REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

A# 03 - 126194

DIVISION OF THE STATE ARCHITECT (DSA)
DSA LOS ANGELES REGIONAL OFFICE
STREET ADDRESS

LOS ANGELES, CA 90012
P: 213.897.3395

LOCAL FIRE AUTHORITY
REDONDO BEACH FIRE DEPARTMENT

GOVERNING AGENCIES

–

DEFERRED APPROVALS

THIS PROJECT SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

FEDERAL:

AMERICANS WITH DISABILITIES ACT (ADA)
ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG)

STATE OF CALIFORNIA PARTIAL LIST OF APPLICABLE CODES AS OF JAN 1, 2026

2025 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
2025 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2025 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2025 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2025 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2025 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CCR
2025 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
2025 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2025 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2025 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

PARTIAL LIST OF APPLICABLE STANDARDS:

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

NFPA 72	NATIONAL FIRE ALARM CODE	2025 EDITION
UL 464	AUDIBLE SIGNAL APPLIANCES	2023 EDITION
UL 521	HEAT DETECTORS FOR FIRE PROTECTION SIGNAL SYSTEMS	2025 EDITION

PROJECT ADDRESS:
1 SEAHAWK WAY,
REDONDO BEACH, CA 90277

PROJECT DESCRIPTION:
DEMOLISH 2 EXISTING BUILDINGS AND FENCING. CONSTRUCT 2 NEW CMU RESTROOM BUILDINGS AND AN ENTRANCE CANOPY WITH GATES AND FENCES. REMOVE EXISTING PARKING STRIPES AND PROVIDE NEW STRIPING. PAINT EXISTING BUILDING TO MATCH NEW BUILDINGS

CODE ANALYSIS
SEE SHEET A1.2 FOR CODE ANALYSIS

A5 OCCUPANCIES.

TYPE VB, NON-SPRINKLERED. 1 STORY

PROJECT SUMMARY

OWNER
REDONDO BEACH UNIFIED SCHOOL DISTRICT
1 SEA HAWK WAY,
REDONDO BEACH, CA 90277
CONTACT: FRED NAILE
P: 310.937.1280

ARCHITECT
SVA ARCHITECTS
6 HUTTON CENTRE DRIVE, SUITE 1150
SANTA ANA,CA 92707
CONTACT: DOUG BROWN
P: 949.809.3380

CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
1100 TOWN AND COUNTRY ROAD, SUITE 700
ORANGE, CA 92868
CONTACT: AHMED ZUWAWA
P: 714.939.1030

PLUMBING
WSP
11870 PEIRCE STREET, SUITE 160
RIVERSIDE, CALIFORNIA 92505
CONTACT: RON BRICK
P: 951.299.4160

STRUCTURAL
VCA ENGINEERS, INC.
2401 E KATELLA AVE, SUITE 430
ANAHEIM, CA 92806
CONTACT: YOUNG NAM
P: 949.679.0870

ELECTRICAL
WSP
11870 PEIRCE STREET, SUITE 160
RIVERSIDE, CALIFORNIA 92505
CONTACT: BILL VOLLER
P: 951.299.4160

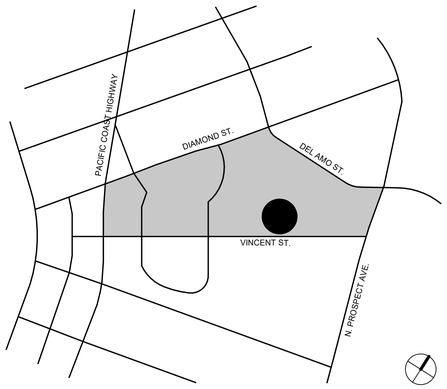
MECHANICAL
WSP
11870 PEIRCE STREET, SUITE 160
RIVERSIDE, CALIFORNIA 92505
CONTACT: WILLIAM GALARZA
P: 951.299.4160

FIRE ALARM
WSP
11870 PEIRCE STREET, SUITE 160
RIVERSIDE, CALIFORNIA 92505
CONTACT: BILL VOLLER
P: 951.299.4160

APPLICABLE CODES

1. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CHANGE ORDER APPROVED BY THE DIVISION OF THE STATE ARCHITECT (DSA), AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
3. A PROJECT INSPECTOR 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: CLASS 1.
4. CCD MUST BE SIGNED AS REQUIRED BY DSA IR A-6.
5. A COPY OF CCR TITLE 24, PARTS 1 THROUGH 5 MUST BE KEPT ON SITE DURING CONSTRUCTION.

PROJECT DIRECTORY



GENERAL NOTES

SVA ARCHITECTS IS THE DESIGNATED ARCHITECT OF RECORD AS REQUIRED BY THE STATE OF CALIFORNIA. THE ARCHITECT OF RECORD SHALL REVIEW SUBMITTALS AND COORDINATE SUBMITTALS AND DEFERRED SUBMITTALS THROUGH THE DIVISION OF THE STATE ARCHITECT. DEFERRED SUBMITTALS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE DIVISION OF THE STATE ARCHITECT.

DSA SHALL BE NOTIFIED IN WRITING BY THE OWNER IF THE ARCHITECT OF RECORD IS CHANGED OR IS UNABLE TO CONTINUE TO PERFORM THE DUTIES. THE OWNER SHALL DESIGNATE A SUBSTITUTE ARCHITECT OR ENGINEER OF RECORD WHO SHALL PERFORM ALL OF THE DUTIES REQUIRED OF THE ORIGINAL ARCHITECT OF RECORD.

REVIEW AND COMMENT ON SUBMITTALS AND DEFERRED SUBMITTALS SHALL NOT RELIEVE THE AUTHOR OF THE DOCUMENTS OR THE CONTRACTOR FROM COMPLIANCE WITH ALL APPLICABLE CODES AND THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THE REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

ARCHITECT OF RECORD

VICINITY MAP

STATEMENT OF GENERAL CONFORMANCE
THE DRAWINGS OR SHEETS LISTED IN THE INDEX ON THIS SHEET HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAD 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
2. COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THE PROJECT.

THIS 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 SECTION 4-336, 4-341 AND 4-344 OF TITLE 24, PART 1 (TITLE 24, PART 1 SECTION 4-317) (B))

I CERTIFY THAT ALL DRAWINGS OR SHEETS LISTED IN THE INDEX ON THIS SHEET (CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND FIRE ALARM) ARE IN GENERAL CONFORMANCE AND HAVE BEEN COORDINATED.

GENERAL CONFORMANCE STATEMENT

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- GEN-3 - GENERAL NOTES

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- C1.01 - DEMOLITION PLAN - EAST
- C2.00 - EROSION CONTROL PLAN -WEST
- C2.01 - EROSION CONTROL PLAN -EAST
- C2.02 - EROSION CONTROL DETAILS
- C3.00 - HORIZONTAL CONTROL PLAN -WEST
- C3.01 - HORIZONTAL CONTROL PLAN -EAST
- C4.00 - GRADING AND DRAINAGE - WEST
- C4.01 - GRADING AND DRAINAGE - WEST
- C5.00 - UTILITY PLAN -WEST
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SHEET NUMBERS: **85 SHEETS TOTAL**

SHEET INDEX

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS
1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
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11		
12		
13		
14		

PROJECT NO:	2025-40137
ISSUANCE:	A#03-126194
DATE ISSUED:	06/22/2026
SCALE:	1/4" = 1'-0"

GEN-1

PROJECT INFORMATION & SHEET INDEX

SVA ARCHITECTS

6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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1. SITE DEVELOPMENT

A. GRADE AND DEVELOP SITE SUCH THAT ALL PRIMARY BUILDING ENTRANCES ARE ACCESSIBLE TO THE PHYSICALLY DISABLED FROM THE PUBLIC WAY AND DISABLED PARKING PROVIDED.

B. ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, FACILITIES AND SPACES ON THE SAME SITE. WHERE MORE THAN ONE ROUTE IS PROVIDED, ALL ROUTES SHALL BE ACCESSIBLE

C. IF AN ACCESSIBLE ROUTE HAS A CHANGE IN LEVEL GREATER THAN 1/2", THEN A CURB RAMP, RAMP, ELEVATOR, OR PLATFORM LIFT SHALL BE PROVIDED.

D. ALL WALKS, HALLS, CORRIDORS, AISLES, AND OTHER SPACES THAT ARE PART OF AN ACCESSIBLE ROUTE SHALL PROVIDE A MINIMUM CLEAR WIDTH OF 48 INCHES AND A CLEAR HEIGHT OF 80 INCHES.

2. WALKS AND SIDEWALKS

A. WALKS AND SIDEWALKS SUBJECT TO THESE REGULATIONS SHALL HAVE A CONTINUOUS COMMON SURFACE, NOT INTERRUPTED BY STEPS OR BY ABRUPT CHANGES IN LEVEL EXCEEDING 1/2", AND SHALL BE A MINIMUM OF 48 INCHES IN WIDTH.

B. ALL SIDEWALKS SHALL BE STABLE, FIRM AND SLIP RESISTANT.

C. SURFACE CROSS SLOPES SHALL NOT EXCEED 1:48 (CBC 11B-403.3).

D. WALKS, SIDEWALKS AND PEDESTRIAN WAYS SHALL BE FREE OF GRATINGS WHENEVER POSSIBLE. GRATINGS LOCATED IN THE SURFACE OF ANY OF THESE AREAS, GRID OPENINGS IN THE GRATING SHALL BE LIMITED TO 1/2" IN THE DIRECTION OF TRAFFIC FLOW.

E. ABRUPT CHANGES IN LEVEL ALONG ANY ACCESSIBLE ROUTE SHALL NOT EXCEED 1/2". WHEN CHANGES DO OCCUR, THEY SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2 EXCEPT THAT LEVELS NOT EXCEEDING 1/4" MAY BE VERTICAL.

F. WHEN CHANGES IN LEVELS GREATER THAN 1/2" ARE NECESSARY THEY SHALL COMPLY WITH THE REQUIREMENTS FOR CURB RAMPS OR RAMPS AS REQUIRED.

G. WALKS SHALL BE PROVIDED WITH A LEVEL AREA NOT LESS THAN 60" SQUARE AT A DOOR OR GATE THAT SWINGS TOWARD THE WALK, AND NOT LESS THAN 48" WIDE BY 44" DEEP AT A DOOR OR GATE THAT SWINGS AWAY FROM THE WALK. SUCH WALKS SHALL EXTEND 24" TO THE SIDE OF THE STRIKE EDGE OF A DOOR OR GATE THAT SWINGS TOWARD THE WALK.

H. WHEN THE SLOPE IN THE DIRECTION OF TRAVEL OF ANY WALK EXCEEDS 5%, IT MUST COMPLY WITH THE PROVISIONS FOR PEDESTRIAN RAMPS (PER CBC 11B-405).

I. ALL WALKS WITH CONTINUOUS GRADIENTS SHALL HAVE LEVEL AREAS AT LEAST 5 FEET IN LENGTH AT INTERVALS NOT EXCEEDING 400 FEET.

3. ENTRANCES AND DOORWAYS

A. PRIMARY ENTRANCES TO BUILDINGS AND FACILITIES SHALL BE MADE ACCESSIBLE TO THE DISABLED.

B. ACCESSIBLE ENTRANCES SHALL BE IDENTIFIED WITH AT LEAST ONE "ISA" SIGN AND WITH ADDITIONAL DIRECTIONAL SIGNS AS REQUIRED VISIBLE FROM APPROACHING PEDESTRIAN WAYS.

C. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND ARE IN THE PATH OF TRAVEL, SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.

D. HAND ACTIVATED DOOR HARDWARE SHALL BE CENTERED BETWEEN 34" AND 44" ABOVE THE FLOOR (CBC 11B-404.2.7).

E. THE FLOOR OR LANDING ON EACH SIDE OF AN ENTRANCE OR PASSAGE DOOR SHALL BE LEVEL AND CLEAR. THE LEVEL AND CLEAR AREA SHALL BE A MINIMUM 60" SQUARE IN THE DIRECTION OF THE DOOR SWING AND A MINIMUM 44" SQUARE OPPOSITE THE DIRECTION OF DOOR SWING (48" IF THE DOOR HAS BOTH LATCH AND CLOSER). THE SQUARES SHALL BE MEASURED AT RIGHT ANGLES TO THE PLANE OF THE DOOR IN ITS CLOSED POSITION. SEE NOTE I BELOW FOR STRIKE SIDE REQUIREMENTS.

F. THE WIDTH OF THE LEVEL AND CLEAR AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 24" PAST THE STRIKE EDGE OF THE DOOR FOR EXTERIOR DOORS AND 18" PAST THE STRIKE EDGE FOR INTERIOR DOORS AND THE PRIMARY ENTRANCE TO THE DWELLING UNIT.

G THE FLOOR OR LANDING SHALL BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED NO GREATER THAN 1:2.

H. THE BOTTOM 10 INCHES OF ALL DOORS EXCEPT SLIDING AND POCKET DOORS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.

I. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS FOR EXTERIOR DOORS AND 5 LBS FOR INTERIOR DOORS, SUCH PULL OR PUSH EFFORT SHALL BE APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. THE AUTHORITY HAVING JURISDICTION MAY INCREASE THE MAXIMUM EFFORT TO OPERATE FIRE DOORS TO ACHIEVE POSITIVE LATCHING, BUT NOT TO EXCEED 15 LBS MAX.

J. EXIT DOORS MUST OPEN FROM THE INSIDE WITHOUT A KEY, OR ANY SPECIAL KNOWLEDGE OR EFFORT. EXIT DOORS FROM BUILDINGS OR ROOMS SERVING 10 OR FEWER OCCUPANTS MAY HAVE A NIGHT LATCH, DEADBOLT OR SECURITY CHAIN, AS LONG AS THE DOORS CAN STILL BE OPENED FROM THE INSIDE WITHOUT A KEY, SPECIAL KNOWLEDGE OR EFFORT. IN ADDITION, THESE DEVICES ARE NOT MOUNTED MORE THAN 48" ABOVE THE FLOOR. MANUALLY OPERATED EDGE BOLTS, SURFACE MOUNTED FLUSH BOLTS AND SURFACE BOLTS ARE PROHIBITED. WHEN EXIT DOORS ARE USED IN PAIRS AND AUTOMATIC FLUSH BOLTS ARE USED, THE DOOR LEAF WITH THE FLUSH BOLT MUST HAVE NO DOORKNOB OR SURFACE MOUNTED HARDWARE. THE UNLATCHING OF ANY LEAF MUST NOT REQUIRE MORE THAN ONE OPERATION.

K. EVERY REQUIRED EXIT MUST BE LARGE ENOUGH TO PERMIT A DOOR AT LEAST 3'-0" WIDE BY 6'-8" HIGH. EXIT DOORS SHALL OPEN AT LEAST 90 DEGREES AND PROVIDE A CLEAR WIDTH OF AT LEAST 32".

L. THRESHOLDS AT ALL EXTERIOR DOORS SHALL BE NO HIGHER THAN 1/2". SUCH THRESHOLDS SHALL BE BEVELED NO GREATER THAN 1:2.

M. THE FLOOR LANDING IMMEDIATELY OUTSIDE THE ENTRY MAY BE SLOPED UP TO 1/8" PER FOOT IN THE DIRECTION AWAY FROM THE PRIMARY ENTRANCE FOR DRAINAGE.

N. THE SPACE BETWEEN TWO CONSECUTIVE DOOR OPENINGS IN A VESTIBULE, SERVING OTHER THAN A REQUIRED EXIT STAIRWAY, MUST HAVE AT LEAST 48" OF CLEAR SPACE FROM ANY DOOR OPENING INTO THE VESTIBULE WHEN THE DOOR IS OPEN 90 DEGREES FROM ITS CLOSED POSITION. DOORS IN SERIES MUST SWING IN THE SAME DIRECTION OR AWAY FROM THE SPACE BETWEEN THE DOORS.

4. STAIRWAYS

A. STAIRWAYS SHALL HAVE HANDRAILS ON EACH SIDE. STAIRWAYS SHALL HAVE INTERMEDIATE HANDRAILS WHERE REQUIRED SUCH THAT ALL PORTIONS OF THE STAIRWAY WIDTH REQUIRED FOR EGRESS CAPACITY ARE WITHIN 30 INCHES OF A HANDRAIL. INTERMEDIATE HANDRAILS SHALL BE SPACED AT EQUAL INTERVALS WITHIN THE WIDTH OF THE STAIRWAY AND BE CONTINUOUS FOR THE ENTIRE LENGTH.

B. HANDRAILS MUST BE 34 TO 38 INCHES ABOVE THE NOSING OF THE TREADS AND MUST EXTEND IN THE DIRECTION OF THE STAIR RUN FOR AT LEAST 12" BEYOND THE TOP NOSING AND 12" PLUS THE TREAD WIDTH BEYOND THE BOTTOM NOSING.

C. ENDS SHALL BE RETURNED OR SHALL TERMINATE IN A NEWEL POST OR SAFETY TERMINAL.

D. HANDRAILS PROJECTING FROM A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2-INCH BETWEEN THE WALL AND THE HANDRAIL.

E. THE HANDGRIP PORTION OF HANDRAILS SHALL BE NOT LESS THAN 1-1/4-INCHES NOR MORE THAN 1 1/2-INCHES IN CROSS-SECTIONAL DIMENSION OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE AND SHALL HAVE A SMOOTH SURFACE WITH NO SHARP OR ABRASIVE CORNERS AND ALL EDGES MUST HAVE A MINIMUM 1/8" RADIUS.

F. THE UPPER APPROACH AND THE LOWER TREAD OF EACH INTERIOR STAIR SHALL BE MARKED BY A STRIP OF CLEARLY CONTRASTING COLOR THE FULL WIDTH OF THE TREAD AT LEAST 2-INCHES WIDE PLACED PARALLEL TOAND NOT MORE THAN 1-INCH FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED. THE STRIP SHALL BE OF A MATERIAL THAT IS AT LEAST AS SLIP RESISTANT AS THE OTHER TREADS OF THE STAIR.

G. WHERE STAIRWAYS OCCUR OUTSIDE A BUILDING, THE UPPER APPROACH AND ALL TREADS SHALL BE MARKED BY A STRIP OF CLEARLY CONTRASTING COLOR AT LEAST 2-INCHES WIDE AND PLACED PARALLEL TO AND NOT MORE THAN 1-INCH FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED. THE STRIP SHALL BE OF A MATERIAL THAT IS AT LEAST AS SLIP RESISTANT AS THE OTHER TREADS OF THE STAIR. A PAINTED STRIP SHALL BE ACCEPTABLE.

H. ALL TREAD SURFACES SHALL BE SLIP RESISTANT.

I. TREADS SHALL HAVE A SMOOTH, ROUNDED OR CHAMFERED EXPOSED EDGES, AND NO ABRUPT EDGES AT THE NOSING (LOWER FRONT EDGE).

J. NOSING SHALL NOT PROJECT MORE THAN 1-1/4 INCH PAST THE FACE OF THE RISER BELOW.

K. STAIR RISERS SHALL BE SOLID PER CBC 11B-504.

5. SANITARY FACILITIES

A. WHEELCHAIR ACCESSIBLE WATER CLOSET COMPARTMENTS SHALL BE EQUIPPED WITH A DOOR THAT HAS AN AUTOMATIC CLOSING DEVICE, AND SHALL HAVE A CLEAR UNOBSTRUCTED OPENING WIDTH OF 32-INCHES WHEN LOCATED AT THE END AND 34-INCHES WHEN LOCATED AT THE SIDE WITH THE DOOR POSITION AT AN ANGLE OF 90 DEGREES FROM ITS CLOSED POSITION.

B. TOILET FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND, AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREAS, NO MORE THAN 44-INCHES ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT.

C. WHERE URINALS ARE PROVIDED AT LEAST ONE WITH A RIM PROJECTING A MINIMUM OF 14-INCHES FROM THE WALL AND AT A MAXIMUM OF 17-INCHES ABOVE THE FLOOR SHALL BE PROVIDED.

D. URINAL FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND, AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST AND SHALL BE MOUNTED NO MORE THAN 44" ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT.

E. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED.

F. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT. LEVER OPERATED, PUSH TYPE AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.

G. MIRRORS SHALL BE MOUNTED WITH THE BOTTOM GLASS EDGE NOT MORE THAN 40-INCHES ABOVE THE FLOOR.

H. LOCATE TOWEL, SANITARY NAPKIN, AND WASTE RECEPTACLES WITH ALL OPERABLE PARTS NOT MORE THAN 40-INCHES FROM THE FLOOR.

I. TOILET TISSUE DISPENSERS SHALL BE LOCATED ON THE WALL OR PARTITION WITHIN 7" TO 9" TO CENTERLINE FROM THE FRONT EDGE OF THE TOILET SEAT, MOUNTED BELOW THE GRAB BAR, AT A MINIMUM HEIGHT OF 19 INCHES, AND 36 INCHES MAXIMUM TO THE FAR EDGE FROM THE REAR WALL. DISPENSERS SHALL PERMIT CONTINUOUS FLOW AND NOT CONTROL DELIVERY (CBC 11B-604.7).

J. GRAB BARS, TUB AND SHOWER SEATS, FASTENERS AND MOUNTING DEVICES SHALL BE DESIGNED FOR 250 LB. PER CBC 1607A.8.2.

K. GRAB BARS:
  1. THE DIAMETER OR WIDTH OF THE GRIPPING SURFACE OF A GRAB BAR SHALL BE 1-1/4" TO 1-1/2" OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE.
  2. IF THE GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND THE GRAB BARS SHALL BE 1-1/2".
  3. A GRAB BAR AND ANY WALL OR OTHER SURFACE ADJACENT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS.
  4. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
  5. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8".

6. SWITCHES CONTROLS AND ELECTRICAL OUTLETS

A. RECEPTACLE OUTLETS SHALL BE 15" MIN ABOVE THE FINISHED FLOOR TO THE BOTTOM OF THE BOX PER CBC 11B-308.1.2.

B. SWITCHES SHALL BE 48" MAX. ABOVE THE FINISHED FLOOR TO THE TOP OF THE BOX (11B-308.1.1).

C. IF REACH IS OVER AN OBSTRUCTION (FOR EXAMPLE, A BASE CABINET) BETWEEN 20" AND 25" IN DEPTH, THE MAXIMUM HEIGHT IS REDUCED TO 44" FOR FORWARD APPROACH, OR 46" FOR SIDE APPROACH PROVIDED THE OBSTRUCTION IS NO MORE THAN 24" IN DEPTH. THE OBSTRUCTION MAY NOT EXTEND MORE THAN 25" FROM THE WALL BENEATH THE CONTROL.

D. THE CENTER OF FIRE ALARM INITIATING DEVICES (BOXES) SHALL BE LOCATED 48" ABOVE THE LEVEL OF THE FLOOR, WORKING PLATFORM, GROUND SURFACE OR SIDEWALK.

E. IF EMERGENCY WARNING SYSTEMS ARE REQUIRED THEY SHALL ACTIVATE A MEANS OF WARNING THE HEARING IMPAIRED. FLASHING VISUAL WARNING SHALL HAVE A FREQUENCY OF NOT MORE THAN 60 FLASHES PER MINUTE.

ACCESSIBILITY COMPLIANCE NOTES

ENVELOPE MANDATORY MEASURES:

A. INSTALLED INSULATING MATERIALS SHALL HAVE BEEN CERTIFIED BY THE MANUFACTURER TO COMPLY WITH THE CALIFORNIA QUALITY STANDARDS FOR INSULATING MATERIAL.

B. ALL INSULATING MATERIALS SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME SPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF [TITLE 24, PART 2, CALIFORNIA BUILDING CODE, SECTIONS 720 AND 2603.]

C. ALL EXTERIOR JOINTS AND OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL AND OBSERVABLE SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED OR OTHERWISE SEALED.

D. SITE CONSTRUCTED DOORS, AND WINDOWS SHALL BE CAULKED BETWEEN THE UNIT AND THE BUILDING, AND SHALL BE WEATHERSTRIPPED (EXCEPT FOR UNFRAMED GLASS DOORS AND FIRE DOORS).

E. MANUFACTURED DOORS AND WINDOWS INSTALLED SHALL HAVE AIR INFILTRATION RATES CERTIFIED BY THE MANUFACTURER IN ACCORDANCE WITH TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS, SECTION 116(a)1.

F. MANUFACTURED FENESTRATION PRODUCTS IN THE ENVELOPE OF THE BUILDING, INCLUDING, BUT NOT LIMITED TO, WINDOWS, SLIDING GLASS DOORS, FRENCH DOORS, SKYLIGHTS, CURTAIN WALLS, AND GARDEN WINDOWS MUST BE LABELED FOR U-VALUE IN ACCORDANCE WITH THE (NFRC) NATIONAL FENESTRATION RATING COUNCIL'S INTERIM U-VALUE RATING PROCEDURE.

G. DEMISING WALL INSULATION SHALL BE INSTALLED IN ALL OPAQUE PORTIONS OF FRAMED WALLS (EXCEPT DOORS).

H. STATEMENT (TITLE 24, PART 6): NONRESIDENTIAL ENERGY STANDARDS COMPLIANCE: THE DESIGN INDICATED HEREIN COMPLIES WITH THE REQUIREMENTS OF THE ENERGY CONSERVATION STANDARDS OF TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS. THE PROPOSED BUILDING(S) WILL BE IN COMPLIANCE WITH THE ENERGY CONSERVATION STANDARDS PROVIDED IT (THEY) IS (ARE) BUILT ACCORDING TO THESE DRAWINGS AND SPECIFICATIONS AND PROVIDED ANY FUTURE IMPROVEMENTS ARE COMPLETED ACCORDING TO THE REQUIREMENTS OF TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS. THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED TO INCLUDE ALL SIGNIFICANT ENERGY CONSERVATION FEATURES REQUIRED FOR COMPLIANCE WITH THE STANDARDS. BUILDING AREAS THAT ARE UNCONDITIONED AND/OR NOT SUBJECT TO THE STANDARDS ARE INDICATED ON THE PLANS.

PROJECT EXECUTION

1. INSPECTOR OF RECORD REQUIREMENTS: A. ONE OR MORE INSPECTORS EMPLOYED BY THE OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS WILL BE ASSIGNED TO THE WORK. THE INSPECTORS DUTIES ARE SPECIFICALLY DEFINED IN SECTION 4-342 OF SAID TITLE 24, PART 1 AND IN ADDITION SHALL BE AS STIPULATED IN INTERPRETATION OF REGULATION DOCUMENT IR A-8. B. INSPECTOR SHALL BE CERTIFIED AS A CLASS [2] INSPECTOR THROUGH THE DIVISION OF THE STATE ARCHITECT INSPECTOR EXAMINATION PROGRAM. INSPECTOR SHALL ALSO BE SPECIFICALLY APPROVED BY THE DIVISION OF THE STATE ARCHITECT FOR THIS PROJECT AT LEAST 10 DAYS PRIOR TO THE START OF ANY WORK FOR THIS PROJECT.

2. ALL WORK SHOWN ON THESE DRAWINGS SHALL COMPLY WITH THE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

3. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CCD APPROVED BY THE DIVISION OF THE STATE ARCHITECT.

4. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

5. DRINKING WATER SHALL COMPLY WITH ALL LOCAL HEALTH DEPARTMENT REQUIREMENTS.

6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE CODES. ALL ENGINEERING SHALL CONFORM WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS HAVING JURISDICTION INCLUDING ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.

7. DO NOT SCALE THE DRAWINGS. THE DRAWINGS ARE NOT NECESSARILY TO SCALE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO BIDDING AND START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION BEFORE COMMENCING WORK.

8. ALL DIMENSIONS ARE TO FACE OF CONCRETE, FACE OF MASONRY UNITS, CENTERLINE OF COLUMNS AND BEAMS, OR FACE OF STUDS, UNLESS OTHERWISE NOTED. FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE SLAB OR TOP OF INTERIOR PAVING UNLESS NOTED OTHERWISE. CEILING HEIGHT DIMENSIONS ARE TO FINISHED SURFACES UNLESS NOTED OTHERWISE.

9. THE CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK WITH THE ARCHITECTURAL DRAWINGS BEFORE PROCEEDING WITH INSTALLATION OF CIVIL, STRUCTURAL MECHANICAL, PLUMBING, AND ELECTRICAL WORK. SHOULD THERE BE ANY DISCREPANCIES BETWEEN THE ARCHITECT'S AND THE CONSULTING ENGINEER'S DRAWINGS AND SPECIFICATIONS THAT WOULD CAUSE A CONFLICT, IT SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION FOR CLARIFICATION PRIOR TO INSTALLATION OF SAID WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE AND AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT.

10. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING ABBREVIATIONS OR THEIR EXACT MEANING, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION.

11. DETAILS MARKED "TYPICAL" SHALL APPLY IN ALL SIMILAR CASES UNCLES SPECIFICALLY INDICATED OTHERWISE.

12. THESE DOCUMENTS AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF SVA ARCHITECTS, AND ARE NOT TO BE USED, IN WHOLE OR IN PART FOR ANOTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF SVA ARCHITECTS.

13. THE WORK SHOWN ON THESE DRAWINGS AS EXISTING CONDITIONS WAS PREPARED FROM INFORMATION FURNISHED BY THE OWNER. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, SVA ARCHITECTS INC. IS NOT RESPONSIBLE FOR THE ACCURACY OR ADEQUACY OF ANY WORK SHOWN AS EXISTING NOR IS SVA ARCHITECTS INC. RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.

14. EACH BIDDER SHALL POSSESS AT THE TIME OF BID A CLASS B OR THE APPROPRIATE CLASS C CONTRACTOR'S LICENSE PURSUANT TO PUBLIC CONTRACT CODE SECTION 3300 AND BUSINESS AND PROFESSIONS CODE SECTION 7028.15. THE SUCCESSFUL BIDDER MUST MAINTAIN THE LICENSE THROUGHOUT THE DURATION OF THIS CONTRACT.

15. FIRE SAFETY DURING CONSTRUCTION AND THE DURATION OF THIS CONTRACT:

A. GENERAL: FIRE SAFETY DURING CONSTRUCTION SHALL COMPLY WITH 2016 CALIFORNIA FIRE CODE TITLE 24, PART 9, CHAPTER 33.

B. ACCESS ROADS: FIRE DEPARTMENT ACCESS ROADS SHALL BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH SECTION 1410.

C. WATER SUPPLY: WATER MAINS AND HYDRANTS SHALL BE OPERATIONAL IN ACCORDANCE WITH SECTION 1412.

D. BUILDING ACCESS: ACCESS TO BUILDINGS FOR THE PURPOSE OF FIREFIGHTING SHALL BE PROVIDED. CONSTRUCTION MATERIAL SHALL NOT BLOCK ACCESS TO BUILDINGS, HYDRANTS OR FIRE APPLIANCES.

E. ALTERATIONS OF BUILDINGS: SHALL COMPLY WITH APPLICABLE PROVISIONS OF SECTIONS 1405, 1411, 1413, AND 1415.

G. FIRE WATCH: MAINTAIN FIRE WATCH WHEN REQUIRED BY THE BUILDING OFFICIAL AND WHEN EXISTING FIRE PROTECTION SYSTEMS ARE SHUT DOWN FOR ALTERATIONS. FIRE WATCH SHALL REMAIN IN EFFECT UNTIL EXISTING FIRE PROTECTION SYSTEMS ARE RETURNED TO SERVICE OR AS ALLOWED BY THE BUILDING OFFICIAL.

16. PENETRATIONS TO FIRE RATED MATERIALS OR ASSEMBLIES SHALL BE RESTORED TO EQUAL RATING. FIRE STOP SYSTEMS AS LISTED BY UNDERWRITERS LABORATORIES SHALL BE INSTALLED PER FIRE RESISTANCE DIRECTORY. FIRE STOP SYSTEMS SHALL BE AS SPECIFIED.

17. THE PROJECT APPLICANT SHALL COMPLY WITH THE REQUIREMENTS OF THE ENGINEERING DIVISION FOR ALL PUBLIC IMPROVEMENTS.

18. ALL RUBBISH AND DEBRIS RESULTING FROM DEMOLITION AND/OR NEW WORK SHALL BE DISPOSED OF OFF-SITE AND SHALL NOT BE ALLOWED TO ACCUMULATE.

19. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SECTION 01 30 00 OF SPECIFICATIONS AND AS REQUIRED BY INDIVIDUAL SPECIFICATION SECTIONS.

20. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL. REQUEST FOR SUBSTITUTION SHALL BE IN ACCORDANCE WITH SECTION 01 25 00 OF SPECIFICATIONS.

21. ALL METAL FRAMING MEMBERS SHALL BE SO ARRANGED AND SPACED AS TO PERMIT INSTALLATION OF PIPE CONDUITS AND DUCT-WORK WITH A MINIMUM OF CUTTING. SHAFT WALLS SHALL BE PROVIDED WITH NECESSARY FRAMES, BRACING, AND SEALANT AROUND THE OPENING.

22. OFFSET STUDS WHERE REQUIRED SO THAT FINISH WALL SURFACE WILL BE FLUSH.

24. DOORS IN RATED WALLS SHALL CONSIST OF SELF-CLOSING, SELF-LATCHING ASSEMBLIES WITH SMOKE AND DRAFT SEALS AT HEAD AND JAMBS. DOOR ASSEMBLY RATINGS SHALL BE AS INDICATED ON DOOR AND ACTIVATED BY SMOKE DETECTORS.

25. INSTALL METAL CORNER BEADS AT ALL EXPOSED GYPSUM BOARD EDGES INSTALL CASING BEADS WHEREVER GYPSUM BOARD, PLASTER, ETC. ABUTS DISSIMILAR FINISH MATERIAL AND PROVIDE SEALANT AS REQUIRED.

26. GYPSUM BOARD SHALL EXTEND TO UNDERSIDE OF STRUCTURE ABOVE AT ALL COLUMNS AND EXTERIOR PERIMETER WALLS UNLESS OTHERWISE NOTED. WELD FURRING CHANNELS TO STEEL COLUMN PRIOR TO FIRE PROOFING WHEN REQUIRED.

27. CONTRACTOR SHALL PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK-UP PLATES, AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK, STAIR RAILINGS, TOILET ROOM ACCESSORIES AND PARTITIONS, AND OF ALL WALL MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL, OR MISCELLANEOUS EQUIPMENT.

28. ALL GLAZING SHALL COMPLY WITH THE CONSUMER PRODUCT SAFETY COMMISSION REQUIREMENTS (C.P.S.C.), CFC, AND CBC.

29. CONTACT BETWEEN DISSIMILAR METAL SHALL BE PROTECTED.

30. ALL DOOR SIZES SHOWN ON DOOR SCHEDULE ARE OPENING SIZES. ALLOWANCE FOR THRESHOLDS, ETC. SHALL BE TAKEN OFF DOOR. ALL DOORS AND FRAME SHALL BE REINFORCED WHERE REQUIRED FOR CLOSERS, STOPS, AND HARDWARE.

31. ROOFING SYSTEM SHALL BEAR U.L. LISTING AS A **CLASS "A" SYSTEM**. ALL MANUFACTURED MATERIALS USED SHALL BEAR THE APPROPRIATE U.L. LABEL.

32. ALL WOOD TRIM, SPACER, FILLER, ETC., THROUGHOUT JOB SHOULD BE FIRE TREATED.

33. INSPECTION AND TESTING LABORATORY MUST BE IN THE EMPLOY OF THE OWNER, NOT THE CONTRACTOR.

34. MINIMUM HEADROOM CLEARANCE AT STAIRS SHALL BE 6'-8" MEASURED VERTICALLY FROM A PLANE PARALLEL AND TANGENT TO THE TREAD NOSING TO THE SOFFIT ABOVE AT ALL POINTS.

35. ALL EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE. LOCKING DEVICES SHALL BE OF AN APPROVED TYPE.

36. EXIT SIGNS SHALL HAVE 6" MINIMUM HEIGHT LETTERS AND SHALL CONFORM TO SECTION 1013 OF THE CALIFORNIA BUILDING CODE.

37. FURNISH AND INSTALL ACCESS DOORS, FIRE DAMPERS, ETC. IN CEILING AND WALL CONSTRUCTION LOCATED AS REQUIRED BY INSTALLATION OF MECHANICAL PLUMBING, AND ELECTRICAL WORK AND AS APPROVED BY THE ARCHITECT. PROVIDE RATED ASSEMBLIES IN RATED WALLS AND CEILINGS AND SHALL BE APPROVED BY BUILDING INSPECTOR PRIOR TO INSTALLATION.

38. FURNISH AND INSTALL EMERGENCY LIGHTING AS SPECIFIED AND INDICATED BUT IN NO CASE SHALL THE LIGHT VALUE BE LESS THAN ONE FOOT CANDLE AT FLOOR LEVEL IN ALL EXIT CORRIDORS AND STAIR SHAFTS (CBC SECTION 1008).

39. THERE SHALL BE NO TRENCHES OR EXCAVATIONS 5' OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND UNLESS A PERMIT IS OBTAINED FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE ISSUANCE OF A BUILDING OR GRADING PERMIT.

40. THE CONSTRUCTION OR DEMOLITION OF ANY BUILDING, STRUCTURE, SCAFFOLDING OR FALSEWORK MORE THAN 3 STORIES OR 36' IN HEIGHT REQUIRES A PERMIT FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.

41. GLASS DOORS, ADJACENT PANELS AND ALL GLAZED OPENINGS WITHIN 18" OF THE ADJACENT FLOOR SHALL BE GLASS APPROVED FOR IMPACT HAZARD.

42. ALL LIGHT GAUGE METAL STUDS AND BRACING SHALL COMPLY WITH 2016 CALIFORNIA BUILDING CODE.

43. INSTALLATION OF SHORING, UNDERPINNING, AND/OR SLOT CUTTING EXCAVATIONS SHALL BE PERFORMED UNDER THE CONTINUOUS INSPECTION AND APPROVAL OF THE GEOTECHNICAL ENGINEER.

44. ALL CONSTRUCTION SHALL PERFORMED IN ACCORDANCE WITH THE STATE CONSTRUCTION SAFETY ORDERS ENFORCED BY THE STATE DIVISION OF INDUSTRIAL SAFETY.

45. DIMENSIONS AND CONDITIONS AT THE JOB SITE SHALL BE VERIFIED BY ALL CONTRACTORS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS TO THE OWNER SINCE PROPOSALS MUST TAKE INTO CONSIDERATION ALL SUCH CONDITIONS THAT MAY AFFECT THE WORK. DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITION SHALL BE REPORTED TO THE ARCHITECT. REVISED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED BY THE OWNER PRIOR TO THE INSTALLATION OF ANY WORK.

46. CONTRACTORS SHALL PROVIDE AND INSTALL ALL CONCRETE HOUSEKEEPING PADS FOR MECHANICAL AND ELECTRICAL EQUIPMENT, AS REQUIRED.

47. ALL GYPSUM WALL BOARD TO BE 5/8" THICK TYPE 'X' UNLESS OTHERWISE NOTED OR REQUIRED FOR SPECIFIC WALL CONSTRUCTION.

48. THERMAL INSULATION SHALL BE PROVIDED PER TYPICAL ASSEMBLIES NOTED ON DRAWINGS. REFER TO SPECS FOR PRODUCT INFORMATION.

49. PROVIDE TEMPERED GLASS AT LOCATIONS REQUIRED BY CBC SECTION 2406 AND BY OTHER APPLICABLE CODE.

50. ROOF DRAINS DISCHARGING WATER MUST BE CONDUCTED UNDER THE SIDEWALK

51. DOORS SHALL NOT PROJECT MORE THAN 7 INCHES INTO THE REQUIRED CORRIDOR WIDTH WHEN FULLY OPENED OR MORE THAN ONE HALF INTO THE REQUIRED WIDTH WHEN IN ANY POSITION. (CBC SECTION 1005.7.1)

52. PATH OF TRAVEL SHALL MAINTAIN A MINIUMU 68" CLEAR HEIGHT, PROTRUSIONS BEYOND 4" BETWEEN 27" AND 68" AFF SHALL BE PROTECTED.

53. OCCUPANCY LOAD SIGNS SHALL BE POSTED IN EACH CLASSROOM, ASSEMBLY ROOM, OR SIMILAR PURPOSE ROOM, HAVING AN OCCUPANT LOAD OF 50 OR MORE.

54. DUCT PENETRATIONS THROUGH PROTECTIVE ELEMENTS OF FIRE RATED CORRIDOR WALLS SHALL BE PROTECTED WITH A COMBINATION FIRE SMOKE DAMPERS PER CBC SECTION 714.

55. NO CHANGES ARE TO BE MADE ON THESE PLANS WITHOUT THE KNOWLEDGE OR CONSENT OF THE ARCHITECT/ENGINEER WHOSE SIGNATURE APPEARS HEREON.

56. THESE DRAWINGS DO NOT CONTAIN THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

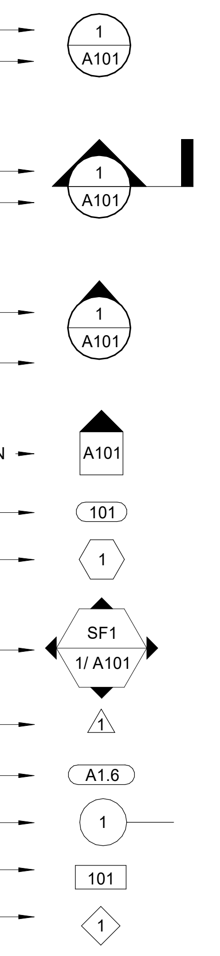
57. LOCATIONS OF ALL UTILITIES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID INTERCEPTING EXISTING PIPING OR CONDUITS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT SHOULD ANY UNIDENTIFIED CONDITIONS BE DISCOVERED. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE PROSECUTION OF THIS WORK.

PROJECT NOTES

A.B.	ANCHOR BOLT (S)
A.C.	ASPHALT CONCRETE PAVING
ACOUS	ACOUSTIC
AC. T.	ACOUSTICAL TILE
A.D.	AREA DRAIN
ADJ.	ADJUSTABLE
AGG	AGGREGATE
ALT.	ALTERNATE
ALUM.	ALUMINUM
APPROX.	APPROXIMATE
APT.	APARTMENT
ASPH.	ASPHALT
A.S.T.M.	AMERICAN SOCIETY OF TESTING MATERIALS
@	AT
B.B	BOTTOM OF BEAM
BD.	BOARD
BLK.	BLOCK
BLK'G.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
BDRM.	BEDROOM
BR.	BROOM
CAB.	CABINET
CPT.	CARPET
C.B.	CATCH BASIN
CEM.	CEMENT
CEM. PLAS.	CEMENT PLASTER
C.	CENTER LINE
CER.	CERAMIC
C.I.	CAST IRON
CIRC.	CIRCULAR
CLG.	CEILING
CLR.	CLEAR
C.M.T.	CERAMIC MOSAIC TILE
COMPC.	COMPOSITION
CONC.	CONCRETE
CONT.	CONTINUOUS
CTSK.	COUNTERSUNK
CU. FT.	CUBIC FEET
CU. IN.	CUBIC INCH
CU. YD.	CUBIC YARD
D.F.	DOUGLAS FIR
D.F.	DRINKING FOUNTAIN
DIA.	DIAMETER
DIM.	DIMENSION
DN.	DOWN
DR.	DOOR
D.S.	DOWN SPOUT
DSP.	DRY STANDPIPE
DUP.	DUPLICATE
DW.	DISHWASHER
DWGS.	DRAWINGS
E.	EAST
EA.	EACH
E.J.	EXPANSION JOINT
ELEVA.	ELEVATOR
ELEV.	ELEVATION
ENCL.	ENCLOSURE
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.W.M.	ELECTRIC WELDED WIRE MESH
EXPN.	EXPANSION
EXP.	EXPOSED
EXT.	EXTERIOR
EXTR.	EXTINGUISHER
FHS	FLAT HEAD SCREW
F.A.U.	FORCED AIR UNIT
F.F.	FINISH FLOOR
F.G.	FIXED GLASS
FHWS	FLAT HEAD WOOD SCREW
FIN.	FINISH
FIXT.	FIXTURE
FLASH.	FLASHING
FLR	FLOOR
FLR'G	FLOORING
FLUOR.	FLUORESCENT
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
F.O.W.	FACE OF WALL
F.S.	FINISH SURFACE
FREQ.	FREQUENCY
FT.	FEET, FOOT
FTG.	FOOTING
FXC	FIRE EXTINGUISHER & CABINET
GA.	GAUGE
GALV.	GALVANIZED
G.I.	GALVANIZED IRON (STEEL)
GUN.	GUNITE
GYP.	GYPSUM
GYP. BD.	GYPSUM BOARD
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HD	DEAD
H.M.	HOWLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
I.	IRON
I.D.	INSIDE DIAMETER
INC.	INCORPORATED
INSUL.	INSULATION
INT	INTERIOR
JT.	JOINT
JST.	JOIST
K.	KITCHEN
LAM.	LAMINATED
LAM. PLAS.	LAMINATED PLASTIC
LAV.	LAVATORY
LT.	LIGHT
LVR.	LOUVER

M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MEMB.	MEMBRANE
MET.	METAL
MFG.	MANUFACTURE
M.H.	MAN HOLE
MIN.	MINIMUM
MIR.	MIRROR
MTG.	MOUNTING
MTL.	METAL
N.	NORTH
NAT.	NATURAL
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE
O/	OVER
O.C.	ON CENTER
O.D.	OVERFLOW DRAIN
O.H.	OTHER HAND
OPP.	OPPOSITE
O.T.S.	OPEN TO STRUCTURE
OV.	OVEN
OVHD.	OVERHEAD
PB.	PUSHBUTTON
PC	PULL CHAIN
PL	PLATE
P	PROPERTY LINE
PLAS.	PLASTER
PL. GLS.	PLATE GLASS
PLAST.	PLASTER
PLYWD.	PLYWOOD
PNL.	PANEL
PR.	PAIR
PRCST.	PRECAST
PREFAB.	PREFABRICATED
%	[ERCEMT
QRY.	QUARRY
QTY.	QUANTITY
RAD.	RADIUS
R.	RISER
R.A.G.	RETURN AIR GRILLE
RD.	ROAD
R.D.	ROOF DRAIN
RDWD.	REDWOOD
RECP.	RECEPTABLE
REF.	REFERENCE
REF.	REFRIGERATOR
REG.	REGISTER
REINF.	REINFORCEMENT
REQ'D	REQUIRED
RES. FLR.	RESILIENT FLOORING
RET.	RETAINING
RF.	ROOF
RF'G.	ROOFING
RM.	ROOM
RO.	ROUGH
R.O.	ROUGH OPENING
RUB.	RUBBER
R.B.	RUBBER (RESILIENT) BASE
S.	SOUTH
S.C.	SOLID CORE
S.D.	STORM DRAIN
SHT.	SHEET
SHT'G	SHEATHING
SIM.	SIMILAR
S&P	SHELF AND POLE
SPECS.	SPECIFICATIONS
SPRKL.	SPRINKLER
SQ. IN.	SQUARE INCH
SQ. FT.	SQUARE FOOT
ST.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
SIM.	SIMILAR
S4S	SMOOTH FOUR SIDES
T	TREAD
T&B	TOP AND BOTTOM
T.B.	TOP OF BEAM
T.C.	TOP OF CURB
T.C.	TOP OF CONCRETE
T.G.	TOP OF GRATE
TEL	TELEPHONE
TEMP.	TEMPERED
T&G	TONGUE AND GROOVE
THK.	THICK
THRESH	THRESHOLD
T.P.	TOP OF PAVING
T.S.	TOP OF SHEATHING
T.W.	TOP OF WALL
TYP.	TYPICAL
UL	UNDERWRITER'S LABEL
ULT.	ULTIMATE
UNFIN.	UNFINISHED
U.N.O.	UNLESS NOTED OTHERWISE
U.R.F.	UNDER ROOF FRAMING
V.A.T.	VINYL ASBESTOS TILE
VENT.	VENTILATOR
VERT.	VERTICAL
VIT.	VITREOUS
VOL.	VOLUME
V.T.	VINYL TILE
V.P.	VAPOR PERMEABLE
W.	WEST
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W	WIDE FLANGE (STEEL)
W.G.	WIRE GLASS
W.H.	WATER HEATER
W.I.	WROUGHT IRON
W/O	WITH OUT
WP.	WATERPROOFING
WS	WEATHERSTRIPPING
W.S.P.	WET STANDPIPE
WT.	WEIGHT
YD.	YARD

ABBREVIATIONS



DETAIL REFERENCE

DETAIL NUMBER

SHEET ON WHICH DETAIL IS SHOWN

BUILDING SECTION REFERENCE

SECTION NUMBER

SHEET ON WHICH SECTION IS SHOWN

INTERIOR ELEVATION REFERENCE

ELEVATION NUMBER

SHEET ON WHICH ELEVATION IS SHOWN

EXTERIOR ELEVATION REFERENCE

SHEET ON WHICH ELEVATION IS SHOWN

DOOR REFERENCE

WINDOW REFERENCE

STOREFRONT REFERENCE

REVISIONS

REVISION NUMBER

WALL TYPES

GRIDLINE REFERENCE

MATERIAL REFERENCE

TOILET ROOM ACCESSORY SYMBOL

ARCHITECTURAL SYMBOLS LEGEND

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

ROBERT M. SIMONS
No. C-18301
Robert M. Simons
JAN. 31, 2027
Renewal Date

REVISIONS:

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PROJECT NO:	2025-40137
ISSUANCE:	A#03-126194
DATE ISSUED:	06/22/2026
SCALE:	1 1/2" = 1'-0"

GEN-3

GENERAL NOTES

SVA ARCHITECTS

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CAUTION

1. THE LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). CONTRACTOR SHALL VERIFY LOCATION AND DEPTH PRIOR TO ANY EXCAVATION OR IMPROVEMENT.

2. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT FOR LOCATION OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION- PHONE (800) 642-2444. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY WORK ON THIS SITE.

3. THESE DRAWINGS DO NOT ADDRESS CONTRACTOR MEANS, METHODS OR PROCESSES THAT MAY BE ASSOCIATED WITH ANY TOXIC SOILS IF FOUND ON SITE. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL CITY, COUNTY AND STATE STANDARDS AND APPROPRIATE REGULATIONS IF TOXIC SOILS ARE ENCOUNTERED. CONTRACTOR MUST NOTIFY THE PROJECT MANAGER IMMEDIATELY IF ANY SOILS ARE EVEN SUSPECTED OF BEING CONTAMINATED.

GENERAL NOTES:

1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING ON THIS WORK AND CONSIDER THE EXISTING CONDITIONS AND SITE CONSTRAINTS IN THE BID. CONTRACTOR SHALL BE IN THE POSSESSION OF AND FAMILIAR WITH ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS AND SPECIFICATIONS PRIOR TO SUBMITTING OF A BID.

2. ALL WORK ON-SITE AND IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS & SPECIFICATIONS.

3. PRIOR TO BEGINNING WORK AND AFTER INITIAL HORIZONTAL CONTROL STAKING, CONTRACTOR SHALL FIELD CHECK ALL JOIN ELEVATIONS AND REPORT ANY DISCREPANCIES GREATER THAN 0.05' FOR FINISHED GRADE OR 0.02' FOR FINISHED SURFACE IN ADA AREAS TO CIVIL ENGINEER.

4. DAMAGE TO ANY EXISTING SITE IMPROVEMENTS, UTILITIES AND/OR SERVICES TO REMAIN SHALL BE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND AT NO COST TO THE OWNER.

5. CONTRACTOR SHALL REPLACE ALL STRUCTURES AND GRATE LIDS FOR VAULTS, CATCH BASINS, ETC., WITHIN TRAFFIC ACCESSIBLE AREAS WITH STRUCTURES AND LIDS RATED FOR HS20-44 LOADING AND MARKED AS SUCH.

6. THE CONTRACTOR SHALL ADJUST TO FINAL GRADE ALL EXISTING AND/OR NEW MANHOLES, CURB INLETS, CATCH BASINS, VALVES, MONUMENT COVERS, AND OTHER CASTINGS WITHIN THE WORK AREA TO FINAL GRADE IN PAVEMENT AND LANDSCAPE AREAS UNLESS NOTED OTHERWISE.

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

8. THE DISTRICT AND CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.

9. EXISTING PEDESTRIAN WALKWAYS, BIKE PATHS AND ACCESSIBLE PATHWAYS SHALL BE MAINTAINED, WHERE FEASIBLE, DURING CONSTRUCTION.

10. IF A CONFLICT ARISES BETWEEN THE SPECIFICATIONS AND THE PLAN NOTES, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

TREE/PLAN PROTECTION NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION ON SITE, CONTRACTOR SHALL IDENTIFY AND PROTECT EXISTING TREES AND PLANTS DESIGNATED AS TO REMAIN.

2. PROVIDE 6 FOOT TALL TREE PROTECTION FENCE WITH DISTINCTIVE MARKING VISIBLE TO CONSTRUCTION EQUIPMENT, ENCLOSING DRIP LINES OF TREES DESIGNATED TO REMAIN.

3. WORK REQUIRED WITHIN FENCE LINE SHALL BE HELD TO A MINIMUM, AVOID UNNECESSARY MOVEMENT OF HEAVY EQUIPMENT WITHIN FENCED AREA AND DO NOT PARK VEHICLES WITH IDLE RUNNING ENGINES UNDER DRIP LINE OF TREES.

4. CONSULT WITH THE PROJECT MANAGER PRIOR TO REMOVING ROOTS AND BRANCHES LARGER THAN 2" IN DIAMETER OF TREES OR PLANTS THAT ARE TO REMAIN.

5. ANY GRADE CHANGES GREATER THAN 6" WITHIN THE DRIPLINE OF EXISTING TREES SHALL NOT BE MADE WITHOUT FIRST CONSULTING THE LANDSCAPE ARCHITECT/CIVIL ENGINEER.

6. PROTECT EXISTING TREES TO REMAIN FROM SPILLED CHEMICALS, FUEL OIL, MOTOR OIL, GASOLINE AND ALL OTHER CHEMICALLY INJURIOUS MATERIAL; AS WELL AS FROM PUDDLING OR CONTINUOUSLY RUNNING WATER. SHOULD A SPILL OCCUR, STOP WORK IN THAT AREA AND CONTACT THE CITY'S ENGINEER/INSPECTOR IMMEDIATELY. CONTRACTOR SHALL BE RESPONSIBLE TO MITIGATE DAMAGE FROM SPILLED MATERIAL AS WELL AS MATERIAL CLEAN UP, AT NOT COST TO THE OWNER.

7. PROVIDE TEMPORARY IRRIGATION TO ALL TREES AND PLANTS THAT ARE IN OR ADJACENT TO CONSTRUCTION AREAS WHERE EXISTING IRRIGATION SYSTEMS MAY BE AFFECTED BY THE CONSTRUCTION. ALSO PROVIDE TEMPORARY IRRIGATION TO RELOCATED TREES.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR ONGOING MAINTENANCE OF ALL TREES DESIGNATED TO REMAIN AND FOR MAINTENANCE OF RELOCATED TREES STOCKPILED DURING CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REPLACE TREES THAT DIE DUE TO LACK OF MAINTENANCE.

PAVEMENT SECTION:

1. SEE SHEET C6.00 FOR ALL PAVEMENT SECTIONS.

2. SEE STRUCTURAL DRAWINGS FOR BUILDING SLAB SECTIONS AND PAD PREPARATIONS

3. SEE SHEET C6.00 FOR ALL VEHICULAR PAVEMENT SECTIONS AND FOR LOCATION OF PAVEMENT SECTIONS.

4. SEE SHEET C6.00 FOR FLATWORK SECTIONS AND BASE REQUIREMENTS.

5. EXISTING PAVEMENT SHALL BE TACK COATED PRIOR TO CONSTRUCTING NEW PAVEMENT.

6. THE FINAL OR SURFACE LAYER OF ASPHALT CONCRETE SHALL NOT BE PLACED UNTIL ALL ON-SITE IMPROVEMENTS HAVE BEEN COMPLETED, INCLUDING ALL GRADING, AND ALL UNACCEPTABLE CONCRETE WORK HAS BEEN REMOVED AND REPLACED, UNLESS OTHERWISE APPROVED BY THE IOR.

7. ALL PAVING SHALL BE IN CONFORMANCE WITH SECTION 26 "AGGREGATE BASE" AND SECTION 39 "ASPHALT CONCRETE" PER LATEST EDITION OF CALTRANS STANDARD SPECIFICATIONS.

HORIZONTAL CONTROL NOTES:

1. CONTRACTOR SHALL LAYOUT THE CONTROL FOR THE SITE AS SPECIFIED ON SHEETS C3.00 AND C3.01. CONTRACTOR SHALL CLEARLY SET AND MARK EACH OF THE CONTROL POINTS, PROTECTING THE POINTS THROUGHOUT CONSTRUCTION.

2. ALL DIMENSIONS ON THE PLANS ARE IN FEET OR DECIMALS THEREOF UNLESS SPECIFICALLY CALLED OUT AS FEET AND INCHES.

3. ALL RETURN RADII AND CURB DATA ARE TO FACE OF CURB, UNLESS OTHERWISE SHOWN OR INDICATED.

4. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

RECORD DRAWINGS:

1. THE CONTRACTOR SHALL KEEP A COMPLETE UP-TO-DATE AND ACCURATE RECORD SET OF PRINTS OF THE CONTRACT DRAWINGS SHOWING EVERY CHANGE FROM THE ORIGINAL DRAWINGS MADE DURING THE COURSE OF CONSTRUCTION INCLUDING EXACT FINAL LOCATION, ELEVATION, SIZES, MATERIALS, AND DESCRIPTION OF ALL WORK. RECORDS SHALL BE "REDLINED" ON A SET OF CONSTRUCTION PLAN DRAWINGS. A COMPLETE SET OF CORRECTED AND COMPLETED RECORD DRAWING PRINTS SHALL BE SUBMITTED TO THE DISTRICT AND DISTRICT'S CIVIL ENGINEER PRIOR TO FINAL ACCEPTANCE FOR REVIEW AND APPROVAL BY THE DISTRICT.

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GENERAL UTILITY SYSTEM NOTES:

1. ALL TRENCHES SHALL BE BACK FILLED PER THE SPECIFICATIONS WITH APPROPRIATE TESTS BY THE GEOTECHNICAL ENGINEER TO VERIFY COMPACTION VALUES.

2. CLEAN OUTS, CATCH BASINS AND AREA DRAINS ARE TO BE ACCURATELY LOCATED BY THEIR RELATIONSHIP TO THE BUILDING, FLATWORK, ROOF DRAINS, AND/OR CURB LAYOUT, NOT BY THE LENGTH OF PIPE SPECIFIED IN THE DRAWINGS (WHICH IS APPROXIMATE).

3. CONTRACTOR SHALL STAKE LOCATION OF ABOVE GROUND UTILITY EQUIPMENT (BACKFLOW PREVENTOR, SATELLITE DISH, TRANSFORMER, GAS METER, ETC.) AND MEET WITH DISTRICT TO REVIEW LOCATION PRIOR TO INSTALLATION. PLANNING DEPARTMENT MUST SPECIFICALLY AGREE WITH LOCATION PRIOR TO PROCEEDING WITH THE INSTALLATION.

4. CONTRACTOR SHALL PREPARE AN ACCURATE COMPOSITE UTILITY PLAN THAT TAKES INTO ACCOUNT THE ACTUAL LOCATION OF EXISTING UTILITIES AS DETERMINED DURING THE DEMOLITION WORK, THE UTILITIES SHOWN ON THE CIVIL DRAWINGS, AND THE SITE POWER, CONDUITS AND LIGHTING SHOWN ON THE ELECTRICAL PLANS. THE FIRE SPRINKLER SYSTEM SHALL BE INCLUDED.

5. CATHODIC PROTECTION MAY BE REQUIRED ON ALL METALLIC FITTINGS AND ASSEMBLIES THAT ARE IN CONTACT WITH THE SOIL, IF RECOMMENDED BY THE GEOTECHNICAL REPORT. CONTRACTOR IS RESPONSIBLE TO FULLY ENGINEER AND INSTALL THIS SYSTEM AND COORDINATE ANODE AND TEST STATION LOCATIONS WITH OWNER'S PROJECT MANAGER.

6. COMPLETE SYSTEMS: ALL UTILITY SYSTEMS ARE DELINEATED ON THESE PLANS. CONTRACTOR IS TO PROVIDE ALL FITTINGS, ACCESSORIES AND WORK NECESSARY TO COMPLETE THE UTILITY SYSTEM SO THAT IT IS FULLY FUNCTIONING FOR THE PURPOSE INTENDED.

7. UNDERGROUND UTILITIES OR STRUCTURES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS AND EXTENT BASED UPON RECORD INFORMATION. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE DISTRICT, BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PURSUANT THERETO, AGREES TO ASSUME LIABILITY AND TO HOLD UNDERSIGNED HARMLESS FOR ANY DAMAGES RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED; NOT INDICATED ON THE PUBLIC RECORDS EXAMINED, LOCATED AT VARIANCE WITH THOSE REPORTED OR SHOWN ON RECORDS EXAMINED.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES FROM DAMAGE DURING COMPACTION OF ROADWAY SUBGRADE AND PRIOR TO PLACEMENT OF FINAL PAVEMENT SECTIONS.

9. EXISTING UTILITY CROSSINGS OF NEW PIPELINE ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. GAS, WATER AND SEWER SERVICE LATERALS ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND DEPTH OF ALL THE UTILITY CROSSING (BOTH MAINS AND LATERALS) ARE CORRECT AS SHOWN. NO GUARANTEE IS MADE THAT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) ARE SHOWN. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING AND SHALL PROTECT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) FROM DAMAGE DUE TO HIS OPERATION.

10. CONTRACTOR SHALL UNCOVER AND EXPOSE ALL EXISTING UTILITY AND SEWER LINES WHERE THEY ARE TO BE CROSSED ABOVE OR BELOW BY THE NEW FACILITY BEING CONSTRUCTED IN ORDER TO VERIFY THE GRADE AND TO ASSURE THAT THERE IS SUFFICIENT CLEARANCE.

11. VERTICAL SEPARATION REQUIREMENTS:

    A MINIMUM OF SIX (6) INCHES VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN CROSSING UTILITY PIPES, EXCEPT THAT THE MINIMUM VERTICAL CLEARANCE BETWEEN WATER AND SANITARY SEWER PIPELINES SHALL BE 12 INCHES AND ALL NEW WATER PIPES SHALL BE TYPICALLY INSTALLED TO CROSS ABOVE/OVER EXISTING SANITARY SEWER PIPELINES.

    WHERE NEW WATER PIPELINES ARE REQUIRED TO CROSS UNDER EXISTING AND/OR NEW SANITARY SEWER PIPELINES, THE MINIMUM VERTICAL SEPARATION SHALL BE 12 INCHES (EDGE OF PIPE TO EDGE OF PIPE). WATER LINE JOINTS SHALL BE INSTALLED NO CLOSER THAN 10' MINIMUM HORIZONTAL DISTANCE FROM CENTERLINE OF UTILITY CROSSINGS, WHERE FEASIBLE.

12. HORIZONTAL SEPARATION REQUIREMENTS:

    A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND ANY EXISTING UTILITIES SHALL BE 5' FEET, EXCEPT THAT THE MINIMUM HORIZONTAL SEPARATION FOR WATER AND SANITARY SEWER PIPELINES SHALL BE 10' MINIMUM, UNLESS OTHERWISE NOTED.

    A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND JOINT TRENCH SHALL BE 5 FEET.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITIES AND REQUESTING VERIFICATION OF SERVICE POINTS, FIELD VERIFICATION OF LOCATION, SIZE, DEPTH, ETC. FOR ALL THEIR FACILITIES AND TO COORDINATE WORK SCHEDULES.

SITE MAINTENANCE (BY CONTRACTOR):

1. GATHER ALL CONSTRUCTION DEBRIS ON A REGULAR BASIS AND PLACE IT IN A DUMPSTER OR OTHER CONTAINER WHICH IS EMPTIED OR REMOVED ON A REGULAR BASIS. WHEN APPROPRIATE, USE TARPS ON THE GROUND TO COLLECT FALLEN DEBRIS OR SPLATTERS THAT COULD CONTRIBUTE TO STORM WATER RUNOFF POLLUTION.

2. REMOVE ALL DIRT, GRAVEL, RUBBISH, REFUSE, AND GREEN WASTE FROM STREET PAVEMENT AND STORM DRAINS ADJOINING THE SITE. LIMIT CONSTRUCTION ACCESS ROUTES ONTO THE SITE AND PLACE GRAVEL PADS AT THESE LOCATIONS. DO NOT DRIVE VEHICLES AND EQUIPMENT OFF THE PAVED OR GRAVELED AREAS DURING WET WEATHER.

3. SWEEP OR VACUUM THE STREET PAVEMENT AND SIDEWALKS ADJOINING THE PROJECT SITE AND THE ON-SITE PAVED AREAS ON A DAILY BASIS. SCRAPE CAKED-ON MUD AND DIRT FROM THESE AREAS BEFORE SWEEPING. CORNERS AND HARD TO REACH AREAS SHALL BE SWEPT MANUALLY.

4. IF THE STREETS, SIDEWALKS AND/OR PARKING LOT ARE PRESSURE WASHED, DEBRIS MUST BE TRAPPED AND COLLECTED TO PREVENT ENTRY INTO THE STORM DRAIN SYSTEM. NO CLEANING AGENT MAY BE DISCHARGED INTO THE STORM DRAIN. IF ANY CLEANING AGENT OR DEGREASER IS USED, WASH WATER MUST BE COLLECTED AND DISCHARGED TO THE SANITARY SEWER, SUBJECT TO THE APPROVAL OF THE PROJECT MANAGER, OR OTHERWISE DISPOSED OF THROUGH APPROVED DISPOSAL METHODS.

5. CREATE A CONTAINED AND COVERED AREA ON THE SITE FOR THE STORAGE OF BAGS, CEMENT, PAINTS, OILS, FERTILIZERS, PESTICIDES, OR OTHER MATERIALS USED ON THE SITE THAT HAVE THE POTENTIAL OF BEING DISCHARGED INTO THE STORM DRAIN SYSTEM THROUGH EITHER BEING WIND-BLOWN OR IN THE EVENT OF A MATERIAL SPILL.

6. NEVER CLEAN MACHINERY, EQUIPMENT OR TOOLS INTO A STREET, GUTTER OR STORM DRAIN.

7. ENSURE THAT CEMENT TRUCKS, PAINTERS, OR STUCCO/PLASTER FINISHING CONTRACTORS DO NOT DISCHARGE WASH WATER FROM EQUIPMENT, TOOLS OR RINSE CONTAINERS INTO GUTTERS OR DRAINS.

8. UPON PROJECT COMPLETION THE DISTRICT SHALL BE SOLELY RESPONSIBLE TO ROUTINELY INSPECT AND MAINTAIN ALL ON-SITE STORM DRAIN FACILITIES. STORM DRAIN SYSTEM SHALL BE CLEANED AND/OR FLUSHED ON A BIANNUAL BASIS OR AS FOUND NECESSARY.

9. PREVENT DUST FROM LEAVING THE SITE AND ACCUMULATING ON ADJACENT AREAS AS REQUIRED IN THE DUST CONTROL NOTES ON THIS SHEET.

10. PREVENT SEDIMENT LADEN STORM RUN-OFF FROM LEAVING THE SITE OR ENTERING STORM DRAIN OR SANITARY SEWER SYSTEMS AS REQUIRED IN THE EROSION AND SEDIMENTATION CONTROL NOTES ON THIS SHEET.

11. MAINTAIN EXISTING TREES AND PLANTS THAT ARE TO REMAIN AS REQUIRED BY THE TREE AND PLANT PROTECTION NOTES ON THIS SHEET.

CONSTRUCTION FENCE NOTES:

1. CONTRACTOR SHALL PROVIDE A CONSTRUCTION FENCE AROUND THE ENTIRE AREA OF DEMOLITION AND CONSTRUCTION, INCLUDING ALL STAGING, STORAGE, CONSTRUCTION OFFICE AND LAYDOWN AREAS.

2. FENCE LOCATION MAY BE ADJUSTED FROM TIME TO TIME AS CONSTRUCTION PROCEEDS TO EXCLUDE SOME AREAS WHERE CONSTRUCTION WORK IS NOT BEING DONE AND THE AREA IS NOT OBJECTIONABLE IN VISUAL APPEARANCE.

3. CONSTRUCTION FENCE SHALL BE A MINIMUM OF A 6' HIGH GALVANIZED CHAIN LINK WITH GREEN WINDSCREEN FABRIC ON THE OUTSIDE OF THE FENCE.

4. CONTRACTOR SHALL REPLACE THE GREEN FABRIC AT SUCH A TIME AS IT BECOMES TATTERED AND UNSIGHTLY DUE TO WIND OR CONSTRUCTION ACTIVITY.

5. CONSTRUCTION FENCE ADDRESSED IN THESE NOTES IS ONLY FOR VISUAL CONFORMANCE OF THIS CONSTRUCTION SITE TO THE CITY STANDARDS. CONTRACTOR MAY BE REQUIRED TO PROVIDE ADDITIONAL FENCING, BARRICADES OR OTHER SAFETY DEVICES TO KEEP THE SITE SECURE AND SAFE.

EROSION CONTROL NOTES:

1. EROSION CONTROL MEASURES ARE INTENDED TO PREVENT SEDIMENT AND DEBRIS FROM ENTERING THE CITY STORM DRAIN SYSTEM, SANITARY SEWER SYSTEM OR FROM LEAVING THE SITE. THE CONTRACTOR SHALL MAKE ADJUSTMENTS IN THE FIELD TO MAKE SURE THAT THIS CONCEPT IS CARRIED OUT.

2. EROSION CONTROL FACILITIES AND MEASURES ARE TO BE INSTALLED AND OPERABLE YEAR-ROUND THROUGHOUT CONSTRUCTION, AND SHALL CONTINUE IN EFFECT UNTIL INSTALLATION OF THE PERMANENT SITE IMPROVEMENTS.

3. CONTRACTOR SHALL ASSUME THE CONCEPTS ON THE EROSION CONTROL PLAN, IF PROVIDED, ARE SCHEMATIC MINIMUM REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR THE EXACT DESIGN AND EXTENT OF THE EROSION CONTROL SYSTEM SO THAT IT WORKS WITH THE CONTRACTOR'S INTENDED USE AND MANAGEMENT OF THE CONSTRUCTION SITE.

4. ALL EROSION CONTROL FACILITIES SHALL BE INSPECTED BY THE CONTRACTOR AND REPAIRED, AS REQUIRED, AT THE CONCLUSION OF EACH WORKING DAY. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROL FACILITIES AND MAKE NECESSARY REPAIRS PRIOR TO ANTICIPATED STORMS AND AT REASONABLE INTERVALS DURING STORMS OF EXTENDED DURATION. REPAIRS TO DAMAGED FACILITIES SHALL BE MADE IMMEDIATELY UPON DISCOVERY.

5. AS SOON AS PRACTICAL FOLLOWING EACH STORM, THE CONTRACTOR SHALL REMOVE ANY ACCUMULATION OF SILT OR DEBRIS FROM THE EROSION CONTROL SEDIMENT BASINS AND SHALL CLEAR THE OUTLET PIPES OF ANY BLOCKAGE.

6. STOCKPILED MATERIAL SHALL BE COVERED WITH VISQUEEN OR A TARPAULIN UNTIL THE MATERIAL IS REMOVED FROM THE SITE. ANY REMAINING BARE SOIL THAT EXISTS AFTER THE STOCKPILE HAS BEEN REMOVED SHALL BE COVERED UNTIL A NATURAL GROUND COVER IS ESTABLISHED OR IT MAY BE SEEDED OR PLANTED TO PROVIDE GROUND COVER.

7. PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRADING, OR EXCAVATION, THE CONTRACTOR SHALL VERIFY THAT THE DISTRICT HAS SUBMITTED TO THE STATE WATER RESOURCES CONTROL BOARD A NOTICE OF INTENT (NOI) FOR COVERAGE UNDER THE STATE CONSTRUCTION STORM WATER GENERAL PERMIT, IF REQUIRED BY THE STATE. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE NOI ON THE CONSTRUCTION SITE.

8. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.

9. EROSION CONTROL DEVICES SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE DISTRICT.

10. ALL REMOVABLE EROSION PROTECTIVE DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5-DAY RAIN PROBABILITY FORECAST EXCEEDS 40%.

11. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM STREETS, CHECK BERMS AND BASINS.

12. GRADED AREAS ON THE PERMITTED AREA PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY. DRAINAGE IS TO BE DIRECTED TOWARD DESILTING FACILITIES.

13. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROL WORK AND INSURE THAT THE WORK IS IN ACCORDANCE WITH APPROVED PLANS.

14. PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OR FILTERS, DIKES, MULCHING OR OTHER MEASURES AS APPROPRIATE.

15. CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN A NEAT, CLEAN, DUST FREE AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE INSPECTOR. THE ADJACENT STREET SHALL BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY THEIR CONSTRUCTION, METHOD OF STREET CLEANING SHALL BE BY DRY SWEEPING OF ALL PAVED AREAS. NO STOCKPILING OF BUILDING MATERIALS WITHIN THE CITY'S RIGHT-OF-WAY IS PERMITTED.

16. ALL EROSION CONTROL MATERIALS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED.

17. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROLS, SEDIMENT CONTROLS AND ALL OTHER BEST MANAGEMENT PRACTICES (BMP'S) THROUGH OUT THE DURATION OF CONSTRUCTION, AS OUTLINED IN THE PROJECT SWPPP AND AS DIRECTED BY THE PROJECT QUALIFIED SWPPP PRACTITIONER (QSP), WHO SHALL BE HIRED BY THE CONTRACTOR.

DUST CONTROL (BY CONTRACTORS):

1. WATER TRUCKS SHALL BE PRESENT AND IN USE AT THE CONSTRUCTION SITE. ALL PORTIONS OF THE SITE SUBJECT TO BLOWING DUST SHALL BE WATERED AS OFTEN AS DEEMED NECESSARY BY THE DISTRICT/INSPECTOR IN ORDER TO INSURE PROPER CONTROL OF BLOWING DUST FOR THE DURATION OF THE PROJECT.

2. WATERING ASSOCIATED WITH ON-SITE CONSTRUCTION ACTIVITY SHALL TAKE PLACE BETWEEN THE HOURS OF 8:00 AM AND 7:OO PM AND SHALL INCLUDE AT LEAST ONE LATE-AFTERNOON WATERING TO MINIMIZE THE EFFECTS OF BLOWING DUST.

3. ALL PUBLIC STREETS AND MEDIANS SOILED OR LITTERED DUE TO THIS CONSTRUCTION ACTIVITY SHALL BE CLEANED AND SWEPT ON A DAILY BASIS DURING THE WORK WEEK, OR AS OFTEN AS DEEMED NECESSARY BY THE DISTRICT/INSPECTOR, OR TO THE SATISFACTION OF THE CITY'S DEPARTMENT OF PUBLIC WORKS.

4. WATERING ON PUBLIC STREETS OR POWER WASHING SEDIMENTATION ON STREETS SHALL NOT OCCUR, UNLESS CONTRACTOR COLLECTS AND FILTERS THE WASH WATER PRIOR TO ITS ENTERING THE CITY'S STORM DRAIN SYSTEM.

5. ON-SITE PAVED ACCESS ROADS, PARKING AREAS, AND STAGING AREAS SHALL BE SWEPT DAILY WITH A WATER SWEEPER.

6. ALL TRUCKS HAULING SOIL, SAND, AND OTHER LOOSE MATERIALS SHALL BE COVERED WITH TARPAULINS OR OTHER EFFECTIVE COVERS.

7. THE SPEED OF ALL VEHICLES DRIVING ON UNPAVED ROADS OR PORTIONS OF THE SITE SHALL BE LIMITED TO 15 MPH.

8. WHEEL WASHERS SHALL BE INSTALLED AND USED TO CLEAN ALL TRUCKS AND EQUIPMENT LEAVING THE CONSTRUCTION SITE. IF WHEEL WASHERS CANNOT BE INSTALLED, TIRES OR TRACKS OF ALL TRUCKS AND EQUIPMENT SHALL BE WASHED OFF BEFORE LEAVING THE CONSTRUCTION SITE.

9. THE CONTRACTOR SHALL DEMONSTRATE DUST SUPPRESSION MEASURES, SUCH AS REGULAR WATERING, WHICH SHALL BE IMPLEMENTED TO REDUCE EMISSIONS DURING CONSTRUCTION AND GRADING IN A MANNER MEETING THE APPROVAL OF THE CONSTRUCTION MANAGER. THIS SHALL ASSIST IN REDUCING SHORT-TERM IMPACTS FROM PARTICLES WHICH COULD RESULT IN NUISANCES THAT ARE PROHIBITED BY AIR QUALITY MANAGEMENT DISTRICT RULE 403 (FUGITIVE DUST).

10. GRADING OR ANY OTHER OPERATIONS THAT CREATES DUST SHALL BE STOPPED IMMEDIATELY IF DUST AFFECTS ADJACENT PROPERTIES. THE CONTRACTOR SHALL PROVIDE SUFFICIENT DUST CONTROL FOR THE ENTIRE PROJECT SITE IN ACCORDANCE WITH THE PROJECT SWPPP AT ALL TIMES. THE SITE SHALL BE SPRINKLERED AS NECESSARY TO PREVENT DUST NUISANCE. IN THE EVENT THAT THE CONTRACTOR NEGLECTS TO USE ADEQUATE MEASURES TO CONTROL DUST, THE DISTRICT RESERVES THE RIGHT TO TAKE WHATEVER MEASURES ARE NECESSARY TO CONTROL DUST AND CHARGE THE COST TO THE CONTRACTOR.

11. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL MEASURES AND FOR OBTAINING ALL REQUIRED PERMITS AND APPROVALS. ALL GRADING OPERATIONS SHALL BE SUSPENDED DURING SECOND (OR WORSE) STAGE SMOG ALERTS.

NPDES REQUIREMENTS (BY CONTRACTOR):

1. ALL CONSTRUCTION OF OFF-SITE OR ON-SITE IMPROVEMENTS SHALL ADHERE TO NPDES (NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM) BEST MANAGEMENT PRACTICES TO PREVENT DELETERIOUS MATERIALS OR POLLUTANTS FROM ENTERING THE CITY OR COUNTY STORM DRAIN SYSTEMS.

2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.

3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.

4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.

5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC RIGHT-OF-WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.

6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION AND DISPERSAL BY WIND.

7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC RIGHT-OF-WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.

8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.

9. CLEAN UP ALL SPILLS USING DRY METHODS.

10. SWEEP ALL GUTTERS AT THE END OF EACH WORKING DAY. GUTTERS SHALL BE KEPT CLEAN AFTER LEAVING CONSTRUCTION SITE.

11. CALL 911 IN CASE OF A HAZARDOUS SPILL.

12. BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, CALIFORNIA STORM WATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA, JANUARY 2009, OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE INSPECTORS).

13. UPON SATISFACTORY COMPLETION OF THE WORK, THE ENTIRE WORK SITE SHALL BE CLEANED BY THE CONTRACTOR AND LEFT WITH A SMOOTH AND NEATLY GRADED SURFACE FREE OF CONSTRUCTION WASTE, RUBBISH, AND DEBRIS OF ANY NATURE.

BENCHMARK NOTE

BENCHMARK ID: QY10904 ELEV 70.98' NAVD 88

LOCATION: NORTH EAST CORNER OF CATALINA AVE & EMERALD ST

DESCRIPTION: BM TAG IN E CB 10FT N/O BCR.

