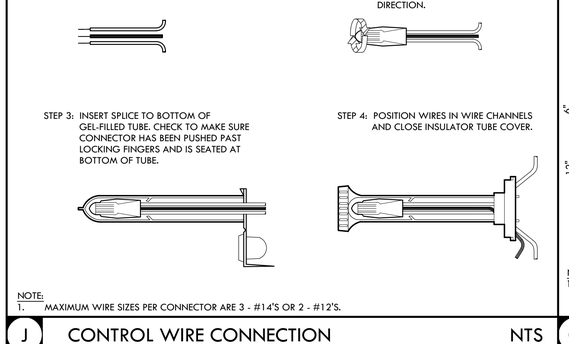
C GATE VALVE IN SYNTHETIC TURF NTS



NOTE:
1. BUBBLERS ARE REQUIRED FOR TREES IN LAWN AND SHRUB AREA. TWO BUBBLERS PER TREE ARE TO BE PLACED ON OPPOSITE SIDES OF ROOTBALL. ORIENT BUBBLERS 180° FROM EACH OTHER.
2. USE PROPER RATED GLUE FOR I.P.S. FLEX HOSE.

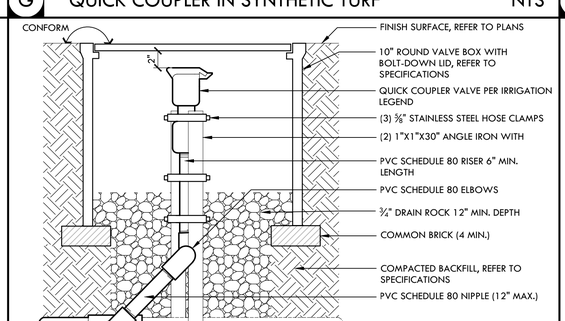
TRUNK TO BUBBLER SPACING	
SIZE	SPACING
15 GALLON TREE	15"
24" BOX TREE	20"
36" BOX TREE	25"

M TREE WELL BUBBLER NTS



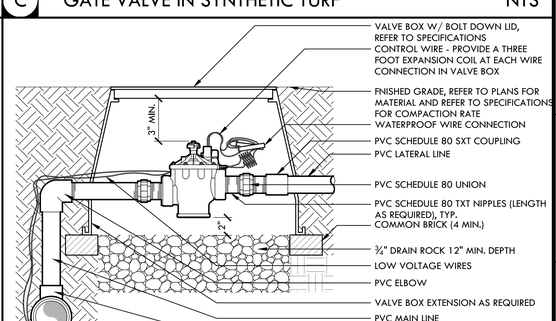
NOTE:
1. MAXIMUM WIRE SIZES PER CONNECTOR ARE 3 - #14'S OR 2 - #12'S.

J CONTROL WIRE CONNECTION NTS



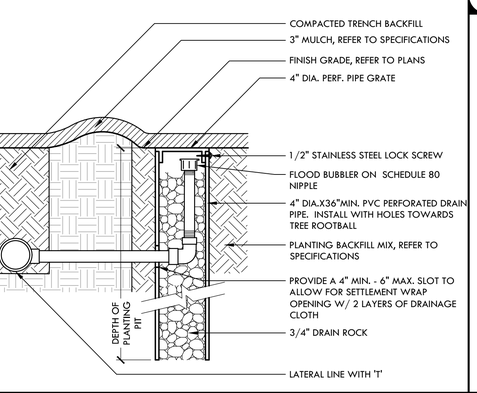
NOTE:
VALVE TO HAVE 2" MIN. CLEARANCE FROM LID BOTTOM TO TOP OF VALVE CAP.

G QUICK COUPLER IN SYNTHETIC TURF NTS

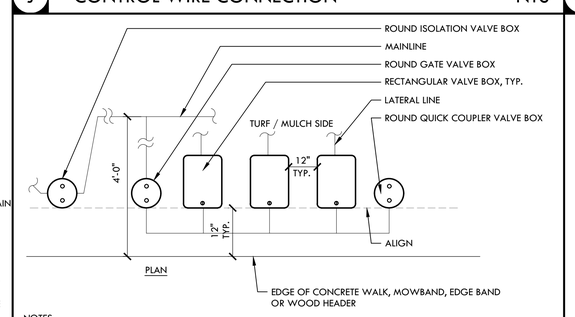


NOTE:
1. VALVE TO HAVE 3" MIN. CLEARANCE FROM LID BOTTOM TO TOP OF VALVE STEM HANDLE.

C GATE VALVE IN SYNTHETIC TURF NTS



M TREE WELL BUBBLER NTS

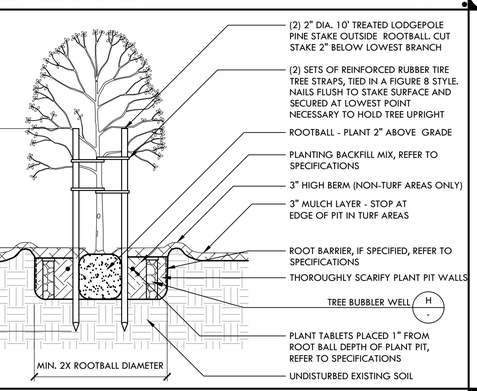


NOTES:
1. CENTER BOXES OVER VALVES.
2. ENSURE UNIONS ARE ACCESSIBLE.
3. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
4. TOP OF BOXES SET IN TURF SHALL BE FLUSH WITH TURF FINISH GRADE.
5. ALL CONTROL VALVE BOXES WITHIN A MANIFOLD ARE TO BE THE SAME SIZE AS THE LARGEST BOX NECESSARY FOR THE LARGEST CONTROL VALVE.

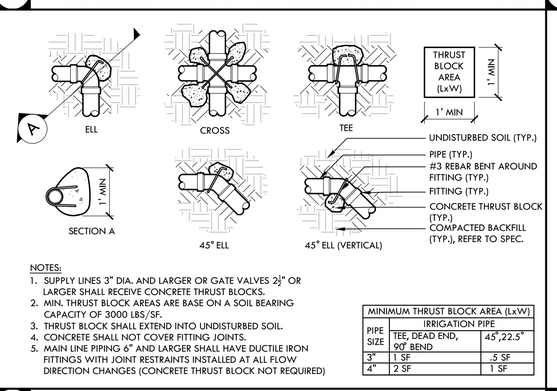
I VALVE BOX LAYOUT WITH GLOBE VALVES NTS

F QUICK COUPLER VALVE NTS

B REMOTE CONTROL VALVE



L TREE PLANTING AND BUBBLER NTS



NOTES:
1. SUPPLY LINES 3" DIA. AND LARGER OR GATE VALVES 2½" OR LARGER SHALL RECEIVE CONCRETE THRUST BLOCKS.
2. MIN. THRUST BLOCK AREAS ARE BASE ON A SOIL BEARING CAPACITY OF 3000 LBS/SF.
3. THRUST BLOCK SHALL EXTEND INTO UNDISTURBED SOIL.
4. CONCRETE SHALL NOT COVER FITTING JOINTS.
5. MAIN LINE PIPING 6" AND LARGER SHALL HAVE DUCTILE IRON FITTINGS WITH JOINT RESTRAINTS INSTALLED AT ALL FLOW DIRECTION CHANGES (CONCRETE THRUST BLOCK NOT REQUIRED)

MINIMUM THRUST BLOCK AREA (LxW)		
	IRRIGATION PIPE	
PIPE SIZE	TEE, DEAD END, 90° BEND	45°,22.5°
3"	1 SF	.5 SF
4"	2 SF	1 SF

H THRUST BLOCK NTS

E POP UP AND SWING JOINT NTS

A IRRIGATION PIPE TRENCHING NTS

VERDE DESIGN
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
SPORT PLANNING & DESIGN
3558 Round Barn Blvd. Suite 200
Santa Rosa, CA 95403
tel: 707.800.4204
fax: 408.985.7260
www.VerdeDesignInc.com

STAMP

REGISTERED PROFESSIONAL ENGINEER
DEVIN CONWAY
No. C-56494
Signature
EXPIRATION DATE: June 30, 2025
CIVIL
STATE OF CALIFORNIA

CONSULTANT

SHEET TITLE
PLANTING AND IRRIGATION DETAILS

PROJECT NAME
SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS
498 POINT SAN PEDRO RD
SAN RAFAEL, CA 94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY: VERDE
CHECKED BY: WD/DC
DATE ISSUED: 11/01/24
SCALE: AS NOTED
PROJ. NO.: 2401200
SHEET NO.: D5.1 OF X SHEETS

DRAWING NAME: Y:\Projects-SR\2024\2401200 - San Pedro ES concept design\CAD_D5.1 DTL_IRR.dwg
PLOT DATE: 10-29-24 PLOTTED BY: station5

DEMOLITION NOTES

1. REFER TO LANDSCAPE AND CIVIL DEMOLITION DRAWINGS FOR DEMOLITION AREAS. THE SCOPE OF THE DEMOLITION WORK SHALL INCLUDE ALL LABOR, MATERIALS, SERVICES AND EQUIPMENT REQUIRED FOR THE REMOVAL OF ALL EXISTING ELECTRICAL REQUIRED TO CLEAR NEW CONSTRUCTION. THIS WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
   A. ALL EXISTING WIRE SHALL BE REMOVED FROM CONDUIT.
   B. ALL EXISTING CONDUIT, THAT INTERFERES WITH ANY NEW CONSTRUCTION SHALL BE CUT BACK AS REQUIRED TO CLEAR NEW CONSTRUCTION.
   C. FOR EXISTING CONSTRUCTION THAT IS TO BE REMOVED REMOVE ALL EXISTING EXPOSED, SURFACE, AND CONCEALED CONDUIT AND RACEWAYS. RECONNECT OUTLETS AND LIGHTING FIXTURES THAT REMAIN AND WHICH ARE NOW FED THROUGH THE OUTLETS TO BE REMOVED.
   D. ALL REMOVED MATERIALS AND EQUIPMENT WHICH IN THE OPINION OF THE OWNER'S REPRESENTATIVE ARE SALVAGEABLE, SHALL REMAIN THE PROPERTY OF OWNER. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON PREMISES AS DIRECTED, AND NEATLY PILE OR STORE THEM AND PROTECT FROM DAMAGE.
   E. DO NOT REUSE SALVAGED MATERIALS AND EQUIPMENT UNLESS SPECIFICALLY INDICATED ON PLANS OR SPECIFIED. REMOVE FROM PREMISES AND DISPOSE OF ALL MATERIALS CONSIDERED BY ARCHITECT TO BE SCRAP.
2. ELECTRICAL DEMOLITION DRAWINGS DO NOT SHOW ALL ELECTRICAL WORK THAT IS TO BE REMOVED. REFER TO ALL DEMOLITION DRAWINGS OF OTHER TRADES/DISCIPLINES FOR WORK THAT AFFECTS ELECTRICAL DEMOLITION WORK.
3. THE EXISTING CONDITIONS SHOWN ON THESE PLANS HAVE BEEN TAKEN FROM AVAILABLE RECORD DRAWINGS AND ARE SHOWN FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID.ALL DEMOLITION, ALTERATIONS, RELOCATIONS AND RENOVATION WORK SHALL BE INCLUDED IN THE CONTRACT. NO ADDITIONAL CHANGE ORDERS OR ALLOWANCES WILL BE ACCEPTED.
4. CONTRACTOR SHALL INCLUDE ALL WORK NECESSARY TO KEEP EXISTING ELECTRICAL, SIGNAL AND FIRE ALARM SYSTEMS IN ALL AREAS ADJACENT TO DEMOLITION / RECONSTRUCTION AREAS IN SERVICE CONTINUOUSLY UNTIL WORK IN THAT AREA IS COMPLETE.
5. EQUIPMENT AND MATERIALS TEMPORARILY REMOVED FOR PROTECTION SHALL BE REPLACED IN THE ORIGINAL LOCATIONS. REPLACE EQUIPMENT OR MATERIALS THAT MAY BE DAMAGED WITH NEW EQUIPMENT AND MATERIALS OF LIKE KIND AND QUALITY.
6. DISPOSAL OF HAZARDOUS MATERIALS SUCH AS LAMPS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE AND FEDERAL REQUIREMENTS.

GENERAL NOTES

1. THESES DRAWINGS AND SPECIFICATIONS ARE INTENDED TO COVER A COMPLETE INSTALLATION OF SYSTEMS. THE OMISSION OR EXPRESSED REFERENCE TO ANY ITEM OF LABOR OR MATERIALS REQUIRED FOR THE PROPER EXECUTION OF THE WORK IN ACCORDANCE WITH PRESENT PRACTICE OF THE TRADE SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SUCH ADDITIONAL LABOR AND MATERIALS.
2. THESE PLANS AND SPECIFICATIONS AND ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH ALL LEGAL AND INDUSTRY REQUIREMENTS AND STANDARDS INCLUDING WITHOUT LIMITATION THE FOLLOWING:
   a. CALIFORNIA CODE OF REGULATIONS TITLE 24, PARTS 1 AND 2 (CALIFORNIA BUILDING CODE), 2022 EDITION.
   b. CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 3 (CALIFORNIA ELECTRICAL CODE), 2022 EDITION.
   c. CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 6 (CALIFORNIA ENERGY CODE), 2022 EDITION.
   d. CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 9 (CALIFORNIA FIRE CODE), 2022 EDITION.
   e. OTHER REGULATING AGENCIES WHICH MAY HAVE AUTHORITY OVER ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.
   f. THE ELECTRICAL SYSTEMS FUNCTIONALITY STANDARDS SET FORTH IN TITLE 7 OF THE CALIFORNIA CIVIL CODE (THE "RIGHT TO REPAIR ACT").
   g. THE MANUFACTURER'S REQUIREMENTS OR RECOMMENDATIONS FOR ANY INCORPORATED PRODUCTS.
   h. THE MOST CURRENT APPROVED ISSUES OF ANY NOTED SPECIFICATIONS, CODES AND STANDARDS, INCLUDING SUPPLEMENTS, UNLESS NOTED OTHERWISE.
3. THE PLANS REPRESENT ONLY THE FINISHED ELECTRICAL, FIRE ALARM AND LOW VOLTAGE SYSTEMS, AND THEY ARE NOT INTENDED TO INDICATE OR REQUIRE ANY CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES.
4. IN USING THE PLANS FOR BIDDING OR CONSTRUCTION PURPOSES, THE CONTRACTOR IS REQUIRED TO REVIEW ALL OF THE PROJECT'S CONSTRUCTION DOCUMENTS AS A WHOLE IN ORDER TO IDENTIFY ALL REQUIREMENTS THAT DIRECTLY OR INDIRECTLY AFFECT ITS PORTION OF THE ELECTRICAL WORK, EVEN REQUIREMENTS LOCATED IN SECTIONS DESIGNATED AS APPLICABLE TO OTHER TRADES. IN CASE OF CONFLICTS, THE CONTRACTOR SHALL EITHER OBTAIN DIRECTION FROM AN APPROPRIATE OWNER REPRESENTATIVE OR OTHER-WISE APPLY THE MORE STRINGENT REQUIREMENT.
5. IN INTERPRETATING THE PLANS, THE FOLLOWING GENERAL RULES APPLY:
   a. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DRAWINGS.
   b. SCALED DIMENSIONS AND GRAPHICALLY SHOWN LOCATIONS ARE TO BE CONSIDERED ONLY APPROXIMATE, FIELD VERIFY DIMENSIONS PRIOR TO BID.
   c. BECAUSE THE PLANS ARE INTENDED TO SET FORTH THE REQUIREMENTS FOR CONSTRUCTION IN ONLY AN INDUSTRY-STANDARD LEVEL OF QUALITY AND DETAIL, AND THEREFORE ARE INTENDED TO BE SUPPLEMENTED BY APPROPRIATE REQUESTS FOR CLARIFICATION AND INFORMATION, ERRORS AND OMISSIONS AND TO BRING THESE ERRORS AND OMISSIONS TO THE ATTENTION OF AN APPROPRIATE OWNER REPRESENTATIVE IN A TIMELY MANNER AND ASSUMES THE RISK OF THE CONSEQUENCES OF FAILING TO DO SO BEFORE BIDDING OR OTHERWISE PROCEEDING.
   d. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION, AND NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES OR INCONSISTENCIES.
6. SUBMITTALS WILL BE REVIEWED BY THE ELECTRICAL ENGINEER, IF AT ALL, ONLY PURSUANT TO THE INDUSTRY-STANDARD PROTOCOL SET FORTH IN AIA DOCUMENT A201, AND IN NO EVENT WILL THE THE SUBMITTAL REVIEW PROCESS RELIEVE OR LESSEN THE SUBMITTING CONTRACTOR'S RESPONSIBILITY FOR AN INAPPROPRIATE SUBMITTAL.
7. IN NO EVENT WILL ANY SITE VISITS BY THE ELECTRICAL ENGINEER CONCERN CONSTRUCTION MEANS AND METHODS OR CONSTRUCTION SAFETY, AND ALL SUCH MATTERS SHALL REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. COPIES OF THE THE PLANS PROVIDED IN ANY ELECTRONIC FORM ARE SUBJECT TO THE SAME PROVISIONS AS THE OTHER INSTRUMENTS OF SERVICE PREPARED BY OR ON BEHALF OF ELECTRICAL ENGINEER FOR THE PROJECT, INCLUDING WITHOUT LIMITATION THE ENGINEER'S COMMON LAW, STATUTORY OR OTHER RESERVED RIGHTS, INCLUDING COPYRIGHTS. A RECIPIENT IS GRANTED AT MOST A TRANSFERABLE NONEXCLUSIVE LICENSE TO REUSE THE PLANS SOLELY FOR PROJECT PURPOSES; AND NO RECIPIENT IS AUTHORIZED TO USE OR TO ALLOW THE USE OF ALL OR ANY PORTION OF THESE PLANS FOR ANY OTHER PURPOSE, AND ANY USE FOR ANY OTHER PURPOSE WOULD CONSTITUTE ACTIONABLE PLAGIARISM. ELECTRICAL ENGINEER PROVIDES DOCUMENTS IN AN ELECTRONIC FORM ONLY IN ITS STANDARD FORMATS AND CONVENTIONS AND WITH NO GUARANTEE OF COMPATIBILITY WITH ANY RECIPIENT'S SOFTWARE OR HARDWARE AND ANY USE WITH OR CONVERSION TO OTHER FORMATS OR CONVENTIONS, OR THE USE WITH ANY PARTICULAR SOFTWARE OR HARDWARE, IS AT THE RECIPIENT'S SOLE RISK.
9. LOCATIONS OF EXISTING UTILITIES ARE NOT SHOWN AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID EXISTING DUCTS, PIPING OR CONDUIT, ETC. AND TO PREVENT HAZARD TO PERSONNEL AND/OR DAMAGE TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN AND INSTALLED BY ANY OTHER CONTRACTS. THE ENGINEER IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED BY ANY OTHER CONTRACTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
10. REFER TO THE DRAWINGS AND SHOP DRAWINGS OF OTHER TRADES FOR ADDITIONAL DETAILS WHICH AFFECT THE PROPER INSTALLATION OF THIS WORK.
11. THE DRAWINGS INDICATE, IN A DIAGRAMMATIC MANNER, THE DESIRED LOCATIONS AND ARRANGEMENT OF THE COMPONENTS OF ELECTRICAL WORK. DETERMINE EXACT CONDUIT ROUTING, CONDUIT BENDS, AUXILIARY JUNCTION BOXES, SUPPORTS AND UNDEFINED CONSTRUCTION DETAILS AS A JOB CONDITION TO BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE CODE REQUIREMENTS. PROPER JUDGEMENT MUST BE EXERCISED IN EXECUTING THE WORK SO AS TO SECURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATIONS OR INTERFERENCE OF CONDITIONS ENCOUNTERED.
12. IN THE EVENT CHANGES IN THE INDICATED LOCATIONS OR ARRANGEMENTS ARE NECESSARY, DUE TO DEVELOPED CONDITIONS IN THE BUILDING CONSTRUCTION OR REARRANGEMENT OF EQUIPMENT, SUCH CHANGES SHALL BE MADE WITHOUT COST PROVIDING THE CHANGE IS ORDERED BEFORE THE CONDUIT RUNS, ETC., AND WORK DIRECTLY CONNECTED TO SAME IS INSTALLED AND NO EXTRA MATERIALS ARE REQUIRED.
13. PROVIDE ALL EQUIPMENT WITH ENCLOSURES LISTED OR LABELED FOR USE AND LOCATION WHERE SUCH EQUIPMENT IS INSTALLED.
14. GROUNDING SHALL BE EXECUTED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS, BOTH OF THE STATE OF CALIFORNIA AND LOCAL AUTHORITIES HAVING JURISDICTION.
15. PROVIDE GROUND WIRE IN EACH CONDUIT CONTAINING CIRCUITS FEEDING RECEPTACLES. THE CONDUIT SHALL NOT BE PERMITTED TO SERVE AS THE ONLY ELECTRICAL GROUND RETURN PATH.
16. PROVIDE HANDLE TIES AT CIRCUIT BREAKERS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS OF MULTI-WIRE BRANCH CIRCUITS WITH A SHARED NEUTRAL.
17. UNLESS NOTED OTHERWISE ALL 120 VOLT HOMERUNS OVER 100 FEET SHALL BE #10 AWG MINIMUM, OVER 175 FEET SHALL BE #8 AWG MINIMUM. ADJUST CONDUIT SIZE ACCORDINGLY.
18. NOTIFY THE ARCHITECT IN WRITING WHEN INSTALLATION IS COMPLETE AND THAT A FINAL INSPECTION OF THIS WORK CAN BE PERFORMED. IN THE EVENT DEFECTS OR DEFICIENCIES ARE FOUND DURING THIS FINAL INSPECTION, THEY SHALL BE CORRECTED TO THE SATISFACTION OF THE ARCHITECT BEFORE FINAL ACCEPTANCE CAN BE ISSUED.
19. PANELBOARDS ARE EXISTING UNLESS NOTED OTHERWISE. NEW CIRCUIT BREAKERS SHALL BE THE SAME TYPE AND INTERRUPTING RATING AS EXISTING BREAKERS IN PANEL.
20. WHERE CIRCUIT CHANGES OR ADDITIONS OCCUR IN PANELBOARDS UPDATE PANEL DIRECTORY CARDS WITH NEW TYPE WRITTEN CARDS INDICATION DESCRIPTION OF ALL CIRCUITS.

SYMBOL LIST

(ALL SYMBOLS NOT NECESSARILY USED ON THESE DRAWINGS)
ALL SYMBOL DESCRIPTIONS ARE SUBJECT TO MODIFICATION AS NOTED ON THE DRAWINGS. VERIFY EXACT LOCATIONS AND HEIGHTS OF OUTLETS WITH ARCHITECTURAL INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.

- PEDESTRIAN LIGHTING POLE
- DUPLEX CONVENIENCE RECEPTACLE VERTICAL ON FLUSH WALL MOUNTED OUTLET BOX, +18".
- J — JUNCTION BOX INDICATES CONNECTION TO EQUIPMENT AS REQUIRED, TYPICAL.
- A / E-1 — PANELBOARD, ADJACENT LINE INDICATES PANEL FRONT. ADJACENT BALLOON INDICATES PANEL DESIGNATION "A", SEE DRAWING E-3 FOR PANEL SCHEDULE.
- CIRCUIT BREAKER STATIONARY (NON-DRAWOUT), SECONDARY VOLTAGE.
- FUSED SAFETY SWITCH (DISCONNECT), HORSE POWER RATED. MOUNT ON WALL +45", OR ON EQUIPMENT +36". PROVIDE SWITCH AND FUSES SIZED PER EQUIPMENT MANUFACTURER REQUIREMENTS.
- MOTOR CONNECTION. PROVIDE FUSED SAFETY SWITCH (DISCONNECT), HORSE POWER RATED, WALL MOUNTED, +45" OR EQUIPMENT MOUNTED, +36". PROVIDE SWITCH AND FUSES SIZED PER EQUIPMENT MANUFACTURER REQUIREMENTS.
- CONDUIT, INSTALLED CONCEALED IN WALL OR IN CEILING SPACE.
  - 1/2" C - 2 #12
  - 1/2" C - 3 #12
  - 3/4" C - 4 #12
  - 3/4" C - 5 #12
  - 3/4" C - 6 #12
  - 1" C - 7 #12
  - 1" C - 8 #12
  - 1 1/4" C - 9 #12
- CONDUIT, INSTALLED CONCEALED IN OR UNDER FLOOR OR BELOW GRADE, 3/4" CONDUIT MINIMUM.
- E — EXISTING RACEWAY
- B-5,7,9 — HOMERUN TO PANEL "B" FOR CIRCUITS 5, 7, 9 WITH SEPARATE NEUTRALS.

+45"	MOUNTING HEIGHT TO CENTER LINE OF DEVICE FROM FINISH FLOOR OR EXTERIOR GRADE
1	KEY NOTE CALLOUT. REFER TO CORRESPONDING NOTE ON DRAWING WHERE CALLOUT OCCURS.
A.F.F.	ABOVE FINISH FLOOR
A.F.G.	ABOVE FINISH GRADE
AWG	AMERICAN WIRE GAUGE
AMP, A	AMPERE
A.I.C.	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
CIRC.,CKT.	CIRCUIT
CB	CIRCUIT BREAKER
C	CONDUIT
CLCB	CURRENT LIMITING CIRCUIT BREAKER
C.O.	CONDUIT ONLY.
CONN	CONNECTED
DIA	DIAMETER
EMT	ELECTRICAL METALLIC TUBING
EF	EXHAUST FAN
(E)	EXISTING EQUIPMENT TO REMAIN
FLA	FULL LOAD AMPS
GFI	GROUND FAULT CIRCUIT INTERRUPTER.
GFP	GROUND FAULT PROTECTION
GRD	GROUND
IG	ISOLATED GROUND AND ISOLATED NEUTRAL
J-BOX	JUNCTION BOX
KVA	KILOVOLT AMPERES
KW	KILOWATT
LCL	LONG CONTINUOUS LOAD
LTG, LTS	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
PH. or Φ	PHASE
PROVIDE	FURNISH, INSTALL AND CONNECT.
REC, RECEPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
SECONDARY	600 VOLTS AND LESS
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT AMPERES
WP	WEATHERPROOF
W	WIRE
1P	SINGLE POLE
2P	DOUBLE POLE
3P	TRIPLE POLE

SHEET INDEX

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Santa Rosa, CA 95403
tel: 707.800.4204
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www.VerdeDesignInc.com

STAMP

REGISTERED PROFESSIONAL ENGINEER — DEVIN CONWAY — No. C-56494 — Signature — EXPIRATION DATE: June 30, 2025 — CIVIL — STATE OF CALIFORNIA

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — STEPHEN R. ZATKER — No. E 10372 — Exp. 09-30-26 — ELECTRICAL — STATE OF CALIFORNIA

10/31/2024

FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9965 ● 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 1175.025

SHEET TITLE

GENERAL NOTES, SYMBOL LIST AND FIXTURE SCHEDULE

PROJECT NAME

SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS

498 POINT SAN PEDRO RD
SAN RAFAEL, CA
94901

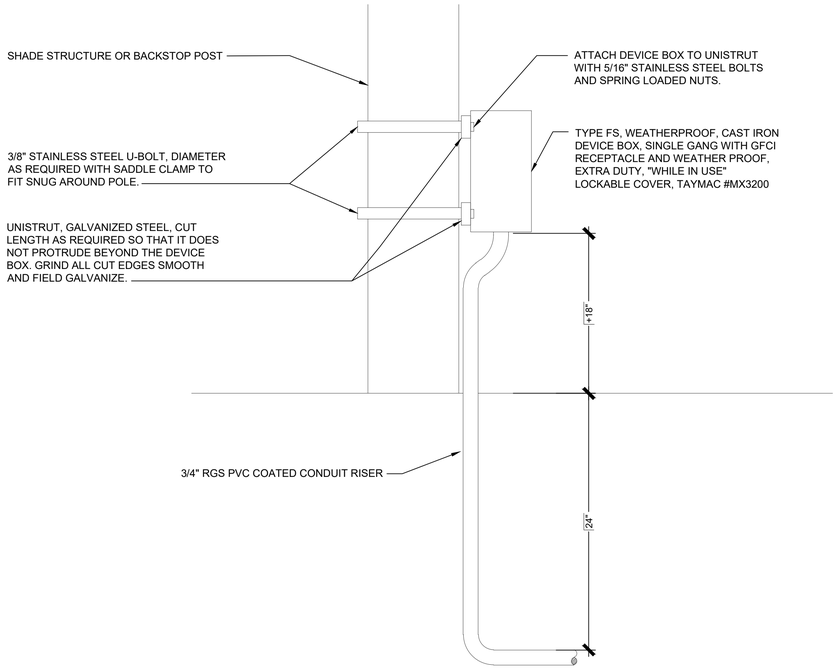
SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY	CHECKED BY
FBA	FBA
DATE ISSUED: 11/01/24	SCALE:

PROJ. NO. 2401200

SHEET NO. E0.1 OF X SHEETS



RECEPTACLE MOUNTING DETAIL

SCALE: NO SCALE | 2

NOT USED

SCALE: NO SCALE | 3

SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS — PROJECT NO. 1175.025

VOLTS 120/208 — PANELBOARD (E)PANEL — MAIN 100A-3P
PHASE 3PH, 4W — LOCATION HEAD START BLDG — BUS 125A
MTG FLUSH

(<-- LOAD (VA) --> LOAD) CKT	A	B	C	TYPE	BKR	OUTLET QUAN	DESCRIPTION
1		-----	-----		20/1		
3	-----		-----		20/1		
5	-----	-----			20/1		
7		-----	-----		20/1		
9	-----		-----		20/1		
11	-----	-----			20/1		
13		-----	-----		20/1		
15	-----		-----		20/1		
17	-----	-----			20/1		
19		-----	-----		20/1		
21	-----		-----		20/1		
23	-----	-----			20/1		
25		-----	-----		20/1		
27	-----		-----		20/1		
29	-----	-----			20/1		
31		-----	-----				
33	-----		-----				
35	-----	-----					
37		-----	-----				
39	-----		-----				
41	-----	-----					

(<-- LOAD (VA) --> LOAD) CKT	A	B	C	TYPE	BKR	OUTLET QUAN	DESCRIPTION
A 2		-----	-----		30/2		
B 4	-----		-----		--		
C 6	-----	-----			20/1		
A 8		-----	-----		20/1		
B 10	-----		-----		20/1		
C 12	-----	-----			20/1		
A 14		-----	-----		20/1		
B 16	-----		-----		20/1		
C 18	-----	-----			20/1		
A 20		-----	-----		20/1		
B 22	-----		-----		20/1		
C 24	-----	-----			20/1		
A 26		-----	-----		20/1		
B 28	-----		-----				
C 30	-----	-----					
A 32		-----	-----				
B 34	-----		-----				
C 36	-----	-----					
A 38		-----	-----				
B 40	-----		-----				
C 42	-----	-----					

CONNECTED: — VA — AMPS
PHASE A =
PHASE B =
PHASE C =
TOTAL =

L.C.L. @ 125% =
RECEPT. ( ) 10 kVA @ 50% =
KITCHEN @ 65% =
OTHER LOAD @ 100% =
TOTAL VA =
TOTAL AMPS =

LOAD TYPE:
G - GENERAL (100%)
L - L.C.L. (125%)
R - RECEPTACLE (50%)
(10 kVA @ 100%)
K - KITCHEN (65%)
M - MOTOR (100%)
M1 - MOTOR (125%)
X - X-RAY (100%)
X1 - X-RAY (50%)

CB - INDICATES NEW CIRCUIT BREAKER, TYPE TO MATCH EXISTING, MATCH A.I.C. RATING OF EXISTING.
N - INDICATES NEW OR CHANGED LOAD IN EXISTING CIRCUIT.
E - INDICATES EXISTING CIRCUIT TO REMAIN.

SINGLE LINE DIAGRAM

SCALE: NO SCALE | 1

VERDE DESIGN
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STAMP

REGISTERED PROFESSIONAL ENGINEER — DEVIN CONWAY — No. C-56494 — Signature — EXPIRATION DATE: June 30, 2025 — CIVIL — STATE OF CALIFORNIA

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER — STEPHEN R. ZATKEN — No. E 10372 — Exp. 09-30-26 — CIVIL — STATE OF CALIFORNIA

10/31/2024

FBA Engineering
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949.852.9965 ● 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 1175.026

SHEET TITLE

SINGLE LINE DIAGRAM AND DETAILS

PROJECT NAME

SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS

498 POINT SAN PEDRO RD
SAN RAFAEL, CA
94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY	CHECKED BY
FBA	FBA
DATE ISSUED: 11/01/24	SCALE:

PROJ. NO. 2401200

SHEET NO. E0.2 OF X SHEETS

PLOTTED: 10/31/2024 9:49 AM
PLOT DATE: 10-31-24 PLOTTED BY: JSaldana

SAN PEDRO

1
WP
2
3/4" C.O.
2
1
WP
TO PANEL IN HEAD
START BUILDING

1
WP
TO PANEL IN HEAD
START BUILDING

KEY NOTES

1. MOUNT RECEPTACLE TO BACKSTOP OR SHADE STRUCTURE SUPPORT POST. SEE DETAIL 2/E0.2
2. CAMERA MOUNTED AT +10'-0". PROVIDE OUTLET BOX, CAMERA AND CABLING PROVIDED AND INSTALLED BY SCHOOL DISTRICT. CONFIRM MOUNTING HEIGHT WITH SCHOOL DISTRICT.

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FBA Job Number: 1175.026

SHEET TITLE

SITE ELECTRICAL PLAN

PROJECT NAME

SAN PEDRO ES
ATHLETIC FIELD
IMPROVEMENTS

PROJECT ADDRESS

498 POINT SAN PEDRO RD
SAN RAFAEL, CA
94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY	CHECKED BY
FBA	FBA
DATE ISSUED: 11/01/24	SCALE: 1"=100'-0"
PROJ. NO.: 2401200	
SHEET NO.: E1.0 OF X SHEETS	

ELECTRICAL SPECIFICATIONS:

PART 1.00 GENERAL

1.01 RELATED DOCUMENTS

A. The Requirements of the General Conditions, Supplementary General Conditions and pertinent provisions of Sections in Division One of these Specifications apply to the work specified in this Section.