BASIS OF BEARINGS NOTE

THE COORDINATES AND BEARINGS SHOWN HEREON ARE BASED UPON THE CALIFORNIA COORDINATE SYSTEM OF 1983, CCS83, ZONE V, 2025.00, AND IN U.S. SURVEY FEET.

SITE CONTROL POINTS

POINT NUMBER	NORTHING	EASTING	ELEVATION
3002	1766610.58	6446333.32	105.53
3003	1766459.45	6446207.47	107.81
4091	1766530.73	6446134.69	105.86
4600	1766632.40	6446395.74	105.85

Sheet List Table

Sheet Number	Sheet Title
C0.00	GENERAL NOTES
C1.00	DEMOLITION PLAN - WEST
C1.01	DEMOLITION PLAN - EAST
C2.00	EROSION CONTROL PLAN - WEST
C2.01	EROSION CONTROL PLAN - EAST
C2.02	EROSION CONTROL DETAILS
C3.00	HORIZONTAL CONTROL PLAN - WEST
C3.01	HORIZONTAL CONTROL PLAN - EAST
C4.00	GRADING AND DRAINAGE - WEST
C4.01	GRADING AND DRAINAGE - EAST
C5.00	UTILITY PLAN - WEST
C5.01	UTILITY PLAN - EAST
C6.00	CIVIL DETAILS

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

Ahmed Zuwawa
RCE NO. 92059

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/12/2026
SCALE:

C0.00

GENERAL NOTES

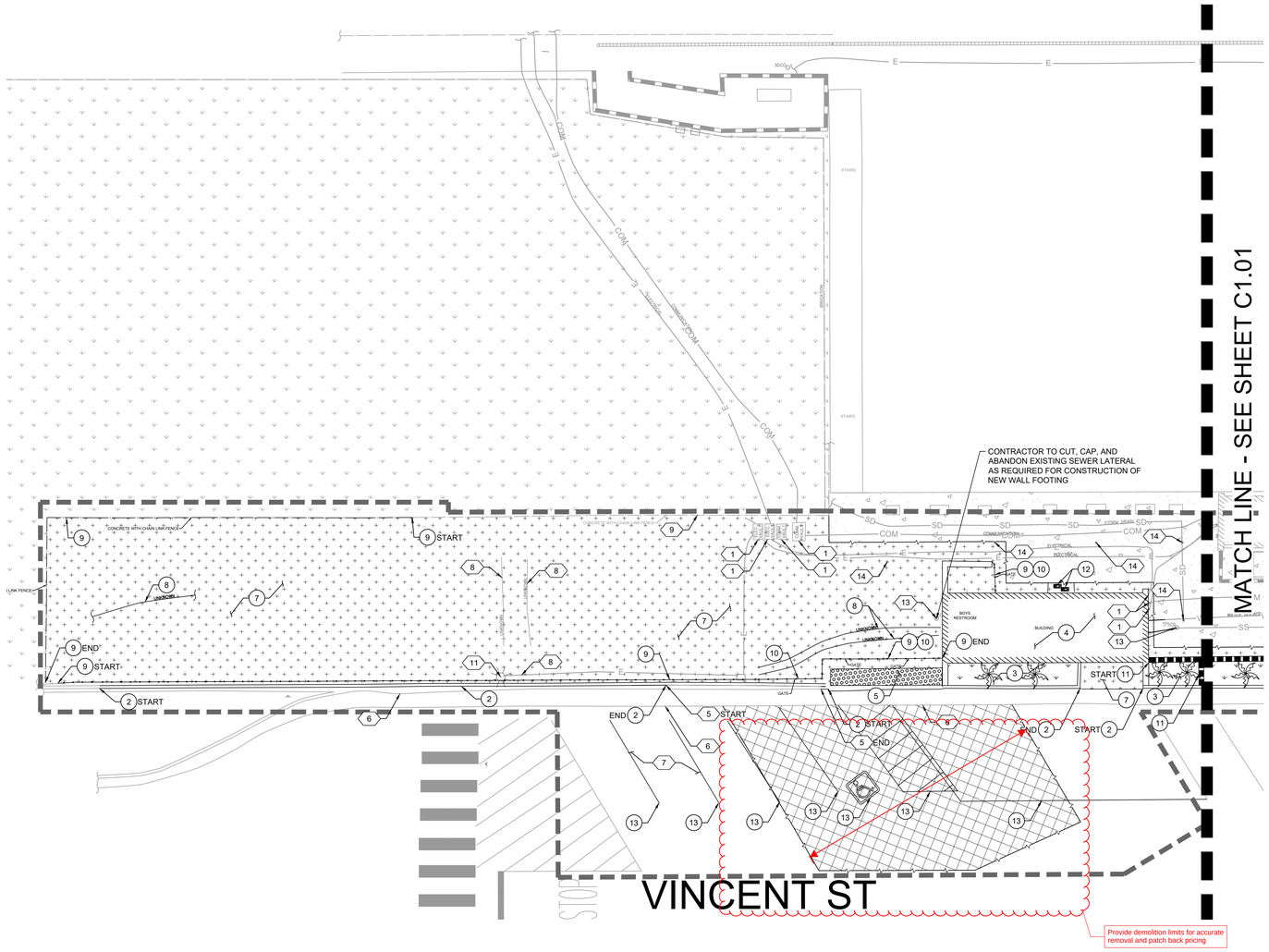
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LEGEND

- CIVIL LIMIT OF WORK LINE
- SAWCUT LINE
- LIMIT OF GRADING LINE
- REMOVE AND PROPERLY DISPOSE OF EXISTING CONCRETE AND BASE COURSE INCLUDING REBAR
- CLEAR AND GRUB EXISTING LANDSCAPE AREA AND TREES INCLUDING ROOT MASS IF ENCOUNTERED UNLESS OTHERWISE NOTED
- REMOVE EXISTING ASPHALT PAVEMENT

DEMOLITION NOTES

1. REMOVE EXISTING SIGN AND FOUNDATION.
2. REMOVE EXISTING CONCRETE CURB INCLUDING REBAR IF ENCOUNTERED
3. CLEAR AND GRUB EXISTING LANDSCAPE AREA AND TREES INCLUDING ROOT MASS IF ENCOUNTERED UNLESS OTHERWISE NOTED
4. REMOVE EXISTING BUILDING
5. REMOVE EXISTING TRUNCATED DOMES
6. REMOVE EXISTING UTILITY STRUCTURE.
7. REMOVE EXISTING CONCRETE AND BASE COURSE INCLUDING REBAR IF ENCOUNTERED.
8. REMOVE EXISTING UTILITY.
9. REMOVE EXISTING FENCE AND FOUNDATION
10. REMOVE EXISTING GATE
11. REMOVE EXISTING WALL AND FOUNDATION
12. REMOVE EXISTING DRINKING FOUNTAIN
13. ERADICATE EXISTING STRIPING

PROTECTION NOTES

1. PROTECT-IN-PLACE EXISTING UTILITY STRUCTURE. CONTRACTOR TO ADJUST TO FINAL GRADE.
2. PROTECT-IN-PLACE EXISTING STAIRS
3. PROTECT-IN-PLACE EXISTING GATE
4. PROTECT-IN-PLACE EXISTING BUILDING
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10. PROTECT-IN-PLACE EXISTING WALL
11. PROTECT-IN-PLACE EXISTING LIGHT POLE. CONTRACTOR TO ADJUST TO FINAL GRADE
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13. PROTECT-IN-PLACE EXISTING SEWER CLEANOUT. CONTRACTOR TO ADJUST TO FINAL GRADE
14. PROTECT-IN-PLACE EXISTING AREA DRAIN. CONTRACTOR TO ADJUST TO FINAL GRADE

NOTE: REFER TO SHEET HEREON FOR GENERAL DEMOLITION NOTES AND GEOTECHNICAL NOTE.

GEOTECHNICAL NOTES

CONTRACTOR SHALL REFER TO AND FOLLOW ALL OVEREXCAVATION RECOMMENDATIONS DETAILED IN SEPARATE GEOTECHNICAL INVESTIGATION REPORT BY KOURY ENGINEERING & TESTING, INC. DATED MAY 4,2026

GENERAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL CLEAR THE PROJECT SITE AREA WITHIN THE CONFINES OF THE DEMOLITION LIMIT LINE. THE CONTRACTOR SHALL CAP IN PLACE ALL EXISTING UTILITIES AT THE DEMOLITION LIMIT LINE, UNLESS NOTED ON THE PLAN. THE CONTRACTOR SHALL DEMOLISH AND REMOVE FROM THE SITE ALL EXISTING UTILITY STRUCTURES, PLANTERS, TREES, AND ALL OTHER SITE FEATURES, UNLESS OTHERWISE NOTED ON THE PLAN.
2. DEMOLITION AND REMOVAL OF PAVEMENT INCLUDES PAVEMENT THICKNESS AS WELL AS BASE COURSE THICKNESS.
3. REMOVAL OF LANDSCAPING SHALL INCLUDE ROOTS AND ORGANIC MATERIAL.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS AND SHALL PAY ALL FEES NECESSARY FOR ENCROACHMENT, GRADING, DEMOLITION, AND DISPOSAL OF SAID MATERIALS AS REQUIRED BY PRIVATE, LOCAL AND STATE JURISDICTIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY ACKNOWLEDGE THE EXTENT OF DEMOLITION WORK.
6. THE CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING ABOVE AND UNDERGROUND UTILITIES. LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE SHOWN FOR GENERAL INFORMATION ONLY.
7. DAMAGE TO ANY EXISTING UTILITIES AND SERVICES TO REMAIN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
8. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED TO PREVENT DEBRIS AND UNSUITABLE MATERIALS FROM ENTERING STORM DRAINS, SANITARY SEWERS AND STREETS.
9. DUST CONTROL MEASURES SHALL BE IMPLEMENTED DURING DEMOLITION.
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12. THE DRAWINGS MAY NOT INDICATE IN DETAIL ALL DEMOLITION WORK TO BE PERFORMED. THE CONTRACTOR SHALL EXAMINE EXISTING CONDITIONS TO DETERMINE THE FULL EXTENT OF DEMOLITION..
13. ALL DEMOLITION SHALL COMPLY WITH CHAPTER 33 OF THE 2022 CALIFORNIA BUILDING CODE AND CHAPTER 33 OF THE 2022 CALIFORNIA FIRE CODE.
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19. CONTRACTOR TO SAWCUT, DEMOLISH, AND REPLACE CONCRETE SIDEWALK TO NEAREST JOINT.

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

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

SCALE 1" = 10'
WHEN PRINTED FULL SIZE
30" X 42"

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
Ahmed Zuwawa
RCE NO. 92099
STATE OF CALIFORNIA
CIVIL

REVISIONS:

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PROJECT NO: 2025-40137
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C1.00

DEMOLITION PLAN - WEST

Kimley»Horn

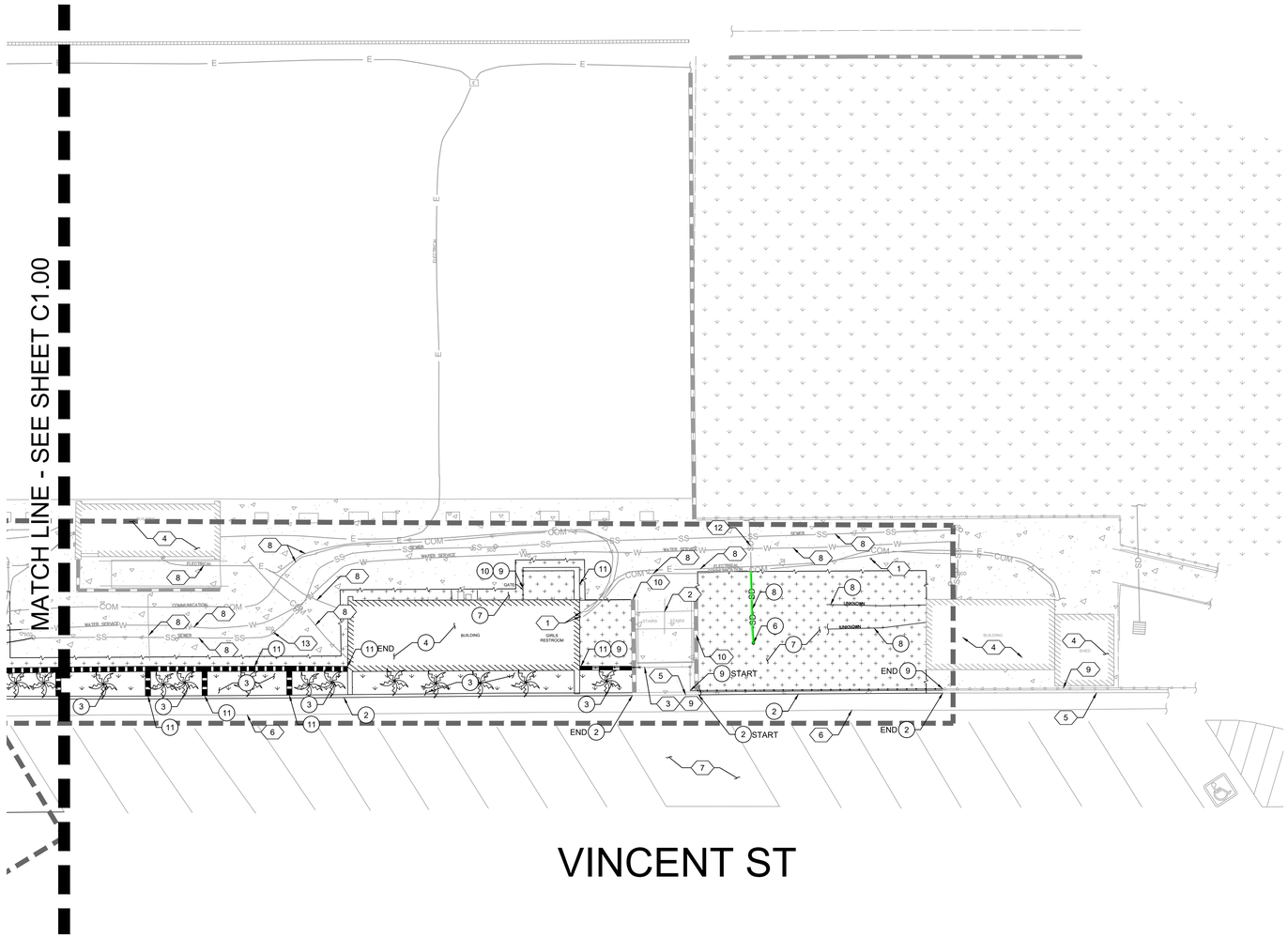
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Geo report was not available during this review for verification

Geo Report was provided, no issues

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REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

Ahmed Zuwawa
RCE NO. 92099
CIVIL
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
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SCALE:

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DEMOLITION PLAN - EAST

Kimley»Horn

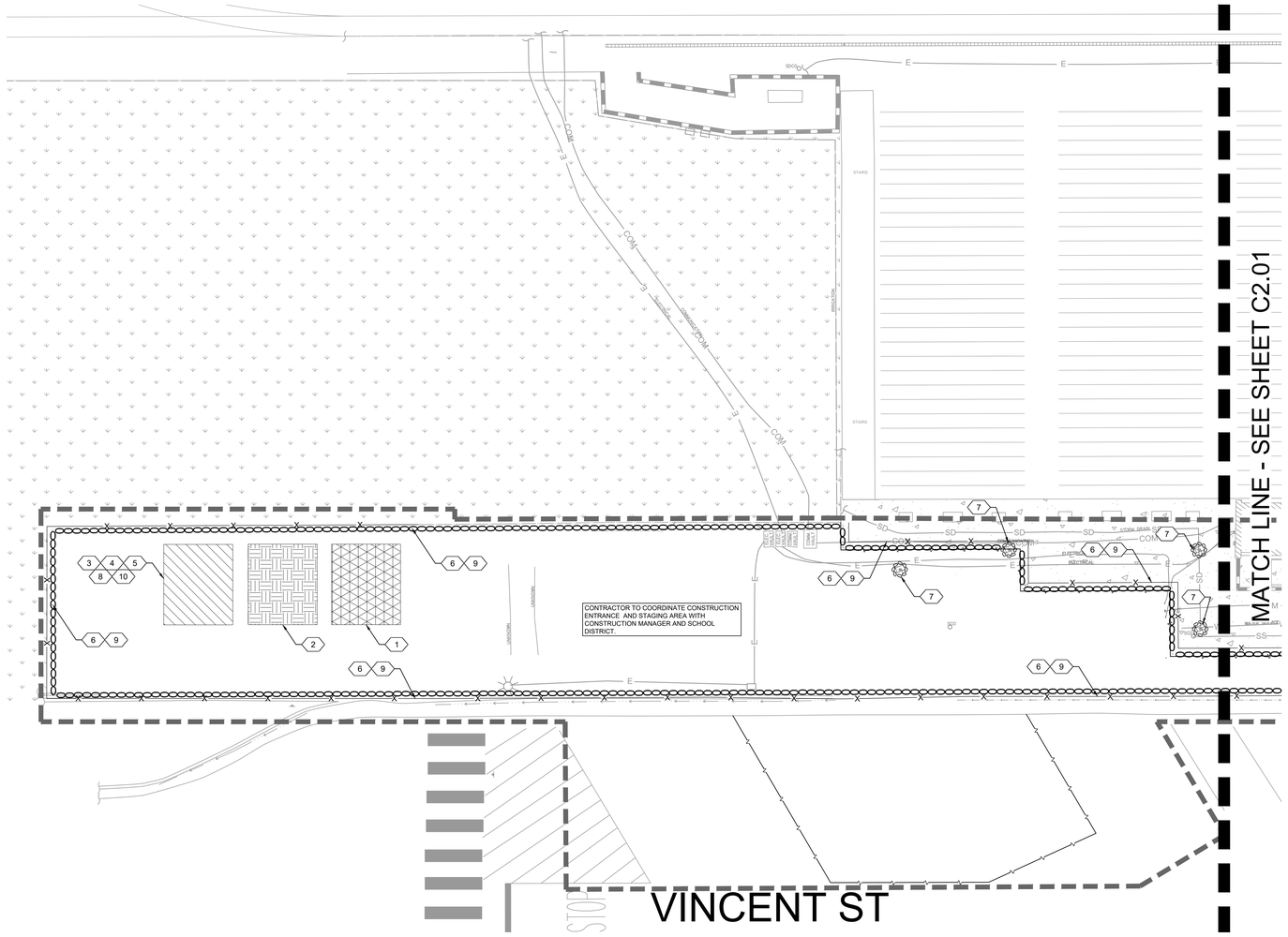
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LEGEND

- CIVIL LIMIT OF WORK LINE
- BIOFILTER BAGS
- INLET PROTECTION
- STOCKPILE AREA
- SANITARY AREA, TRASH STORAGE, HAZARDOUS MATERIAL, CONCRETE MANAGEMENT, VEHICLE MAINTENANCE AND EQUIPMENT STORAGE AREA
- MATERIAL STORAGE AND DELIVERY
- X — TEMPORARY CHAIN LINK FENCE WITH MESH

EROSION CONTROL NOTES

1. WM-1, MATERIAL DELIVERY AND STORAGE.
2. WM-3, STOCKPILE MANAGEMENT, CONTRACTOR TO SET UP STOCKPILE AREA.
3. WM-5, SANITARY AREA.
4. WM-6, HAZARDOUS WASTE MANAGEMENT.
5. WM-8, CONCRETE WASTE MANAGEMENT.
6. INSTALL CONSTRUCTION FENCE WITH MESH.
7. SE-10, STORM DRAIN INLET PROTECTION. REFER TO DETAIL 2, PER SHEET C2.02.
8. SD-32, TRASH STORAGE AREA.
9. SE-14, BIOFILTER BAGS. CONTRACTOR TO MAINTAIN DURING ALL GRADING & MOBILIZATION ACTIVITIES.
10. NS-10, VEHICLE AND EQUIPMENT MAINTENANCE.

GENERAL EROSION CONTROL NOTES

1. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
2. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
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4. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
5. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
6. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR ANY OTHER MEANS.
7. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
8. STORM WATER POLLUTION CONTROL REQUIREMENTS MUST BE INTEGRATED ONTO THE EROSION CONTROL PLANS FOR ANY CONSTRUCTION BETWEEN OCTOBER 1 AND APRIL 15. THE FOLLOWING NOTES AND BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, THE BEST MANAGEMENT PRACTICE HANDBOOK, CALIFORNIA STORM WATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA 1993, OR THE LATEST REVISED EDITION MAY APPLY DURING THE CONSTRUCTION OF PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY CITY INSPECTIONS).
9. TEMPORARY EROSION CONTROL DEVICES SHOWN ON THE PLAN WHICH INTERFERE WITH THE WORK SHALL BE RELOCATED OR MODIFIED AS AND WHEN THE CONTRACTOR AND/OR THE INSPECTOR SO DIRECTS AS THE WORK PROGRESSES.
10. ALL STANDARDS REFERENCED FROM 2009 CASQA CONSTRUCTION BMP BOOK.

MAINTENANCE NOTES

ALL MEASURES STATED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.
3. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXITS AS CONDITIONS DEMAND.
4. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.
6. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.

BMP NOTES

THE FOLLOWING BMPS AS OUTLINED IN, BUT NOT LIMITED TO, THE CALIFORNIA STORMWATER BMP HANDBOOK DATED NOVEMBER 2009, OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED AS NEEDED:

EC-1, SCHEDULING
EC-2, PRESERVATION OF EXISTING VEGETATION
EC-3, HYDRAULIC MULCH
WE-1, WIND EROSION CONTROL
NS-1, WATER CONSERVATION PRACTICES
NS-3, PAVING AND GRINDING OPERATIONS
NS-7, POTABLE WATER/IRRIGATION
NS-12, CONCRETE CURING
NS-13, CONCRETE FINISHING
WM-4, SPILL PREVENTION AND CONTROL
WM-5, SOLID WASTE MANAGEMENT
WM-7, CONTAMINATED SOIL MANAGEMENT
WM-9, SANITARY/SEPTIC WASTE MANAGEMENT
WM-10, LIQUID WASTE MANAGEMENT
SE-7, STREET SWEEPING AND VACUUMING

CONTRACTOR RESPONSIBLE FOR TRAFFIC CONTROL AND PEDESTRIAN CONTROL WHILE PERFORMING WORK IN THE PUBLIC RIGHT-OF-WAY.

SITE PREPARATION SHOULD BE IN ACCORDANCE WITH GEOTECHNICAL INVESTIGATION

CONTRACTOR TO USE BEST MANAGEMENT PRACTICES TO ENSURE COMPLIANCE WITH NPDES AND WATER MANAGEMENT DISTRICT REGULATIONS FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES AND DEWATERING OPERATIONS.

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

SEQUENCE OF CONSTRUCTION

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAYDOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS.

PHASE 1:
1. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE (1) AND CHAIN LINK FENCE WITH GREEN SCREEN AND THEN STRAW WATTLE WHERE SHOWN ON PLAN.
2. INSTALL INLET PROTECTION AT EXISTING INLET(S).
3. PREPARE CLEARING AND GRUBBING OF THE SITE, IF APPLICABLE.

PHASE 2:
4. PERFORM MASS GRADING. ROUGH GRADE TO ESTABLISH PROPOSED DRAINAGE PATTERNS.
5. START CONSTRUCTION OF THE BUILDING PAD AND STRUCTURES.
6. TEMPORARILY SEED WITH PURE LIVE SEED, THROUGHOUT CONSTRUCTION, DISTURBED AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE OR AS REQUIRED BY GENERIC PERMIT.

CONTRACTOR TO COORDINATE CONSTRUCTION ENTRANCE AND STAGING AREA WITH CONSTRUCTION MANAGER AND SCHOOL DISTRICT.

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

SCALE 1" = 10'
WHEN PRINTED FULL SIZE
30" X 42"

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

CERTIFICATION PROFESSIONAL ENGINEER
Ahmed Zuwawa
RCE NO. 92099
STATE OF CALIFORNIA
CIVIL

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/12/2026
SCALE:

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EROSION CONTROL PLAN - WEST

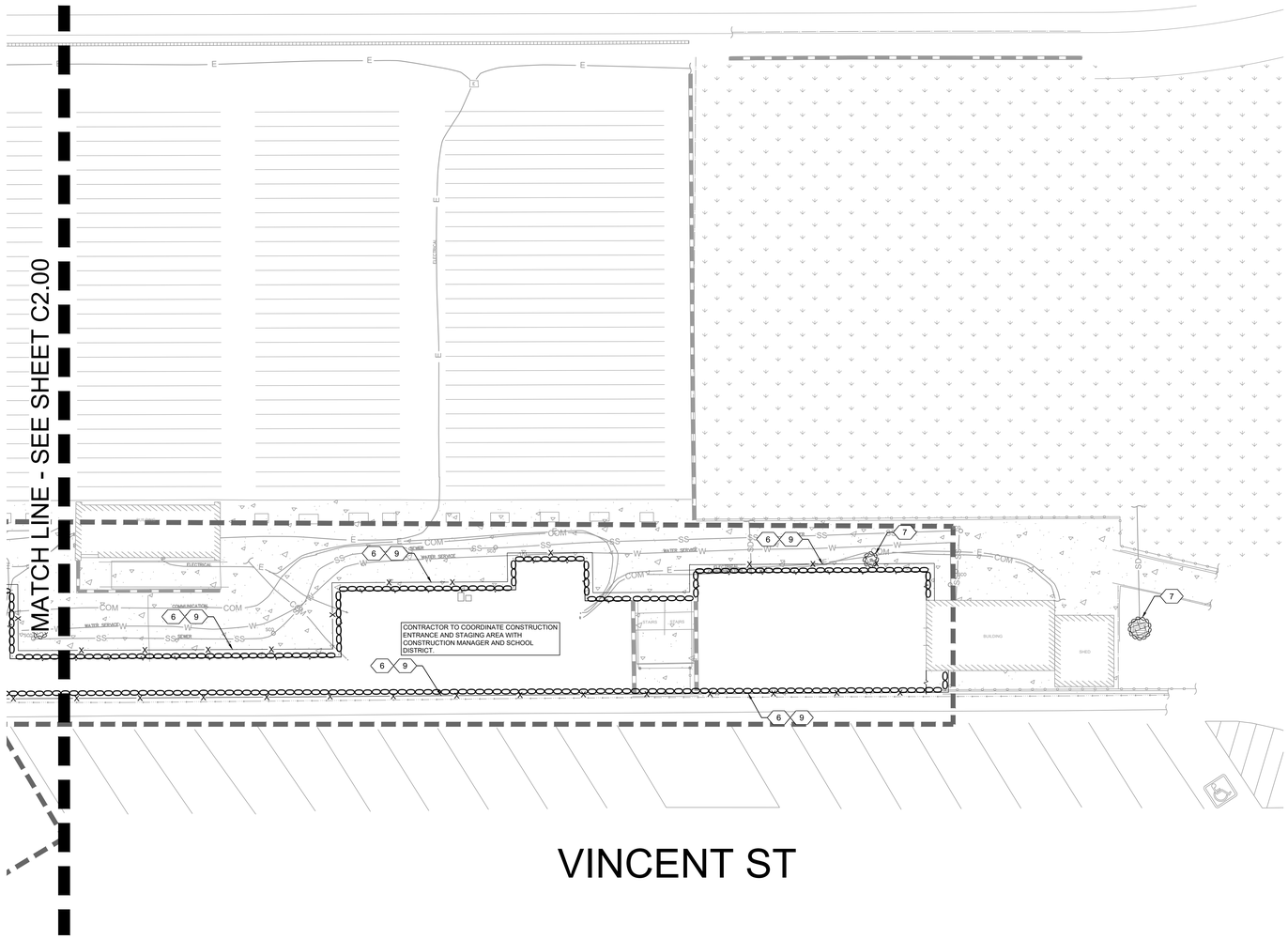
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LEGEND

- CIVIL LIMIT OF WORK LINE
- BIOFILTER BAGS
- INLET PROTECTION
- STOCKPILE AREA
- SANITARY AREA, TRASH STORAGE, HAZARDOUS MATERIAL, CONCRETE MANAGEMENT, VEHICLE MAINTENANCE AND EQUIPMENT STORAGE AREA
- MATERIAL STORAGE AND DELIVERY
- TEMPORARY CHAIN LINK FENCE WITH MESH

EROSION CONTROL NOTES

1. WM-1, MATERIAL DELIVERY AND STORAGE.
2. WM-3, STOCKPILE MANAGEMENT, CONTRACTOR TO SET UP STOCKPILE AREA.
3. WM-5, SANITARY AREA.
4. WM-6, HAZARDOUS WASTE MANAGEMENT.
5. WM-8, CONCRETE WASTE MANAGEMENT.
6. INSTALL CONSTRUCTION FENCE WITH MESH.
7. SE-10, STORM DRAIN INLET PROTECTION. REFER TO DETAIL 2, PER SHEET C2.02.
8. SD-32, TRASH STORAGE AREA.
9. SE-14, BIOFILTER BAGS. CONTRACTOR TO MAINTAIN DURING ALL GRADING & MOBILIZATION ACTIVITIES.
10. NS-10, VEHICLE AND EQUIPMENT MAINTENANCE.

GENERAL EROSION CONTROL NOTES

1. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
2. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
3. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND MUST NOT CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
4. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
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NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

SCALE 1" = 10'
WHEN PRINTED FULL SIZE
30" X 42"

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

Ahmed Zuwawie
RCE NO. 92099
CIVIL
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER

REVISIONS:

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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/12/2026
SCALE:

C2.01

EROSION CONTROL PLAN - EAST

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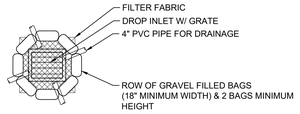
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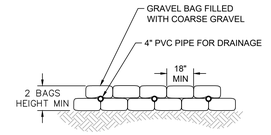
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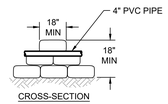


SECTION

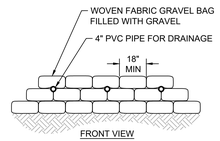
NOTES:

1. GRAVEL BAG MATERIAL: POLYPROPYLENE, POLYETHYLENE OR POLYMIDE WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%
2. GRAVEL BAG SHALL BE FILLED WITH 3/4" ROCK OR 1/4" PEA GRAVEL.
3. PLACE SEVERAL LAYERS OF SAND BAGS (12" MINIMUM HIGH) OVERLAPPING THE BAGS AND PACKING THEM TIGHTLY TOGETHER.
4. LEAVE GAP OF ONE BAG ON THE TOP ROW TO SERVE AS A SPILLWAY.
5. PLACE WIRE MESH OVER AND 1' (MINIMUM) BEYOND THE INLET STRUCTURE.
6. PLACE FILTER FABRIC OVER WIRE MESH. FILTER FABRIC SHALL BE MANUFACTURED FROM UV RESISTANT POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE FABRIC WITH AN EQUIVALENT OPENING SIZE NOT GREATER THAN 20 SIEVE AND WITH A MINIMUM FLOW RATE OF 40 GALLONS/MINUTE/SQ. FT.
7. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT.

DROP INLET SEDIMENT BARRIER
N.T.S. 2



CROSS-SECTION



FRONT VIEW

SEDIMENT CONTROL BAGS
N.T.S. 1

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

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277





REVISIONS:

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EROSION CONTROL DETAILS

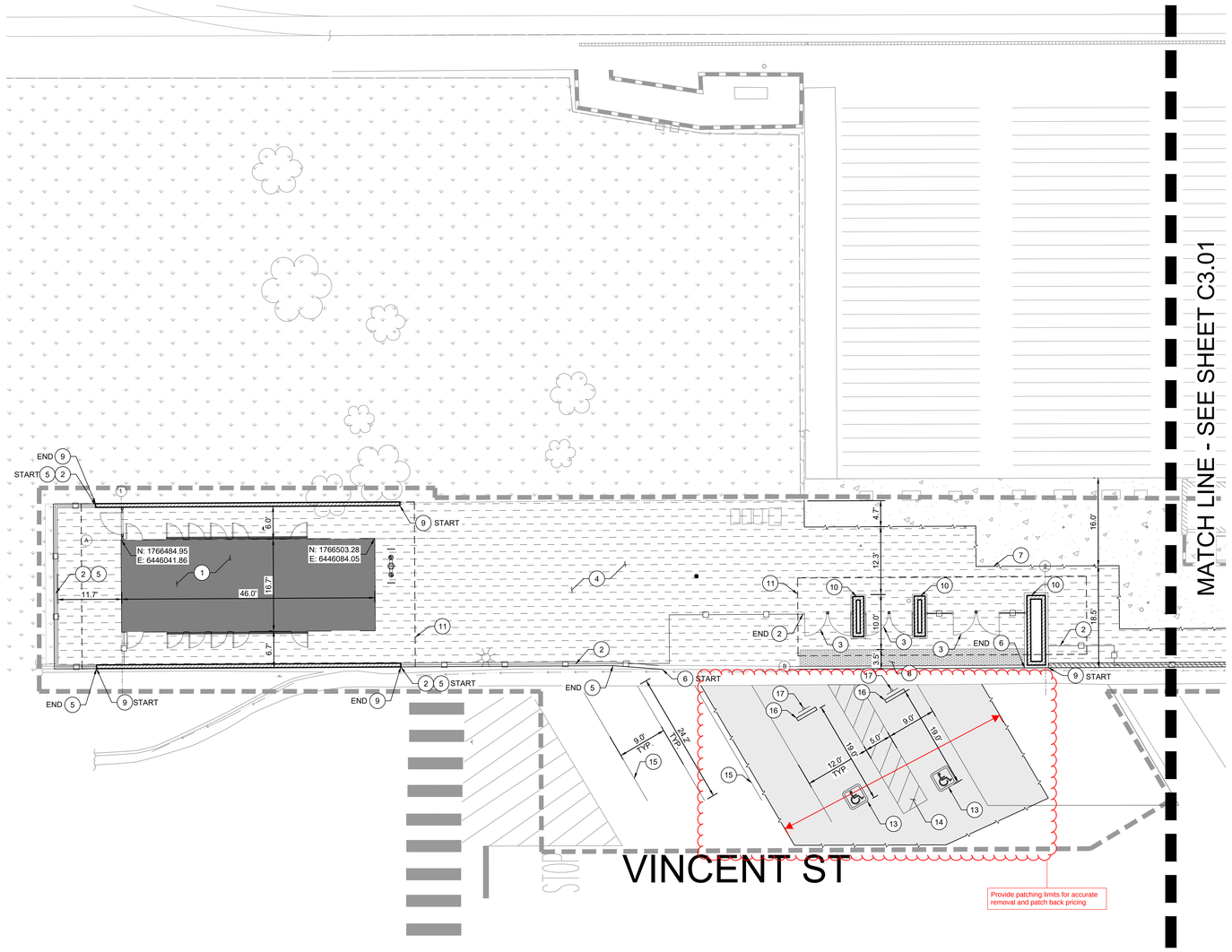
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LEGEND

- CIVIL LIMIT OF WORK LINE
- ACCESSIBLE ROUTE (LOCATION PURPOSES ONLY, DO NOT PAINT)
- LIMITS OF SAWCUT
- PROPOSED OVERHANG
- PROPOSED LANDSCAPE PER LANDSCAPE PLANS
- PROPOSED HEAVY DUTY CONCRETE PAVEMENT
- PROPOSED BUILDING
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT

SITE PLAN NOTES

1. PROPOSED BUILDING PER ARCHITECTURAL PLAN
2. PROPOSED FENCE PER ARCHITECTURAL PLAN
3. PROPOSED GATE PER ARCHITECTURAL PLAN
4. PROPOSED STANDARD DUTY CONCRETE PAVEMENT PER DETAIL 1, SHEET C6.00
5. PROPOSED 6" CONCRETE CURB PER DETAIL 3, SHEET C6.00
6. PROPOSED 0" CONCRETE CURB PER DETAIL 4, SHEET C6.00
7. PROPOSED SAWCUT LINE
8. PROPOSED TRUNCATED DOMES PER DETAIL 2, SHEET C6.00
9. PROPOSED RETAINING WALL PER STRUCTURAL PLANS
10. PROPOSED COLUMN PER ARCHITECTURAL AND STRUCTURAL PLANS
11. PROPOSED OVERHANG PER ARCHITECTURAL PLAN
12. PROPOSED RETAINING CURB PER STRUCTURAL PLANS
13. PROPOSED ACCESSIBLE PARKING STALL, DIMENSIONS PER PLAN
14. PROPOSED 45° STRIPING, SPACED AT 36" O.C. PER DETAIL 7, SHEET C6.00
15. PROPOSED STANDARD PARKING STALL, DIMENSIONS PER PLAN
16. PROPOSED WHEEL STOP PER ARCHITECTURAL PLANS
17. PROPOSED ACCESSIBLE PARKING SIGN POST PER ARCHITECTURAL PLANS

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

SCALE 1" = 10'
WHEN PRINTED FULL SIZE
30" X 42"

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Ahmed Zuwawa — RCE NO. 92099 — STATE OF CALIFORNIA — CIVIL — REGISTERED PROFESSIONAL ENGINEER

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HORIZONTAL CONTROL PLAN - WEST

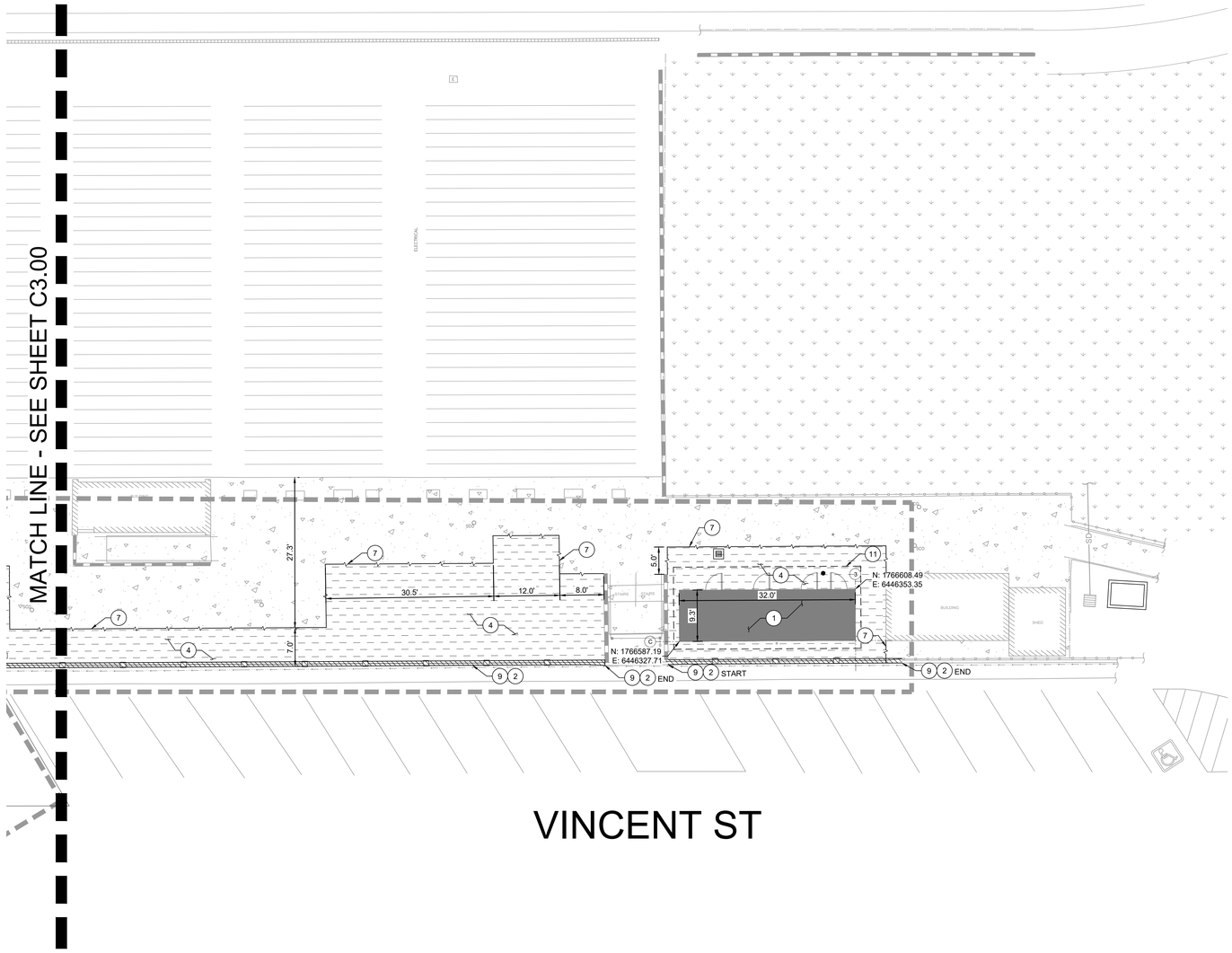
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LEGEND

- CIVIL LIMIT OF WORK LINE
- ACCESSIBLE ROUTE (LOCATION PURPOSES ONLY, DO NOT PAINT)
- LIMITS OF SAWCUT
- PROPOSED OVERHANG
- PROPOSED LANDSCAPE PER LANDSCAPE PLANS
- PROPOSED HEAVY DUTY CONCRETE PAVEMENT
- PROPOSED BUILDING
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT

SITE PLAN NOTES

1. PROPOSED BUILDING PER ARCHITECTURAL PLAN
2. PROPOSED FENCE PER ARCHITECTURAL PLAN
3. PROPOSED GATE PER ARCHITECTURAL PLAN
4. PROPOSED STANDARD DUTY CONCRETE PAVEMENT PER DETAIL 1, SHEET C6.00
5. PROPOSED 6" CONCRETE CURB PER DETAIL 3, SHEET C6.00
6. PROPOSED 0" CONCRETE CURB PER DETAIL 4, SHEET C6.00
7. PROPOSED SAWCUT LINE
8. PROPOSED TRUNCATED DOMES PER DETAIL 2, SHEET C6.00
9. PROPOSED RETAINING WALL PER STRUCTURAL PLANS
10. PROPOSED COLUMN PER ARCHITECTURAL AND STRUCTURAL PLANS
11. PROPOSED OVERHANG PER ARCHITECTURAL PLAN
12. PROPOSED RETAINING CURB PER STRUCTURAL PLANS
13. PROPOSED ACCESSIBLE PARKING STALL, DIMENSIONS PER PLAN
14. PROPOSED 45° STRIPING, SPACED AT 36" O.C. PER DETAIL 7, SHEET C6.00
15. PROPOSED STANDARD PARKING STALL, DIMENSIONS PER PLAN
16. PROPOSED WHEEL STOP PER ARCHITECTURAL PLANS
17. PROPOSED ACCESSIBLE PARKING SIGN POST PER ARCHITECTURAL PLANS

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

SCALE 1" = 10'
WHEN PRINTED FULL SIZE
30" X 42"

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REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

Ahmed Zuwawa
RCE NO. 92099
CIVIL
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER

REVISIONS:

	DESCRIPTION	DATE
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ISSUANCE: A#03-126194
DATE ISSUED: 06/12/2026
SCALE:

C3.01

HORIZONTAL CONTROL PLAN - EAST

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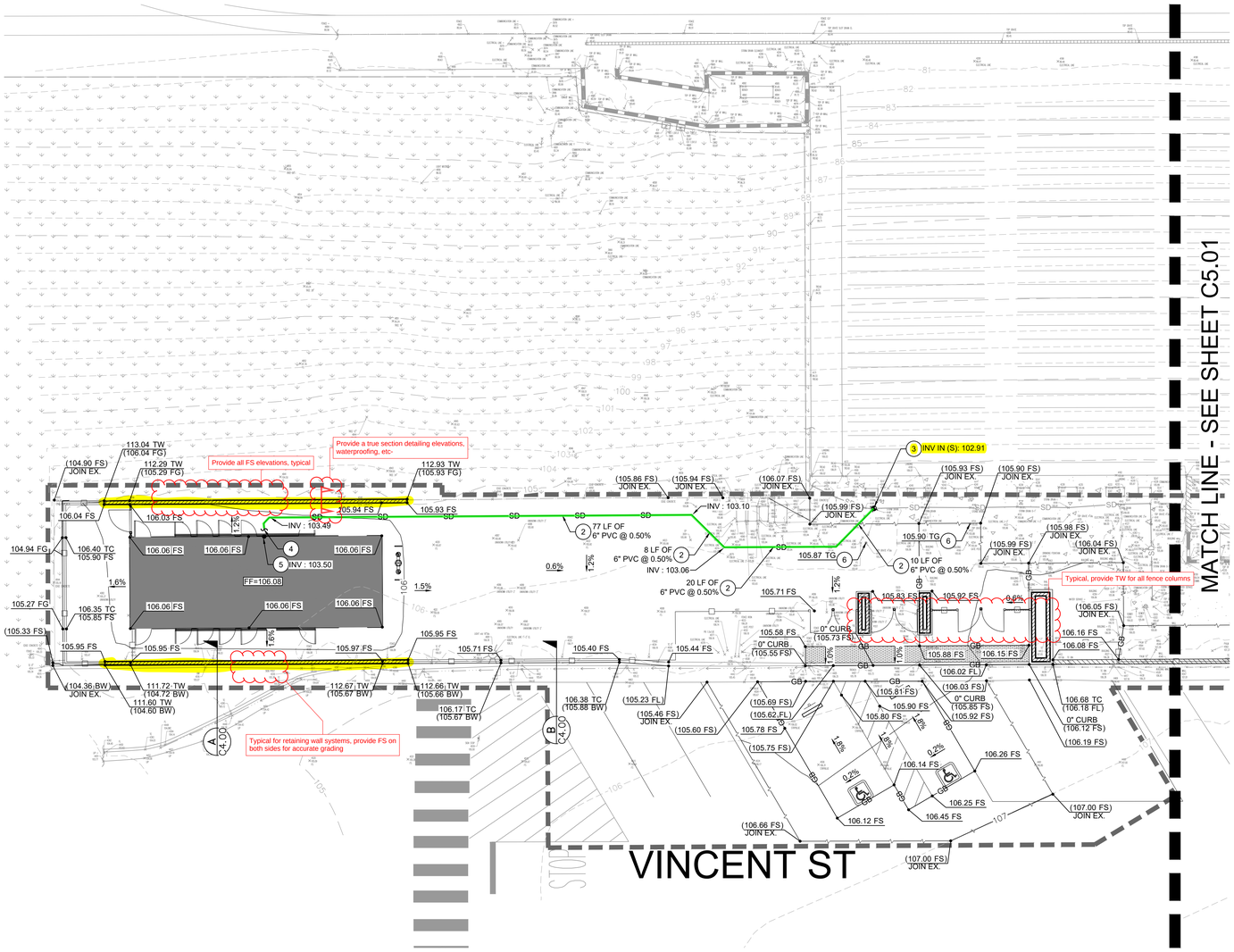
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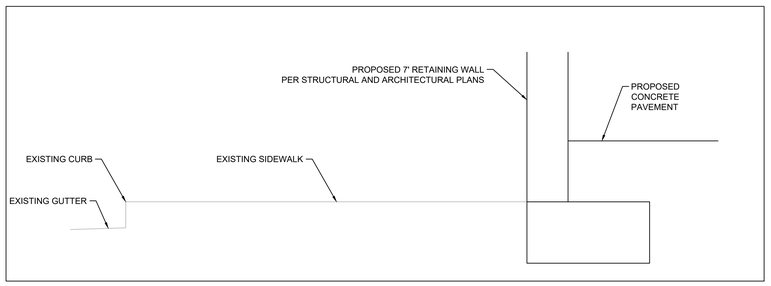
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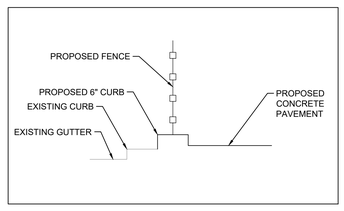
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CROSS SECTION A



CROSS SECTION B

LEGEND

	CIVIL LIMIT OF WORK LINE
84	CONTOURS
84	EXISTING CONTOURS
R	RIDGE LINE
GB	GRADE BREAK
SD	STORM DRAIN LINE
	FLOW LINE
	SAWCUT
FFE	FINISH FLOOR ELEVATION
FG	FINISHED GRADE
FL	FLOWLINE
LIP	LIP OF GUTTER
TC	TOP OF CURB
TG	TOP OF GRATE
FS	FINISH SURFACE
(83.50 TC) (83.00 FS)	EXISTING GRADE
83.50 TC 83.00 FS	GRADE
X.X%	DIRECTION OF SLOPE

DRAINAGE NOTES

1. PROPOSED 12" X 12" CATCH BASIN PER DETAIL 6, SHEET C6.00. INSTALL FLOGARD FILTER INSERT, OR SIMILAR.
2. PROPOSED STORM DRAIN PIPE; SIZE PER PLAN. INSTALL SDR35 FOR PIPE SIZE <8" AND HDPE DUAL WALL FOR PIPE SIZE >12". PIPE BEDDING AND TRENCHING PER DETAIL 5, SHEET C6.00
3. PROPOSED CONNECTION TO EXISTING STORM DRAIN LINE. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF LINE PRIOR TO THE START OF CONSTRUCTION. NOTIFY CIVIL ENGINEER OF ANY DISCREPANCIES
4. BUILDING POINT OF CONNECTION. REFER TO PLUMBING PLANS FOR CONTINUATION.
5. PROPOSED ROOF DRAIN LOCATION. SEE PLUMBING PLANS FOR CONTINUATION
6. EXISTING AREA DRAIN. TOP OF GRATE TO BE ADJUSTED TO GRADE.
7. PROPOSED MODULAR WETLAND SYSTEM
8. CONNECT TO EXISTING CATCH BASIN

GENERAL NOTE

CONTRACTOR SHALL CONSTRUCT GRAVITY UTILITIES (STORM DRAIN) BEFORE OTHER UTILITIES. CONSTRUCTION OF THESE GRAVITY UTILITIES TO START FROM THE DOWNSTREAM ENDS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

ESTIMATED EARTHWORK QUANTITIES

CUT: 100 CY

FILL: 25 CY

NET: 75 CY (CUT)

NOTE: THE EARTHWORK QUANTITIES ABOVE ARE FOR PERMIT PURPOSES ONLY. THE CONTRACTOR IS NOT AUTHORIZED TO USE THE ESTIMATES HEREIN FOR BIDDING AND CONSTRUCTION PURPOSES WITHOUT THE EXPLICIT WRITTEN PERMISSION OF THE ENGINEER OF RECORD. NO REPRESENTATIONS OF SUCH QUANTITIES OR A BALANCED SITE CONDITION ARE MADE BY THE ENGINEER OF RECORD.

UNLESS EXPLICITLY STATED OTHERWISE HEREIN, THE ABOVE QUANTITIES ARE APPROXIMATE, IN PLACE VOLUMES CALCULATED FROM THE EXISTING GROUND TO THE PROPOSED FINISHED GRADE. EXISTING GROUND IS DEFINED BY THE CONTOURS AND SPOT GRADES ON THE BASE SURVEY. PROPOSED FINISHED GRADE IS DEFINED AS THE FINAL GRADE AS INDICATED ON THE GRADING PLAN(S) AS FINISHED GROUND, FINISHED SURFACE, AND FINISHED FLOOR ELEVATIONS.

UNLESS EXPLICITLY STATED OTHERWISE HEREIN, THE ABOVE GRADING QUANTITIES HAVE NOT BEEN FACTORED TO ACCOUNT FOR CHANGES IN VOLUME DUE TO BULKING, CLEARING AND GRUBBING, SHRINKAGE, SUBSIDENCE, OVER-EXCAVATION AND RE-COMPACTION, AND CONSTRUCTION METHODS. NOR DO THEY ACCOUNT FOR THE THICKNESS OF PAVEMENT SECTIONS, STORMWATER QUALITY MEDIA SECTIONS, UTILITY PIPES, TRENCHING AND BEDDING MATERIALS, BUILDING OR WALL FOOTINGS, BUILDING SLAB THICKNESSES AND UNDERLYING BASE OR SAND LAYERS, REUSE OF PULVERIZED MATERIALS THAT WILL UNDERLIE NEW PAVEMENTS, ETC.

ANY OVEREXCAVATION AND RECOMPACTION DEPTHS AND VOLUMES, SHRINKAGE FACTORS, PAVEMENT SECTIONS, BUILDING PAD SECTIONS, AND BULKING FACTORS ARE BASED ON A SEPARATE GEOTECHNICAL REPORT. ANY BUILDING SLAB THICKNESSES ARE BASED ON THE SEPARATE BUILDING STRUCTURAL ENGINEERING PLANS. ANY UTILITY, STORMWATER MITIGATION, AND FOOTING SPOILS ARE BASED ON ESTIMATES PROVIDED BY THE OWNER OR CONTRACTOR.

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

SCALE 1" = 10'
WHEN PRINTED FULL SIZE
30" X 42"

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REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
Ahmed Zuwawa
RCE NO. 92095
STATE OF CALIFORNIA
CIVIL

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO: 2025-40137
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SCALE:

C4.00

GRADING AND DRAINAGE - WEST

Kimley»Horn

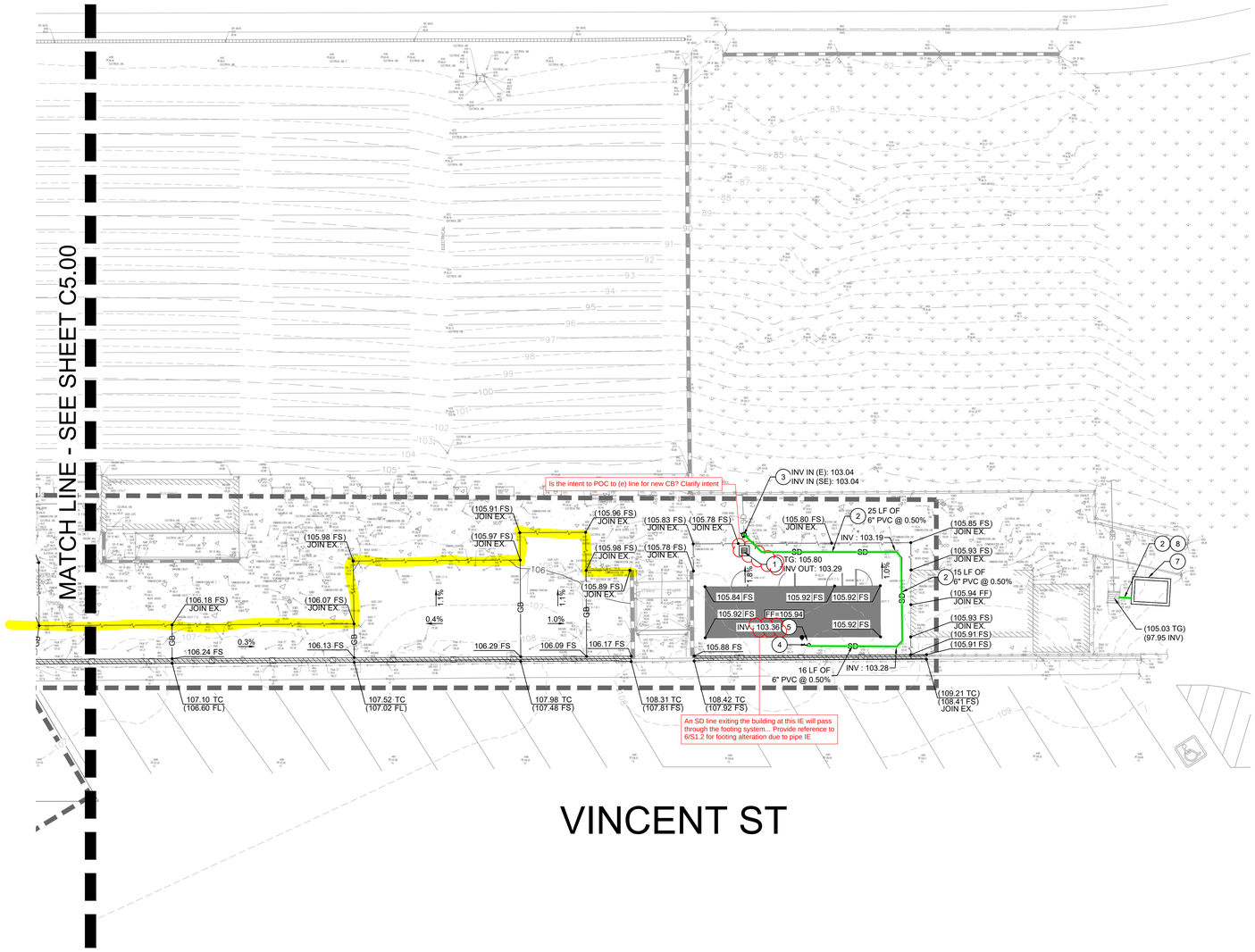
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	FLOW LINE
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FS	FINISH SURFACE
(83.50 TC) (83.00 FS)	EXISTING GRADE
83.50 TC 83.00 FS	GRADE
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4. BUILDING POINT OF CONNECTION. REFER TO PLUMBING PLANS FOR CONTINUATION.
5. PROPOSED ROOF DRAIN LOCATION. SEE PLUMBING PLANS FOR CONTINUATION
6. EXISTING AREA DRAIN. TOP OF GRATE TO BE ADJUSTED TO GRADE.
7. PROPOSED MODULAR WETLAND SYSTEM — Where is the information on this system? elevations? sections? Provide reference
8. CONNECT TO EXISTING CATCH BASIN

GENERAL NOTE

CONTRACTOR SHALL CONSTRUCT GRAVITY UTILITIES (STORM DRAIN) BEFORE OTHER UTILITIES. CONSTRUCTION OF THESE GRAVITY UTILITIES TO START FROM THE DOWNSTREAM ENDS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

NORTH

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REGISTERED PROFESSIONAL ENGINEER
Ahmed Zuwawa
RCE NO. 92269
STATE OF CALIFORNIA
CIVIL

REVISIONS:

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GRADING AND DRAINAGE - WEST

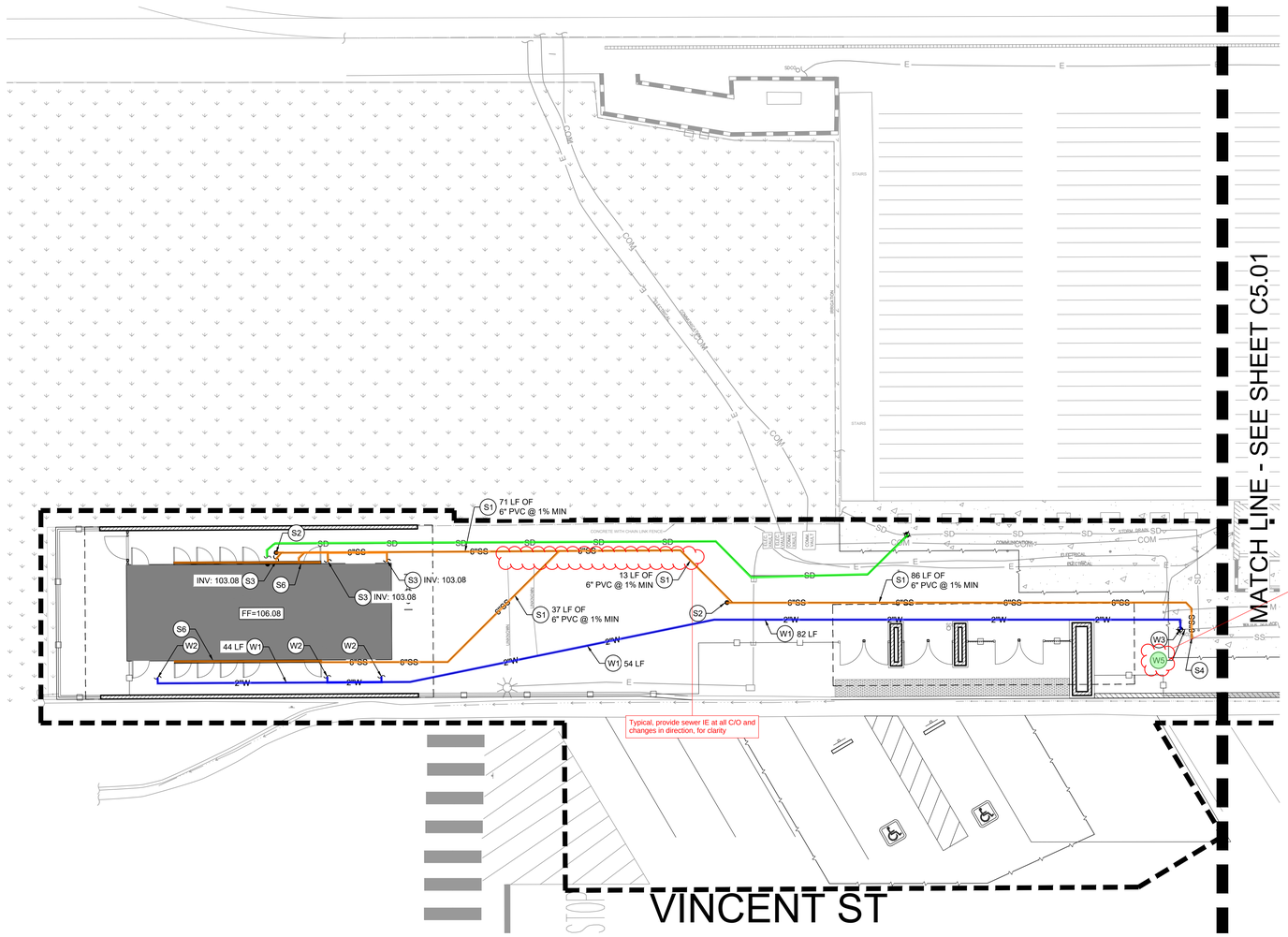
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LEGEND

- CIVIL LIMIT OF WORK LINE
- PROPOSED LANDSCAPE PER LANDSCAPE PLANS
- PROPOSED BUILDING
- SS — PROPOSED SANITARY SEWER
- SD — PROPOSED STORM DRAIN
- W — PROPOSED DOMESTIC WATER

DOMESTIC WATER

- W1 INSTALL DOMESTIC WATER PIPE. SIZE PER PLAN. TRENCH AND BEDDING PER DETAIL DETAIL 5, SHEET C6.00.
- W2 BUILDING POINT OF CONNECTION (5-FT FROM BUILDING FACE). REFER TO PLUMBING PLANS FOR CONTINUATION
- W3 CONNECT TO EXISTING WATER LATERAL. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF LINE PRIOR TO THE START OF CONSTRUCTION. NOTIFY CIVIL ENGINEER OF ANY DISCREPANCIES
- W4 EXISTING WATER LINE. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF LINE PRIOR TO THE START OF CONSTRUCTION. NOTIFY CIVIL ENGINEER OF ANY DISCREPANCIES

W5 is not listed in the note legend.. Provide correct references for clarity

SANITARY SEWER

- S1 INSTALL SDR-35 PVC SEWER LINE. SIZE PER PLAN. TRENCH AND BEDDING PER DETAIL 5, SHEET C6.00.
- S2 INSTALL SEWER CLEANOUT PER DETAIL 8, SHEET C6.00.
- S3 BUILDING POINT OF CONNECTION (5-FT FROM BUILDING FACE). REFER TO PLUMBING PLANS FOR CONTINUATION.
- S4 CONNECT TO EXISTING SEWER LINE. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF LINE PRIOR TO THE START OF CONSTRUCTION. NOTIFY CIVIL ENGINEER OF ANY DISCREPANCIES
- S5 EXISTING SEWER LINE. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF LINE PRIOR TO THE START OF CONSTRUCTION. NOTIFY CIVIL ENGINEER OF ANY DISCREPANCIES
- S6 INSTALL TRENCH DRAIN PER ARCHITECHTURAL AND PLUMBING PLANS. CONNECT TO PROPOSED SANITARY SEWER SYSTEM

EXISTING UTILITY NOTE

THE EXISTING UTILITIES SHOWN ON THE PLAN ARE BASED ON AVAILABLE RECORDS. THE CONTRACTOR MUST FIELD DETERMINE THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. REPORT DISCREPANCIES AND POTENTIAL CONFLICTS WITH PROPOSED UTILITIES TO ENGINEER PRIOR TO INSTALLATION OF ANY PIPING.

GENERAL NOTE

CONTRACTOR SHALL CONSTRUCT GRAVITY UTILITIES (STORM DRAIN AND SEWER) BEFORE OTHER UTILITIES. CONSTRUCTION OF THESE GRAVITY UTILITIES TO START FROM THE DOWNSTREAM ENDS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

NORTH

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REGISTERED PROFESSIONAL ENGINEER
Ahmed Zuwawa
RCE NO. 92093
CIVIL
STATE OF CALIFORNIA

REVISIONS:

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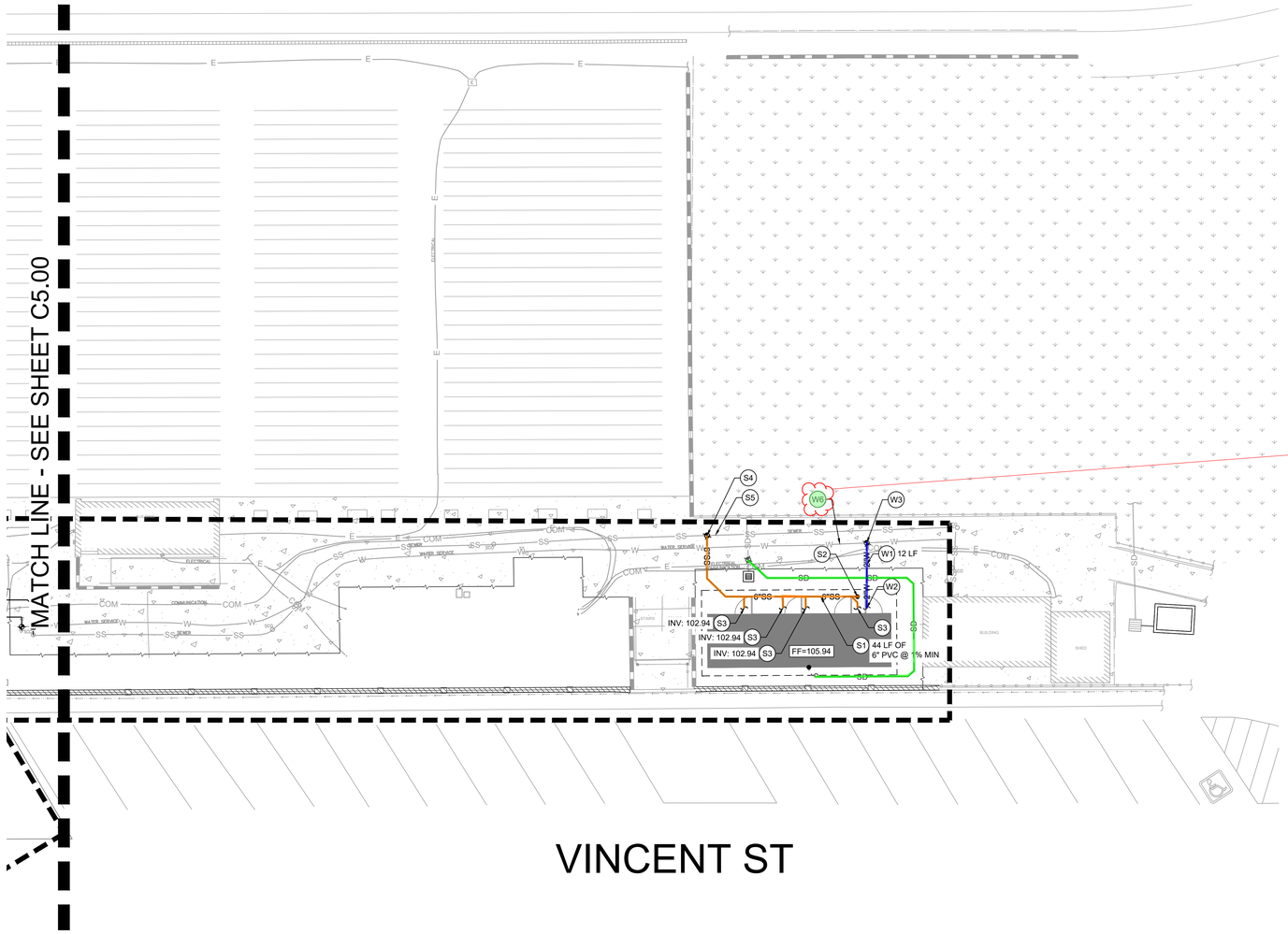
UTILITY PLAN - WEST

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DOMESTIC WATER

(W1) INSTALL DOMESTIC WATER PIPE. SIZE PER PLAN. TRENCH AND BEDDING PER DETAIL DETAIL 5, SHEET C6.00.

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(W3) CONNECT TO EXISTING WATER LATERAL. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF LINE PRIOR TO THE START OF CONSTRUCTION. NOTIFY CIVIL ENGINEER OF ANY DISCREPANCIES

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SANITARY SEWER

(S1) INSTALL SDR-35 PVC SEWER LINE. SIZE PER PLAN. TRENCH AND BEDDING PER DETAIL 5, SHEET C6.00.

(S2) INSTALL SEWER CLEANOUT PER DETAIL 8, SHEET C6.00.

(S3) BUILDING POINT OF CONNECTION (5-FT FROM BUILDING FACE). REFER TO PLUMBING PLANS FOR CONTINUATION.

(S4) CONNECT TO EXISTING SEWER LINE. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF LINE PRIOR TO THE START OF CONSTRUCTION. NOTIFY CIVIL ENGINEER OF ANY DISCREPANCIES

(S5) EXISTING SEWER LINE. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF LINE PRIOR TO THE START OF CONSTRUCTION. NOTIFY CIVIL ENGINEER OF ANY DISCREPANCIES

(S6) INSTALL TRENCH DRAIN PER ARCHITECTURAL AND PLUMBING PLANS. CONNECT TO PROPOSED SANITARY SEWER SYSTEM

EXISTING UTILITY NOTE

THE EXISTING UTILITIES SHOWN ON THE PLAN ARE BASED ON AVAILABLE RECORDS. THE CONTRACTOR MUST FIELD DETERMINE THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. REPORT DISCREPANCIES AND POTENTIAL CONFLICTS WITH PROPOSED UTILITIES TO ENGINEER PRIOR TO INSTALLATION OF ANY PIPING.

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UTILITY PLAN - EAST

Kimley»Horn

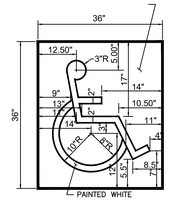
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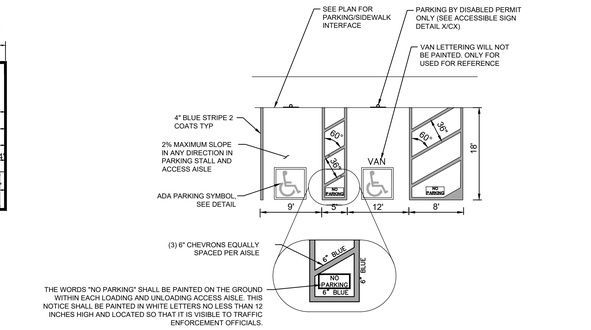
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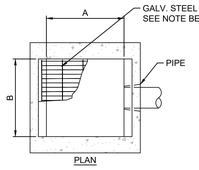
Provide all details for the modular wetlands system



ADA LOGO STRIPING DETAIL
LOCATED AT EDGE OF PARKING SPACE
(PER CBC SECTION 11206.4)

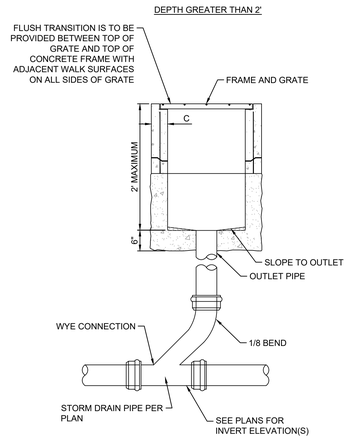


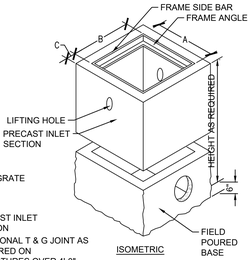
ACCESSIBLE PARKING STRIPING
N.T.S. 7

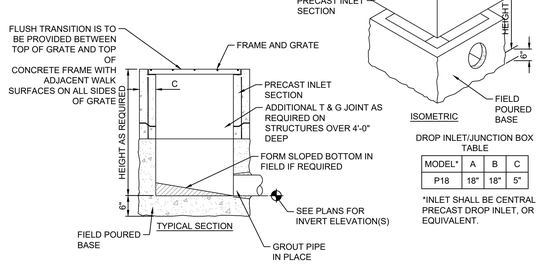


PLAN

DEPTH GREATER THAN 2'







DROP INLET/JUNCTION BOX TABLE

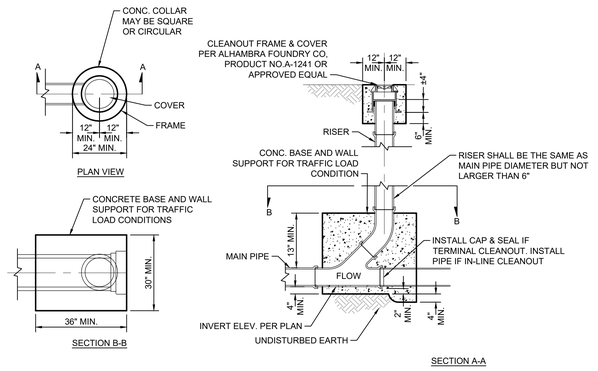
MODEL*	A	B	C
P18	18"	18"	5"

*INLET SHALL BE CENTRAL PRECAST DROP INLET, OR EQUIVALENT.

NOTE:
FRAMES AND GRATES WITHIN DRIVE AISLES SHALL BE HEAVY DESIGNED FOR H20 HIGHWAY LOADING. FOR ALL CATCH BASINS, GRATE TO BE ADA COMPLIANT WITH ½" MAX OPENINGS IN ALL DIRECTIONS.

CATCH BASIN
N.T.S. 6

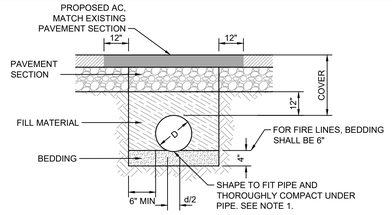
PLAN VIEW



SECTION B-B

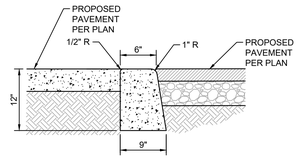
SECTION A-A

CLEANOUT
N.T.S. 8



NOTES	
BEDDING:	CLEAN COARSE SAND WITH SAND EQUIVALENT VALUE NOT LESS THAN 30
FILL MATERIAL:	GEOTECH APPROVED MATERIAL - MAXIMUM SIZE NOT TO EXCEED 1 1/2"
COVER:	36" MINIMUM
NOTE 1:	EXCAVATE FOR BELLS OR HUBS SO FULL LOAD IS CARRIED BY PIPE BARRELS.
NOTE 2:	REFER TO GEOTECHNICAL REPORT FOR BEDDING RECOMMENDATIONS
NOTE 3:	PAVEMENT PATCH WORK SHALL COMPLY WITH 11B-302.1 AND 11B-303 FOR ALL PAVEMENT PATCH WORK IN PEDESTRIAN TRAVEL WAYS

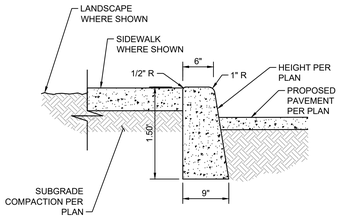
PIPE TRENCHING AND BEDDING DETAIL
N.T.S. 5



NOTES:
1. CONCRETE SHALL BE 3500 PSI.
2. ISOLATION JOINTS SHALL BE PLACED ONLY AS SPECIFIED
3. CONTRACTION JOINTS CONSISTING OF 1" DEEP SCORES SHALL BE PLACED AT 15' INTERVALS O.C.
4. WHERE A WALK IS ADJACENT TO THE CURB THE JOINTS SHALL ALIGN WITH JOINTS IN THE WALK.

Specs note 3500 psi for all vehicular pavement, and 3000 psi for all other areas... Clarify intent

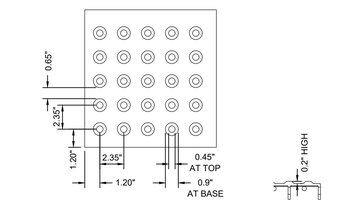
0" CONCRETE CURB
N.T.S. 4



NOTES:
1. CONCRETE SHALL BE 3500 PSI.
2. ISOLATION JOINTS SHALL BE PLACED ONLY AS SPECIFIED
3. CONTRACTION JOINTS CONSISTING OF 1" DEEP SCORES SHALL BE PLACED AT 15' INTERVALS O.C.
4. WHERE A WALK IS ADJACENT TO THE CURB THE JOINTS SHALL ALIGN WITH JOINTS IN THE WALK.

Specs note 3500 psi for all vehicular pavement, and 3000 psi for all other areas... Clarify intent

CONCRETE CURB
N.T.S. 3

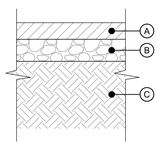


TRUNCATED DOME PLAN

TRUNCATED DOME SECTION

NOTES:
1. CONTRACTOR TO REFERENCE MANUFACTURERS GUIDELINES FOR INSTALLATION OF TRUNCATED DOMES.
2. COLOR TO BE YELLOW UNLESS NOTED OTHERWISE

TRUNCATED DOMES
N.T.S. 2



NOTES:
1. CONTRACTOR SHALL CONFIRM THESE PAVEMENT SECTIONS WITH THE GEOTECHNICAL REPORT BY KOURY ENGINEERING & TESTING, INC, DATED MAY 4, 2026
2. MATCH EXISTING PAVEMENT SECTION IF MORE STRINGENT THAN SECTION PER THIS DETAIL.
3. CONTRACTOR TO PROVIDE R-VALUE OF COMPACTED SUBGRADE TO ENGINEER PRIOR TO PAVEMENT OPERATIONS, IN ORDER TO MAKE ANY NECESSARY ADJUSTMENTS TO THE PAVEMENT SECTION.
4. ALL TREAD SURFACES SHALL BE SLIP-RESISTANT.
5. REFER TO LANDSCAPE PLANS FOR COLOR, TEXTURE, PATTERN AND FINISH.

(A) C2-PG64-10 ASPHALTIC PAVEMENT OR 3,500 PSI STANDARD DUTY TYPE 1 PORTLAND CEMENT CONCRETE.

(B) CLASS II CRUSHED AGGREGATE BASE COMPACTED TO 95% MAXIMUM DRY DENSITY BASED ON ASTM D1557-12 TEST METHOD OR CLASS 2 AGGREGATE BASE COMPACTED TO 95% OF THE MATERIAL'S ASTM D1557 MAXIMUM DRY DENSITY.

(C) SUBGRADE SCARIFIED AND RECOMPACTED TO 95% MAXIMUM DRY DENSITY BASED ON ASTM D1557 TEST METHOD FOR PROPOSED CONCRETE.