1.02 SCOPE

A. Work Included: All labor, materials, appliance, tools, equipment, facilities, transportation, and service necessary for, and incidental to, performing all operations in connection with furnishing, delivery, and installation of the work of this Section, complete, as shown on the Drawings and/or specified herein.

1.03 GENERAL SUMMARY OF ELECTRICAL WORK

A. The Specifications and Drawings are intended to cover a complete installation of systems. The omission of expressed reference to any item of labor or materials for the proper execution of the work in accordance with present practice of trade shall not relieve the Contractor from providing such additional labor and materials.

B. Refer to the Drawings and Shop Drawings of other trades for additional details which affect the proper installation of this work.

C. The Electrical Drawings are diagrammatic in many respects. It is not within the scope of these Drawings to show all necessary bends, offsets, or pullboxes required. Sizes and locations of equipment and wiring may be distorted for clarity on the Drawings. Exact locations of all lighting fixtures, outlets, exit signs, wiring devices, and the like, shall be shown on Architectural Drawings, as dimensioned on Plans, or as approved by Architect.

D. Before submitting a bid, the Contractor shall familiarize himself with all features of the existing site, and all Building Drawings and Site Drawings which may affect the execution of the work. No extra payment will be allowed for failure to obtain this information.

1.04 LOCATIONS OF EQUIPMENT

A. The Drawings indicate diagrammatically the desired locations of arrangements of conduit runs, outlets, equipment, etc., and are to be followed as closely as possible. Proper judgment must be exercised in executing the work so as to secure the best possible installation in the available space and to overcome local difficulties due to space limitations or interference of structural conditions encountered.

B. The Drawings indicate approximate locations of existing conduits. The exact routing shall be verified in field and length of conductors shall be adjusted to the length required.

C. Coordinate and cooperate in every way with other trades in order to avoid interference and assure a satisfactory job.

1.05 QUALITY ASSURANCE, STANDARDS AND SYMBOLS

A. Work and materials in full accordance with the latest rules and regulations of the California Code of Regulations, Title 24, Title "8 Division of Industrial Safety", California Electrical Code, the National Life Safety Code, pertinent N.F.P.A. Publications and other Federal State or other City Agencies Having Jurisdiction.

B. Keep a copy of all applicable Codes available at the job site at all times while performing work under this Section. Nothing in Plans or Specifications shall be construed to permit work not conforming to the most stringent of Codes.

C. Should any changes be necessary in the Drawings or Specifications to make the work comply with these Requirements, the Contractor shall notify the Architect at once in writing and cease work in parts of the Contract which are affected.

1.06 SUBMITTALS

A. Material Lists and Shop Drawings

1. Submit copies of materials list and Shop Drawings for approval. The materials list of installation materials shall indicate proposed Equipment Manufacturers. Submittals shall be organized in completed bound groups for materials (i.e., all lighting fixtures or all switchgear, etc.). Departure from the above procedure will result in resubmittals and delays. The Contractor shall verify dimensions of equipment and be satisfied as to fit and that they comply with all Code Requirements relating to clear working space about electrical equipment prior to submitting Shop Drawings for approval. Where current limiting fuse devices are specified, submit technical data to indicate fuses adequately protect equipment and that the fuses are selective to the circuit breakers that it protects.

2. Submit Shop Drawings for all electrical items except installation materials such as conduit, conduit fittings, outlet boxes, 600-volt conductors, wiring devices, etc.

3. Submittals which are intended to be reviewed as a substitution or departure from the Contract Documents must be specifically noted as such or the Requirements of the Contract Documents will prevail, regardless of the acceptance of the submittal.

4. Shop Drawings shall include Dimensioned Plans, elevations, details, wiring diagrams and descriptive literature of component parts where applicable.

5. Shop Drawings shall include the Manufacturer's projected days for shipment from the factory of completed equipment, after the equipment is released for production by the Contractor. It shall be the responsibility of the Contractor to ensure that all material and equipment is ordered in time to provide an orderly progression of the work. The Contractor shall notify the Architect of any changes in delivery which would affect the Project completion date.

B. Maintenance and Operation Manuals

1. Contractor shall furnish three copies of typewritten maintenance and operating manuals for all electrical equipment to the Owner and instruct Owner's Personnel in correct operation of all equipment at completion of project.

2. Maintenance and operating manuals shall be bound in three-ring, hard-cover, plastic binders and shall be delivered to the Owner with letter of transmittal, carbon copy to the Architect.

C. Portable or Detachable Parts: The Contractor shall retain in his possession and be responsible for all portable and detachable parts or portions of the installation such as fuses, keys, locks adapters, locking clips, and inserts until final completion of his work. These parts shall then be delivered to the Owner, or his authorized Representative and an itemized receipt obtained, with copies of receipt sent to the Architect.

1.07 RECORD DRAWINGS

A. Provide and maintain in good order a complete set of Electrical Contract prints. Changes to the Contract to be clearly recorded on this set of prints. At the end of the project, the Contractor shall transfer all changes to one set reproducible Drawing to be delivered unfolded to the Architect.

B. The Contractor shall keep the "As-Built" Prints up to date current with all work performed.

1.08 CLEANING EQUIPMENT, MATERIALS, PREMISES

A. All parts of the equipment shall be thoroughly cleaned of dirt, rust, cement, plaster, etc., and all cracks and corners scraped out clean. Surfaces to be painted shall be carefully cleaned of grease and oil spots and left smooth, clean and in proper condition to receive paint finish.

1.09 JOB CONDITIONS - PROTECTION

A. Protect all work, materials and equipment from damage from any cause whatever and provide adequate and proper storage facilities during the progress of the work. Provide for the safety and good condition of all the work until final acceptance of the work by the Owner and replace all damaged or defective work, materials and equipment before requesting final acceptance.

1.10 CUTTING AND PATCHING

A. Perform cutting and patching on the construction work which may be required for the proper installation of the electrical work. Patching shall be of the same material, workmanship and finish as specified and accurately match surrounding work to satisfaction of the Architect.

1.11 IDENTIFICATION

A. Panelboards, terminal cabinets, circuit breakers, disconnect switches, starters, relays, time switches, contactors, pushbutton control stations, and other apparatus used for operation of controls of feeders, circuits, appliances, or equipment shall be properly identified by means of descriptive nameplates or tags permanently attached to the apparatus and wiring.

B. Nameplates shall be engraved laminated phenolic. Shop Drawings with dimensions and format shall be submitted to the Architect before installation. Attachment to equipment shall be with escutcheon pins, rivets, self-tapping screws or machine screws. Self-adhering or adhesive backed nameplates shall not be used.

C. Provide black-on-white laminated plastic nameplate for normal power and white-on-red nameplate for emergency power, engraved in minimum 1/4-inch-high letters sized as required, to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.

1. Panelboards:

a. Equipment designations as shown on drawings.
b. Identify ampere rating.
c. Identify voltage and phase.
d. Identify power source and circuit number. Include location when not within sight of equipment.
e. Identify main overcurrent protective device. Use identification label for panelboards with a door. For power distribution panelboards without a door, use identification nameplate.
f. Use typewritten circuit directory to identify load(s) served for panel-boards with a door.
g. For power panelboards without a door, use identification nameplate to identify load(s) served for each branch device.

2. Transformers:

a. Equipment designations as shown on drawings.
b. Identify kVA rating.
c. Identify voltage and phase for primary and secondary.

3. Enclosed switches, circuit breakers, and motor controllers:

a. Equipment designations as shown on drawings.
b. Identify voltage and phase.
c. Identify power source and circuit number. Include location when not within sight of equipment.

4. Time Switches:

a. Equipment designations as shown on drawings.
b. Identify load(s) served and associated circuits controlled. Include location.

5. Enclosed Contactors:

a. Equipment designations as shown on drawings.
b. Identify ampere rating.
c. Identify voltage and phase.
d. Identify configuration, e.g., E.O.E.H. (electrically operated, electrically held) or E.O.M.H. (electrically operated, mechanically held).

6. Service Equipment:

a. Use identification nameplate to identify each service disconnecting means.
b. For buildings or structures supplied by more than one service, or any combination of branch circuits, feeders, and services, use identification nameplate or means of identification acceptable to authority having jurisdiction at each service disconnecting means to identify all other services, feeders, and branch circuits supplying that building or structure. Verify format and descriptions with authority having jurisdiction.

D. Cardholders and cards shall be provided for circuit identification in panelboards. Cardholders shall consist of a metal frame retaining a clear plastic cover permanently attached to the inside of panel door. List of circuits shall be typewritten on card. Circuit description shall include name or number of circuits, area, and connected load.

1.12 ELECTRICAL WORK CLOSEOUT

A. Prepare the following items and submit to the Architect before final acceptance.

1. Two copies of all test results as required under this Section.

2. Two copies of Local and/or State Code Enforcing Authorities final inspection certificates.

3. Copies of As-Built Record Drawings as required under the General Conditions, pertinent Division One Section and Electrical General Provisions.

4. Two copies of all receipts transferring portable or detachable parts to the Owner when requested.

5. Notify the Architect in writing when installation is complete and that a final inspection of this work can be performed. In the event defects or deficiencies are found during this final inspection, they shall be corrected to the satisfaction of the Architect before final acceptance can be issued.

6. Three copies of operating and maintenance instruction books covering all electrical equipment and systems.

1.13 EQUIPMENT SEISMIC REQUIREMENTS

A. Equipment supports and anchorages provided as part of the contract shall be designed, constructed and installed in accordance with the earthquake regulations of the California Building Code, Title 24, Section 1632A, and the Uniform Building Code, (UBC).

PART 2 - PRODUCTS

2.01 CONDUIT

A. Rigid metal conduit: Steel, hot-dip galvanized, sherardized or zinc coated.

B. Intermediate Steel Conduit (IMC): Steel, hot-dip galvanized, sherardized or zinc coated. Couplings and connectors shall be threaded and rated "liquid tight".

C. Electrical metallic tubing: Steel, galvanized or sherardized. Couplings and connectors, seamless steel construction and of the set screw or watertight compression type equal to Thomas & Betts Co. #5123 or #5031 Series, complete with insulated throats.

D. Flexible Conduit: Steel, galvanized. Connector shall be equal to Thomas & Betts Co. #3312 and/or #3332 Series, complete with insulated throat.

E. Liquid-tight flexible conduit: Sealtite Type U.A. with Appleton Series "ST" connectors.

F. Rigid Non-Metallic Conduit (RNMC):

1. Polyvinyl Chloride (PVC)-RNMC

a. PVC-Schedule 40 heavy wall construction.
b. PVC-Schedule 80 extra heavy wall construction.
c. PVC-Type EB.

2. RNMC fittings connecting to metallic raceways shall be provided with a ground/bond jumper connection.

G. Conduit Bodies: Provide types and sizes as required for the location and application. Covers shall be gasketed and secured with corrosion resistant screws.

2.02 WIRE AND CABLE

A. Copper conductors: #12 AWG minimum unless specifically noted otherwise on the Drawings. Conductors #10 AWG and smaller shall be solid and #8 AWG and larger shall be stranded. Type of wire as noted on Drawings or as follows:

1. Type THWN/THHN insulation used for all conductors unless otherwise noted.

2. Type XHHW or THWN insulation shall be used where conductors are installed in conduit exposed to the weather.

3. The following color code for 120/208-volt branch circuits: Neutral - White (Tape feeder neutrals with white tape near connections); Ground - Green; Isolated Ground - Green with yellow stripe; Phase A - Black; Phase B - Red; Phase C - Blue.

4. The following color code for 277/480-volt branch circuits: Neutral - Grey - Tape feeder neutrals with Grey tape near connections); Ground - Green; Phase A - Brown; Phase B - Orange; Phase C - Yellow.

5. When individual neutral conductors are required for each branch circuit, the color code for the neutral conductors shall be as follows: Phase A - White with Black stripe; Phase B - White with Red Stripe; Phase C - White with Blue stripe. All common neutral conductors, when required, shall be White without any stripes.

6. Feeders identified as to phase or leg in each panelboard with printed identifying tape.

2.03 OUTLET BOXES

A. Pull and Junction Boxes: Provide types and sizes as indicated or as required for the location, application and wire fill per CEC Requirements. For indoor dry locations coat with rust inhibitor and gray baked enamel finish. For wet locations provide hot-dipped galvanized material with gray baked enamel finish and gasketed covers.

2.04 RECEPTACLES

A. All receptacles in flush type outlet boxes shall be installed with a bonding jumper for ground between the grounded outlet box and the receptacle ground terminal. Grounding through the receptacle mounting straps is not acceptable. The bonding jumper shall be sized in accordance with the branch circuit protective device as tabulated herein under "grounding". Bonding jumper shall be attached at each outlet to the back of the box using drilled and tapped holes and washer head screws 6-32 or larger. For receptacles in surface mounted outlet boxes direct metal-to-metal contact between receptacles mounting strap (if it is connected to the ground contacts) and outlet boxes may be used.

B. Duplex convenience receptacles shall be Specification grade, color white, 120-volt, 15 amp, NEMA 5-15R grounding type with grounding contact which is internally connected to the frame. Outlet shall accommodate standard parallel blade cap and shall be back and side wired. Hubbell #CR5252 or equal by P&S or Leviton.

C. Where duplex receptacle is supplied by separate 20-amp, circuit, receptacle shall be NEMA 5-2OR. Hubbell #CR5352 or equal by P&S or Leviton.

D. Ground fault type duplex receptacle shall be 15-amp outlet with 20-amp feed through, NEMA 5-15R. Hubbell #GFR5252 or equal by P&S or Leviton.

E. Weatherproof Receptacle: Ground fault type duplex receptacle. On exposed conduit runs, weatherproof ground fault type receptacles as hereinbefore specified, installed in "FS" condulet. Covers shall be one of the following door type covers: Hubbell #WP26M or equal by P&S.

F. Special outlets as indicated on Drawings.

G. Color of receptacles shall be as selected by Architect.

2.05 LIGHTING FIXTURES

A. Lighting fixtures shall have all parts and fittings necessary to complete and properly install the fixture. All fixtures shall be equipped with lamps of size and type specified.

B. The catalog number on the Lighting Fixture Schedules are for indicating the general type, quality and size of the fixture. The use of the catalog numbers do not include all the necessary accessories that may be required for a complete and operable installation.

C. The lighting fixtures as specified on the Fixture Schedule are called out by Fixture Type letter or number and correspond with the Fixture Types indicated at the outlets shown on the Drawings.

2.06 LIGHTING STANDARDS (SUPPORT POLES, POLE MOUNTED LIGHTING FIXTURES AND LUMINAIRES)

A. General

1. Lighting poles, pole bases, pole arms, lighting fixtures (luminaires), supports with all lighting pole attachments and anchors shall be designed and constructed to withstand not less than 100 mile per hour steady horizontal wind loading and 130 mile per hour horizontal wind gust loading, without any damage to the lighting standards.

2. Provide tamper-resistant "hand-hole" and cover on the pole, for access into wiring terminations inside the pole. Provide ground "lug" attachment for equipment bond conductor.

3. Provide factory applied weather protective base undercoat and final finish on all exposed and internal components. Color as indicated or as selected by Owner's Representative.

B. Base

1. Provide a base plate at the bottom of each pole to attach and secure the pole to the pole anchor bolts. The base plate shall be permanently attached to the bottom of the pole.

C. Anchors

1. Anchor bolts shall be threaded the entire bolt length, not less than four bolts for each pole equally spaced around the pole base. Provide a minimum of two threaded nuts for each anchor bolt. Install a nut on the top and bottom sides of each base plate anchor bolt location. No less than four threads shall be exposed after pole is installed and leveled.

2.07 STRUCTURAL AND MISCELLANEOUS STEEL

A. Structural and miscellaneous steel used in connection with electrical work and located out-of-doors or in damp locations, to be hot-dip galvanized unless otherwise specified. Included are underground pullbox covers and similar electrical items. Galvanizing average 2.0 ounce per square foot and conform to ASTM A123.

2.08 CIRCUIT BREAKER

A. Where two or three pole breakers occur in the panels, they shall be common trip units. Single pole breakers with tie-bar between handles will not be accepted.

B. Circuit Breakers shall be arranged in the panels so that the breakers on the proper trip settings and numbers correspond to the numbering in the panel schedules on the Drawings. Circuit numbers of breakers shall be black-on-white micarta tabs or other previously approved method. Circuit number tabs which can readily be changed from front of panel will not be accepted. Circuit number tabs which can shall not be attached to or be a part of the breaker.

C. Circuit Breakers shall be bolt on type.

2.09 DISCONNECTS

A. Disconnect switches shall be 250 volt or 600-volt A.C., NEMA Type HD, quick-made, quick-break, h.p. rated, fusible or non-fusible Class "R", in NEMA Type 1 enclosure, lockable, with number of poles and amperage as indicated on the Drawings. Where enclosure is indicated W.P. (weatherproof) switches shall be in rain-tight NEMA Type 3R enclosure, lockable. Maximum voltage, current and horsepower rating clearly marked on the switch enclosure and switches having dual element fuses shall have rating indicated on the metal plate. Manufactured by GE, Square-D or approved equal.

2.10 PANELBOARDS

A. Panelboards shall be as indicated with circuit breakers as shown on panel schedule, hinged lockable doors, index card holders and proper bussing.

B. Where indicated on the Drawings, panelboards shall be furnished with sub-feed breakers and/or lugs, split bussing, contactors, time switches, relays, etc., as required.