	STANDARD DUTY CONCRETE
(A)	0'-4"
(B)	0'-4"
(C)	1'-0"

PAVEMENT SECTIONS
N.T.S. 1

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

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REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277





REVISIONS:

DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/12/2026
SCALE:

C6.00

CIVIL DETAILS

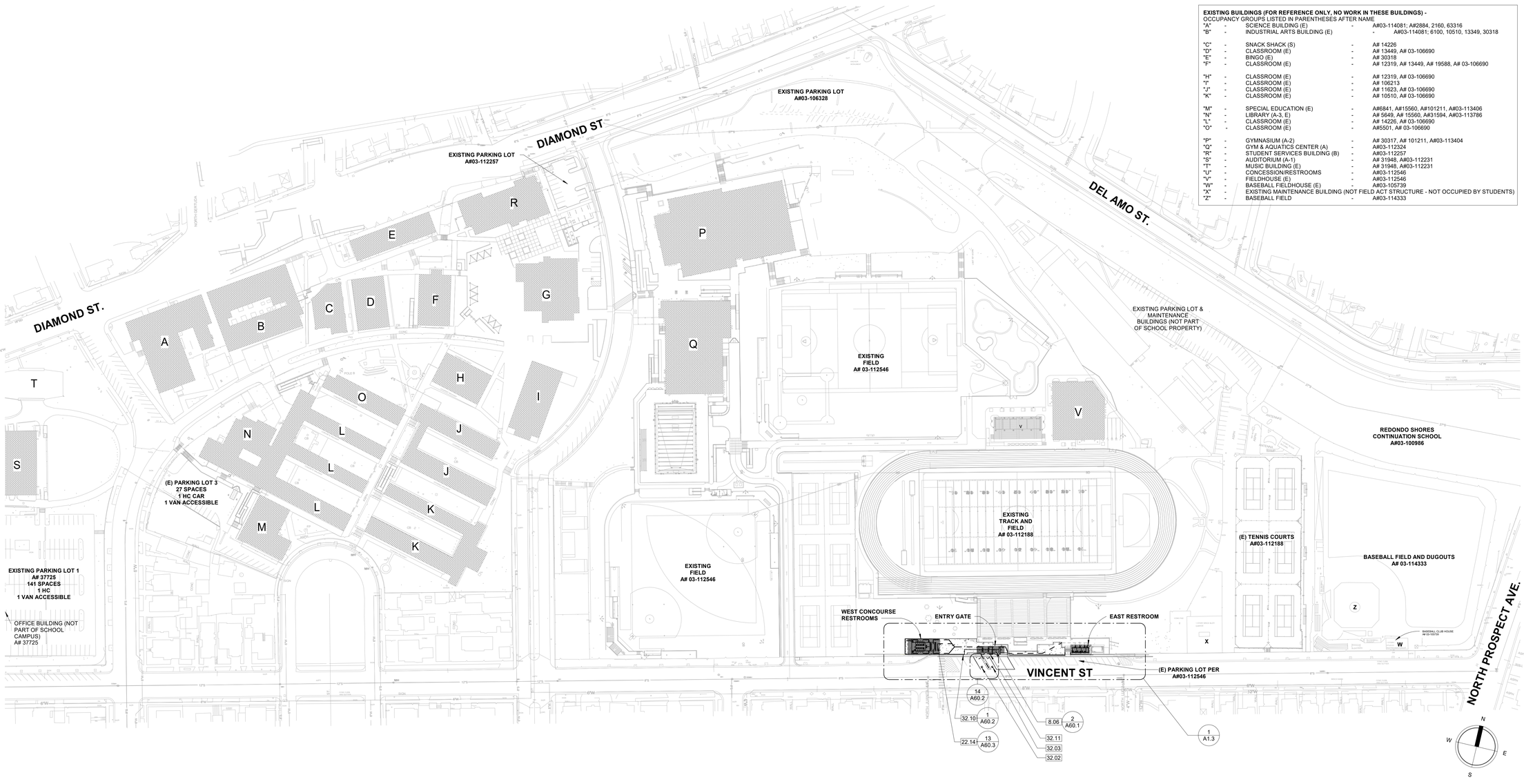
Kimley»Horn

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ORANGE, CA 92868
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WWW.KIMLEY-HORN.COM

SVA ARCHITECTS

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T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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CAMPUS SITE PLAN | 1" = 80'-0" | 1

KEYNOTES

8.06	ACCESSIBLE DOUBLE LEAF ORNAMENTAL GATE WITH PANIC HARDWARE
22.14	ACCESSIBLE HI/LO DRINKING FOUNTAINS WITH BOTTLE FILLER
32.02	VAN ACCESSIBLE PARKING STALL
32.03	ACCESSIBLE PARKING STALL
32.10	ACCESSIBLE PARKING TOW AWAY SIGNAGE, SEE SPECIFICATIONS
32.11	ACCESSIBLE PATH OF TRAVEL TO PUBLIC RIGHT OF WAY

SITE PLAN LEGEND - DSA

(E) ACCESSIBLE PATH OF TRAVEL PER A#03-112546

PATH OF TRAVEL
PATH OF TRAVEL (P.O.T) AS INDICATED MEETS THE FOLLOWING REQUIREMENTS:
1. IS A BARRIER-FREE ACCESSIBLE ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" BEVELED AT A SLOPE NOT STEEPER THAN 1:2 EXCEPT THAT LEVEL CHANGES ARE 1/4" MAX VERTICAL & IS AT LEAST 48" WIDE.
2. SURFACE SHALL BE STABLE, FIRM AND SLIP RESISTANT.
3. CROSS-SLOPE SHALL NOT BE STEEPER THAN 1:48 AND RUNNING SLOPE SHALL NOT BE STEEPER THAN 1:20 UNLESS OTHERWISE INDICATED (SEC 11B-403.3)
4. P.O.T. SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (SECTION 11B-307.4) AND PROTRUDING OBJECTS GREATER THAN 4"
PROJECTION FROM WALL SURFACE BETWEEN 27" AND 80" ABOVE FINISH FLOOR
OR GROUND (SECTION 11B-307.2)
5. PROVIDE FLUSH TRANSITIONS AT ANY ADJOINING JOINTS BETWEEN DIFFERENT WALK SURFACES IN P.O.T.

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:
THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IN COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR **PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS.** AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECTS WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED UPON THE VALUATION THRESHOLD OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

PROPERTY LINE

LIMITS OF WORK FOR THIS PROJECT

NEW BUILDING

(E) BUILDING TO REMAIN (N.I.C.)

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT ROBERT M. SIMONS No. C-18301 JAN. 31, 2027 Renewal Date STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

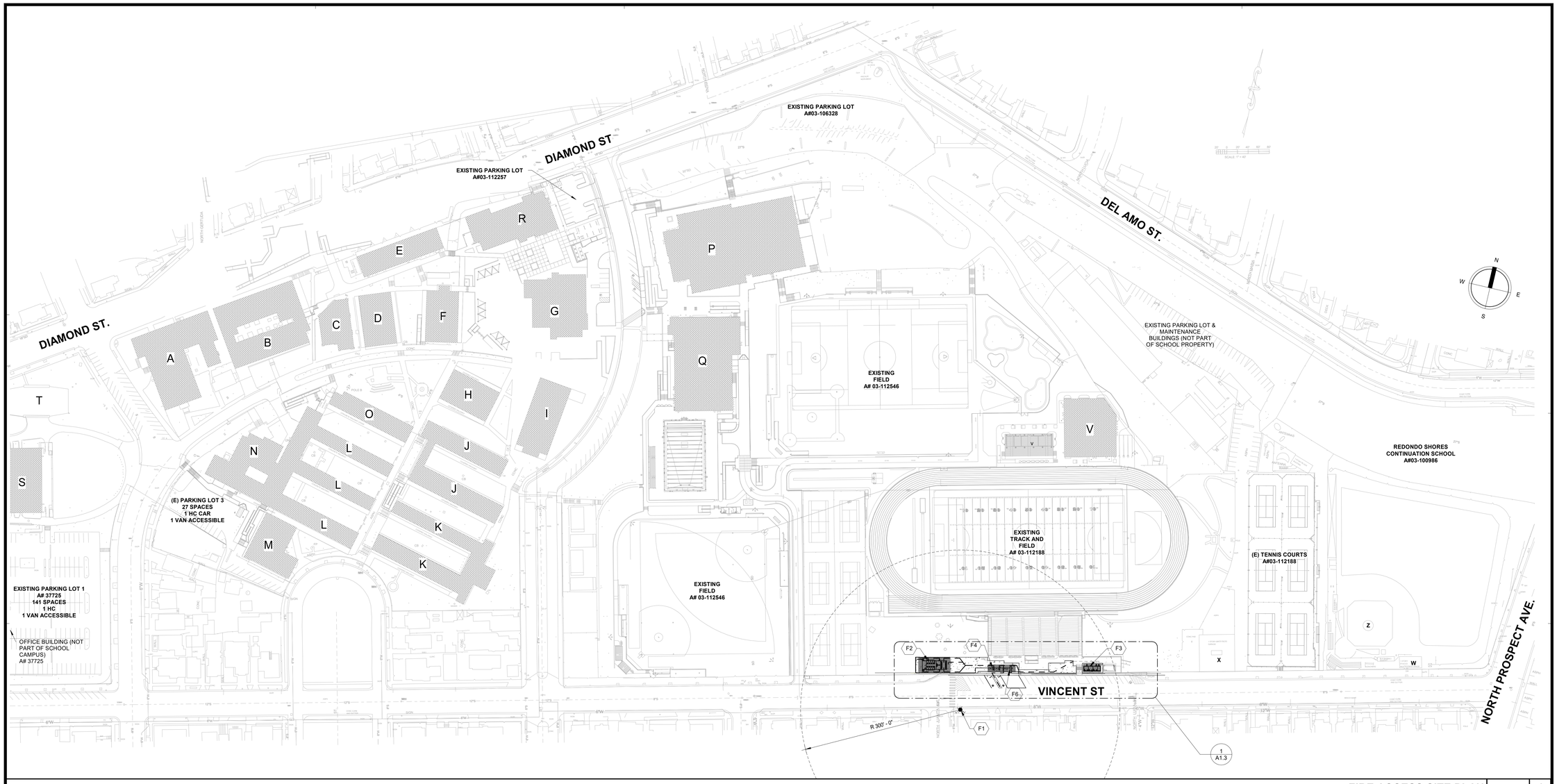
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

A1.1

CAMPUS SITE PLAN

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FIRE ACCESS SITE PLAN

1" = 80'-0"

1

DSA 810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety Information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy *PL 09-01: Fire Flow for Buildings*.

PROJECT INFORMATION	
School District/Owner:	REDONDO BEACH UNIFIED SCHOOL DISTRICT
Project Name/School:	REDONDO UNION HIGH SCHOOL
Project Address:	1 SEA HAWK WAY, REDONDO BEACH, CA 90277

FIRE & LIFE SAFETY INFORMATION				
1.	Has a fire hydrant flow test been performed within the past 12 months? *(If yes, provide a copy of the test data.)*	Yes ☑		No ☐
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes ☑		No ☐
3.	Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? *(If yes, indicate FHSZ classification below.)*	Yes ☐		No ☑
	Refer to the following website for FHSZ locations: Fire Hazard Severity Zones in State Responsibility Area	Moderate ☐	High ☐	Very High ☐
	Wildland Interface Area (WIFA) *(If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)*			WIFA ☐

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED			
		Yes	No	N/A	N/R
4.	Emergency vehicle access roadways do not meet CFC requirements.			✓	
4a.	**Acceptable Alternate:** Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property.				
5.	**Fire Hydrants:** Number and spacing does not meet CFC requirements.			✓	
5a.	**Acceptable Alternate:** Number of fire hydrants and spacing as proposed by the project architect is acceptable for fire suppression and protection of life and property.				
6.	**Fire Hydrants:** Water flow and pressure are less than CFC minimum.			✓	
6a.	**Acceptable Alternate:** The available flow and pressure is acceptable for providing fire suppression and protection of life and property.				
7.	Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements.			✓	
7a.	**Acceptable Alternate:** The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.				

School District Acceptance of Acceptable Design Alternates

By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements, as indicated by one or more of the conditions indicated at items 4a, 5a, 6a or 7a, for providing fire and life safety protection of life and property.

Accepted by: _____ Title: _____

Signature: _____ Date: _____

LOCAL FIRE AUTHORITY (LFA) INFORMATION	
LFA Agency Name:	
LFA Review Official:	
Title:	Work Phone:
Work Email:	

LFA Reviewer's Signature: _____ Date: _____

Section BB105 *Fire-Flow Requirements for Buildings*

BB105.1

The minimum fire flow and flow duration for school buildings shall be as specified in Table BB105.1.

Exception: *A reduction in required fire flow of up to 75 percent is allowed when the building is provided with an approved automatic sprinkler system. When a reduction in fire flow is used, fire flow shall not be less than 1500 GPM.*

TABLE BB105.1

MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS

FIRE AREA (square feet)					*FIRE-FLOW (gallons per minute)b*	*FLOW DURATION (hours)*
Type IA and IB a	*Type IIA and IIIA a*	*Type IV and V-A a*	*Type IIB and IIIB a*	*Type V-B a*		
0-22,700	*0-12,700*	*0-8,200*	*0-5,900*	*0-3,600*	*1,500*	*2*
22,701-30,200	*12,701-17,000*	*8,201-10,900*	*5,901-7,900*	*3,601-4,800*	*1,750*	
30,201-38,700	*17,001-21,800*	*10,901-12,900*	*7,901-9,800*	*4,801-6,200*	*2,000*	
38,701-48,300	*21,801-24,200*	*12,901-17,400*	*9,801-12,600*	*6,201-7,700*	*2,250*	
48,301-59,000	*24,201-33,200*	*17,401-21,300*	*12,601-15,400*	*7,701-9,400*	*2,500*	
59,001-70,900	*33,201-39,700*	*21,301-25,500*	*15,401-18,400*	*9,401-11,300*	*2,750*	

CODE ANALYSIS

ALLOWABLE AREA CALCULATION

BLDG	OCC.	CONST. TYPE	SPRINKLER DESIG.	ALLOWABLE AREA PER TABLE 506.2 (Aa)	ACTUAL AREA (A)
EAST RESTROOM	A5	V-B	NS	UL	300 SF
EXISTING CONCESSION STAND	A5	V-B	NS	UL	265 SF
SUB TOTAL:					565 SF
GROSS TOTAL (WITH EXTERIOR CANOPY AREA):					922 SF

WEST RR	A5	V-B	NS	UL	775 SF
SUB TOTAL:					775 SF
GROSS TOTAL (WITH EXTERIOR CANOPY AREA):					1818 SF

A5 OCCUPANCIES.

TYPE VB, NON-SPRINKLERED. 1 STORY. MAX. 13'-0" ABOVE GRADE PLANE.

1 STORY ALLOWED, 40' HEIGHT ALLOWED, AREA ALLOWED PER TABLE ABOVE.

Aa - ALLOWABLE AREA CALCULATED PER 506.2
At - TABULAR AREA PER CBC TABLE 506.2
If - FRONTAGE INCREASE PER CBC SECTION 506.3.3 - SEE CALCULATION BELOW
Sa - MULTIPLE STORY INCREASE PER CBC 506.2.3

NON-SEPARATED OCCUPANCY:
ALLOWABLE AREA: UL> ACTUAL AREA: 1818 SF & 922 SF

FRONTAGE INCREASE - NOT USED

FIRE-RESISTIVE REQUIREMENTS

PER CBC TABLE 601

ELEMENT	RATING	NOTES
BEARING WALLS - EXTERIOR	-	
BEARING WALLS - INTERIOR	-	
NON-BEARING WALLS - EXTERIOR	-	
STRUCTURAL FRAME	-	
NON-BEARING WALLS - INTERIOR	-	
ROOF/CEILING ASSEMBLIES	-	
ROOFING	CLASS B	

F1 EXISTING FIRE HYDRANT
F2 NEW WEST CONCOURSE RESTROOMS BUILDING
F3 NEW EAST RESTROOMS BUILDING
F5 NEW ENTRY GATE
F6 PROVIDE KNOX BOX AT GATE

FIRE ACCESS SITE PLAN LEGEND

(E) FIRE HYDRANT
PATH OF EGRESS
EXISTING BUILDING

FIRE ACCESS SITE PLAN

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

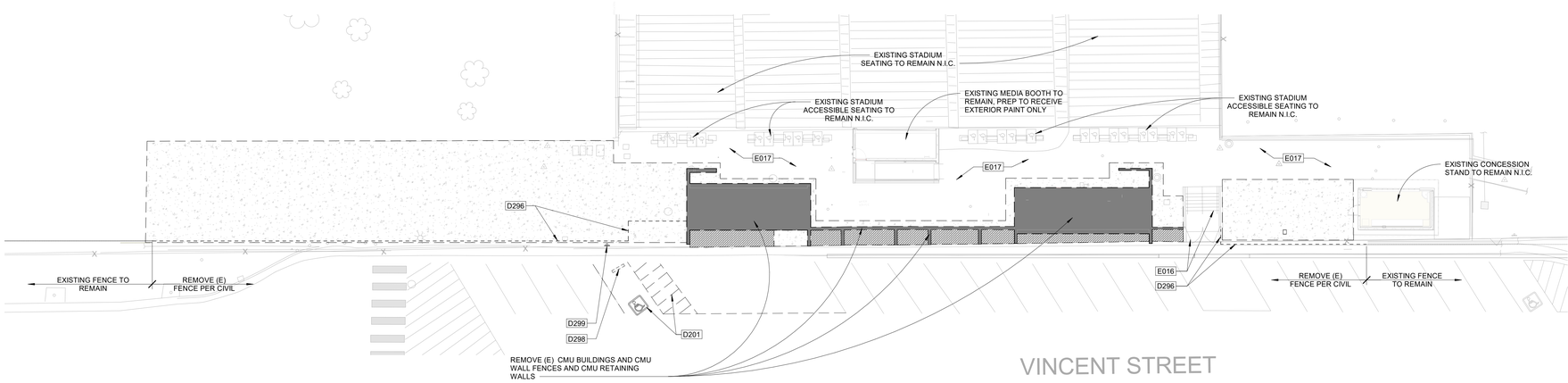
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

A1.2

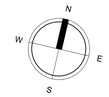
FIRE ACCESS SITE PLAN & CODE ANALYSIS

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NOTE:
REFER TO CIVIL FOR ADDITIONAL INFORMATION.



ENLARGED SITE PLAN - DEMOLITION | 1/16" = 1'-0" | 2

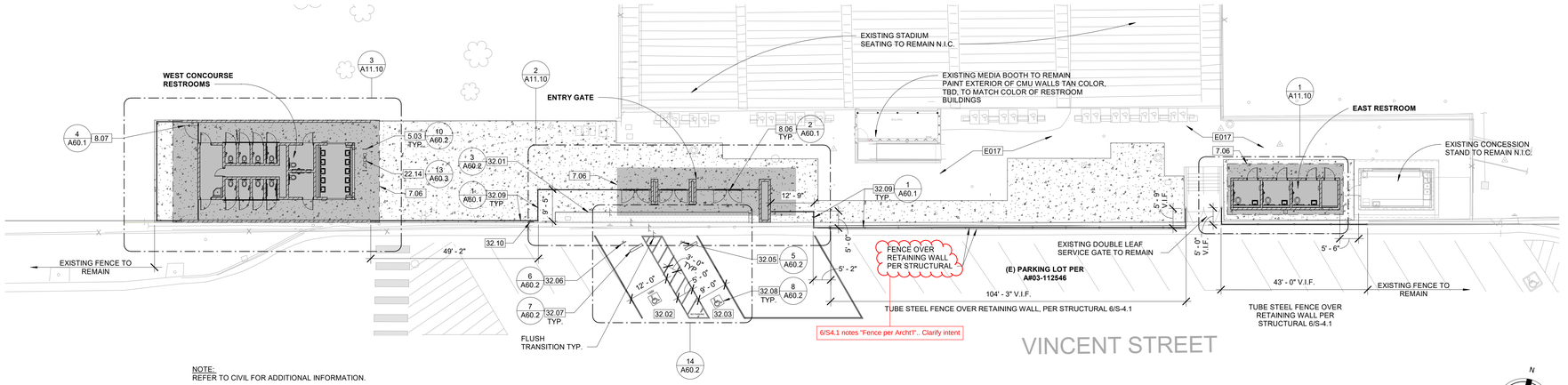
5.03	STEEL GAURDRAIL AT DRINKING FOUNTAINS
7.06	ROOF ABOVE.
8.06	ACCESSIBLE DOUBLE LEAF ORNAMENTAL GATE WITH PANIC HARDWARE
8.07	SINGLE LEAF ORNAMENTAL SERVICE GATE
22.14	ACCESSIBLE HI/LO DRINKING FOUNTAINS WITH BOTTLE FILLER
32.01	TRUNCATED WARNING DOMES
32.02	VAN ACCESSIBLE PARKING STALL
32.03	ACCESSIBLE PARKING STALL
32.05	ACCESSIBLE PARKING SIGNAGE
32.06	VAN ACCESSIBLE PARKING SIGNAGE
32.07	CONCRETE WHEEL STOP
32.08	ISA PARKING PAVEMENT SYMBOL
32.09	EXTERIOR TUBE STEEL PICKET FENCE
32.10	ACCESSIBLE PARKING TOW AWAY SIGNAGE, SEE SPECIFICATIONS
D201	REMOVE (E) PARKING STRIPING
D296	REMOVE (E) ORNAMENTAL FENCE.
D298	REMOVE (E) WHEEL STOP.
D299	REMOVE (E) SIGN AND SIGN POST.
E016	EXISTING SECONDAY ENTRY GATE & STAIRS TO REMAIN
E017	EXISITNG CONCRETE PAVEMENT TO REMAIN

SITE DEMOITION LEGEND

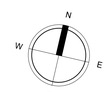
REMOVE (E) CONCRETE PAVEMENT

REMOVE (E) BUILDINGS AND FREE STANDING AND RETAINIG CMU WALLS

REMOVE (E) LANDSCAPE; CAP/RELOCATE (E) IRRIGATION SYSTEM AS REQUIRED FOR NEW CONSTRUCTION



NOTE:
REFER TO CIVIL FOR ADDITIONAL INFORMATION.



ENLARGED SITE PLAN - PROPOSED | 1/16" = 1'-0" | 1

CONCRETE PAVEMENT, REFER TO CIVIL

NEW BUILDINGS

TRUNCATED DOMES PER DETAIL 3/A60.1

SITE PROPOSED LEGEND

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

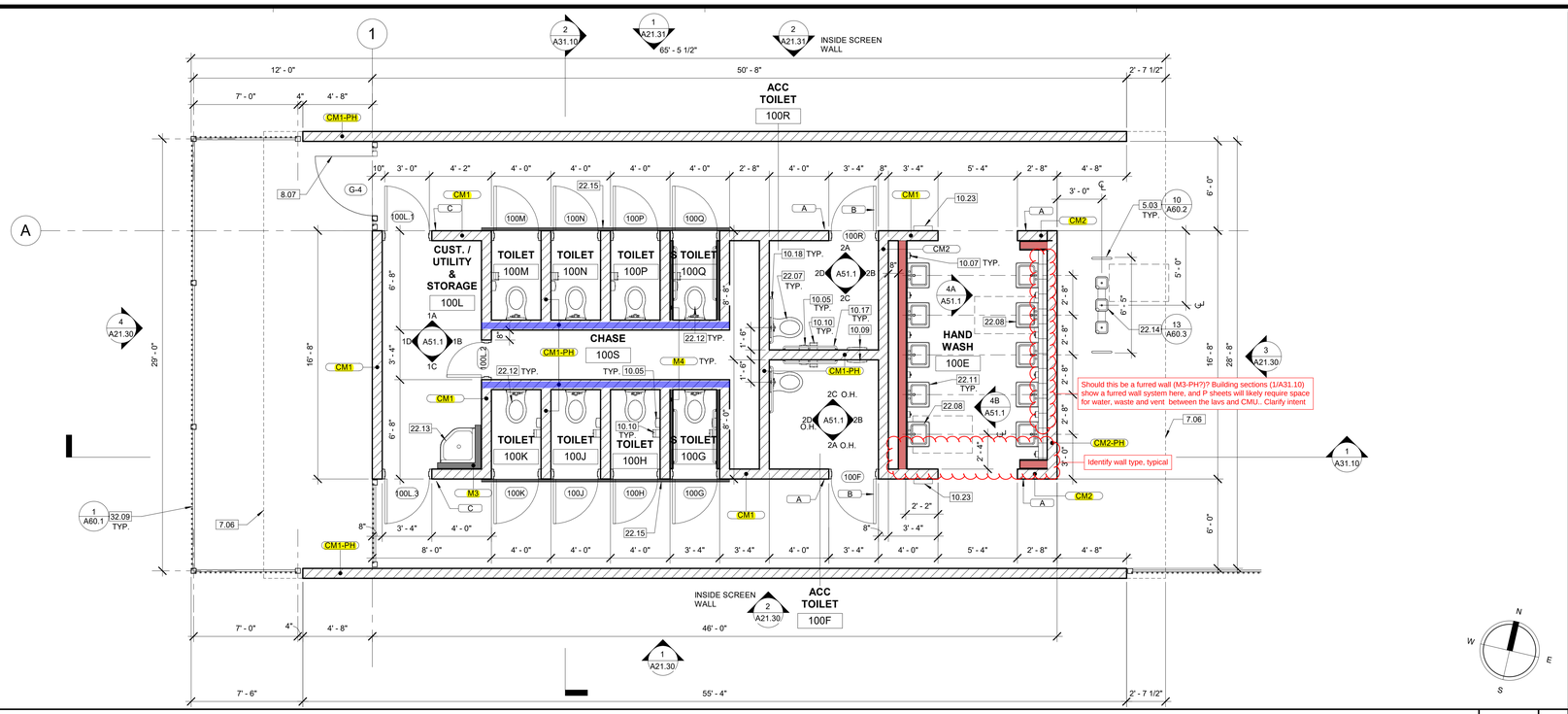
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

A1.3

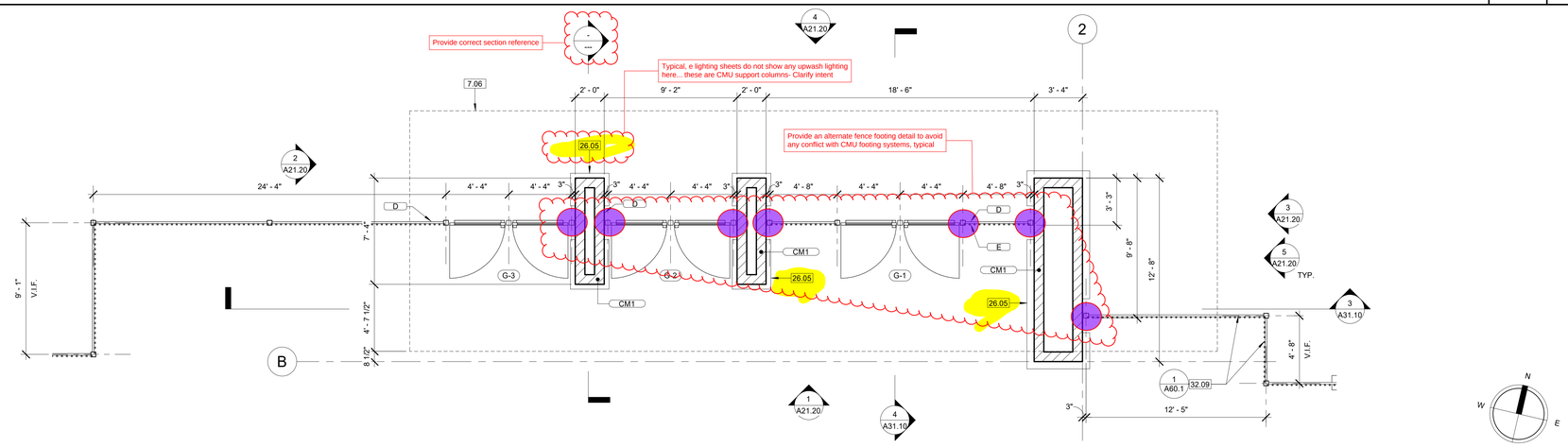
ENLARGED SITE PLANS

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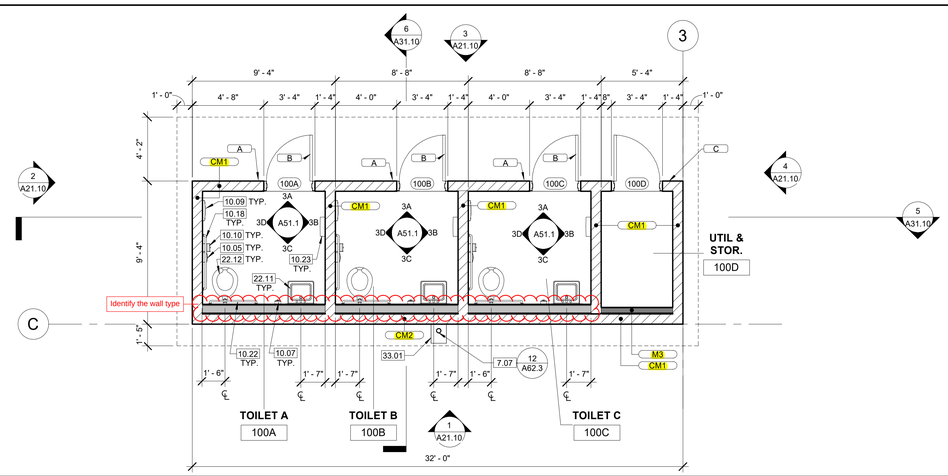
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WEST RESTROOM FLOOR PLAN | 1/4" = 1'-0" | 1



ENTRY GATE FLOOR PLAN | 1/4" = 1'-0" | 2



EAST RESTROOM FLOOR PLAN | 1/4" = 1'-0" | 1

KEYNOTES

5.03	STEEL GAURDRAIL AT DRINKING FOUNTAINS
7.06	ROOF ABOVE.
7.07	GALVANIZED DOWNSPOUT.
8.07	SINGLE LEAF ORNAMENTAL SERVICE GATE
10.05	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL.
10.07	SURFACE MOUNTED FOAM SOAP DISPENSER.
10.09	SURFACE MOUNTED SEAT COVER DISPENSER.
10.10	SURFACE MOUNTED MULTI-ROLL TOILET TISSUE DISPENSER.
10.17	48" LENGTH (1-1/4" DIA. STAINLESS STEEL GRAB BAR) @ SIDE WALL, PER DETAILS X/AXX.X
10.18	42" LENGTH (1-1/4" DIA. STAINLESS STEEL GRAB BAR) @ REAR WALL, PER DETAILS X/AXX.X
10.22	36" REAR GRAB BAR FOR ACCESSIBLE TOILET, PER DETAIL 1/A60.2 AND 3/A60.2
10.23	HAND DRYER (MAX. 4" PROJECTION)
22.07	ACCESSIBLE WATER CLOSET, REFER TO PLUMBING.
22.08	ACCESSIBLE LAVATORY, REFER TO PLUMBING.
22.11	LAVATORY, REFER TO PLUMBING.
22.12	WATER CLOSET, REFER TO PLUMBING.
22.13	CUSTODIAL SINK PER PLUMBING.
22.14	ACCESSIBLE HI/LO DRINKING FOUNTAINS WITH BOTTLE FILLER
22.15	TRENCH DRAIN WITH FLUSH-MOUNTED ADA-COMPLIANT GRATE IN CONCRETE PAVING; REFER TO PLUMBING.
26.05	RECESSED LINEAR LED UPWASH LIGHT FIXTURE PER ELECTRICAL DRAWINGS, FLUSH WITH FLOOR FINISH.
32.09	EXTERIOR TUBE STEEL PICKET FENCE
33.01	PRECAST CONCRETE SPLASH BLOCK AT DOWNSPOUT DISCHARGE

No information could be located on electrical sheets for these type fixtures. There are no floor mount fixtures noted in the fixture schedule- Clarify intent

Should this be a furred wall (M3-PH?)? Building sections (1/A31.10) show a furred wall system here, and P sheets will likely require space for water, waste and vent between the lavs and CMU.. Clarify intent

Identify wall type, typical

WALL TYPE LEGEND

	8" CMU BLOCK WALL PER WALL TYPES SHEET A61.2
	METAL STUD W/ TILE FINISH PER WALL TYPES SHEET A61.2
	METAL STUD WALL W/ GYPSUM BOARD PER WALL TYPES SHEET A61.2

NO.	DESCRIPTION	SHT.
A	RESTROOM SIGN - ALL GENDERS	2/A60.6
B	RESTROOM DOOR SIGNAGE -ALL GENDERS	3/A60.6
C	TACTILE ROOM IDENTIFICATION SIGN	4/A60.6
D	TACTILE EXIT SIGN	6/A60.6
E	ACCESSIBLE ENTRY SIGN	7/A60.6

SIGNAGE LEGEND

1. FOR ACCESSIBLE MOUNTING LOCATIONS OF ALL ACCESSORIES & FIXTURES REFER TO DETAIL 3 / A60.3
2. ALL DIMENSIONS SHOWN FOR ACCESS COMPLIANCE ARE TO FACE OF FINISH U.N.O.
3. PROVIDE BACKING FOR ALL EQUIPMENT FIXTURES, AND ACCESSORIES PER 11/S-1.3
4. ACCESSIBLE DOOR CLEARANCE PER DETAIL 5 / A60.3

SHEET NOTES

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT ROBERT M. SIMONS No. C-18301 Renewal Date JAN. 31, 2027 STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

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ISSUANCE: A#03-126194

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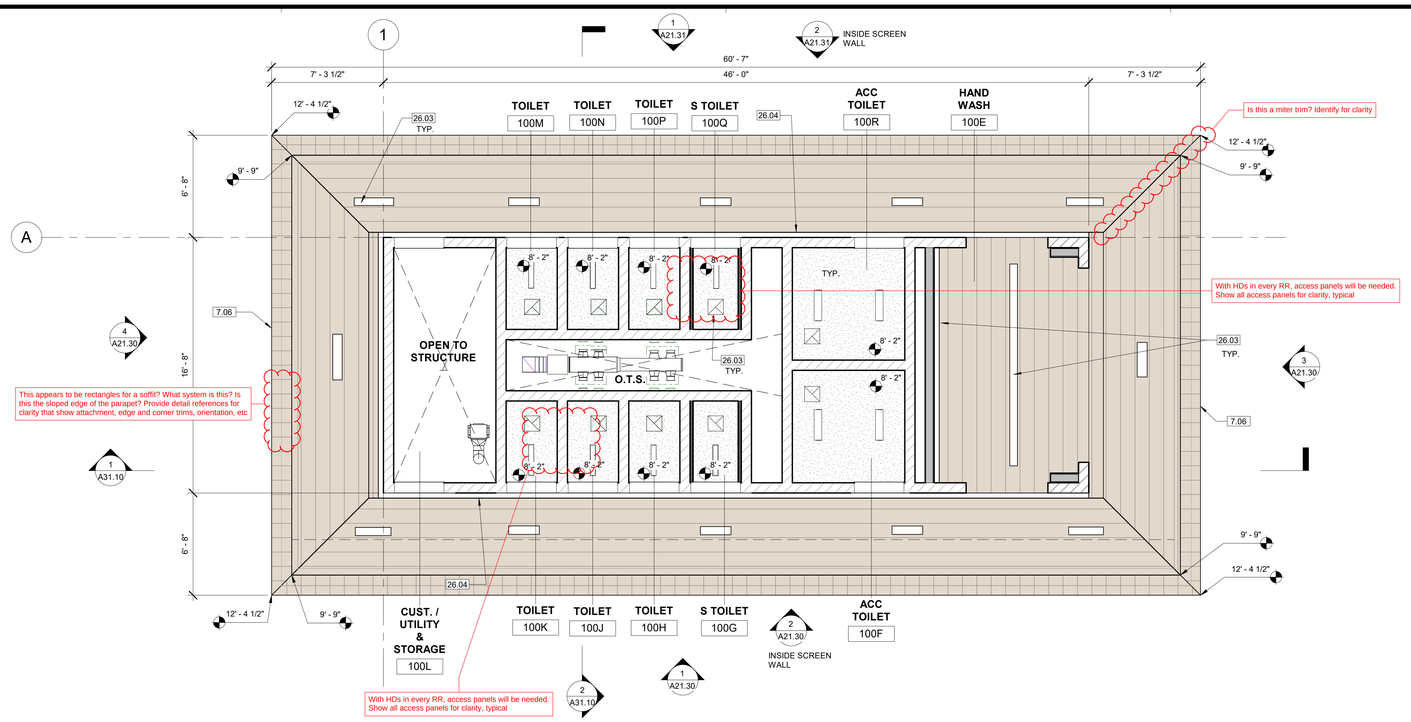
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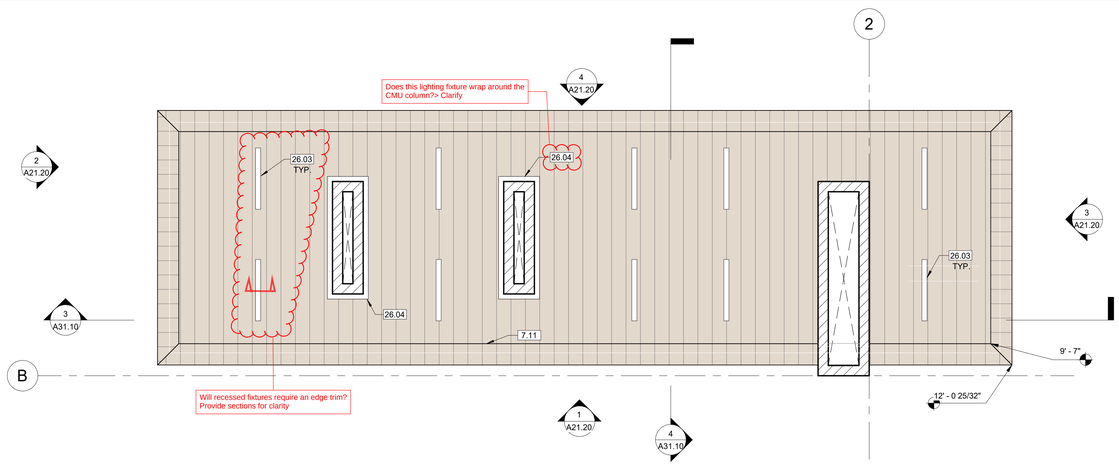
FLOOR PLANS

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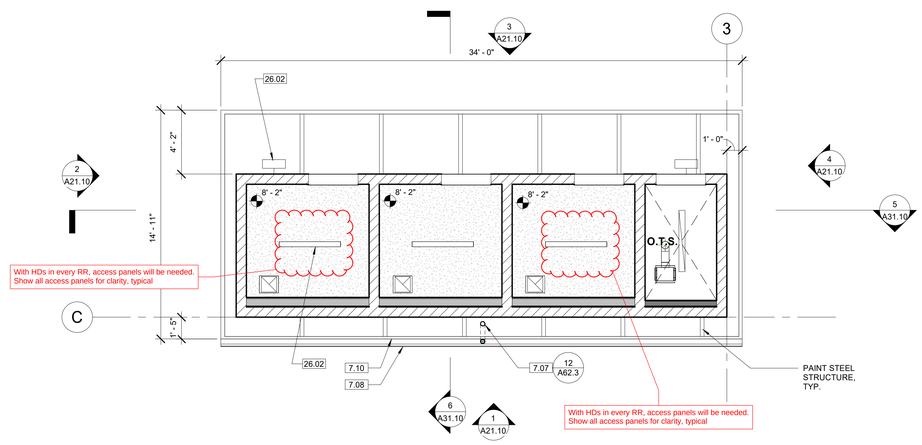
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WEST RESTROOM REFLECTED CEILING PLAN | 1/4" = 1'-0" | 3



ENTRY GATE REFLECTED CEILING PLAN | 1/4" = 1'-0" | 2



EAST RESTROOM REFLECTED CEILING PLAN | 1/4" = 1'-0" | 1

7.06	ROOF ABOVE.	Provide details
7.07	GALVANIZED DOWNSPOUT.	
7.08	SHEET METAL GUTTER ON STEEL FASCIA.	
7.10	UNDERSIDE OF ROOF	
7.11	ALUMINUM, COLORED ANODIZED FINISH	
26.02	LIGHT FIXTURE PER ELECTRICAL DRAWINGS.	
26.03	RECESSED LINEAR LIGHT FIXTURE PER ELECTRICAL DRAWINGS.	
26.04	RECESSED LINEAR STRIP LED LIGHT FIXTURE PER ELECTRICAL DRAWINGS.	

Typical, Provide detail references for all specific systems and components, for clarity

KEYNOTES

RECESSED SUPPLY AIR GRILL, SEE MECH. DRAWINGS

RECESSED RETURN AIR GRILL, SEE MECH. DRAWINGS

RECESSED EXHAUST AIR GRILL, SEE MECH. DRAWINGS

WALL MOUNTED LIGHTING LIGHT FIXTURE, SEE ELEC. DRAWINGS*

SURFACE MOUNTED LIGHTING FIXTURE, SEE ELEC. DRAWINGS*

EXIT SIGNAGE, SEE ELECTRICAL DRAWINGS

SPEAKERS, SEE ELECTRICAL DRAWINGS

ROOF HATCH ABOVE, REFER TO DET. 8/A62.6

GLASS MAT FACED GYPSUM BOARD CEILING WITH SKIM COAT FINISH, REFER TO NOTE 1 — Note 1 does not provide enough information

ALUMINUM CLADDING, COLOR COATED FINISH — Provide reference detail

Typical, provide correct detail references

NOTES:
1. GYPSUM BOARD CEILINGS SHALL BE FRAMED WITH METAL STUD JOISTS, U.N.O. SEE DETAIL XX/XX FOR MORE INFORMATION.
2. FOR SUSPENDED ACOUSTICAL CEILING, REFER TO SHEET A64.1.
3. FOR PLASTER SOFFIT DETAILS, SEE DETAIL XX/XX.
4. AT ALL ROOMS WITHOUT CEILINGS (LABELLED AS "EXP" ON PLAN AND/OR ON THE FINISH SCHEDULE), ALL EXPOSED SURFACES AND ELEMENTS SHALL BE PAINTED, INCLUDING STRUCTURE, DECK ABOVE, AND ALL UTILITIES INCLUDING PIPING, CONDUITS, DUCTWORK, ETC.
5. PLUMBING, ELECTRICAL, MECHANICAL AND FIRE PROTECTION COMPONENTS ARE SHOWN FOR REFERNECE AND COORDINATION PURPOSES. REFER TO PLUMBING, ELECTRICAL, MECHANICAL AND FIRE PROTECTION DRAWINGS FOR COMPONENT AND SYSTEM QUANTITIES, TYPES AND REQUIREMENTS
6. CENTER LIGHTING FIXTURES BETWEEN OPPOSITE WALLS, U.N.O.
7. ALL DIMENSIONS, NOTES, KEYNOTES AND DETAILS CALLOUTS ARE TYPICAL, U.N.O.
8. SEE SHEET A50.1 FOR INTERIOR FINISH LEGEND
9. AT EXPOSED CEILINGS, ALL DUCTS, PIPES AND CONDUITS SHALL RUN PARALLEL OR PERPENDICULAR TO WALL, AND AS CLOSE TO THE DECK ABOVE AS POSSIBLE. PROVIDE ESCUTCHEONS FOR CONDUIT/PIPES AT WALLS WHERE EXPOSED.

* REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF EMERGENCY LIGHTING.

Typical, provide correct detail references

RCP LEGEND

WALL TYPE LEGEND

8" CMU BLOCK WALL PER WALL TYPES SHEET A61.2

METAL STUD W/ TILE FINISH PER WALL TYPES SHEET A61.2

METAL STUD WALL W/ GYPSUM BOARD PER WALL TYPES SHEET A61.2

Floor plan shows these flush with floor- E sheets show no lighting here.. S sheets show these are CMU columns.. Clarify intent

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT ROBERT M. SIMONS No. C-18301 JAN. 31, 2027 Renewal Date STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

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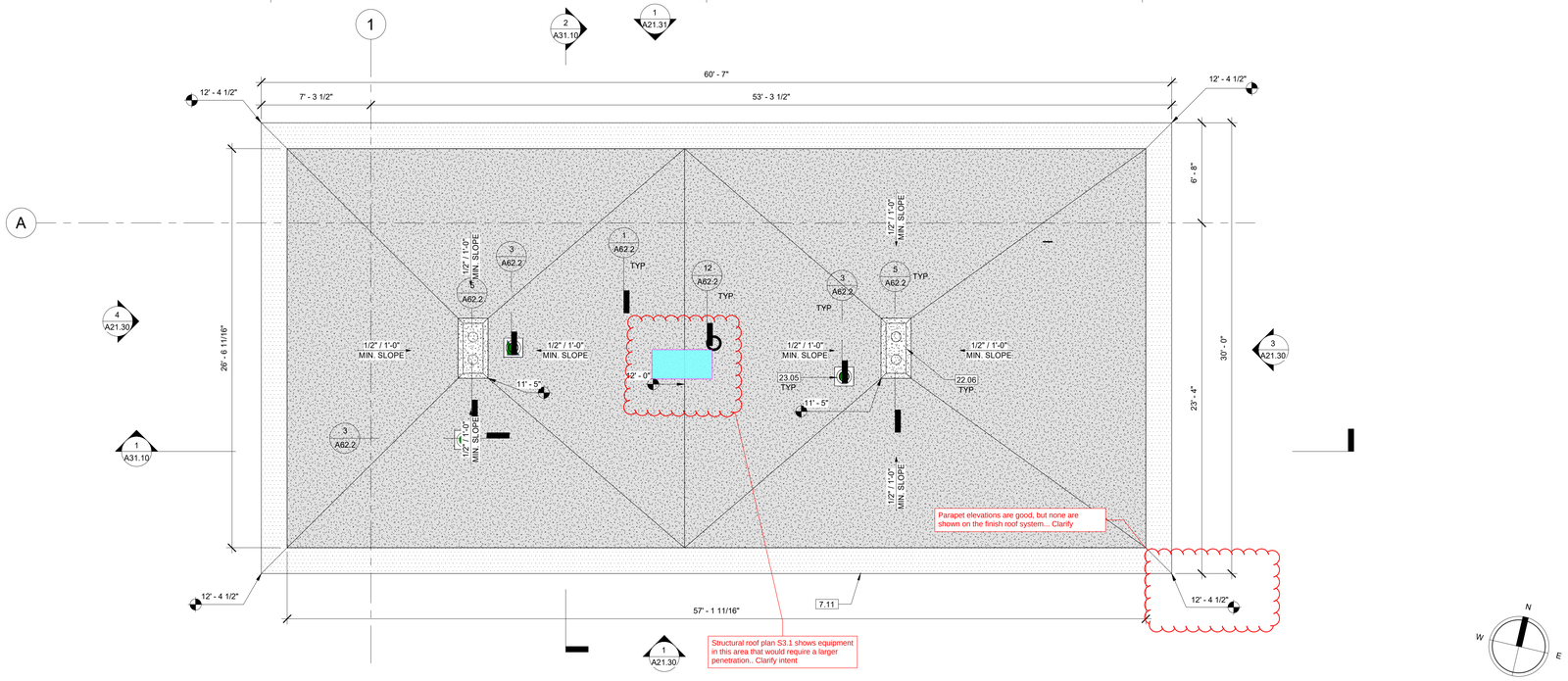
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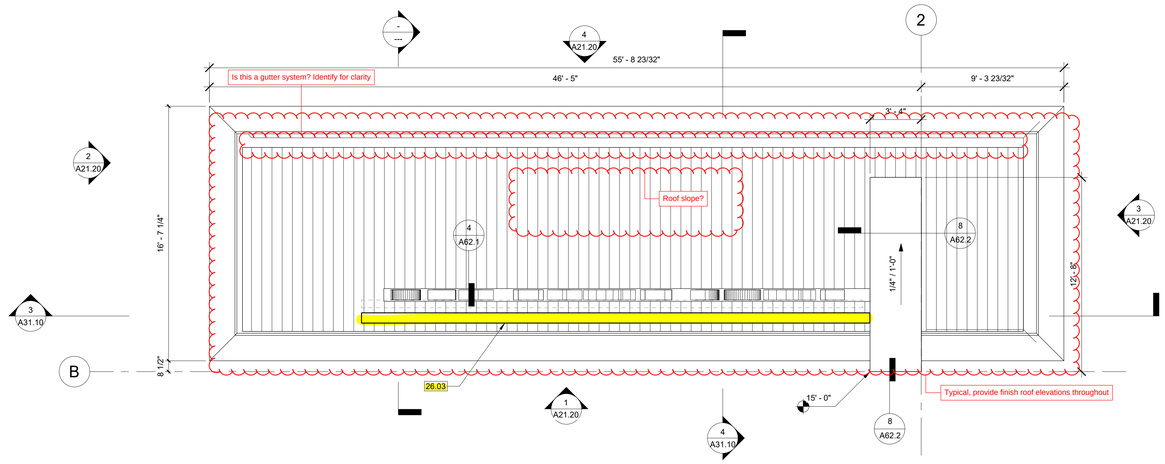
REFLECTED CEILING PLANS

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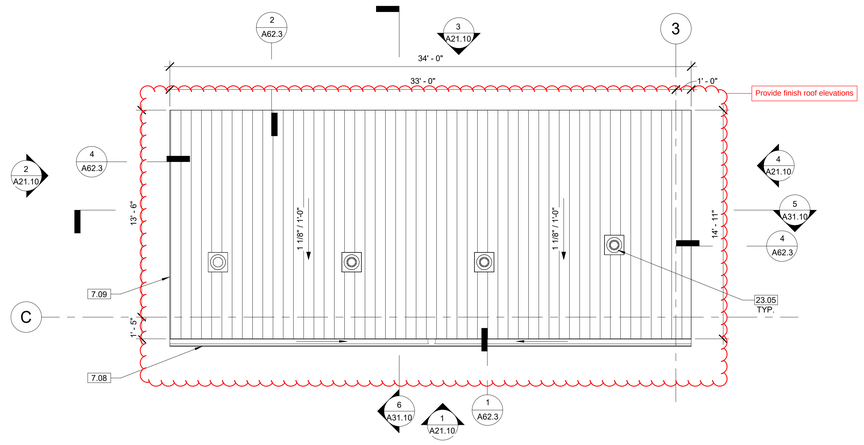
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WEST RESTROOM ROOF PLAN | 1/4" = 1'-0" | **3**



ENTRY GATE ROOF PLAN | 1/4" = 1'-0" | **2**



EAST RESTROOM ROOF PLAN | 1/4" = 1'-0" | **1**

KEYNOTES

7.08 SHEET METAL GUTTER ON STEEL FASCIA.
7.09 STANDING SEAM METAL ROOF OVER RIGID INSULATION.
7.11 ALUMINUM, COLORED ANODIZED FINISH
22.06 INTERAL ROOF DRAIN AND OVERFLOW PER DETAIL. REFER TO PLUMBING AND CIVIL DRAWINGS.
23.05 EXHAUST FAN PER MECHANICAL DRAWINGS, CURB FLASHING PER DETAIL
26.03 RECESSED LINEAR LIGHT FIXTURE PER ELECTRICAL DRAWINGS.

ROOF LEGEND

BUILT UP ROOFING

ALUMINUM PANELS, COLOR COATED FINISH

STANDING SEAM ROOFING

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
Renewal Date
JAN. 31, 2027
STATE OF CALIFORNIA

REVISIONS:

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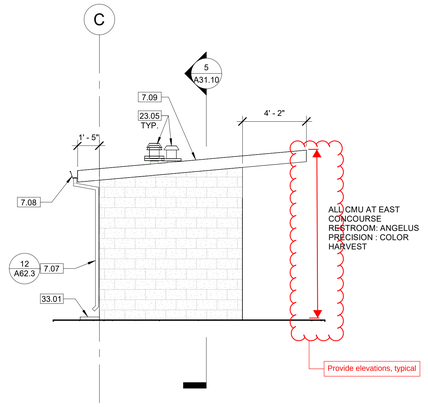
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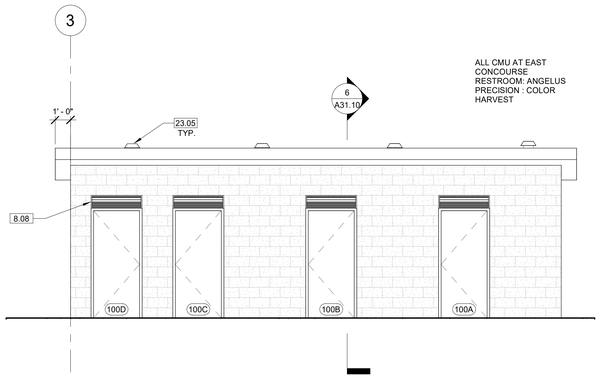
ROOF PLANS

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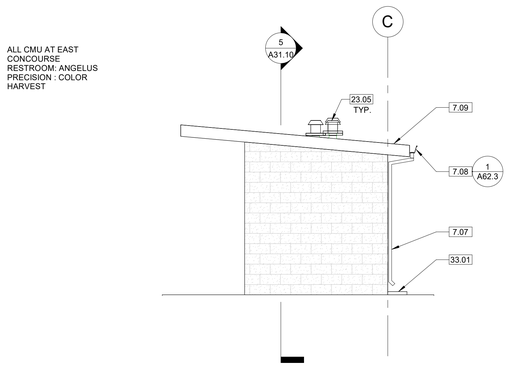
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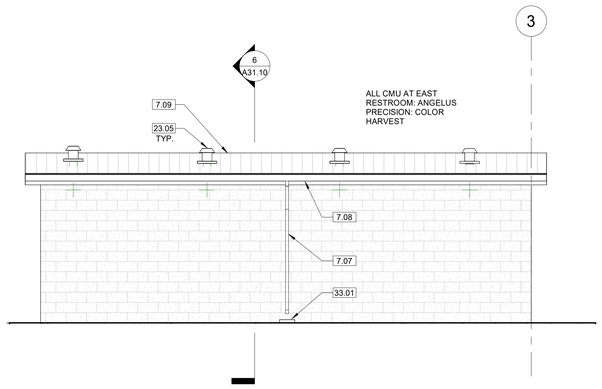
WEST EXTERIOR ELEVATION - EAST RR BLDG. 1/4" = 1'-0" **4**



SOUTH EXTERIOR ELEVATION - EAST RR BLDG. 1/4" = 1'-0" **3**



EAST EXTERIOR ELEVATION - EAST RR BLDG. 1/4" = 1'-0" **2**



NORTH EXTERIOR ELEVATION - EAST RR BLDG. 1/4" = 1'-0" **1**

7.07	GALVANIZED DOWNSPOUT.
7.08	SHEET METAL GUTTER ON STEEL FASCIA.
7.09	STANDING SEAM METAL ROOF OVER RIGID INSULATION.
8.08	DOOR TRANSOM LOUVERS
23.05	EXHAUST FAN PER MECHANICAL DRAWINGS, CURB FLASHING PER DETAIL
33.01	PRECAST CONCRETE SPLASH BLOCK AT DOWNSPOUT DISCHARGE

KEYNOTES

ALUMINUM, COLOR COATED FINISH

8" CMU BLOCK WALL

TILE PER SCHEDULE

BUILDING ELEVATIONS LEGEND

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT ROBERT M. SIMONS No. C-18301 JAN. 31, 2027 Renewal Date STATE OF CALIFORNIA

REVISIONS:

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PROJECT NO: 2025-40137

ISSUANCE: A#03-126194

DATE ISSUED: 06/22/2026

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

A21.10

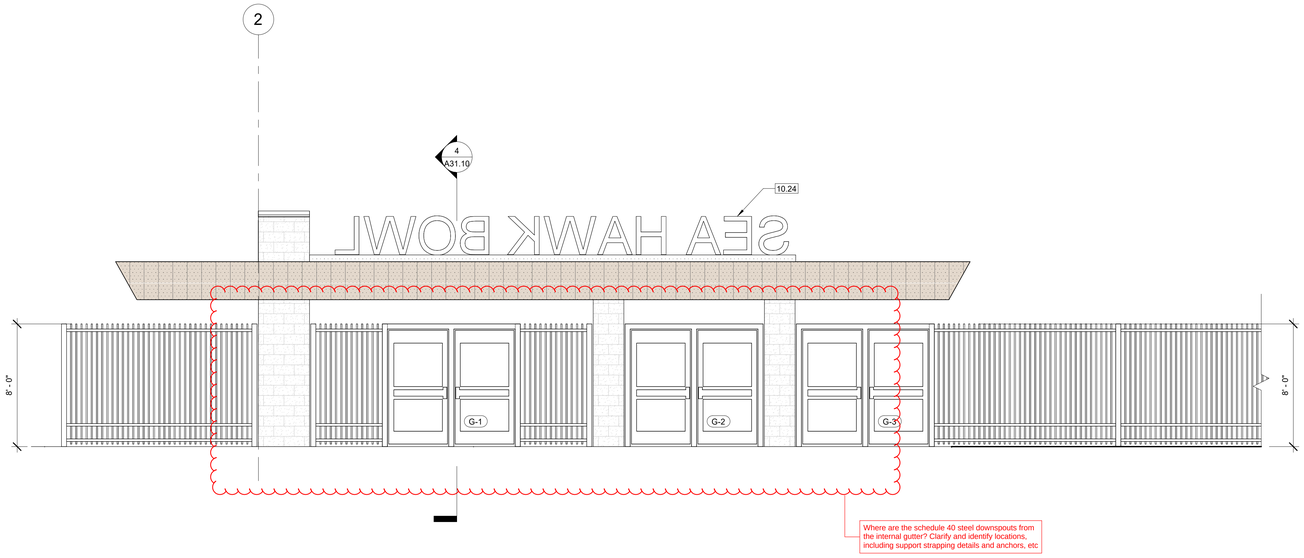
EAST RESTROOM BLDG - EXTERIOR ELEVATIONS

SVA ARCHITECTS

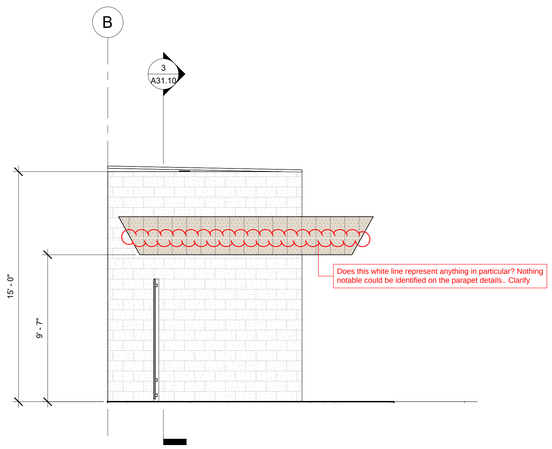
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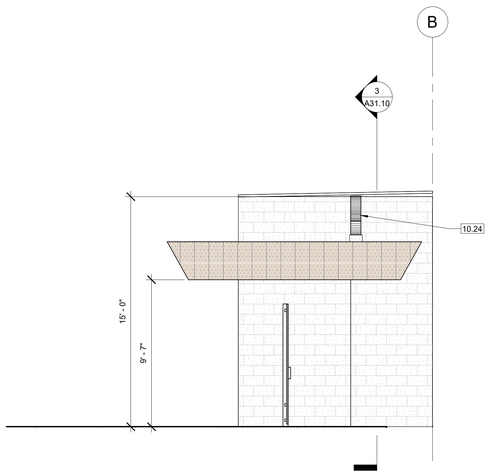
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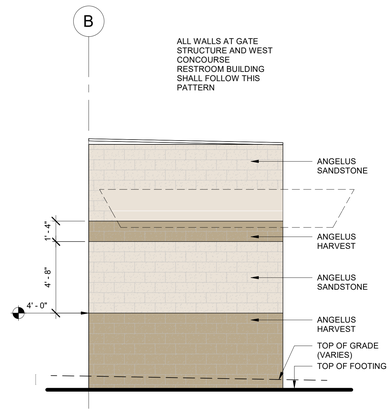
ENTRY GATE SOUTH EXTERIOR ELEVATION | 1/4" = 1'-0" | **4**



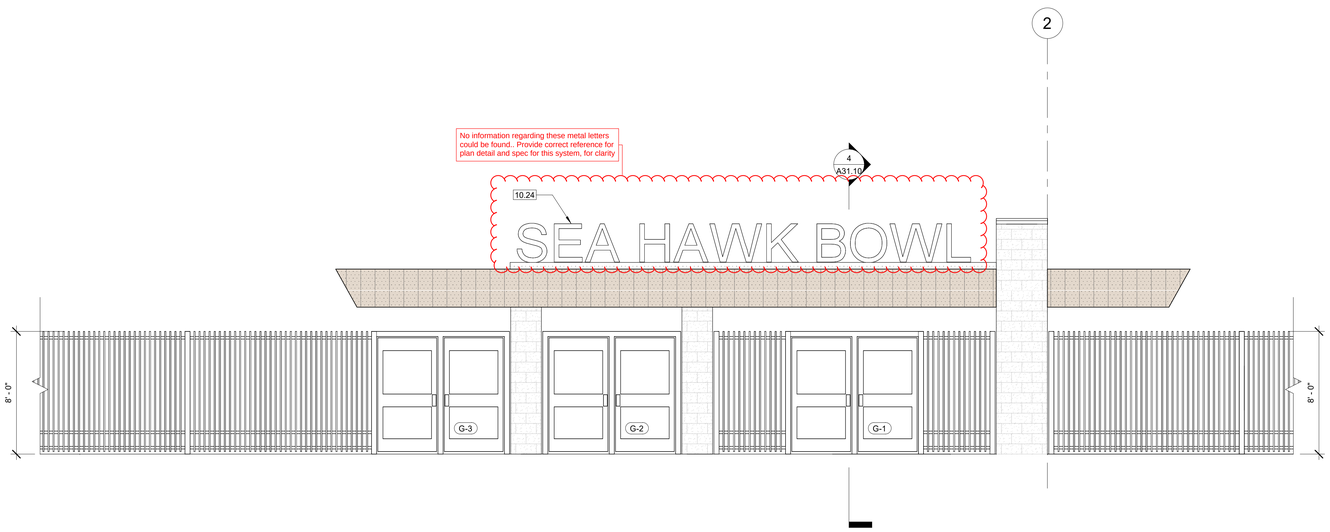
ENTRY GATE WEST EXTERIOR ELEVATION | 1/4" = 1'-0" | **3**



ENTRY GATE EAST EXTERIOR ELEVATION | 1/4" = 1'-0" | **2**



TYPICAL CMU PATTERN



ENTRY GATE NORTH EXTERIOR ELEVATIONS | 1/4" = 1'-0" | **1**

10.24 STEEL LETTERS, TYP. — Provide detail reference

KEYNOTES

- ALUMINUM CLADDING, COLOR COATED FINISH
- 8" CMU BLOCK WALL
- TILE PER SCHEDULE

BUILDING ELEVATIONS LEGEND

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

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LICENSED ARCHITECT
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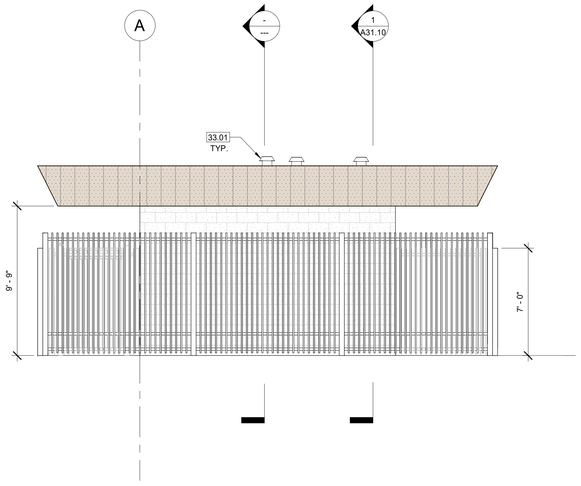
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A21.20

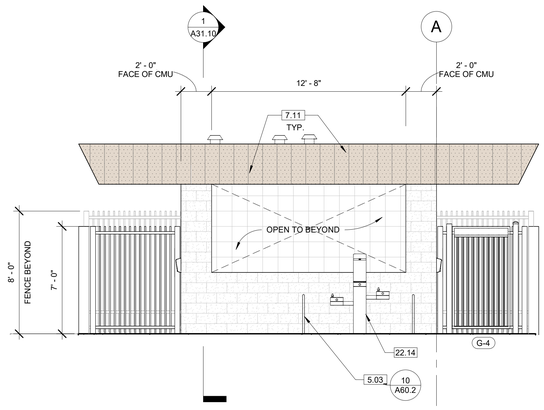
ENTRANCE - EXTERIOR ELEVATIONS

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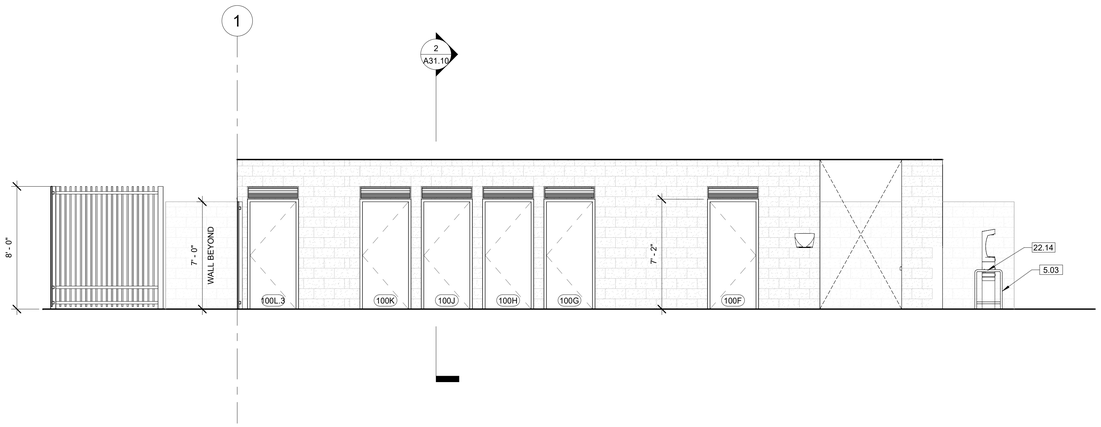
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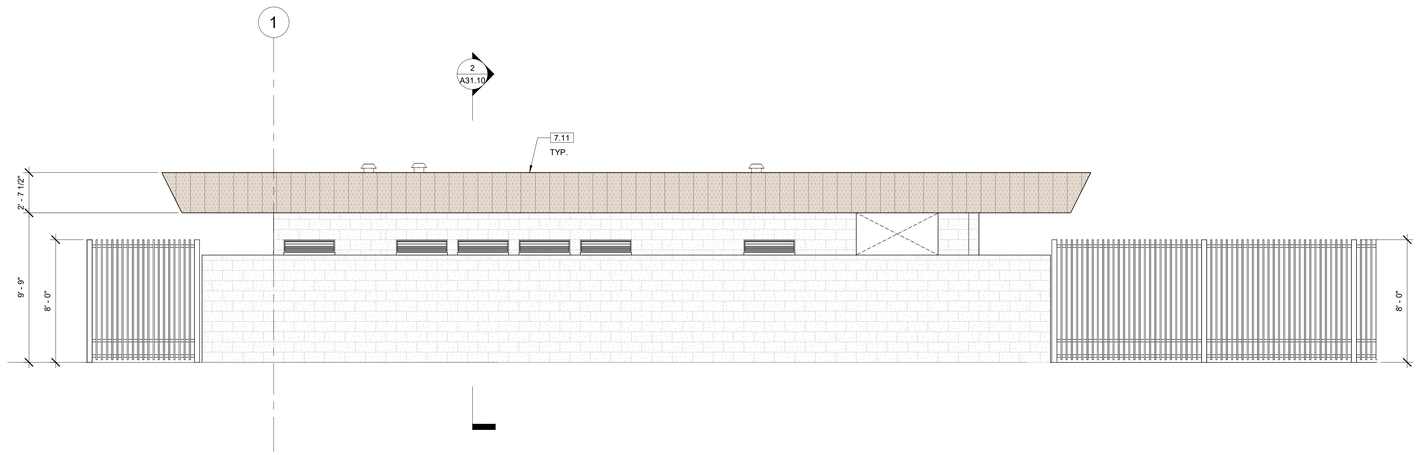
EAST EXTERIOR ELEVATION - WEST RR BLDG. | 1/4" = 1'-0" | 4



WEST EXTERIOR ELEVATION - WEST RR BLDG. | 1/4" = 1'-0" | 3



NORTH EXTERIOR ELEVATION 02- WEST RR BLDG. | 1/4" = 1'-0" | 2



NORTH EXTERIOR ELEVATION - WEST RR BLDG. | 1/4" = 1'-0" | 1

5.03	STEEL GAURDRAIL AT DRINKING FOUNTAINS
7.11	ALUMINUM, COLORED ANODIZED FINISH
22.14	ACCESSIBLE HI/LO DRINKING FOUNTAINS WITH BOTTLE FILLER
33.01	PRECAST CONCRETE SPLASH BLOCK AT DOWNSPOUT DISCHARGE

KEYNOTES

ALUMINUM CLADDING, COLOR COATED FINISH

8" CMU BLOCK WALL

TILE PER SCHEDULE

BUILDING ELEVATIONS LEGEND

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
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14		
15		

PROJECT NO: 2025-40137

ISSUANCE: A#03-126194

DATE ISSUED: 06/22/2026

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

A21.30

WEST RESTROOM BLDG - EXTERIOR ELEVATIONS

SVA ARCHITECTS

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5.03	STEEL GAURDRAIL AT DRINKING FOUNTAINS
7.11	ALUMINUM, COLORED ANODIZED FINISH
22.14	ACCESSIBLE HI/LO DRINKING FOUNTAINS WITH BOTTLE FILLER

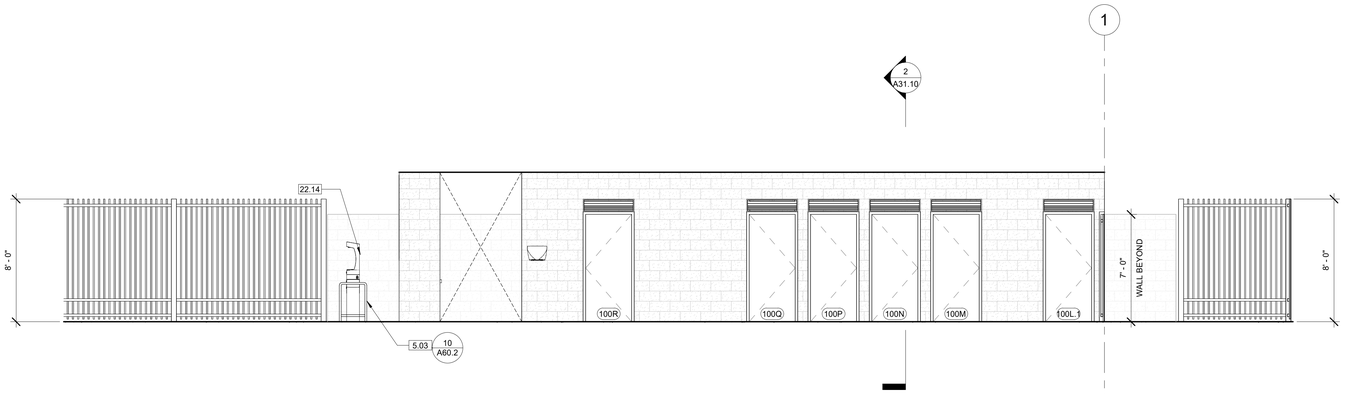
KEYNOTES

ALUMINUM CLADDING, COLOR COATED FINISH

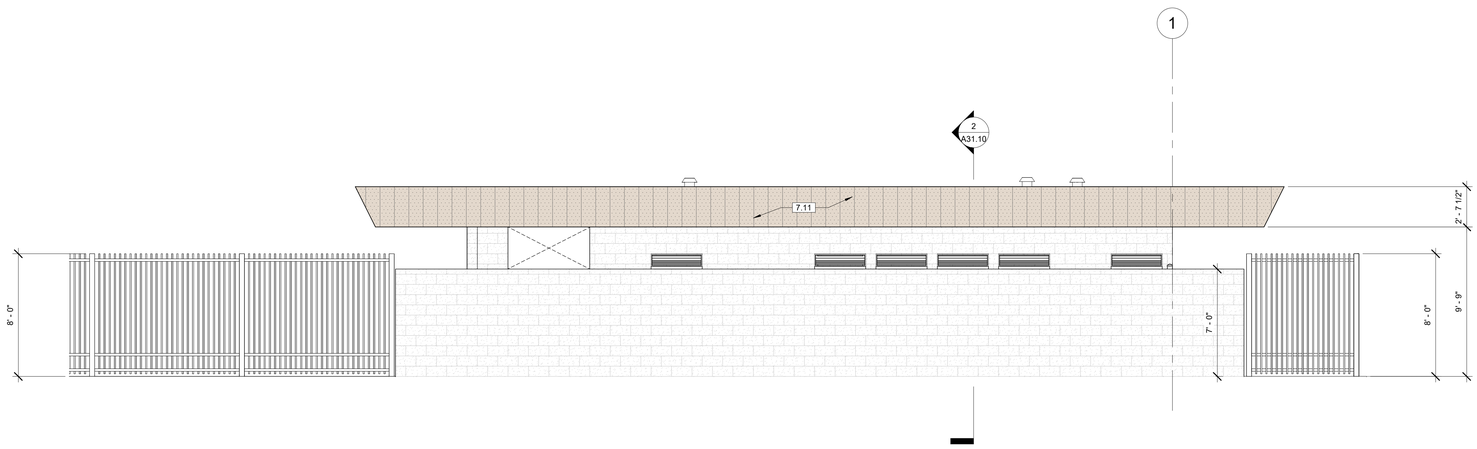
8" CMU BLOCK WALL

TILE PER SCHEDULE

BUILDING ELEVATIONS LEGEND



SOUTH EXTERIOR ELEVATION 2 - WEST RR BLDG. | 1/4" = 1'-0" | 2



SOUTH EXTERIOR ELEVATION - WEST RR BLDG. | 1/4" = 1'-0" | 1

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

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PROJECT NO:	2025-40137
ISSUANCE:	A#03-126194
DATE ISSUED:	06/22/2026
SCALE:	1/4" = 1'-0"

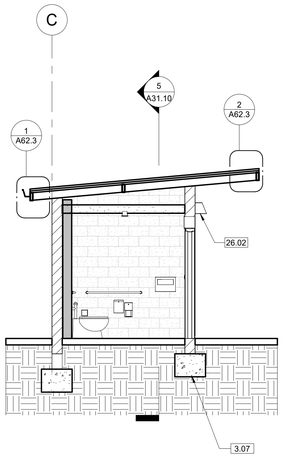
A21.31

WEST RESTROOM BLDG - EXTERIOR ELEVATIONS

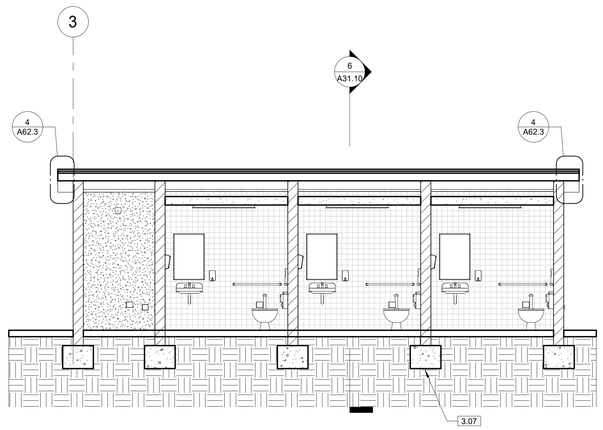
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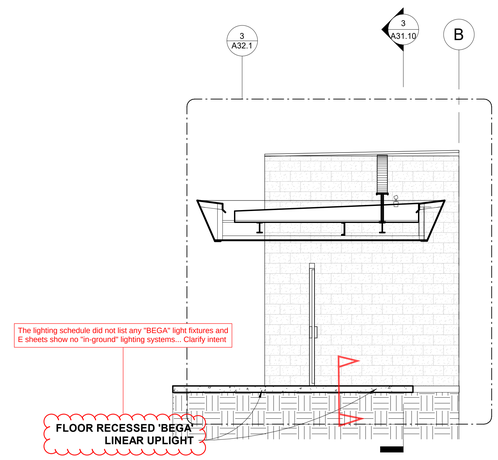
BUILDING SECTION 4 - EAST RR BLDG. 1/4" = 1'-0" **6**



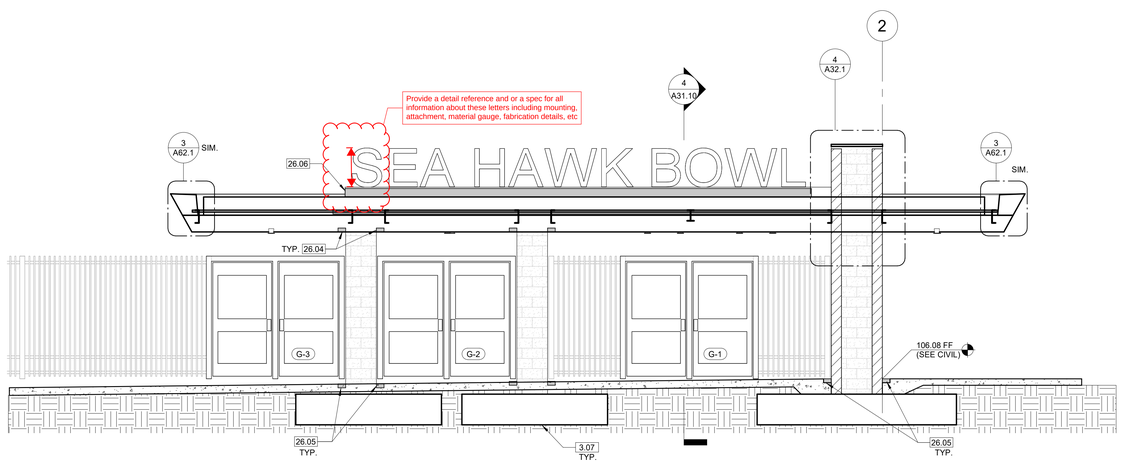
BUILDING SECTION 3 - EAST RR BLDG. 1/4" = 1'-0" **5**

3.07 FOOTING PER STRUCTURAL
10.08 SUFACE MOUNTED ELECTRIC HAND DRYER.
22.15 TRENCH DRAIN WITH FLUSH-MOUNTED ADA-COMPLIANT GRATE IN CONCRETE PAVING; REFER TO PLUMBING.
26.02 LIGHT FIXTURE PER ELECTRICAL DRAWINGS.
26.04 RECESSED LINEAR STRIP LED LIGHT FIXTURE PER ELECTRICAL DRAWINGS.
26.05 RECESSED LINEAR LED UPWASH LIGHT FIXTURE PER ELECTRICAL DRAWINGS, FLUSH WITH FLOOR FINISH.
26.06 LINEAR UPLIGHT TO WASH 'SEA HAWK BOWL' LETTERING AT ROOF.