C. All panelboards shall be keyed alike.

D. Furnish all panelboards and terminal cabinets with Manufacturer locks and keys.

E. Panelboard 208/120 volt, three phase, 4 wire, S/N or 120/240-volt, single phase, 3 wire, S/N.

Panelboard types as manufactured by:

1. Cutler-Hammer..... Type Pow-R-Line 1
2. General Electric.....Type AQ
3. Square D.....Type NQD
4. Siemens.....Type S series

F. Panelboards shown on the drawings with relays, time clocks or other control devices shall have a separate metal barriered compartment mounted above panel with separate hinged locking door to match panelboard. Provide mounting subbase in cabinet for control devices and wiring terminal strips.

G. Panelboard shall have a circuit index card holder removable type, with clear plastic cover. Index card shall have numbers imprinted to match circuit breaker numbers.

H. Bussing shall be rectangular cross section copper, or silver or tin-plated aluminum. Bussing shall be full length of the enclosure.

PART 3 - EXECUTION

3.01 GROUNDING

A. Grounding shall be executed in accordance with all applicable Codes and Regulations and local authorities having jurisdiction.

B. Provide ground conductor in all branch circuit conduits serving receptacle loads.

C. Ground conductors for branch circuit wiring shall be attached at each outlet to the back of the box using drilled and tapped holes and washer head screws, 6-32 or larger.

D. Each panelboard, switchboard, pullbox or any other enclosure in which several ground wires are terminated shall be equipped with a ground bus secured to the interior of the enclosure. The bus shall have a separate lug for each ground conductor. No more than one conductor shall be installed per lug.

3.02 CONDUIT

A. The sizes of the conduits for the various circuits as indicated on the Drawings and as required by Code for the size and number of conductors to be pulled therein. Open ends capped with approved manufactured conduit seals as soon as installed and kept capped until ready to pull in conductors. Where running thread unions are necessary, only approved manufactured conduit unions used. No bends or offsets will be permitted unless absolutely necessary. Conduits to be concealed except as noted otherwise.

B. Rigid steel conduit or intermediate metal conduit shall be used where placed underground in concrete, in brick or masonry walls or exposed on roofs. Rigid steel conduit shall not be installed in direct contact with the earth or sand. Conduits installed in a wet, or exposed location in concrete have threads filled with red lead. For short runs of conduits installed in the ground and with Architect's approval, conduits may be "half" lapped with polyvinyl chloride tape equal to Scotch Wrap. Joints to be "double" wrapped. Tape shall be 10 mil. thick.

C. RNMC Installation Locations

RNMC conduit and RNMC fittings shall be installed in the following locations containing only "non-hazardous material":

1. Underground, concealed below earth grade, unless specifically noted or specified otherwise.

2. Exposed on utility service poles, for pole risers at 9-feet or higher above finish grade, Schedule 80 PVC only.

3. RNMC type "EB" conduit(s) shall be concrete encased along the entire length of the conduits for all installation locations.

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REGISTERED PROFESSIONAL ENGINEER
DEVIN CONWAY
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Signature
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CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
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FBA Job Number: 1175.026

SHEET TITLE

ELECTRICAL SPECIFICATIONS

PROJECT NAME

SAN PEDRO ES ATHLETIC FIELD IMPROVEMENTS

PROJECT ADDRESS

498 POINT SAN PEDRO RD
SAN RAFAEL, CA
94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY	CHECKED BY
FBA	FBA
DATE ISSUED: 11/01/24	SCALE:

PROJ. NO. 2401200

SHEET NO. E2.0 OF X SHEETS

D. Conduit placed against concrete above ground fastened to the concrete with pipe straps or one-screw conduit clamps attached to the concrete by means of expansion screw anchors and screws.

E. Conduits which are installed at this time and left empty for future shall have polyvinyl rope left in place for future use.

F. Conduit Separation:

1. Conduit installed underground or below building slab without full concrete encasement: Shall be separated from adjacent conduits of identical systems (i.e., signal to signal, data to data, power to power, control to control etc.) by a minimum of 3-inches. Conduits of non-identical systems (i.e., signal to power; data to power; power to control; signal to control, etc.) shall be separated by a minimum of 12-inches.

2. Conduit installed underground with full concrete encasement; shall be separated from adjacent conduits of similar systems (100 volt and less) by a minimum of 2-inches; conduits for non-power systems (100 volts and less to ground) shall be separated by a minimum of 6-inches from power circuits (over 100 volts to ground); conduits for power circuits shall be separated from adjacent conduits of similar power systems (over 100 volts to ground) by a minimum of 3-inches.

3. Separation of conduits entering termination points or crossing other conduits may be reduced as required within 60-inches of the termination or crossing points.

4. Conduits containing Utility Company service circuits (i.e., electrical power, telephone, or cable television) shall be separated a minimum of 12-inches from all other utilities and conduits, with or without concrete encasement, metallic or non-metallic conduit, above grade or underground conduit locations.

G. Conduit Underground Locations:

1. Conduits which are run underground exterior to building slab shall be continuously concrete encased, except 15 thru 50 ampere power branch circuit conduits underground do not require concrete encasement.

2. Concrete for encasement of underground conduits shall be 2000-PSI 28-days cure strength with a mix of cement, sand, water and maximum of 3/4-inch gravel. Concrete encasement of conduits shall be continuous without voids. The encasement shall extend 3-inches past the edges of all conduits on all sides of the circuit.

3. Conduits located below or adjacent to structural foundations shall be separated from the foundation by a minimum of 12-inches. Conduits located below structural foundations shall be fully and continuously concrete backfilled and encased between the bottom of the foundation to the bottom of the conduits. The concrete shall be 4000-PSI 28-day cure strength instead of 2000-PSI concrete.

4. Conduits of any size and type (including 15-ampere thru 50 ampere power branch circuits) located under roads, and "Transit-System" right of way shall be concrete encased.

5. Three or more underground conduits occupying the same trench shall be separated and supported on factory fabricated, non-metallic, duct/conduit support spacers. The spacers shall be modular, keyed interlocking type, "Built-Up" to accommodate quantity, size orientation and spacing of installed conduits. The spacers shall maintain a constant distance between adjacent conduit supports and hold conduits in place during trench backfill operations. Minimum support spacer installation interval along with length of the conduits shall be as follows:

   a. Concrete encased conduits, not less than 8-feet on center.
   b. Non-concrete encased conduits, not less than 5-feet on center.

6. Provide trenching, excavation, shoring and Back-filling required for the proper installation of underground conduits. Tops of backfill shall match finish grade.

7. Bottoms of trenches shall be cut parallel to "Finish Grade" elevation. Make trenches 12-inches wider than the greatest diameter of the conduit.

8. Back-filling Trenches for Conduits without Concrete Encasement Requirements.

   a. Conduits which are not required by the Contract Documents to be concrete encased and are located exterior to building slab, shall be set on a 3-inch bed of damp clean sand. Conduit trenches shall be backfilled to within 12-inches of finished grade with damp sand after installation of conduit is completed. Remainder of backfill shall be native soil.
   b. Conduits located under a building which are not required by the Contract Documents to be concrete encased, shall be completely backfilled and compacted with clean damp sand to the same level as the building foundation pad.
   c. Provide a continuous yellow 12-inches wide flat plastic tracer tape, located 12-inches above the conduits in the trench. The tracer tape shall be imprinted with "Warning-Electric Circuits" a minimum of 24-inches on center.

9. Backfilling trenches for conduits under paved areas:

   a. In addition to the Requirements of conduit concrete encasement; conduits under walkways, roads, parking lots, driveways, and buildings shall be cast in place concrete "Slurry Mix" backfill. The slurry mix shall cover each side and top of conduits and conduit concrete encasement. The slurry mix shall be continuous to the underside of the finish subgrade surface.

10. Backfilling trenches for conduits with Concrete Encasement Requirements by the Contract Documents:

    a. Trenches with all conduits concrete encased shall be backfilled with clean damp sand when located under building pads.
    b. Trenches with all conduits concrete completely (sides, top, and bottom) encased and not located under a building pad and not located under paved areas, shall be backfilled with clean damp sand or native soil.
    c. Concrete mix, consisting of cast-in-place concrete, sand, and gravel. 2000psi compressive 28-day cure strength. Red-dye concrete coloring. See Additional Requirements.

11. Backfill material:

    a. Sand backfill shall be clean with no clay or organic materials, free of State of California and EPA defined toxic constituents, total chloride content less than 500 ppm, total sulfate content less than 150 ppm, sand pH greater than 4.5 and less than 9.0. Sand and native soil backfill of trenches shall be machine vibrated in 6-inch lifts to provide not less than 90% compaction of backfill.
    b. Native soil backfill shall have no gravel or stones, and no organic matter of aggregate greater than 1-inch.
    c. Concrete mix and slurry mix backfill shall be machine vibrated during installation to remove "Air-Voids".
    d. The slurry mix shall consist of concrete, clean gravel, clean sand and clean water mixture, 1000psi compressive 28-day cure strength. Maximum shrinking of slurry mix shall not exceed 5% wet to dry.

12. Installation depth below finish grade of underground conduits and underground raceways. In no condition/location less than 12-inches below winter underground frost-line. Underground depth dimensions shall be measured from finish top of grade elevation to top of all underground conduits/raceways, typically except under buildings.

    a. Under non-traffic areas not covered with paving or concrete, not less than 24-inches underground.

    b. Under traffic areas including roads and parking areas, not less than 36-inches underground.

    c. Under public/private transit system right-of-way and railroad right-of-way, not less than 48-inches underground.

13. Conduit crossing existing underground utilities shall cross below the bottom depth of the existing utilities. If the top portion of the existing utility depth below finish grade exceeds 72-inches and the specified separation and depths are maintained when crossing over the top of the existing underground utility, the conduit may cross above the existing underground utility.

14. Provide long radius horizontal bends (minimum radius of 36-times the conduit diameter) in underground conduits where the conduit is in excess of 100-feet long.

15. Conduits installed below grade and on grade below buildings, shall not be smaller than 0.75-inch.

16. Underground conduits entering a building shall be sloped. The conduit direction of slope shall be away from the building and shall prevent water in the conduit from "Gravity Draining" towards the building. The conduit slope "High Point" shall originate from the building, out to the first exterior pullbox, manhole etc. exterior conduit termination "Low Point". The minimum slope angle shall be a constant 8-inches (or greater) of fall for each 100-feet of conduit length.

17. Raceway/Conduits, which are installed at this time and left empty for future use, shall have 0.25-inch diameter polyvinyl rope left in place for future use. The pull rope shall be 500-pounds minimum tensile strength. Provide a minimum of 5-feet of slack at each end of pull ropes.

3.03 WIRE AND CABLE

A. Branch circuit and fixture joints for #10 AWG and smaller wire shall be made with UL-approved connectors listed for 600 volts, approved for use with copper and/or aluminum wire. Connector to consist of a cone-shaped, expandable coil spring insert, insulated with a nylon shall and 2 wings placed opposite each other to serve as a built-in wrench or shall be molded one-piece as manufactured by "Scotchlok".

B. Branch circuit joints #8 and larger screw pressure lugs made of high strength structural aluminum alloy and UL-approved for use with both copper and/or aluminum wire as manufactured by Thomas & Betts.

C. Splices insulated with plastic splicing tape, half-lapped and at least the thickness of the wire insulation. Tape shall be fresh and quality equal to Scotch.

D. Correspond each circuit to the branch number indicated on the panel schedule shown on the Drawings except where departures are approved by the Architect or the Owner's Inspectors.

E. All wiring, including low voltage, shall be installed in conduit, unless otherwise noted. Conduit may be omitted for low voltage interconnect wiring between ceiling mounted occupancy sensors where plenum rated wiring is installed above accessible ceilings.

F. Control wiring to conform to the wiring diagrams shown on the Mechanical Drawings and the Manufacturer's wiring diagrams. Control the equipment in the manner specified under the "Mechanical" Section of the Specifications. Control wire to be color-coded for each in making final connections. Tag all spare conductors.

G. Wiring within panel enclosures to be neatly grouped and laced with Thomas & Betts "Ty-rap" spaced 3" apart and fanned out to the terminals. Tag all spare conductors.

3.04 PANELBOARD MOUNTING

A. Flush mounted panelboards and terminal cabinets shall be securely fastened to at least two studs or structural members. Trim shall be flush with finished surface.

B. Surface mounted panelboards and terminal cabinets shall be secured to walls by means of preformed steel channels securely fastened to at least two studs or structural members.

C. Panelboards shall be installed to ensure the top circuit protective device (including top compartment control devices) are not more than 6-feet-6-inch above finish floor in front of the panel and the bottom device is a minimum of 12-inch above the floor. Manufacturer shall specifically indicate on Shop Drawing submittals each panel where these conditions cannot be met.

3.05 LIGHTING

A. Install lighting fixtures in accordance with the Manufacturers installation instructions and industry standards.

B. Provide all mounting accessories, hardware, trims fittings as and required for proper installation into the ceiling construction type.

C. Refer to the Architectural Drawings for the exact location and placement of the lighting fixtures.

D. Test each lighting fixture and respective lighting controls to confirm that proper operational and performs to the Manufacturers Specifications.

VERDE DESIGN
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
SPORT PLANNING & DESIGN
3558 Round Barn Blvd. Suite 200
Santa Rosa, CA 95403
tel: 707.800.4204
fax: 408.985.7260
www.VerdeDesigninc.com

STAMP

REGISTERED PROFESSIONAL ENGINEER
DEVIN CONWAY
No. C-56494
Signature
EXPIRATION DATE:
June 30, 2025
CIVIL
STATE OF CALIFORNIA

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
STEPHEN R. ZATKER
No. E 10372
Exp. 09-30-26
ELECTRICAL
STATE OF CALIFORNIA

10/31/2024

FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9965 ● 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 1175.026

SHEET TITLE

ELECTRICAL SPECIFICATIONS

PROJECT NAME

SAN PEDRO ES
ATHLETIC FIELD
IMPROVEMENTS

PROJECT ADDRESS

498 POINT SAN PEDRO RD
SAN RAFAEL, CA
94901

SUBMITTAL	DATE
DD SUBMITTAL	11/01/24

NO.	REVISIONS	DATE
1		

DRAWN BY	CHECKED BY
FBA	FBA
DATE ISSUED: 11/01/24	SCALE:

PROJ. NO. 2401200

SHEET NO. E2.1 OF X SHEETS

USASHADE & Fabric Structures, Inc.

FABRIC SHADE STRUCTURE

DSA P.C. 04-121917

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE 2022 EDITION OF THE TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
2. ALL WORK SHALL BE IN COMPLIANCE WITH CFC CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.
3. SEE INDIVIDUAL STRUCTURAL DRAWINGS FOR SPECIFIC DESIGN NOTES AND LOADING.
4. PRIOR TO SUBMITTAL ARCHITECT OF RECORD SHALL IDENTIFY PC MODEL(S) SELECTED BY END USER ON SHEETS T-1.0 AND T-2.0 BY CHECKING THE APPROPRIATE BOX ASSOCIATED WITH SELECTED PC MODEL(S). EXCLUDE SHEETS FOR MODELS NOT SELECTED.

PLANS FOR SPECIFIC APPLICATION SHALL INCLUDE THE FOLLOWING:

1. COMPLETE SCOPE OF WORK INCLUDING THE SHADE STRUCTURE MODEL NUMBER, P.C. NUMBER, AND SPECIFIC SIZE OF THE SHADE STRUCTURE(S).
2. PROVIDE A CODE ANALYSIS, INCLUDING ACTUAL SHADE STRUCTURE AREA (SQ. FT.), OCCUPANCY TYPE (A-3), AND TYPE OF CONSTRUCTIONS (V-B). INDICATE OCCUPANT LOAD FACTOR (2022 CBC, SECTION 1004).
3. ACTUAL DIMENSIONS OF SHADE STRUCTURES.
4. DIMENSIONS FROM ADJACENT STRUCTURES AND PROXIMITY OF ASSUMED OR ACTUAL PROPERTY LINES.
5. INDICATE LOCATIONS OF FIRE EXTINGUISHERS WITHIN 75 FEET.
6. SHOW LOCATION OF AUDIBLE FIRE ALARM.
7. ALL SADDLES, CLAMPS AND FITTINGS SHALL CONFORM TO THE GUIDELINES AS SPECIFIED IN APPENDICES "A, B, & C", RESPECTIVELY, IN ASCE/SEI 19-16, "STRUCTURAL APPLICATIONS OF STEEL CABLES FOR BUILDINGS."
8. ARCHITECTS OF RECORD TO DETERMINE IF SPECIFIC SITE IS LOCATED IN A MAPPED GEOLOGIC HAZARD ZONE. GEOHAZARD REPORTS REQUIREMENTS SHALL COMPLY WITH DSA IR A-4.
9. ARCHITECTS OF RECORD TO DETERMINE IF SPECIFIC SITE IS LOCATED IN A MAPPED FIRE HAZARD SEVERITY ZONE OR WILDLAND INTERFACE AREA.

FOR SNOW LOAD MODELS ONLY:

10. INDICATE DIMENSIONS FROM THE ROOF TO THE HIGHER STRUCTURE OR TERRAIN FEATURE. MINIMUM DIMENSION OF 20'-0" FOR SNOW LOAD MODEL (ASCE 7-16).
11. ACTUAL SITE ELEVATION (FEET) TO DETERMINE IF THE SITE OCCURS AT OR BELOW THE UPPER ELEVATION LIMIT FOR THE GROUND SNOW LOAD SHOWN IN ASCE 7-16.

P.C. NOTES

PLANS FOR SPECIFIC APPLICATION SHALL INCLUDE THE FOLLOWING:

LIST OF APPLICABLE CODES:

- 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 C.C.R.
- 2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
- 2022 CALIFORNIA ELECTRICAL CODE (CEC) , PART 3, TITLE 24 C.C.R.
- 2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.
- 2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
- 2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.
- 2022 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
- 2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 C.C.R.
- 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 C.C.R.
- 2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 C.C.R.
- TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

APPLICABLE STANDARDS:

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

APPLICABLE CODES

SITE SPECIFIC PARAMETERS

INSTRUCTIONS: DESIGN PROFFESIONAL SHALL CHECK THE APPROPRIATE SELECTION BOXES BELOW AND ENTER THE DESIGN PARAMETERS APPLICABLE TO THE SPECIFIC PROJECT SITE

SEISMIC

SELECT ONE

- ☐ DESIGN BASED ON SITE CLASS $D_{default}$
  NO GEOTECHNICAL INVESTIGATION REQUIRED
  Ss = _____ Fa = 1.2
- ☐ DESIGN BASED ON SITE CLASS DETERMINED PER CHAPTER 20 OF ASCE 7-16
  GEOTECHNICAL INVESTIGATION PROVIDED
  SITE CLASS: ☐ C ☐ D
  Ss = _____ Fa = _____ PER ASCE 7-16 SUPPL 3, TABLE 11.4-1
- ☐ DESIGN BASED ON SITE CLASS SPECIFIC GROUND MOTION HAZARD ANALYSIS PER CHAPTER 21 OF ASCE 7-16
  SHORT-PERIOD DESIGN SPECTRAL RESPONSE PARAMETER, S_{DS}, SHALL BE AS SPECIFIED IN GEOTECHNICAL INVESTIGATION
  CGS APPROVAL REQUIRED
  NOT ELIGIBLE FOR OTC REVIEW
  SITE CLASS: ☐ C ☐ D

S_{DS} = 2/3 Fa Ss = _____ ≤ 2.0
Cs = 1.6 USED IN DESIGN
SEISMIC DESIGN CATEGORY: ☐ D ☐ E

CODE ANALYSIS			
OCCUPANCY GROUP	OCCUPANT LOAD FACTOR	TOTAL OCCUPANT LOAD	SHADE STRUCTURE AREA (ft^2)

SITE SPECIFIC PARAMETERS

MANUFACTURER:

USA SHADE & FABRIC STRUCTURES
2580 ESTERS BOUVLEVARD, SUITE 100
DFW AIRPORT, TEXAS 75261
PH. 800-966-5005
W. www.usa-shade.com

ARCHITECT:

HIGGINSON ARCHITECTS, INC.
DAVID HIGGINSON, AIA, PRINCIPAL ARCHITECT
34247 YUCAIPA BOULEVARD, SUITE D
YUCAIPA, CALIFORNIA 92399
PH. 909-499-0058
E. dhiggInson@higgInsonarchitects.com
W. www.hIggInsonarchitects.com

LICENSED ARCHITECT DAVID HIGGINSON C19168 10-31-25 RENEWAL DATE STATE OF CALIFORNIA

STRUCTURAL ENGINEER:

MARK LOWE, S.E.
c/o USA SHADE AND FABRIC STRUCTURES

REGISTERED PROFESSIONAL ENGINEER MARK ALBERT LOWE No. 3693 STRUCTURAL STATE OF CALIFORNIA

ARCHITECT / ENGINEER

✓	SHEET NO.	SHEET DESCRIPTION	UNIT STRUCTURE TYPE	MAX. UNIT SIZE	UNIT MODEL NUMBER
X	T-1.0	TITLE SHEET			
X	T-2.0	UNIT SELECTION			
X	T-3.0	T&I FORMS			
	1.1-1000	PRODUCT INFORMATION	HIP	20' x 30' x 15'	DSA4012030-22
	1.2-2000	REACTIONS	HIP	20' x 30' x 15'	DSA4012030-22
	2.1-1000	PRODUCT INFORMATION	HIP	30' x 30' x 15'	DSA4013030-22
	2.2-2000	REACTIONS	HIP	30' x 30' x 15'	DSA4013030-22
	3.1-1000	PRODUCT INFORMATION	HIP	30' x 40' x 15'	DSA4013040-22
	3.2-2000	REACTIONS	HIP	30' x 40' x 15'	DSA4013040-22
	4.1-1000	PRODUCT INFORMATION	HIP	40' x 40' x 15'	DSA4014040-22
	4.2-2000	REACTIONS	HIP	40' x 40' x 15'	DSA4014040-22
	5.1-1000	PRODUCT INFORMATION	HIP	20' x 30' x 12'	DSA401203012-22
	5.2-2000	REACTIONS	HIP	20' x 30' x 12'	DSA401203012-22
	6.1-1000	PRODUCT INFORMATION	HIP	30' x 30' x 12'	DSA401303012-22
	6.2-2000	REACTIONS	HIP	30' x 30' x 12'	DSA401303012-22
X	7.1-1000	PRODUCT INFORMATION	HIP	30' x 40' x 12'	DSA401304012-22
X	7.2-2000	REACTIONS	HIP	30' x 40' x 12'	DSA401304012-22
	8.1-1000	PRODUCT INFORMATION	HIP (20 psf SNOW LOAD)	20' x 30' x 15'	DSA401S2030-22
	8.2-2000	REACTIONS	HIP (20 psf SNOW LOAD)	20' x 30' x 15'	DSA401S2030-22
	9.1-1000	PRODUCT INFORMATION	JOINED HIPS	VARIES	DSA401J-22
	9.2-1001	DETAILS	JOINED HIPS	VARIES	DSA401J-22
	9.3-2000	REACTIONS	JOINED HIPS	VARIES	DSA401J-22
	10.1-1000	PRODUCT INFORMATION	QUAD JOINED HIPS	VARIES	DSA401Q-22
	10.2-1001	DETAILS	QUAD JOINED HIPS	VARIES	DSA401Q-22
	10.3-2000	REACTIONS	QUAD JOINED HIPS	VARIES	DSA401Q-22
	11.1-1000	PRODUCT INFORMATION	FULL CANTILEVER HIP SINGLE	20' x 30' x 15'	DSA2022030-22
	11.2-2000	REACTIONS	FULL CANTILEVER HIP SINGLE	20' x 30' x 15'	DSA2022030-22
	12.1-1000	PRODUCT INFORMATION	FULL CANTILEVER HIP JOINED	20' x 200' x 15'	DSA3022060-22
	12.2-2000	REACTIONS	FULL CANTILEVER HIP JOINED	20' x 200' x 15'	DSA3022060-22
	13.1-1000	PRODUCT INFORMATION	SINGLE POST PYRAMID	14' x 14' x 12'	DSA1031414-22
	13.2-2000	REACTIONS	SINGLE POST PYRAMID	14' x 14' x 12'	DSA1031414-22
	14.1-1000	PRODUCT INFORMATION	SINGLE POST PYRAMID	20' x 20' x 12'	DSA1032020-22
	14.2-2000	REACTIONS	SINGLE POST PYRAMID	20' x 20' x 12'	DSA1032020-22
	15.1-1000	PRODUCT INFORMATION	SINGLE POST PYRAMID CANTILEVER	14' x 14' x 12'	DSA1241414-22
	15.2-2000	REACTIONS	SINGLE POST PYRAMID CANTILEVER	14' x 14' x 12'	DSA1241414-22
	16.1-1000	PRODUCT INFORMATION	SINGLE POST PYRAMID CANTILEVER	20' x 20' x 12'	DSA1242020-22
	16.2-2000	REACTIONS	SINGLE POST PYRAMID CANTILEVER	20' x 20' x 12'	DSA1242020-22
	17.1-1000	PRODUCT INFORMATION	MARINER PEAK	30' x 30' x 15'	DSA4073030-22
	17.2-2000	REACTIONS	MARINER PEAK	30' x 30' x 15'	DSA4073030-22
	18.1-1000	PRODUCT INFORMATION	MARINER PEAK	30' x 40' x 18'	DSA4073040-22
	18.2-2000	REACTIONS	MARINER PEAK	30' x 40' x 18'	DSA4073040-22
	19.1-1000	PRODUCT INFORMATION	MARINER PEAK JOINED	30' x 133' x 15'	DSA407J3060-22
	19.2-2000	REACTIONS	MARINER PEAK JOINED	30' x 133' x 15'	DSA407J3060-22
	20.1-1000	PRODUCT INFORMATION	MARINER PEAK QUAD	60' x 60' x 15'	DSA407Q6060-22
	20.2-2000	REACTIONS	MARINER PEAK QUAD	60' x 60' x 15'	DSA407Q6060-22
	21.1-1000	PRODUCT INFORMATION	TRI TRUSS HIP SINGLE WIDE	20' x 30' x 15'	DSA2062030-22
	21.2-2000	REACTIONS	TRI TRUSS HIP SINGLE WIDE	20' x 30' x 15'	DSA2062030-22
	22.1-1000	PRODUCT INFORMATION	TRI TRUSS HIP JOINED	20' x 200' x 15'	DSA3052060-22
	22.2-2000	REACTIONS	TRI TRUSS HIP JOINED	20' x 200' x 15'	DSA3052060-22
	23.1-1000	PRODUCT INFORMATION	TENSION SAILS THREE POINT	30' x 133' x 15'	DSA30730-22
	23.2-2000	REACTIONS	TENSION SAILS THREE POINT	30' x 133' x 15'	DSA30730-22
	24.1-1000	PRODUCT INFORMATION	TENSIONS SAILS FOUR POINT	20' x 200' x 15'	DSA4182020-22
	24.2-2000	REACTIONS	TENSIONS SAILS FOUR POINT	20' x 200' x 15'	DSA4182020-22
	25.1-1000	PRODUCT INFORMATION	TENSIONS SAILS FOUR POINT	30' x 133' x 15'	DSA4183030-22
	25.2-2000	REACTIONS	TENSIONS SAILS FOUR POINT	30' x 133' x 15'	DSA4183030-22
	26.1-1000	PRODUCT INFORMATION	TRIANGLE	25' x 25' x 15'	DSA30125-22
	26.2-2000	REACTIONS	TRIANGLE	25' x 25' x 15'	DSA30125-22
	27.1-1000	PRODUCT INFORMATION	TRIANGLE	40' x 40' x 15'	DSA30140-22
	27.2-2000	REACTIONS	TRIANGLE	40' x 40' x 15'	DSA30140-22
	28.1-1000	PRODUCT INFORMATION	HEXAGON	Ø40' X 15'	DSA60340-22
	28.2-2000	REACTIONS	HEXAGON	Ø40' X 15'	DSA60340-22
	29.1-1000	PRODUCT INFORMATION	HEXAGON	Ø60' X 15'	DSA60360-22
	29.2-2000	REACTIONS	HEXAGON	Ø60' X 15'	DSA60360-22

TOTAL SHEET COUNT: 63 SHEETS

SHEET INDEX

USASHADE & Fabric Structures®
CORPORATE HEADQUARTERS
2580 ESTERS BLVD. SUITE 100
DFW AIRPORT, TX, 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
San Rafael City Schools

PROJECT NAME:
San Pedro Elementary

LOCATION:
498 Point San Pedro Rd.
San Rafael, CA 94901

MODEL NUMBER:

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-121917 PC
REVIEWED FOR
SS ☑ PLS ☑ ACS ☒ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:

SCALE : VARIES

DRAWING SIZE:
D

PRE-CHECK (PC) DOCUMENT
Code : 2022 CBC
A separate project application for construction is required.

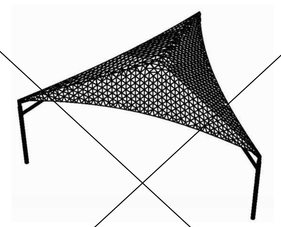
Eng. By :	DWH	2/14/23
Design By :	DWH	2/14/23
Approved By :	DWH	2/14/23

DRAWING DESCRIPTION:

DWG.
TITLE SHEET

SHEET
T-1.0

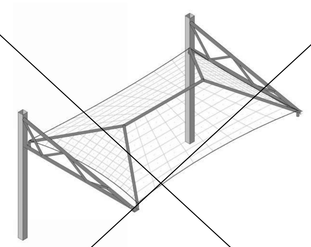
REV.



STRUCTURE MODEL:	DSA30125-22	SEE SHEET 26.1-1000
MAX. SIZE:	25' x 25' x 15'	
MAX. AREA:	277 SQ. FT.	
MAX. OCCUPANCY:	18 PERSONS	
STRUCTURE MODEL:	DSA30140-22	SEE SHEET 27.1-1000
MAX. SIZE:	40' x 40' x 15'	
MAX. AREA:	692 SQ. FT.	
MAX. OCCUPANCY:	46 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

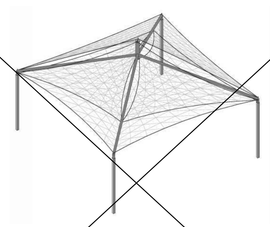
TRIANGLE



STRUCTURE MODEL:	DSA2062030-22	SEE SHEET 21.1-1000
MAX. SIZE:	20' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

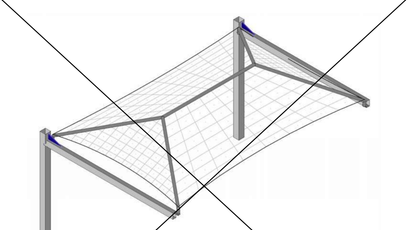
TRI-TRUSS HIP SINGLE WIDE



STRUCTURE MODEL:	DSA4073030-22	SEE SHEET 17.1-1000
MAX. SIZE:	30' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	
STRUCTURE MODEL:	DSA4073040-22	SEE SHEET 18.1-1000
MAX. SIZE:	30' x 40' x 15'	
MAX. AREA:	1,200 SQ. FT.	
MAX. OCCUPANCY:	80 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

MARINER PEAK



STRUCTURE MODEL:	DSA2022030-22	SEE SHEET 11.1-1000
MAX. SIZE:	20' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	

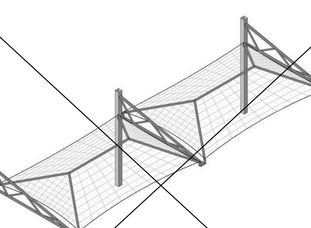
FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

FULL CANTILEVER HIP SINGLE

STRUCTURE MODEL:	DSA60340-22	SEE SHEET 28.1-1000
MAX. SIZE:	Ø40' x 15'	
MAX. AREA:	1,040 SQ. FT.	
MAX. OCCUPANCY:	69 PERSONS	
STRUCTURE MODEL:	DSA60360-22	SEE SHEET 29.1-1000
MAX. SIZE:	Ø60' x 15'	
MAX. AREA:	2,338 SQ. FT.	
MAX. OCCUPANCY:	156 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

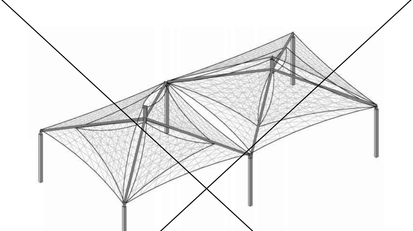
HEXAGON



STRUCTURE MODEL:	DSA3052060-22	SEE SHEET 22.1-1000
MAX. SIZE:	20' x 200' x 15'	
MAX. AREA:	4,000 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

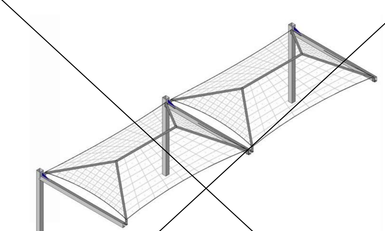
TRI-TRUSS HIP JOINED



STRUCTURE MODEL:	DSA407J3060-22	SEE SHEET 19.1-1000
MAX. SIZE:	30' x 133' x 15'	
MAX. AREA:	3,990 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

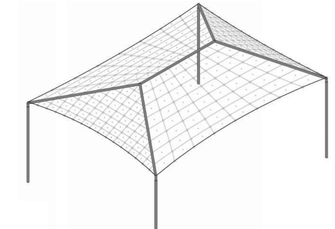
MARINER PEAK JOINED



STRUCTURE MODEL:	DSA3022060-22	SEE SHEET 12.1-1000
MAX. SIZE:	20' x 200' x 15'	
MAX. AREA:	4,000 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