KEYNOTES



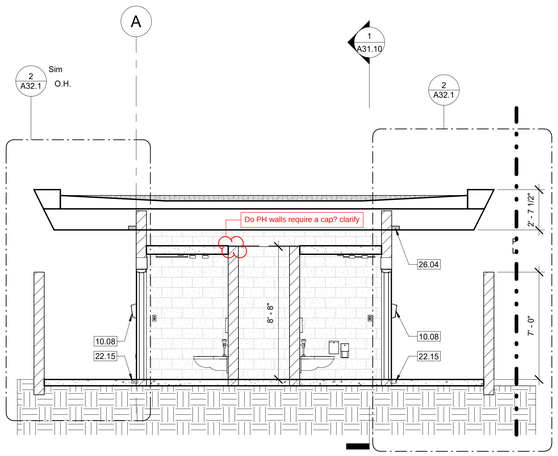
Section 2 1/4" = 1'-0" **4**



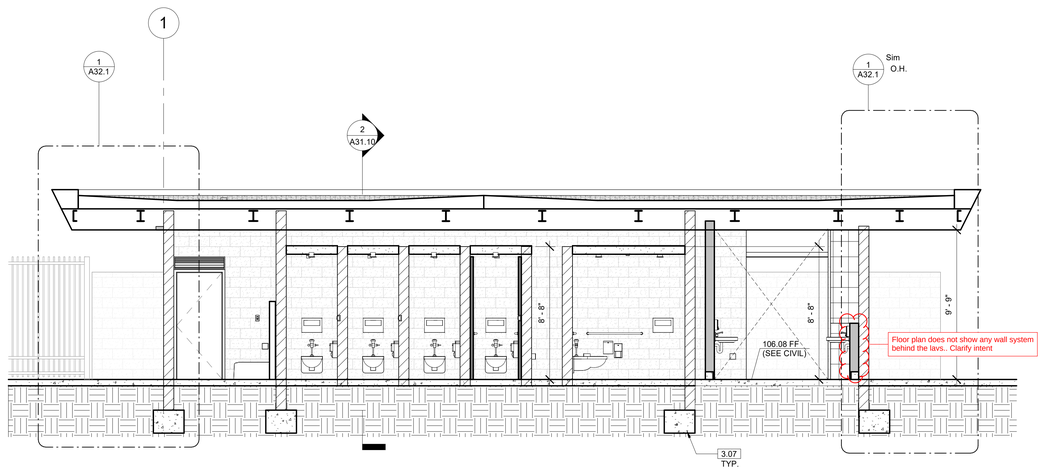
ENTRY GATE SECTION 1 1/4" = 1'-0" **3**

BUILDING SECTIONS LEGEND

- EARTH
- 8" CMU BLOCK WALL PER WALL TYPES SHEET A61.2
- METAL STUD W/ TILE FINISH PER WALL TYPES SHEET A61.2
- METAL STUD WALL W/ GYPSUM BOARD PER WALL TYPES SHEET A61.2
- ROOFING WITH R-30 CONTINUOUS RIGID INSULATION OVER W2 METAL DECK
- GYPSUM BOARD CEILING
- 8" CMU BLOCK WALL
- TILE PER SCHEDULE
- GYPSUM BOARD, FINISH PER SCHEDULE



BUILDING SECTION 2 - WEST RR BLDG. 1/4" = 1'-0" **2**



BUILDING SECTION 1 - WEST RR BLDG. 1/4" = 1'-0" **1**

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT ROBERT M. SIMONS No. C-18301 JAN. 31, 2027 Renewal Date STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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3		

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 1/4" = 1'-0"

A31.10

BUILDING SECTIONS

SVA ARCHITECTS
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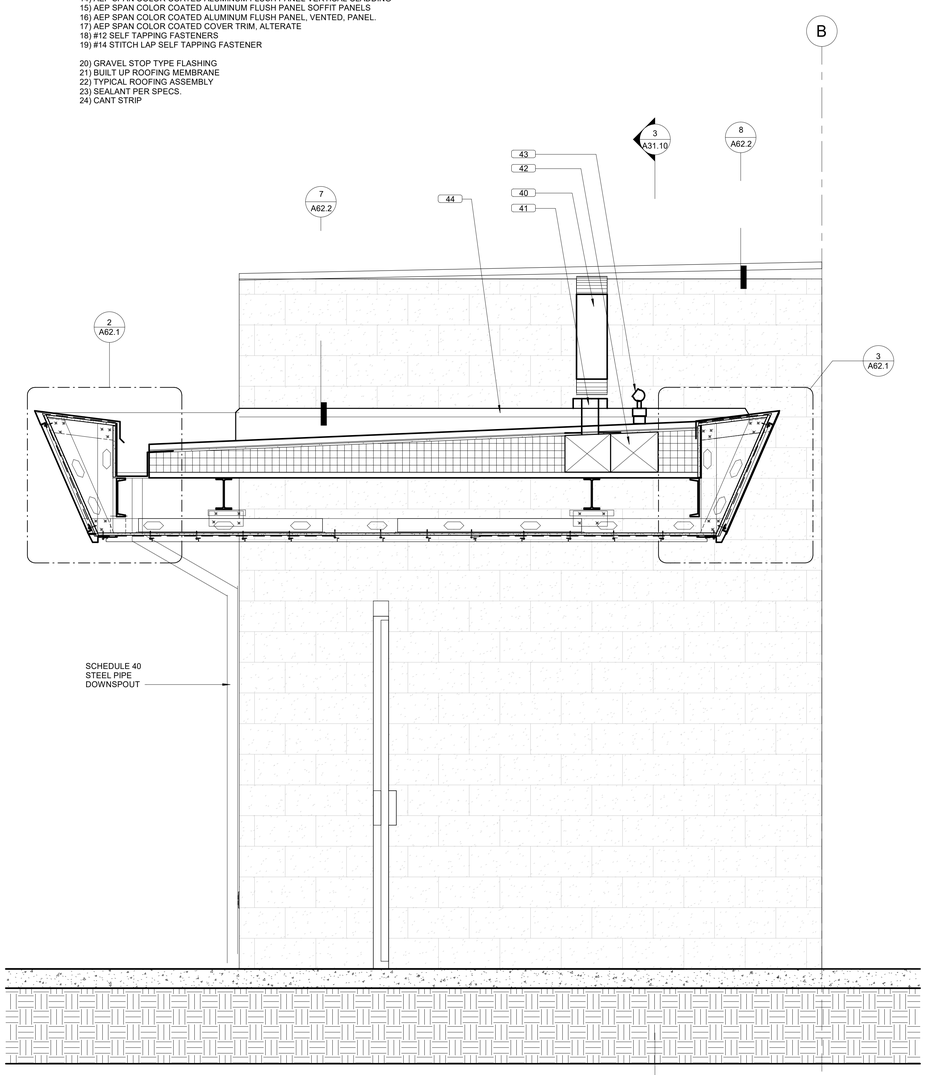
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1) COLOR COATED ALUM FLASHING
2) AEP SPAN NARROW SEAM BATTEN SEAM ROOFING WITH SEALED LOCK SEAMS
3) HIGH TEMPERATURE SELF ADHERED ROOF UNDERLAYMENT MEMBRANE
4) 1/2" GYPSUM ROOF DECK BOARD
5) RIGID INSULATION BOARD, TAPERED TO SLOPE
6) STRUCTURAL DECK PER STRUCTURAL
7) STRUCTURAL FRAMING PER STRUCTURAL
8) CONT. ALUM COLOR COATED GUTTER
9) 5/8" EXTERIOR GYP SHEATHING
10) HIGH TEMPERATURE SELF ADHERED MEMBRANE FLASHING

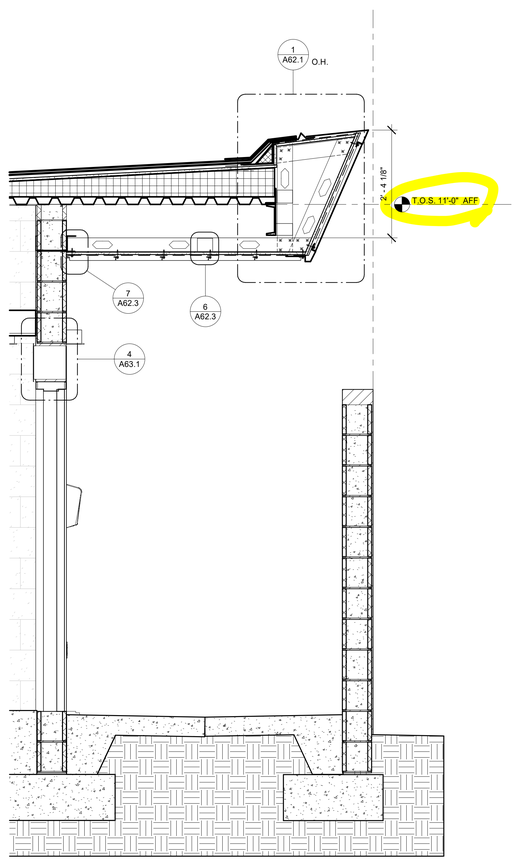
11) ROUND ESCUTCHEON, MATCH FLASHING COLOR, WITH RIVET ATTACHMENT
12) ALUMINUM SHEET METAL DOWNSPOUT, COLOR COATED. CONNECT TO SCHEDULE 40 STEEL PIPE VERTICAL RISER WHERE SHOWN ON SECTION
13) 4" METAL STUD FRAMING PER STRUCTURAL
14) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL VERTICAL CLADDING
15) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL SOFFIT PANELS
16) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL, VENTED, PANEL.
17) AEP SPAN COLOR COATED COVER TRIM, ALTERATE
18) #12 SELF TAPPING FASTENERS
19) #14 STITCH LAP SELF TAPPING FASTENER

20) GRAVEL STOP TYPE FLASHING
21) BUILT UP ROOFING MEMBRANE
22) TYPICAL ROOFING ASSEMBLY
23) SEALANT PER SPECS.
24) CANT STRIP

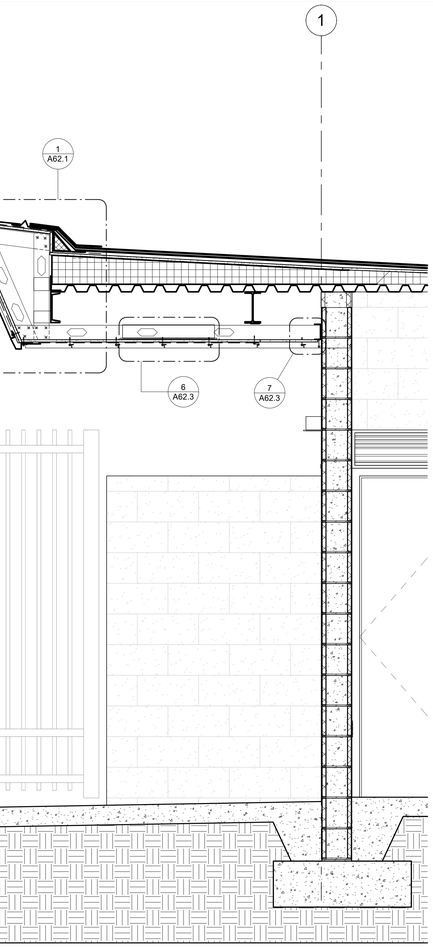
40) LETTER SIGN, SEE ELEVATIONS
41) BLOCKING / SIGN POST
42) BLOCKING LIGHTING FIXTURE BASE
43) LIGHTING FIXTURE, SEE ELECTRICAL
44) WALL FLASHING



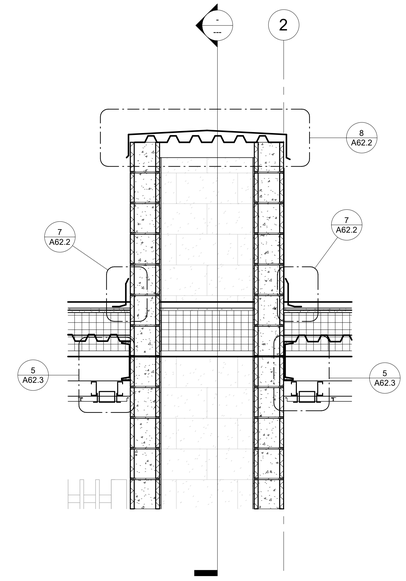
WALL SECTION B | 3/4" = 1'-0" | 3



WALL SECTION A | 3/4" = 1'-0" | 2



WALL SECTION 1 | 3/4" = 1'-0" | 1



WALL SECTION AT PILLAR | 3/4" = 1'-0" | 4

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

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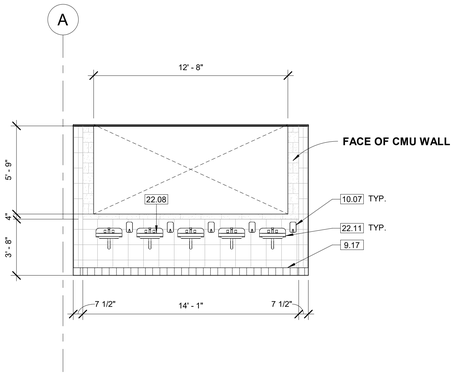
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 3/4" = 1'-0"

A32.1

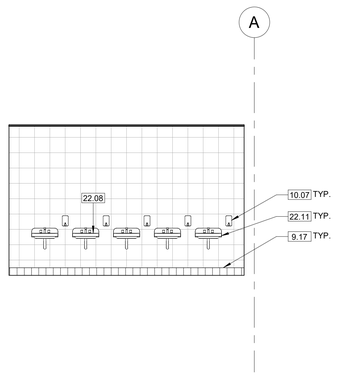
WALL SECTIONS

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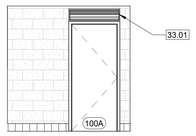
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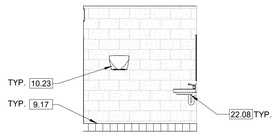


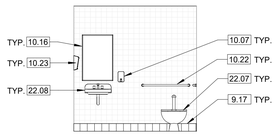
HAND WASH - EAST | 1/4" = 1'-0" | 4A

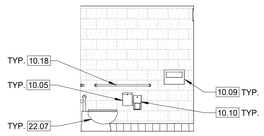


HAND WASH - WEST | 1/4" = 1'-0" | 4B







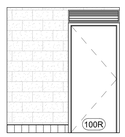


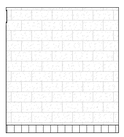
CONCOURSE EAST RR - NORTH TYP. | 1/4" = 1'-0" | 3A

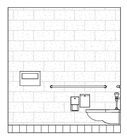
CONCOURSE EAST RR - EAST TYP. | 1/4" = 1'-0" | 3B

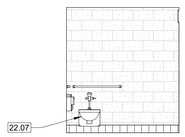
CONCOURSE EAST RR - SOUTH TYP. | 1/4" = 1'-0" | 3C

CONCOURSE EAST RR - WEST TYP. | 1/4" = 1'-0" | 3D







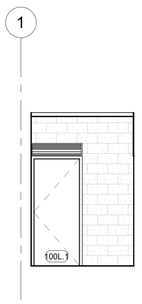


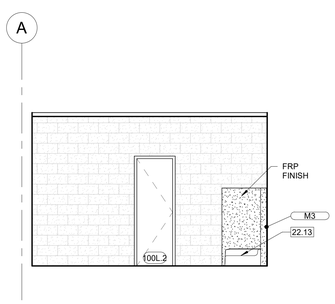
ACC TOILET - NORTH TYP. | 1/4" = 1'-0" | 2A

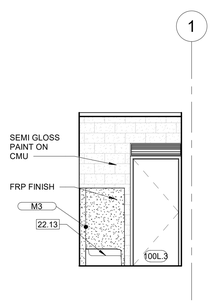
ACC TOILET - EAST TYP. | 1/4" = 1'-0" | 2B

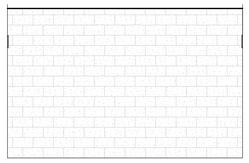
ACC TOILET - SOUTH TYP. | 1/4" = 1'-0" | 2C

ACC TOILET - WEST TYP. | 1/4" = 1'-0" | 2D









CUST./ UTILITY STORAGE - NORTH | 1/4" = 1'-0" | 1A

CUST./ UTILITY STORAGE - EAST | 1/4" = 1'-0" | 1B

CUST./ UTILITY STORAGE - SOUTH | 1/4" = 1'-0" | 1C

CUST./ UTILITY STORAGE - WEST | 1/4" = 1'-0" | 1D

9.17	6"X6" CERMAIC TILE SELF-COVE BASE, PER FINISH SCHEDULE.
10.05	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL.
10.07	SURFACE MOUNTED FOAM SOAP DISPENSER.
10.09	SURFACE MOUNTED SEAT COVER DISPENSER.
10.10	SURFACE MOUNTED MULTI-ROLL TOILET TISSUE DISPENSER.
10.16	24" X 36" GLASS MIRROR WITH STAINLESS STEEL ANGLE FRAME.
10.18	42" LENGTH (1-1/4" DIA. STAINLESS STEEL GRAB BAR) @ REAR WALL, PER DETAILS X/AXX.X
10.22	36" REAR GRAB BAR FOR ACCESSIBLE TOILET, PER DETAIL 1/A60.2 AND 3/A60.2
10.23	HAND DRYER (MAX. 4" PROJECTION)
22.07	ACCESSIBLE WATER CLOSET, REFER TO PLUMBING.
22.08	ACCESSIBLE LAVATORY, REFER TO PLUMBING.
22.11	LAVATORY, REFER TO PLUMBING.
22.13	CUSTODIAL SINK PER PLUMBING.
33.01	PRECAST CONCRETE SPLASH BLOCK AT DOWNSPOUT DISCHARGE

KEYNOTES

8" CMU BLOCK WALL PER WALL TYPES

TILE PER FINISH SCHEDULE

GYPSUM BOARD, FINISH PER SCHEDULE

BUILDING INTERIOR ELEVATIONS LEGEND

1. FOR ACCESSIBLE MOUNTING LOCATIONS OF ALL ACCESSORIES & FIXTURES REFER TO DETAIL 3 / A60.3
2. ALL DIMENSIONS SHOWN FOR ACCESS COMPLIANCE ARE TO FACE OF FINISH U.N.O.
3. PROVIDE BACKING FOR ALL EQUIPMENT FIXTURES, AND ACCESSORIES PER 11/S-1.3
4. ACCESSIBLE DOOR CLEARANCE PER DETAIL 5 / A60.3

SHEET NOTES

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 1/4" = 1'-0"

A51.1

INTERIOR ELEVATIONS

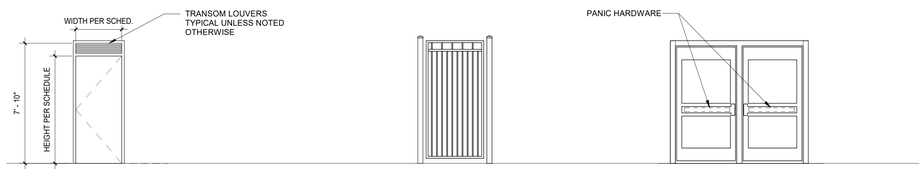
SVA ARCHITECTS
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DOOR SCHEDULE

NUMBER	WIDTH	HEIGHT	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FRAME FINISH	DETAILS HEAD DETAIL	DETAILS TRANSOM	DETAILS JAMB 1	DETAILS THRESHOLD	HARDWARE GROUP	HARDWARE PANIC HW	FIRE RATING	REMARKS
100A	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	1/A63.1	01	-	-	
100B	3' - 0"	7' - 0"	F	HM	p	HM		4/A63.1		3/A63.1	1/A63.1	01	-	-	
100C	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	1/A63.1	01.1	-	-	
100D	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	1/A63.1	06	-	-	
100F	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	1/A63.1	01	-	-	
100G	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	2/A63.1	03	-	-	
100H	3' - 0"	7' - 0"	F	HM		HM	p	4/A63.1		3/A63.1	2/A63.1	03	-	-	
100J	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	2/A63.1	03	-	-	
100K	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	2/A63.1	03	-	-	
100L.1	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	1/A63.1	04	-	-	
100L.2	2' - 4"	7' - 0"	F	HM	p	HM	p	8/A63.1		3/A63.1	5F/A63.1	05	-	-	
100L.3	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	1/A63.1	06	-	-	
100M	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	2/A63.1	03	-	-	
100N	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	2/A63.1	03	-	-	
100P	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	2/A63.1	03	-	-	
100Q	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	1/A63.1	01	-	-	
100R	3' - 0"	7' - 0"	F	HM	p	HM	p	4/A63.1		3/A63.1	1/A63.1	01	-	-	
G-1	8' - 0"	7' - 8"	DG	STL	P	STL	P			9 & 10/A60.1		08	YES		
G-2	8' - 0"	7' - 8"	DG	STL	P	STL	P			8 & 10/A60.1		08	YES		
G-3	8' - 0"	7' - 8"	DG	STL	P	STL	P			8 & 10/A60.1		08	YES		
G-4	4' - 0"	7' - 6"	SG	STL	P	STL	P			10/A60.1		08	--		NON ACCESSIBLE MAINTENANCE GATE PER DETAIL 4/A60.1

All type F have a transom... provide detail reference for clarity



F FLUSH

SG SINGLE GATE

DG DOUBLE GATE

DOOR TYPES

DOOR SCHEDULE ABBREVIATIONS

AL	-	ALUMINUM
AC	-	ANODIZED CLEAR
BZ	-	ANODIZED BRONZE
CC	-	CONCEALED CLOSER
CLR	-	CLEAR
FC	-	FLOOR CLOSER
FF	-	FACTORY FINISH
FLFD	-	FUSIBLE LINK FIRE DAMPER
FP	-	FIELD PAINT
FPFP	-	FACTORY PRIMED, FIELD PAINTED
FRA	-	FIRE RATED ASSEMBLY
FS	-	FIELD STAINED
GA	-	GALVANIZED
GL	-	GLASS OR GLAZING
GS	-	GALVANIZED STEEL
HM	-	HOLLOW METAL
KY	-	FLUOROPOLYMER FINISH (SEE SPECS)
LVR	-	LOUVER
MF	-	MILL FINISH
MR	-	MIRRORED GLASS
MAG	-	MAGNETIC HOLD OPEN
P	-	PAINTED
PG	-	PAINT GRADE
PH	-	PANIC HARDWARE
PR	-	PAIR
SCW	-	SOLID CORE WOOD
SG	-	STAIN GRAIN
SMC	-	SURFACE MOUNTED CLOSER
ST	-	STEEL
SS	-	STAINLESS STEEL
TEMP	-	TEMPERED

DOOR GENERAL NOTES

COMMENTS:

1. PROVIDE DOOR SIGNAGE PER DETAIL 4/S60.6

DOOR COMMENTS LEGEND

1. LETTER "P" FOLLOWING DOOR TYPE LETTER IN SCHEDULE INDICATES A PAIR OF DOORS. SCHEDULED DIMENSION IS TOTAL FRAME OPENING. BOTH DOOR LEAVES ARE THE SAME SIZE UNLESS OTHERWISE NOTED.

2. LETTER "X" FOLLOWING DOOR TYPE LETTER IN SCHEDULE INDICATES A FIXED PANEL ABOVE DOOR LEAF. DOOR LEAF IS TO BE 7'-0" HIGH. SCHEDULED DIMENSION IS HEIGHT OF ACTIVE DOOR LEAF PLUS FIXED PANEL. FIXED PANEL SHALL BE OF SAME MATERIAL, CONSTRUCTION, THICKNESS, AS FINISH AS ACTIVE DOOR AND PROVIDED BY THE SAME MANUFACTURER AS DOOR.

3. LOUVERS IN FIRE-RATED DOOR ASSEMBLIES TO BE FLFD (FUSIBLE LINK FIRE DAMPER), LOUVERS IN EXTERIOR DOORS TO BE VANDAL-PROOF SECURITY TYPE.

4. GLAZING, ALL GLAZING PANELS IN FIRE-RATED DOOR ASSEMBLIES TO BE RATED GLASS. ALL OTHER GLAZING PANELS IN DOORS TO BE TEMPERED GLASS UNLESS OTHERWISE NOTED.

5. ALL DOORS NOTED AS 1-HOUR, AND 1 1/2-HOUR FIRE-RATED ASSEMBLIES SHALL MEET THE ADDITIONAL REQUIREMENTS OF MAXIMUM 450 F TEMPERATURE RISE ABOVE AMBIENT AFTER 30 MINUTES OF THE FIRE TEST. (CBC SEC. 1005.3.3.5 AND 1005.3.4.4).

6. THICKNESS: ALL DOORS TO BE 1 3/4" THICK UNLESS OTHERWISE NOTED.

7. ALL EXTERIOR DOORS TO HAVE WEATHERSTRIPPING ALL SIDES PER TITLE 24, SECTION T20-1451-1542.

8. ALL WOOD DOORS TO BE SOLID-CORE TYPE.

9. EXIT DOORS SERVING 50 OR MORE OCCUPANTS SHALL OPEN IN THE DIRECTION OF EXIT.

10. EVERY EXIT DOOR SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. ANY SPECIAL LOCKING DEVICES SHALL BE OF THE APPROVED TYPE. CBC CHAPTER 33 AND UFC SECTION 12,104(B).

11. DOOR HARDWARE SHALL COMPLY WITH THE FOLLOWING PER CBC 1133B.2.5

1. OPERABLE BY A SIMPLE EFFORT, NOT GRASPING WRIST MOVEMENT (LEVERS, PANIC DEVICES, OR PULLS).
2. 5-LB CLOSURE PRESSURE AT INTERIOR DOORS.
3. 5-LB CLOSURE PRESSURE AT EXTERIOR DOORS.
4. 5-LB CLOSURE PRESSURE AT FIRE DOORS.
5. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO THE MINIMUM ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY, NOT TO EXCEED 15 POUNDS.

12. ALL DOORS INDICATED AS FIRE-RATED ASSEMBLIES TO HAVE CLOSURES AND SMOKE SEALS.

13. ON DOORS IN ALUMINUM FRAMES, PROVIDE ARMORED STRIKE ON JAMB OF ALUMINUM FRAME.

14. EXIT DOORS SHALL HAVE A READILY VISIBLE, DURABLE SIGN ON OR ADJACENT TO THE DOOR STATING, "THIS DOOR TO REMAINED UNLOCKED DURING BUSINESS HOURS." THE SIGN SHALL HAVE 1" HIGH LETTERS ON A CONTRASTING BACKGROUND. THE LOCKING DEVICE MUST BE OF A TYPE THAT WILL BE READILY DISTINGUISHABLE AS LOCKED.

15. DOORS SHALL BE A MINUMUM OF 36" WIDE X 80" HIGH WITH NO SINGLE LEAF EXCEEDING 4'-0" IN WIDTH.

16. BOTTOM 10" OF DOOR TO HAVE SMOOTH UNINTERUPTED SURFACE FOR OPENING BY WHEELCHAIR FOOT REST.

17. CENTER OF HARDWARE TO BE 30" TO 40" ABOVE FLOOR. LATCHING AND LOCKING DOOR TO BE OPERABLE WITH A SINGLE EFFORT BY LEVER OR PUSH-PULL TYPE HARDWARE.

18. PROVIDE DOOR SYMBOLS ON DOORWAYS LEADING TO SANITARY FACILITIES (SEE TOILET ROOM DOOR SIGNAGE). CENTER SYMBOLS ON DOORS AT 60" HEIGHT, AND FINISH IN COLOR CONTRASTING TO THAT OF THE DOOR.

19. THRESHOLDS SHALL BE 1/2" HIGH MAXIMUM WITH A 2:1 DEGREE BEVELED EDGE.

20. THRESHOLD HEIGHT BETWEEN 1/4" AND 1/2" SHALL BE BEVELED AT MAZIMUM 50% SLOPE.

21. ALL EXTERIOR DOOR SHALL HAVE PERIMETER DOOR SOUND SEAL/GASKET.

22. EACH DOOR IN A MEANS OF EGRESS FROM A GROUP A, OR ASSEMBLY AREA NOT CLASSIFIED AS AN ASSEMBLY OCCUPANCY, HAVING AN OCCUPANT LOAD OF 50 OR MORE SHALL NOT BE PROVIDED WITH A LATCH OR LOCK UNLESS IT IS PANIC HARDWARE OR FIRE EXIT HARDWARE. BUILDING CODE 1008.1.10 FIRE CODE 1008.1.10

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR MAT.	FLOOR FIN.	BASE	WALLS NORTH MAT.	WALLS NORTH FIN.	WALLS EAST MAT.	WALLS EAST FIN.	WALLS SOUTH MAT.	WALLS SOUTH FIN.	WALLS WEST MAT.	WALLS WEST FIN.	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT	COMMENTS	ROOM NUMBER
100A	TOILET A	CONC	CS-1	CTB-1	CMU	PT-1	CMU	PT-1	CBU	CT-1	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100A
100B	TOILET B	CONC	CS-1	CTB-1	CMU	PT-1	CMU	PT-1	CBU	CT-1	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100B
100C	TOILET C	CONC	CS-1	CTB-1	CMU	PT-1	CMU	PT-1	CBU	CT-1	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100C
100D	UTIL & STOR.	CONC	CS-1	--	CMU	PT-1	CMU	PT-1	GBCM	PT-1	CMU	PT-1	EXP	--	--		100D
100E	HAND WASH	CONC		CTB-1	CMU	PT-1	CBU	CT-2	CMU	PT-1	CBU	CT-2	AC	CC	9'-9"		100E
100F	ACC TOILET	CONC	CS-1	CTB-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100F
100G	S TOILET	CONC	CS-1	CTB-1	CMU	PT-1	GBCM	PT-1	--	--	GBCM	PT-1	GBCM	SC/PT-1	8'-2"	AMBULATORY RESTROOM STALL	100G
100H	TOILET	CONC	CS-1	CTB-1	CMU	PT-1	CMU	PT-1	--	--	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100H
100J	TOILET	CONC	CS-1	CTB-1	CMU	PT-1	CMU	PT-1	--	--	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100J
100K	TOILET	CONC	CS-1	CTB-1	CMU	PT-1	CMU	PT-1	--	--	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100K
100L	CUST. / UTILITY & STORAGE	CONC	CS-1	--	CMU	PT-1	CMU/GBCM	PT-1	CMU/GBCM	PT-1	CMU	PT-1	EXP	--	--		100L
100M	TOILET	CONC	CS-1	CTB-1	--	--	CMU	PT-1	CMU	PT-1	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100M
100N	TOILET	CONC	CS-1	CTB-1	--	--	CMU	PT-1	CMU	PT-1	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100N
100P	TOILET	CONC	CS-1	CTB-1	--	--	CMU	PT-1	CMU	PT-1	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100P
100Q	S TOILET	CONC	CS-1	CTB-1	--	--	GBCM	PT-1	CMU	PT-1	GBCM	PT-1	GBCM	SC/PT-1	8'-2"	AMBULATORY RESTROOM STALL	100Q
100R	ACC TOILET	CONC	CS-1	CTB-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	GBCM	SC/PT-1	8'-2"		100R
100S	CHASE	CONC	CS-1	--	CMU	PT-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	EXP	--	--		100S

FINISH SCHEDULE ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
AC	ALUMINUM CLADDING
CBU	CEMENTITIOUS BACKER UNIT
CC	COLOR COATED FINISH
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CP	CEMENT PLASTER
CS-1	CONCRETE SEALER - COLORLESS
CTB-1	CERAMIC TILE - 6X6 SELF-COVE BASE
CT-1	CERAMIC TILE - 2 x 2 WALL
CT-2	CERAMIC TILE - 6 x 6 WALL
EXP	EXPOSED STRUCTURE
FF	FACTORY FINISH
GBCM	CLASS MAT FACED GYPSUM BOARD
PF-1	PAINT - GLOSS
PF-2	PAINT - SEMI-GLOSS
PF-3	PAINT - FLAT
SC	SKIM COAT FINISH

INTERIOR PAINT COLORS

PT-1
PT-2
PT-3
PT-4

FINISH LEGEND

FLOORS

C-1 EXPOSED CONCRETE FLOOR SLAB; CLEANED AND SEALED

B-1 COVE BASE: Daltile Color Wheel Classic - 6" Glossy Ceramic Sanitary Cove Base

WALLS

T-1 RESTROOM WALL TILE T-1 - DALTILE, CERAMIC WALL TILE; DTEL41; 4" X 16"

P-1 GENERAL AREA PAINT COLOR P-1 - DUNN EDWARDS, DEW341 SWISS COFFEE

P-2 TAN PAINT, EXTERIOR OF EXISTING PRESS BOX

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
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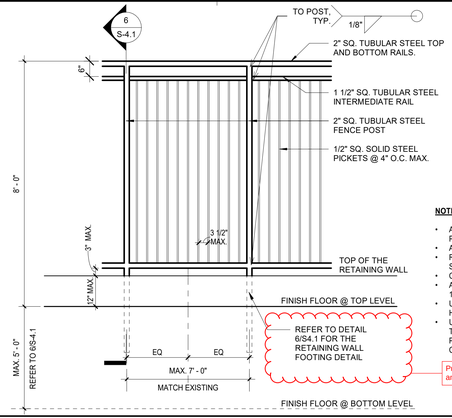
PROJECT NO: 2025-40137
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SCALE: 1/4" = 1'-0"

A52.1

SCHEDULES

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
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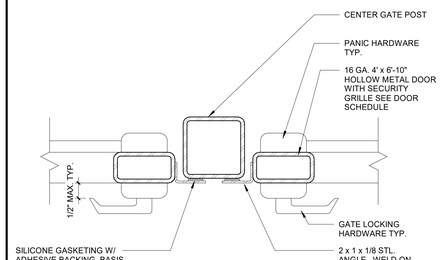


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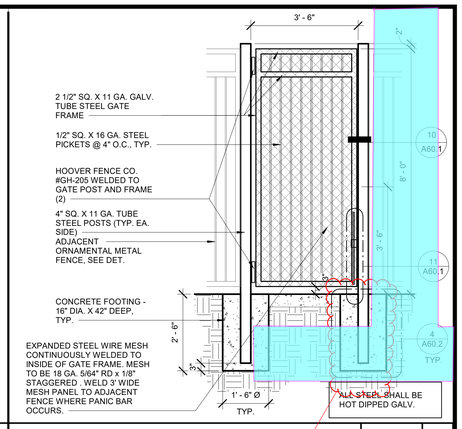
- ALL WELDS SHALL BE GROUND SMOOTH AND PREPARED FOR PRIMER.
- ALL CONNECTIONS TO BE CONTINUOUS WELDED.
- REMOVE ALL SLAG & SPLATTER, AND GRIND ALL WELDS SMOOTH.
- C. ALL TUBING TO BE CAPPED AND WELDED CLOSED.
- ALL POSTS, PICKETS AND HORIZONTAL RAILS SHALL BE 1/8" FILLET WELDED ALL THE WAY AROUND.
- UNLESS OTHERWISE NOTED ALUMINUM TUBING TO HAVE A SATIN ANODIZED FINISH.
- UNLESS OTHERWISE NOTED, PAINT ALL NON-ALUMINUM TUBULAR STEEL WITH (1) COAT ZINC CHROMATE PRIMER AND WITH (2) COATS GLOSS ENAMEL PAINT. COLOR TO BE BLACK.

Provide an alternate fence footing detail to avoid any conflict with CMU footing systems, typical

TUBE STEEL FENCE OVER RETAINING WALL ELEVATION DETAIL | 1/2" = 1'-0" | 12



GATE LATCH SECTION | 3" = 1'-0" | 8



TUBE STEEL SINGLE SERVICE GATE | 1/2" = 1'-0" | 4

LOCKABLE HINGE PLATE W/ CUTOUT FOR "U" LATCH WELDED TO CANE BOLT

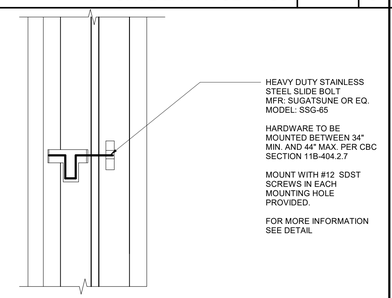
GATE PER 4 / A60.1

CONCRETE PAVEMENT

3/4" DIA. SOLID STEEL RETRACTABLE CANE BOLT

1" DIA. X 4" LONG PVC SLEEVE SET PLUMBING IN CONCRETE PAVEMENT (ONLY IN OPEN POSITION)

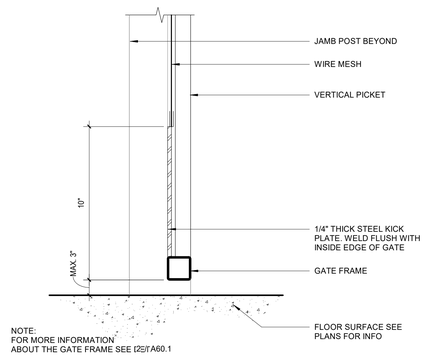
SERVICE GATE CANE BOLT | 1/2" = 1'-0" | 11



ELEVATION

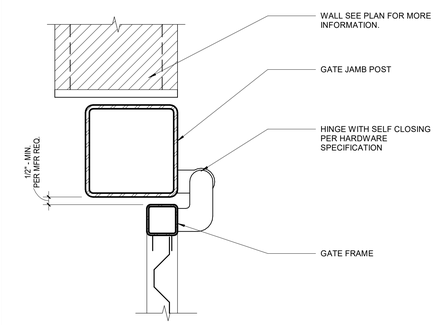
GATE LATCH BOLT | 3" = 1'-0" | 7

Provide an alternate fence footing detail to avoid any conflict with CMU footing systems, typical



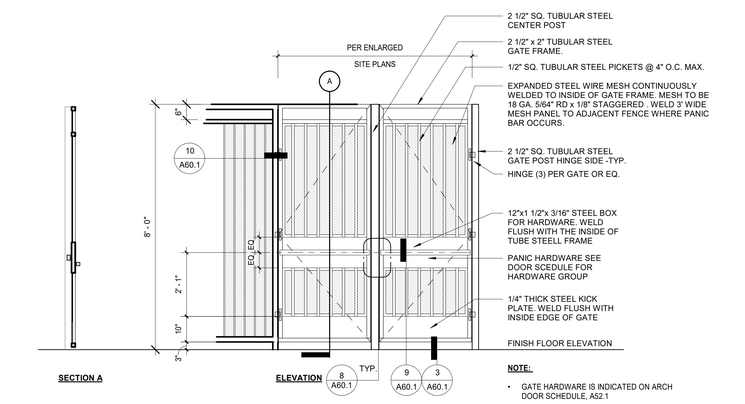
NOTE:
FOR MORE INFORMATION ABOUT THE GATE FRAME SEE (2)/ A60.1

TUBE STEEL GATE THRESHOLD | 3" = 1'-0" | 3



NOTE:
FOR MORE INFORMATION ABOUT THE GATE FRAME DETAILS 1 / A60.1 , 2 / A60.1

UTILITY GATE HINGE | 3" = 1'-0" | 10



SECTION A

ELEVATION

NOTE:

- GATE HARDWARE IS INDICATED ON ARCH DOOR SCHEDULE, A52.1

TUBE STEEL DOUBLE LEAF GATE | 1/2" = 1'-0" | 2

VERITICAL PICKET

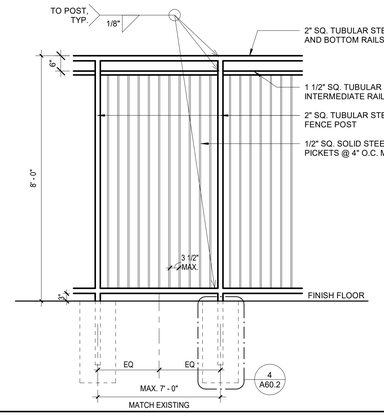
WIRE MESH

HARDWARE BOX

GATE HARDWARE, SEE PLANS AND DOOR SCHEDULE FOR MORE INFO. HARDWARE TO BE MOUNTED BETWEEN 34" MIN. AND 44" MAX. PER CBC SECTION 11B-404.2.7

NOTE:
FOR MORE INFORMATION ABOUT THE GATE FRAME SEE DETAIL 2 / A60.1

TUBE STEEL GATE HARDWARE | 3" = 1'-0" | 9



NOTE:

- ALL WELDS SHALL BE GROUND SMOOTH AND PREPARED FOR PRIMER.
- ALL CONNECTIONS TO BE CONTINUOUS WELDED.
- REMOVE ALL SLAG & SPLATTER, AND GRIND ALL WELDS SMOOTH.
- C. ALL TUBING TO BE CAPPED AND WELDED CLOSED.
- ALL POSTS, PICKETS AND HORIZONTAL RAILS SHALL BE 1/8" FILLET WELDED ALL THE WAY AROUND.
- UNLESS OTHERWISE NOTED ALUMINUM TUBING TO HAVE A SATIN ANODIZED FINISH.
- UNLESS OTHERWISE NOTED, PAINT ALL NON-ALUMINUM TUBULAR STEEL WITH (1) COAT ZINC CHROMATE PRIMER AND WITH (2) COATS GLOSS ENAMEL PAINT. COLOR TO BE BLACK.

TUBE STEEL FENCE ELEVATION DETAIL | 1/2" = 1'-0" | 1

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137

ISSUANCE: A#03-126194

DATE ISSUED: 06/22/2026

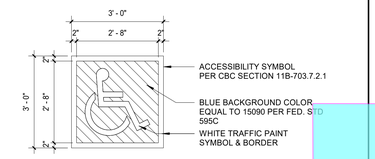
SCALE: As indicated

A60.1

SITE DETAILS

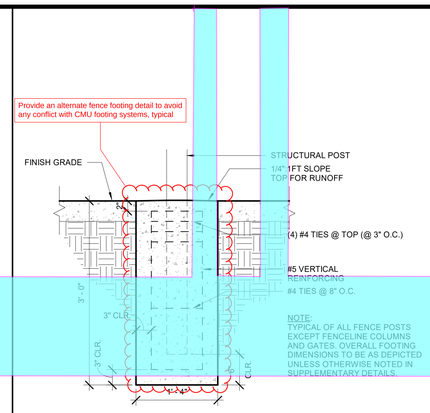
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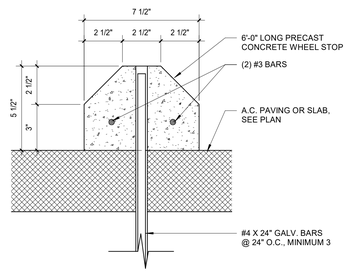


SIGN SHALL MEET THE REQUIREMENTS OF CBC SECTION 11B-502.6.4.1

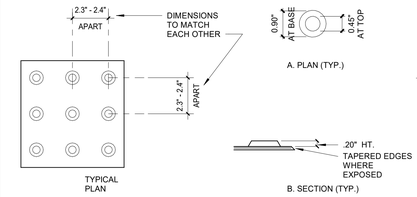
ISA PARKING SYMBOL1 1/2" = 1'-0" **8**



TYPICAL FOOTING DETAIL 1" = 1'-0" **4**



CONCRETE WHEEL STOP1 3" = 1'-0" **7**

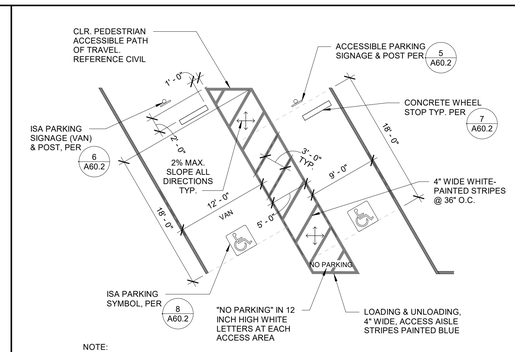


NOTES:
1. USE ONLY APPROVED DSA/AC DETECTABLE WARNING PRODUCTS THAT COMPLY WITH CBC SECTION 11B-705

2. IF A WALK CROSSES OR ADJOINS A VEHICULAR WAY, AND THE WALKING SURFACES ARE NOT SEPARATED BY CURBS, RAILINGS, OR OTHER ELEMENTS BETWEEN THE PEDESTRIAN AREAS AND THE VEHICULAR AREAS, THE BOUNDARY BETWEEN THE AREAS SHALL BE DEFINED BY A CONTINUOUS DETECTABLE WARNING WHICH IS 3'-0" WIDE.

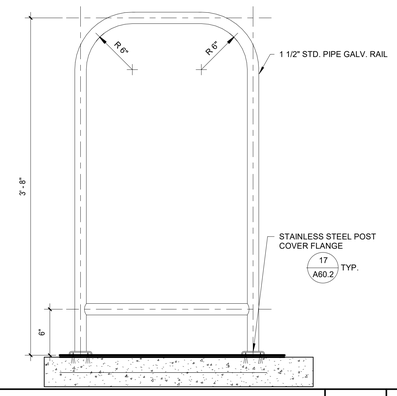
3. DSA WILL PROVISIONALLY ACCEPT A WRITTEN FIVE (5) YEAR PRODUCT WARRANTY PROVIDED BY THE MANUFACTURER OF DETECTABLE WARNINGS AND DIRECTIONAL SURFACE PRODUCTS AS EQUIVALENT TO THE EVALUATION AND PRODUCT APPROVAL PROGRAM. SUCH WARRANTY SHALL INDICATE COMPLIANCE WITH ARCHITECTURAL STANDARDS AS PUBLISHED IN THE CURRENT EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE, AND ALSO INCLUDE DURABILITY CRITERIA WHICH INDICATES THAT THE SHAPE, COLOR FASTNESS, CONFIRMATION, SOUND-ON-CANE ACOUSTIC QUALITY, RESILIENCE AND ATTACHMENT WILL NOT DEGRADE SIGNIFICANTLY FOR AT LEAST FIVE (5) YEARS AFTER INITIAL INSTALLATION.

DETECTABLE WARNING DOMES1 3" = 1'-0" **3**

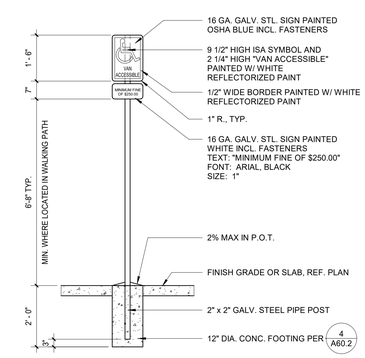


NOTE:
1. MAXIMUM SLOPE OF FINISHED SURFACE SHALL NOT EXCEED 2% IN ANY DIRECTION PER CBC 11B-502.4 FOR ACCESSIBLE PARKING SPACES & ACCESS AISLES.
2. CONTRACTOR SHALL VERIFY (E) CONDITIONS FOR COMPLIANCE AND MODIFY AS REQ.'D PER PLAN. (TYPICAL AT ALL ACCESSIBLE PARKING STALLS).

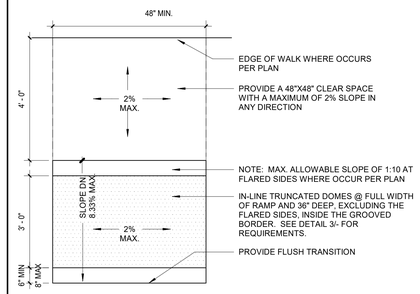
ACCESSIBLE PARKING STALL 1/8" = 1'-0" **14**



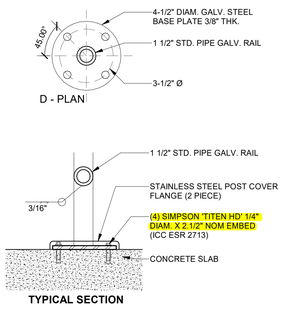
CANE RAIL 1 1/2" = 1'-0" **10**



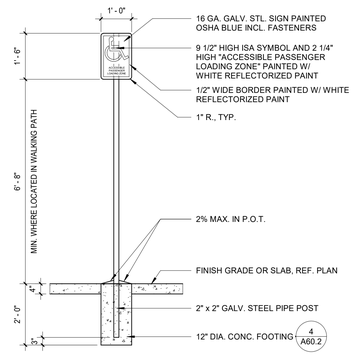
VAN ACCESSIBLE PARKING SIGNAGE 1/2" = 1'-0" **6**



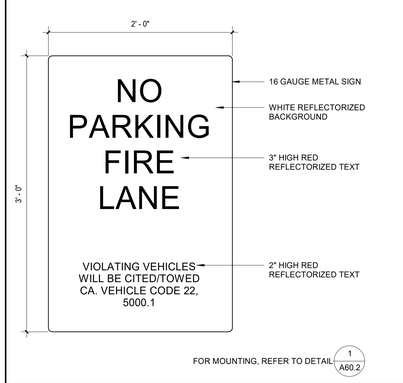
ENLARGED CURB RAMP 1/2" = 1'-0" **2**



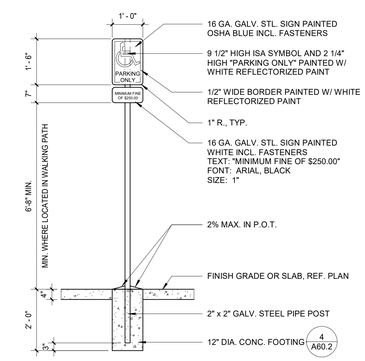
RAIL FLOOR ANCHORAGE 3" = 1'-0" **17**



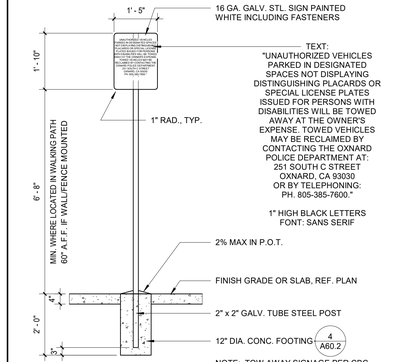
ACC. PASSENGER LOADING ZONE SIGN 1/2" = 1'-0" **13**



FIRE LANE SIGNAGE1 1 1/2" = 1'-0" **9**



ACCESSIBLE PARKING SIGNAGE 1/2" = 1'-0" **5**



NOTE: TOW AWAY SIGNAGE PER CBC 11B-502.8

TOW AWAY PARKING SIGN 1/2" = 1'-0" **1**

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

A60.2

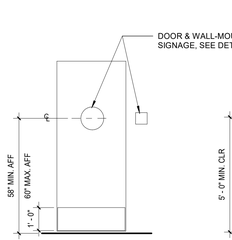
SITE DETAILS

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

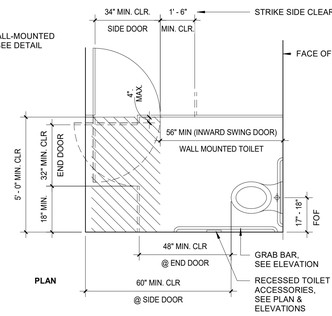
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AGE GROUP	ADULT
TOILET CENTERLINE FROM WALL/PARTITION	17" - 18"
TOILET SEAT HEIGHT (TO TOP OF SEAT)	17" - 19"
TOP OF GRAB BAR GRIPPING SURFACE HEIGHT	33" - 36"
TOILET PAPER C.L. DISPENSER (ABOVE FINISH FLOOR)	19" MIN.
CENTERLINE OF TOILET PAPER IN FRONT OF TOILET	7" - 9"
NAPKIN DISPOSAL IN FRONT OF TOILET	12" MAX.
NAPKIN DISPOSLAL (BELOW SIDE GRAB BAR)	20" MIN.
TOP OF OPERABLE PART AT DISPENSERS OR BOTTOM OF REFLECTIVE SURFACE MIRROR HEIGHT (OVER SHELF/LAV.)	40" MAX.
MIRROR HEIGHT (ISOLATED MIRROR)	35" MAX.
LAVATORY/SINK RIM HEIGHT	34" MAX.
LAVATORY/SINK KNEE CLEARANCE	27" (29" MIN. AT APRON FOR LAV.)
URINAL LIP HEIGHT	17" MAX.
URINAL FLUSH HANDLE HEIGHT	44" MAX.
URINAL PROJECTION	13-1/2" MIN.
TOE CLEARANCE AT TOILET PARTITION	9" MIN.

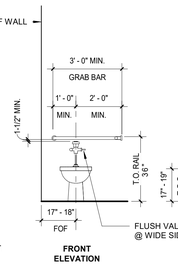
CLEARANCES OF FIXTURES & ACCESSORIES TO FINISHED SURFACE



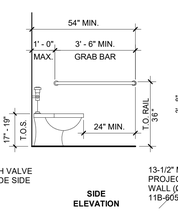
DOOR SIGNAGE



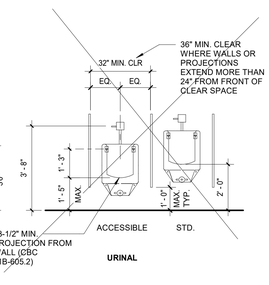
PLAN



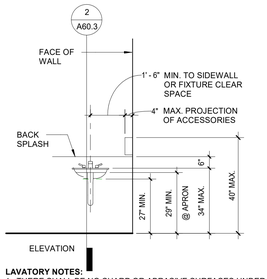
FRONT ELEVATION



SIDE ELEVATION



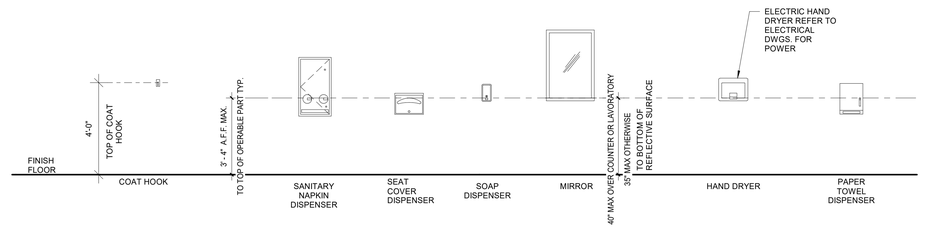
URINAL



LAVATORY NOTES:
1. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER THE LAVATORY.
2. ALL HOT WATER & DRAIN PIPES ACCESSIBLE UNDER LAVATORIES MUST BE INSULATED OR OTHERWISE COVERED.
3. CLEARANCE HEIGHTS PER AGE GROUP CHART AND DETAIL 2//--

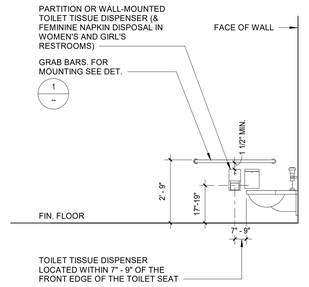
STAFF TOILET ROOM PLUMBING FIXTURE HEIGHTS/DIMENSIONS

(INDICATES REQUIRED CLEARANCES OF FIXTURES & ACCESSORIES TO FINISHED SURFACE, PER AGE GROUP CHART)

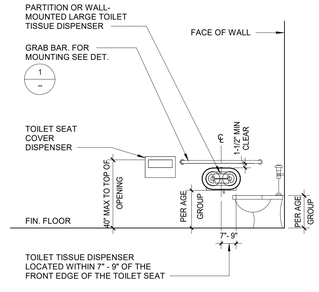


TOILET ROOM ACCESSORY MOUNTING HEIGHTS

NOTES:
1. REFER TO SPECIFICATIONS AND TOILET ACCESSORY SCHEDULE FOR MORE INFORMATION.
2. FOR TOILET PARTITIONS REFER TO SPECIFICATIONS AND DETAIL.
3. REFER TO PLUMBING DRAWINGS FOR MORE INFORMATION ON SPECIFIC FIXTURES.
4. ALL ACCESSORIES SHALL HAVE A MAXIMUM PROJECTION OF 4 INCHES FROM THE FINISHED WALL SURFACE.

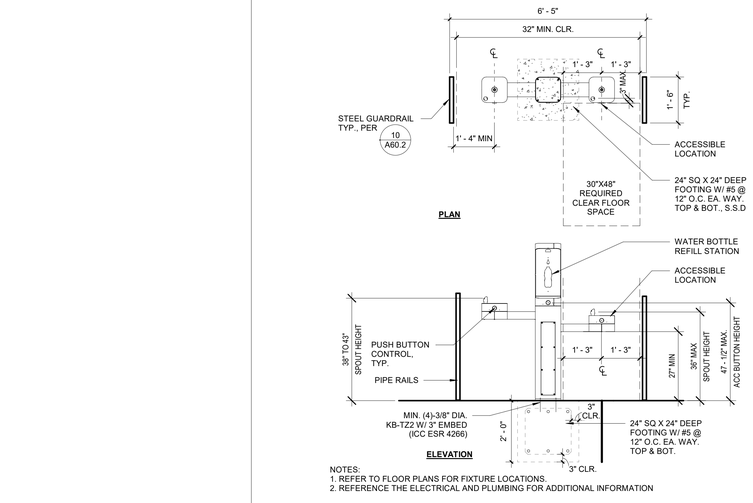


TOILET COMPARTMENT ACCESSORIES INDIVIDUAL ITEMS



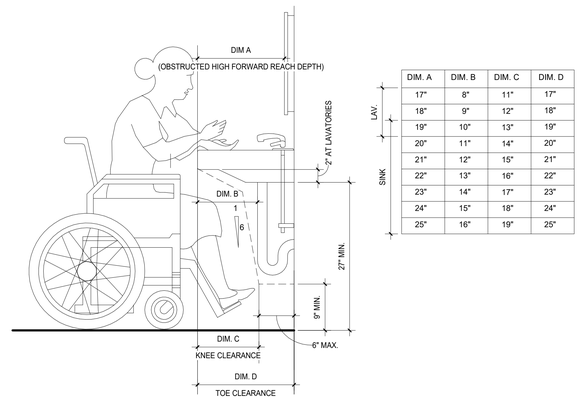
ACCESSIBLE STUDENT TOILET COMPARTMENT ACCESSORIES INDIVIDUAL ITEMS

TOILET ROOM ACCESSORIES AND PLUMBING FIXTURES CLEARANCES | 3/8" = 1'-0" | 3



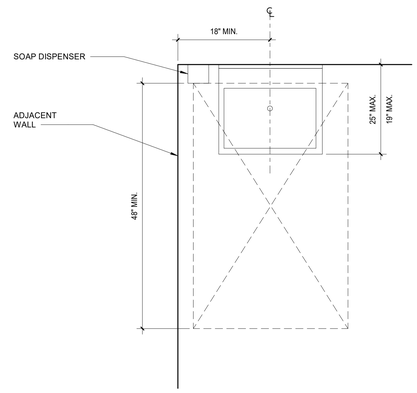
NOTES:
1. REFER TO FLOOR PLANS FOR FIXTURE LOCATIONS.
2. REFERENCE THE ELECTRICAL AND PLUMBING FOR ADDITIONAL INFORMATION

ACC. DUAL HEIGHT DRINKING FOUNTAIN W/ BOTTLE FILLER | 1/2" = 1'-0" | 13

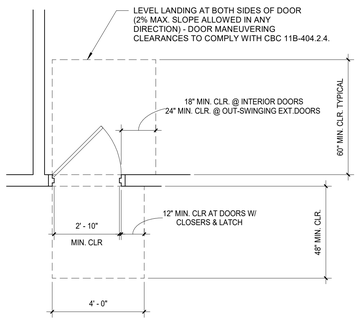


DIM. A	DIM. B	DIM. C	DIM. D
17"	8"	11"	17"
18"	9"	12"	18"
19"	10"	13"	19"
20"	11"	14"	20"
21"	12"	15"	21"
22"	13"	16"	22"
23"	14"	17"	23"
24"	15"	18"	24"
25"	16"	19"	25"

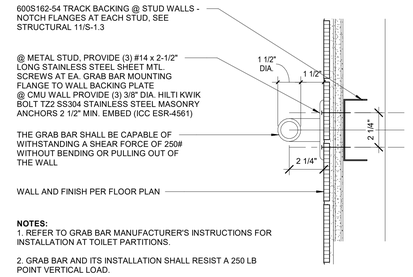
LAV.
SINK



LAVATORIES AND SINKS DETAIL | 1" = 1'-0" | 2



ACCESSIBLE DOOR LANDING | 3/8" = 1'-0" | 5



NOTES:
1. REFER TO GRAB BAR MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION AT TOILET PARTITIONS.

2. GRAB BAR AND ITS INSTALLATION SHALL RESIST A 250 LB POINT VERTICAL LOAD.

GRAB BARS | 3" = 1'-0" | 1

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
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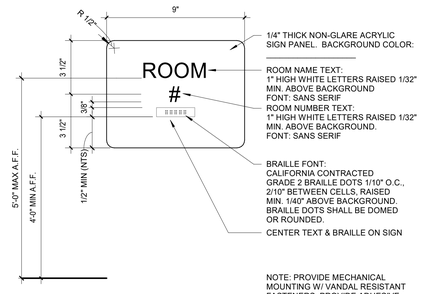
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

A60.3

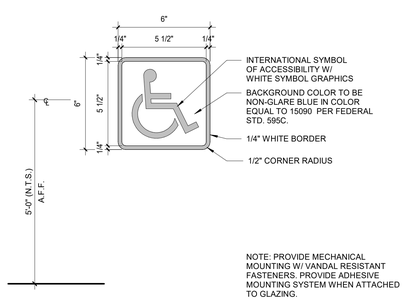
ACCESSIBILITY DETAILS

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
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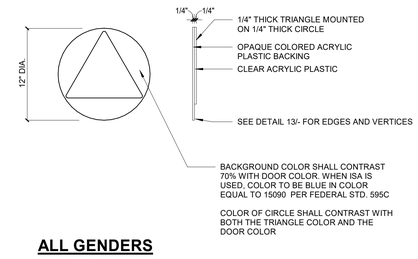
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TACTILE ROOM IDENTIFICATION SIGN 3" = 1'-0" **4**



ACCESSIBLE ENTRANCE SIGN 3" = 1'-0" **7**



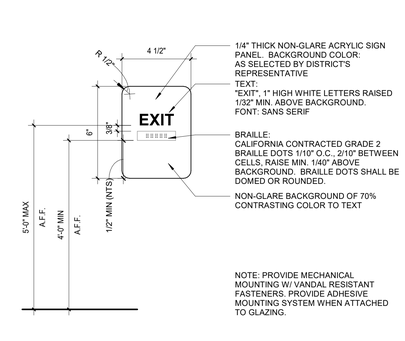
ALL GENDERS

CBC 11B-703.7.2.6.3
DSA BU 17-01

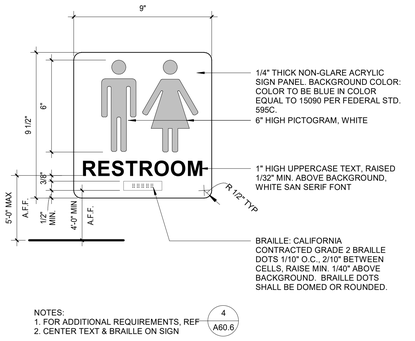
NOTE:
ATTACH SIGNS USING THREE FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGNS SHALL BE CENTERED ON THE DOOR AND MOUNTED BEING A 4'-10" MINIMUM AND A 5'-0" MAXIMUM ABOVE FINISH FLOOR LINE TO CENTER OF SIGN.

DOOR SYMBOL SHALL CONTRAST WITH DOOR COLOR PER CBC 11B-703.7.2.6.2.

RESTROOM DOOR SIGN - ALL GENDERS 1 1/2" = 1'-0" **3**

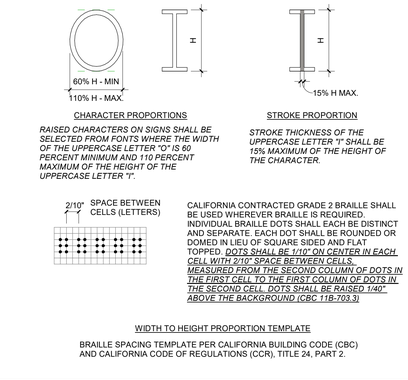


TACTILE EXIT SIGN 3" = 1'-0" **6**

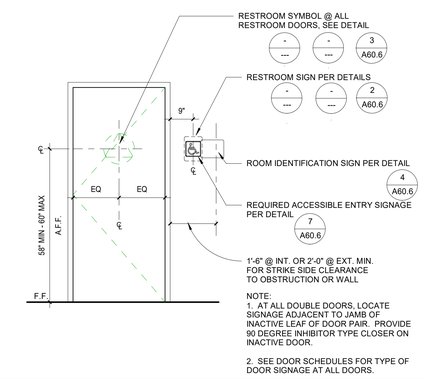


NOTES:
1. FOR ADDITIONAL REQUIREMENTS, REF- 4 A60.6
2. CENTER TEXT & BRAILLE ON SIGN

RESTROOM SIGN - ALL GENDERS 3" = 1'-0" **2**



TACTILE SIGNAGE TEMPLATES 1 : 1 **5**



DOOR ROOM SIGNAGE 1/2" = 1'-0" **1**

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
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STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

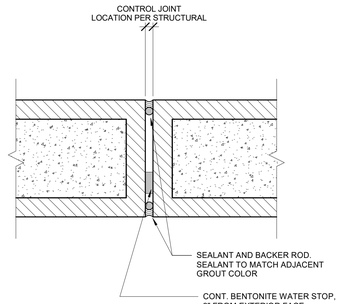
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

A60.6

ACCESSIBILITY SIGNAGE DETAILS

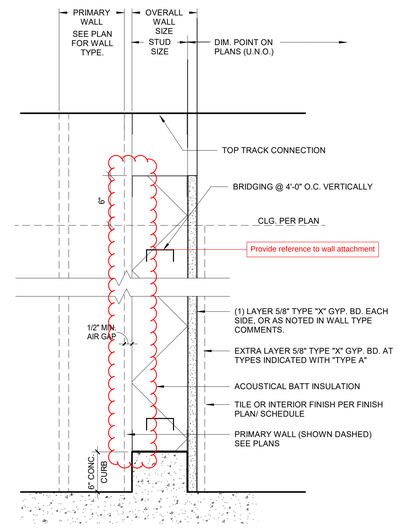
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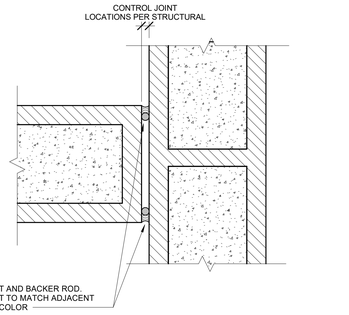


NOTE: CONTROL JOINTS EXCEEDING .625 INCH WILL REQUIRE A FIRE RESISTANT JOINT SYSTEM PER CBC 715.1 EXC. 9

CMU VERTICAL CONTROL JOINT 3" = 1'-0" **6**

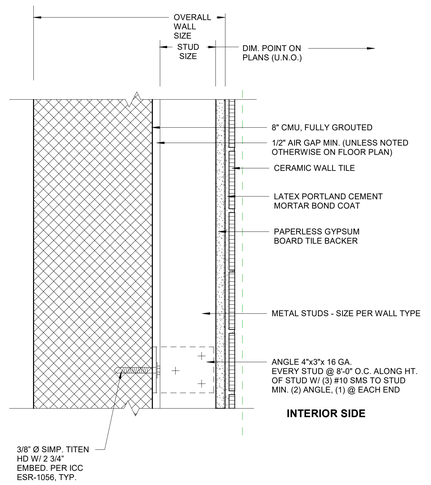


FURRING WALL (M3 & M4) 3" = 1'-0" **3**



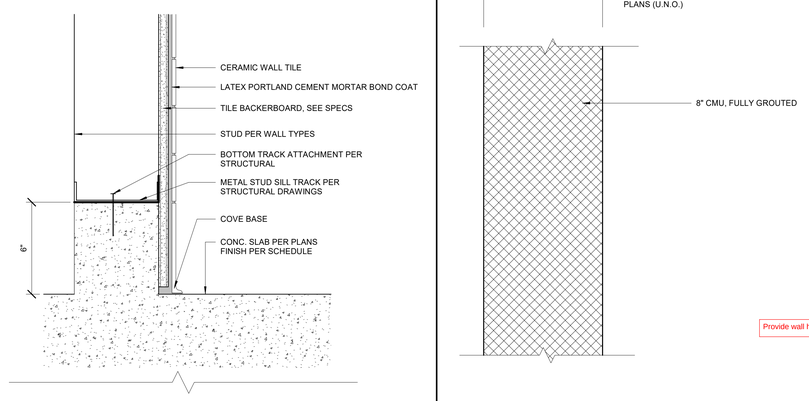
NOTE: CONTROL JOINTS EXCEEDING .625 INCH WILL REQUIRE A FIRE RESISTANT JOINT SYSTEM PER CBC 715.1 EXC. 9

CMU CORNER CONTROL JOINT 3" = 1'-0" **5**

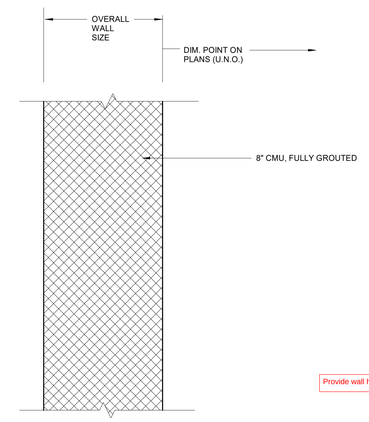


TOP OF WALL CONNECTION PER: 3 / A61.2
WALL BASE PER: 4 / A61.2

EXTERIOR WALL (CM2) 3" = 1'-0" **2**



WALL BASE @ TILE FURRING 3" = 1'-0" **4**



INTERIOR/EXTERIOR WALL (CM1) 3" = 1'-0" **1**

M3 FURRING WALL

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
M3	3 5/8"	16" O.C.	4 1/4"	3 / -	
M4	1 5/8"	16" O.C.	2 1/4"	3 / -	

CM2 EXTERIOR WALL - 8" CMU WITH FURRING

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
CM2	6"	16" O.C.	13 5/8" (U.N.O. ON PLANS)	2 / -	-TILE ONE SIDE -AIR GAP PER FLOOR PLAN

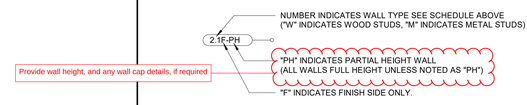
CM1 EXTERIOR / INTERIOR WALL - 8" CMU

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DETAIL	COMMENTS
CM1	-	-	7 5/8"	1 / -	

WALL TYPE SCHEDULE

1. ALL INTERIOR WALLS SHALL RECEIVE ACOUSTICAL BATT INSULATION FROM FLOOR TO 6" ABOVE CEILING.
2. ALL EXTERIOR WALLS SHALL RECEIVE THERMAL BATT INSULATION IN FURRING CAVITY.
3. ALL INTERIOR WALL SHALL BE FULL HEIGHT TO STRUCTURE UNLESS INDICATED WITH "PH" FOR PARTIAL HEIGHT.
4. ALL TILE WALLS HAVE 6" CONC. CURB PER DETAILS 4 / A61.2

WALL TYPE GENERAL NOTES



WALL TYPE SYMBOL LEGEND

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

A61.2

WALL TYPES

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
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1) COLOR COATED ALUM FLASHING
2) AEP SPAN NARROW SEAM BATTEN SEAM ROOFING WITH SEALED LOCK SEAMS
3) HIGH TEMPERATURE SELF ADHERED ROOF UNDERLAYMENT MEMBRANE
4) 1/2" GYPSUM ROOF DECK BOARD
5) RIGID INSULATION BOARD, TAPERED TO SLOPE
6) STRUCTURAL DECK PER STRUCTURAL
7) STRUCTURAL FRAMING PER STRUCTURAL
8) CONT. ALUM COLOR COATED GUTTER
9) 5/8" EXTERIOR GYP SHEATHING
10) HIGH TEMPERATURE SELF ADHERED MEMBRANE FLASHING

11) ROUND ESCUTCHEON, MATCH FLASHING COLOR, WITH RIVET ATTACHMENT
12) ALUMINUM SHEET METAL DOWNSPOUT, COLOR COATED. CONNECT TO SCHEDULE 40 STEEL PIPE VERTICAL RISER WHERE SHOWN ON SECTION
13) 4" METAL STUD FRAMING PER STRUCTURAL
14) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL VERTICAL CLADDING
15) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL SOFFIT PANELS
16) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL, VENTED, PANEL.
17) AEP SPAN COLOR COATED COVER TRIM, ALTERATE
18) #12 SELF TAPPING FASTENERS
19) #14 STITCH LAP SELF TAPPING FASTENER

20) GRAVEL STOP TYPE FLASHING
21) BUILT UP ROOFING MEMBRANE
22) TYPICAL ROOFING ASSEMBLY
23) SEALANT PER SPECS.
24) CANT STRIP

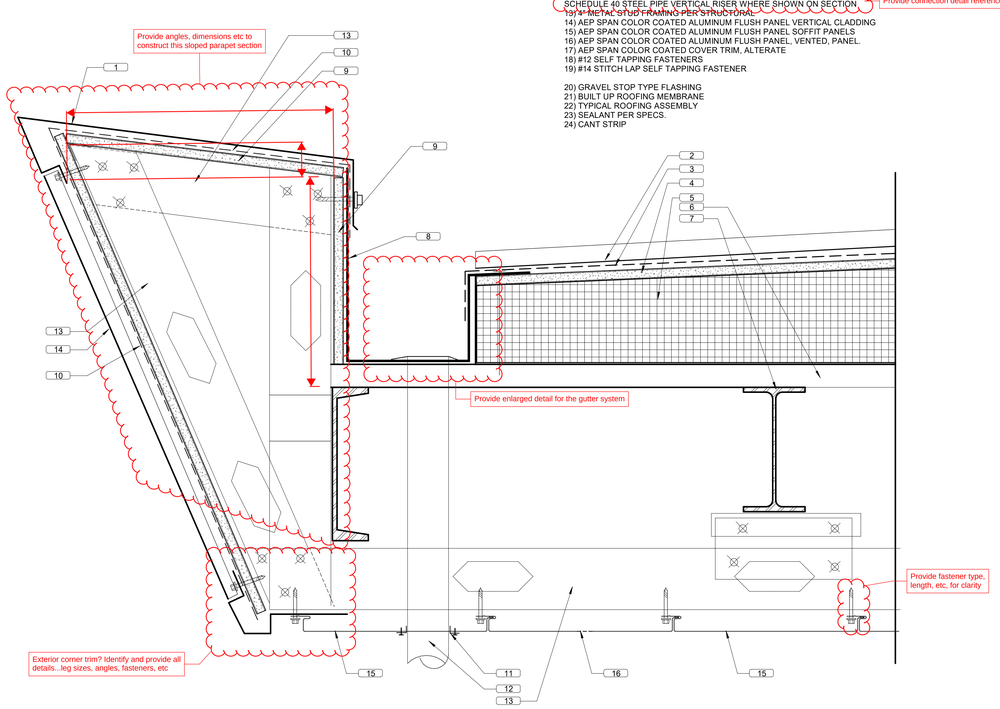
Provide connection detail reference for clarity

Provide angles, dimensions etc to construct this sloped parapet section

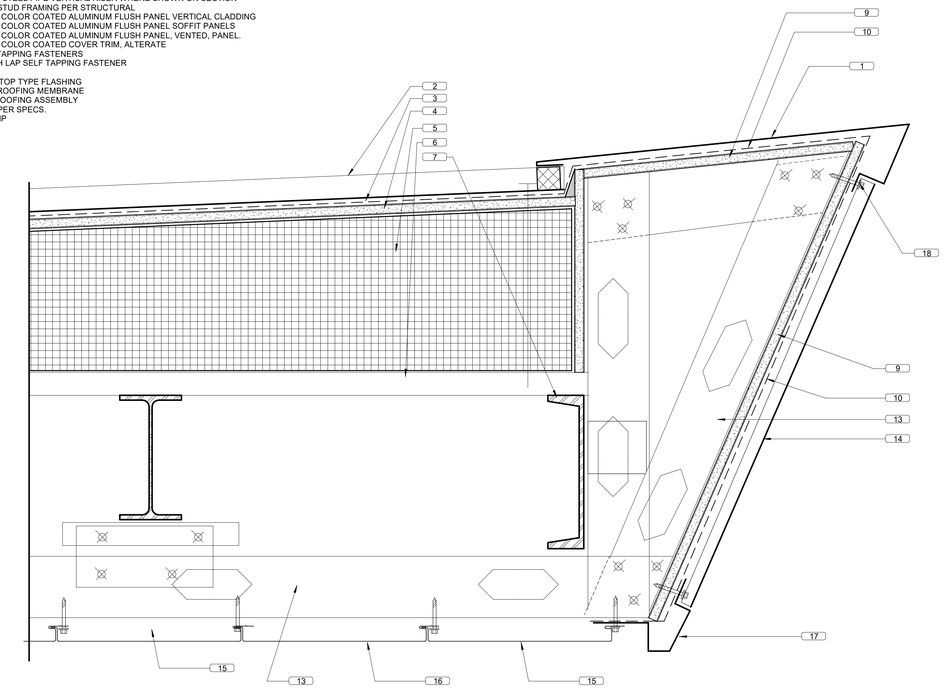
Provide enlarged detail for the gutter system

Provide fastener type, length, etc, for clarity

Exterior corner trim? Identify and provide all details...leg sizes, angles, fasteners, etc



ENTRY GATE STRUCTURE ROOF EDGE NORTH — 3" = 1'-0" — 2



ENTRY GATE STRUCTURE ROOF EDGE SOUTH — 3" = 1'-0" — 3

2) AEP SPAN NARROW SEAM BATTEN SEAM ROOFING WITH SEALED LOCK SEAMS
3) HIGH TEMPERATURE SELF ADHERED ROOF UNDERLAYMENT MEMBRANE
4) 1/2" GYPSUM ROOF DECK BOARD
5) RIGID INSULATION BOARD, TAPERED TO SLOPE
6) STRUCTURAL DECK PER STRUCTURAL
7) STRUCTURAL FRAMING PER STRUCTURAL
13) 4" METAL STUD FRAMING PER STRUCTURAL
15) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL SOFFIT PANELS
16) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL, VENTED, PANEL.
25) FIELD CUT 1" MIN. LARGER THAN PIPE IN THE BROAD FLAT OF PANEL
26) PER SHOP DWG SPECS
27) STAINLESS STEEL JOSE CLAMP
28) WELD PER STRUCTURAL, TYP.
29) 1/4" STEEL PLATE, TYP.
30) 1/2" STEEL PLATE, TYP.
31) FASTENER PER STRUCTURAL
32) **STEEL PIPE 18" O.C.** ALONG LENGTH OF LETTERING, PER STRUCTURAL
33) CHANEL PER STRUCTURAL
34) FABRICATED METAL STAINLESS STEEL LETTER PER SPECS

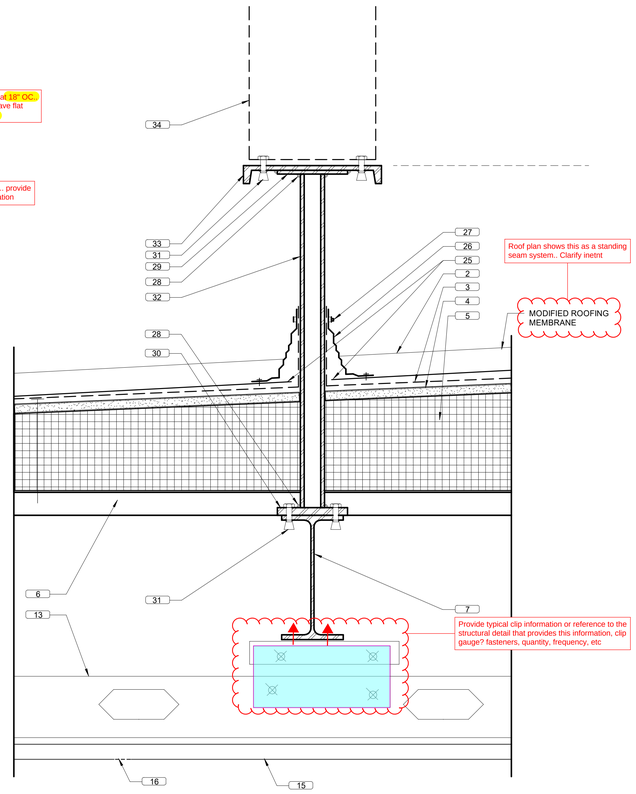
Support pipes are noted to be placed at 18" OC. Confirm the standing seam roof will have flat panel sections that match the 18" OC.