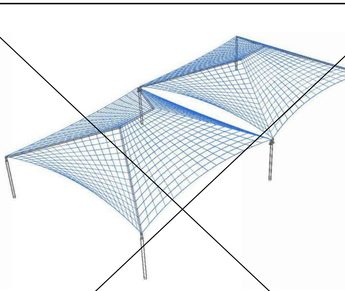
FULL CANTILEVER HIP JOINED



STRUCTURE MODEL:	DSA4012030-22	SEE SHEET 1.1-1000
MAX. SIZE:	20' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	
STRUCTURE MODEL:	DSA4013030-22	SEE SHEET 2.1-1000
MAX. SIZE:	30' x 30' x 15'	
MAX. AREA:	900 SQ. FT.	
MAX. OCCUPANCY:	60 PERSONS	
STRUCTURE MODEL:	DSA4013040-22	SEE SHEET 3.1-1000
MAX. SIZE:	30' x 40' x 15'	
MAX. AREA:	1,200 SQ. FT.	
MAX. OCCUPANCY:	80 PERSONS	
STRUCTURE MODEL:	DSA401203012-22	SEE SHEET 4.1-1000
MAX. SIZE:	20' x 30' x 12'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	
STRUCTURE MODEL:	DSA401303012-22	SEE SHEET 5.1-1000
MAX. SIZE:	30' x 30' x 12'	
MAX. AREA:	900 SQ. FT.	
MAX. OCCUPANCY:	60 PERSONS	
X STRUCTURE MODEL:	DSA401304012-22	SEE SHEET 6.1-1000
MAX. SIZE:	30' x 40' x 12'	
MAX. AREA:	1,200 SQ. FT.	
MAX. OCCUPANCY:	80 PERSONS	
STRUCTURE MODEL:	DSA4014040-22	SEE SHEET 7.1-1000
MAX. SIZE:	40' x 40' x 12'	
MAX. AREA:	1,600 SQ. FT.	
MAX. OCCUPANCY:	106 PERSONS	
STRUCTURE MODEL:	DSA401S2030-22 (20 psf SNOW LOAD)	SEE SHEET 8.1-1000
MAX. SIZE:	20' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

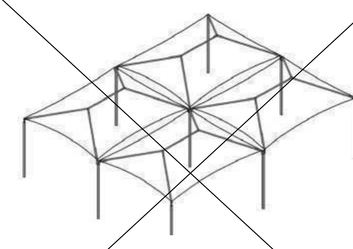
HIP



STRUCTURE MODEL:	DSA401J-22	SEE SHEET 9.1-1000
MAX. SIZE:	VARIES, SEE JOINED HIP UNIT SHEET	
MAX. AREA:	VARIES	
MAX. OCCUPANCY:	VARIES	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

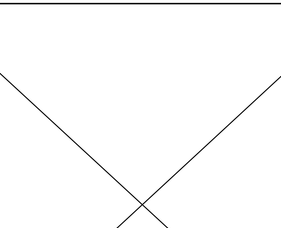
JOINED HIP



STRUCTURE MODEL:	DSA401Q-22	SEE SHEET 10.1-1000
MAX. SIZE:	VARIES, SEE QUAD HIP UNIT SHEET	
MAX. AREA:	VARIES	
MAX. OCCUPANCY:	VARIES	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

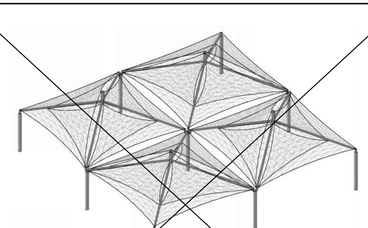
QUAD HIP



STRUCTURE MODEL:	DSA30730-22	SEE SHEET 23.1-1000
MAX. SIZE:	30' x 133' x 15'	
MAX. AREA:	3,990 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

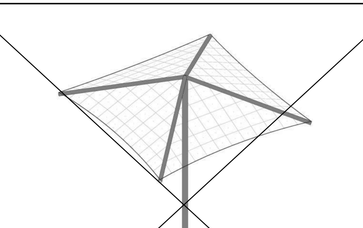
TENSIONS SAILS THREE-POINT



STRUCTURE MODEL:	DSA407Q8060-22	SEE SHEET 20.1-1000
MAX. SIZE:	60' x 60' x 15'	
MAX. AREA:	3,600 SQ. FT.	
MAX. OCCUPANCY:	240 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

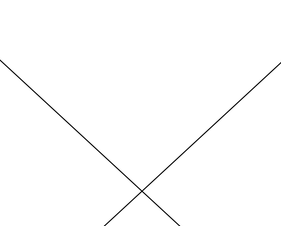
MARINER PEAK QUAD



STRUCTURE MODEL:	DSA1031414-22	SEE SHEET 13.1-1000
MAX. SIZE:	14' x 14' x 12'	
MAX. AREA:	196 SQ. FT.	
MAX. OCCUPANCY:	13 PERSONS	
STRUCTURE MODEL:	DSA1032020-22	SEE SHEET 14.1-1000
MAX. SIZE:	20' x 20' x 12'	
MAX. AREA:	400 SQ. FT.	
MAX. OCCUPANCY:	26 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

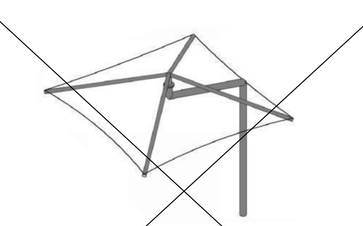
SINGLE POST PYRAMID



STRUCTURE MODEL:	DSA4182020-22	SEE SHEET 24.1-1000
MAX. SIZE:	20' x 200' x 15'	
MAX. AREA:	4,000 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	
STRUCTURE MODEL:	DSA4183030-22	SEE SHEET 25.1-1000
MAX. SIZE:	30' x 133' x 15'	
MAX. AREA:	3,990 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

TENSIONS SAILS FOUR-POINT



STRUCTURE MODEL:	DSA1241414-22	SEE SHEET 15.1-1000
MAX. SIZE:	14' x 14' x 12'	
MAX. AREA:	196 SQ. FT.	
MAX. OCCUPANCY:	13 PERSONS	
STRUCTURE MODEL:	DSA1242020-22	SEE SHEET 16.1-1000
MAX. SIZE:	20' x 20' x 12'	
MAX. AREA:	400 SQ. FT.	
MAX. OCCUPANCY:	26 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

SINGLE POST PYRAMID CANTILEVER

NOT USED

NOT USED

NOT USED

USASHADE & Fabric Structures®

CORPORATE HEADQUARTERS
2580 ESTERS BLVD. SUITE 100
DFW AIRPORT, TX, 75261
800-966-5005

CERTIFICATIONS:

IAS CERTIFICATION No: FA-428

CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:

San Rafael City Schools

PROJECT NAME:

San Pedro Elementary

LOCATION:

498 Point San Pedro Rd.
San Rafael, CA 94901

MODEL NUMBER:

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-121917 PC
REVIEWED FOR
SS ☑ PLS ☑ ACS ☒ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:

SCALE : VARIES

DRAWING SIZE:
D

PRE-CHECK (PC) DOCUMENT
Code : 2022 CBC
A separate project application for construction is required.

Eng. By :	DWH	2/14/23
Design By :	DWH	2/14/23
Approved By :	DWH	2/14/23

DRAWING DESCRIPTION:

DWG.
UNIT SELECTION

SHEET
T-2.0

REV.

REGISTERED PROFESSIONAL ENGINEER
MARK ALBERT DIXON
No. 3693
STRUCTURAL
STATE OF CALIFORNIA
10/18/2023

LICENSED ARCHITECT
DAVID MIGGINSON
C19168
10-31-25
RENEWAL DATE
STATE OF CALIFORNIA

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

2022 CBC

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required **Periodic** – Indicates that a periodic special inspection is required **Test** – Indicates that a test is required	**GE (Geotechnical Engineer)** – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative. **LOR (Laboratory of Record)** – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335. **PI (Project Inspector) –** Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA. **SI (Special Inspection)** – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

	S1. GENERAL:	Type	Performed By	Code References and Notes
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify that: • Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations. • Foundation excavations are extended to proper depth and have reached proper material. • Materials below footings are adequate to achieve the design bearing capacity.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations is not permitted without a geotechnical report.

	S2. SOIL COMPACTION AND FILL:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
☑	**b.** Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

	S3. DRIVEN DEEP FOUNDATIONS (PILES):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
☐	**b.** Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	**c.** Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
☐	**d.** Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
☐	**e.** Steel piles.	Provide tests and inspections per STEEL section below.		
☐	**f.** Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
☐	**g.** For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Note**
☑	**a.** Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
☑	**b.** Verify pier locations, diameters, plumbness and lengths.Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
☑	**c.** Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S5. RETAINING WALLS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Placement, compaction and inspection of backfill.	Continuous	GE*	**1705A.6.1.** * By geotechnical engineer or his or her qualified representative. (See section S2 above).
☐	**b.** Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
☐	**c.** Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
☐	**d.** Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
☐	**e.** Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
☐	**b.** Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
☐	**c.**			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

	C1. CAST-IN-PLACE CONCRETE			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify use of required design mix.	Periodic	SI	**Table 1705A.3 Item 5, 1910A.1.**
☑	**b.** Identifiy, sample, and test reinforcing steel.	Test	LOR	**1910A.2;** ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
☑	**c.** During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	**Table 1705A.3 Item 6**; ACI 318-19 Sections 26.5 & 26.12.
☑	**d.** Test concrete (f'_c).	Test	LOR	**1905A.1.17;** ACI 318-19 Section 26.12.
☑	**e.** Batch plant inspection: **Eliminated**	See Notes	SI	Default of **'Continuous'** per **1705A.3.3**. If approved by DSA, batch plant inspection may be reduced to **'Periodic'** subject to requirements in Section **1705A.3.3.1,** or eliminated per **1705A.3.3.2.** See IR 17-13. (See Appendix (end of this form) for exemptions.)
☐	**f.** Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

	C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Sample and test prestressing tendons and anchorages.	Test	LOR	**1705A.3.4, 1910A.3**
☐	**b.** Inspect placement of prestressing tendons.	Periodic	SI	**1705A.3.4, Table 1705A.3 Items 1 & 9.**

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	**c.** Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	**Table 1705A.3 Item 13.** Special inspector to verify specified concrete strength test prior to stressing.
☐	**d.** Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	**1705A.3.4, Table 1705A.3 Item 9;** ACI 318-14 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13.
☐	**b.** Inspect erection of precast concrete members.	Periodic	SI*	**Table 1705A.3 Item 10.** * May be performed by PI when specifically approved by DSA.
☐	**c.** For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
☐	**d.** Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

	C4. SHOTCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect shotcrete placement for proper application techniques.	Continuous	SI	**1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3.** See ACI 506.2-13 Section 3.4, ACI 506R-16.
☐	**b.** Sample and test shotcrete (f'_c).	Test	LOR	**1908A.2, 1705A.3.9**

	C5. POST-INSTALLED ANCHORS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect installation of post-installed anchors	See Notes	SI*	**1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8** (See Appendix (end of this form) for exemptions). ACI 318-14 Sections 17.8 & 26.13. * May be performed by the project inspector when specifically approved by DSA.
☐	**b.** Test post-installed anchors.	Test	LOR	**1910A.5.** (See Appendix (end of this form) for exemptions.)

	C6. OTHER CONCRETE:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.**			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

	S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	Periodic	*	**Table 1705A.2.1 Item 3a–3c.** 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
☑	**b.** Test unidentified materials	Test	LOR	**2202A.1.**
☑	**c.** Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
☑	**d.** Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (**1705A.2.4**).
☐	**e.** Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

	S/A2. HIGH-STRENGTH BOLTS: SEE STRUCTURAL NOTES ON SERIES 1000 SHEETS FOR JOINT TYPE			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	**Table 1705A.2.1 Items 1a & 1b, 2202A.1;** AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
☑	**b.** Test high-strength bolts, nuts and washers.	Test	LOR	**Table 1705A.2.1 Item 1c, 2213A.1**; RCSC 2014 Section 7.2; DSA IR 17-8.
☑	**c.** Bearing-type ("snug tight") connections.	Periodic	SI	**Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2**; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
☑	**d.** Pretensioned and slip-critical connections.	*	SI	**Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2;** AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. *"Continuous" or "Periodic" depends on the tightening method used.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

	S/A3. WELDING:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	**1705A.2.5, Table 1705A.2.1 Items 4 & 5**; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
☑	**b.** Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
☑	**c.** Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

	S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	**Table 1705A.2.1 Items 5a.1–4;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☑	**b.** Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	**1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☐	**c.** Inspect welding of stairs and railing systems.	Periodic	SI	**1705A.2.1**; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
☐	**d.** Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	**1705A.3.1**; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	**e.** Inspect welding of reinforcing steel.	Continuous	SI	**Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8;** AWS D1.4; DSA IR 17-3.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	**Table 1705A.2.1 Items 5a.1–4;** AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
☐	**b.** Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	**Table 1705A.2.1 Item 5a.5;** AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
☐	**c.** Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	**2213A.2**; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
☐	**d.** Inspect floor and roof deck welds.	Periodic	SI	**1705A.2.2, Table 1705A.2.1 Item 5a.6;** AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
☐	**e.** Inspect welding of structural cold-formed steel.	Periodic	SI*	**1705A.2.5; AWS D1.3; DSA IR 17-3.** The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
☐	**f.** Inspect welding of stairs and railing systems.	Periodic	SI*	**1705A.2.1;** AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
☐	**g.** Verification of reinforcing steel weldability.	Periodic	SI	**1705A.3.1**; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	**h.** Inspect welding of reinforcing steel.	Continuous	SI	**Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8;** AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Ultrasonic	Test	LOR	**1705A.2.1, 1705A.2.5;** AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
☐	**b.** Magnetic Particle	Test	LOR	**1705A.2.1, 1705A.2.5;** AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
☐	**c.**	Test	LOR	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	Continuous	SI	**1705A.2.3, Table 1705A.2.3;** AWS D1.1; DSA IR 22-3 for steel joists only. **1705A.2.4;** AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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DSA File Number:	**Increment Number:**	**Date Created:** 2023-02-15 15:23:09

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	**1705A.15, 1705A.1, 1705A.2, 1705A.3, 1705A.4.**
☐	**b.** Test density.	Test	LOR	**1705A.15.1, 1705A.15.5, ASTM E736**
☐	**c.** Bond strength adhesion/cohesion.	Test	LOR	**1705A.15.1, 1705A.15.4, ASTM E605**

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Anchor Bolts and Anchor Rods	Test	LOR	Sample and test anchor bolts and anchor rods not readily identifiable per procedures noted in DSA IR 17-11.
☐	**b.** Threaded rod not used for foundation anchorage.	Test	LOR	Sample and test threaded rods not readily identifiable per procedures noted in DSA IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
☐	**b.** Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 04-121917	**School Name:** PC FABRIC SHADE STRUCTURES	**School District:** USA SHADE AND FABRIC STRUCTURES
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	Test or Special Inspection	Type	Performed By	Code References and Notes
☐	**c.** Storage rack anchorage installation.	Periodic	SI	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
☐	**d.** Completed storage rack system to indicate compliance with the approved construction documents.	Periodic	SI*	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.**			

GENERAL DSA-103 NOTES:

1. THE SAMPLE DSA-103 FORM PROVIDED ON THIS SHEET IS FOR ILLUSTRATIVE PURPOSES ONLY TO ASSIST IN THE COMPLETION OF SPECIFIC DSA-103 FORMS FOR FUTURE PROJECTS.
2. A CURRENT DSA-103 FORM IS TO BE COMPLETED FOR EACH APPLICATION THAT THIS P.C. DOCUMENT IS BEING INCORPORATED INTO AND ALL SAMPLE DSA-103 SHEETS ARE TO BE CROSSED OUT ON THIS SHEET

ADDITIONAL TESTING AND INSPECTION NOTES:

1. THE PROJECT INSPECTOR AND TESTING AGENCY SHALL BE EMPLOYED BY THE SCHOOL DISTRICT AND APPROVED BY DSA AND THE ARCHITECT OF RECORD.
2. A "DSA CERTIFIED" PROJECT INSPECTRO EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
3. THE SITE PROJECT INSPECTOR SHALL BE CLASS 2.
4. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE RQUIRED TEST AND INSPECTIONS FOR THE PROJECT.
5. THE COSTS OF THE PROJECT INSPECTOR AND TESTING AGENCY SHALL BE BORN BY THE SCHOOL DISTRICT.
6. COPIES OF THE VERIFIED REPORTS SHALL BE SENT TO DSA, THE ARCHITECT, THE SCHOOL DISTRICT, THE CONTRACTOR, AND THE PROJECT INSPECTOR.
7. THE IN-PLANT INSPECTOR SHALL BE A WELDING SPECIAL INSPECTOR FOR MATERIAL VERIFICATION AND WELDING.
8. PER 2022 CBC, SECTION 1705A.3.3, BATCH PLANT INSPECTION MAY BE WAIVED WHEN THE FOLLOWING REQUIREMENTS ARE MET:
   - 8.1. A LICENSED WEIGHMASTER SHALL POSITIVELY IDENTIFY QUANTITY OF MATERIALS AND CERTIFY EACH LOAD BY A BATCH TICKET.
   - 8.2. BATCH TICKETS, INCLUDING MATERIAL QUANTITIES AND WEIGHTS SHALL ACCOMPANY THE LOAD, SHALL BE TRANSMITTED TO THE INSPECTOR OF RECORD BY THE TRUCK DRIVER WITH LOAD IDENTIFIED THEREON. THE LOAD SHALL NOT BE PLACED WITHOUT A BATCH TICKET IDENTIFYING THE MIX. THE INSPECTOR OF RECORD SHALL KEEP A DAILY RECORD OF PLACEMENTS, IDENTIFYING EACH TRUCK, IT'S LOAD, TIME OF RECEIPT AT THE JOBSITE, AND APPROXIMATE LOCATION OF DEPOSIT IN THE STRUCTURE AND SHALL MAINTAIN A COPY OF THE DAILY RECORD AS REQUIRED BY THE ENFORCING AGENCY.