Metal letter spec could not be located.. provide correct reference to additional information

Roof plan shows this as a standing seam system.. Clarify inetnt

MODIFIED ROOFING MEMBRANE

Provide typical clip information or reference to the structural detail that provides this information, clip gauge? fasteners, quantity, frequency, etc

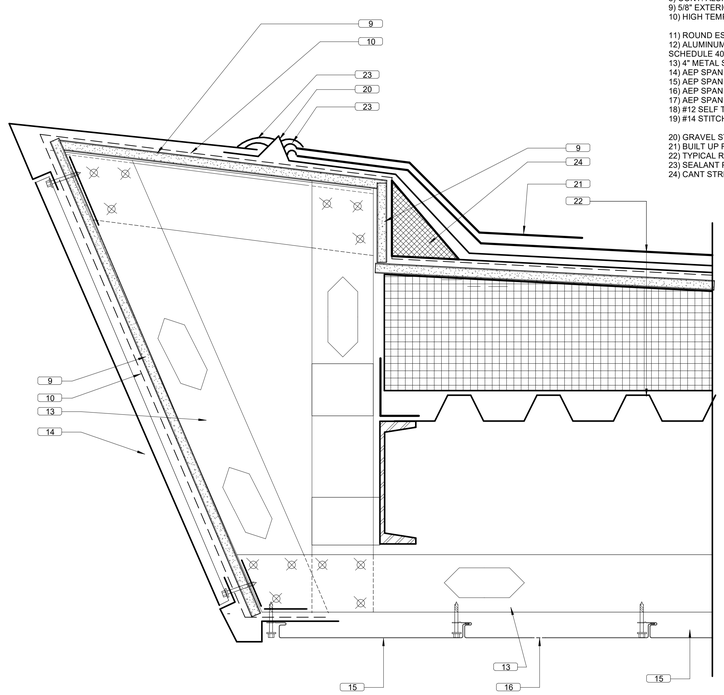


ENTRY GATE LETTERING — 3" = 1'-0" — 4

1) COLOR COATED ALUM FLASHING
2) AEP SPAN NARROW SEAM BATTEN SEAM ROOFING WITH SEALED LOCK SEAMS
3) HIGH TEMPERATURE SELF ADHERED ROOF UNDERLAYMENT MEMBRANE
4) 1/2" GYPSUM ROOF DECK BOARD
5) RIGID INSULATION BOARD, TAPERED TO SLOPE
6) STRUCTURAL DECK PER STRUCTURAL
7) STRUCTURAL FRAMING PER STRUCTURAL
8) CONT. ALUM COLOR COATED GUTTER
9) 5/8" EXTERIOR GYP SHEATHING
10) HIGH TEMPERATURE SELF ADHERED MEMBRANE FLASHING

11) ROUND ESCUTCHEON, MATCH FLASHING COLOR, WITH RIVET ATTACHMENT
12) ALUMINUM SHEET METAL DOWNSPOUT, COLOR COATED. CONNECT TO SCHEDULE 40 STEEL PIPE VERTICAL RISER WHERE SHOWN ON SECTION
13) 4" METAL STUD FRAMING PER STRUCTURAL
14) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL VERTICAL CLADDING
15) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL SOFFIT PANELS
16) AEP SPAN COLOR COATED ALUMINUM FLUSH PANEL, VENTED, PANEL.
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20) GRAVEL STOP TYPE FLASHING
21) BUILT UP ROOFING MEMBRANE
22) TYPICAL ROOFING ASSEMBLY
23) SEALANT PER SPECS.
24) CANT STRIP



WEST RESTROOM BUILDING ROOF EDGE — 3" = 1'-0" — 1

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

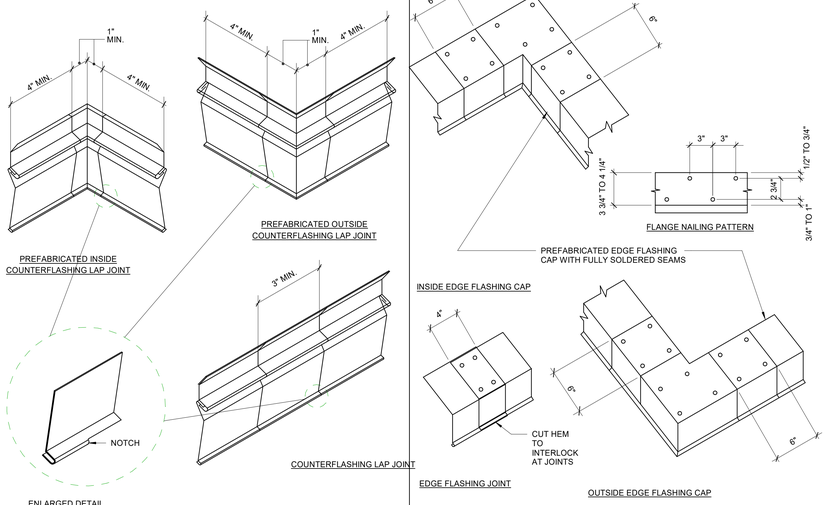
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 3" = 1'-0"

A62.1

ROOF ASSEMBLY DETAILS

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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PREFABRICATED INSIDE COUNTERFLASHING LAP JOINT

PREFABRICATED OUTSIDE COUNTERFLASHING LAP JOINT

ENLARGED DETAIL

COUNTERFLASHING LAP JOINT

PREFABRICATED EDGE FLASHING CAP WITH FULLY SOLDERED SEAMS

FLANGE NAILING PATTERN

INSIDE EDGE FLASHING CAP

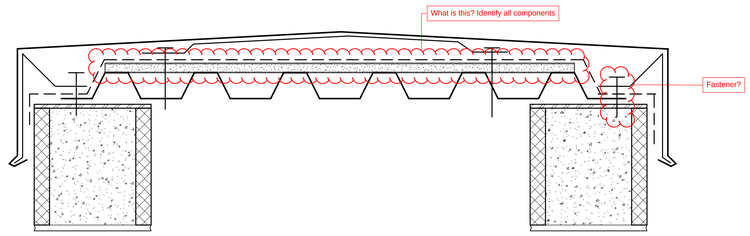
EDGE FLASHING JOINT

OUTSIDE EDGE FLASHING CAP

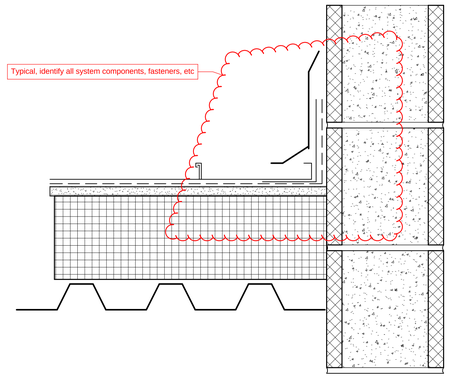
NOTES:
ROOF CEMENT SHALL BE INSTALLED BETWEEN THE ENDS AT ALL JOINTS, SIX INCHES EACH SIDE OF JOINT. EACH JOINT SHALL BE NAILED WITH A MINIMUM OF FOUR NAILS, TWO ON SIDE OF THE JOINT. ALL JOINTS AND MITERS SHALL BE OVERLAPPED A MINIMUM OF FOUR INCHES.

TYP. SURF. MTD. COUNTER FLASHING1 | 1 1/2" = 1'-0" | **18**

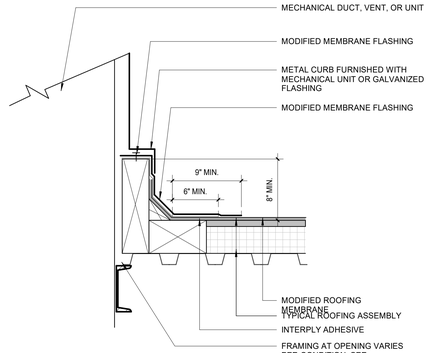
EDGE FLASHING DETAILS1 | 1 1/2" = 1'-0" | **14**



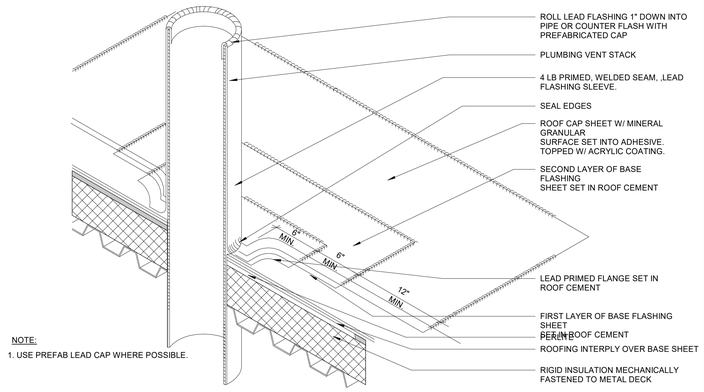
PILAR CAP | 3" = 1'-0" | **8**



WALL FLASHING | 3" = 1'-0" | **7**



MECHANICAL PENETRATION AT ROOF | 1 1/2" = 1'-0" | **3**

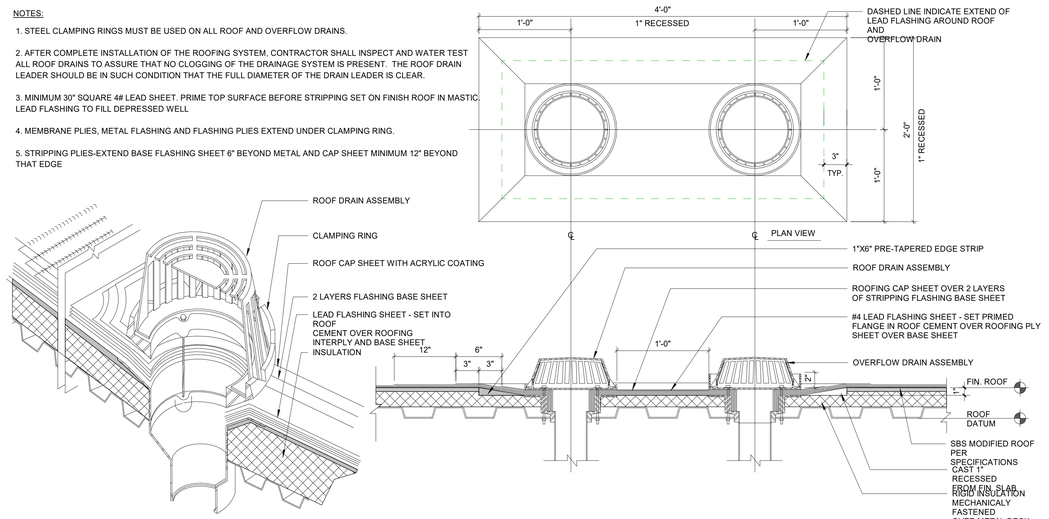


NOTE:
1. USE PREFAB LEAD CAP WHERE POSSIBLE.

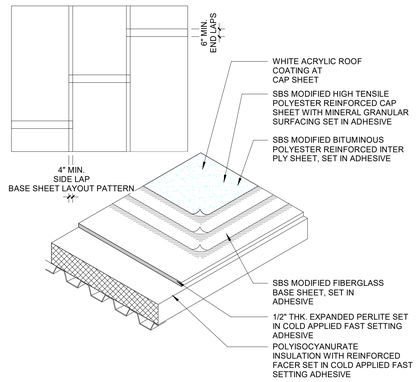
PLUMBING PIPE/VENT FLASHING | 1 1/2" = 1'-0" | **12**

NOTES:

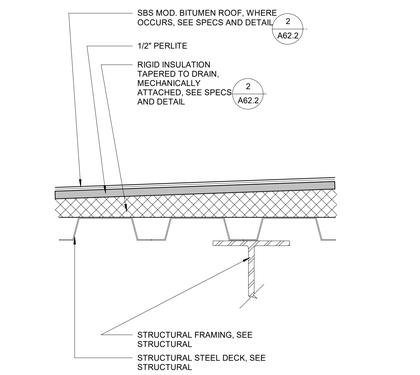
1. STEEL CLAMPING RINGS MUST BE USED ON ALL ROOF AND OVERFLOW DRAINS.
2. AFTER COMPLETE INSTALLATION OF THE ROOFING SYSTEM, CONTRACTOR SHALL INSPECT AND WATER TEST ALL ROOF DRAINS TO ASSURE THAT NO CLOGGING OF THE DRAINAGE SYSTEM IS PRESENT. THE ROOF DRAIN LEADER SHOULD BE IN SUCH CONDITION THAT THE FULL DIAMETER OF THE DRAIN LEADER IS CLEAR.
3. MINIMUM 30" SQUARE 4# LEAD SHEET. PRIME TOP SURFACE BEFORE STRIPPING SET ON FINISH ROOF IN MASTIC. LEAD FLASHING TO FILL DEPRESSED WELL
4. MEMBRANE PLIES, METAL FLASHING AND FLASHING PLIES EXTEND UNDER CLAMPING RING.
5. STRIPPING PLIES-EXTEND BASE FLASHING SHEET 6" BEYOND METAL AND CAP SHEET MINIMUM 12" BEYOND THAT EDGE



ROOF DRAIN DETAIL | 1 1/2" = 1'-0" | **5**



MODIFIED BITUMINOUS ROOFING | 1" = 1'-0" | **2**



TYPICAL ROOFING ASSEMBLY | 3" = 1'-0" | **1**

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
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REVISIONS:

	DESCRIPTION	DATE

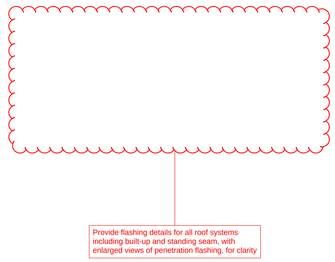
PROJECT NO: 2025-40137
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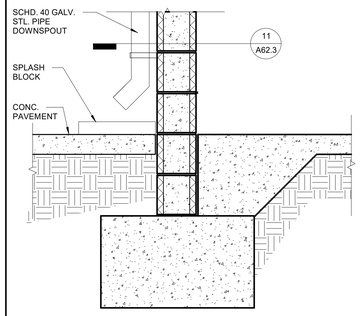
A62.2

ROOF DETAILS

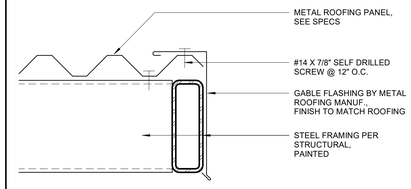
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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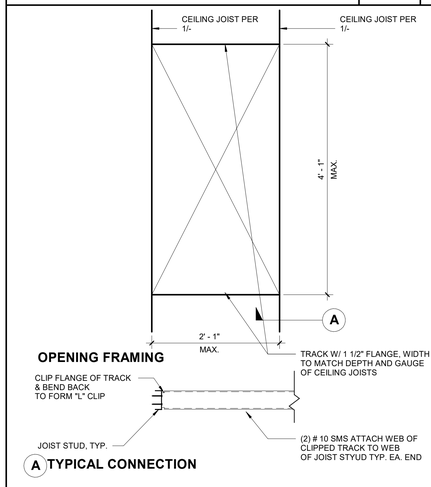




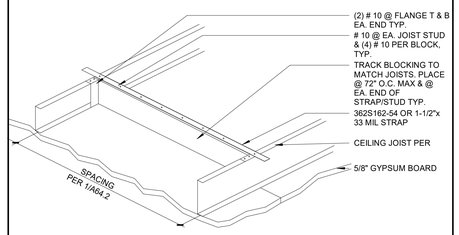
DOWNSPOUT CATCH BASIN DETAIL 1" = 1'-0" **12**



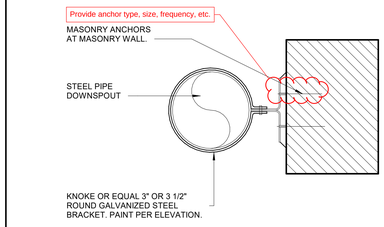
METAL ROOF - GABLE FLASHING 3" = 1'-0" **4**



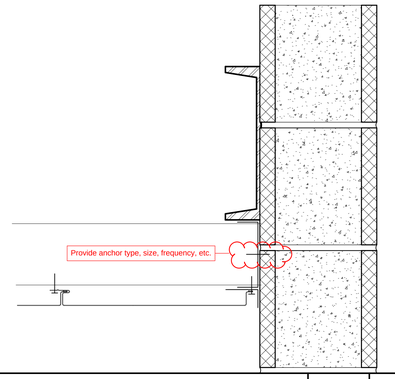
CEILING AROUND OPENING AT RECESSED LIGHT FIXTURE . 1" = 1'-0" **15**



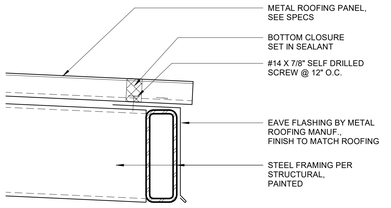
GYPSUM BOARD CEILING @ RR. 1 1/2" = 1'-0" **14**



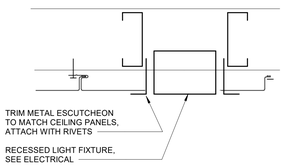
STEEL DOWNSPOUT BRACKET 1 1/2" = 1'-0" **11**



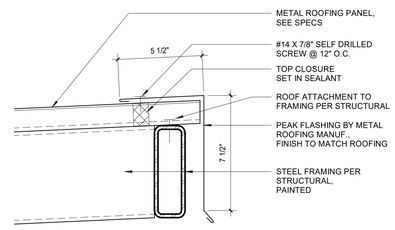
SOFFIT AT WALL 3" = 1'-0" **7**



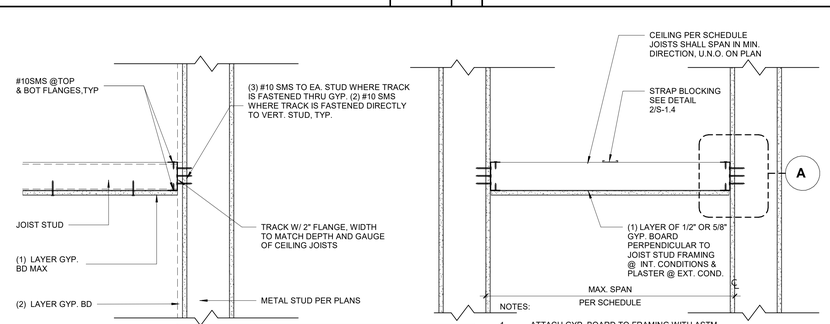
METAL ROOF - EAVE FLASHING 3" = 1'-0" **3**



RECESSED LIGHT FIXTURE - SOFFIT 3" = 1'-0" **6**



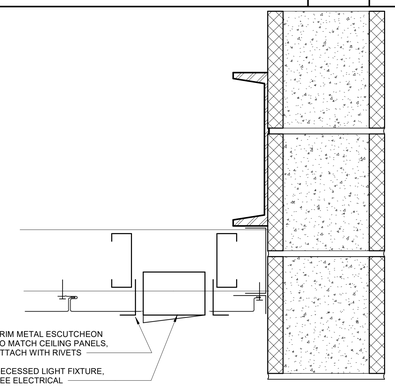
METAL ROOF - PEAK FLASHING 3" = 1'-0" **2**



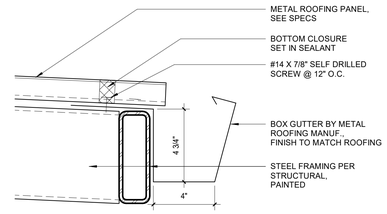
JOIST SPAN SCHEDULE				DESIGN LOADS	
JOISTS STUD SIZE	TYPE	MAX. SPACING	MAX. SPAN	DL (PSF)	LL (PSF)
400S162-54	GYP BD	24"	12'-0"	5	10
600S162-54	GYP BD	16"	15'-0"	5	10
600S162-54	PLASTER	16"	11'-0"	18	0

NOTES:
1. ATTACH GYP. BOARD TO FRAMING WITH ASTM C1002 TYPES S CREWS WITH CORROSION RESISTANT TREATMENT AT 12" O.C. MAX. WHEN GYPSUM BOARD IS TO BE APPLIED TO BOTH CEILING AND WALLS, GYPSUM BOARD SHALL BE APPLIED FIRST TO THE CEILING AND THEN TO THE WALLS IN ACCORDANCE WITH ASTM C840.

JOIST GYP-BOARD SECTION 1 1/2" = 1'-0" **13**



RECESSED LIGHT FIXTURE - WALL 3" = 1'-0" **5**



METAL ROOF - GUTTER 3" = 1'-0" **1**

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
JAN. 31, 2027
Renewal Date
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

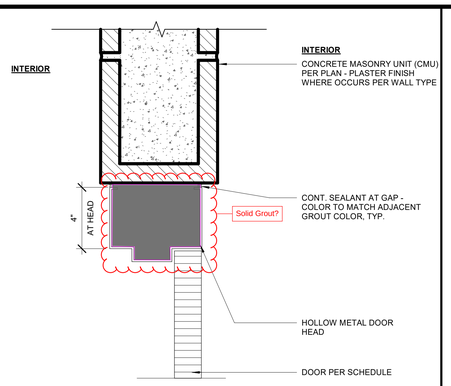
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

A62.3

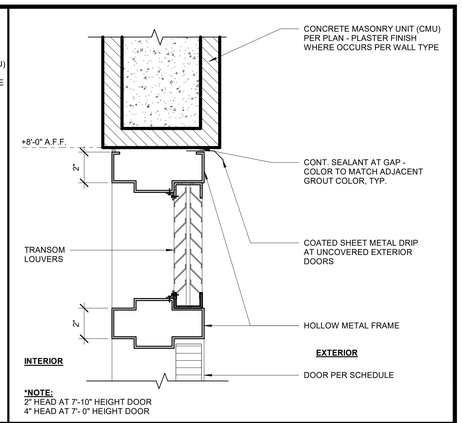
ROOF & CEILING DETAILS

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

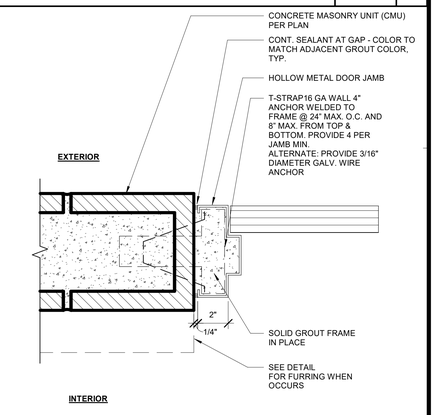
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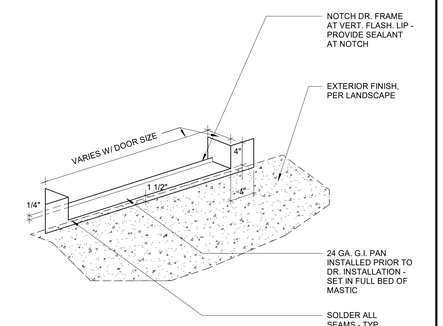
DOOR HEAD AT CMU WALL 3" = 1'-0" **8**



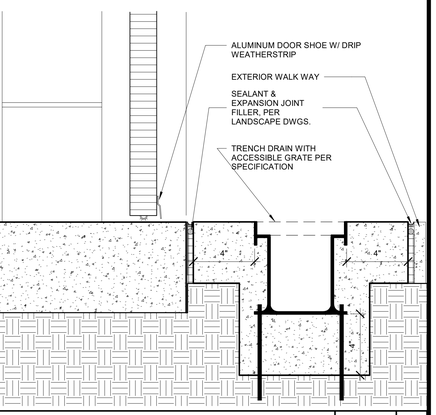
DOOR HEAD AT CMU WALL 3" = 1'-0" **4**



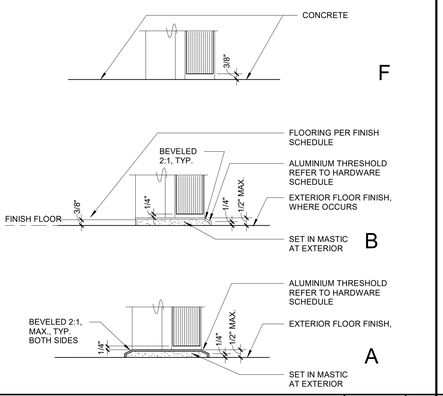
DOOR JAMB AT CMU WALL 3" = 1'-0" **3**



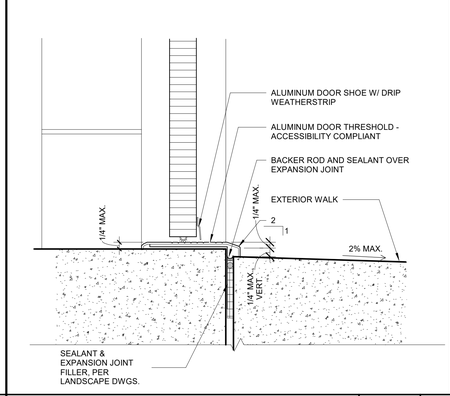
EXT. DOOR THRESHOLD FLASHING 3" = 1'-0" **6**



EXTERIOR DOOR THRESHOLD 3" = 1'-0" **2**



THRESHOLD DETAILS 3" = 1'-0" **5**



EXTERIOR DOOR THRESHOLD 3" = 1'-0" **1**

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

LICENSED ARCHITECT ROBERT M. SIMONS No. C-18301 JAN. 31, 2027 Renewal Date STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 3" = 1'-0"

A63.1

DOOR DETAILS

SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
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GENERAL NOTES:

1. DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE OF SAME NATURE AS THOSE SHOWN FOR SIMILAR CONDITIONS. REFER TO THE TYPICAL DETAIL SHEETS FOR TYPICAL DETAILS OF CONSTRUCTION. TYPICAL DETAILS APPLY TO ALL CONSTRUCTION UNLESS SPECIFICALLY NOTED OR SHOWN OTHERWISE. WHERE CONDITIONS REQUIRE MODIFICATIONS OF A TYPICAL DETAIL, THE CONTRACTOR SHALL SUBMIT MODIFIED DETAIL FOR APPROVAL BY THE ENGINEER OF RECORD PRIOR TO FABRICATION AND INSTALLATION.

2. CONTRACTOR SHALL CONSIDER THE PROJECT SPECIFICATIONS A PART OF THE CONTRACT DOCUMENTS. WHERE INFORMATION IS CONFLICTING, SPECIFIC DETAILS SHALL GOVERN OVER TYPICAL DETAILS WHICH SHALL GOVERN OVER THESE NOTES WHICH SHALL GOVERN OVER SPECIFICATIONS.

3. ALL DIMENSIONS ON STRUCTURAL DRAWINGS SHALL BE CHECKED AGAINST ARCHITECTURAL DIMENSIONS. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE OMITTED OR NOT CLEAR, CONTACT THE ARCHITECT (ARCH) OR STRUCTURAL ENGINEER OF RECORD (SEOR). ALL DIMENSIONS RELATED TO EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. DIMENSIONS ARE TO THE FACE OF STUDS, AND TO CENTERLINE OF COLUMNS UNO.

4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY NOTIFY THE SEOR OF ANY CONFLICTS BETWEEN THE STRUCTURAL DRAWINGS AND OTHER DRAWINGS; OR EXISTING CONDITIONS NOT SHOWN OR DIFFERENT FROM THOSE SHOWN ON DRAWINGS PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE BUILDING THAT IS IN CONFLICT UNTIL THE CONFLICT IS RESOLVED WITH THE AFFECTED PARTIES.

5. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE SHOWN THEY DO NOT INDICATE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE CONSTRUCTION AND ALL ADJACENT PROPERTIES DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT OR SEOR SHALL NOT INCLUDE OBSERVATION OF THE ABOVE ITEMS.

6. SUBSTITUTION REQUESTS FOR MATERIALS SPECIFIED ON THE STRUCTURAL DRAWINGS MAY BE CONSIDERED WITH MATERIALS HAVING EQUIVALENT OR GREATER CAPACITY AND PERFORMANCE. CURRENT EVALUATION REPORTS AND PRODUCT INFORMATION SHALL BE PROVIDED TO THE STRUCTURAL ENGINEER DEMONSTRATING THE REQUIRED CAPACITY AND PERFORMANCE OF THE MATERIAL TO BE SUBSTITUTED. WRITTEN APPROVAL FROM THE SEOR SHALL BE OBTAINED PRIOR TO THE SUBSTITUTION OF ANY MATERIAL SPECIFIED ON THE STRUCTURAL DOCUMENTS.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PERTINENT SECTIONS OF THE "CONSTRUCTION SAFETY ORDERS" ISSUED BY THE STATE OF CALIFORNIA, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. THE ARCHITECT, SEOR, AND THE OWNER DO NOT ACCEPT ANY RESPONSIBILITY FOR THE CONTRACTOR'S FAILURE TO COMPLY WITH THESE REQUIREMENTS.

8. ALL WORK IS NEW (N) UNLESS INDICATED AS EXISTING (E).

9. CONSTRUCTION MATERIALS SHALL BE DISTRIBUTED WHEN PLACED ON THE STRUCTURE SUCH THAT LOADS DO NOT EXCEED DESIGN LIVE LOADS OR RESULT IN AN UNBALANCED CONDITION.

STRUCTURAL DESIGN CRITERIA:

1. CODES:
   ALL WORK SHALL BE IN CONFORMANCE WITH THE CALIFORNIA BUILDING CODE (CBC) 2025 EDITION, INCLUDING ALL AMENDMENTS. ALL STANDARDS USED SHALL BE THE LATEST VERSION APPROVED BY THE CODE ENFORCEMENT AGENCY ON THE DATE OF THE PERMIT ISSUANCE UNLESS SPECIFICALLY NOTED OTHERWISE.

2. DESIGN LIVE LOAD
   - ROOF 20 PSF

3. WIND DESIGN INFORMATION
   - RISK CATEGORY = II
   - BASIC WIND SPEED, V = 94 MPH
   - EXPOSURE = C
   - Kz = 0.85, Kd = 0.85, Kzt = 1.0

4. FLOOD ZONE = X

5. SEISMIC DESIGN INFORMATION (ASCE 7)
   - RISK CATEGORY = II Ie = 1.0
   - SITE CLASS = CD
   - $S_S = 2.11$, $S_1 = 0.81$, $S_{DS} = 1.49$, $S_{D1} = 0.97$
   - SEISMIC DESIGN CATEGORY = E
   - ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE
   - HORIZONTAL IRREGULARITIES = N/A
   - VERTICAL IRREGULARITIES = N/A
   - WEST RESTROOM AND EAST RESTROOM (ASCE 7, CH. 12)
     SLRS = A7: SPECIAL REINFORCED MASONRY SHEAR WALLS
     R = 5, $C_d = 3.5$ $\Omega_o = 2.5$, Cs = 0.30, Rho = 1.0
   - CONCOURSE ENTRANCE (ASCE 7, CH. 15)
     SLRS = GROUND-SUPPORTED CANTILEVER WALL
     R = 1.5, $C_d = 1.5$ $\Omega_o = 1.5$, Cs = 1.19, Rho = 1.0

EXISTING CONDITIONS NOTES:

1. FIELD VERIFY ALL CONDITIONS & DIMENSIONS PRIOR TO SHOP DRAWING PRODUCTION AND FABRICATION OF STRUCTURAL ELEMENTS.

2. WHERE ALL OTHER EXISTING CONDITIONS VARY SIGNIFICANTLY FROM THOSE SHOWN ON THESE DRAWINGS, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED PRIOR TO CONTINUED CONSTRUCTION RELATED TO SUBJECT CONDITIONS.

3. SHORE ALL EXISTING CONSTRUCTION AS REQUIRED.

4. ALL EXISTING (E) CONNECTIONS AT ELEMENTS TO BE REPLACED SHALL BE REPLACED OR RE-ATTACHED TO MATCH EXISTING CONDITIONS.

5. USING NON-DESTRUCTIVE MEANS, VERIFY LOCATION OF EXISTING REBAR IN CONCRETE/MASONRY WALLS, RAISED/ELEVATED CONCRETE SLABS/BEAMS, FOUNDATIONS PRIOR TO ANY DEMOLITION / SAWCUTTING / FABRICATION. SLAB ON GRADE AND CONCRETE FILLED METAL DECKS ARE EXEMPT UNLESS NOTED OTHERWISE.

6. SPECIAL INSPECTION IS REQUIRED FOR ALL WORK.

7. SEE "AS BUILT" DRAWINGS FOR EXISTING BUILDING DESIGN FOR ITEMS NOT SHOWN OR NOTED.

8. ALL EXISTING (E) WOOD ELEMENTS TO REMAIN SHALL BE FIELD INSPECTED DURING CONSTRUCTION AND TREATED FOR DRYROT REMOVAL / CONTROL. WHERE EXISTING GLB'S TO REMAIN ARE FOUND TO HAVE EXTENSIVE DRYROT DEEPER THAN THE TOP TWO LAMINATIONS (3"), THE STRUCTURAL ENGINEER SHALL BE NOTIFIED PRIOR TO CONTINUED CONSTRUCTION RELATED TO SUBJECT GLB'S.

9. CORE DRILLS REQUIRED SHALL NOT CUT ANY REINFORCING. THE CONTRACTOR IS TO COORDINATE WORK OF ALL TRADES TO ENSURE COMPLIANCE. ALL CORE DRILLS ARE TO BE PRESENTED TO THE IOR FOR VERIFICATION. THE IOR IS TO DOCUMENT CORES EXAMINED INDICATING AN ABSENCE OF REINFORCING.

EXISTING UNDERGROUND UTILITY NOTES:

1. THE ARCHITECT AND ENGINEERS ARE NOT RESPONSIBLE FOR THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES WHETHER OR NOT SHOWN ON THE DRAWINGS. THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER SHOULD ANY SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES WHICH MAY RESULT FROM HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES.

FOUNDATION AND SLAB ON GRADE NOTES:

1. SEE SOIL REPORT BY: KOURY ENGINEERING & TESTING, INC.
   REPORT NO.: 26-0077 DATED: MAY 4, 2026

2. FOUNDATION DESIGN PARAMETERS:
   a. BEARING PRESSURE, STATIC = 2,000 PSF
   b. BEARING PRESSURE, STATIC + SHORT TERM = 2,000 X1.33 = 2,600 PSF
   c. MINIMUM FOOTING SIZE:
      - CONTINUOUS FOOTINGS: MINIMUM WIDTH = 18 INCHES, MINIMUM DEPTH BELOW LOWEST ADJACENT GRADE = 18 INCHES
      - PAD FOOTINGS: MINIMUM WIDTH = 24 INCHES (SQUARE), MINIMUM DEPTH BELOW LOWEST ADJACENT GRADE = 18 INCHES.
   d. LATERAL CAPACITY:
      - ALLOWABLE PASSIVE PRESSURE, PASSIVE ONLY = 250 PSF/FT (2,500 PSF MAX).
      - WHEN INCLUDING SEISMIC USE 250 X 1.33 = 325 PSF/FT
      - COEFFICIENT OF FRICTION =0.3
      - (WHEN COMBINED WITH FRICTION, ALLOWABLE PASSIVE PRESSURE TO BE REDUCED BY ONE THIRD)
   e. RETAINING WALL PRESSURES:
      - ACTIVE = 40 PSF/FT (DRAINED)
      - AT-REST = 60 PSF/FT (DRAINED)
      - SEISMIC = $14H^2$ LBS (LBS PER FT OF WALL LENGTH) APPLIED AT 0.6 H ABOVE TOE OF WALL.
      - BEARING PRESSURE = 2,000 PSF MAXIMUM

3. THE CONTRACTOR SHALL CONFORM TO ALL RECOMMENDATIONS AND CONDITIONS INDICATED IN THE SOIL REPORT. THE GEOTECHNICAL ENGINEER SHALL OBSERVE ALL FOOTING EXCAVATIONS PRIOR TO PLACING CONCRETE.

4. SUBSURFACE SOIL PREPARATION:
   A. ALL EXISTING UNDOCUMENTED FILL SHALL BE REMOVED AND RECOMPACTED. ALL TOPSOILS SHALL BE REMOVED AS REQUIRED BY THE GEOTECHNICAL ENGINEER.
   B. GEOTECHNICAL ENGINEER SHALL BE RETAINED DURING THE OVEREXCAVATION PROCESS. THE ACTUAL DEPTH OF REMOVAL WILL BE DETERMINED DURING GRADING OPERATIONS.
   C. OFFSITE FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.

5. SPREAD FOOTINGS ARE CENTERED UNDER WALLS AND COLUMNS, UNO.

6. FOOTING ELEVATIONS ARE NOTED ON THE PLANS AND DETAILS . IN ANY CASE, FOOTINGS SHALL BEAR ON FIRM UNDISTURBED SOIL OR ENGINEERED FILL OR BEDROCK , IN ACCORDANCE WITH THE SOIL REPORT AND DETAILS SHOWN.

7. CONTRACTOR SHALL PROTECT ALL UTILITY LINES, ETC. ENCOUNTERED DURING EXCAVATION AND BACKFILLING.

8. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER. FLOODING IS NOT PERMITTED.

9. ALL TRENCHES SHALL COMPLY WITH APPLICABLE OSHA REQUIREMENTS.

10. ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED WITH NON-EXPANSIVE SOIL BUT NOT BEHIND RETAINING WALLS BEFORE CONCRETE OR MASONRY ATTAINS ITS FULL DESIGN STRENGTH.

11. THE DESIGN OF ALL RETAINING WALLS AND SUBTERRANEAN BUILDING WALLS INDICATED ON THESE DRAWINGS IS BASED ON DRAINED SOILS.

12. ALL GRADING, FOUNDATION FOOTINGS, AND DRAINAGE PLANS SHALL BE REVIEWED BY THE GEOTECHNICAL ENGINEER UPON SUBMITTAL. A CERTIFIED LETTER BY THE GEOTECHNICAL ENGINEER IS REQUESTED STATING THAT THE RECOMMENDATIONS CONTAINED WITHIN THE SOILS REPORT HAVE BEEN INCORPORATED INTO THE PROJECT PLANS AND SPECIFICATIONS PRIOR TO CONSTRUCTION.

13. PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL ADVISE THE BUILDING OFFICIAL IN WRITING THAT:
    A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
    B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
    C. THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.

SHORING AND EXCAVATIONS NOTES:

1. THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN, APPROVALS, PERMITS, INSTALLATION AND MONITORING OF ALL TEMPORARY SHORING AND BRACING AS REQUIRED TO SUPPORT EXISTING FRAMING WHERE SUPPORT ELEMENTS (BEAMS, COLUMNS, AND BEARING WALLS) ARE TO BE REMOVED.

2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA CONSTRUCTION SAFETY ORDERS (CAL-OSHA).

3. TEMPORARY CUTS SHALL NOT EXCEED SLOPES RECOMMENDED IN THE SOIL REPORT, NOR THOSE SHOWN ON THE SHORING DRAWINGS FOR CONSTRUCTION OF FOUNDATIONS.

4. THE INSTALLATION OF SHORING AND EXCAVATIONS SHALL BE PERFORMED UNDER THE CONTINUOUS INSPECTION AND APPROVAL OF THE GEOTECHNICAL ENGINEER.

5. THE DESIGN OF THE SHORING SYSTEM SHALL BE BASED UPON RECOMMENDATIONS CONTAINED IN THE SOIL REPORT. THE SHORING CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL DATA THEREIN AND SHALL KEEP A COPY OF THE REPORT AT THE JOB SITE AT ALL TIMES.

6. THE STRUCTURAL ENGINEER RESPONSIBLE FOR THE SHORING DESIGN (HEREAFTER CALLED THE SHORING ENGINEER) SHALL MAKE PERIODIC VISITS TO THE JOB SITE FOR THE PURPOSE OF OBSERVING THE INSTALLATION OF THE SHORING SYSTEM. OBSERVATIONS SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, THE FOLLOWING:
   A. PRIOR TO THE START OF INSTALLATION, MEET WITH THE GEOTECHNICAL ENGINEER AND SHORING CONTRACTOR TO REVIEW ALL ASPECTS OF THE DESIGN AND INSTALLATION OF THE SHORING.
   B. REVIEW OF CONDITIONS AT COMPLETION OF EXCAVATION. THE CONTRACTOR SHALL NOTIFY THE SHORING ENGINEER AT LEAST 48 HOURS PRIOR TO EACH OF THE ABOVE REQUIRED OBSERVATIONS CONTROL POINTS SHALL BE ESTABLISHED BY A LICENSED SURVEYOR TO MONITOR ANY HORIZONTAL AND VERTICAL MOVEMENTS OF THE SHORING. INITIAL READINGS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL, AND WEEKLY DATA SHALL BE SUBMITTED AS EXCAVATION PROGRESSES AND THROUGHOUT THE CONSTRUCTION PERIOD.
      ADDITIONAL READINGS SHALL BE OBTAINED WHEN REQUESTED BY THE BUILDING OFFICIAL, SHORING ENGINEER OR GEOTECHNICAL ENGINEER. IF ANY HORIZONTAL OR VERTICAL MOVEMENT OCCURS, THE GEOTECHNICAL ENGINEER, THE SHORING ENGINEER AND THE STRUCTURAL ENGINEER SHALL EVALUATE SUCH MOVEMENT AND RECOMMEND CORRECTIVE MEASURES, IF NECESSARY BEFORE EXCAVATION IS CONTINUED.

REINFORCING STEEL NOTES:

1. REINFORCING GRADES FOR CONCRETE OR MASONRY:
   - ALL BARS EXCEPT THOSE TO BE WELDED ASTM A615, GRADE 60
   - TIES AND STIRRUPS ASTM A615, GRADE 60
   - WELDED WIRE FABRIC ASTM A1064
   - ALL BARS TO BE WELDED ASTM A706, GRADE 60
   - ALL BARS IN THE CONCRETE SHEARWALL INDICATED ON WALL ELEVATION INCLUDING SUPPORTING WALL FOOTING LONGITUDINAL BARS (WF), AND ALL GRADE BEAMS (GB) A706, GRADE 60

2. MAINTAIN MINIMUM CONCRETE COVER FROM FACE OF CONCRETE TO EDGE OF ALL REINFORCEMENT AS FOLLOWS (U.N.O.) AND PROVIDE THE LARGEST COVER REQUIRED FOR ALL APPLICABLE CONDITIONS. WHERE #3 STIRRUPS OR TIES ARE USED, ENSURE THAT THE COVER FOR LONGITUDINAL BARS IS ADEQUATE.
   (SEE PLAN/ SECTION FOR CONCRETE W/ FIRE RATING.)

CONDITION	COVER
CONCRETE POURED AGAINST EARTH	3"
CONCRETE POURED IN FORMS AND EXPOSED TO WEATHER OR EARTH	
#6 BARS AND LARGER	2"
#5 BARS AND SMALLER	1 1/2"
INTERIOR COLUMNS AND BEAMS	1 1/2"
INTERIOR WALL FACES AND RAISED SLABS	1"
STRUCTURAL SLABS ON GRADE	
FROM BOTTOM OF SLAB	2"
FROM TOP OF SLAB	1 1/2"
OTHER CONCRETE NOT EXPOSED TO WEATHER OR EARTH FOR #11 BARS AND SMALLER	1"

3. REINFORCEMENT SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE". EACH REINFORCING BAR SHALL BE WIRED TO A CROSS BAR AT A MAXIMUM SPACING OF 24" O.C. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING IN POSITIONS SHOWN ON THE PLANS.

4. SPLICES IN CONTINUOUS REINFORCEMENT AS USED IN WALLS, FOOTINGS, SLABS, ETC., SHALL HAVE A CLASS "B" LAP (1' - 6" MIN) AND THE SPLICES IN ADJACENT BARS SHALL BE NOT LESS THAN 5' - 0" APART. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES. BARS MAY BE WIRED TOGETHER AT SPLICES OR LAPS EXCEPT FOR TOP REINFORCING OF BEAMS AND SLABS OR WHERE SPECIFICALLY DETAILED TO BE SEPARATED. WELDED WIRE FABRIC SHALL BE LAPPED 12" MINIMUM.

5. ALL DOWELS, ANCHOR BOLTS AND OTHER HARDWARE TO BE SET IN CONCRETE SHALL BE TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. NO WET SETTING, STABBING, RODDING OR OTHER MOVEMENT OF EMBEDDED ITEMS SHALL BE PERFORMED DURING PLACEMENT OF CONCRETE.

6. BEND REINFORCING BARS COLD.

7. STEEL SHALL BE KEPT CLEAN AND FREE OF RUST.

8. DOWELS BETWEEN FOOTING AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE MAIN REINFORCING U.N.O.

9. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN PLACE INSPECTION IS MADE.

10. CHAIRS OR SPACERS FOR REINFORCING SHALL BE NON-FERROUS OR PLASTIC COATED WHEN RESTING ON EXPOSED SURFACES.

STRUCTURAL CONCRETE NOTES:

1. CONCRETE SHALL BE MIXED, PLACED AND CURED IN ACCORDANCE WITH ACI 318, 2019 EDITION, AND PROJECT SPECIFICATIONS.

2. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS) SO AS TO CAUSE SEGREGATION OF AGGREGATES. IN SUCH CASES, HOPPERS AND VERTICAL CHUTES OR TRUNKS SHALL BE USED. CHUTES OR TRUNKS SHALL BE OF VARIABLE LENGTHS SO THAT FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED SIX FEET. A SUFFICIENT NUMBER OF CHUTES OR TRUNKS SHALL BE USED TO ENSURE THE CONCRETE IS KEPT LEVEL AT ALL TIMES.

3. CONSTRUCTION JOINTS SHALL BE INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF 1/4 INCH. JOINTS SHALL THEN BE CLEANED AN LAITANCE REMOCED BEFORE NEW CONCRETE IS PLACED. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, JOINTS SHALL BE PREWETTED AND STANDING WATER REMOVED. SEE PLANS AND DETAILS FOR LOCATION AND TYPE OF CONSTRUCTION JOINT. LOCATIONS OF ADDITIONAL CONSTRUCTION JOINTS NOT SHOWN ON THESE PLANS SHALL BE SUBMITTED FOR APPROVAL BY THE SEOR PRIOR TO PLACING ANY CONCRETE.

4. STRUCTURAL CONCRETE SHALL MEET THE FOLLOWING DESIGN CRITERIA:

LOCATION	f'c	CONC TYPE^a	MAX AGGR. SIZE	MAX W/C RATIO	MAX SLUMP^b	CEMENT TYPE
FOUNDATIONS, STEM WALLS PILASTER	4000 psi	NWC	1 1/2"	0.45	4"	II/V
SLAB ON GRADE	4000 psi	NWC	1"	0.45	4"	II/V
CONCRETE WALLS, COLUMNS, AND STRUCTURAL SLABS	4000 psi	NWC	1 1/2"	0.45	4"	II / V
ALL OTHER STRUCTURAL CONC. NOT NOTED	4000 psi	NWC	1"	0.50	6"	II / V

   a. MAXIMUM DRY WEIGHT OF LIGHTWEIGHT CONCRETE SHALL BE 110 PCF .
   b. SLUMP MEASURED PRIOR TO SUPERPLASTICIZER, WHERE OCCURS.

5. CONCRETE MIX DESIGN AND TESTING SHALL MEET THE REQUIREMENTS OF THE BUILDING CODE, AND SPECIFICATIONS. ALL CONCRETE MIXES SHALL BE DESIGNED BY A RECOGNIZED TESTING LAB STAMPED AND SEALED BY A LICENSED CALIFORNIA CIVIL ENGINEER AND SUBMITTED TO THE SEOR FOR REVIEW PRIOR TO CONCRETE PLACEMENT. STRUCTURAL CONCRETE MIXES SHALL CONSIST OF 5 SACK MINIMUM U.N.O.

6. AGGREGATES IN NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C-33 (HARDROCK). AGGREGATES IN LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C-330.

7. COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT AND THE SEOR.

8. PORTLAND CEMENT SHALL BE AS NOTED ABOVE FOR ALL CONCRETE CONFORMING TO ASTM C150, LOW ALKALI. MILL TESTS WITH CERTIFICATES OF COMPLIANCE SHALL BE SUBMITTED.

9. FLY ASH OR OTHER POZZOLANS CONFORMING TO ASTM C618 CLASS N OR F MAY BE USED AS A PARTIAL SUBSTITUTION FOR PORTLAND CEMENT UP TO A MAXIMUM OF 15% TOTAL CEMENTITIOUS MATERIALS BY WEIGHT IF THE MIX DESIGN IS PROPORTIONED PER ACI 318, SECTION 26.4.3.

10. CONCRETE MIXING OPERATIONS, ETC. SHALL CONFORM TO ASTM C94.

11. LEAN CONCRETE, WHERE SPECIFICALLY INDICATED, SHALL CONTAIN 2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.

12. DRYPACK OR NONSHRINK GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2 TIMES THE SUPPORTING CONCRETE STRENGTH, AND SHALL BY SIKA GROUT, OR APPROVED EQUAL WITH VALID CODE REPORT (LARR,ICC,ESR,IAPMO ER).
    FOR THICK GROUT LAYERS FOLLOW MANUFACTURER'S GUIDELINES TO ATTAIN THE REQUIRED STRENGTH, WHICH MAY INCLUDE THE ADDITION OF PEA GRAVEL.

13. DO NOT USE ANY CONCRETE OR GROUT CONTAINING CHLORIDES. WATER USED IN MIX SHALL BE CLEAN AND POTABLE.

14. PRIOR TO ERECTING ANY ELEMENTS THAT LOAD THE FOUNDATION, CONCRETE MUST REACH AN UNCONFINED COMPRESSION STRENGTH OF 2000 PSI MINIMUM AS DETERMINED BY TESTING OR PREVIOUSLY DOCUMENTED DATA FOR THE MIX DESIGN USED UNDER SIMILAR CONDITIONS, AND MUST BE ALLOWED TO CURE FOR A MINIMUM OF 3 DAYS.

15. FOR INTERIOR SLABS-ON-GRADE AND ALL OTHER SLABS RECEIVING ADHERED FLOORING FINISHES (I.E., GLUED, ETC.), THE MAXIMUM W/C RATIO SHALL NOT EXCEED 0.45. CURING COMPOUNDS USED ON CONCRETE THAT IS TO RECIEVE FINISHES SHALL BE COMPATIBLE WITH TILE AND ADHESIVES OR GROUTS IN ACCORDANCE WITH MANUFACTURER'S DATA AND BE APPROVED BEFORE USE.

16. MAINTAIN CONCRETE ABOVE 50 DEGREES FAHRENHEIT AND IN A MOIST CONDITION FOR A MINIMUM OF 7 DAYS AFTER PLACEMENT UNLESS OTHERWISE ACCEPTED BY SEOR.

17. SEE ARCHITECTURAL DRAWINGS FOR WALL OPENINGS, WALL OFFSETS, CHAMFERS, KERFS, DRIPS AND FOR EXTENT OF DEPRESSIONS, RAMPS, ETC. PROVIDE SLEEVES FOR ALL PIPES THROUGH CONCRETE WALLS AND FOOTINGS WHERE SHOWN ON THESE DRAWINGS. CORING IS NOT PERMITTED WITHOUT PRIOR APPROVAL BY THE SEOR.

18. SEE ARCHITECT'S PLANS FOR LOCATIONS OF SLAB SLOPES, DEPRESSIONS, CURBS, DRAINS, NON-STRUCTURAL PARTITIONS AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL PLANS.

19. EXPOSED CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC. SHALL BE FORMED WITH 3/4" CHAMFER, U.N.O.

20. CONSTRUCTION JOINTS (CJ) AND SAWCUT (SC) JOINTS IN SLABS SHALL OCCUR WHERE LOCATED ON PLANS AND DETAILS. CJ'S SHALL HAVE FORMED POUR STOPS. CONSTRUCTION JOINTS IN WALLS AND FOOTINGS NEED NOT OCCUR AT THE SAME LOCATION, U.N.O.

TYPICAL ABBREVIATIONS

A.B.	ANCHOR BOLT	KLF	KIPS PER LINEAR FOOT
ABV	ABOVE	KSL	KIPS PER SQUARE FOOT
ADDT'L	ADDITIONAL	KSI	KIPS PER SQUARE INCH
ADJ	ADJACENT	L	ANGLE
A.F.F.	ABOVE FINISH FLOOR	LBS	POUND
ALT	ALTERNATE	LFRS	LATERAL FORCE
ARCH	ARCHITECT(URAL)		RESISTING SYSTEM
A.T.R.	ALL THREADED ROD	LLBB	LONG LEG BACK TO BACK
BLDG	BUILDING	LLH	LONG LEG HORIZONTAL
BLK'G	BLOCKING	LLV	LONG LEG VERTICAL
BLW	BELOW	LONG.	LONGITUDINAL
BM	BEAM	LP	LOW POINT
BN	BOUNDARY NAILING	LWC	LIGHTWEIGHT CONCRETE
B.O.	BOTTOM OF	MAX	MAXIMUM
BOT	BOTTOM	M.B.	MACHINE BOLT
BRG	BEARING	MECH	MECHANICAL
B.S.	BOTH SIDES	MFR	MANUFACTURER
	BOUNDARY SCREW	MIN	MINIMUM
BTWN	BETWEEN	MTL	METAL
C	CAMBER OR	(N)	NEW
	C-CHANNEL	NOM.	NOMINAL
C.I.P.	CAST IN PLACE	NS	NEAR SIDE OR NON-SHRINK
CJ	CONTROL	NTS	NOT TO SCALE
	CONSTRUCTION JOINT	NWC	NORMAL WEIGHT CONCRETE
CL	CENTERLINE	OD	OUTSIDE DIAMETER
CLR	CLEAR	O.C.	ON CENTER
CMU	CONCRETE MASONRY UNIT	O.F.	OUTSIDE FACE
COL	COLUMN	OH	OPPOSITE HAND
CONC	CONCRETE	OPM	OSHPD PRE APPROVAL OF
CONN	CONNECTION		MANUFACTURER'S
CONT	CONTINUOUS		CERTIFICATION
CP	COMPLETE PENETRATION	OPN'G	OPENING
CSK	COUNTERSINK	PDF	POWDER DRIVEN FASTENER
CTR(D)	CENTER(ED)	PENE	PENETRATION
DB	BAR OR BOLT DIAMETER	PERF	PERFORATED
DBL	DOUBLE	PJ	PANEL JOIST
DC	DEMAND CRITICAL	PL	PLATE
DEMO	DEMOLITION	PLC(S)	PLACE(S)
DET	DETAIL	PLF	POUND PER LINEAR FOOT
DIA	DIAMETER	PLYWD	PLYWOOD
DIAG	DIAGONAL	PREFAB	PREFABRICATED
DIM	DIMENSION	PSF	POUND PER SQUARE FOOT
DIST	DISTANCE	PSI	POUND PER SQUARE INCH
DO	DITTO	PT	PRESSURE TREATED OR
DWG	DRAWING		POST TENSION
(E)	EXISITNG	QTY	QUNATITY
EA	EACH	RAD, R	RADIUS
E.F.	EACH FACE	REF	REFERENCE
EJ	EXPANSION JOIST	REINF	REINFORCING
EMBED	EMBEDMENT	REQ'D	REQUIRED
ELEC	ELECTRICAL	RJ	ROOF JOIST
ELEV	ELEVATION	R.O.	ROUGH OPENING
EN	EDGE NAILING	S.A.D.	SEE ARCHITECUTRAL DRAWINGS
E.O.	EDGE OF	SB	SILL BOLT
EOR	ENGINEER OF RECORD	SC	SAW CUT OR SLIP CRITICAL
EQ	EQUAL	SCHED	SCHEDULE
EQUIP	EQUIPMENT	SEOR	STRUCTURAL ENGINEER
E.S.	EACH SIDE/ EDGE SCREW		ON RECORD
E.W.	EACH WAY	SF	SPREAD FOOTING
EXP	EXPANSION	SHT'G	SHEATHING
EXT	EXTERIOR	SIM	SIMILAR
FIN	FINISH	SLRS	SEISMIC LOAD
FJ	FLOOR JOIST		RESISTING SYSTEM
FLR	FLOOR	SMS	SHEET METAL SCREW
FN	FIELD NAILING	SN	SILL NAIL
FN HT	FINISH HEIGHT	S.O.G.	SLAB ON GRADE
FND	FOUNDATION	SQ	SQUARE
F.O.	FACE OF	SS	STAINLESS STEEL
FS	FAR SIDE OR FIELD SCREW	STD	STANDARD
	FINISH SURFACE	STAGG.	STAGGERED
FRM'G	FRAMING	SITFF	STIFFENER
FT	FOOT OR FEET	STL	STEEL
FTG	FOOTING	STRUCT	STRUCTURAL
G	GIRDER	T&B	TOP AND BOTTOM
GA	GAUGE	THK	THICK
GALV	GALVANIZED	T.O.	TOP OF
GB	GRADE BEAM	T.O.M.	TOP OF MASONRY
H.A.B.	HEADED ANCHOR BOLT	T.O.S.	TOP OF STEEL
HD	HOLDOWN	TRANS.	TRANSVERSE
HDR	HEADER	TYP	TYPICAL
HGR	HANGER	U.N.O.	UNLESS NOTED OTHERWISE
HK	HOOK	VERT	VERTICAL
HORIZ	HORIZONTAL	W/	WITH
HP	HIGH POINT	W/O	WITHOUT
HS	HIGH STRENGTH	WF	WIDE FLANGE/WALL FOOTING
HSS	HOLLOW STRUCTURAL	WLD	WELDED
	SECTION	WO	WHERE OCCURS
HT	HEIGHT	WP	WORK POINT
IN	INCH	W.S.	WELDED STUD
INT	INTERIOR	WT	WEIGHT
JST	JOIST	WWF	WELDED WIRE FABRIC
⯐	REFERENCE ELEVATION OR	WWM	WELDED WIRE MESH
	WORK POINT	⌀	DIAMETER

SHEET LIST

SHEET LIST	
S-0.1	GENERAL NOTES
S-0.2	GENERAL NOTES
S-1.1	TYP REBAR & S.O.G
S-1.2	TYP FOOTING DETAILS
S-1.3	TYPICAL DETAILS - METAL STUD
S-1.4	TYPICAL DETAILS - METAL STUD
S-1.5	TYPICAL DETAILS - METAL STUD
S-1.6	TYPICAL DETAILS CMU
S-1.7	TYPICAL DETAILS CMU
S-1.8	TYPICAL DETAILS
S-1.9	TYPICAL DETAILS
S-1.10	TYPICAL DETAILS- MEP
S-2.1	FOUNDATION PLAN
S-3.1	ROOF FRAMING PLAN
S-4.1	FOUNDATION DETAILS
S-5.1	FRAMING DETAILS
S-6.1	WALL ELEVATIONS

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

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YOUNG KEUN NA
No. S4029
Exp. 9/30/26

REVISIONS:

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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 12" = 1'-0"

S-0.1

GENERAL NOTES

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STRUCTURAL STEEL NOTES:

1. DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATIONS AND STANDARD OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), AS CONTAINED IN THE 15TH EDITION OF "AISC MANUAL OF STEEL CONSTRUCTION".
2. ALL STRUCTURAL STEEL SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND SHALL BE LEFT IN PLACE UNTIL OTHER MEANS IS PROVIDED TO ADEQUATELY BRACE THE STRUCTURE.
3. PROVIDE THE FOLLOWING MATERIALS FOR STRUCTURAL STEEL U.N.O.: STRUCTURAL STEEL GRADES:

SECTION:	ASTM/GRADE:
ALL WIDE FLANGE SECTIONS, TEES	ASTM A992
SQUARE OR RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS)	ASTM A500, GRADE C (Fy= 50 KSI)
ROUND HOLLOW STRUCTURAL SECTION (HSS)	ASTM A500,GRADE C (Fy= 46KSI)
PIPES	ASTM A53 TYPE E OR S, GRADE B (Fy=35 KSI)
PLATES, ANGLES, CHANNELS & TEES	ASTM A36
ALL PLATES PART OF SLRS	ASTM A572, GRADE 50
MACHINE BOLTS (MB)	ASTM A307
HIGH STRENGTH BOLTS (HSB)	ASTM F3125 GRADE A325 GRADE A490
WELDED HEADED STUDS	ASTM A29
THREADED RODS FOR ANCHOR BOLTS	ASTM F1554, GRADE 36

4. 1/8" THICK PLATES AND THICKER SHALL BE GAS CUT OR SAW CUT EXCEPT AS OTHERWISE NOTED, ALL BOLTS SHALL BE HIGH STRENGTH BOLTS. EXCEPT OTHERWISE NOTED, ALL BOLT HOLES SHALL BE STANDARD HOLES.
5. ALL CONNECTIONS NOT SHOWN SHALL CONFORM TO THE "AISC MANUAL OF STEEL CONSTRUCTION" AND SHALL BE SUBMITTED ON SHOP DRAWINGS FOR REVIEW BY SEOR PRIOR TO FABRICATION.
6. ALL WELDED HEADED STUDS, THREADED STUDS, AND DEFORMED BARS SHALL BE NELSON, OR EQUIVALENT, AND WELDED (IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS BY CERTIFIED WELDERS) SO AS TO FULLY DEVELOP THE TENSILE CAPACITY OF THE CONNECTOR.
7. BOLTS WITH UPSET THREADS ARE NOT ALLOWED. USE THE APPROPRIATE NUT AND WASHER TYPE FOR THE SPECIFIED BOLT.
8. ALL STEEL FABRICATION SHALL BE PERFORMED BY A AISC OR CITY OF LOS ANGELES CERIFIED FABRICATOR.
9. ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL PERMANENTLY EXPOSED TO THE ELEMENTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION UNLESS A WEATHER PROOF COATING IS SPECIFIED BY THE ARCHITECT U.N.O. STAINLESS AND WEATHERING STEELS ARE EXCEPTED WHERE SPECIFIED.
10. SEE ARCHITECTURAL DRAWINGS FOR NAILER HOLES, WELDED STUDS OR OTHER ITEMS NOT SHOWN IN THESE DRAWINGS. WHERE STEEL IS EMBEDDED IN CONCRETE OR MASONRY, PROVIDE HOLES AS REQUIRED FOR PASSAGE OF CONTINUOUS REINFORCING BARS WHERE INDICATED ON DRAWINGS. DO NOT CUT HOLES IN STRUCTURAL STEEL WITHOUT PRIOR APPROVAL OF SEOR.
11. ALL ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL COMPLY WITH AISC CODE OF STANDARD PRACTICE, SECTION 10.
12. PLACE NON-SHRINK OR DRYPACK GROUT UNDER ALL BASE PLATES AND ALLOW TO CURE BEFORE APPLYING LOADS.
13. ALL OPEN HSS ENDS SHALL BE CAPPED. MIN 1/4" STEEL CAP. PROVIDE SQUARE WELD ALL AROUND, CAP PLATE TO HSS.
14. FOR STRUCTURAL STEEL, IN ADDITION TO THE REQUIREMENTS OF SPECIFICATION SECTION A3.1c, HOT ROLLED SHAPES WITH FLANGES 1 1/2" THICK AND THICKER SHALL HAVE MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LB AT 70°F. PLATES 2" THICK AND THICKER SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20FT-LB AT 70°F.

HIGH-STRENGTH BOLT NOTES:

1. SEE STRUCTURAL STEEL NOTES THIS SHEET FOR ADDITIONAL INFORMATION.
2. ALL HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM F-3125 Gr. A-325 OR Gr. A-490, NUTS SHALL CONFORM TO ASTM A-563 AND WASHERS SHALL CONFORM TO ASTM F-436.
3. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT EDITION OF THE "AISC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS". SLIP CRITICAL BOLTS (SC) SHALL BE USED FOR ALL "SEISMIC LOAD RESISTING SYSTEM" (SLRS) MEMBER STEEL-TO-STEEL CONNECTIONS.
4. PAINT SHALL NOT BE PERMITTED ON CONTACT SURFACES UNLESS NOTED OTHERWISE. CONTACT SURFACES OF BOLTED PARTS SHALL BE DESCALED AND FREE OF DIRT, OIL, BURRS, PITS, AND OTHER DEFECTS WHICH PREVENT SOLID SEATING OF PARTS.
5. FAYING SURFACE SHALL BE "CLASS A" FOR SLIP CRITICAL BOLTS (SC).
6. SLIP-CRITICAL JOINT ASSEMBLIES SHALL BE FULLY PRE-TENSIONED BY TURN-OF-NUT TIGHTENING, CALIBRATED WRENCH TIGHTENING, INSTALLATION OF ALTERNATE DESIGN BOLTS OR BY DIRECT TENSION INDICATOR TIGHTENING.

METAL DECK NOTES (UNFILLED):

1. MATERIAL FOR METAL DECK SHALL HAVE A MIN YIELD STRENGTH OF 50 KSI AND CONFORM TO ASTM A653-SS GRADE 33 WITH GALVANIZED G60 COATING COMPLYING WITH ASTM A525.
2. SEE TYPICAL DETAILS FOR REINFORCING OF DECK AROUND OPENINGS. CONTRACTOR SHALL COORDINATE SIZE AND LOCATIONS OF OPENINGS WITH THE VARIOUS TRADES. NO LOADS SHALL BE HUNG FROM DECK WITHOUT APPROVAL OF SEOR.
3. FLOOR AND ROOF DECK IS DESIGNED FOR UNSHORED CONSTRUCTION, UNO. MAINTAIN 3 SPAN CONDITION WHEREVER POSSIBLE (2 SPAN MIN) EXCEPT AT STAIR LANDING AND WHERE NOTED OTHERWISE ON PLANS.
4. PROVIDE 2" MINIMUM BEARING AT ALL SUPPORTS. END LAPS OF METAL DECK SHALL BE A MINIMUM OF 2" AND SHALL OCCUR ONLY OVER SUPPORTS. DECK SHALL BE LAID OUT SO THAT A LOW FLUTE FALLS ON EACH PARALLEL SUPPORT.
5. INSTALL DECK BY WELDING. USE 3/4" DIAMETER PUDDLE WELDS OR WELDED STUDS TO SUPPORTS SPACED AS SHOWN ON CONSTRUCTION DRAWINGS. SPACING FOR TOP SEAM, SIDE SEAM, BUTTON PUNCH, OR PUNCHLOK CONNECTION SHALL BE IN ACCORDANCE WITH DRAWINGS. SEE TYPICAL METAL DECK DETAILS.
6. SUBMIT SHOP DRAWINGS FOR METAL DECK TO THE SEOR FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW TYPE OF DECK, LAYOUT OF DECK, THE SIZE AND LOCATION OF ANY OPENINGS OF WIDTH GREATER THAN 1'-0", AND ATTACHMENT METHOD.
7. ALTERNATES TO TYPE OF DECK AND FASTENING MAY BE USED WITH THE APPROVAL OF THE SEOR. DECK PROPERTIES SHALL BE EQUAL TO OR GREATER THAN THOSE SHOWN ON THE PLANS. ANY DECK OR METHOD OF FASTENING SHALL HAVE LATEST EVALUATION REPORT PER CURRENT CODE APPROVING THE DECK FOR THE APPLICATION.
8. METAL DECK WITH CONCRETE FILL SHALL HAVE POSITIVE VENTING. DO NOT EMBED PIPES, SLEEVES, CONDUIT, ETC IN CONCRETE TOPPING UNO.
9. CONCRETE FILL OVER METAL DECK SHALL NOT BE OVER-POURED TO ACHIEVE LEVEL FLOOR.

COLD-FORMED STEEL FRAMING NOTES:

1. DESIGN, FABRICATION AND ERECTION OF COLD-FORMED STEEL FRAMING SHALL CONFORM TO THE SPECIFICATIONS AND STANDARD OF THE AMERICAN IRON AND STEEL INSTITUTE (AISI), AS CONTAINED IN THE "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION, INCLUDING ALL APPLICABLE AMENDMENTS.
2. ALL COLD-FORMED STEEL FRAMING SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND LEFT IN PLACE UNTIL OTHER MEANS IS PROVIDED TO ADEQUATELY BRACE THE STRUCTURE.
3. COLD-FORMED STEEL GRADES:
   - A. 18 GA (43 MILS) OR THINNER ....ASTM A1003 GRADE 33 (FY = 33 KSI)
   - B. 16 GA (54 MILS) AND THICKER ....ASTM A1003 GRADE 50 (FY = 50 KSI)
4. ALL COLD-FORMED STEEL FRAMING SHALL BE BRACED AS REQUIRED BY SECTION D3 OF THE AISI SPECIFICATION.
5. SUBMIT COLD-FORMED STEEL FRAMING SHOP DRAWINGS AND SPECIFICATIONS TO THE SEOR FOR REVIEW PRIOR TO FABRICATION.
6. COLD-FORMED STEEL STUDS AND TRACKS ARE TO BE ATTACHED WITH SHEET METAL SCREWS (SMS) WITH SIZES CALLED OUT ON THE DETAILS. PENETRATION OF SCREWS THROUGH JOINED MATERIAL SHOULD NOT BE LESS THAN 3 EXPOSED THREADS. SCREWS ARE TO BE INSTALLED AND TIGHTENED IN ACCORDANCE WITH SCREW MANUFACTURER'S RECOMMENDATIONS.
7. ALL HOLES FOR BOLTS SHOULD BE SHALL BE STANDARD HOLES.
8. GALVANIZED COATING SHALL COMPLY WITH ASTM A924.
9. COLD-FORMED STEEL FRAMING SHALL BE PER STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA), ICC ER-3064P.

WELDING NOTES:

1. WELDING PROCEDURES, ELECTRODES AND WELDER QUALIFICATIONS SHALL CONFORM TO THE "CODE FOR WELDING IN BUILDING CONSTRUCTION", AMERICAN WELDING SOCIETY (AWS), D1.1, D1.8 AND THE AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS".
2. ALL WELDERS SHALL HAVE EVIDENCE OF PASSING THE AWS STANDARD QUALIFICATION TESTS, AND SHALL BE CERTIFIED FOR THE WORK THEY ARE PERFORMING.
3. PROJECT WELDING SHALL BE PERFORMED ONLY IN ACCORDANCE WITH WELDING PROCEDURE SPECIFICATIONS (WPS) SUBMITTED BY THE CONTRACTOR AND REVIEWED BY THE SEOR AND PROJECT WELDING INSPECTOR. THE WPS SHALL BE IN ACCORDANCE WITH AWS D1.1-D1.4 & D1.8 CURRENT EDITION.
4. ALL WELDS WITHIN MEMBERS DESIGNATED AS PART OF THE SEISMIC LOAD RESISTING SYSTEM (SLRS) SHALL CONFORM TO THE DETAILING, MATERIALS, WORKMANSHIP, TESTING, AND INSPECTION REQUIREMENTS PER AWS D1.8 AND MUST HAVE A MIN. CVN TOUGHNESS OF 20 FT-LB @ 0°F PER AISC 341 A3.4A.
5. WHERE WELDS ARE DESIGNATED AS DEMAND CRITICAL, THEY SHALL BE MADE WITH A FILLER METAL CAPABLE OF PROVIDING A MINIMUM CHARPY V-NOTCH (CVN) TOUGHNESS OF 20 FT-LB AT 0°F AND 40 FT-LB AT 70°F. SEE AISC 341-16 SECTION A3.4B FOR ADDITIONAL REQUIREMENTS.
6. WELDING OF STRUCTURAL STEEL SHALL BE PERFORMED PER AWS D1.1 & D1.8 USING E70XX ELECTRODES UNLESS OTHERWISED NOTED.
7. WELDING OF REINFORCING BARS SHALL BE PERFORMED PER AWS D1.4 USING E80XX ELECTRODES.
8. WELDING OF METAL DECK AND LIGHT GAGE STEEL SHALL BE IN ACCORDANCE WITH AWS D1.3.
9. ALL GROOVE OR BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS. ALL EXPOSED BUTT WELDS SHALL BE GROUND SMOOTH.
10. ALL EXPOSED WELDS ON ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL COMPLY WITH AISC CODE OF STANDARD PRACTICE, SECTION 10.
11. FIELD WELDS HAVE BEEN INDICATED WHERE THEY ARE EXPECTED TO OCCUR. THE CONTRACTOR SHALL DETERMINE THE ACTUAL FIELD WELDING NECESSARY TO COMPLETE THE PROJECT AND INCLUDE ALL ASSOCIATED COSTS WITHIN THE BASE BID.
12. ALL WELDS (SHOP AND FIELD) REQUIRE SPECIAL INSPECTION.
13. FULL PENETRATION WELDS SHALL BE ULTRA-SONIC TESTED PER AWS D1.1 & AISC 341 J6.2. ULTRASONIC TESTING SHALL BE PERFORMED ON 100% OF COMPLETE-JOINT-PENETRATION IN MATERIALS 5/16 INCH THICK OR GREATER. UT IN MATERIALS LESS THAN 5/16 IN THICK IS NOT REQUIRED.
14. WELD SIZE "(E)" FOR FLARE-BEVEL-GROVE WELDS SHALL BE 5/16*r. WHERE "r" IS THE RADIUS OF THE BENT BASE METAL. WELDING PROCESS SHALL BE SMAW OR FCAW-S. SEE SCHEDULE FOR EFFECTIVE WELD THROAT OF FLARE BEVEL:

HSS THICKNESS	WELD SIZE
5/8"	3/8"
1/2"	5/16"
3/8"	1/4"
5/16"	3/16"
1/4"	3/16"
3/16"	1/8"

MASONRY NOTES:

1. MASONRY UNITS SHALL DEVELOP THE FOLLOWING MINIMUM 28 DAY PRISM COMPRESSIVE STRENGTHS IN ACCORDANCE WITH THE BUILDING CODE:

LOCATION:	f'm	MORTAR PER ASTM C270	GROUT STRENGTH PER ASTM C476
• BUILDING WALLS	2000 PSI	TYPE M OR S	2000 PSI
• SITE WALLS	2000 PSI	TYPE M OR S	2000 PSI
• ALL OTHER WALLS	1500 PSI	TYPE M OR S	1500 PSI

2. CONCRETE BLOCK SHALL CONFORM TO ASTM C90 MEDIUM WEIGHT. CLAY BRICK LOCK SHALL CONFORM TO ASTM C652
3. GROUT AGGREGATES SHALL COMFORM TO ASTM C404 AND AGGREGATE SIZE SHALL NOT EXCEED 3/8".
4. PRISM TEST SHALL BE PERFORMED FOR MASONRY WITH f'm OVER 2000 PSI FOR CBC 2105A.2
5. VERTICAL REINFORCING SHALL BE FULL HEIGHT OF WALL AND SHALL BE BRACED AT 6' - 8" MAXIMUM TO PREVENT MOVEMENT WHILE GROUTING.
6. HORIZONTAL REINFORCING SHALL BE IN BOND BEAM UNITS AND TIED SECURELY TO VERTICAL REINFORCING.
7. DOWELS, ANCHORS, AND OTHER EMBEDDED ITEMS SHALL BE TIED SECURELY IN PLACE TO PREVENT MOVEMENT WHILE GROUTING. WET SETTING OR STABBING IS NOT ALLOWED.
8. GROUTING NOTES:
   - A. PROVIDE CLEAN OUTS IN THE BOTTOM COURSE OF MASONRY FOR EACH GROUT POUR WHEN GROUT POUR EXCEEDS 4 FEET FOR 8-INCH NOMINAL OR 5 FEET 4 INCHES FOR 10-INCH NOMINAL OR WIDER HOLLOW UNIT MASONRY AS FOLLOWS:
     - a. CLEANOUT OPENINGS IN HOLLOW UNIT MASONRY SHALL BE PROVIDED IN EVERY CELL AT THE BOTTOM OF EACH POUR OF GROUT. ALTERNATIVELY, IF THE COURSE AT THE BOTTOM OF THE POUR IS CONSTRUCTED ENTIRELY OF INVERTED DOUBLE OPEN-END BOND BEAM UNITS, CLEANOUT OPENINGS NEED ONLY BE PROVIDED FOR ACCESS TO EVERY REINFORCED CELL AT THE BOTTOM OF EACH POUR OF GROUT.
     - b. CLEANOUTS IN MULTI-WYTHE MASONRY SHALL BE PROVIDED FOR EACH POUR BY LEAVING OUT EVERY OTHER UNIT IN THE BOTTOM WYTHE OF THE SECTION BEING POURED OR BY CLEANOUT OPENINGS IN THE FOUNDATION.
     - c. THE FOUNDATION OR OTHER HORIZONTAL CONSTRUCTION JOINTS AT THE CLEANOUTS SHALL BE CLEANED OF ALL LOOSE MATERIAL AND MORTAR DROPPINGS BEFORE EACH POUR. THE CLEANOUTS SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.
   - B. FOR GROUT POURS NOT GREATER THAN 4 FEET FOR 8-INCH NOMINAL OR 5 FEET 4 INCHES FOR 10-INCH NOMINAL OR WIDER HOLLOW UNIT MASONRY, THE TOP OF GROUT POUR SHALL BE AT THE TOP OF CONSTRUCTED MASONRY, OR WITHIN 8 INCHES OF THE TOP OF THE CONSTRUCTED MASONRY. GROUT POURS NOT TERMINATED AT THE TOP OF CONSTRUCTED MASONRY SHALL COMPLY WITH TMS 602, ARTICLES 3.5 C.3.A THROUGH 3.5 C.3.E.
   - C. GROUT POURS IN EXCESS OF 4 FEET FOR 8-INCH NOMINAL OR 5 FEET 4 INCHES FOR 10-INCH NOMINAL OR WIDER HOLLOW UNIT MASONRY SHALL BE SUBJECT TO THE FOLLOWING:
     - a. GROUTING SHALL BE DONE IN A CONTINUOUS POUR IN LIFTS NOT EXCEEDING 4 FEET FOR 8-INCH NOMINAL OR 5 FEET 4 INCHES FOR 10-INCH NOMINAL OR WIDER HOLLOW UNIT MASONRY (FOR HIGH LIFT GROUTING SEE DSA IR 21-2).
     - b. AN APPROVED ADMIXTURE OF A TYPE THAT REDUCES EARLY WATER LOSS AND PRODUCES AN EXPANSIVE ACTION SHALL BE USED.
     - c. THE GROUTING OF ANY SECTION OF WALL SHALL BE COMPLETED IN ONE DAY WITH NO INTERRUPTIONS GREATER THAN ONE HOUR.
     - d. FOR MULTIPLE GROUT LIFTS WITHIN A GROUT POUR, EACH GROUT LIFT HEIGHT OF WALL, COLUMN, PIER OR BEAM SHALL BE INSPECTED BEFORE PLACEMENT OF ADDITIONAL UNITS.
     - e. CLEANOUT OPENINGS SHALL BE PROVIDED AT THE BOTTOM OF EACH POUR OF GROUT.
   - D. WHERE GROUTING HAS BEEN STOPPED FOR MORE THAN AN HOUR, GROUT SHALL BE STOPPED 1 ½ INCH BELOW A MORTAR JOINT. WHERE A BOND BEAMS OCCUR, THE GROUT POUR SHALL BE STOPPED A MINIMUM OF ½ INCH BELOW THE TOP OF THE MASONRY WITH A MINIMUM GROUT COVER ABOVE THE HORIZONTAL REBAR OF 1 INCH.
   - E. ALL GROUT SHALL BE THOROUGHLY CONSOLIDATED BY VIBRATING IMMEDIATELY AFTER PLACING. SHAKING OR RODDING REBAR IS NOT ALLOWED. CONSOLIDATE POURS BY MECHANICAL VIBRATION, AND RECONSOLIDATE BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED, BUT BEFORE PLASTICITY IS LOST.
9. BLOCK SHALL BE PLACED IN RUNNING BOND UNLESS NOTED OTHERWISE IN THE ARCHITECTURAL DRAWINGS. WHERE STACK BOND IS USED, BLOCK SHALL BE DOUBLE-OPEN-ENDED WITH SINGLE-OPEN ENDED AT DOORS AND CORNERS/INTERSECTIONS. WHERE 8-INCH WALL OCCURS THAT HAS REINFORCEMENT ON EACH FACE, BLOCKS SHALL BE OPEN-ENDED H-BLOCKS WITH SINGLE-OPEN ENDED AT DOORS AND CORNERS/INTERSECTIONS.
10. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE SAFETY OF LIFT HEIGHT FOR OPEN ENDED OR FIELD MODIFIED BLOCKS.
11. LAYOUT OF MASONRY BLOCK UNITS SHALL BE RUNNING BOND, U.N.O. BLOCK MODULES/MORTAR JOINTS SHOWN ON THESE DRAWINGS ARE FOR PRESENTATION PURPOSES ONLY, AND NOT INTENDED TO SUPERSEDE ARCHITECTURAL DESIGN REQUIREMENTS.
12. WALL REINFORCEMENT SEE PLANS & ELEVATIONS
13. PROVIDE VERTICAL CONTROL JOINTS IN CMU WALLS AS SHOWN ON PLAN. UNLESS NOTED OTHERWISE VERTICAL CONTROL JOINTS SHALL OCCUR AT 25' - 0" O.C. MAXIMUM ALONG WALL LENGTH, AT FOUNDATION STEPS, FLOOR OR ROOF JOINTS, WALL HEIGHT CHANGES, AND 24" MINIMUM PAST ONE SIDE OF OPENINGS > 6' - 0" WIDE, U.N.O. ON PLANS
14. WHEN THE AMBIENT TEMPERATURE FALLS BELOW 40°F, OR EXCEEDS 100°F, PROVSIONS OF TMS602 / ACI 530 / ASCE6. ARTICLE 1.8C OR ARTICLE 1.8D SHALL BE IMPLEMENTED.