REGISTERED PROFESSIONAL ENGINEER · MARK ALBERT LOWE · No. 3693 · STRUCTURAL · STATE OF CALIFORNIA

10/18/2023

LICENSED ARCHITECT · DAVID HIGGINSON · C19168 · 10-31-25 RENEWAL DATE · STATE OF CALIFORNIA

DSA 103 (SAMPLE) - STATEMENT OF STRUCTURAL TESTS AND INSPECTIONS

USA SHADE & Fabric Structures®

CORPORATE HEADQUARTERS
2580 ESTERS BLVD. SUITE 100
DFW AIRPORT, TX, 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
San Rafael City Schools

PROJECT NAME:

LOCATION:
San Pedro Elementary
498 Point San Pedro Rd.
San Rafael, CA 94901

MODEL NUMBER:

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-121917 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☒ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:

SCALE : VARIES

DRAWING SIZE: **D**

PRE-CHECK (PC) DOCUMENT
Code : 2022 CBC
A separate project application for construction is required.

Eng. By :	**DWH**	**2/14/23**
Design By :	**DWH**	**2/14/23**
Approved By :	**DWH**	**2/14/23**

DRAWING DESCRIPTION:

DWG. **T&I FORMS**

SHEET **T-3.0**

REV.

GENERAL NOTES

1.- SPECIAL INSPECTION REQUIREMENTS SHALL FOLLOW THE ATTACHED SAMPLE TEST AND INSPECTION LIST (T & I LIST) APPROVED BY DSA. THE SHOP WELDING INSPECTION SHALL INCLUDE WELDING OF ALL STEEL MEMBERS AND IDENTIFICATION OF STEEL THROUGH MILL CERTIFICATE OR MATERIAL TESTING, UNCERTIFIED STEEL SHALL BE TESTED TO THE REQUIREMENTS OF CBC 2022 CHAPTER 17A. THE FIELD SPECIAL INSPECTION SHALL INCLUDE COMPRESSION CYLINDER TESTS FOR THE CONCRETE FOUNDATION.

2.- STRUCTURE SHALL BE IN THE LOCATION SHOWN ON THE SITE SPECIFIC DSA APPLICATION DRAWING.

3.- FOUNDATION DESIGN BASED ON CBC 2022, TABLE 1806A.2, SOIL CLASS 5 (ALLOWABLE FOUNDATION PRESSURE 1500 PSF)

4.- DESIGN PER FOLLOWING CODES: CBC 2022(CHAPTER 35), ASCE 7-16, AISC 360-16, AISC 341-16, ACI 318-19, ASCE 55-16 & ASCE 19-16

STRUCTURAL STEEL

1.- FABRICATION OF THE STEEL STRUCTURES SHALL BE PERFORMED BY SHADE STRUCTURES OR AN AUTHORIZED LICENSEE. MATERIAL TESTING (OR MILL CERTIFICATES) AND INSPECTION OF WELDING SHALL BE CONDUCTED PER CBC 2022 SECTIONS 1704A, 1705A, 1705A.2, AND TABLE 1705A.2.1.

2.- ONLY CALIFORNIA LICENSED CONTRACTORS AUTHORIZED BY SHADE STRUCTURES SHALL INSTALL THE SHADE STRUCTURES.

3.- ALL WORK SHALL CONFORM TO CBC 2022 EDITION, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)

4.- ALL GALVANIZED STEEL TUBE PRODUCTS MANUFACTURED BY ALLIED TUBE & CONDUIT FOR THIS STRUCTURE SHALL BE, AND CONFORM TO ASTM A500-16 GRADE C, IN ITS' ENTIRETY.
TYPICAL MECHANICAL PROPERTIES ARE:
ROUND TUBE GRADE C 46,000 PSI YIELD STRESS MINIMUM / 62,000 PSI TENSILE STRESS MINIMUM

5.- ALL STRUCTURAL SHAPES SHALL BE COLD FORMED HSS ASTM A500 GRADE C, UNLESS OTHERWISE NOTED. TYPICAL MECHANICAL PROPERTIES ACHIEVED FOR HSS PRODUCTS:
SQUARE AND RECTANGULAR 50,000 PSI YIELD STRESS / 62,000 PSI TENSILE STRESS
ROUND PIPE 50,000 PSI YIELD STRESS / 62,000 PSI TENSILE STRESS

6.- ALL PLATES PRODUCTS SHALL COMPLY WITH ASTM A572 GRADE 50.

7.- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS.

8.- ALL WELDING TO CONFORM WITH AMERICAN WELDING SOCIETY STANDARDS AND SHALL BE INSPECTED BY AN AWS/CWI INSPECTOR. AWS D1.1 FOR HOT ROLLED. AWS D1.3 FOR SHEET/COLD FORMED. AWS D1.8 SEISMIC SUPPLEMENT.

9.- ALL FULL PENETRATION WELD SHALL BE CONTINUOUSLY INSPECTED PER AWS D1.1 & D1.8.

10.- SHOP CONNECTIONS SHALL BE WELDED UNLESS NOTED OTHERWISE. ALL FILLET WELDS SHALL BE A MINIMUM OF 3/16" ER70SX ELECTRODES UNLESS OTHERWISE NOTED. GMAW IS ACCEPTABLE.

11.- ALL STAINLESS STEEL BOLTS SHALL COMPLY WITH ASTM F-593, YIELD STRENGTH= 65 KSI, TENSILE STRENGTH=100 KSI MINIMUM, ALLOY GROUP 2, CONDITION CW1. ALL NUTS SHALL COMPLY WITH ASTM F-594 ALLOY GROUP 2, CONDITION CW1, REFERRING TO RCSC, ASTM F-593 IS NOT CONSIDERED AS HIGH STRENGTH BOLTS. BOLTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION (ST).

12.- ALL STRUCTURAL STEEL (ITEMS FROM NOTE 5) SHALL BE POWDER COATED WITH ONE SHOP COAT (2.5 MILS MIN.) OF ZINC-RICH PRIMER, UNDERCOAT, AND FINISH COAT, OR EQUIVALENT PAINT SYSTEM. THIS COAT IS A WEATHER RESISTANT POWDER COATING BASED ON POLYESTER TGIC (MANUFACTURED BY SHERWIN WILLIAMS, ASKO NOBEL, PPG OR TIGER DRYLAC). TO ACHIEVE OPTIMUM ADHESION, IT IS RECOMMENDED THAT THE PROPER TREATMENT AND DRYING TAKE PLACE BEFORE COATING. POLYESTER POWDER (TGIC) SPECIFICATIONS SHALL BE AS FOLLOWS:
- PENCIL HARDNESS (ASTM D-3363). - HUMIDITY (ASTM D-2247).
- SOLVENT RESISTANCE (PCI METHOD) - 50 DBL RUBS SL. SOFTNESS.

13.- ALL STEEL ROUND TUBING (ITEMS FROM NOTE 4) SHALL BE TRIPLE COATED FOR RUST PROTECTION USING THE IN-LINE ELECTROPLATING COAT PROCESS. TUBING SHALL BE INTERNALLY COATED WITH ZINC AND ORGANIC COATINGS TO PREVENT CORROSION AS MANUFACTURED BY ALLIED TUBE & CONDUIT.

14.- ALL EXPOSED STEEL FASTENERS SHALL BE STAINLESS STEEL (TYPE 304 MINIMUM), HOT DIP GALVANIZED (ASTM A153, CLASS D MINIMUM OR ASTM F2329) AS APPLICABLE, OR PROTECTED WITH CORROSION PREVENTIVE COATING THAT DEMONSTRATED NO MORE THAN 2% OF RED RUST IN MINIMUM 1,000 HOURS OF EXPOSURE IN SALT SPRAY TEST PER ASTM B117. ZINC-PLATED FASTENERS DO NOT COMPLY WITH THIS REQUIREMENT.

CONCRETE SPECIFICATION

1.- CONCRETE SHALL BE SAMPLED AND TESTED PER CBC 2022 SECTION 1903A & SHALL BE INSPECTED PER SECTION 1903A.

2.- CONCRETE TO BE F'c= 4500 PSI, TYPE V CEMENT PLUS POZZOLAN OR SLAG CEMENT, MAXIMUM WATER/CEMENT RATIO OF 0.45, PER ACI 318-19 CHAPTER 19. (NO ADMIXTURES CONTAINING CALCIUM CHLORIDE WILL BE USED.) REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60 AND TO BE Fy= 60000 PSI , MIN. GR. 60. ALSO COATED ACCORDING TO ASTM A767/ A767M, STANDARD SPECIFICATION FOR ZINC-COATING (GALVANIZED) STEEL BARS FOR CONCRETE REINFORCEMENT.

3.- ALL ANCHOR BOLTS SET IN NEW CONCRETE (WHEN APPLICABLE) SHALL COMPLY WITH ASTM F-1554 GRADE 36 (GALVANIZED PER ASTM A153, CLASS D MINIMUM OR ASTM F2329).
ANCHOR BOLT'S DIAMETER NEEDS TO BE AS FOLLOW:
A) ANCHOR BOLT Ø1 1/4"

4.- CERTIFIED MILL TEST REPORTS ARE TO BE PROVIDED FOR EACH SHIPMENT OF REINFORCEMENT.

5.- ALL NON-SHRINK GROUT SHALL HAVE A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 5000 PSI, AND SHALL COMPLY THE REQUIREMENTS OF ASTM C109, ASTM C939, ASTM C1090, ASTM C1107, WHEN APPLICABLE.

6.- CONCRETE EXPOSED TO FREEZING-AND-THAWING CYCLES SHALL BE AIR ENTRAINED PER ACI 318 SECTION 19.3.3.

FABRIC SPECIFICATION

1.- FABRIC SHALL BE MANUFACTURED BY MULTIKNIT LTD., WHICH MEETS THE SPECIFICATIONS LISTED ON PAGE 2000, AND SHALL BE FABRICATED FROM POLYETHYLENE MATERIALS. MINIMUM SEAM LENGTH 3/4".

2.- THE FABRIC SHALL RETAIN 80% OF ITS TENSILE AND TEARING STRENGTH AFTER ULTRAVIOLET EXPOSURE PER ASTM G53 USING A 313 NM LIGHT SOURCE FOR 500 HOURS WHILE MOISTENED FOR 1 HOUR EVERY 12 HOURS.

3.- PROVIDE CERTIFICATION BY MANUFACTURER AND STATE FIRE MARSHAL TO SCHOOL'S DISTRICT INSPECTOR OF RECORD AT SITE SPECIFIC INSTALLATION. COPY OF FIRE CERTIFICATION SHALL BE SENT TO DSA.

4.- FABRIC SHALL REQUIRE ANNUAL INSPECTION AND MAINTENANCE BY THE DISTRICT. FIRE TEST ON FABRIC: NFPA 701 TEST 2 AND ASTM E 84 EXTENDED 30 MINUTES TEST. FLAME SPREAD INDEX (FSI): 10. SMOKE DEVELOPED INDEX (SDI): 50. FABRIC IS ACCEPTABLE FOR USE IN WILDLIFE URBAN INTERFACE AREA.

5.- FABRIC TOP NEEDS TO BE REMOVED IF SNOW EXCEEDING 5 PSF ARE ANTICIPATED, FABRIC TOP NEEDS TO BE REMOVED IF WINDS EXCEEDING 115 MPH ARE ANTICIPATED.

6.- A VISUAL INSPECTION LOOKING FOR TEAR AND ABNORMAL WEAR IN FABRIC MATERIAL AND THREAD IS REQUIRED PRIOR TO RE-INSTALLATION. USA SHADE & FABRIC STRUCTURES SHALL BE NOTIFIED IF SIGNIFICANT DAMAGE IS PRESENT BEFORE RE-INSTALLATION.

AIRCRAFT CABLE

1.- FOR FABRIC ATTACHMENT USE 3/8" 7x19 GALV. CABLE PER ASTM A1023/A1023M, WITH A BREAKING STRENGTH VALUE OF 14,400 LBS. CABLE SHALL BE TENSIONED TO 300 LBS MINIMUM AND 500 LBS MAXIMUM. THE MAXIMUM CALCULATED CABLE ALLOWABLE CAPACITY IS Sa=4909 LB.

2.- CABLES SHALL BE FED THROUGH THE FABRIC SLEEVES AROUND THE PERIMETER OF THE CANOPY AND TENSIONED UNTIL THE FABRIC PANELS (DESIGNED PURPOSELY UNDERSIZED) REACH A TAUT APPEARANCE. ANY LONG TERM CABLE SAG SHALL BE MINIMIZED DURING THE MAINTENANCE RE-TIGHTING VISITS AS REQUIRED.

MAXIMUM OCCUPANT LOAD (PER CBC 2022 TABLE 1604A.5)

-K-12:	250 PERSONS
-PUBLIC ASSEMBLY:	300 PERSONS
-EDUCATIONAL OCCUPANCIES ABOVE 12TH GRADE:	500 PERSONS

CBC PC DESIGN NOTES

BUILDING CODE	CBC 2022 (BASED ON IBC 2021)
FLOOR LIVE LOAD	N/A
ROOF LIVE LOAD	RLL 5 PSF

ALLOWABLE SOIL PRESSURE:

DL + LL (CONC FTG)	1500 PSF
DL + LL + SEISMIC (CONC FTG)	1500 PSF
LATERAL BEARING DESIGN VALUE	100 PSF/FT BELOW NATURAL GRADE, PER TABLE 1806A.2

TWO TIMES THE TABULAR VALUE IS USED (200 PSF/FT)
PER CBC SECTION 1806A.3.4.
ALLOWABLE PIER FRICTIONAL RESISTANCE 250 PSF MAXIMUM
BASED ON SECTION 1810A.3.3.1.4 (ONE-SIXTH OF THE BEARING VALUE).
UPLIFT FRICTIONAL RESISTANCE HAVE A SAFETY FACTOR OF 3.

ROOF SNOW LOAD	5 PSF
ICE LOAD	ZERO PSF
FLOOD HAZARD AREA	ZONE X

WHEN A SITE SPECIFIC PROJECT IS LOCATED IN A FLOOD ZONE OTHER THAN ZONE X, A LETTER STAMPED AND SIGNED FROM A SOILS ENGINEER IS NEEDED TO VALIDATE THE ALLOWABLE SOIL VALUES SPECIFIED IN THE PC ARE STILL APPLICABLE.

WIND DESIGN DIRECTIONAL PROCEDURE: ASCE 7-16, SECTION 27.3.2
NOTE: WIND DESIGN IS LIMITED TO UNOBSTRUCTED CLEAR FLOW CONDITION

-BASIC DESIGN WIND SPEED (3 SEC GUST)	V	115 MPH
-ASD WIND LOAD (CBC 2022 SEC. 1603A.1.4)	V_{ASD}	90 MPH
-WIND EXPOSURE FACTOR	C	
-TOPOGRAPHIC FACTOR	Kzt	1
-RISK CATEGORY	II	
-VELOCITY PRESSURE EXPOSURE COEFFICIENT	Kz	0.85
-VELOCITY PRESSURE	qz	24.46 PSF

SEISMIC DESIGN:

-SITE CLASS	D	
-SPECTRAL RESPONSE COEFFICIENTS	SS	3.00g
	S1	1.389g
	SDS	2.00
	SD1	1.39
-LATERAL FORCE RESISTING SYSTEM G.2 ORDINARY CANTILEVERED COLUMN SYSTEM.		
-SEISMIC IMPORTANCE FACTOR	Ie	1.0
-DESIGN BASE SHEAR AT BASE	V	3072 LB
-SEISMIC RESPONSE COEFFICIENTS	Cs	1.6
-RESPONSE MODIFICATION FACTOR	R	1.25
-ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE	
-RISK CATEGORY	II	
-SEISMIC DESIGN CATEGORY		E
-SITE COEFFICIENT CATEGORY	Fa	1.2
	Fv	1.5
-REDUNDANCY FACTOR	ρ	1.3

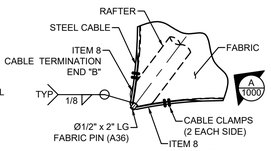
GEOHAZARD REPORT IS NOT REQUIRED FOR OPEN FABRIC STRUCTURES 1,600 SQF OR LESS COMPLYING WITH THE REQUIREMENTS OF IR A-4 SECTION 3.1.1. OPEN FABRIC SHADE STRUCTURES GREATER THAN 1,600 SQUARE FEET UP TO A MAXIMUM OF 4,000 SQUARE FEET AND COMPLYING WITH THE REQUIREMENTS NOTED IN IR A-4 SECTION 3.1.1 DO NOT REQUIRE A GEOHAZARD REPORT PROVIDED A GEOTECHNICAL REPORT INDICATES THAT NO LIQUEFACTION POTENTIAL EXISTS.

ARCHITECT OF RECORD TO DETERMINE IF SPECIFIC SITE IS IN GEOLOGIC HAZARD ZONE. GEOHAZARD REPORT REQUIREMENTS PER DSA IR A-4.

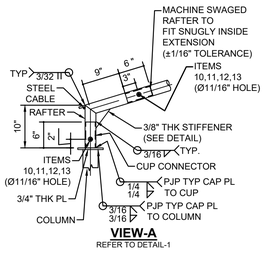
PC OPTIONS SHALL NOT INCLUDE LIQUEFIABLE SOIL (EXCEPTION: OPEN FABRIC SHADE STRUCTURES 1,600 SQUARE FEET OR LESS COMPLYING WITH REQUIREMENTS OF IR A-4 SECTION 3.1.1). IF STRUCTURE IS LOCATED IN AN AREA WITH LIQUEFIABLE SOIL OR SITE CLASS F, OVER-THE-COUNTER SUBMITTAL IS NOT ALLOWED AND REGULAR PROJECT SUBMITTAL IS REQUIRED. IF SITE IS NOT IN A MAPPED LIQUEFACTION HAZARD ZONE, IT MAY BE PRESUMED THAT NO LIQUEFACTION HAZARD EXISTS ON THAT SITE UNLESS A SITE-SPECIFIC GEOTECHNICAL REPORT IDENTIFIES SUCH HAZARD.

MINIMUM FOUNDATION SETBACK LIMIT IN ADJACENT SLOPE: THE DEPTH OF REQUIRED PIER EMBEDMENT SHALL START FROM AN ELEVATION THAT CORRESPONDS WITH A HORIZONTAL CLEAR DISTANCE OF 14 FEET THAT INTERSECT WITH THE SLOPE (DAYLIGHTING). IF SETBACK LIMITS ARE SMALLER THAN CBC REQUIRES, A SITE-SPECIFIC SOILS REPORT IS REQUIRED.

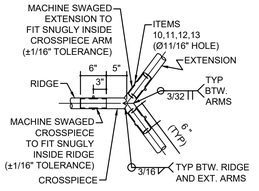
MINIMUM CLASS 2 PROJECT INSPECTOR REQUIRED.



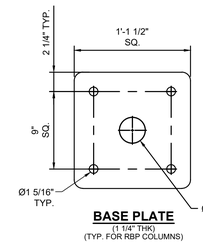
DETAIL 1
REFER TO TOP VIEW



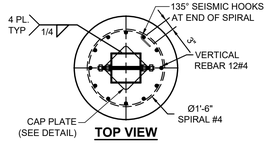
VIEW-A
REFER TO DETAIL-1



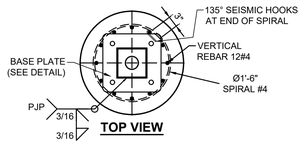
DETAIL-2
REFER TO TOP VIEW



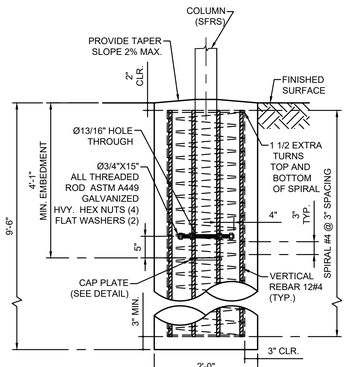
BASE PLATE
(1 1/4" THK)
(TYP. FOR RBP COLUMNS)



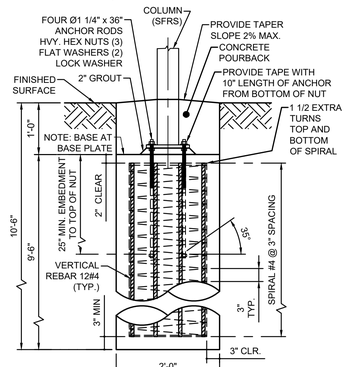
TOP VIEW



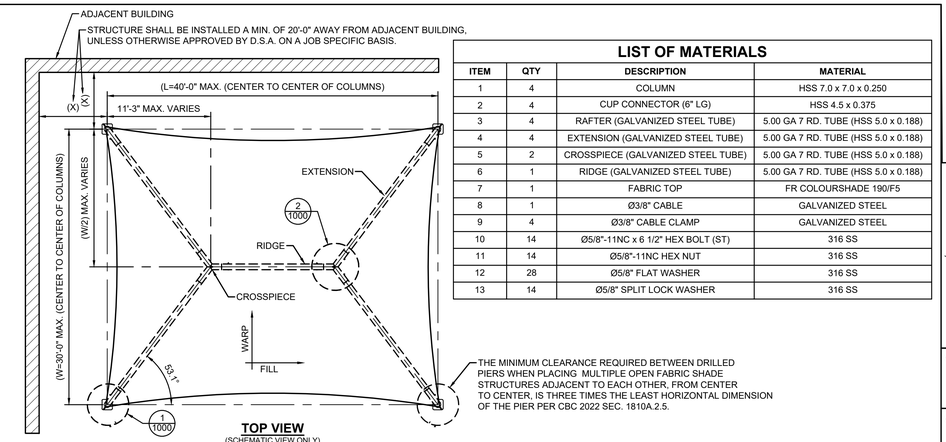
TOP VIEW



DRILLED PIER FOOTING-PIH
(EMBEDDED, PIH)
(USE FOR NON-CONSTRAINED CASES)



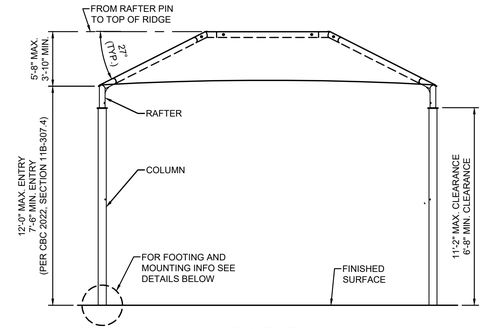
DRILLED PIER FOOTING-RBP
(RECESSED BASE PLATE, RBP)
(USE FOR NON-CONSTRAINED CASES)
(OPTIONAL)



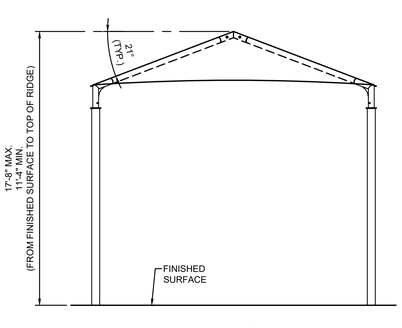
TOP VIEW
(SCHEMATIC VIEW ONLY)

LIST OF MATERIALS

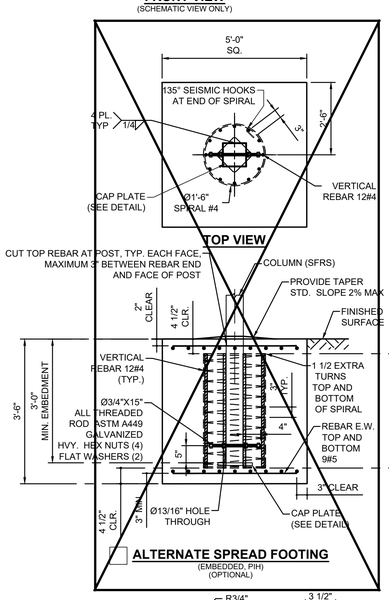
ITEM	QTY	DESCRIPTION	MATERIAL
1	4	COLUMN	HSS 7.0 x 7.0 x 0.250
2	4	CUP CONNECTOR (6" LG)	HSS 4.5 x 0.375
3	4	RAFTER (GALVANIZED STEEL TUBE)	5.00 GA 7 RD. TUBE (HSS 5.0 x 0.188)
4	4	EXTENSION (GALVANIZED STEEL TUBE)	5.00 GA 7 RD. TUBE (HSS 5.0 x 0.188)
5	2	CROSSPIECE (GALVANIZED STEEL TUBE)	5.00 GA 7 RD. TUBE (HSS 5.0 x 0.188)
6	1	RIDGE (GALVANIZED STEEL TUBE)	5.00 GA 7 RD. TUBE (HSS 5.0 x 0.188)
7	1	FABRIC TOP	FR COLOURSHADE 190/F5
8	1	Ø3/8" CABLE	GALVANIZED STEEL
9	4	Ø3/8" CABLE CLAMP	GALVANIZED STEEL
10	14	Ø5/8"-11NC x 6 1/2" HEX BOLT (ST)	316 SS
11	14	Ø5/8"-11NC HEX NUT	316 SS
12	28	Ø5/8" FLAT WASHER	316 SS
13	14	Ø5/8" SPLIT LOCK WASHER	316 SS



FRONT VIEW
(SCHEMATIC VIEW ONLY)

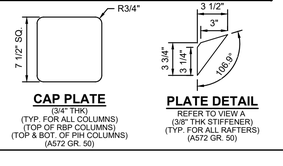


SIDE VIEW
(SCHEMATIC VIEW ONLY)



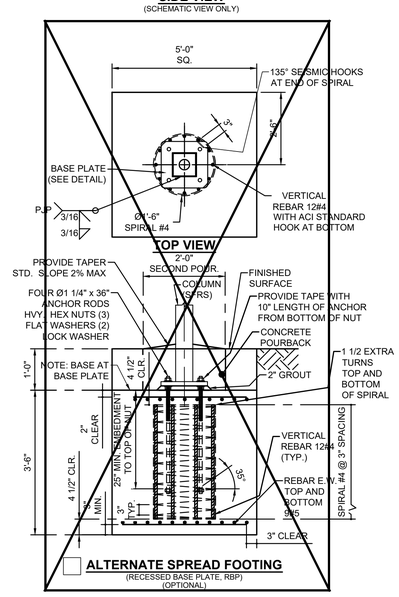
TOP VIEW

ALTERNATE SPREAD FOOTING
(EMBEDDED, PIH)
(OPTIONAL)



CAP PLATE
(3/4" THK)
(TYP. FOR ALL COLUMNS)
(TOP OF RBP COLUMNS)
(TOP & BOT. OF PIH COLUMNS)
(A572 GR. 50)

PLATE DETAIL
REFER TO VIEW A
(3/8" THK STIFFENER)
(TYP. FOR ALL RAFTERS)
(A572 GR. 50)



TOP VIEW

ALTERNATE SPREAD FOOTING
(RECESSED BASE PLATE, RBP)
(OPTIONAL)

USASHADE & Fabric Structures
CORPORATE HEADQUARTERS
2580 ESTERS BLVD. SUITE 100
DFW AIRPORT, TX, 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
San Rafael City Schools

PROJECT NAME:
San Pedro Elementary

LOCATION:
498 Point San Pedro Rd.
San Rafael, CA 94901

MODEL NUMBER:
DSA401304012-22

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-121917 PC
REVIEWED FOR
SS ☑ PLS ☑ ACS ☒ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:
HIP
DSA
SIZE: MAXIMUM
30' x 40' x 12'e MAX.
SCALE : NONE
DRAWING SIZE:
D

PRE-CHECK (PC) DOCUMENT
Code : 2022 CBC
A separate project application for construction is required.

Eng. By :	HH	12/01/22
Design By :	OS	12/01/22
Approved By :	MB	12/01/22

DRAWING DESCRIPTION:
PRODUCT INFORMATION

DWG.
DSA401304012-22

SHEET
7.1-1000

REV.
NC

LICENSED ARCHITECT
DAVID HIGGINSON
C19168
10-31-25
RENEWAL DATE
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
MARK ALBERT SHANE
No. 3693
STRUCTURAL
STATE OF CALIFORNIA

10/18/2023

Aircraft Cable

Preformed, made in accordance with commercial specifications military and federal specification rope available.

Carbon Steel (Aircraft Cable) - Galvanized cable has the highest strength and greatest fatigue life of the materials offered. It has good to fair corrosion resistance in rural to industrial atmosphere environments. This material is most widely used for small diameter cables. Tin over galvanized cable offers greater corrosion resistance and reduced friction over pulleys.

7 x 19

7 x 19		Galvanized Min. Breaking Strengths (lbs)
Dia. (In)	Approx. Wt 1000 Ft/lbs	
3/32	17.	1,000
1/8	29.	2,000
5/32	45.	2,800
3/16	65.	4,200
7/32	86.	5,600
1/4	110.	7,000
9/32	139.	8,000
5/16	173.	9,800
3/8	243.	14,400

Multiknit INTERNATIONAL

190/F5 Fire rated specifications

Standard range

Revision 0 28-Oct-12

Colour	Shade %	UV Block %	Average GSM	Average Warp break strength kgs	Average Elongation %	Average Weft break strength kgs	Average Elongation %	Average Burst Kpa	Average Burst to Mass ratio
Desert Sand	80	92	185	50	40	72	73	156	0.84
Blue	80	85	185	50	40	72	73	156	0.84
Brown	85		185	50	40	72	73	156	0.84
Green	80	85	185	50	40	72	73	156	0.84
Red	80	86	185	50	40	72	73	156	0.84
Silver	80	81	185	50	40	72	73	156	0.84
Terracotta	75	82	185	50	40	72	73	156	0.84
Yellow	80	89	185	50	40	72	73	156	0.84
				110 LB		159 LB		3258 PSF	

CONVERSION TO IMPERIAL UNITS:
185 GSM = .0378 psf
50 KGS = 110 Lb
72 KGS = 159 Lb
156 Kpa = 3258 psf

Notes:
- 190/F5 conforms to The California State Fire Marshal Title 19 Test for Small scale Fabrics
- Tear tests are done using a 50mm wide strip and a cross head speed of 500mm/min
- This report has been compiled using the mean results from all tests conducted on the given sample by our Quality Control Laboratory. the information provided is considered to be a good reflection of the relevant properties of the fabric tested. These results must only be used as an indication of the quality and characteristics of the fabric tested. Company cannot be held responsible or liable in any way whatsoever should this information differ to that of a registered testing institution.

PP
Deon Joubert
General Manager - Multiknit (Pty) Ltd

Tommy Rogers
Managing Director - Multiknit (Pty) Ltd

CAL FIRE SINCE 1885

FLAME RETARDANT

Fabric Registration

LICENSE NUMBER: F-052001

COLOURSHADE 190/F5

Product Marketed by:

MULTIKNIT (PTY) LTD
BOX 798 WHITE RIVER 1240
MPUMALANGA SOUTH AFRICA, ,

Issue Date : 05/08/2023
Expiration Date : 06/30/2024

This product meets the minimum requirements of flame resistance established by the California State Fire Marshal for products identified in Section 13115, California Health and Safety Code. The scope of the approved use of this product is provided in the current edition of the CALIFORNIA APPROVED LIST OF FLAME RETARDANT CHEMICALS AND FABRICS, GENERAL AND LIMITED APPLICATIONS CONCERNS published by the California State Fire Marshal.

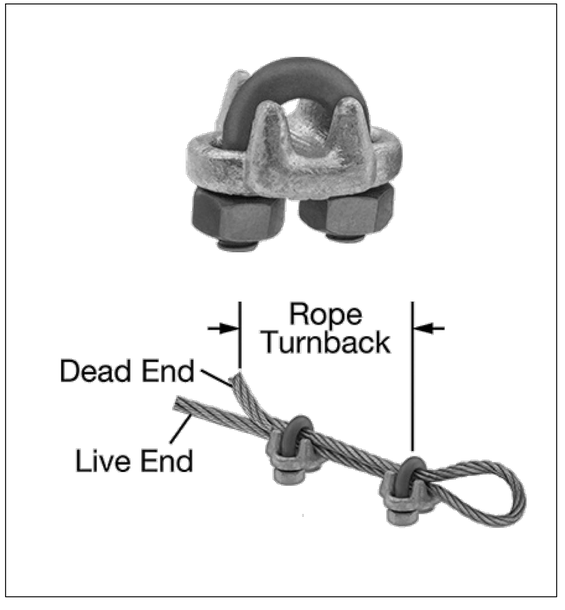
CWalker
Issued By Cortney Walker
Fire Engineering License Manager
Fire Engineering & Investigations Division

Reviewed and Approved By Patricia Setter
Deputy State Fire Marshal III
Fire Engineering & Investigations Division

OFFICE OF THE STATE FIRE MARSHAL

Please visit calfire.govmotus.org for more information on Licensing and Permitting with CAL FIRE

Page 1 of 1



FORGED WIRE ROPE CLAMP

FITTING TYPE ROPE CLAMP
FABRICATION: FORGED
MATERIAL: GALVANIZED STEEL
FOR WIRE ROPE DIAMETER 3/8"
NUMBER OF CLAMPS REQUIRED: 2
ROPE TURNBACK: 6 1/2"
FOR WIRE ROPE CONSTRUCTION 7 × 19
ATTACHMENT TYPE: LOOP
CLAMP:WIDTH 2", HEIGHT 1 15/16", THICKNESS 1 11/16"
REQUIRED INSTALLATION TOOL TORQUE WRENCH
REQUIRED TORQUE 45 FT.-LBS.
CAPACITY 80% OF THE ROPE'S CAPACITY
SPECIFICATIONS MET ASME B30.26, FED. SPEC. FF-C-450

USASHADE & Fabric Structures
CORPORATE HEADQUARTERS
2580 ESTERS BLVD. SUITE 100
DFW AIRPORT, TX, 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:

PROJECT NAME:

LOCATION:

MODEL NUMBER:
DSA401304012-22

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-121917 PC
REVIEWED FOR
SS ☑ PLS ☑ ACS ☒ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:
H I P
DSA

SIZE: MAXIMUM
30' x 40' x 12'e MAX.

SCALE : NONE

DRAWING SIZE: **D**

PRE-CHECK (PC) DOCUMENT
Code : 2022 CBC
A separate project application for construction is required.

Eng. By :	HH	12/01/22
Design By :	OS	12/01/22
Approved By :	MB	12/01/22

DRAWING DESCRIPTION:
SPECIFICATIONS

DWG. **DSA401304012-22**

SHEET **7.2-2000**

REV. **NC**

LICENSED ARCHITECT DAVID HIGGINSON C19168 10-31-25 RENEWAL DATE STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER MARK ALBERT LANE No. 3693 STRUCTURAL STATE OF CALIFORNIA

10/18/2023