PRODUCT APPROVALS:

1. FOR ALL ITEMS ON THE CONSTRUCTION DOCUMENTS NOT NOTED WITH A SPECIFIC PRODUCT TYPE OR MANUFACTURER, THE CONTRACTOR SHALL PROVIDE THE PRODUCT SPECIFIED IN THE TABLE BELOW.
2. THE FOLLOWING PRODUCTS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE REFERENCED PRODUCT APPROVALS BELOW, U.N.O.
3. AT CONTRACTOR'S OPTION, PRODUCTS MAY BE SUBSTITUTED FOR LIKE PRODUCTS PER THE SCHEDULE BELOW IF APPROVED BY SEOR.

ITEM	APPROVED PRODUCTS	ICC#	IAPMO ER
EXPANSION ANCHOR TO CONCRETE	HILTI KWIK BOLT-TZ2	ESR-4266	-
	SIMPSON STRONG-BOLT-2	ESR-3037	-
	DEWALT POWER STUD+ SD2	ESR-2502	-
EXPANSION ANCHOR TO MASONRY	HILTI KWIK BOLT-TZ2	ESR-4561	-
	SIMPSON STRONG-BOLT 2	-	ER-0240
	DEWALT POWER STUD+ SD1	ESR-2966	-
SCREW ANCHOR TO CONCRETE	SIMPSON TITEN HD SCREW ANCHOR	ESR-2713	-
	HILTI KH-EZ	ESR-3027	-
	DEWALT SCREW-BOLT+	ESR-3889	-
SCREW ANCHOR TO MASONRY	SIMPSON TITEN HD SCREW ANCHOR	ESR-1056	-
	HILTI KH-EZ	ESR-3056	-
	DEWALT SCREW-BOLT+	ESR-4042	-
EPOXY ANCHOR TO CONCRETE	HILTI HIT-HY 200	ESR-4868	-
	SIMPSON SET-3G	ESR-4057	-
	DEWALT PURE 110+	ESR-3298	-
EPOXY ANCHOR TO MASONRY	HILTI HIT-HY 200	ESR-4878	-
	SIMPSON SET-3G	ESR-4844	-
	DEWALT AC100+ GOLD	ESR-2582	-
SHOTPIN	HILTI LOW-VELOCTIY X-U UNIVERSAL POWER-DRIVEN	ESR-2269	-
	SIMPSON POWER-DRIVEN	ESR-2138	-
	RAMSET POWER-DRIVEN	ESR-1799	-
SHEET METAL SCREW	HILTI KWIK-PRO SDS	ESR-2196	-
	DRIL-FLEX SDS	ESR-3332	-
	PRO-TWIST SELF-DRILL SCREW	ESR-1408	-
WELD STUD /ANCHORS	NELSON BAR ANCHORS/STUD	ESR-2907	-

COMPLETE JOINT PENETRATION CONNECTION NOTES:

WELDING ELECTRODES
A. SMAW E70xx*
B. FCAW E70xx*

* WELD METAL SHALL BE CAPABLE OF DELIVERING A MINIMUM OF 20 FT-LBS AT -0°F AND 40FT-LBS @ 70°F AS MEASURED BY A CHARPY V-NOTCH IMPACT TEST PER AWS D1.1 CLAUSE 4 PART-D.

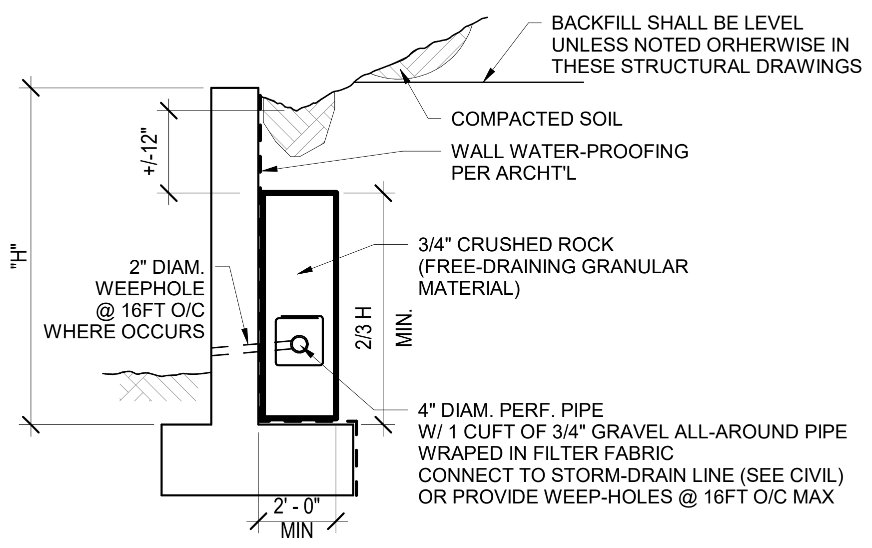
* BASE METAL FOR STRUCTURAL SHAPES IN SIZE GROUP 4 & 5 W/ t/f > 11/2" SHALL BE CAPABLE OF DELIVERING A MINIMUM OF 20 FT-LBS AT 70°. F AS MEASURED BY A CHARPY V-NOTCH IMPACT TEST PER A.I.S.C. MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.

STRUCTURAL STEEL

1. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) STRUCTURAL WELDING CODE FOR STEEL AWS D1.1 AND D1.8.
2. WELDING PROCEDURE SPECIFICATIONS (WPS) SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, PRIOR THE ENGINEER FOR APPROVAL, PRIOR TO THE BEGINNING OF WELDING OPERATIONS. THE WPS SHALL INCLUDE THE WELDING PARAMETERS RECOMMENDED BY THE ELECTRODE MANUFACTURER. SEE AWS D1.1 ANNEX M. JOINT DETAILS TO SUIT EXISTING CONDITIONS. THE WELDING ELECTRODE MANUFACTURER'S SPECIFICATIONS SHALL BE ATTACHED TO THE WPS. ALL WELDERS AND INSPECTORS SHALL BE INFORMED OF THE WPS AND SHALL RETAIN A COPY.
3. SEE AWS FOR PREQUALIFIED SMAW WPS'S.
4. SEE AWS FOR PREQUALIFIED FCAW WPS'S.
5. WELDING TO BE DONE BY WELDERS CERTIFIED BY AWS.
6. ONLY SHIELDED METAL ARC WELDING (SMAW) WITH LOW HYDROGEN ELECTRODES OR FLUX CORE ARC WELDING (FCAW), EITHER GAS SHIELDED OF SELF SHIELDED, SHALL BE USED. FOR SMAW, THE TYPICAL REQUIREMENTS SHALL BE ACCORDING TO NOTE #3 ABOVE. WELDING PROCEDURES SHALL MEET THE REQUIREMENTS OF AWS D1.1 CLAUSE 3.2
7. INDIVIDUAL WELDS SHALL BE CARRIED CONTINUOUSLY TO COMPLETION BEFORE THE JOINT IS ALLOWED TO COOL BELOW THE MINIMUM SPECIFIED PREHEAT AND INTERPASS TEMPERATURE.
8. AT ALL COMPLETE PENETRATION WELDS, WELD BEADS SHALL BE PEENED AFTER EACH PASS, WITH THE EXCEPTION OF THE ROOT PASS AND THE SURFACES PASSES, AS FOLLOWS: TURN SLAG GUN 90 DEG. AND MAKE A MINIMUM OF 4 PASSES WITH DULL CHISEL.
9. TACK WELDS SHALL COMPLY WITH AWS D1.1 CLAUSE 5.17 AND AWS D1.8 CLAUSE 6.12.
10. FOR BEAM FLANGE REINFORCEMENT PLATES, THE ROLLING DIRECTION OF GRAIN SHALL BE INDICATED ON THE PLATE AND INSTALLED SO THAT THE GRAIN DIRECTION IS PARALLEL TO THE LONGITUDINAL AXIS OF THE MEMBER.
11. FULL TIME VISUAL INSPECTION BY AN AWS QC-1 QUALIFIED INSPECTOR IS REQUIRED FOR ALL WELDING.
12. FULL PENETRATION WELDS SHALL BE ULTRA-SONIC TESTED PER AWS D1.1 & AISC 341 J6.2. ULTRASONIC TESTING SHALL BE PERFORMED ON 100% OF COMPLETE-JOINT-PENETRATION IN MATERIALS 5/16 INCH THICK OR GREATER. UT IN MATERIALS LESS THAN 5/16 IN THICK IS NOT REQUIRED.
13. AMPEREAGE, VOLTAGE, POLARITY AND ELECTRODE STICK OUT SHALL BE VERIFIED TO BE IN COMPLIANCE WITH THE ELECTRODE MANUFACTURER'S RECOMMENDATIONS.
14. REMOVE B.U. BARS AND WELD TABS AT ALL FLANGE COMPLETE JOINT PENETRATION (CJP) WELDS AT DUCTILE MOMENT FRAME CONNECTIONS. TYPICAL UNLESS NOTED OTHERWISE.

RETAINING WALL NOTES

1. THE WALL SHALL BE WATERPROOFED WITH A HOT MOPPED ASPHALT COATING INCORPORATING FIBERGLASS "YELLOW JACKET" MESH. WATERPROOFING SHALL BE "FLINTKOTE E-M-W" OR EQUAL.
2. A DRAINAGE BLANKET OF GRANULAR SOIL PER GEOTECHNICAL REPORT SHALL BE INSTALLED BEHIND THE WALL TO WITHIN 1 FOOT OF THE TOP OF THE WALL AND EXTEND A HORIZONTAL DISTANCE EQUAL TO ONE FOOT MINIMUM AT THE BASE, A PERFORATED 4 INCH DIAMETER PIPE EMBEDDED IN A 1 FOOT SQUARE, 3/4 INCH DRAINAGE ROCK MATERIAL WHICH IS WRAPPED IN FILTER FABRIC SHALL BE INSTALLED AT THE BASE OF THE WALL. AT LEAST 3 INCHES OF GRAVEL SHOULD BE PLACED BENEATH THE PIPE. DRAIN PIPE SHOULD HAVE A MINIMUM GRADIENT OF ONE PERCENT TOWARD THE DRAIN OUTLET. PLACE PERFORATIONS DOWNWARD. DRAINAGE SYSTEM TO BE FREE-DRAINING AND UNOBSTRUCTED AND DISCHARGE THRU WALL AT INTERVALS NOT TO EXCEED 50 FT.



3. ALL RETAINING WALL BACKFILL SHOULD BE COMPACTED IN HORIZONTAL LIFTS TO AT LEAST 90 PERCENT OR MORE OF THE LABORATORY MAXIMUM DRY DENSITY.

STRUCTURAL OBSERVATIONS:

1. VISUAL OBSERVATIONS WILL BE PERFORMED AT THE DISCRETION OF THE OWNER, ARCHITECT, SEOR, AND AS REQUIRED BY THE BUILDING OFFICIAL IN ACCORDANCE WITH THE BUILDING CODE.
2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY THE STRUCTURAL ENGINEER AS TO WHEN EACH MAJOR PHASE OF CONSTRUCTION IS READY FOR OBSERVATION A MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE.
3. THE FOLLOWING MAJOR PHASES OF CONSTRUCTION REQUIRE A SITE VISIT AND STRUCTURAL OBSERVATION REPORT FROM THE SEOR:
   - FOUNDATION REBAR AND ANCHORS - PRIOR TO POUR OF CONCRETE
   - STRUCTURAL FRAMING - AFTER ERECTION AND PRIOR TO CLOSING IN
   - COMPLETION OF THE STRUCTURAL SYSTEM
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NAILING, REINFORCEMENT, WELDS, CONNECTIONS, ETC. ARE VISIBLE FOR OBSERVATION WHEN THE SEOR IS ON SITE AND FOR ANY SCHEDULING DELAYS DUE TO NONCOMPLIANT ITEMS FOUND DURING THE OBSERVATION.

STATEMENT OF SPECIAL INSPECTIONS (DSA):

1. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
2. SPECIAL INSPECTIONS ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVED FABRICATORS MUST SUBMIT A CERTIFICATE OF COMPLIANCE FOR OFFSITE FABRICATIONS SUCH AS STRUCTURAL STEEL, PRECAST CONCRETE, GLUED LAMINATED TIMBER, ETC.
3. ALL INSPECTIONS SHALL BE PERFORMED BY INDEPENDENT SPECIAL INSPECTORS. JOB SITE VISITS BY THE STRUCTURAL ENGINEER OR BUILDING OFFICIAL DO NOT CONSTITUTE AND ARE NOT A SUBSTITUTE FOR INSPECTIONS BY A SPECIAL INSPECTOR.
4. ALL INSPECTION REPORTS SHALL BE SUBMITTED TO DSA AND SEOR THE FINAL REPORTS BY THE SPECIAL INSPECTOR(S) MUST CERTIFY THAT THE ENTIRE STRUCTURAL SYSTEM COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS.
5. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT THESE INSPECTIONS ARE PERFORMED.
6. WORK REQUIRING SPECIAL INSPECTION SHALL BE INSPECTED BY THE SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS PERFORMED AND AT THE COMPLETION OF WORK. CONTINUOUS INSPECTION CONSISTS OF FULL-TIME INSPECTION; PERIODIC INSPECTION CONSISTS OF PART-TIME OR INTERMITTENT INSPECTION.
7. REFER TO DSA 103 SPECIAL INSPECTION FORM FOR ALL TEST AND INSPECTION REQUIRED, AS WELL AS CALIFORNIA BUILDING CODE CHAPTER 17A.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277



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Project No.: M1202

YOUNG KEUN NA
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Exp. 9/30/26

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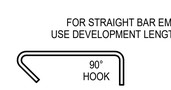
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GENERAL NOTES

SVA ARCHITECTS

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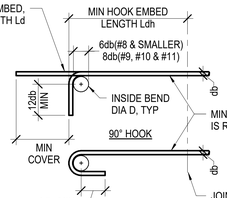
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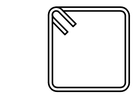
A CAP / CROSS TIE



B BEAM TIE / STIRRUP



D STD & CONFINED HOOKS (NON-STIRRUP/TIE)

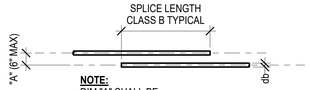


E CLOSED TIE / HOOP



NOTE:
- HOOK SHALL ENGAGE LONG. BARS
- OVERLAPS AT ADJ HOOPS SHALL BE STAGG. AROUND PERIMETER.

F ROUND HOOP

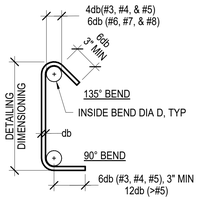


NOTE:
DIM "A" SHALL BE:
- 1/5 OF SPLICE LENGTH.

NON-CONTACT SPLICE



G LAP SPLICES



C STIRRUP & TIE HOOKS (#8 & SMALLER ONLY)

BAR SIZE	FINISHED BEND DIAMETER "D" IN INCHES
#3	2 1/4"
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	8"
#9	9 1/2"

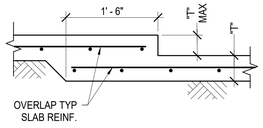
STANDARD HOOKS

	BAR SIZE	L_{dh}(in) STD HOOK	LAP SPLICE (in) CLASS B		L_d(in) DEVELOPMENT LENGTH	
			TOP	OTHER	TOP	OTHER
4000 PSI NWC	#3	6	25	20	19	15
	#4	7	33	25	25	19
	#5	9	41	32	31	24
	#6	12	49	38	37	29
	#7	15	71	55	54	42
	#8	19	81	63	62	48
	#9	22	91	71	70	54
	#10	27	103	80	79	61
	#11	31	114	88	87	67

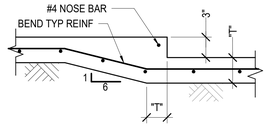
NOTES:
1. Ldh = HOOK DEVELOPMENT LENGTH.
2. Ld = DEVELOPMENT LENGTH.
3. db = REINFORCING BAR DIAMETER
4. SEE BUILDING CODE AND ACI 318-19 VERSION FOR ALL REQUIREMENTS NOT NOTED.
5. FOR LIGHTWEIGHT CONCRETE MULTIPLY Ldh AND Ld VALUES SHOWN BY 1.33.
6. TOP BARS ARE HORIZONTAL WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW BARS. ALL OTHER BARS ARE "OTHER" BARS.
7. STANDARD HOOK Ldh DOES NOT ACCOUNT FOR THE EFFECT OF TIES. CONFINED HOOK Ldh MAY BE USED WHERE ACI 318-19 25.4.3 APPLIES.
8. VALUES SHOWN ABOVE ARE FOR GRADE 60 (FY=60 KSI) REINFORCEMENT.
9. SPLICE LENGTHS SHOWN ARE FOR CLEAR SPACING NOT LESS THAN 2db, CONCRETE COVER NOT LESS THAN db.
10. IF EPOXY-COATED REINFORCEMENT IS USED, THE DEVELOPMENT/LAP SPLICE LENGTHS HEREIN SHALL BE MULTIPLIED BY APPLICABLE FACTORS IN ACI 318-19 SECTIONS 25.4.2.5 OR 25.4.3.2.
11. IN LIEU OF LAP SPLICES, PROVIDE TYPE 2 COUPLERS PER IAPMO ER 0129. STAGGER COUPLERS SO THAT COUPLERS DO NOT OCCUR IN ROW.

5 S-1.1 TYPICAL CONC REINFORCEMENT DETAILS AND DEVELOPMENT LENGTHS

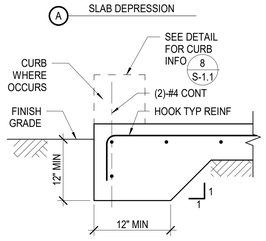
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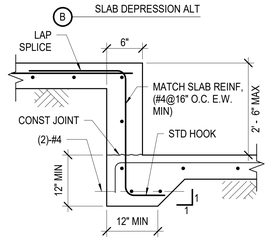
A SLAB DEPRESSION



B SLAB DEPRESSION ALT



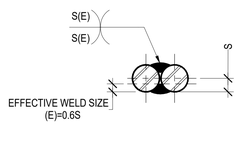
C EDGE OF SLAB



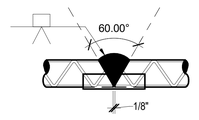
D SLAB STEP

9 S-1.1 TYPICAL SLAB ON GRADE DETAILS

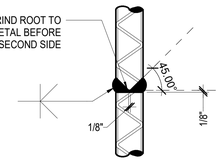
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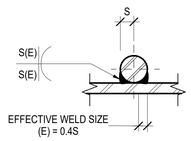
A FLARE V-GROOVE WELD



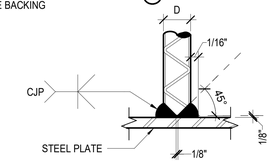
B SINGLE V-GROOVE WELD WITH SPLIT PIPE BACKING



C DOUBLE BEVEL GROOVE WELD



D FLARE BEVEL GROOVE WELD



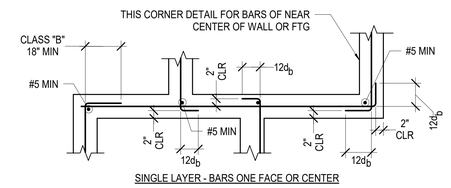
E COMPLETE JOINT PENETRATION GROOVE WELD

WELD SCHEDULE	
BAR SIZE	MIN WELD LENGTH
#3	3"
#4	3"
#5	3"
#6	4"
#7	5"
#8	5"
#9	6"
#10	6"

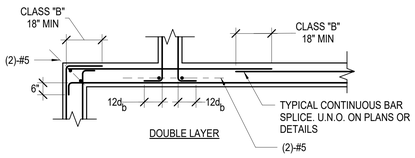
NOTES:
1. WELDING SHALL BE WITH LOW HYDROGEN ELECTRODES E80XX AND SHALL CONFORM TO AWS-D1.4.
2. ALL WELDING SHALL BE SUBJECT TO CONTINUOUS INSPECTION.
3. REINFORCING BARS TO BE WELDED SHALL MEET THE REQUIREMENT OF ASTM A706.
4. RADIUS OF REINFORCING BAR = S.
5. THESE ARE SECTIONAL VIEWS. BAR DEFORMATIONS ARE SHOWN ONLY FOR ILLUSTRATIVE PURPOSES.

3 S-1.1 TYPICAL REINFORCING BAR WELDING

SCALE: N.T.S.



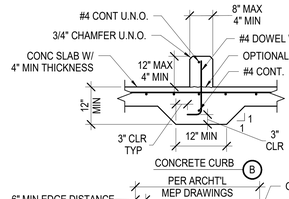
SINGLE LAYER - BARS ONE FACE OR CENTER



DOUBLE LAYER

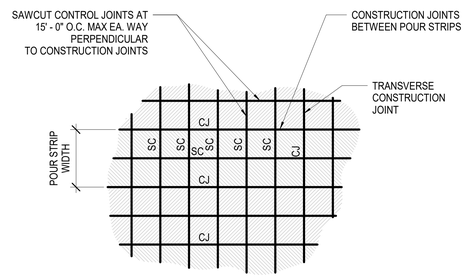
7 S-1.1 REINF BAR SPLICES AT CONT WALL FTGS INTERSECTIONS

SCALE: N.T.S.



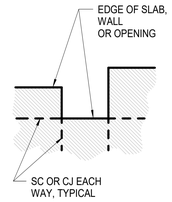
8 S-1.1 TYPICAL CONCRETE PAD AND CURB ON GRADE

SCALE: N.T.S.



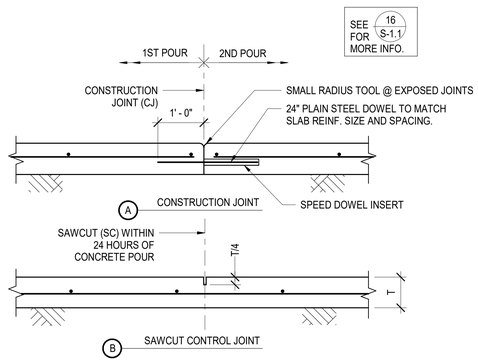
STRUCTURAL SLAB ON GRADE SHALL BE CONTINUOUSLY POURED IN STRIPS NOT TO EXCEED 60 FEET x 120 FEET

C SLAB PER PLAN



D RE-ENTRANT CORNER

NOTES:
1. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF VISUALLY EXPOSED CONTROL JOINTS.
2. FOR POURING SEQUENCE OTHER THAN THAT SHOWN ON THESE PLANS, SUBMIT SHOP DRAWINGS TO SEOR FOR REVIEW 7 DAYS PRIOR TO POUR.
3. FOR SAW CUT (SC) AND CONSTRUCTION JOINT (CJ) SEE DETAIL 15 / S-1.1
4. FOR TYPICAL SLAB EDGE AND STEPS IN SLAB SEE DETAIL 9 / S-1.1



15 S-1.1 TYPICAL SLAB ON GRADE CONTROL JOINT (FOR SLAB THICKNESS 4" TO 6")

SCALE: N.T.S.

16 S-1.1 TYPICAL SLAB ON GRADE CONTROL JOINT

SCALE: N.T.S.

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

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Project No.: M1202

PROFESSIONAL ENGINEER — No. 54029 — Exp. 9/30/26 — STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

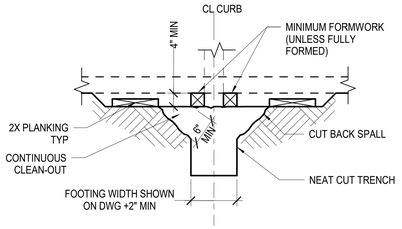
PROJECT NO:	2025-40137
ISSUANCE:	A#03-126194
DATE ISSUED:	06/22/2026
SCALE:	N.T.S.

S-1.1

TYP REBAR & S.O.G

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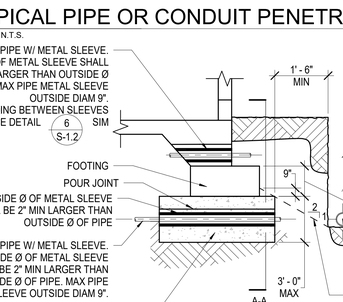
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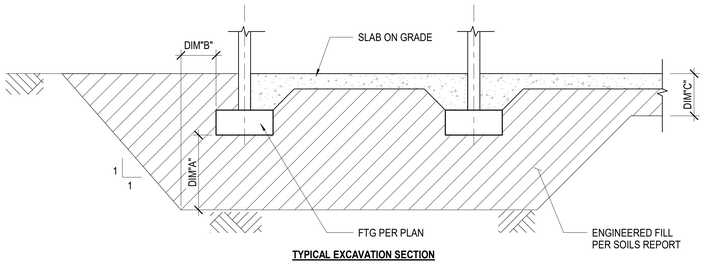
NOTES:
1. FOOTINGS POURED AGAINST EARTH ARE SUBJECT TO APPROVAL OF GEOTECH. ENGR.
2. FOOTING WIDTHS SHALL NOT BE MORE THAN 6" WIDER THAN SHOWN ON PLAN. WHERE FOOTING WIDTHS EXCEEDS THIS 6" MAX TOLERANCE, THE SIDES OF THE FOUNDATIONS SHALL BE FORMED.
3. FORMWORK NOT PERMITTED BELOW GRADE UNLESS FULLY FORMED.
4. FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE GEOTECHNICAL ENGINEER. THE MINIMUM FORMWORK SHOWN ON THE DRAWINGS IS MANDATORY TO ENSURE CLEAN EXCAVATIONS IMMEDIATELY PRIOR TO AND DURING THE PLACING OF CONCRETE.
5. CONT CLEAN-OUT STAKES NOT PERMITTED IN THE FTG AREA.
6. AFTER CONCRETE HAS SET, REMOVE LAITANCE AND SCUM.

1 S-1.2 FOOTING POURED AGAINST EARTH

SCALE: N.T.S.



NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING OR OTHERWISE MAINTAINING THE SIDES OF THE EXCAVATION FROM CAVE-INS UNTIL ALL BACKFILL IS COMPLETED PER SPECIFICATIONS AND GEOTECHNICAL REPORT.



TYPICAL EXCAVATION SECTION

DIM "A":
(TBD) FEET BELOW EXISTING SITE GRADES OR A MINIMUM OF (TBD) FEET BELOW BOTTOM OF FOOTINGS, WHICHEVER IS DEEPER.

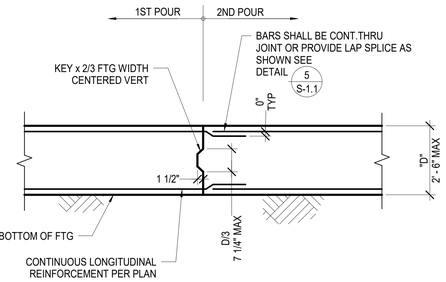
DIM "B":
(TBD) FEET MINIMUM BEYOND EDGE OF FOOTINGS

DIM "C":
(TBD) INCHES MINIMUM BELOW BOTTOM OF SLAB ON GRADE.

NOTE:
BALANCE OF INFO SEE SOILS REPORT.

2 S-1.2 OVER EXCAVATION AT BUILDING FOUNDATION

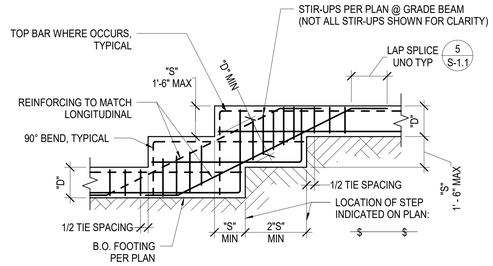
SCALE: N.T.S.



NOTES:
1. PROVIDE ADEQUATE SUPPORT FOR LONGITUDINAL REINFORCEMENT WITHIN 6" OF JOINT USING FOOTING TIES, VERTICAL DOWELS OR OTHER MEANS.
2. SECTIONS SHOWN ARE AT CENTER OF FOOTING IN LONGITUDINAL DIRECTION.

3 S-1.2 CONSTRUCTION JOINT AT FOOTING/ GRADE BEAM

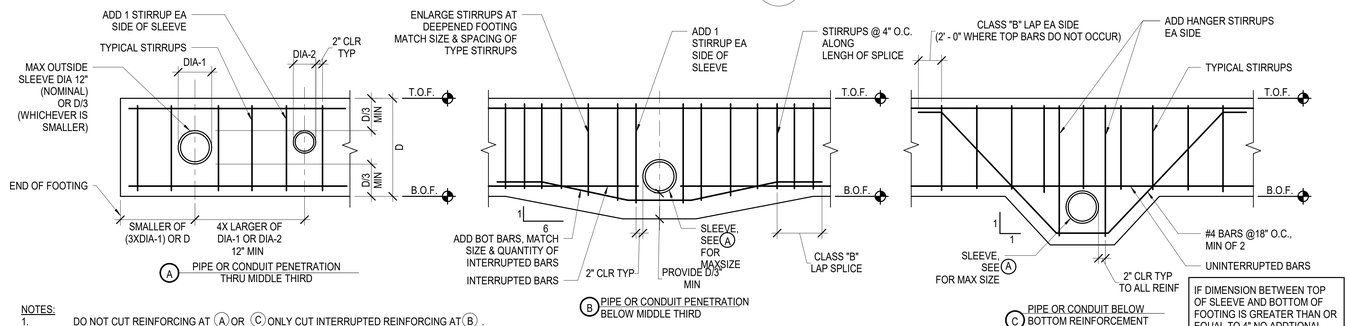
SCALE: N.T.S.



NOTES:
1. FOR FTG REINFORCING SEE PLANS AND DETAILS.
2. VERTICAL WALL DOWELS SHALL EXTEND TO BOTTOM OF FOOTING.
3. TRANSVERSE STEEL NOT SHOWN FOR CLARITY.
4. TWO STEPS ARE SHOWN, DETAIL FOR SINGLE STEP OR ADDITIONAL STEPS IS SIMILAR.

4 S-1.2 TYPICAL EXCAVATION PARALLEL TO FOOTING

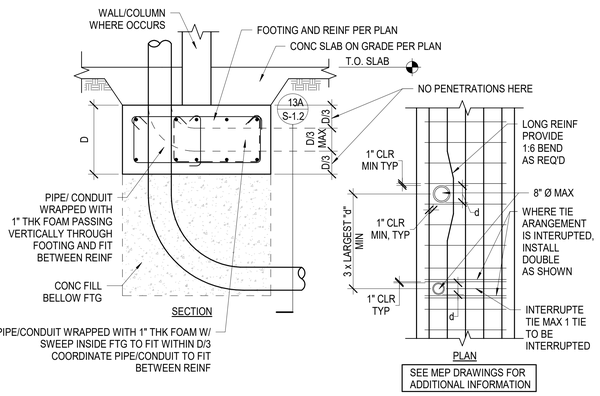
SCALE: N.T.S.



NOTES:
1. DO NOT CUT REINFORCING AT (A) OR (C) ONLY CUT INTERRUPTED REINFORCING AT (B).
2. PROVIDE MINIMUM 2" CLEAR BETWEEN SLEEVE AND REINFORCING .
3. INSIDE Ø OF METAL SLEEVE SHALL BE 2" MIN LARGER THAN OUTSIDE Ø OF PIPE.
4. CAULK SEAL GAP AT SLEEVE-TO-PIPE/CONDUIT INTERFACE ON EXTERIOR SIDE OF FOOTING .
5. IF PIPE OR CONDUIT PENETRATION OCCURS AT EITHER TOP OR BOTTOM REBAR SPLICE LOCATION PROVIDE 2 ADDITIONAL SHEAR STIRRUPS FOR A TOTAL OF 4 SHEAR STIRRUPS ON EACH SIDE OF PENETRATION .

5 S-1.2 TYPICAL STEPPED FOOTING GRADE BEAM

SCALE: N.T.S.

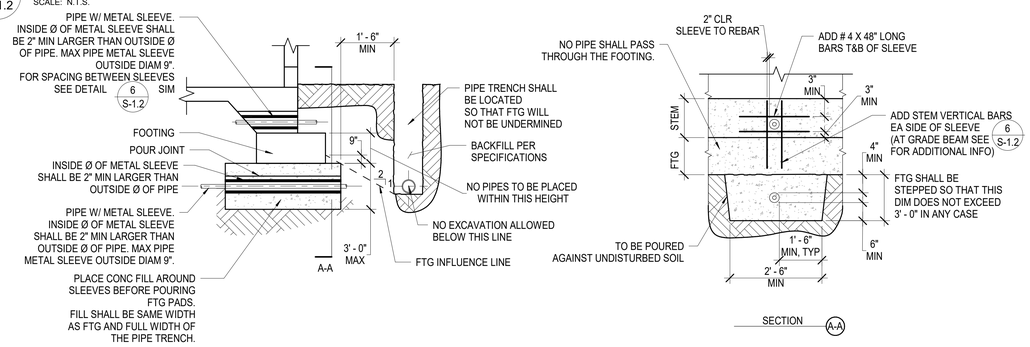


8 S-1.2 PIPE/ CONDUIT SWEEP THRU FOOTING

SCALE: N.T.S.

6 S-1.2 TYPICAL PIPE OR CONDUIT PENETRATIONS THRU CONTINUOUS FOOTINGS

SCALE: N.T.S.



NOTES:
1. CONTRACTOR SHALL COORDINATE ALL PIPE LOCATIONS WITH BUILDING FOUNDATION REQUIREMENTS.
2. IF REQUIREMENTS AS SHOWN CANNOT BE MET, STEP FOOTING PER TYPICAL 'STEPPED FOOTING' DETAIL.
3. REFERENCE CBC SECTION 1809.14.

13 S-1.2 PIPE TRENCH FOOTING DETAIL

SCALE: N.T.S.

REDONDO BEACH UNIFIED SCHOOL DISTRICT
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Project No.: M1202

PROFESSIONAL ENGINEER No. S4029 Exp. 9/30/26 STRUCTURAL STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

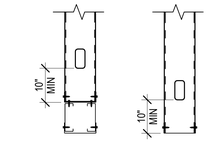
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S-1.2

TYP FOOTING DETAILS

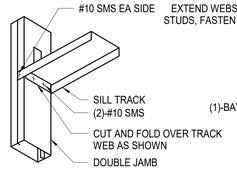
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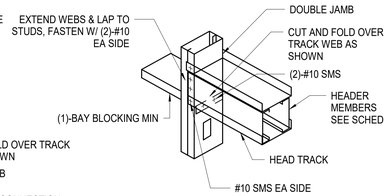


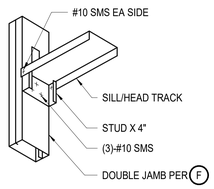
1 CONDITION 2 CONDITION

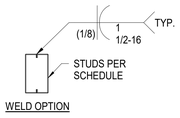
NON-BEARING - HEADER DIRECTLY OVER OPENING



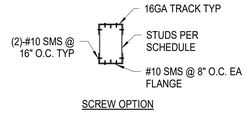
NOTE:
SEE DETAILS D & E FOR ALTERNATE CONNECTION AS CONTRACTORS OPTION.







WELD OPTION



SCREW OPTION

JAMB STUD SCHEDULE		
MAX OPENING "L" OR COMBINED OPENING L= L(RIGHT) + L (LEFT) AT ADJACENT OPENING	HT ≤ 16' - 0" (INTERIOR)	
	STUDS	CONN AT TOP TRACK
L ≤ 6' - 0"	(2) 400S162-33	SL400*
	(2) 600S162-33	SL600*
6' - 0" ≤ L ≤ 10' - 0"	(2) 400S162-33	SL400*
	(2) 600S162-43	SL600*

NOTES:
1. PROVIDE STUDS, TRACKS AND BRACING PER SCHEDULE BELOW:

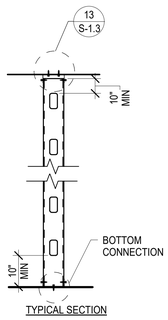
METAL STUD SCHEDULE UNLESS NOTED OTHERWISE ON PLAN REF: STEEL STUD MANUFACTURER'S ASSOCIATION (ESR-3064P)	
TRACK	NOMINAL STUD SIZE
BOTTOM TRACK	16 GA WITH 1 1/2" FLANGE (DEPTH TO MATCH STUD)
TOP TRACK	16 GA WITH 1 1/2" FLANGE (DEPTH TO MATCH STUD)

MAX HT FOR INTERIOR METAL STUD SIZE (1 5/8" FLANGE WIDTH) @ 16" O/C MAX LOAD= 5 PSF (L/240)					
GAUGE	MEMBER WEB DEPTH				
	2 1/2"	3 5/8"	4"	6"	8"
14	-	19'-11"	21'-6"	30'-0"	38'-2"
16	-	18'-8"	20'-2"	28'-0"	35'-7"
18	13'-1"	17'-5"	18'-10"	26'-2"	33'-1"

HEADER BEAM SCHEDULE (INTERIOR NON-BEARING PARTITIONS) MAX LATERAL LOAD = 5PSF		
SPAN "L"	CONDITION	LINTEL SIZE
≤ 4' 0"	DET. A - 2	16 GA TRACK, WIDTH TO MATCH
> 4' - 0" ≤ 8' - 0"	DET. A - 1	(2) 6"X20 GA METAL STUDS (600S162-33)
> 8' - 0" ≤ 12' - 0"	DET. A - 1	(2) 6"X18 GA METAL STUDS (600S162-43)
> 12' - 0" ≤ 16' - 0"	DET. A - 1	(2) 8"X16 GA METAL STUDS (800S162-54)

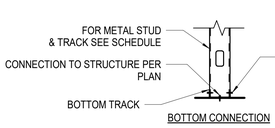
2. ALL STUDS AND TRACKS SHALL CONFORM TO ASTM A1003.
   a. 18GA AND LIGHTER: MINIMUM YIELD POINT OF 33 KSI
   b. 16GA AND HAVIER: MINIMUM YIELD POINT OF 50 KSI.
   c. ALL STUDS AND TRACKS SHALL BE MANUFACTURED BY CURRENT MEMBERS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) LISTED IN ICC REPORT NO. ESR-3064P. ALL STUDS AND TRACKS SHALL COMPLY WITH ICC REPORT NO. ESR-3064P.
3. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY OR ON ANGLE (SUCH AS BRACING) TO SQUARELY FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD FIRMLY POSITION UNTIL PROPERLY FASTENED.
4. STUD AND TRACKS SHALL BE ATTACHED BY WELDING AND SHEET METAL SCREWS AS NOTED ON THE DRAWINGS.
5. MANUFACTURER PROVIDED PUNCH-OUTS MAY BE LOCATED ALONG THE CENTERLINE OF THE WEBS OF THE FRAMING MEMBERS. PUNCH-OUTS SHALL HAVE A MINIMUM CENTER-TO-CENTER SPACING OF 24". PUNCH-OUT SHALL HAVE A MAXIMUM WIDTH OF HALF THE MEMBER DEPTH OR 2 1/2", WHICHEVER IS LESS, AND MAXIMUM LENGTH OF 4 1/2".
6. SPLICES IN STUDS AND BRACES SHALL NOT PERMITTED.
7. ALL FRAMING SHALL BE COORDINATED WITH GLAZING MANUFACTURERS, MECHANICAL, ELECTRICAL, PLUMBING AND OTHER TRADES.
8. PROVIDE 0.08" THICK x 1.1" SQUARE OR 1.425" ROUND WASHERS FOR ALL POWDER ACTUATED FASTENERS.
9. LOCATE PUNCHOUTS 10" CLEAR OF CONNECTIONS. IF PUNCH IS CLOSER THAN 10" TO CONNECTION, SEE DETAIL 13 / S-1.3 DET "C"
10. FOR STUDS CARRYING EQUIPMENT OR CASEWORK SEE DETAIL 13 / S-1.3

A HEADER DETAIL



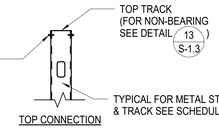
TYPICAL SECTION

B DETAIL



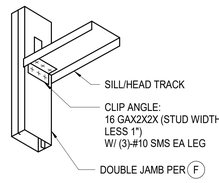
BOTTOM CONNECTION

C DETAIL



TOP CONNECTION

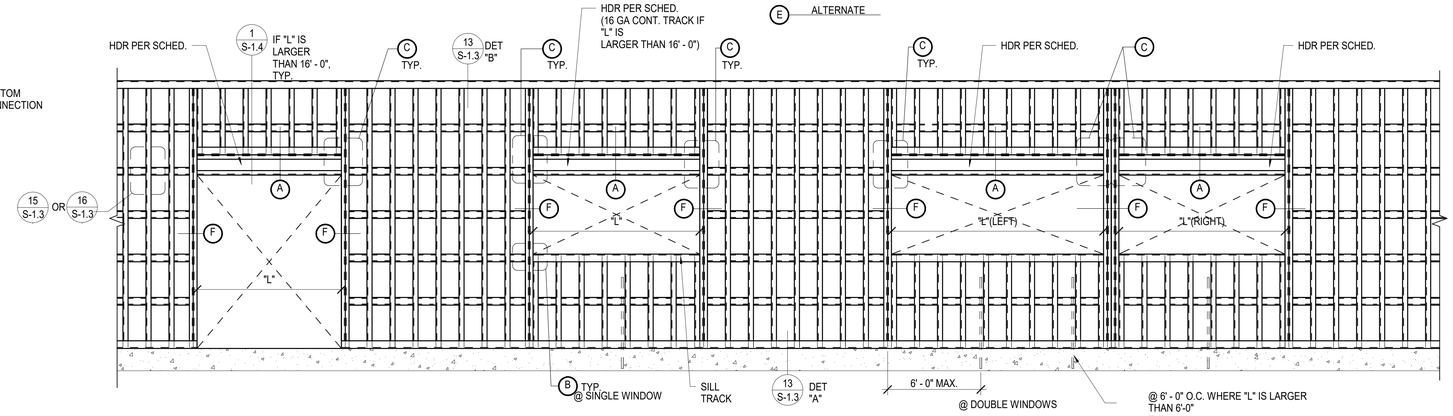
D ALTERNATE



NOTES:
1. JAMB STUDS DEPTHS SHALL MATCH TYPICAL WALL STUD DEPTHS.
2. * DENOTES TSN (THE STEEL NETWORK) CLIPS. (ICC-ESR-2049)

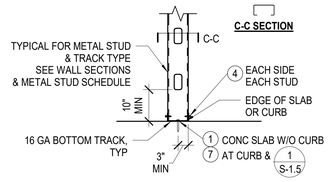
F TYP. JAMB SHCEDULE

E ALTERNATE



5 S-1.3 TYPICAL NON-BEARING AND MTL STUD SCHED. & WALL FRAMING (INTERIOR)

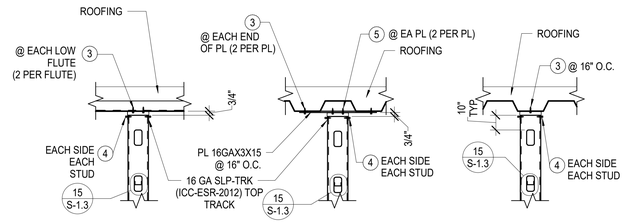
SCALE: N.T.S.



A STUD TO BOTTOM TRACK

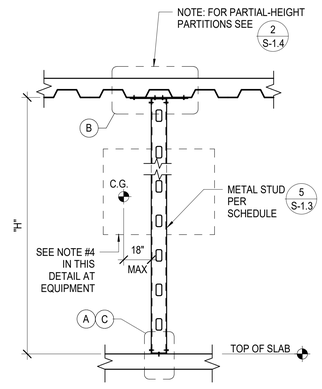
NOTES:

1. FOR STEEL STUD AND TRACK TYPE SEE PLANS, SECTIONS AND METAL STUD SIZE SCHEDULE ON DETAIL 5 / S-1.3
2. FOR METAL STUD FASTENERS, SEE METAL STUD FASTENER SCHEDULE.
3. ALL POWER DRIVEN FASTENERS TO HAVE A MINIMUM PENETRATION OF 1 1/4".

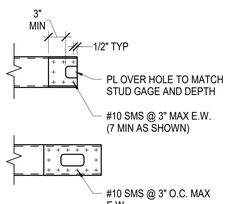


STUD PERPENDICULAR TO STEEL DECK | STUD PARALLEL TO STEEL DECK BETWEEN FLUTES | STUD PARALLEL TO STEEL DECK ON FLUTE

B STUD TO DECK DETAIL



METAL STUD ELEVATION



C REINF OF STUD AT PUNCHOUT

METAL STUD FASTENER SCHEDULE		
MARK	FASTENERS SIZE & SPACING	REMARKS
1	HILTI 0.157" DIA. X-U SHOT PIN @ 16" O.C. W/ 1 1/2 " MIN EMBED	ESR-2269
2	HILTI 0.157" DIA. X-U SHOT PIN @COMPOSITE DECK W/ 1 1/2" MIN EMBED	ESR-2269
3	#10 SMS AT ROOF METAL DECK	ESR-1408
4	#10 SHEET METAL SCREW	ESR-1408
5	#12 SHEET METAL SCREW	ESR-1408
6	NOT USED	-
7	5/8" X 12" HEADED BOLT @ 32"O.C. W/ STD WASHER TYP. (MIN.4"EMBED)	-

PAF: POWER ACTUATED FASTENER (LOW VELOCITY) OR POWER DRIVEN FASTENER.

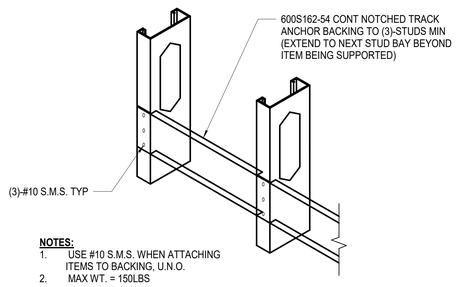
HOLES FOR A.B. SHALL BE 1/16" LARGER THAN BOLT SIZE.

NOTES:

1. MAXIMUM STUD HEIGHT "H" FOR STUDS @ 16" O.C. PER SCHEDULE 5 / S-1.3
2. SEE ARCHITECTURAL FOR OTHER CONDITIONS.
3. LIMIT PER (2022 CBC TABLE 1604A.3)
   L/360 - W/ PLASTER AND STUCCO FINISHES.
   L/240 - W/ OTHER BRITTLE FINISHES.
   L/120 - W/ FLEXIBLE FINISHES.
4. STUDS CARRYING EQUIPMENT OR CASEWORK WEIGHING 40 LBS OR MORE SHALL BE 16 GA MIN AND 4" MIN. (MAX SUPPORT WT = 600LBS PER STUD)

13 S-1.3 STEEL STUD BRACING DETAIL (INTERIOR ONLY)

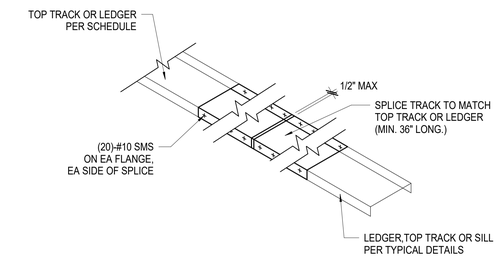
SCALE: N.T.S.



NOTES:
1. USE #10 S.M.S. WHEN ATTACHING ITEMS TO BACKING, U.N.O.
2. MAX WT. = 150LBS

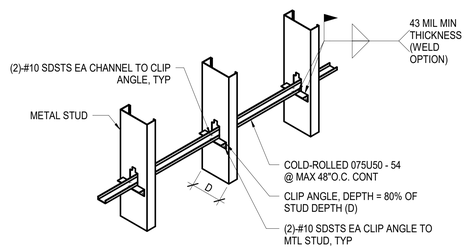
11 S-1.3 BACKING DETAIL

SCALE: N.T.S.



12 S-1.3 TOP TRACK, LEDGER & SILL SPLICE DETAIL

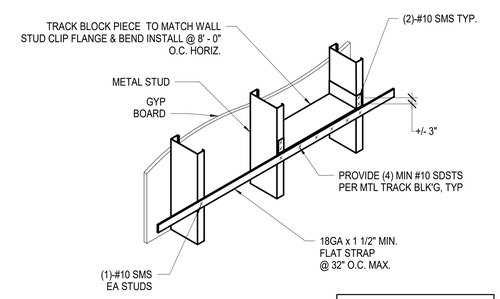
SCALE: N.T.S.



SEE SCHEDULE ON THIS SHEET FOR METAL STUD & TRACK SIZES

15 S-1.3 BRIDGING CHANNEL W/ CLIP ANGLE (WITHOUT PLYWOOD/GYP BOARD)

SCALE: N.T.S.



SEE SCHEDULE ON THIS SHEET FOR METAL STUD & TRACK SIZES

16 S-1.3 SINGLE FLAT STRAP BRIDGING W/ BLK'G (W/ PLYWOOD/GYP BOARD ON ONE SIDE)

SCALE: N.T.S.

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

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Project No.: M1202

REGISTERED PROFESSIONAL ENGINEER No. 54029 Exp. 9/30/26 STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

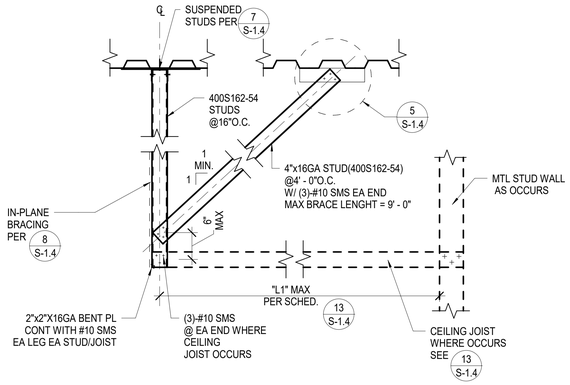
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: N.T.S.

S-1.3

TYPICAL DETAILS - METAL STUD

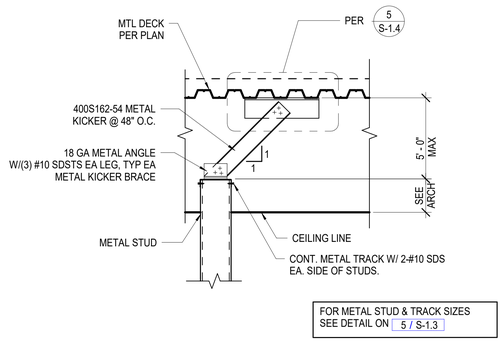
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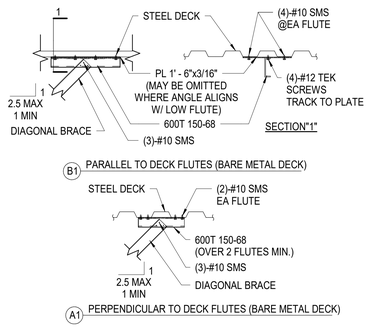
1 S-1.4 STUD BRACING (INTERIOR ONLY)

SCALE: N.T.S.



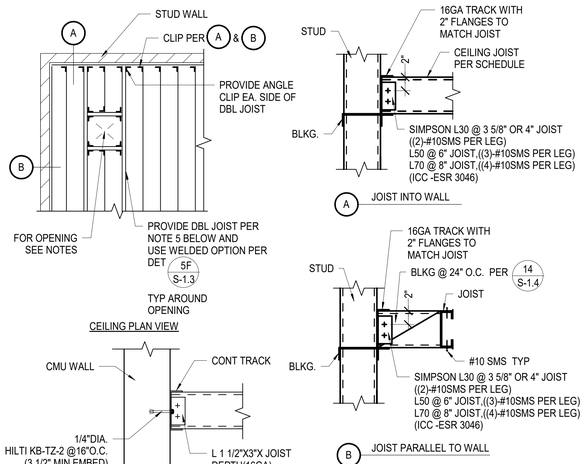
2 S-1.4 NON-LOAD BEARING INTERIOR WALL FRAMED TO CEILING W/ DIAGONAL KICKER

SCALE: N.T.S.



5 S-1.4 WALL BRACE

SCALE: N.T.S.



INTERIOR METAL CEILING JOIST SCHEDULE					
NOMINAL SIZE	SSMA PRODUCT IDENTIFICATION	Ixx(IN⁴)	Sxx(IN³)	SPACING (IN)	MAXIMUM SPAN (L1)
3 5/8"x20GA	362S162-33	0.551	0.304	16	8' - 6"
4"x18GA	400S162-43	0.892	0.446	16	9' - 6"
6"x18GA	600S162-43	2.316	0.772	16	11' - 0"
8"x18GA	800S162-43	4.633	1.158	16	12' - 0"

NOTES:

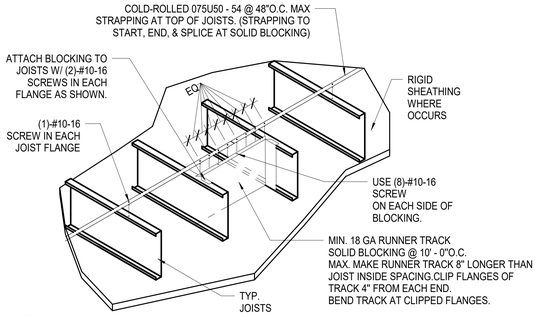
1. JOIST AND TRACK DESIGNATIONS ARE BASED ON STEEL STUD MANUFACTURER'S ASSOCIATION (ICC ER-3064P).
2. DESIGN LOADS:
   DEAD LOAD = 20 PSF
3. SEE TYP. CEILING JOIST FRAMING DETAIL 11 / S-1.4
5. WHERE JOIST IS CUT, PROVIDE DOUBLE JOIST TO ADJ. CEILING JOIST NEXT TO CUT JOIST (DO NOT CUT MORE THAN ONE JOIST).
6. SEE DETAIL 14 / S-1.4 FOR BRACING REQUIREMENTS.

13 S-1.4 MTL CEILING JOIST SCHED (INTERIOR ONLY)

SCALE: N.T.S.

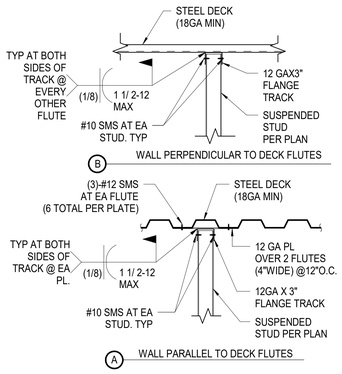
BLOCKING NOTE:

PLACE SOLID BLOCKING AT ENDS OF FLOOR SYSTEM, ADJACENT TO ALL OPENINGS, AND AT 10' - 0"O.C. MAX.



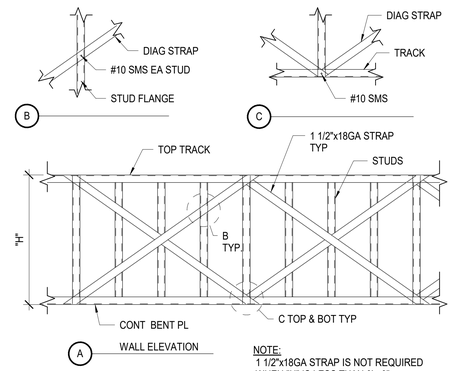
14 S-1.4 CEILING JOISTS FLANGE BRACING

SCALE: N.T.S.



7 S-1.4 SUSPENDED STUD TO METAL DECK

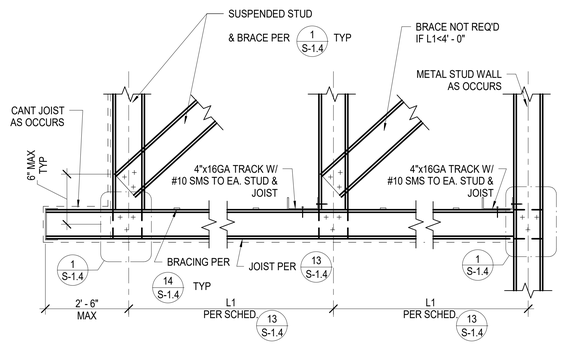
SCALE: N.T.S.



NOTE:
1 1/2"x18GA STRAP IS NOT REQUIRED WHEN "H" IS LESS THAN 3' - 0".

8 S-1.4 IN-PLANE BRACING

SCALE: N.T.S.



11 S-1.4 INTERIOR CEILING FRAMING

SCALE: N.T.S.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

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Project No.: M1202

PROFESSIONAL ENGINEER No. 54029 Exp. 9/30/26 STRUCTURAL STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137

ISSUANCE: A#03-126194

DATE ISSUED: 06/22/2026

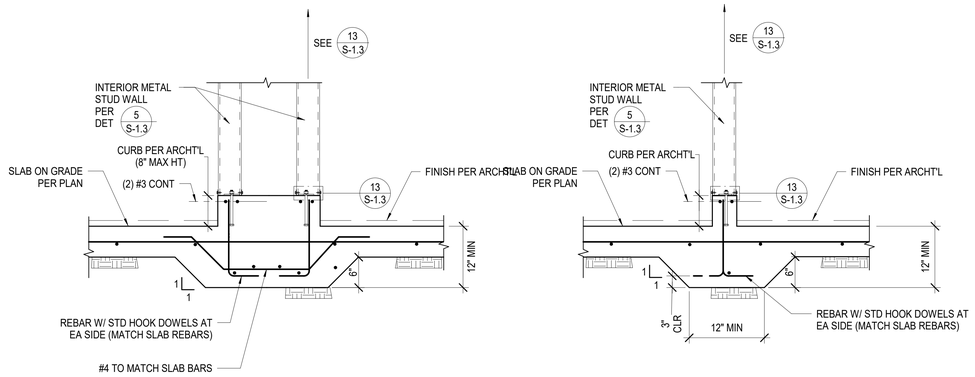
SCALE: N.T.S.

S-1.4

TYPICAL DETAILS - METAL STUD

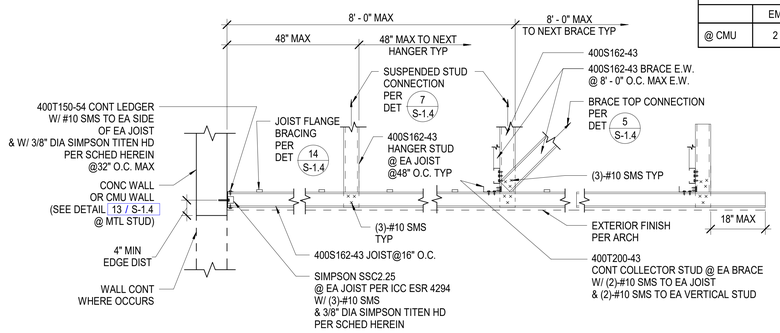
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1 S-1.5 NON BEARING METAL STUD @ CURB

SCALE: N.T.S.



3/8" DIA SIMPSON TITEN HD SCHED		
	EMBED	PER ICC
@ CMU	2 3/4"	ICC ESR # 1056

2 S-1.5 EXTERIOR CEILING FRAMING

SCALE: N.T.S.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

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PROFESSIONAL ENGINEER — KEVIN E. VAN — No. 54029 — Exp. 9/30/26 — STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
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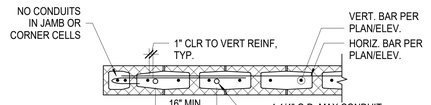
SCALE: N.T.S.

S-1.5

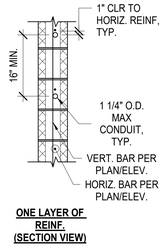
TYPICAL DETAILS - METAL STUD

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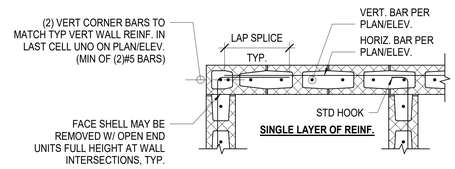
SINGLE LAYER OF REINF. (PLAN VIEW)



ONE LAYER OF REINF. (SECTION VIEW)

NOTES:
1. CONDUITS SHALL BE STEEL OR NON-METALIC.
2. CONDUITS SHALL NOT INTERRUPT REINFORCEMENT.
3. CONTUITS SHALL NOT OCCUR WITHIN JAMB OR CORNER CELLS. NOR SHALL THEY OCCUR WITHIN COURSES CONTAINING LINTEL HORIZONTAL BARS OR CHORD BARS.
4. CONDUIT SIZE AND SPACING IS LIMITED TO THE SIZE AND SPACING SHOWN HEREIN UNLESS SPECIFICALLY DETAILED OTHERWISE ON THESE STRUCTURAL DRAWINGS.

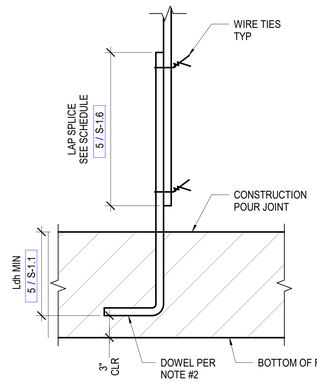
1 S-1.6 ALLOWED CONDUITS IN WALL
SCALE: 3/4" = 1'-0"



SINGLE LAYER OF REINF.

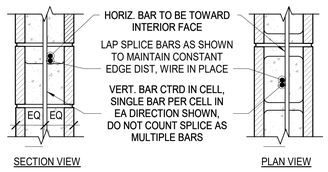
NOTES:
1. CONTINUOUS BARS MAY BE REPLACED WITH DOWELS LAP SPLICED TO HORIZONTAL REINFORCEMENT.
2. ALL HORIZONTAL CORNER / INTERSECTION BARS SHALL BE BENT AROUND A VERTICAL BAR. ADJUST LOCATION OF VERTICAL BAR AS REQUIRED WHILE MAINTAINING 1/2" CLEAR TO FACE SHELL.
3. PROVIDE 1:6 BEND IN CORNER / INTERSECTION BARS AS REQUIRED TO ACHIEVE CLEARANCES.

2 S-1.6 CONCRETE MASONRY WALL INTERSECTION
SCALE: N.T.S.

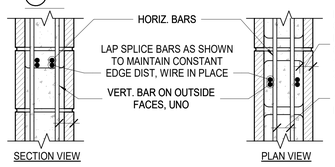


NOTES:
1. ALL VERTICAL REINFORCING FOR COLUMNS, PIERS AND WALLS SHALL BE DOWELED AS SHOWN EXCEPT SPECIFIC DETAILS OF DRAWINGS SHALL GOVERN IN CASES OF CONFLICT.
2. DOWELS SHALL BE THE SAME GRADE, SIZE AND NUMBER AS VERTICAL REINF.

3 S-1.6 TYPICAL DOWELS AT CMU WALL
SCALE: N.T.S.

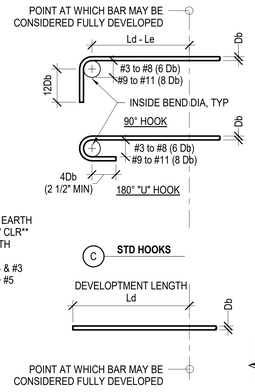


A **REINFORCEMENT CENTERED IN CMU BLOCK**



**REBAR SHALL HAVE A MINIMUM OF 1/4" OF FINE GROUT OR 1/2" OF COARSE GROUT BETWEEN MASONRY BLOCK AND REBAR.

B **REINFORCEMENT AT EDGE OF CMU BLOCK/MULTIPLE BARS**



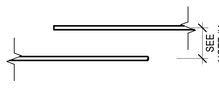
C **STD HOOKS**

D **STRAIGHT DEVELOPMENT**

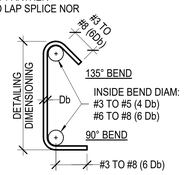
BAR SIZE	STD HOOK (L_e)	DEV. LENGTH (L_d)	LAP SPLICE
f'm = 2000 PSI			
#3	5"	17"	17"
#4	7"	30"	30"
#5	9"	45"	45"
#6	10"	54"	54"
#7	12"	63"	63"
#8	13"	72"	72"
#9	15"	81"	81"

NOTES:
1. VALUES SHOWN ARE FOR GRADE 60 REINF DEVELOPED IN CMU.
2. REFER TO TYPICAL REINFORCEMENT DETAILS FOR INFO NOT SHOWN, AND FOR DEVELOPMENT IN CONCRETE.
3. USE OF HYTEN COUPLER (OR EQ W/ ESR REPORT) IN LIEU OF LAP SPLICE @ CMU VERTICAL REINF ARE ACCEPTED. (ICC-ESR-4275)
4. WHERE NON-CONTACT SPLICES ARE USED, REINFORCEMENT SHALL NOT BE SPACED FARTHER APPART THAN ONE-FIFTH THE REQUIRED LAP SPLICE NOR MORE THAN 8 INCHES APPART.

L_e = HOOK LENGTH
L_d = DEVELOPED LENGTH
D_b = REINFORCING BAR DIAMETER

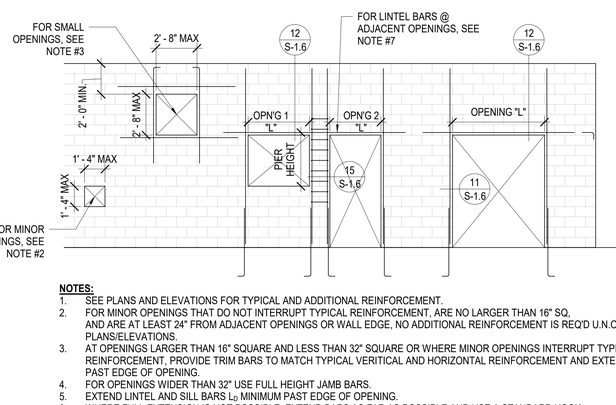


E **NON-CONTACT LAP SPLICE FOR CHORD AT SLOPED DIAPHRAGM**



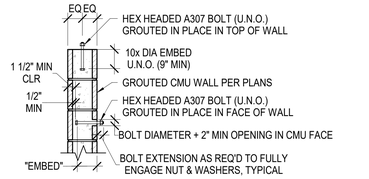
F **STIRRUPS & TIES**

5 S-1.6 MASONRY REINFORCEMENT DETAILS & DEVELOPMENT LENGTHS
SCALE: N.T.S.



NOTES:
1. SEE PLANS AND ELEVATIONS FOR TYPICAL AND ADDITIONAL REINFORCEMENT.
2. FOR MINOR OPENINGS THAT DO NOT INTERRUPT TYPICAL REINFORCEMENT, ARE NO LARGER THAN 16" SQ., AND ARE AT LEAST 24" FROM ADJACENT OPENINGS OR WALL EDGE, NO ADDITIONAL REINFORCEMENT IS REQ'D U.N.O. ON PLANS/ELEVATIONS.
3. AT OPENINGS LARGER THAN 16" SQUARE AND LESS THAN 32" SQUARE OR WHERE MINOR OPENINGS INTERRUPT TYPICAL REINFORCEMENT, PROVIDE TRIM BARS TO MATCH TYPICAL VERITICAL AND HORIZONTAL REINFORCEMENT AND EXTEND BARS L_D PAST EDGE OF OPENING.
4. FOR OPENINGS WIDER THAN 32" USE FULL HEIGHT JAMB BARS.
5. EXTEND LINTEL AND SILL BARS L_D MINIMUM PAST EDGE OF OPENING.
6. WHERE FULL EXTENSION IS NOT POSSIBLE, EXTEND BARS AS FAR AS POSSIBLE AND USE A STANDARD HOOK.
7. AT ADJACENT OPENINGS OR WHERE INDIVIDUAL OPENING LINTEL BAR L_D IS NOT ACHEIVABLE, CONTINUE LINTEL REINF FROM LARGER OPENING

6 S-1.6 TYPICAL MINIMUM REINFORCEMENT FOR MASONRY OPENINGS
SCALE: N.T.S.

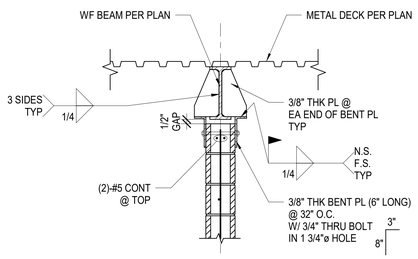


MINIMUM EMBEDMENT TABLE:

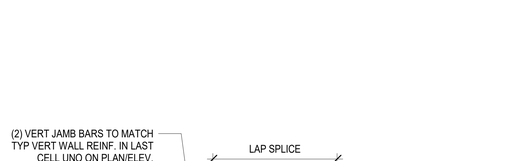
BOLT DIA.	8" CMU WALL MIN. BOLT EMBED.	10" CMU WALL MIN. BOLT EMBED.	12" CMU WALL MIN. BOLT EMBED
1/2"	4 1/2"	6 1/2"	8 1/2"
5/8"	4 1/2"	6 1/2"	8 1/2"
3/4"	4 1/2"	6 1/2"	8 1/2"
7/8"	4 1/2"	6 1/2"	8 1/2"
1"	4 1/4"	6 1/4"	8 1/4"

NOTES:
1. BOLTS CAST-IN MASONRY SHALL BE GROUTED IN PLACE WITH 1" OF GROUT BETWEEN BOLT AND MASONRY.
2. BOLTS SHALL BE A307 HEADED MACHINE BOLTS OR A36 ROD W/ TACK WELDED HEX NUT.
3. UNLESS DETAILED ON PLANS, DO NOT PLACE BOLTS IN FACE OF WALL < 12x DIA FROM OPENINGS OR EDGES WITHOUT APPROVAL FROM SEOR.

9 S-1.6 HEADED BOLT GROUTED IN CMU WALL
SCALE: N.T.S.

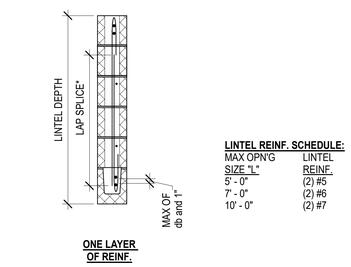


10 S-1.6 NON-BEARING CMU @ WF BEAM
SCALE: N.T.S.



SINGLE LAYER OF REINF.

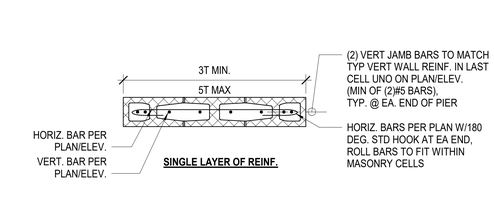
11 S-1.6 TYPICAL FREE END / JAMB BAR DETAIL
SCALE: N.T.S.



ONE LAYER OF REINF.

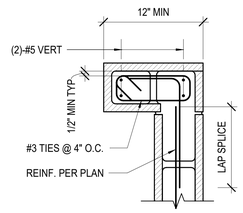
LINTEL REINF. SCHEDULE:	
MAX OPN'G SIZE "L"	LINTEL REINF.
5' - 0"	(2) #5
7' - 0"	(2) #6
10' - 0"	(2) #7

12 S-1.6 TYPICAL LINTEL DETAIL
SCALE: N.T.S.



SINGLE LAYER OF REINF.

15 S-1.6 TYPICAL PIER DETAIL
SCALE: N.T.S.



16 CMU COLUMN
SCALE: 3/4" = 1'-0"

VCA ENGINEERS INC
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Tel. 949.679.0870
Fax. 949.679.9370
Project No.: M1202

PROFESSIONAL ENGINEER — No. 54029 — Exp. 9/30/26 — STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

S-1.6

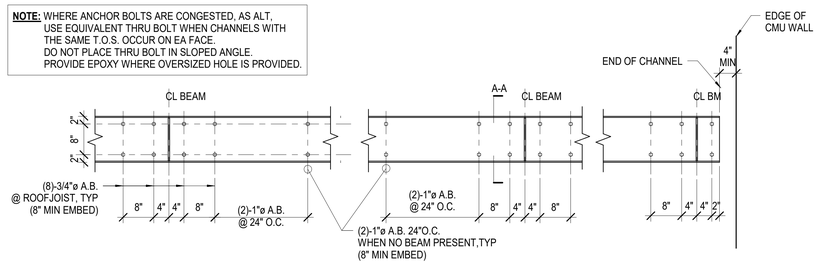
TYPICAL DETAILS CMU

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS
1 SEA HAWK WAY, REDONDO BEACH, CA 90277

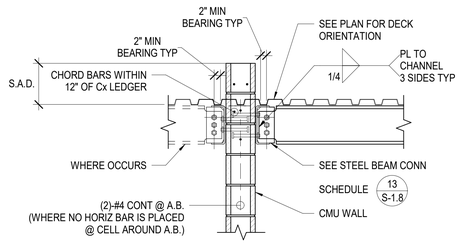
SVA ARCHITECTS
6 HUTTON CENTRE DR, SUITE 1150 SANTA ANA, CA 92707
T 949.809.3380 WWW.SVA-ARCHITECTS.COM

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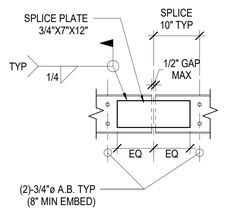
NOTE: WHERE ANCHOR BOLTS ARE CONGESTED, AS ALT, USE EQUIVALENT THRU BOLT WHEN CHANNELS WITH THE SAME T.O.S. OCCUR ON EA FACE. DO NOT PLACE THRU BOLT IN SLOPED ANGLE. PROVIDE EPOXY WHERE OVERSIZED HOLE IS PROVIDED.



ELEVATION TYPICAL @ CMU



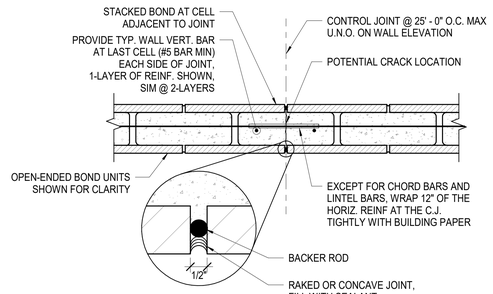
SECTION A-A



CHANNEL SPLICING
(NOT ALLOWED WITHIN 24" OF BM)

1 S-1.7 ROOF BEAM TO CMU CONNECTION

SCALE: N.T.S.



1. DISTANCE BETWEEN CONTROL JOINTS SHALL BE THE LESSER OF 1.5xWALL HEIGHT AND 25 FT.
2. ADDITIONALLY, CONTROL JOINTS SHALL BE PROVIDED AT:
   - A. CHANGES IN WALL HEIGHT,
   - B. CHANGES IN WALL THICKNESS, SUCH AS AT PIPE AND DUCT CHASES AND PILASTERS,
   - C. AT (ABOVE) MOVEMENT JOINTS IN FOUNDATIONS AND FLOORS,
   - D. AT (BELOW) MOVEMENT JOINTS IN ROOFS AND FLOORS THAT BEAR ON A WALL,
   - E. NEAR ONE OR BOTH SIDES OF DOOR AND WINDOW OPENINGS
     - A CONTROL JOINT SHALL BE PLACED AT ONE SIDE OF AN OPENING LESS THAN 6 FT WIDE AND AT BOTH SIDES OF OPENINGS OVER 6 FT WIDE.
     - CONTROL JOINTS CAN BE AWAY FROM THE OPENING IF ADEQUATE TENSILE REINFORCEMENT IS PLACED ABOVE, BELOW, AND BESIDE WALL OPENINGS.)
   - F. ADJACENT TO CORNERS OF WALLS OR INTERSECTIONS WITHIN A DISTANCE EQUAL TO HALF THE CONTROL JOINT SPACING.

2 S-1.7 TYP CMU WALL CONTROL JOINT (C.J.)

SCALE: N.T.S.

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

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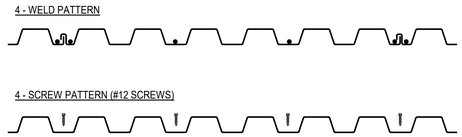
PROJECT NO: 2025-40137
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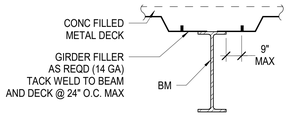
S-1.7

TYPICAL DETAILS CMU

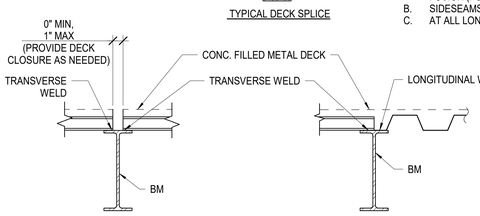
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TYPICAL DECK SPLICE



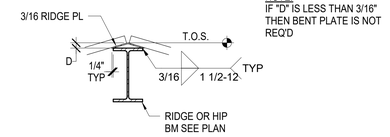
TYPICAL DECK SPLICE | TYPICAL DECK SPLICE

METHOD OF CONNECTIONS:

1. ROOF DECK:
   - A. STEEL DECK SHALL BE FASTENED TO STEEL FRAMING AT ENDS OF UNITS AND AT ALL INTERMEDIATE SUPPORTS BY MINIMUM (4)-3/4" DIAMETER FUSION (PUDDLE) WELDS EACH PANEL. WHEN TWO PANELS ABUT, EACH PANEL SHALL BE SO ATTACHED.
   - B. SIDESEAMS SHALL BE BUTTON PUNCHED AT 36" O.C.
   - C. AT ALL LONGITUDINAL SUPPORTS AND MEMBERS PARALLEL TO FLUTES, FASTEN WITH 3/4" DIAMETER FUSION (PUDDLE) WELDS @ 12" O.C.
2. FLOOR:
   - A. STEEL DECK SHALL BE FASTENED TO STEEL FRAMING AT ENDS OF UNITS AND AT ALL INTERMEDIATE SUPPORTS BY (4)-3/4" DIAMETER FUSION (PUDDLE) WELDS EACH PANEL. WHEN TWO PANELS ABUT, EACH PANEL SHALL BE SO ATTACHED.
   - B. SIDESEAMS SHALL BE BUTTON PUNCHED @ 36" O.C.
   - C. AT ALL LONGITUDINAL SUPPORTS AND MEMBERS PARALLEL TO FLUTES, FASTEN WITH 3/4" DIA FUSION (PUDDLE) WELDS @ 12" O.C.

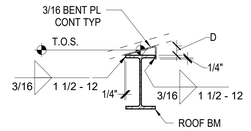
NOTES:

1. PLACE REINFORCEMENT 3/4" CLEAR FROM TOP OF CONCRETE.
2. SEE DET 3 / S-1.8 FOR SLOPED DECK TO STEEL BEAM.
3. SEE DET 15 / S-1.8 FOR DECK WELD/SIDE LAP DETAIL.

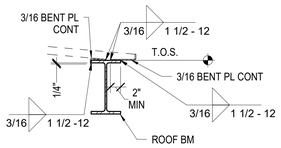


AT RIDGE

NOTE:
IF "D" IS LESS THAN 3/16" THEN BENT PLATE IS NOT REQ'D



AT SLOPED PLATE



AT EAVE

1 S-1.8 TYP METAL DECK WELDING / SCREW PATTERNS

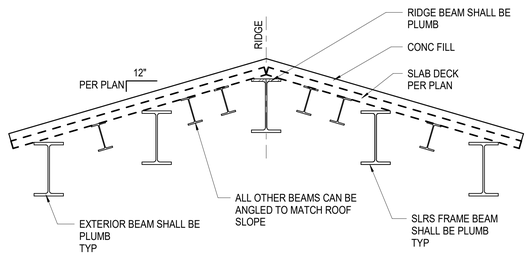
SCALE: N.T.S.

2 S-1.8 TYPICAL METAL DECK CONNECTION & PROPERTIES

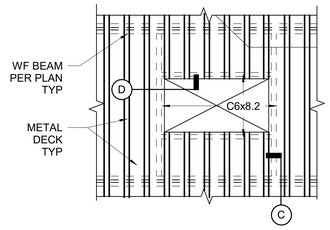
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3 S-1.8 TYP SLOPED DECK TO BEAM

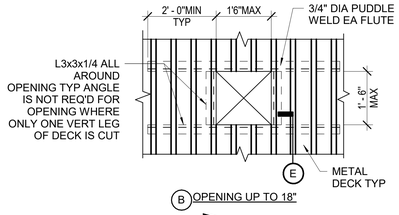
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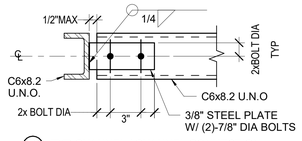
FOR BENT PLATE ON TOP OF SLOPED BEAM SEE DETAIL 3 / S-1.8



A OPENING GREATER THAN 18" TO 60"

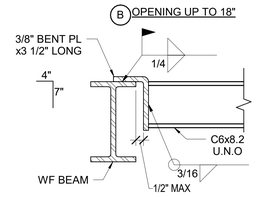


B OPENING UP TO 18"

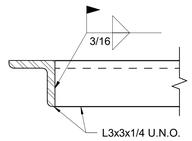


D TYP CHANNEL / CHANNEL CONNECTION

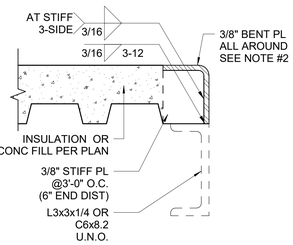
NOTES:
1. FRAMING AROUND DECK OPENINGS TO BE FURNISHED AND INSTALLED BY STRUCTURAL STEEL CONTRACTOR.
2. PROVIDE CONT BENT PLATE ALL AROUND OPENINGS AT ROOF EXHAUST FAN, DUCT & PIPE PENETRATIONS, GRAVITY RELIEF VENT, & WHERE SHOWN ON MEP DRAWINGS.



C TYP CHANNEL/WF BM CONN



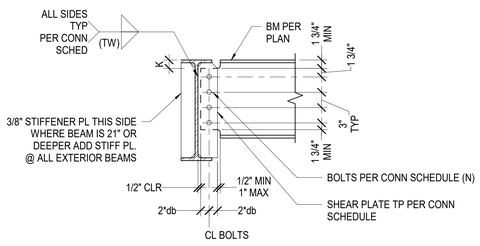
E TYP ANGLE / ANGLE CONN



F TYP BENT PL / ANGLE CONN AT ROOF

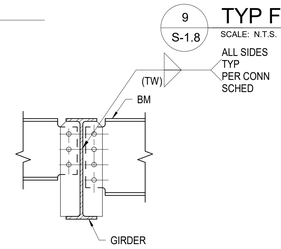
8 S-1.8 TYPICAL SLOPED ROOF SECTION

SCALE: N.T.S.



ONE-SIDED CONNECTION OCCURS WHERE OPPOSITE BEAMS ARE OFFSET BY 12" OR MORE

BEAM ONE SIDE



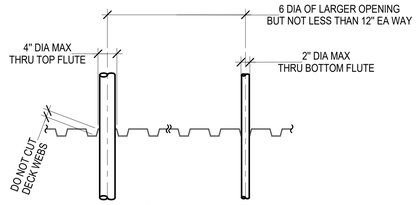
BEAM EACH SIDE

FOR ITEMS NOT SHOWN OR NOTED SEE "BEAM ONE SIDE"

TYP WF BEAM TO WF BEAM

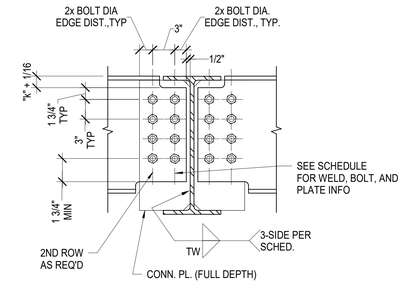
9 S-1.8 TYP FRAMING AT OPENINGS IN STEEL DECK

SCALE: N.T.S.



IF OPENINGS ARE CLOSER OR LARGER THAN SHOWN, REINFORCE DECK PER TYP OPENINGS IN METAL DECK DETAIL

DRAG STRUT CONNECTION SCHEDULE				
MEMBER	CONN. PL THICKNESS "t" U.N.O. (ASTM A572, GR.50)	# OF BOLTS A490 - SC PER ROW	NO. OF ROWS	WELD SIZE TW
W8-10	1/2"	2 - 1" DIA	SEE PLAN	3/8"



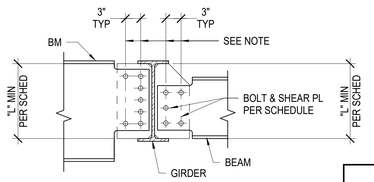
DRAG STRUT CONNECTION

NOTES:
1. FILLET WELDS INDICATED PER SCHEDULE SHALL BE REPLACED WITH COMPLETE PENETRATION GROOVE WELDS WHERE SKEWED BEAM CONNECTIONS WITH ANGLES SMALLER THAN 60° (BETWEEN BEAM AND GIRDER) OCCUR, TYP. U.N.O.
2. INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE TESTED BY USING CALIBRATED WRENCH AS PER AISC SPECIFICATIONS. WRENCH SHALL BE CALIBRATED AT LEAST TWICE A DAY

NOTES:
"K" DENOTES THE " 'k' AREA" OF THE WIDE FRANGE BEAM

11 S-1.8 PIPE PENETRATIONS AT DECK W/O FILL

SCALE: N.T.S.



DROP BEAM OR DEEPER BEAM THAN GIRDER CONNECTION

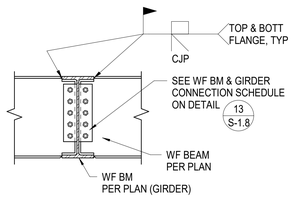
NOTE:
WHERE NUMBER OF REQUIRED BOLTS PER PLAN OR SCHEDULE ARE MORE THAN NUMBER OF BOLTS THAT FIT AT ONE ROW, USE MAXIMUM BOLTS AT FIRST ROW & BALANCE IN SECOND ROW (2 BOLTS MIN AT SECOND ROW).

WF BM & GIRDER CONNECTION SCHEDULE				
WF BM	(N) A325N BOLTS U.N.O.	(L) MIN PLATE / WELD LENGTH	(TP) MIN PLATE THICKNESS	(TW)† MIN WELD THICKNESS
W8	(2) 3/4"ø	5 1/2"	3/8"	1/4"
W10	(2) 3/4"ø	6"	3/8"	1/4"

NOTES:
1. 5/16" MIN FOR COLUMN FLANGES GREATER THAN 3/4" THICK
2. PL 1/2" & THICKER SHALL BE GAS OR SAW CUT
3. ALL BOLT HOLES SHALL BE STD HOLES UNO.
4. Db DENOTES DIAMETER OF BOLTS

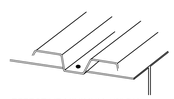
12 S-1.8 DRAG STRUT CONNECTION AT GIRDER

SCALE: N.T.S.



BEAM TO BEAM

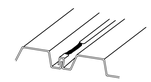
SEE COMPLETE JOINT PENETRATION CONNECTION NOTES ON GENERAL NOTES



EFFECTIVE MINIMUM 1/2" DIA OR 3/8"x1" LONG (NO WELD WASHERUSED)

A ROOF DECK PUDDLE WELD

WELDS TO SUPPORT



WELD CLINCH FIRST TO GET CONTACT OF LIPS - 1 1/2" LONG WELD MUST ENGAGE TOP OF INNER LEG PER SCHEDULE

D TOP SEAM



CLINCH FIRST TO GET CONTACT OF LIPS - 1 1/2" LONG WELD MUST ENGAGE TOP OF INNER LEG AND HAVE FUSION TOP AND BOTTOM

E SIDE SEAM WELD

SIDE LAP FASTENING

13 S-1.8 TYPICAL BEAM TO BEAM CONNECTION

SCALE: N.T.S.

14 S-1.8 TYP CANTILEVER BEAM CONNECTION

SCALE: N.T.S.

15 S-1.8 TYPICAL METAL DECK WELDING

SCALE: N.T.S.

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SEA HAWK BOWL IMPROVEMENTS
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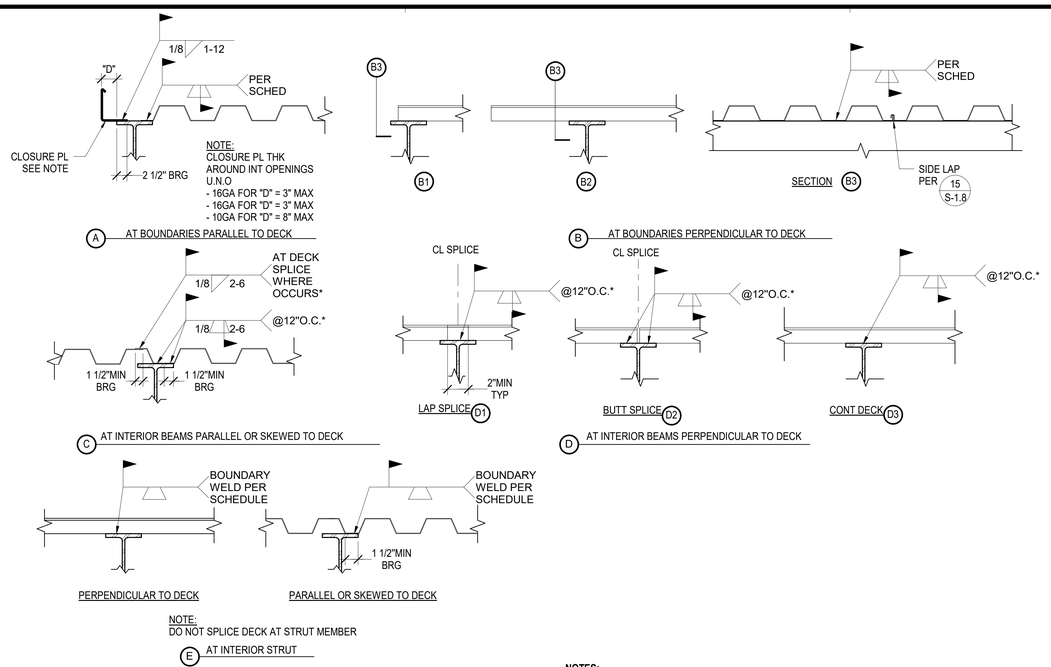
PROJECT NO:	2025-40137
ISSUANCE:	A#03-126194
DATE ISSUED:	06/22/2026
SCALE:	N.T.S.

S-1.8

TYPICAL DETAILS

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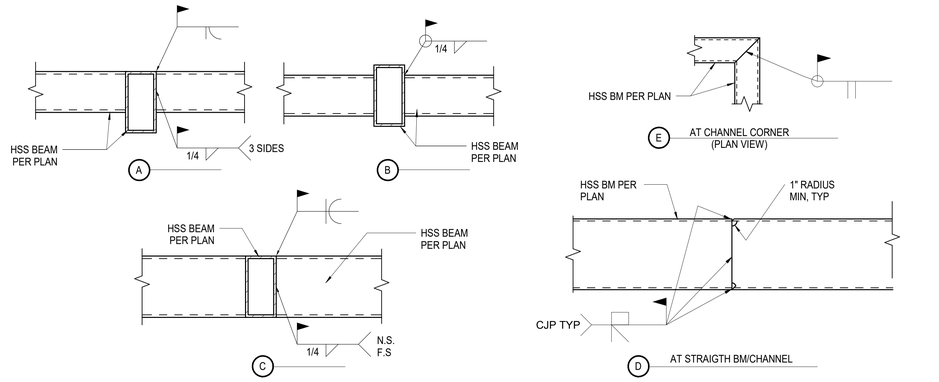


NOTES:

1. SEE METAL DECK NOTES ON SHEET S-0.2
2. ALL DECK SHALL HAVE 2 1/2" MIN BEARING ON END SUPPORT, 1 1/2" MIN BEARING ON SIDE SUPPORT TYP., U.N.O.
3. TSW REFERS TO TOP SEAM WELD. SEE DETAIL 15 / S-1.8
4. VSC REFERS TO VERCO SIDELAP CONNECTION.
5. SEE DETAIL 1 / S-1.8 FOR WELDING PATTERN.
6. ALL STEEL DECK SHALL BE GALVANIZED, U.N.O.
7. NO LOADS OF ANY KIND SHALL BE HUNG FROM ROOF DECK UNLESS SPECIFICALLY DETAIL ON STRUCTURAL DRAWINGS.
8. ALL PUDDLE WELDS SHALL HAVE AN EFFECTIVE FUSION AREA AT LEAST EQUIVALENT TO 3/8" X 1" LONG OR 3/4" IN DIAMETER. PUDDLE WELD MAY BE OMITTED WHERE LOCATION COINCIDES WITH SHEAR STUDS WELDED THROUGH METAL DECK.
9. SEE DETAIL 3 / S-1.8 WHERE THE SLOPE OF THE METAL DECK REQUIRES BENT PLATE.

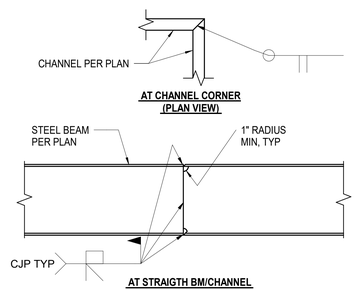
5 S-1.9 TYPICAL METAL DECK DETAILS AND SCHEDULE

SCALE: N.T.S.



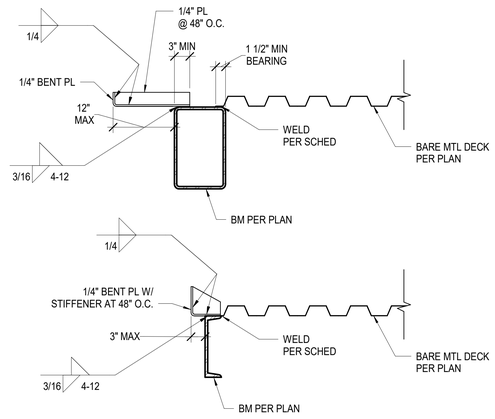
4 S-1.9 HSS BEAM TO HSS BEAM CONNECTION

SCALE: N.T.S.



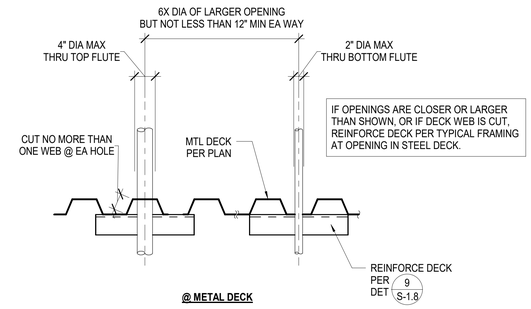
8 S-1.9 CHANNEL SPLICE DETAIL

SCALE: N.T.S.



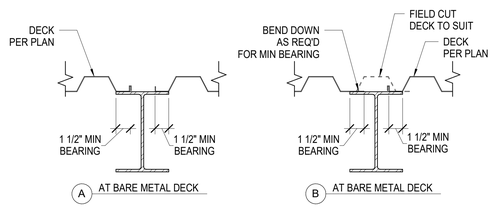
11 S-1.9 TYP EDGE OF DECK @ BARE DECK

SCALE: N.T.S.



13 S-1.9 TYPICAL PENETRATION IN METAL DECK

SCALE: N.T.S.



15 S-1.9 TYPICAL MTL DECK ON STL BEAM

SCALE: N.T.S.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

V C A ENGINEERS INC
CIVIL • STRUCTURAL
2401 E. Katella Ave #430
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Fax. 949.679.9370
Project No.: M1202

REGISTERED PROFESSIONAL ENGINEER — No. S4029 — Exp. 9/30/26 — STRUCTURAL — STATE OF CALIFORNIA

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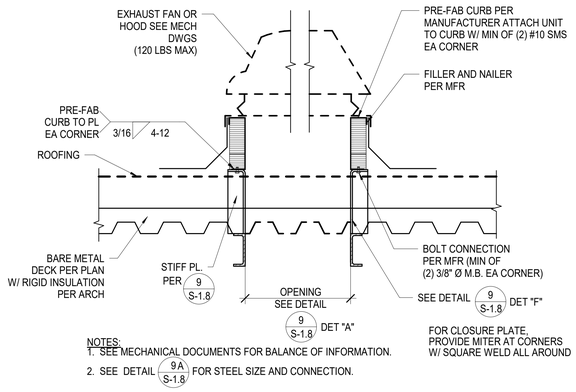
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S-1.9

TYPICAL DETAILS

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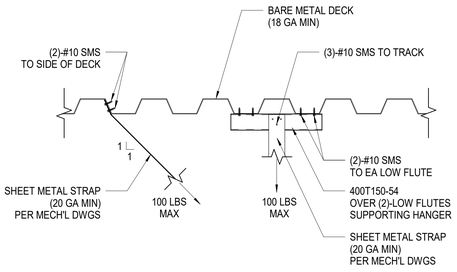
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NOTES:
1. SEE MECHANICAL DOCUMENTS FOR BALANCE OF INFORMATION.
2. SEE DETAIL 9A S-1.8 FOR STEEL SIZE AND CONNECTION.

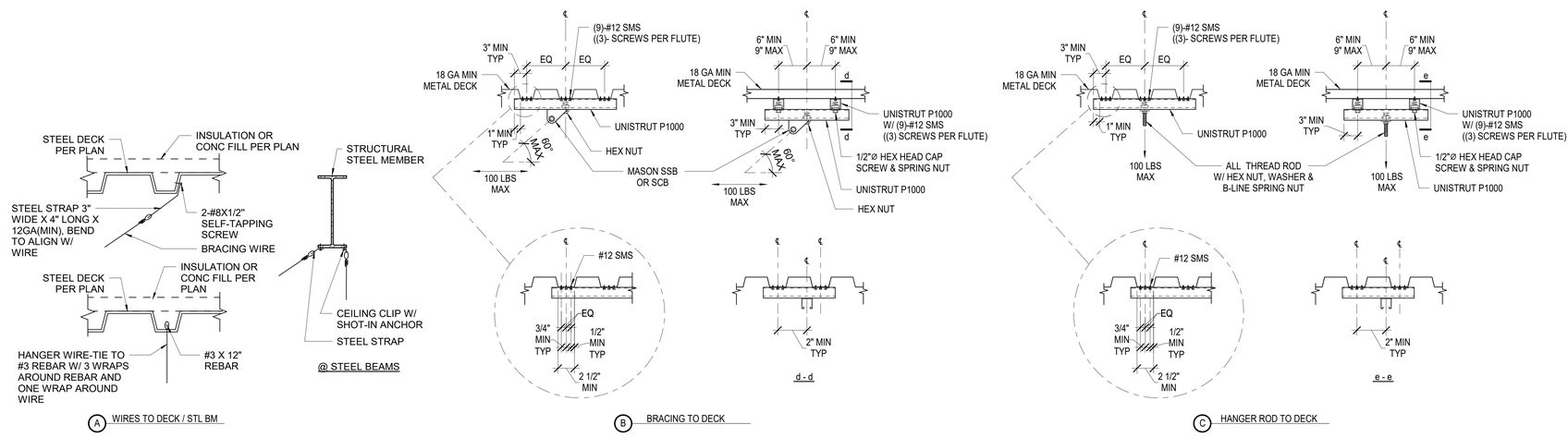
5 S-1.10 TYPICAL EXHAUST FAN AND INTAKE HOOD ANCHORAGE DETAIL

SCALE: N.T.S.



6 S-1.10 STRAP TO BARE METAL DECK

SCALE: N.T.S.



9 S-1.10 TYP WIRE CONNECTION TO STEEL FRAMING

SCALE: N.T.S.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

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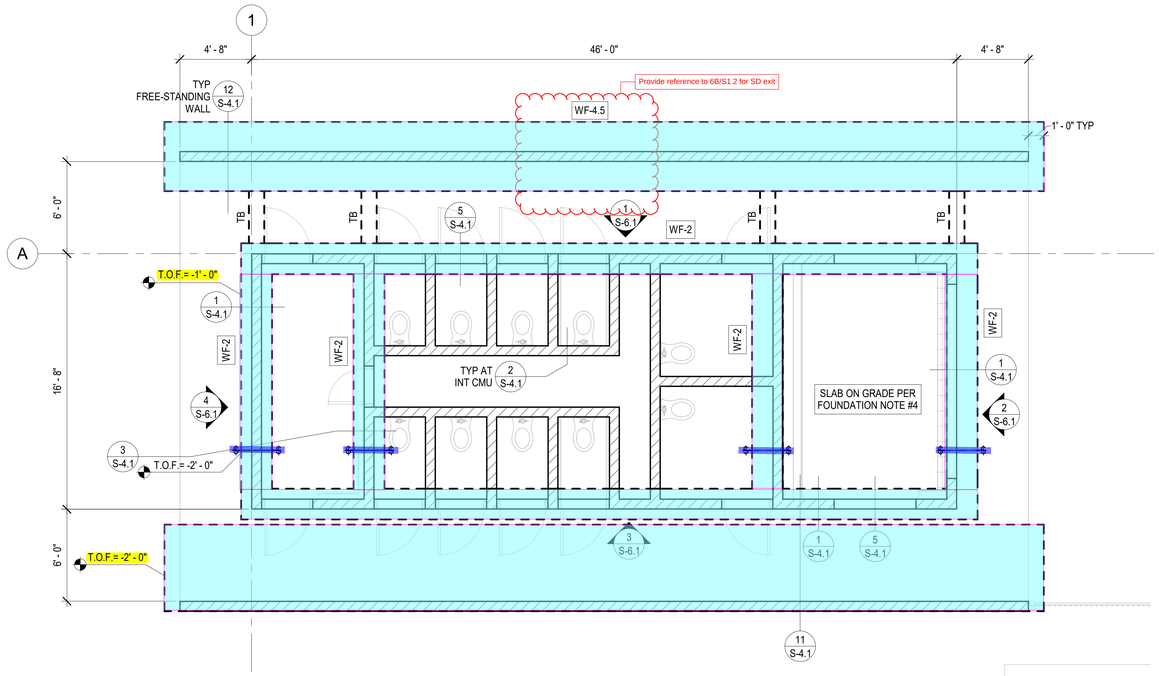
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S-1.10

TYPICAL DETAILS- MEP

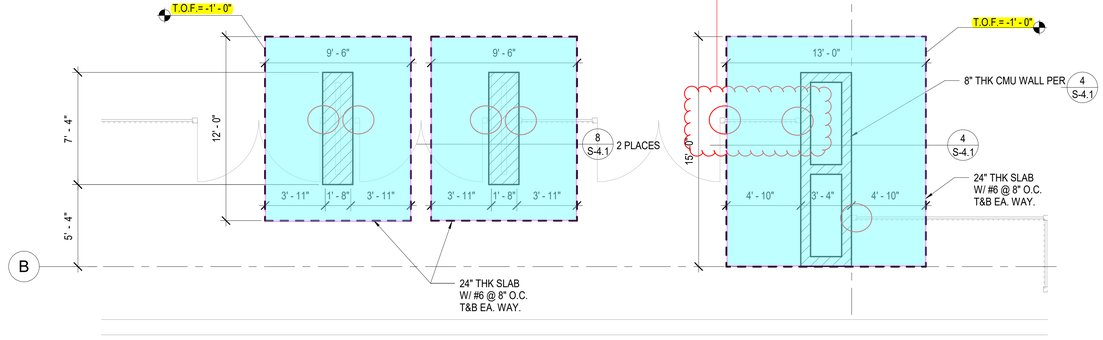
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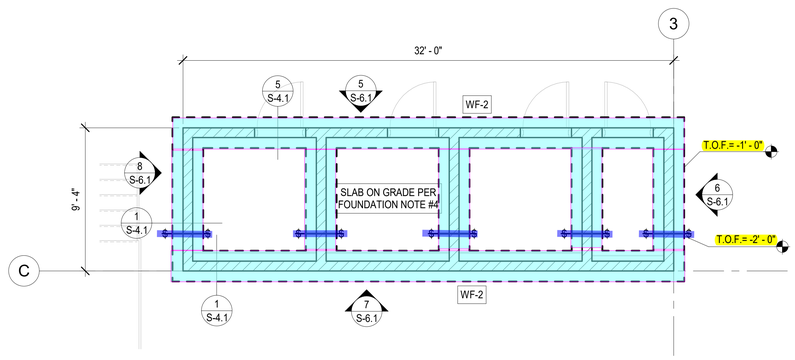
1 S-2.1 FOUNDATION PLAN - WEST RESTROOM BLDG

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



2 S-2.1 FOUNDATION PLAN - ENTRANCE

SCALE: 1/4" = 1'-0"
REF DET.1 S-6.1



3 S-2.1 FOUNDATION PLAN - EAST RESTROOM BLDG

SCALE: 1/4" = 1'-0"
REF DET.1 S-6.1

FOUNDATION NOTES:

1. FOR GENERAL NOTES, SEE S-0.00 SERIES.
2. FOR TYPICAL DETAILS, SEE S-1.00 SERIES.
3. FOR SLAB SAWCUT AND CONTROL JOINT, SEE DETAIL 15 / S-1.1 .
4. 5" THK SLAB ON GRADE W/ #4 @16"O.C. SHALL BE UNDERLAIN BY 4 INCH LAYER OF COMPACTED GRANULAR FILL, OVER 15 MIL VAPOR BARRIER, OVER A MINIMUM OF 3 INCH LAYER OF COMPACTED CLEAN 3/4 MAX GRAVEL OVER COMPACTED FILL. CONTRACTOR TO PROTECT VAPOR BARRIER FROM PUNCTURE.
5. INDICATES 8" CMU WALLS PER WALL ELEVATIONS. U.N.O. W/ #5 @ 16" O.C. (VERTS) CENTERED IN WALL & #4 @ 16" O.C. (HORIZ) U.N.O.
6. DRAWING DATUM = 0' - 0": REFERENCE ELEVATION @ GROUND FLOOR FINISH FLOOR (SEE CIVIL & ARCH FOR ACTUAL ELEVATION)
7. TOP OF FOOTING (T.O.F.)= -X' - X" (U.N.O.)
8. UNDERGROUND UTILITY NOTE: CONTRACTOR SHALL COORDINATE ALL NEW AND EXISTING UTILITIES PRIOR TO ANY FOUNDATION WORK PER 4 / S-1.2 & 6 / S-1.2 & 13 / S-1.2 STEP TIE BEAMS AS REQUIRED PER DETAIL 5 / S-1.2 .
9. INDICATES STEP IN FOOTING PER DETAIL 5 / S-1.2 .

FOOTING SCHEDULES:

WF-# INDICATES WALL FOOTING.

WALL FOOTING SCHEDULE					
MARK	DIMENSIONS		REINFORCEMENT		TRANSVERSE (#4 @12"O.C. T&B)
	WIDTH	DEPTH	TOP BARS	BOTTOM BARS	
WF-2	2' - 0"	18"	(4)-#6 T&B	(4)-#6 T&B	

TB-# INDICATES TIE BEAM PER 7 / S-4.1

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

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Project No.: M1202

PROFESSIONAL ENGINEER — No. 54029 — Exp. 9/30/26 — STATE OF CALIFORNIA — CIVIL

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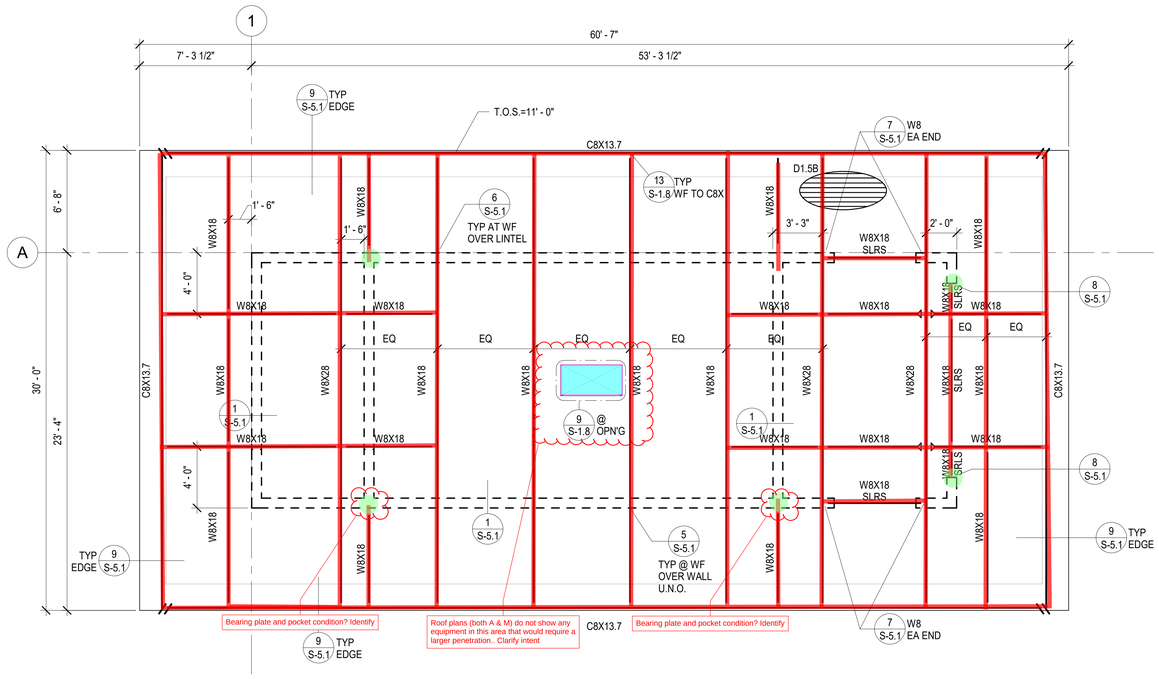
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S-2.1

FOUNDATION PLAN

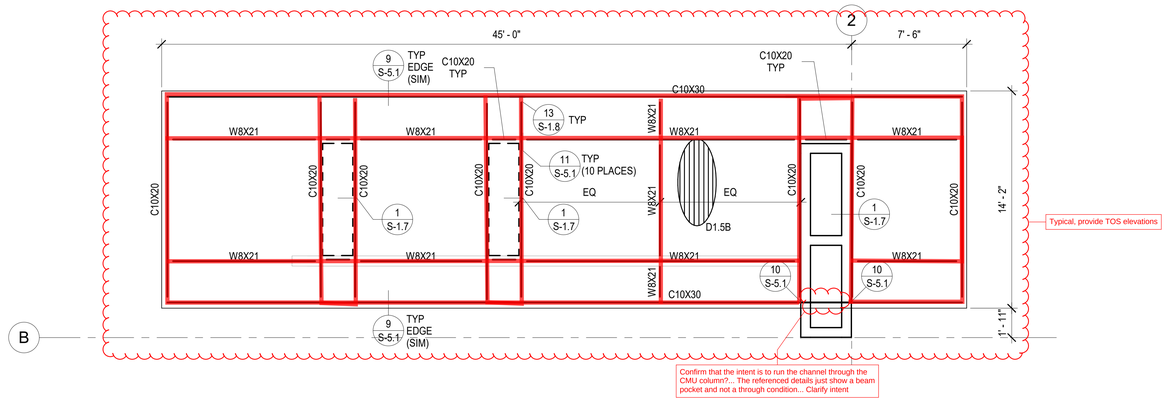
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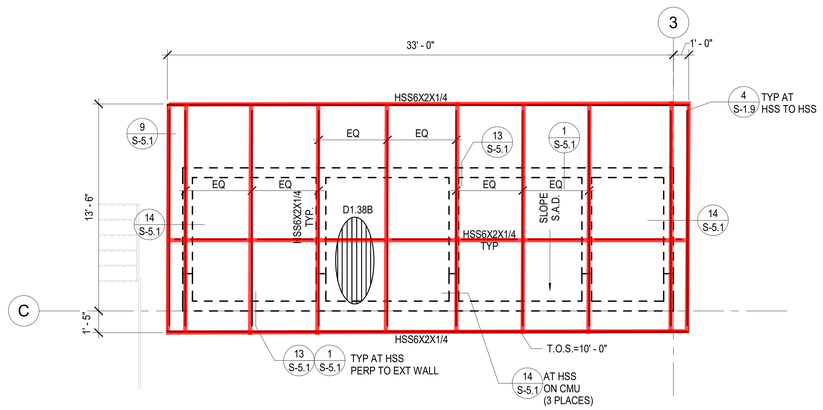
1 S-3.1 ROOF FRAMING PLAN - WEST RESTROOM BLDG

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



3 S-3.1 ROOF FRAMING PLAN - ENTRANCE

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



2 S-3.1 ROOF FRAMING PLAN - EAST RESTROOM BLDG

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

ROOF FRAMING NOTES:

1. FOR GENERAL NOTES, SEE S-0.00 SERIES.
2. FOR TYPICAL DETAILS, SEE S-1.00 SERIES.
3. SEE WALL ELEVATIONS FOR ADDITIONAL INFORMATION
4. DECK PER DECK SCHEDULE BELOW. DOUBLE SPAN MINIMUM. TYP.
5. T.O.S. = VARIES. SEE PLAN & VERIFY WITH ARCHITECTURAL DRAWINGS REFER TO ARCHITECTURAL FOR ROOF SLOPES
6. INDICATES BEAM CANTILEVER CONNECTION, SEE DETAIL 14 / S-1.8 @ WIDE FLANGE BEAM U.N.O.
7. FRAME OPENING IN ROOF FOR ROOF DRAINS PER DETAIL 9 / S-1.8 & 11 / S-1.8 .
8. # MAX / # UNIT WT — DENOTES MECH'L UNIT PER MECH'L DRAWINGS. SEE MECHANICAL DRAWINGS FOR ANCHORAGE. @ GV/EF SEE DETAIL 5 / S-1.10
9. DENOTES WELDED SPLICE PER 8 / S-1.9 @ CHANNEL.
10. "SLRS" INDICATES 1 ROW OF A490SC BOLT CONNECTION PER DETAIL 12 / S-1.8

DECK SCHEDULE

DECK MARK	TYPE	GAGE	I (IN4/FT)	S (TOP +) (IN3/FT)	S (BOT -) (IN3/FT)	TOTAL DEPTH(IN)	CONC FILL TYPE	REINF.	SIDE-SEAM ATTACHMENT	ATTACHMENT PATTERN
D1.50B	VERCO HSB-36 IAPMO ER-2018	16	0.381	0.399	0.410	1 1/2"	N/A	N/A	TOP SEAM WELD @ 12" O/C	36/4
D1.38B	AEP SPAN MINI-V-BEAM (ER-550)	18	0.191	0.277	0.2573	1 3/8"	N/A	N/A	#12 TEK @ 12" O.C. AT SIDELAP	36/4

REDONDO BEACH UNIFIED SCHOOL DISTRICT

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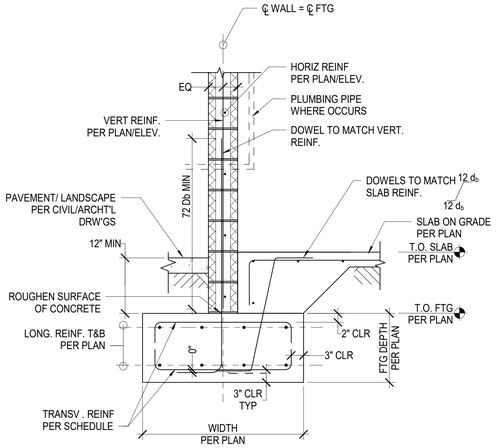
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S-3.1

ROOF FRAMING PLAN

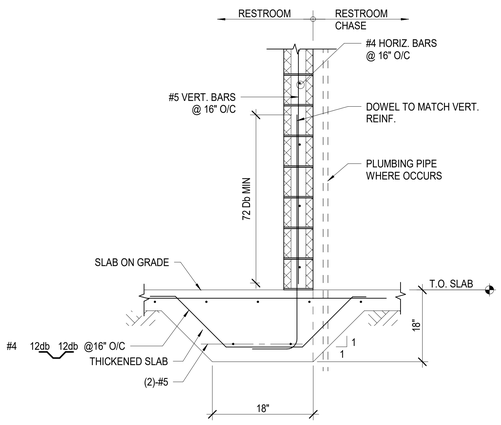
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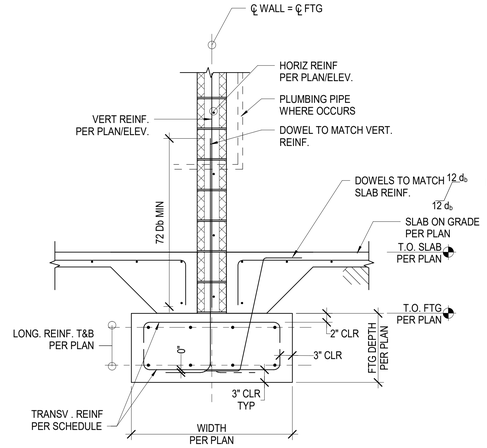
1 S-4.1 WALL FOOTING @ CONC WALL (BLDG EXT)

SCALE: N.T.S.



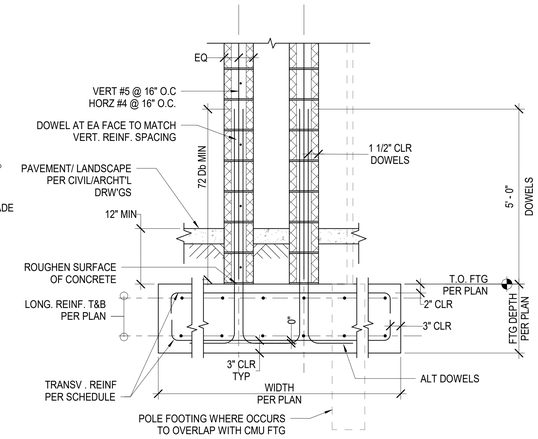
2 S-4.1 INT CMU WALL FOOTING DETAIL

SCALE: N.T.S.



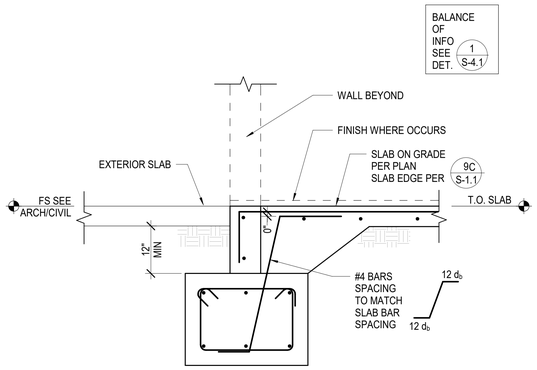
3 S-4.1 INT CMU WALL FOOTING DETAIL

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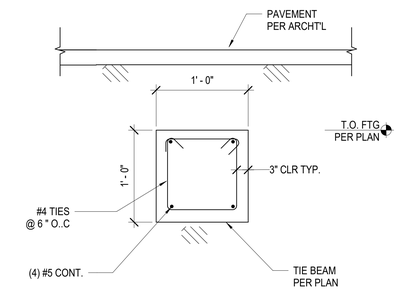
4 S-4.1 ENTRANCE WALL AND FOOTING

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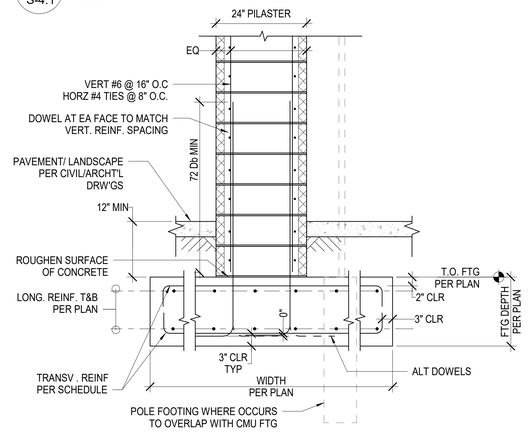
5 S-4.1 FOOTING @ OPENING

SCALE: N.T.S.



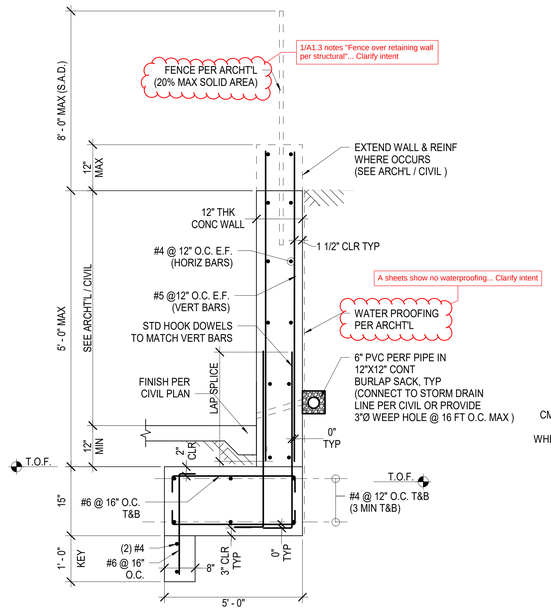
7 S-4.1 TIE BEAM

SCALE: 3/4" = 1'-0"



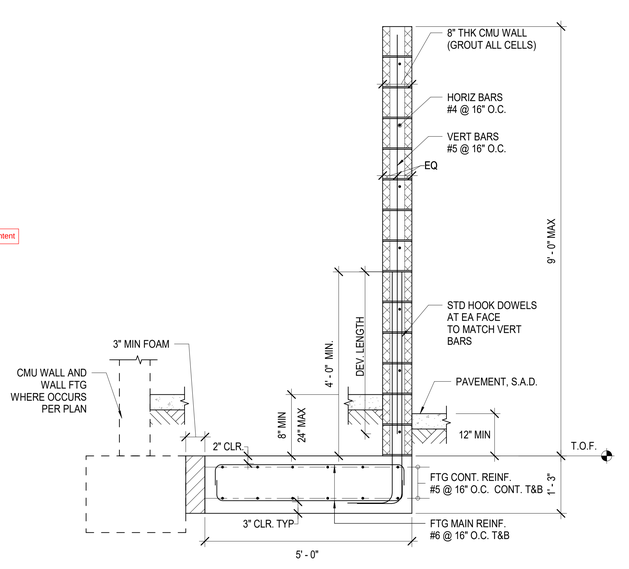
8 S-4.1 ENTRANCE PILASTER AND FOOTING

SCALE: N.T.S.



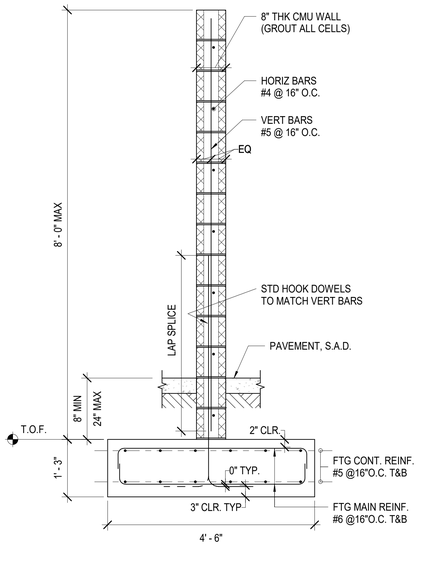
6 S-4.1 TOE ONLY RETAINING WALL

SCALE: N.T.S.



11 S-4.1 FREE-STANDING WALL (L-SHAPE)

SCALE: N.T.S.



12 S-4.1 FREE-STANDING WALL (T-SHAPE)

SCALE: N.T.S.

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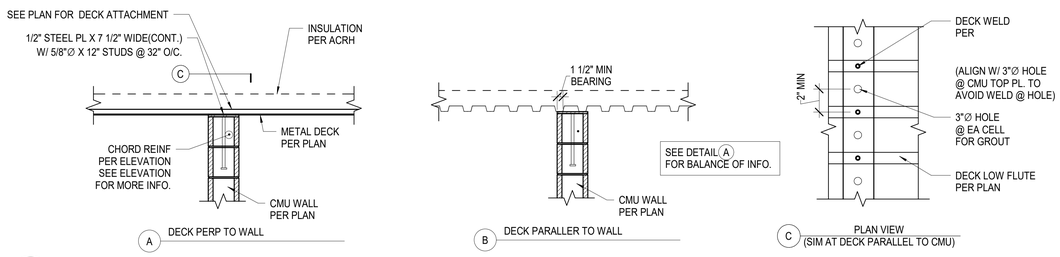
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S-4.1

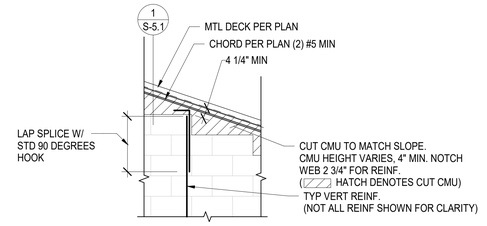
FOUNDATION DETAILS

SVA ARCHITECTS
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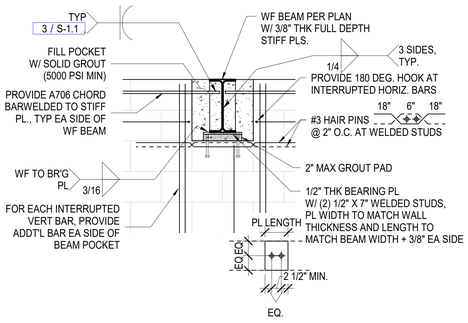
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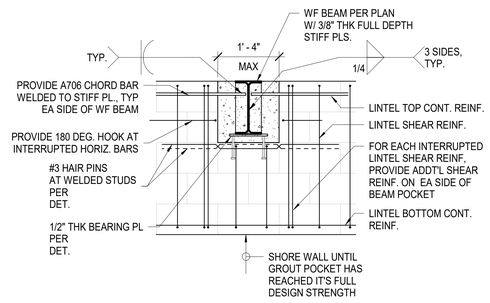
1 S-5.1 TYP CMU TO DECK
SCALE: 3/4" = 1'-0"



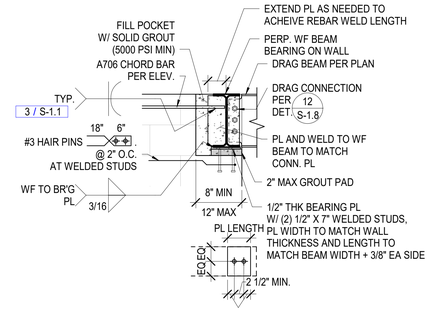
4 S-5.1 TYP GABLE CMU WALL REINFORCEMENT
SCALE: N.T.S.



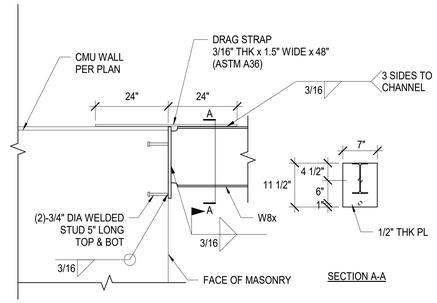
5 S-5.1 BEAM POCKET AT CMU WALL
SCALE: 3/4" = 1'-0"



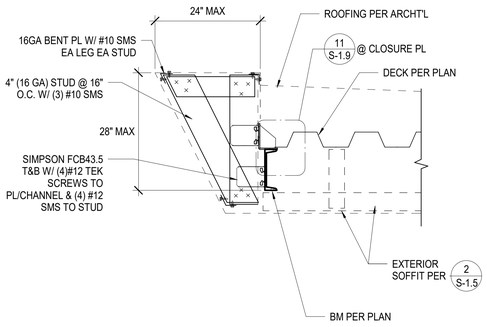
6 S-5.1 BEAM POCKET AT CMU LINTEL
SCALE: 3/4" = 1'-0"



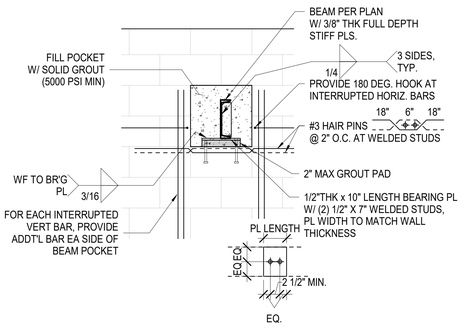
7 S-5.1 DRAG STRUT TO CMU WALL @ PERP BEAM
SCALE: 3/4" = 1'-0"



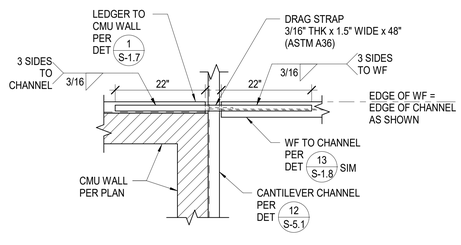
8 S-5.1 CANOPY BM TO END/CORNER WALL
SCALE: N.T.S.



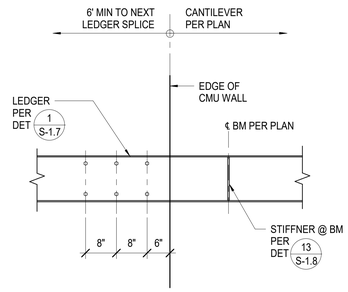
9 S-5.1 METAL STUDS EDGE OF CHANNEL
SCALE: N.T.S.



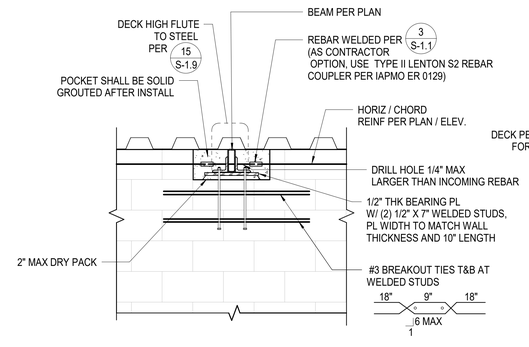
10 S-5.1 BEAM POCKET AT CMU ENTRANCE
SCALE: 3/4" = 1'-0"



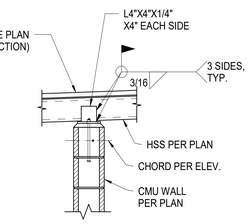
11 S-5.1 DRAG @ WF TO LEDGER
SCALE: N.T.S.

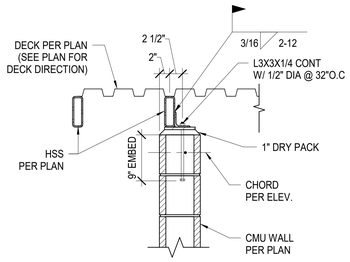


12 S-5.1 CANTILEVER LEDGER
SCALE: N.T.S.



13 S-5.1 HSS BEAM POCKET
SCALE: 3/4" = 1'-0"





14 S-5.1 HSS OVER CMU WALL
SCALE: 1" = 1'-0"

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

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Project No.: M1202

PROFESSIONAL ENGINEER No. 54029 Exp. 9/30/26 STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

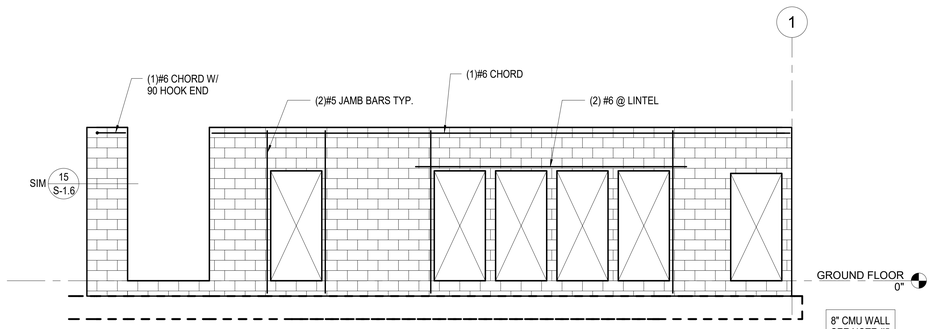
PROJECT NO:	2025-40137
ISSUANCE:	A#03-126194
DATE ISSUED:	06/22/2026
SCALE:	As indicated

S-5.1

FRAMING DETAILS

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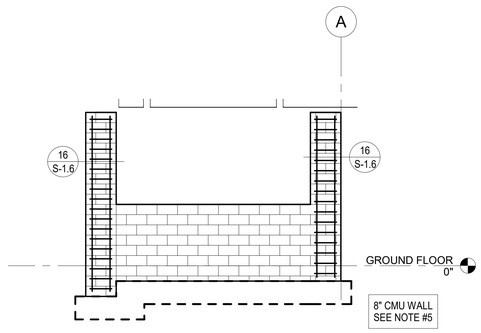
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1 S-6.1 WEST RESTROOM NORTH ELEV.

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

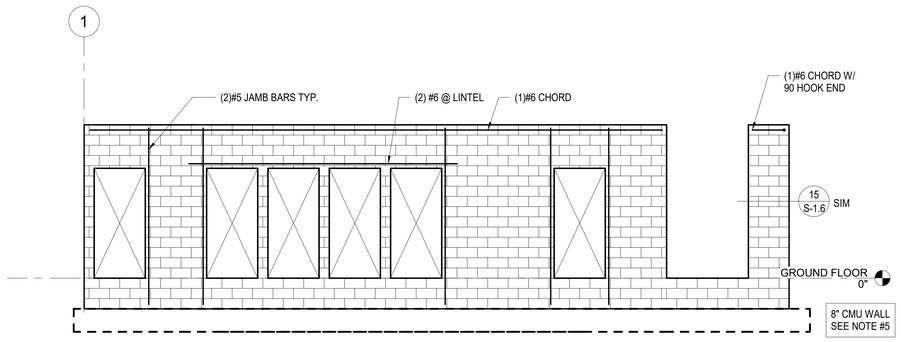
REF DET:1 S-2.1



2 S-6.1 WEST RESTROOM EAST ELEV.

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

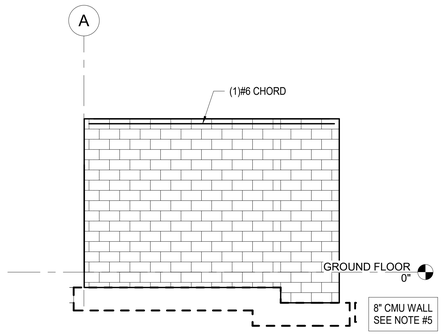
REF DET:1 S-2.1



3 S-6.1 WEST RESTROOM SOUTH ELEV.

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

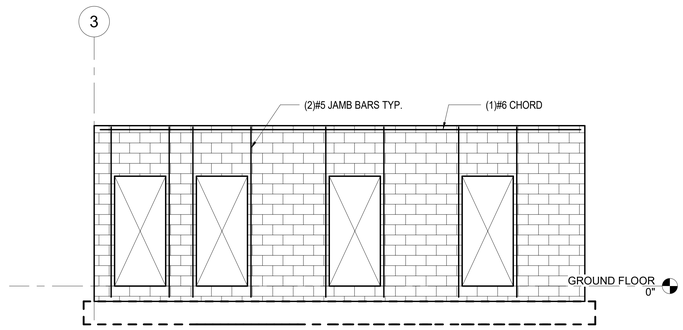
REF DET:1 S-2.1



4 S-6.1 WEST RESTROOM WEST ELEV.

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

REF DET:1 S-2.1

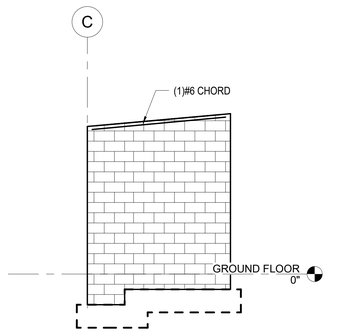


5 S-6.1 EAST RESTROOM NORTH ELEV.

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

REF DET:3 S-2.1

8" CMU WALL
SEE NOTE #5

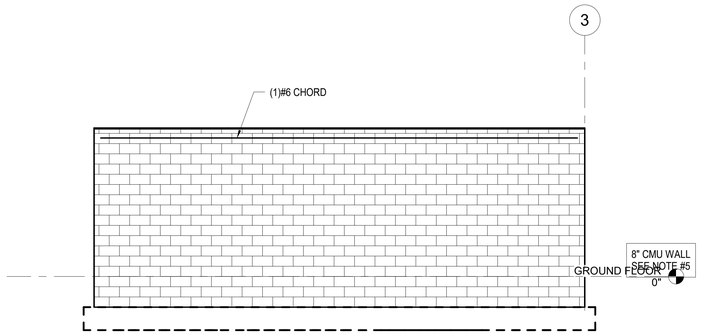


6 S-6.1 EAST RESTROOM EAST ELEV.

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

REF DET:3 S-2.1

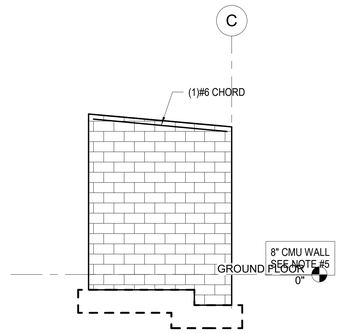
8" CMU WALL
SEE NOTE #5



7 S-6.1 EAST RESTROOM SOUTH ELEV.

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

REF DET:3 S-2.1



8 S-6.1 EAST RESTROOM WEST ELEV.

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

REF DET:3 S-2.1

MASONRY WALL ELEVATION NOTES:

1. FOR GENERAL NOTES, SEE S-0.X SERIES.
2. FOR TYPICAL DETAILS, SEE S-1.X SERIES.
3. ALL CELLS SHALL BE GROUTED.
4. FOR WALL PATTERN, SEE ARCHITECTURAL DRAWINGS
5. TYPICAL WALL REINFORCEMENT
   8" THK CMU WALL
   VERTICAL : #5 @ 16" O.C. CENTERED IN WALL
   HORIZONTAL: #4 @ 16" O.C.
6. FOR TYPICAL WALL REINFORCEMENT SEE DETAIL 5 / S-1.6
7. FOR TYPICAL WALL INTERSECTION, SEE DETAIL 2 / S-1.6

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

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No. 54029
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STRUCTURAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137

ISSUANCE: A#03-126194

DATE ISSUED: 06/22/2026

SCALE: As indicated

S-6.1

WALL ELEVATIONS

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SHOP DRAWING, BIM & 3D COORDINATION NOTES

1. CONTRACTOR SHALL BE REQUIRED TO PERFORM 3D COORDINATION AND BUILDING INFORMATION MODELING (BIM) TO INTEGRATE STRUCTURAL STEEL, STRUCTURAL CONCRETE, METAL STUD FRAMING, FIRE PROTECTION, ELECTRICAL, LOW VOLTAGE, AND MEP WORK. ALL CONFLICTS SHALL BE RESOLVED PRIOR TO FABRICATION AND INSTALLATION.
2. CONTRACTOR IS REQUIRED TO HAVE AND USE NAVISWORKS MANAGE AS THE COLLABORATIVE SOFTWARE TO COMBINE EACH DISCIPLINES MODEL AND USE CLASH DETECTION AS A COORDINATION TOOL. THE CONTRACTOR IS REQUIRED TO PROVIDE 3D MODEL(S) OF THEIR SCOPE OF WORK AS OUTLINED BELOW IN BOTH NATIVE AND NAVISWORKS (.NWD OR .NWC) FORMAT.
3. SHOULD UNAVOIDABLE CONFLICTS BE ENCOUNTERED DURING THE PREPARATION OR REVIEW OF THE COORDINATION MODELS AND SUPPLEMENTAL DRAWINGS OR SHOP DRAWINGS, OR DURING CONSTRUCTION, THEY SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF THE DESIGN TEAM, IN WRITING, FOR REVIEW. ALL CONGESTED AREAS NEED TO BE FIELD VERIFIED AND MEASURED TO INSURE SYSTEMS FIT.
4. COORDINATED SHOP DRAWINGS MUST BE SIGNED OFF BY CONTRACTOR PRIOR TO SUBMITTING TO THE DESIGN TEAM. PREPARE DETAILED SHOP DRAWINGS IN PLAN VIEW, WITH CROSS-SECTIONS AS NECESSARY, INDICATING THE PROPOSED INSTALLATION PLAN FOR ALL WOOD OR METAL STUD FRAMING.
5. HVAC, MECHANICAL, FIRE SPRINKLER, PLUMBING, AND ELECTRICAL INSTALLATIONS WITHIN THE CEILING. THESE DRAWINGS SHOULD DEPICT ACTUAL ELEVATIONS AND LINEAR DIMENSIONS, AND ALL ROUTING CHANGES, TRANSITIONS, AND MAJOR OFFSETS DEEMED NECESSARY TO ACCOMPLISH THE INSTALLATION. INDIVIDUAL SHOP DRAWINGS WILL BE PREPARED FOR EACH TRADE WORKING WITHIN THE DESIGNATED SPACE OR AREA; IN ADDITION, COORDINATION OF THE CONSOLIDATED INSTALLATION SHALL REMAIN THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. THESE SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO COMMENCEMENT OF INSTALLATION.
6. DO NOT OBSTRUCT SPACES AND INSTALLATIONS REQUIRED TO BE CLEAR FOR OPERATION, MAINTENANCE, PART REPLACEMENT OR APPLICABLE CODE REQUIREMENTS.
7. MODEL ALL HVAC SYSTEMS, DUCTWORK (INCLUDING FLANGES AND CONNECTIONS), DIFFUSERS/GRILLES, RETURN AIR BOOTS, HARD PIPING (INCLUDING UNDERGROUND PIPING), GRAVITY FED PIPING (REGARDLESS OF SIZE), CURBS & EQUIPMENT PADS, EQUIPMENT & ASSOCIATED INSTALLATION OR MAINTENANCE CLEARANCE, ACCESS PANELS, SEISMIC BRACING, HANGERS, SUPPORTS, PENETRATIONS & OPENINGS, INSULATION, AND TEMPORARY SYSTEMS.

GENERAL MECHANICAL NOTES

1. ALL DRAWINGS ARE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO ANY CONSTRUCTION, INCLUDING STRUCTURAL, PLUMBING, AIR CONDITIONING, AND ELECTRICAL. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND AT NO EXPENSE TO THE DISTRICT.
2. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
3. DO NOT SCALE DRAWINGS. ALL DIMENSIONS AND JOB SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOB SITE PRIOR TO BID SUBMITTAL, START OF CONSTRUCTION AND/OR FABRICATION OF MATERIALS. IF DISCREPANCIES ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION.
4. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TRANSPORTATION, AND SERVICES NECESSARY FOR COMPLETION OF THE WORK AND PROVIDE A FULLY OPERATIONAL SYSTEM. ALL MATERIALS AND WORK SHALL COMPLY WITH APPLICABLE CODES AND GOVERNING REGULATIONS AND MEET THE APPROVAL OF THE DISTRICT AND STATE FIRE MARSHALL.
5. CONTRACTOR SHALL PROVIDE RECORD/AS BUILT DOCUMENTS TO CONSTRUCTION COORDINATOR, ARCHITECT AND ENGINEER AT COMPLETION OF CONSTRUCTION.
6. MAINTAIN NET FREE AREA EQUAL TO DUCT SIZE WHERE FIRE DAMPERS OCCUR.
7. PROVIDE MINIMUM DUCT RADIUS ON ELBOWS AT 1-1/2 TIMES DUCT SIZE.
8. ALL CEILING DIFFUSERS ARE 4-WAY THROW UNLESS NOTED OTHERWISE.
   A. DIFFUSERS SHALL BE ADJUSTED BY MECHANICAL CONTRACTOR AND/OR TEST & BALANCE CONTRACTOR FROM 4-WAY TO 3-WAY OR 2-WAY WHEN WITHIN 3'-0 OF ADJACENT WALL OR CORNER. SUBMIT PROPOSED ADJUSTMENTS IN WRITING PRIOR TO ADJUSTING.
9. CONTRACTOR SHALL STRICTLY COORDINATE ALL CEILING DIFFUSERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN. IF ANY DISCREPANCIES ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION. VERIFY WITH OWNERS REPRESENTATIVE IN FIELD PRIOR TO INSTALLATION.
10. MATERIALS EXPOSED WITHIN DUCT SHALL COMPLY WITH SECTION 602.2 AND 605.0 OF THE 2025 CMC. ALL MATERIALS EXPOSED WITHIN THE CEILING PLENUM SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50.
11. PROVIDE SMOKE DETECTORS IN MAIN SUPPLY AIR DUCTS OF AIR MOVING SYSTEMS EXCEEDING 2,000 CFM PER SECTION 609.1 OF THE 2025 CMC.
12. MECHANICAL SYSTEMS SHALL COMPLY WITH REQUIREMENTS OF SECTION 608 OF THE 2025 CFC.
13. VENTS SHALL NOT TERMINATE LESS THAN 3-FT. ABOVE ANY OUTSIDE- OR MAKEUP-AIR INLET LOCATED WITHIN 10-FT. AT THE ROOF LEVEL, PER CMC 806.6.
14. THE CONTRACTOR SHALL COORDINATE ALL CEILING ACCESS PANELS FOR SERVICING MECHANICAL EQUIPMENT/DEVICES WITH THE ARCHITECT AND INTERIOR DESIGNER AS APPLICABLE.
15. PRIOR TO ROUGH-IN OF ELECTRICAL. PROVIDE COORDINATION SHOP DRAWINGS OF T-STAT LOCATIONS TO ARCH./ENG. FOR REVIEW.
16. DUCT SEALING:
   A. DUCTWORK SHALL BE SEALED PRIOR TO DELIVERY TO JOB SITE.
   B. DUCTWORK SHALL BE SEALED DURING DELIVERY.
   C. DUCTWORK SHALL BE SEALED UPON INSTALLATION.
   D. OPENINGS INTO EQUIPMENT AND DUCTWORK SHALL BE SEALED DURING CONSTRUCTION.
17. ALL CONTROL WIRING ROUTED IN CEILING PLENUM SHALL BE CLEARLY IDENTIFIED & SECURED TO DUCTWORK OR TIGHT TO STRUCTURE TO PREVENT DAMAGE DURING FUTURE DISTRICT IMPROVEMENT PROJECTS.
18. THE CONTRACTOR SHALL VERIFY ALL DIFFUSER/GRILLE/REGISTER/BORDER AND FRAME TYPES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ORDERING. COORDINATE ALL FINISHES WITH ARCHITECT.
19. ALL HVAC SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH AN APPROVED METHOD PER THE 2022 CMC SECTION 314.1, CALGREEN AND THE ENERGY EFFICIENCY STANDARDS.
20. THROUGH-PENETRATIONS AND MEMBRANE PENETRATIONS SHALL BE PROTECTED BY AN APPROVED PENETRATION FIRESTOP SYSTEM OR MEMBRANE PENETRATION FIRESTOP SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH (2.49 PA) OF WATER OR AS OTHERWISE PERMITTED BY 2025 CBC, SECTION 714. LISTED THROUGH-PENETRATION FIRESTOP SYSTEMS AND MEMBRANE PENETRATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION FOR DETAILS LISTED SYSTEMS. LISTED THROUGH-PENETRATION FIRESTOP SYSTEMS, MEMBRANE PENETRATION PROTECTION AND OTHER PERMITTED MEANS AND METHODS OF PENETRATION PROTECTION SHALL BE SUBMITTED TO THE AGENCY HAVING JURISDICTIONAL AUTHORITY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
21. PROVIDE BALANCING VOLUME DAMPERS IN EACH BRANCH DUCT AND IN EACH MAIN DUCT TO PROVIDE FOR COMPLETE AIR BALANCING. PROVIDE ADEQUATE ACCESS. OPPOSED BLADE DAMPERS (OBD'S) ARE NOT CONSIDERED BALANCING DAMPERS. COORDINATE ALL LOCATIONS WITH ARCHITECT'S REFLECTED CEILING PLAN WHERE REMOTE BALANCING DAMPERS ARE REQUIRED.
22. PROVIDE INTERNALLY LINED DUCTWORK FOR SUPPLY AND RETURN AIR PLENUMS ON ALL FAN COILS WITH MINIMUM ONE-INCH THICK ACOUSTICAL DUCT LINER.
23. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.
24. CONTRACTOR SHALL PROVIDE MANDATORY ACCEPTANCE TESTING PER TITLE 24, PART 6. CONTRACTOR SHALL ACT AS THE ACCEPTANCE AGENT AND PERFORM WORK REQUIRED FOR THE APPLICABLE ACCEPTANCE TESTS AS DESCRIBED IN CHAPTER 13 OF THE 2025 NONRESIDENTIAL COMPLIANCE MANUAL AND DOCUMENTS; THIS SHALL INCLUDE FILLING OUT, SIGNING, AND SUBMITTING THE NECESSARY FORMS. SPECIFIC REQUIREMENTS AND ACCEPTANCE TESTING FORMS ARE AVAILABLE IN THE MANUAL WHICH CAN BE DOWNLOADED FROM WWW.ENERGY.CA.GOV/TITLE24/2025STANDARDS.

EQUIPMENT ANCHORAGE AND BRACING

1. ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC , SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.
   A. ALL PERMANENT EQUIPMENT AND COMPONENTS.
   B. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICE SUCH AS ELECTRICITY, GAS, OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
   C. TEMPORARY, MOVABLE, OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA
2. THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.
   A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
   B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR HUNG FROM WALL.
3. THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHANGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION BRACING NOTE:

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7 AND 13.6.8; 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13. METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP _X_ MD _X_ PP __ E __ OPTION 1: PROJECT-SPECIFIC DESIGN
MP __ MD __ PP __ E __ OPTION 2: DESIGN BASED ON OSHPD OPM, WITH PROJECT SUBMITTAL
MP __ MD __ PP __ E __ OPTION 3: DESIGN BASED ON OSHPD OPM, WITH DEFERRED SUBMITTAL

ABBREVIATIONS

A/C	AIR CONDITIONING	HRU	HEAT RECOVERY UNIT
ABV	ABOVE	HVAC	HEATING, VENTILATION & AIR CONDITIONING
ACCEPT	ACCEPTANCE	HW	HEATING WATER
ACU	AIR CONDITIONING UNIT	HWP	HEATING WATER PUMP
AD	ACCESS DOOR	HWR	HEATING WATER RETURN
ADA	AMERICANS WITH DISABILITIES ACT	HWS	HEATING WATER SUPPLY
ADD	ADDITION	HX	HEAT EXCHANGER
AFF	ABOVE FINISH FLOOR	ID	INSIDE DIAMETER
AHJ	AUTHORITY HAVING JURISDICTION	IE	INVERT ELEVATION
AHU	AIR HANDLING UNIT	IN	INCH
AP	ACCESS PANEL	IW	INDUSTRIAL WASTE
APPROX	APPROXIMATE	L	LENGTH
ARCH	ARCHITECTURAL	LBS	POUNDS
ARI	AMERICAN REFRIGERATION INSTITUTE	LP	LOW PRESSURE
ASHRAE	AMERICAN SOCIETY OF HEATING REFRIGERATION AND AIR CONDITIONING ENGINEERS	LPC	LOW PRESSURE CONDENSATE
AS	AIR SEPARATOR	LPS	LOW PRESSURE STEAM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	M	MOTOR
AUTO	AUTOMATIC	MA	MIXED AIR
AUX	AUXILIARY	MAX	MAXIMUM
AV	AIR VENT	MC	MECHANICAL CONTRACTOR
B	BOILER	MCC	MOTOR CONTROL CENTER
BAS	BUILDING AUTOMATION SYSTEM	MECH	MECHANICAL
BDD	BACKDRAFT DAMPER	MIN	MINIMUM
BFF	BELOW FINISH FLOOR	MPC	MEDIUM PRESSURE CONDENSATE
BLDG	BUILDING	MPS	MEDIUM PRESSURE STEAM
BOD	BOTTOM OF DUCT	MV	MANUAL AIR VENT
BOP	BOTTOM OF PIPE	(N)	NEW
BSMT	BASEMENT	N/A	NOT APPLICABLE
BV	BALL VALVE	NC	NORMALLY CLOSED
BYV	BUTTERFLY VALVE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
C	COMMON, CONDENSATE OR CONDUIT	NIC	NOT IN CONTRACT
CA	CONTROL AIR, or COMBUSTION AIR	NTS	NOT TO SCALE
CAC	CALIFORNIA ADMINISTRATIVE CODE	OA	OUTSIDE AIR
CAP	CAPACITY	OBD	OPPOSED BLADE DAMPER
CAV	CONSTANT AIR VOLUME	OC	ON CENTER
CB	CHILLED BEAM	OD	OUTSIDE DIAMETER
CBC	CALIFORNIA BUILDING CODE	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CC	COOLING COIL OR CONTROLS CONTRACTOR	OFOI	OWNER FURNISHED OWNER INSTALLED
CD	CONSTRUCTION DOCUMENTS	P	PUMP OR PRESSURE OR POLE
CEC	CALIFORNIA ELECTRICAL CODE	PC	PUMPED CONDENSATE
CFC	CALIFORNIA FIRE CODE	PCR	PRESSURIZED CONDENSATE RETURN
CFM	CUBIC FEET PER MINUTE	PD	PRESSURE DROP
CH	CHILLER	PE	PNEUMATIC ELECTRIC
CHV	CHECK VALVE	PF	PRE FILTER
CHWP	CHILLED WATER PUMP	PG	PIPE GUIDE OR PRESSURE GAUGE
CHWR	CHILLED WATER RETURN	PH	PHASE
CHWS	CHILLED WATER SUPPLY	PLBG	PLUMBING
CL	CENTERLINE	POC	POINT OF CONNECTION
CLG	CEILING	POD	POINT OF DISCONNECTION
CMC	CALIFORNIA MECHANICAL CODE	PS	PRESSURE SENSOR
CONN	CONNECTION	PSI	POUNDS PER SQUARE INCH
CP	CONTROL PANEL	PSIG	POUNDS PER SQUARE INCH - GAUGE
CPC	CALIFORNIA PLUMBING CODE	QTY	QUANTITY
CV	CONSTANT VOLUME OR CONTROL VALVE	(R)	REMOVE
CWP	CONDENSER WATER PUMP	R	RISERS, RELOCATE OR RISE
CWR	CONDENSER WATER RETURN	RA	RETURN AIR
CWS	CONDENSER WATER SUPPLY	REF	RELIEF FAN
D	DROP OR DRAIN	REFRIG	REFRIGERANT
DDC	DIRECT DIGITAL CONTROL	REQ'D	REQUIRED
DEMO	DEMOLISH / DEMOLITION	REV	REVISE, REVISION OR REVOLUTIONS
DEPT	DEPARTMENT	RF	RETURN FAN
DET	DETAIL	RHC	REHEAT COIL
DIA	DIAMETER	RM	ROOM
DIFF	DIFFERENCE	RS	REFRIGERANT SUCTION
DISCH	DISCHARGE	RTU	ROOFTOP UNIT
DN	DOWN	SA	SUPPLY AIR
DV	DIAPHRAGM VALVE	SAN	SANITARY
DWG	DRAWING	SD	SMOKE DAMPER
DX	DIRECT EXPANSION	SEN	SENSIBLE
(E)	EXISTING	SF	SUPPLY FAN OR SQUARE FEET
E	EAST	SP	STATIC PRESSURE
EA	EXHAUST AIR OR EACH	SPEC	SPECIFICATION
EC	ELECTRICAL CONTRACTOR	SQ FT	SQUARE FEET
ECON	ECONOMIZER	SQ IN	SQUARE INCH
EF	EXHAUST FAN	ST	STRAINER OR SOUND TRAP OR STEAM TRAP
EL	ELEVATION	STD	STANDARD
ELEC	ELECTRICAL	STRUC	STRUCTURAL
EQUIP	EQUIPMENT	SS	STAINLESS STEEL
ESP	EXTERNAL STATIC PRESSURE	T	THERMOSTAT OR THERMOMETER OR THROAT
ET	EXPANSION TANK	TCP	TEMPERATURE CONTROL PANEL
EXH	EXHAUST	TDH	TOTAL DYNAMIC HEAD
FC	FLEXIBLE CONNECTION OR FAIL CLOSED	TEMP	TEMPERATURE
FCU	FAN COIL UNIT	THRU	THROUGH
FD	FIRE DAMPER	TI	TENANT IMPROVEMENT
FF	FINISH FLOOR OR FINAL FILTER	TOP	TOP OF DUCT
FFE	FINISH FLOOR ELEVATION	TS	TEMPERATURE SENSOR
FLR	FLOOR	TSP	TOTAL STATIC PRESSURE
FPB	FAN POWERED BOX	TYP	TYPICAL
FR	FIRE WRAP	UC	UNDERCUT DOOR
FSD	FIRE/SMOKE DAMPER	UG	UNDERGROUND
FT	FOOT / FEET	UH	UNIT HEATER
G	GAS	UNO	UNLESS NOTED OTHERWISE
GA	GAUGE, GAGE	V	VENT
GALV	GALVANIZED	VAV	VARIABLE AIR VOLUME
GLV	GLOBE VALVE	VD	VOLUME DAMPER
GN	GENERAL NOTE	VEL	VELOCITY
GND	GROUND	VFD	VARIABLE FREQUENCY DRIVE
GPM	GALLON PER MINUTE	W/	WITH
GV	GATE VALVE	W/O	WITHOUT
HC	HEATING COIL	WG	WATER GAUGE
HP	HORSEPOWER	WMS	WIRE MESH SCREEN
HP	HIGH PRESSURE	WPD	WATER PRESSURE DROP
HP	HEAT PUMP	WSHP	WATER SOURCE HEAT PUMP
HPC	HIGH PRESSURE CONDENSATE	WT	WEIGHT
HPS	HIGH PRESSURE STEAM	XFMR	TRANSFORMER

HVAC LEGEND

SYMBOL	DESCRIPTION
	GENERAL
	POINT OF DISCONNECTION
	POINT OF CONNECTION
X.ZZZ	KEYNOTE
M	FURNISHED & INSTALLED BY MECHANICAL
ME	FURNISHED BY MECHANICAL INSTALLED BY ELECTRICAL
EM	FURNISHED BY ELECTRICAL INSTALLED BY MECHANICAL
E	FURNISHED & INSTALLED BY ELECTRICAL
	EQUIPMENT TAG TAG EQUIPMENT NUMBER
(TYP. #)	SUPPLY, RETURN, & EXHAUST REGISTER TAG AIR QUANTITY (C.F.M.)
(TYP. #)	RELIEF AIR GRILLE TAG AIR QUANTITY (C.F.M)
(TYP. #)	LINEAR SUPPLY & RETURN # OF SLOTS - SLOT WIDTH CFM TOTAL LENGTH (FT)
	DUCTWORK
	REMOVE EXIST. EQUIP., PIPES, OR DUCT SHOWN HATCHED
	EXIST. DIFFUSER OR RETURN AIR GRILLE TO BE REMOVED
	EXIST. MECHANICAL EQUIPMENT & DUCT
	EXIST. DUCTWORK TO BE REMOVED & CAPPED
	LINEAR DIFFUSER
⊠	SUPPLY AIR TERMINAL
	RETURN AIR TERMINAL
	EXHAUST AIR TERMINAL
14"x12" 14"x12"	RECTANGULAR DUCT SIZE (WIDTH x DEPTH IN INCHES)
14"ø 14"ø	ROUND DUCT SIZE (WIDTH x DEPTH IN INCHES)
	DUCT RISE / DUCT DROP
	DUCT WITH INTERNAL LINING
	DUCT WITH FIRE WRAP INSULATION
	STAINLESS STEEL DUCT
	FLEXIBLE DUCT
	RECTANGULAR DUCT UP
	RECTANGULAR DUCT DOWN
	DUCT TRANSITION (RECTANGULAR TO ROUND)
D.L./U.C.	DOOR LOUVER OR UNDERCUT
	AUTOMATIC DAMPER (WITH ACTUATOR)
	BACKDRAFT DAMPER
	MANUAL VOLUME DAMPER
FSD	COMBINATION FIRE & SMOKE DAMPER
FD	FIRE DAMPER
	PIPING
#"-####	PIPE TAG (E.G. 2"-CHWS)
	PIPE RISE
	PIPE DROP
	PIPE BRANCH
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CIRCUIT SETTER
	REDUCER
	STRAINER
	UNION
	AIR VENT
	PRESSURE GAUGE
	THERMOMETER
	CONTROL VALVE (2-WAY/3-WAY)
	PIPE ANCHOR
	CONTROLS (PLAN)
CO2	CO2 SENSOR
NO2	NITROGEN DIOXIDE SENSOR
H	HUMIDITY SENSOR
O	OXYGEN SENSOR
T	ROOM THERMOSTAT & ZONE NUMBER
T/H	COMBINATION ROOM THERMOSTAT & HUMIDITY SENSORS
S	SWITCH (MANUAL WALL MOUNT OR DOOR INTERLOCK)
SD	SMOKE DETECTOR
CO	CARBON MONOXIDE SENSOR
SP	PRESSURE SENSOR (DUCT MOUNTED)
P	PRESSURE SENSOR (ROOM PRESSURE)
V	PURGE EXHAUST CONTROL SWITCH
HS	VISUAL STROBE AND AUDIBLE HORN
RS	REFRIGERANT LEAK DETECTION SENSOR

SHEET INDEX

M00.0	LEGEND, ABBREVIATIONS & NOTES
M0.02	EQUIPMENT SCHEDULES AND DETAILS
M11.10	MECHANICAL FLOOR PLANS
M11.30	MECHANICAL ROOF PLANS

CALGREEN MANDATORY MEASURE NOTES

1. FOR NEW BUILDING 10,000 SQUARE FEET AND OVER, BUILDING COMMISSIONING SHALL BE INCLUDED IN THE DESIGN AND CONSTRUCTION PROCESSES OF THE BUILDING PROJECT TO VERIFY THAT THE BUILDING SYSTEMS AND COMPONENTS MEET THE OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS. THE COMMISSIONING REQUIREMENTS SHALL INCLUDE OWNER'S PROJECT REQUIREMENTS (OPR), BASIS OF DESIGN (BOD), COMMISSIONING MEASURES, COMMISSIONING PLAN, FUNCTIONAL PERFORMANCE TESTING, DOCUMENTATION AND TRAINING AND A FINAL COMMISSIONING REPORT. (CALGREEN SECTION 5.410.2)

2. PROVIDE TESTING AND ADJUSTING OF SYSTEMS IN ACCORDANCE WITH CALGREEN SECTION 5.410.4.

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

4. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING, AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL, OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER, AND DEBRIS WHICH MAY ENTER THE SYSTEM. (CALGREEN SECTION 4.504.1 OR 5.504.3)

5. ALL PAINTS, ADHESIVES, SEALANTS, AND CAULKS SHALL MEET THE REQUIREMENTS OF CALGREEN SECTION 4.504.2 OR 5.504.4.

6. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8. MERV 13 SHALL BE INSTALLED PRIOR TO OCCUPANCY, AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATIONS AND MAINTENANCE MANUAL. (CALGREEN SECTION 5.504.5.3)

7. FOR BUILDINGS OR ADDITIONS EQUIPPED WITH DEMAND CONTROL VENTILATION, CO2 SENSORS AND VENTILATION CONTROLS SHALL BE SPECIFIED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA ENERGY CODE. (CALGREEN SECTION 5.506.2)

8. HVAC, REFRIGERATION, AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN ANY CHLOROFLUOROCARBONS (CFSs). (CALGREEN SECTION 5.508.1.1)

9. HVAC, REFRIGERATION, AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN ANY HALONS. (CALGREEN SECTION 5.508.1.2)

TITLE-24 MANDATORY MEASURES

EQUIPMENT AND SYSTEMS EFFICIENCY

1. ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY STANDARDS MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE COMMISSION, AS SPECIFIED IN THOSE REGULATIONS, THAT THE APPLIANCE COMPLIES WITH THE APPLICABLE STANDARD FOR THAT APPLIANCE.

2. PIPING AND DUCTING SYSTEMS SHALL BE INSULATED IN ACCORDANCE WITH THE SECTIONS 120.3, 120.4, 120.7 OF TITLE 24 ENERGY EFFICIENCY STANDARDS, CHAPTER 6 OF THE 2022 CMC, AND ALL CODES HAVING JURISDICTION.

3. ALL HVAC SYSTEMS SHALL MEET THE EFFICIENCY AND CONTROL REQUIREMENTS PER SECTION 110.2 AND 120.2 E.E.S.

4. ALL HVAC EQUIPMENT AND APPLIANCES SHALL MEET THE REQUIREMENTS PER SECTION 110.1-110.3, 110.5, 120.1-120.4 TITLE-24 ENERGY STANDARDS.

5. EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH AN AUTOMATIC TIME SWITCH WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOW OPERATION OF THE SYSTEM DURING OFF-HOURS FOR UP TO 4 HOURS. THE TIME SWITCH SHALL BE CAPABLE OF PROGRAMMING DIFFERENT SCHEDULES FOR WEEKDAYS AND WEEKENDS, INCORPORATE AN AUTOMATIC HOLIDAY "SHUT-OFF" FEATURE THAT TURNS OFF ALL LOADS FOR AT LEAST 24 HOURS, THEN RESUMES THE NORMALLY SCHEDULED OPERATION, AND HAS PROGRAM BACKUP CAPABILITIES THAT PREVENT THE LOSS OF THE DEVICE'S PROGRAM AND TIME SETTING FOR AT LEAST 10 HOURS IF POWER IS INTERRUPTED.

6. EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT TEMPORARILY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN A SETBACK HEATING AND COOLING THERMOSTAT SETPOINT.

7. EACH SPACE CONDITIONING ZONE SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE WITHIN THE ZONE. WHERE USED TO CONTROL HEATING, THE CONTROL SHALL BE ADJUSTABLE DOWN TO 55°F OR LOWER. FOR COOLING, THE CONTROL SHALL BE ADJUSTABLE UP TO 85°F OR HIGHER. WHERE USED TO CONTROL BOTH HEATING AND COOLING, THE CONTROL SHALL BE CAPABLE OF PROVIDING A DEAD BAND OR AT LEAST 5°F WITHIN WHICH THE SUPPLY OR HEATING AND COOLING IS SHUT OFF OF REDUCED TO A MINIMUM.

8. THERMOSTATS SHALL HAVE NUMERIC SETPOINTS IN °F.

9. THERMOSTATS SHALL HAVE ADJUSTABLE SETPOINT STOPS ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL.

10. HEAT PUMPS SHALL BE INSTALLED WITH CONTROLS TO PREVENT ELECTRIC RESISTANCE SUPPLEMENTARY HEATER OPERATION WHEN THE HEATING LOAD CAN BE MET BY THE HEAT PUMP ALONE. ELECTRIC RESISTANCE SUPPLEMENTARY HEATING OPERATION IS PERMITTED DURING TRANSIENT PERIODS, SUCH AS START-UPS AND FOLLOWING ROOM THERMOSTAT SETPOINT ADVANCE, WHEN CONTROLS ARE PROVIDED WHICH USE PREFERENTIAL RATE CONTROL, INTELLIGENT RECOVERY, STAGING, RAMPING, OR SIMILAR CONTROL MECHANISMS DESIGNED TO PRECLUDE THE UNNECESSARY OPERATION OF SUPPLEMENTARY HEATING DURING THE RECOVERY PERIOD. SUPPLEMENTARY HEATER OPERATION IS ALSO PERMITTED DURING DEFROST.

11. GRAVITY OR AUTOMATIC DAMPERS INTERLOCKED AND CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED ON THE OUTSIDE AIR INTAKES AND DISCHARGES OF ALL SPACE CONDITIONING AND EXHAUST SYSTEMS.

12. ALL GRAVITY VENTILATING SYSTEMS SHALL BE PROVIDED WITH AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS TO THE OUTSIDE, EXCEPT FOR COMBUSTION AIR OPENINGS.

13. ALL BALANCING: ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THESE PLANS, IN ACCORDANCE WITH AND PERFORMED BY A COMPANY CERTIFIED BY THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) PROCEDURAL STANDARDS (1983), OR ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS (1986).

14. OUTSIDE AIR CERTIFICATION: THE SYSTEM SHALL PROVIDE THE MINIMUM OUTSIDE AIR AS SHOWN ON THE MECHANICAL DRAWINGS, AND SHALL BE MEASURED AND CERTIFIED BY THE INSTALLING LICENSED C-20 MECHANICAL CONTRACTOR.

15. THE AIR CONDITIONING SYSTEM SHALL BE ENERGIZED 1 HOUR IMMEDIATELY PRIOR TO OCCUPANCY TO PROVIDE THE MINIMUM REQUIRED VENTILATION RATE.

APPLICABLE CODES

2025	CALIFORNIA BUILDING CODE
2025	CALIFORNIA MECHANICAL CODE
2025	CALIFORNIA PLUMBING CODE
2025	CALIFORNIA ELECTRICAL CODE
2025	CALIFORNIA FIRE CODE
2025	CALIFORNIA ENERGY STANDARDS
2025	CAL GREEN CODE
	ALL OTHER APPLICABLE LOCAL AND STATE LAWS AND REGULATIONS

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

WILLIAM J. GALARZA, JR.
M 32627
Exp. 12/31/27

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO: 2025-40137
ISSUANCE: DSA SUBMITTAL
DATE ISSUED: 06/10/26
SCALE: 12" = 1'-0"

M00.0

LEGEND, ABBREVIATIONS & NOTES

11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Mechanical Lead - Wai Maung
WSP Job #:US0052527.0928

FANS

TAG	#	MANUFACTURER	MODEL NUMBER	SERVICE	TYPE	DRIVE TYPE	AIR FLOW (CFM)	EXTERNAL STATIC PRESSURE (IN WG)	MOTOR SPEED (RPM)	MOTOR (HP)	VOLTAGE (V)	PHASE	HERTZ (HZ)	DETAIL REFERENCE	OPERATING WEIGHT (LBS)	REMARKS
EF	1	GREENHECK	SQ-99-VG	SEE PLAN	INLINE FAN	DIRECT	600	0.7	1,613	0.25	115	1	60	1/M0.02	50	1, 3
EF	2	GREENHECK	CSP-A200	CUST.UTILITY & STORAGE 100FF	INLINE FAN	DIRECT	95	0.3	609	0.06	115	1	60	1/M0.02	25	1, 2
EF	3	GREENHECK	SP-A125	ACC TOILET 100J	CEILING FAN	DIRECT	80	0.3	1054	0.02	115	1	60	3/M0.02	20	1, 2
EF	4	GREENHECK	SP-A125	ACC TOILET 100K	CEILING FAN	DIRECT	80	0.3	1054	0.02	115	1	60	3/M0.02	20	1, 2
EF	5	GREENHECK	SP-A125	TOILET A 100A	CEILING FAN	DIRECT	80	0.3	1054	0.02	115	1	60	3/M0.02	20	1, 2
EF	6	GREENHECK	SP-A125	TOILET B 100B	CEILING FAN	DIRECT	80	0.3	1054	0.02	115	1	60	3/M0.02	20	1, 2
EF	7	GREENHECK	SP-A125	TOILET C 100C	CEILING FAN	DIRECT	80	0.3	1054	0.02	115	1	60	3/M0.02	20	1, 2
EF	8	GREENHECK	CSP-A200	UTIL & STOR. 100D	CEILING FAN	DIRECT	40	0.3	526	0.03	115	1	60	1/M0.02	25	1, 2

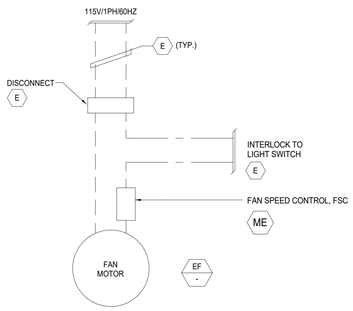
REMARKS:
1. PROVIDE WITH BACKDRAFT DAMPER AND ROOF CAP.
2. INTERLOCK WITH LIGHT SWITCH.
3. INTERLOCK WITH 4-HOUR TIMER SWTICH LOCATED IN 100L CUST./UTILITY & STORAGE.

DIFFUSERS, REGISTERS, AND GRILLES

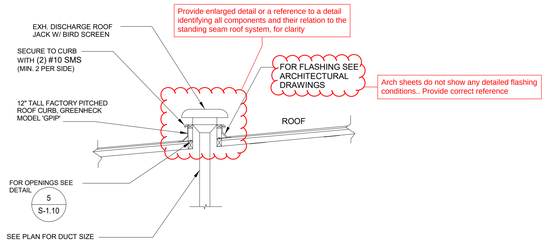
MARK	MANUFACTURER	MODEL NO	NECK SIZE	FACE SIZE	DESCRIPTION	FACE MOUNT	THROW	DAMPER	COLOR	MAX. NC	REMARKS
CE-1	PRICE	530	SEE PLANS	SEE PLANS	LOUVERED EXHAUST GRILLE	SURFACE MOUNT	-	REMOTE	B12 WHITE	20	1, 2, 3

REMARKS:
1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT CEILING TYPE.
2. PROVIDE BALANCING DAMPERS FOR EVERY INLET AND OUTLET.
3. VERIFY COLOR WITH THE ARCHITECT PRIOR TO PROCUREMENT.

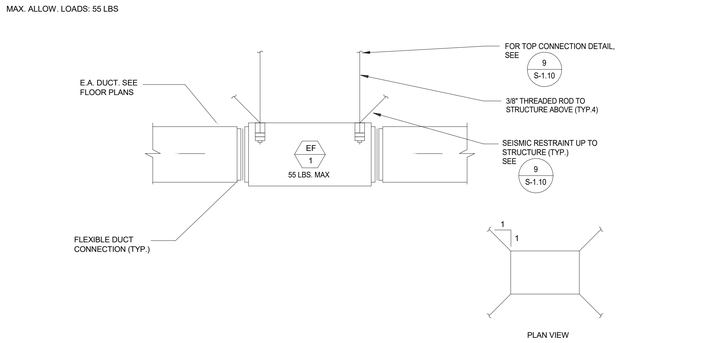
SCHEDULES 1



EXHAUST FAN CONTROLLED BY LIGHT SWITCH 6



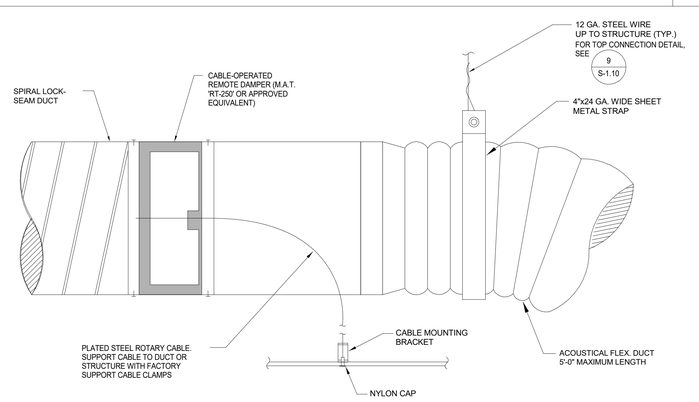
ROOF CAP DETAIL 4



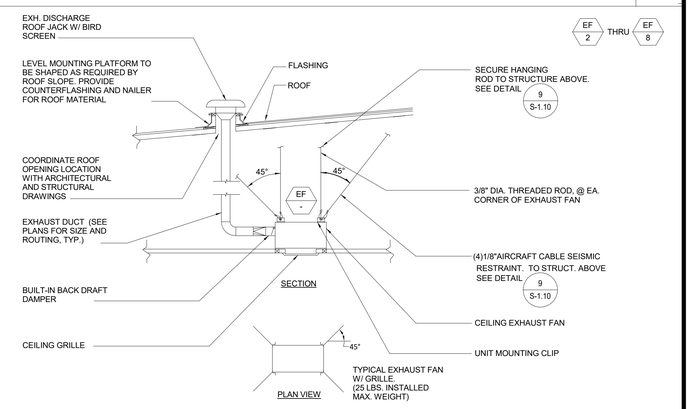
INLINE EXHAUST FAN DETAIL 2

-

7



REMOTE VOLUME DAMPER DETAIL 5



CEILING EXHAUST FAN DETAIL 3

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS
1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
WILLIAM J. GALARZA, JR.
M 32627
12/31/27
MECHANICAL
CALIFORNIA

REVISIONS:

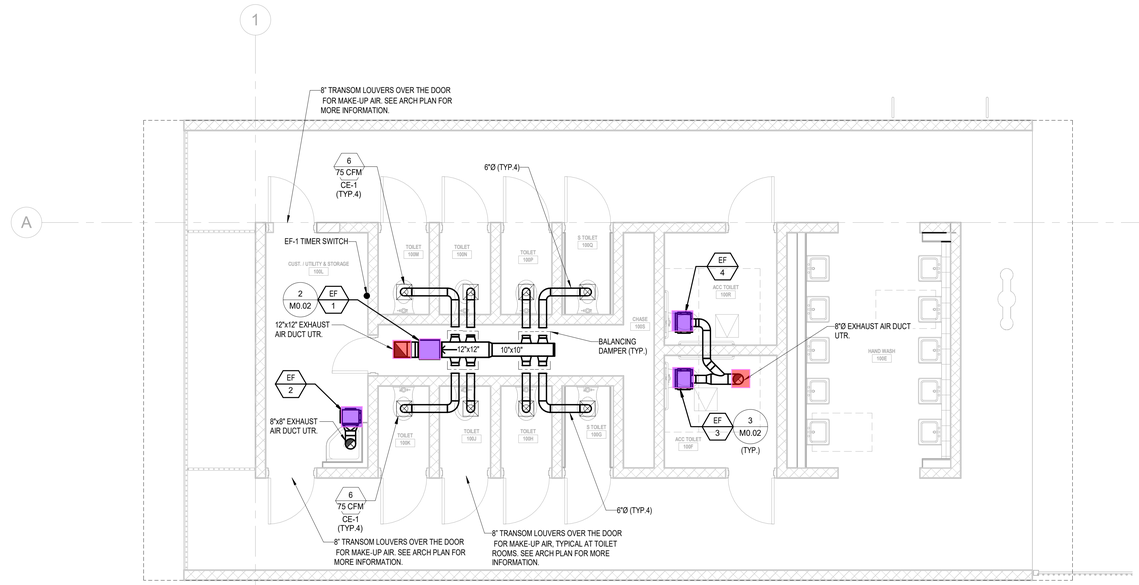
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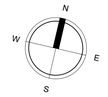
PROJECT NO: 2025-40137
ISSUANCE: DSA SUBMITTAL
DATE ISSUED: 06/10/26
SCALE: 12" = 1'-0"

M0.02

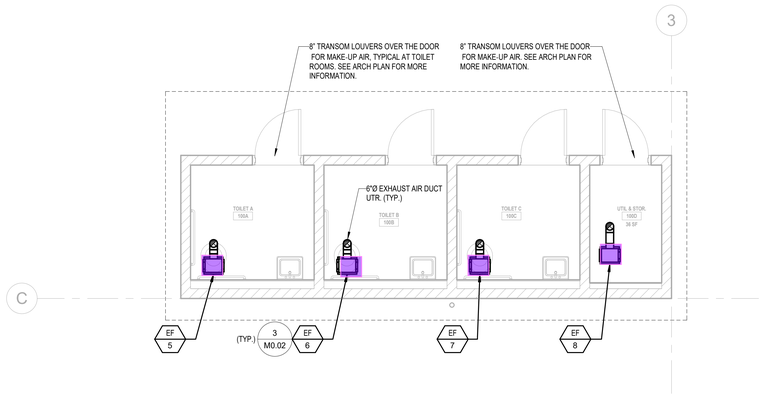
EQUIPMENT SCHEDULES AND DETAILS

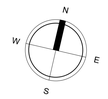
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Project Leader - Bill Voller
Mechanical Lead - Wai Maung
WSP Job #:US0052527.0928





MECHANICAL PLAN - WEST RESTROOM | 1/4" = 1'-0" | **1**





MECHANICAL PLAN - EAST RESTROOM | 1/4" = 1'-0" | **2**

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277





REVISIONS:

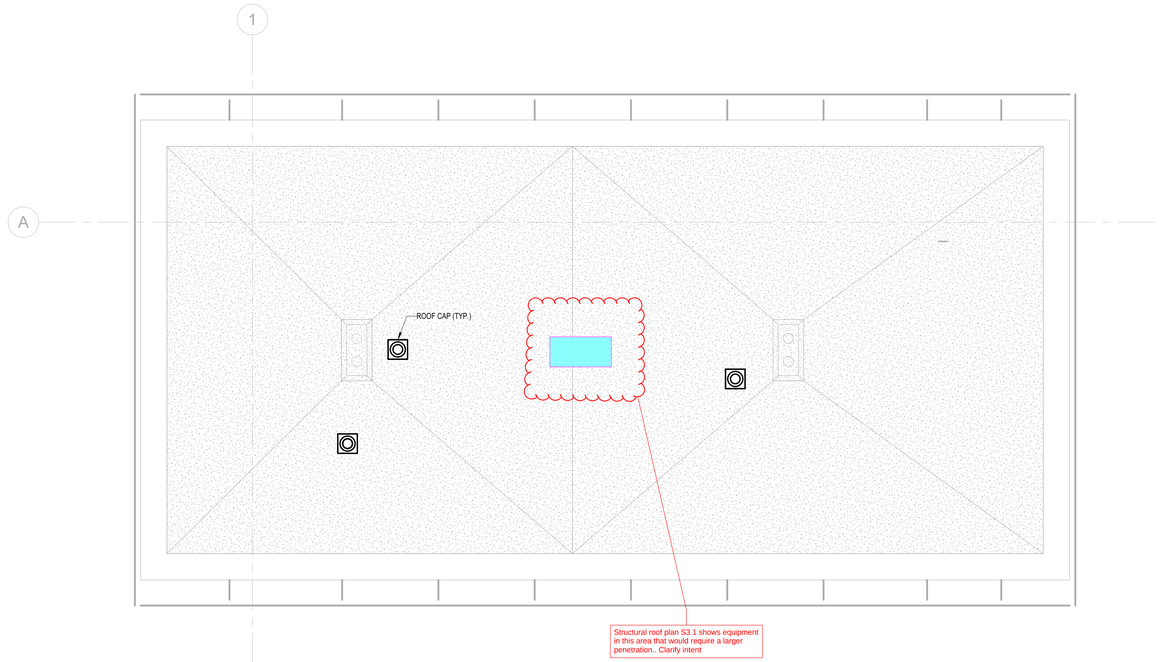
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PROJECT NO: 2025-40137
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SCALE: 1/4" = 1'-0"

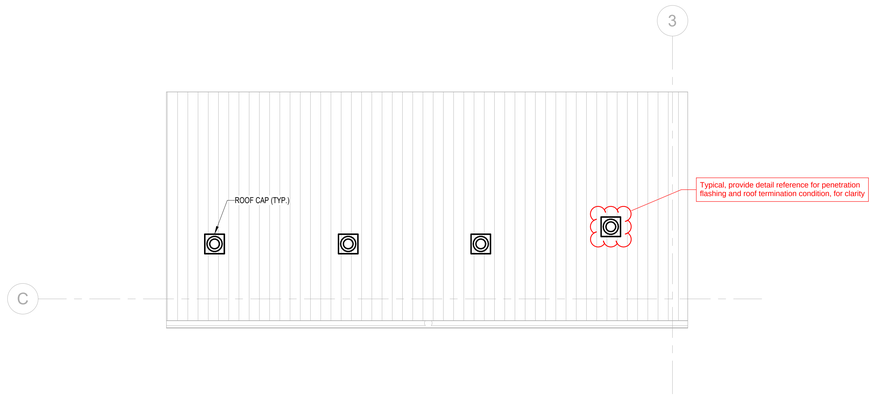
M11.10

MECHANICAL FLOOR PLANS

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MECHANICAL ROOF PLAN - WEST RESTROOM | 1/4" = 1'-0" | **1**





MECHANICAL ROOF PLAN - EAST RESTROOM | 1/4" = 1'-0" | **2**

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
WILLIAM J. GALARZA, JR.
M 32627
12/31/27
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: DSA SUBMITTAL
DATE ISSUED: 06/10/26
SCALE: 1/4" = 1'-0"

M11.30

MECHANICAL ROOF PLANS

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WSP Job #:US0052527.0928

PIPE MATERIAL

1.	SANITARY SEWER , VENT AND STORM DRAIN PIPING BELOW GROUND :	NO-HUB CAST IRON PIPE & FITTINGS WITH HEAVY DUTY TYPE 304 STAINLESS STEEL NO-HUB COUPLINGS. WRAP ALL UNDERGROUND PIPE AS SPECIFIED.
2.	SANITARY SEWER, VENT & STORM DRAIN PIPING ABOVE GROUND :	SERVICE WEIGHT NO-HUB CAST IRON PIPE & FITTINGS CONFORMING TO THE REQUIREMENTS OF CISPI STANDARD 301, ASTM A888 OR ASTM A74 WITH HEAVY DUTY TYPE 304 STAINLESS STEEL STANDARD DUTY NO-HUB COUPLINGS.
3.	DOMESTIC WATER BELOW GROUND :	TYPE 'K' COPPER WITH BRAZED JOINTS.
4.	DOMESTIC WATER ABOVE GROUND :	TYPE "L" COPPER TUBING WITH SOLDERED JOINTS. DOMESTIC WATER PIPING SHALL UTILIZE LEAD-FREE MATERIAL AND SOLDER.
5.	CONDENSATE AND INDIRECT DRAIN PIPING :	TYPE "M" COPPER PIPE & FITTINGS WITH SOLDERED JOINTS. CONDENSATE DRAIN PIPING ABOVE CEILINGS SHALL BE INSULATED WITH "AP ARMAFLEX" CLOSED-CELL ELASTOMERIC PLENUM RATED FOAM INSULATION. FLAME-SPREAD INDEX OF 25 OR LESS & SMOKE-DEVELOPED INDEX OF 50 OR LESS. 1/2" THICK FOR PIPING UP TO 1", AND 1" THICK FOR PIPING 11/4" AND LARGER.
6.	ALL OF THE ABOVE SHALL COMPLY WITH THE SPECIFICATIONS.	

LEAD-FREE NOTE:

ALL PIPE, FITTINGS, FIXTURES, ETC. THAT CONTACT POTABLE WATER FOR HUMAN CONSUMPTION SHALL SHOW APPROVAL TO NSF 61, ANNEX "G". EFFECTIVE JANUARY 1, 2010, THE LEAD CONTENT OF THE WETTED SURFACE AREA OF THE PIPES, FITTINGS AND FIXTURES CONVEYING POTABLE WATER FOR HUMAN CONSUMPTION, OF NOT MORE THAN 0.25%, SHALL BE DETERMINED PURSUANT TO A PRESCRIBED FORMULA AS DETERMINED BY THIRD PARTY CERTIFIERS TO NSF STANDARD 61, ANNEX "G". FOR SOLDER AND FLUX, THE LEAD CONTENT SHALL BE NOT MORE THAN 0.2 PERCENT WHERE USED IN PIPING SYSTEMS THAT CONVEY OR DISPENSE WATER FOR HUMAN CONSUMPTION. REFERENCE SECTION 604.02, CALIFORNIA PLUMBING CODE, 2025 EDITION, AND HEALTH & SAFETY CODE SECTION 116875.

TITLE 24 MANDATORY MEASURES

APPLICABLE	
	EQUIPMENT AND SYSTEMS EFFICIENCY
Yes	ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY STANDARDS MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE COMMISSION, AS SPECIFIED IN THOSE REGULATIONS, THAT THE APPLIANCE COMPLIES WITH THE APPLICABLE STANDARD FOR THAT APPLIANCE.
Yes	PIPING SYSTEMS SHALL BE INSULATED IN ACCORDANCE WITH REQUIREMENTS OF THE TITLE 24 STANDARDS AND ALL CODES HAVING THE JURISDICTON
	SERVICE WATER HEATING SYSTEMS
Yes	THE FOLLOWING SERVICE WATER HEATING SYSTEMS AND EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFED THAT THE EQUIPMENT MEETS OR EXCEEDS ALL APPLICABLE EFFICIENCY REQUIREMENTS LISTED IN 113 OF THE ENERGY EFFICIENCY STANDARDS: GAS-FIRED NON-STORAGE TYPES >200,000 BTU/HR.
Yes	UNFIRED SERVICE WATER HEATER STORAGE TANKS AND BACKUP TANKS FOR SOLAR WATER HEATING SYSTEMS SHALL HAVE EITHER: EXTERNAL INSULATION WITH AN INSTALLED R-VALUE OF AT LEAST R-12, INTERNAL AND EXTERNAL INSULATION WITH A COMBINED R-VALUE OF AT LEAST R-15, OR SUFFICIENT INSULATION SO THAT THE HEAT LOSSO FYITE TANK SURFACE BASED ON AN 80°F WATER-AIR TEMPERATURE DIFFERENCE SHALL BE LESS THAN 6.5 BTU/HR/SF.
Yes	IF A CIRCULATING HOT WATER SYSTEM IS INSTALLED, IT SHALL HAVE A CONTROL CAPABLE OF AUTOMATICLLY TURNING OFF THE CIRCULATING PUMP (S) WHEN HOT WATER IS NOT REQUIRED.
	LAVATORIES IN RESTROOMS OF PUBLIC FACILITIES SHALL BE EQUIPED WITH:
Yes	OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO MAXIMUM OF 0.5 GALLONS PER MINUTE.
Yes	FOOT ACTUATED CONTROL VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.75 GALLONS PER MINUTE.
No	PROXIMITY SENSOR ACTUATED CONTROLS VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.75 GALLONS PER MINUTE.
Yes	SELF-CLOSING VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 2.5 GALLONS PER RMINUTE, AND 0.25 GALLONS/CYCLE (CIRCULATING SYSTEM).
Yes	SELF-CLOSING VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 2.5 GALLONS PER RMINUTE, AND 0.50 GALLONS/CYCLE (NON-CIRCULATING SYSTEM)
No	SELF-CLOSING VALVES, AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 2.5 GALLONS PER RMINUTE, AND 0.75 GALLONS/CYCLE (FOOT SWITCHES AND PROXIMITY SENSOR CONTROLS).
No	LAVATORIES IN RESTROOM OF PUBLIC FACILITIES SHALL BE EQUIPPED WITH CONTROLS TO LIMIT THE OUTLET TEMPERATRURE TO 110° F.

2025 CPC, TABLE 313.3

HANGERS AND SUPPORTS

PIPE MATERIAL	TYPE OF JOINT	HORIZONTAL	VERTICAL
CAST-IRON HUBLESS	SHIEDED COUPLING	EVERY OTHER JOINT, UNLESS OVER 4FT., THEN SUPPORT EACH JOINT.	BASE AND EACH FLOOR, NOT TO EXCEED 15 FT.
COPPER & COPPER ALLOYS	SOLDERED, BRAZED, THREADED OR MECHANICAL	11/2" AND SMALLER, 6 FT., 2" AND LARGER, 10 FT.	EACH FLOOR, NOT TO EXCEED 10 FT.
STEEL PIPE FOR GAS	THREADED OR WELDED	1/2", 6 FT.; 3/4" AND 1", 8 FT.; 11/4" AND LARGER, 10 FT.	1/2", 6 FT.; 3/4" AND 1", 8 FT.; 11/4" AND LARGER, EVERY FLOOR LEVEL
SCHEDULE 40 PVC AND ABS DWV	SOLVENT CEMENTED	ALL SIZES, 4 FT.; ALLOW FOR EXPANSION EVERY 30 FT.	BASE & EACH FLOOR; PROVIDE MID-STORY GUIDES; PROVIDE FOR EXPANSION EVERY 30 FT.

1. SUPPORT ADJEACENT TO JOINT, NOT TO EXCEED 18 IN
2. BRACE NOT TO EXCEED 40 FT. INTERVALS TO PREVENT HORIZONTAL MOVEMENT.
3. SUPPORT AT EACH HORIZONTAL BRANCH CONNECTION.
4. HANGERS SHALL NOT BE PLACED ON THE COUPLING.
5. VERTICAL WATER LINES SHALL BE PERMITTED TO BE SUPPORTED IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRINCIPLES WITH REGARD TO EXPANSION AND CONTRACTION, WHERE FIRST APPROVED BY THE AUTHORITY HAVING JURISDICTION.

FIXTURE FLOW RATES

FIXTURE TYPE	MAXIMUM FLOW RATE AT 20 % REDUCTION
SHOWERHEADS	2 GPM @ 80 PSI
LAVATORY FAUCETS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
WASH FOUNTAINS	1.8 GPM/20 [RIM SPACE (INCHES) AT 60 PSI]
METERING FAUCETS	0.2 GALLONS/CYCLE
METERING FAUCETS FOR WASH FOUNTAINS	0.2 GALLONS/CYCLE/20 [RIM SPACE (INCHES) AT 60 PSI]
WATER CLOSETS	1.28 GALLONS/FLUSH *
URINAL	0.125 GALLONS/FLUSH

INDOOR WATER USE (CGBSC 5.303.)

5.303.3: WATER CONSERVING PLUMBING FIXTURES AND FITTINGS.
PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING:

INCLUDE SINGLE AND DUAL FLUSH WATER CLOSETS WITH AN EFFECTIVE FLUSH RATE OF 1.28 GALLONS OR LESS:
SINGLE FLUSH TOILETS - THE EFFECTIVE SLUSH VOLUME SHALL NOT EXCEED 1.28 GALLONS (4.8 LITERS). THE EFFECTIVE FLUSH VOLUME IS THE AVERAGE FLUSH VOLUME WHEN TESTED IN ACCORDANCE WITH ASME A 112.19.23.2.
DUAL FLUSH TOILETS - THE EFFECTIVE FLUSH VOLUME SHALL NOT EXCEED 1.28 (4.8 LITERS) THE EFFECTIVE FLUSH VOLUME IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH. FLUSH VOLUME WILL BE TESTED IN ACCORDANCE WITH ASME A 112.19.2 AND ASME A 112.19.14.

PLUMBING GENERAL NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES, DRAINS AND EQUIPMENT.
2. COORDINATE ALL LOCATIONS, SIZES AND ELEVATIONS OF ALL SLEEVES THROUGH BEAMS, SLABS AND FOOTINGS WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS.
3. ALL HORIZONTAL WASTE LINES SHALL BE RUN AT A MINIMUM SLOPE OF 1/4" PER FOOT UNLESS OTHERWISE NOTED ON PLAN.
4. ALL HORIZONTAL STORM DRAINS AND OVERFLOW DRAIN LINES SHALL BE RUN AT A SLOPE OF 1/8" PER FOOT UNLESS OTHERWISE NOTED ON PLAN.
5. COORDINATE AND VERIFY EXACT LOCATION, SIZE, POINTS OF CONNECTION AND INVERT ELEVATIONS OF UTILITY SERVICE PIPING BEFORE TRENCHING OR INSTALLATION.
6. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR WALL AND PARTITION CONSTRUCTION AND THICKNESS WHERE PLUMBING PIPING OR EQUIPMENT IS INDICATED.
7. THE LOCATION AND ELEVATION OF ALL PLUMBING PIPING SHALL BE VERIFIED AND COORDINATED WITH ALL OTHER TRADES, STRUCTURAL CONDITIONS AND BUILDING CONSTRUCTION PRIOR TO START OF INSTALLATION.
8. ALL VALVES AND COCKS SHALL BE LOCATED TO BE READILY ACCESSIBLE. WHERE VALVES ARE INSTALLED WITHIN OR BEHIND WALLS, PARTITIONS OR CEILINGS, AN ACCESS PANEL SHALL BE INSTALLED.
9. ALL OUTLETS FOR FUTURE CONNECTIONS SHALL BE INSTALLED SO AS TO PERMIT EASY CONNECTION - COORDINATE WITH DUCT WORK, STRUCTURAL CONDITIONS AND ARCHITECTURAL LAYOUT.
10. ALL PLUGGED OR CAPPED WASTE OUTLETS FOR FUTURE CONNECTIONS SHALL BE INSTALLED ABOVE CEILING WITH PIPE INVERT + 4 INCHES ABOVE THE CEILING.
11. ALL PLUGGED OR CAPPED VENT OUTLETS FOR FUTURE CONNECTIONS SHALL BE INSTALLED ABOVE CEILING WITH PIPE INVERT 12" FROM BOTTOM OF SLAB.
12. SEE RISER DIAGRAMS FOR ALL PIPE SIZING FOR ALL PLUMBING SYSTEMS.
13. FIRE PROTECTION PIPING AND EQUIPMENT SHOWN IS FOR REFERENCE ONLY. FOR FIRE PROTECTION PIPING SEE FIRE SPRINKLER SHOP DRAWINGS. FIRE SPRINKLER DESIGN/BUILD CONTRACTOR SHALL COORDINATE HIS WORK DURING SHOP DRAWING PHASE, WITH ROOF DRAINS AND LINES AS SHOWN AND SHALL MAKE PROVISIONS FOR FUTURE DUCTWORK AND FINISHED CEILINGS.
14. FIRE RISERS SUBJECT TO FIRE AUTHORITY APPROVAL.
15. ALL WALL MOUNTED ACCESS PANELS AND WALL CLEANOUTS SHALL BE MOUNTED AS LOW AS POSSIBLE UNLESS NOTED OTHERWISE OR AS INDICATED IN ARCHITECTURAL PLANS OR AS REQUIRED. CONTRACTOR SHALL GET ARCHITECT AND ENGINEER APPROVAL FOR ALL LOCATIONS PRIOR TO INSTALLATION OF WALL GYPSUM BOARD.
16. THESE DRAWINGS ARE DIAGRAMMATIC . THE LOCATION & ELEVATION OF ALL PLUMBING PIPING IS APPROXIMATE AND SHALL BE VERIFIED AND COORDINATED WITH ALL OTHER TRADES, STRUCTURAL CONDITIONS AND BUILDING CONSTRUCTION PRIOR TO START OF INSTALLATION.
17. PENETRATIONS OF PIPES, ETC , IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A TESTED ASSEMBLY APPROVED BY THE STATE FIRE MARSHAL.
18. ALL HOT AND COLD WATER PIPE SHALL BE INSULATED INCLUDING PIPING IN THE WALLS.
19. ALL REQUIRED CLEANOUTS SHALL BE INSTALLED AS PER SECTION 707.0 OF THE PLUMBING CODE.
20. ROOF DRAIN AND OVERFLOW PIPING WITHIN THE BUILDING SHALL UTILIZE APPROVED DRAINAGE FITTINGS.
21. CLEANOUTS FOR BUILDING STORM DRAINS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 719.0 OF THE PLUMBING CODE.
22. NEW BUILDING STORM DRAINAGE SYSTEM AND PARTS OF EXISTING SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED OR REPAIRED SHALL BE TESTED AS DESCRIBED IN SECTION 1109.0 OF THE PLUMBING CODE.
23. DIELECTRIC UNIONS SHALL BE USED AT ALL POINTS OF CONNECTION WHERE THERE IS A DISSIMILARITY OF METALS.
24. ALL VENTS THROUGH ROOF SHALL MAINTAIN A MINIMUM OF 10 FT. CLEARANCE AND 3 FEET ABOVE OF ANY WINDOW, DOOR, OPENING, AIR INTAKE OR VENT SHAFT. (FOR NON-OSHPD-3 BLDGS

ANCHORAGE & BRACING NOTES

ANCHORAGE NOTES:

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTERS 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARDWIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHMENT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

A. COMPONENTS WEIGHING LESS THAN 40 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING DISTRIBUTION SYSTEM BRACING NOTE:

PIPING SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7, 13.6.8, AND 2016 CBC, SECTIONS 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

THIS METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS

TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

PLUMBING PIPING (PP):
- ☒ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.
- ☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #-0043-13)
- ☐ OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2009), INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL _ AND CONNECTION LEVEL _ FOR THE PROJECT AND CONDITIONS.

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS (OPM #) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF OF THE PIPE DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

FIRE PROTECTION GENERAL NOTE

ALL FIRE PROTECTION INFORMATION SHOWN ON THE PLUMBING PLANS IS CONCEPTUAL AND PROVIDED FOR COORDINATION PURPOSES ONLY. IT SHALL NOT BE CONSIDERED A COMPLETE REPRESENTATION OF THE WORK REQUIRED TO BE PROVIDED BY THE DESIGN BUILDING FIRE PROTECTION CONTRACTOR. EXACT CHARACTERISTICS, CONFIGURATIONS AND PIPE ROUTING SHALL BE DETERMINED BY THE DESIGN BUILD FIRE SPRINKLER CONTRACTOR. ALL PIPE SIZES SHALL BE PER HYDRAULIC CALCULATIONS PERFORMED BY THE DESIGN BUILD FIRE SPRINKLER CONTRACTOR. THE DESIGN BUILD SPRINKLER CONTRACTOR SHALL SUBMIT DRAWINGS TO THE FIRE DEPARTMENT FOR REVIEW AND APPROVAL, AND SHALL COORDINATE WORK WITH OTHER TRADES AS REQUIRED.

LEGEND

LEGEND	ABBR.	DESCRIPTION
	S OR W	SOIL OR WASTE ABOVE FLOOR OR GRADE
	S OR W	SOIL OR WASTE BELOW FLOOR OR GRADE
—SD—	SD	STORM DRAIN ABOVE FLOOR OR GRADE
—SD—	SD	STORM DRAIN BELOW FLOOR OR GRADE
—OD—	OD	OVERFLOW DRAIN ABOVE FLOOR OR GRADE
—OD—	OD	OVERFLOW DRAIN BELOW FLOOR OR GRADE
— — — — — —	V	SANITARY VENT
— — —	CW	DOMESTIC COLD WATER
— — — —	HW	DOMESTIC HOT WATER
	HWR	DOMESTIC HOT WATER RETURN
—F—	F	FIRE MAIN
—D—	D	INDIRECT DRAIN
—CD—	CD	CONDENSATE DRAIN
—PCD—	PCD	PUMPED CONDENSATE DRAIN
—SCD—	SCD	SECONDARY CONDENSATE DRAIN
—TP—	TP	TRAP PRIMER
		DIRECTION OF FLOW
	P.G.	PRESSURE GAUGE W/PETE COCK
	P.R.V.	PRESSURE REDUCING VALVE
	C.V.	CHECK VALVE
	L.B.V.	LOCKING BALL VALVE
	B.V.	BALL VALVE
	G.V.	GATE VALVE
	FCO	FLOOR CLEANOUT
	WCO	WALL CLEANOUT
		DOWN
		RISE
		UNION
	WHA	WATER HAMMER ARRESTOR
	P.O.C.	POINT OF CONNECTION
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
	ABV	ABOVE
	AFF	ABOVE FINISHED FLOOR
	AP	ACESS PANEL
	BEH	BEHIND
	BEL	BELOW
	CLG	CEILING
	CONT.	CONTINUATION
	CO.	CLEAN OUT
—(E)—	EXIST. (E)	EXISTING
	FDC	FIRE DEPT. CONNECTION
	FIN.	FINISHED
	F.F.E.	FINISHED FLOOR ELEVATION
	FLR.	FLOOR
	FR.	FROM
	G.P.F.	GALLONS PER FLUSH
	GR	GRADE
	HDR	HEADER
	I.E.	INVERT ELEVATION
	O.S. & Y.	OUTSIDE SCREW & YOKE
	PIV	POST INDICATOR VALVE
	VTR	VENT THROUGH ROOF

SHEET INDEX

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P0.03	TITLE 24
P1.01	PLUMBING SITE PLAN
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P11.10	PLUMBING FLOOR PLAN
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P11.31	RISER DIAGRAMS

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY REDONDO BEACH,CA 90277

REGISTERED PROFESSIONAL ENGINEER — RICHARD J. GALARZA, JR. — M 32627 — 12/31/2027 — MECHANICAL — STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1	B.B. SESSION	5/22/26
2	100%DD FINAL SET	06/12/26

PROJECT NO: 2025-40137
ISSUANCE: DSA PRGRS
DATE ISSUED: 05/29/2026
SCALE: 12" = 1'-0"

P0.01

LEGEND, SCHEDULES & NOTES

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Project Leader - Bill Voller
Plumbing Lead - Ron Brick
WSP Job #:US0052527.0928

WATER SYSTEM CALCULATION

STREET PRESSURE	=	75 P.S.I.
TOTAL FIXTURE UNITS = 114 FU, GPM = 72		
LOSSES:		
2" METER @ 72 GPM	=	4.0 P.S.I.
2" RPBP @ 72 GPM	=	12 P.S.I.
STATIC LOSS (.433 X 10 FT.)	=	4.33 P.S.I.
RESIDUAL FIXTURE	=	25 P.S.I.
TOTAL	=	545.33 P.S.I.
PRESSURE AVAILABLE FOR FRICTION LOSS: 75 PSI-53.3 PSI	=	21.7 P.S.I.
SYSTEM EQUIVALENT LENGTH: (METER TO RESIDUAL FIXTURE)	=	298+25%=372 FT.
ALLOWABLE AVERAGE LOSS DUE TO FRICTION PER 100 FT. OF PIPE: 21.7 PSI / 372 FT. X 100 FT.	=	5.8 PSI/100 FT.

COLD WATER SYSTEM SIZING IS BASED ON 2 PSI /100' OR 8 FT. PER SECOND MAXIMUM VELOCITY, WHICHEVER RESTRICTION IS GREATER.

HOT WATER SYSTEM SIZING IS BASED ON 2 PSI /100' OR 5 FT. PER SECOND MAXIMUM VELOCITY, WHICHEVER RESTRICTION IS GREATER.

NOTE:
DOMESTIC HOT AND COLD WATER PIPE SIZING IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2010 CALIFORNIA PLUMBING CODE, APPENDIX "A"

DOMESTIC WATER PIPE SIZING SCHEDULE

(BASED ON 2 PSI/100 FT. OR MAX. VELOCITY OF 8 FPS COLD & 5 FPS HOT)

SIZE	MAXIMUM FIXTURE UNITS			VELOCITY (FT./SEC.)		G.P.M.	
	FLUSH TANK		FLUSH VALVE				
	HW	CW		HW	CW	HW	CW
½"	1	1	0	2.6	2.6	1.0	1.0
¾"	4	4	0	3.2	3.2	4.0	4.0
1"	10	10	0	3.9	3.9	8.0	8.0
1¼"	20	20	0	4.4	4.4	14	14
1½"	34	34	5	4.9	4.9	22	22
2"	115	115	42	5.0	5.9	47	47
2½"	245	285	160	5.0	6.7	74	83
3"	408	585	490	5.0	7.5	106	140
4"	809	1668	1668	5.0	8.0	187	290

PLUMBING FIXTURE SCHEDULE

UNIT NO.	DESCRIPTION	CONNECTION SIZES						REMARKS
		TRAP	W	V	CW	HW	FLOW RATE	
WC-1	WATER CLOSET	INT.	4"	2"	1"	-	1.28 GPF	ACORN 2105- T-1-HS-OFLC-CN SERIES, WALL MOUNTED, 15" HIGH, 16 GAUGE, TYPE 304 STAINLESS STEEL , SEAMLESS WELDED , SIPHON JET ACTION, 1.28 GPF ELONGATED BOWL, HINGED SEAT , OPEN FRONT LESS COVER. ZURN #Z1201-N_4 EZCARRY ADJUSTABLE HOZIZONTAL CARRIER.
WC-2	WATER CLOSET (ACCESSIBLE)	INT.	4"	2"	1"	-	1.28 GPF	ACORN 2105-T-1-HS-OFLC-CN SERIES, WALL MOUNTED, 16"-19" HIGH, 16 GAUGE, TYPE 304 STAINLESS STEEL, SEAMLESS WELDED, SIPHON JET ACTION, 1.28 GPF ELONGATED BOWL, HINGED SEAT, OPEN FRONT LESS COVER. ZURN #Z1201-N_4 EZCARRY ADJUSTABLE HOZIZONTAL CARRIER. ADA COMPLIANT..
WC-3	WATER CLOSET (ACCESSIBLE)	INT.	4"	2"	1"	-	1.28 GPF	ACORN #2141-T-3-ADA-FM-1.28-HS-OFLC, FLOOR MOUNTED, BOTTOM OUTLET, 16"-19" HIGH, 16 GAUGE, TYPE 304 STAINLESS STEEL, SEAMLESS WELDED, SIPHON JET ACTION, 1.28 GPF, ELONGATED BOWL, HINGED SEAT OPEN-FRONT LESS COVER. ADA COMPLIANT.
L-1	LAVATORY (ACCESSIBLE)	1¼"	2"	1¼"	½"	-	0.35 GPM	ACORN MERIDIAN 3701-1-H-DMJ, WALL MOUNTED, HEAVY DUTY TYPE 304 STAINLESS STEEL, PUSH BUTTOM HAND OPERATION, DECK MOUNTED "J" SPOUT, CHICAGO STOP #1017, LA CODE P-TRAP, JR SMITH #0700 CARRIER. ADA COMPLIANT
L-2	LAVATORY (ACCESSIBLE)	1¼"	2"	1¼"	½"	½"	0.35 GPM	ACORN MERIDIAN 3701-1-H-DMJ, WALL MOUNTED, HEAVY DUTY TYPE 304 STAINLESS STEEL, PUSH BUTTON HAND OPERATION, DECK MOUNTED "J" SPOUT, CHICAGO HOT AND COLD WATER STOPS #1017 WITH TMV-1 BELOW DECK MIXING VALVE, LA CODE P-TRAP, JR SMITH #0700 CARRIER. ADA COMPLIANT
SS-1	SERVICE SINK	3"	3"	2"	¾"	¾"	2.5 GPM	AMERICAN STANDARD,"FLORWELL" #7745.8511, FLOOR MOUNTED, CORNER TYPE, ENAMELED CAST IRON W/ VINYL RIM GUARD, 3" OUTLET, AMER. STD. #8344.112 FAUCET W/ TOP BRACE, BUCKET HOOK, STOPS, VACUUM BREAKER AND 5'-0" HOSE, AMER. STD. #7721.038 FLAT GRID DRAIN.
ETP-1	ELECTRONIC TRAP PRIMER	-	-	-	½"	-	-	PRECISION PLUMBING PRODUCTS "MINI PRIME" #MPB-500-115V, 60 HZ, SINGLE PHASE, FLUSH MOUNTED.
HB-1	HOSE BIBB (RECESSED)	-	-	-	¾"	-	-	ACORN MODEL #8151 RECESSED HOSE BIBB
FD-1	FLOOR DRAIN	2"	2"	2"	½" TP	-	-	J.R. SMITH # 2005-Y, CAST-IRON DRAIN W/CLAMPING FLANGE, BOTTOM OUTLET, 5" DIA. STAINLESS STRAINER & TRAP PRIMER CONNECTION. SEE PLANS FOR SIZES.
FS-1	FLOOR SINK	2"	2	2"	½" TP	-	-	JR SMITH #3140 W/TRAP PRIMER CONNECTION
TD-1	TRENCH DRAIN	4"	4"	2"	½" TP	-	-	WATTS DEAD LEVEL D PRE-SLOPED POLYPROPYLENE 6" WIDE CHANNEL SLOPE DRAIN SYSTEM W/DUCTILE IRON FRAME WITH RSP REINFORCED STAINLESS STEEL PERFORATED HEEL PROOF GRATE.
RD-1	ROOF DRAIN	-	-	-	-	-	-	JR SMITH #1010Y NO-HUB OUTLET, DUCO CAST IRON BODY, DOUBLE DECK PLATE WITH SECURING HOLES, COMBINED FLASHING CLAMP AND GRAVEL STOP FOR ROOF DRAIN WITH POLYETHYLENE DOME. SEE PLANS FOR SIZES.
OD-1	OVERFLOW DRAIN	-	-	-	-	-	-	JR SMITH #1080Y NO-HUB OUTLET, DUCO CAST IRON BODY, DOUBLE DECK PLATE WITH SECURING HOLES, COMBINED FLASHING CLAMP AND GRAVEL STOP EXTERNAL DAM FOR OVERFLOW DRAIN BOTH WITH POLYETHYLENE DOME. SEE PLANS FOR SIZES.
WHA-1	WATER HAMMER ARRESTOR	-	-	-	-	1"	-	PRECISION PLUMBING PRODUCTS #SWA-500D WATER HAMMER ARRESTOR, TYPE "L" HARD DRAWN COPPER OR APPROVED EQUAL. LOCATED BEHIND ACCESS PANEL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
DF-1	DRINKING FOUNTAIN W/BOTTLE FILLER	2"	2"	2"	1/2"	-	-	MURDOCK MODEL GYQ84 PEDESTAL MOUNTED LARGE CAPACITY BOTTLE FILLER DESIGN WITH BI-LEVEL DRINKING FOUNTAIN. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

WATER REDUCTION NOTES:
MAXIMUM FIXTURE FLOW RATES (PER TABLE 5.303.2.3 AND SECTION 5.303.3 PER CGC 5.303) SEE FIXTURE RATES ON SHEET P0.01.

ELECTRIC WATER HEATERS

UNIT NO.	MANUFACTURER & MODEL NO.	LOCATION	SERVICE	STORAGE CAPACITY	REC @ 60 DEG° △ T (GPH)	INLET	OUTLET TEMP °F	ELECTRICAL				OPER. WT. (LBS.)	REMARKS
								KW	V	PH	HZ		
EWH 1	A.O. SMITH DEL-6S-2.5	UTIL & STOR 100D EAST CONCOURSE	DOMESTIC HOT WATER	6 GAL	17 GPH	60	120	2.5	208	3	60	239.6	MOUNT UP HIGH ON WALL ABOVE MOP SINK
EWH 2	A.O. SMITH DEL-6S-1	CUST/UTILITY & STORAGE WEST CONCOURSE	DOMESTIC HOT WATER	6 GAL	7 GPH	60	120	1.0	208	3	60	84.98	MOUNT UP HIGH ON WALL ABOVE MOP SINK

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY REDONDO BEACH,CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAFAEL J. GALARZA JR.
M 32627
05/31/2026
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1	B.B. SESSION	5/22/26
2	100%DD FINAL SET	06/12/26

PROJECT NO: 2025-40137
ISSUANCE: DSA PRGRS
DATE ISSUED: 05/29/2026
SCALE: 12" = 1'-0"

P0.02

EQUIPMENT SCHEDULES

wsp
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Plumbing Lead - Ron Brick
WSP Job #:US0052527.0928

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

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This document is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, and §140.5, and with requirements in §141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in §110.1, §110.3, §160.4 and §170.2(d), and with requirements §180.1 for additions and §180.2 for alterations.

A. GENERAL INFORMATION

01	Project Location (city)	Redondo Beach CA	02	Climate Zone	6
03	Occupancy Types Within Project (select all that apply):				
• All Other Occupancies					

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in §140./§170.2(d) and §141.0(a)/§180.1, or §141.0(b)2N / §180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03		
My project consists of (check all that apply):	System Type [1,2]	System Components		
☒ New system (DHW system being installed for the first time)	Serving Nonresidential or MF/Hotel/Motel Common use area	☒ Equipment	☒ Distribution	☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution	☐ Controls

[1]*FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*
[2] *Dwelling units refers to hotel/motel guest rooms and units in a multifamily residential occupancy.*
[3] *DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily and hotel/motel occupancies*

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

01	02	03	04	05
Domestic Hot Water Equipment	Distribution Systems	Controls	Pool/Spa	**Compliance Results**
Table F	Table G	Table H	Table J	
Yes	Yes	Yes		COMPLIES

D. EXCEPTIONAL CONDITIONS

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

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E. ADDITIONAL REMARKS

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

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F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in §110.1 and §110.3. Compliance with prescriptive requirements in §140.5(c) / §170.2(d) must also be demonstrated and with §141.0 / §180.1/ §180.2 for addition and alteration scopes.

Equipment Schedule: Water Heating Efficiency and Standby Loss

01		02		03		04		
System Name	EWH-1	Space type	Nonresidential	Exception to §140.5(c)/§170.2(d)2B		Exceptions Do Not Apply	Capacity-weighted Average Efficiency %	0
05	06	07	08	09	10	11	12	13
Name or Item Tag	Quantity	System Status	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Rated Efficiency	Minimum Efficiency Required	Maximum Standby Loss
EWH-1	1	New/ Addition	Electric Storage	6		98	Must meet Federal Minimum Requirements	If applicable, must meet Federal Minimum Requirements
EWH-2	1	New/ Addition	Electric Storage	6		98	Must meet Federal Minimum Requirements	If applicable, must meet Federal Minimum Requirements

[1]*FOOTNOTE: In systems >= 1MMBtu/h with multiple units, gas water heaters with input capacity > 100,000 Btu/h may meet 90% Et requirements via an input capacity-weighted average.*
[2]*FOOTNOTE: Compliant equipment may be found in the Modernized Appliance Efficiency Database System (MAEDBS) on the Energy Commission website: https://cacertappliances.energy.ca.gov/Pages/Search/AdvancedSearch.aspx*

System Name	EWH-1			
	Yes	No	Not Applicable	Requirement
18	☒	☐	☐	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per §110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per §110.3(c)5
20	☒	☐	☐	Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per §110.3(c)6
21	☐	☐	☒	School buildings < 25,000 ft^2 and < 4 stories must install a heat pump water heating system per §140.5(a)1. Water heating systems serving an individual bathroom space may be an instantaneous electric water heater.

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F. DOMESTIC HOT WATER EQUIPMENT

	Air-Source Heat Pump Water Heaters (HPWHs) (§110.3(c)7)			
22	☐	☒	☐	Backup heat is required when inlet air is unconditioned unless the compressor cut-off temperature is below the Heating Winter Median of Extremes for the closest location listed in Table 2-3 from Reference Joint Appendix JA2.
	☐	☐	☐	Consumer integrated HPWHs shall meet one of the following ventilation requirements: §110.3(c)7B1: Installed using a method provided by the manufacturer to meet or exceed the ventilation requirements of Section 110.3(c)7B2 through Section 110.3(c)7B4.

DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in §120.3 and §140.5. For multifamily and hotel/motel occupancies, compliance is demonstrated with requirements §110.3(c), §160.4, §170.2(d).

Recirculation Loops in Central Systems Serving Dwelling Units, Hotel/Motel Guest Rooms, or Nonresidential Spaces - §110.3, §170.2(d)2

System Name		EWH-1	
	Yes	No	Requirement
01	○	●	Air release valve or vertical pump installation per §110.3(c)4A
02	○	●	Check valve or similar located between recirculation pump and water heating equipment to prevent backflow per §110.3(c)4B
03	○	●	Hose bibb installed between pump and equipment and isolation valve between hose bibb and equipment per §110.3(c)4C
04	○	●	Isolation valves on both sides of the pump per §110.3(c)4D
05	○	●	Cold water and recirculation loop piping shall not be connected to the hot water storage tank drain port per §110.3(c)4E
06	○	●	Check valve installed on cold water supply between hot water system and next closest tee on cold water supply per §110.3(c)4F
07	○	●	DWELLING UNITS ONLY: For heat pump water heating systems, the hot water return from the recirculation loop shall connect to a recirculation loop tank and shall not directly connect to the primary heat pump water heater inlet or the primary thermal storage tanks per §170.2(d)2Aii.
08	○	●	DWELLING UNITS ONLY: For heat pump water heating systems, the fuel source for the recirculation loop tank shall be electricity per §170.2(d)2Aii.
09	○	●	DWELLING UNITS ONLY: The recirculation loop tank temperature setpoint shall be at least 10°F lower than the primary thermal storage tank temperature setpoint - §170.2(d)2Av
10	○	●	DWELLING UNITS ONLY: All hot water distribution piping shall be sized in accordance with the California Plumbing Code Appendix M per §170.2(d)2C.
11	○	●	DWELLING UNITS ONLY:A recirculation system with mechanical or digital thermostatic master mixing valve on each distribution supply and return loop and meet the requirements in Reference Appendix RA4.4, unless building has ≤ 8 dwelling units, per §170.2(d)2D.

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DOMESTIC HOT WATER DISTRIBUTION SYSTEM

12	○	●	DWELLING UNITS ONLY: Insulation for hot water pipes shall be field verified as specifid in Reference Appendix RA3.6.3 per §170.2(d)2E.

Mandatory Pipe Insulation All Occupancies - §120.3, §160.4

System Name		EWH-1	
	Yes	Not Applicable	Requirement
16	○	●	For systems serving dwelling units, pipe insulation must meet the minimum insulation requirements in Table 160.4-A (see blow) except: • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall abut securely against all framing members • Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5. • Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation, shall not be required to have pipe insulation.
17	●	○	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A1 or Table 120.3-A2 (see below) per §120.3: • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
18	●	○	Per §120.3(b)/ §160.4(f), pipe and appurtenance insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Pipe insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve.

TABLE 160.4-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft^2 per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)			
			< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel
			Minimum Insulation Required			
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11	2.0 in or R-16

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DOMESTIC HOT WATER CONTROLS - §110.3, §120.9, §160.4(d), §170.2(d), §180.1(b)3

This table is used to demonstrate compliance with control requirements in §110.3 for all occupancies. For nonresidential occupancies, compliance is demonstrated with requirements in §120.9. For multifamily residential and hotel/motel occupancies, compliance is also demonstrated with requirements in §160.4(d) / §170.2(d).

System Name		EWH-1	
	Yes	Not Applicable	Requirement
01	☒	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per §110.3(a).
02	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per §110.3(c)1 unless covered by California Plumbing Code §13.0.
03	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☒	For recirculation systems serving multiple dwelling units, design includes a mechanical or digital thermostatic master mixing valve on each distribution supply and return loop per §170.2(d) or §180.1(b)3 for additions.
05	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per §170.2(d).
06	☐	☒	Combustion air positive shut-off shall be provided per §120.9(a) & §160.4(d) on all newly installed commercial boilers as follows: • Boilers with input capacity >= 2.5 MMBtu/h, in which the boiler is designed to operate with a nonpositive vent static pressure • Boilers where one stack serves two or more boilers with a total combined input capacity per stack of 2.5 MMBtu/h.
07	☐	☒	Boiler combustion air fans with motor >= 10 hp shall meet one of the following for newly installed boilers per §120.9(b) & §160.4(d)2: • The fan motor shall be driven by a variable speed drive OR • The fan motor shall include controls that limit the fan motor demand to <=30% of the total design wattage at 50% of the design air volume.
08	☐	☒	Newly installed boilers with an input capacity (d:gte/] 5MMBtu/h and a steady state full-load combustion efficiency < 90% shall maintain excess (stack-gas) oxygen concentrations <= 5% by volume on a dry basis over firing rates of 20-100%. Combustion air volume shall be controlled with respect to firing rate or flue gas oxygen concentration. Use of a common gas and combustion air control linkage or jack shaft is prohibited per §120.9(c) & §160.4(d)3.

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DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

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

DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

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Project Address: 1 Sea Hawk Way, Redondo Beach, CA 90277	Date Prepared: June 1, 2026 2026-06-01T16:22:29-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Ron Brick	Documentation Author Signature:
Company: WSP	Signature Date: 06/01/2026
Address: 11870 Pierce Street	CEA/HERS/ECC Certification identification (if applicable):
City/State/Zip: Riverside, CA 92505	Phone: (951) 299-4160

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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

Responsible Person Name: William Galarza	Responsible Person Signature:
Responsible Person Scope: Mechanical Engineer	
Company: WSP	Date Signed: 06/01/2026
Address: 11870 Pierce Street	License: M 32627
City/State/Zip: Riverside, CA 92505	Phone: (951) 299-4160

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance
Generated Date/Time:
Report Version: 2025.0.000
Schema Version: rev 20250101
Documentation Software: Energy Code Ace
Compliance ID: ECA-411274-0626-0002
Report Generated: 2026-06-01 13:22:31

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS
1 SEA HAWK WAY REDONDO BEACH,CA 90277

REGISTERED PROFESSIONAL ENGINEER WILLIAM J. GALARZA JR. M 32627 MECHANICAL STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1	B.B. SESSION	5/22/26
2	100%DD FINAL SET	06/12/26

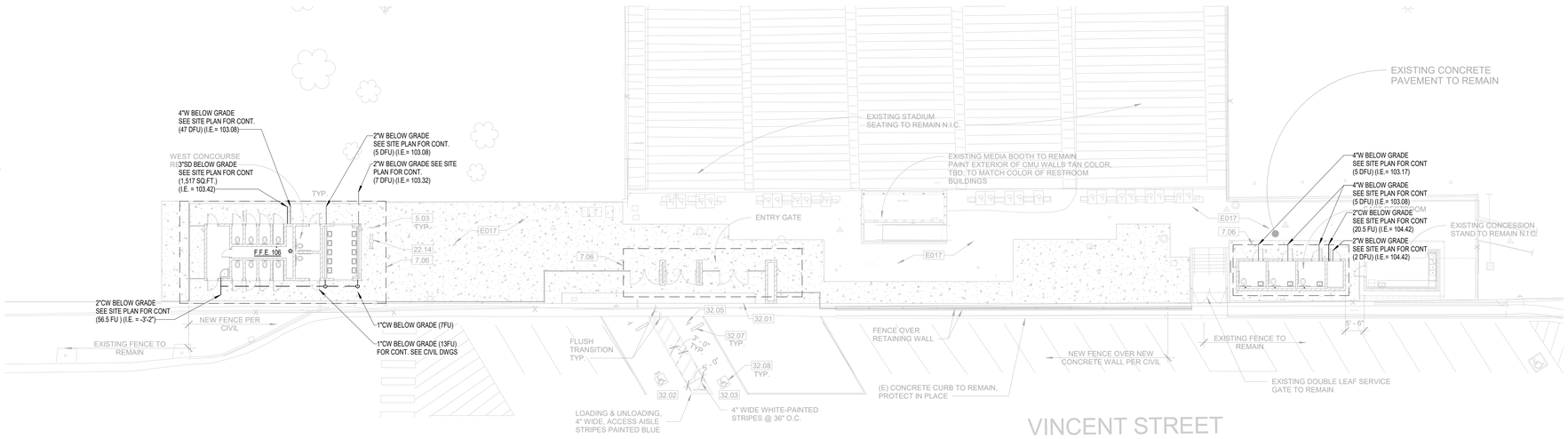
PROJECT NO: 2025-40137
ISSUANCE: DSA PRGRS
DATE ISSUED: 05/29/2026
SCALE:

P0.03

TITLE 24

wsp
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Plumbing Lead - Ron Brick
WSP Job #:US0052527.0928

KEYNOTES



REVISIONS:

	DESCRIPTION	DATE
1	B.B. SESSION	5/22/26
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PROJECT NO: 2025-40137

ISSUANCE: DSA PRGRS

DATE ISSUED: 05/29/2026

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

P1.01

PLUMBING SITE PLAN

REDONDO BEACH UNIFIED SCHOOL DISTRICT

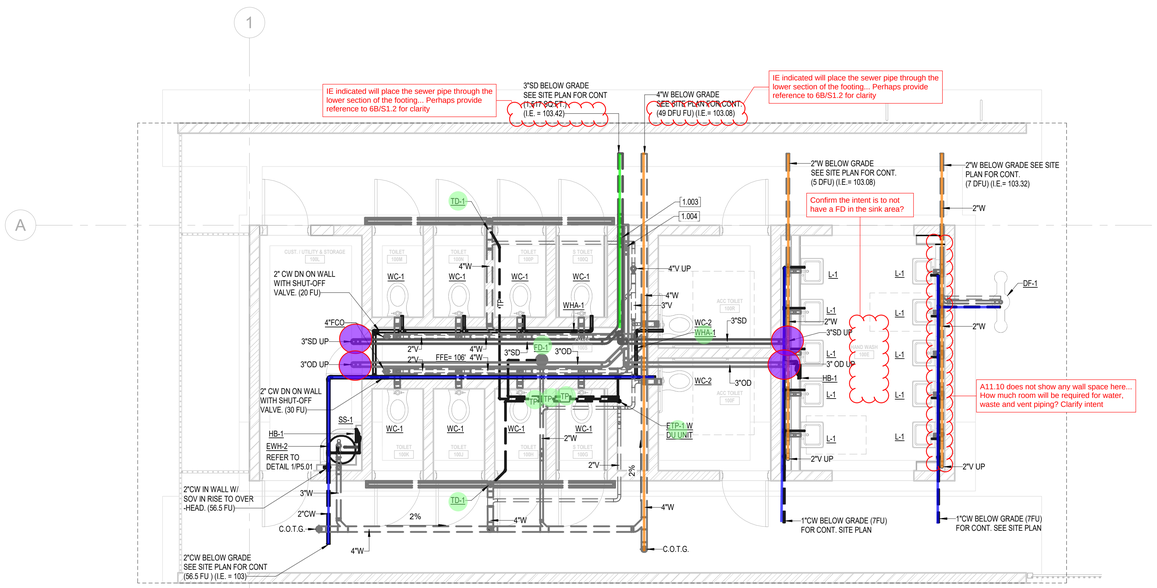
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY REDONDO BEACH,CA 90277

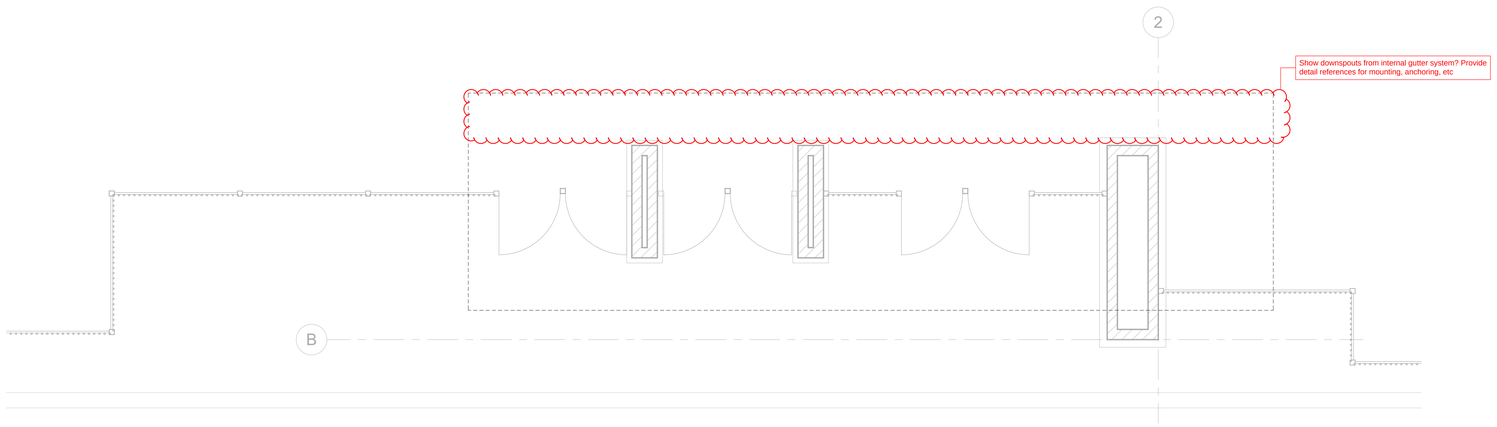
REGISTERED PROFESSIONAL ENGINEER
LEVELAND J. GALAZA JR.
M 32627
STATE OF CALIFORNIA

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951.299.4160 wsp.com
Project Leader - Bill Voller
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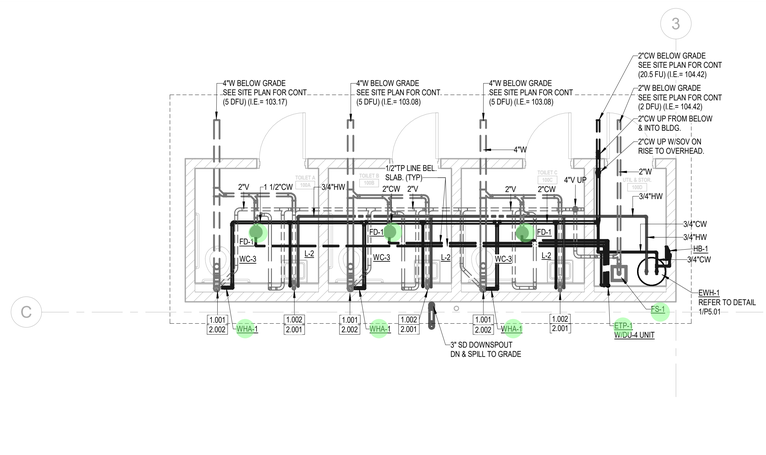
N
W
E
S



PLUMBING FLOOR PLAN - WEST RESTROOM | 1/4" = 1'-0" | **1**



PLUMBING FLOOR PLAN - ENTRY GATE | 1/4" = 1'-0" | **2**



PLUMBING FLOOR PLAN - EAST RESTROOM | 1/4" = 1'-0" | **3**

KEYNOTES

1.001	4"W DN, 2"V UP
1.002	2"W DN, 2"V UP
1.003	3"SD DN TO BELOW GRADE
1.004	3"OD DN AND SPILL THRU EXTERIOR WALL @+18" ABOVE FINISHED GRADE
2.001	3/4" H & CW DN TO SERVE LAVATORY.
2.002	1 1/2" CW DN WITH WHA TO SERVE WATER CLOSET.

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY REDONDO BEACH,CA 90277

REGISTERED PROFESSIONAL ENGINEER — RICHARD J. GALAZKA JR. — M 32627 — MECHANICAL — STATE OF CALIFORNIA

REVISIONS:

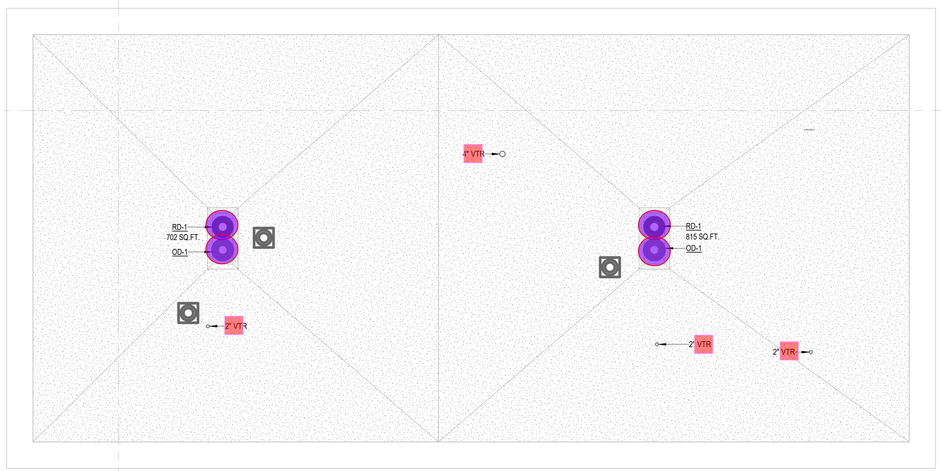
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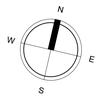
PROJECT NO: 2025-40137
ISSUANCE: DSA PRGRS
DATE ISSUED: 05/29/2026
SCALE: 1/4" = 1'-0"

P11.10

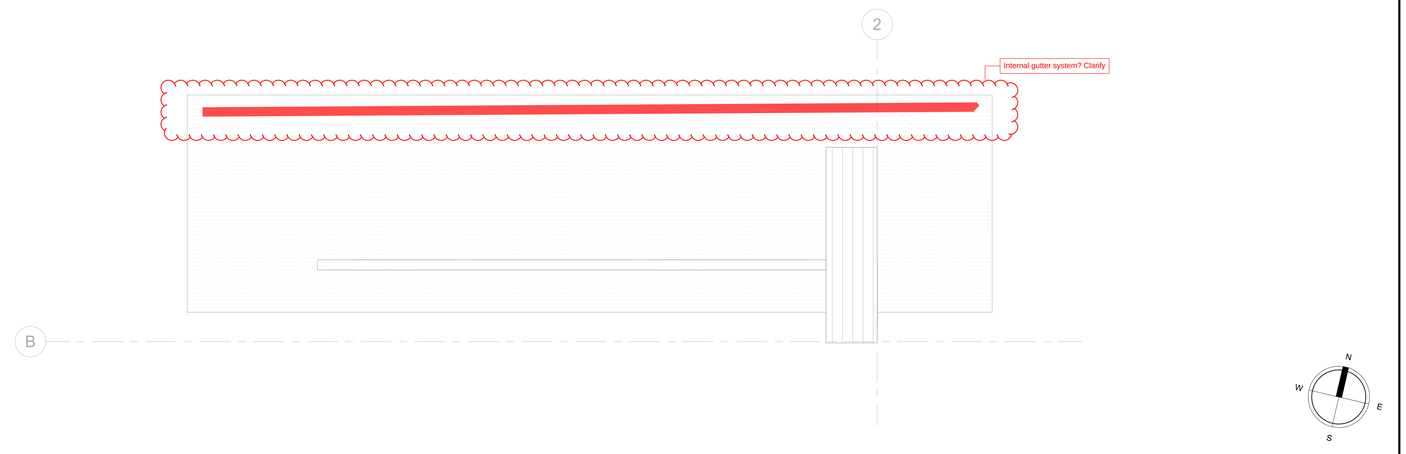
PLUMBING FLOOR PLAN

11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Plumbing Lead - Ron Brick
WSP Job #:US0052527.0928

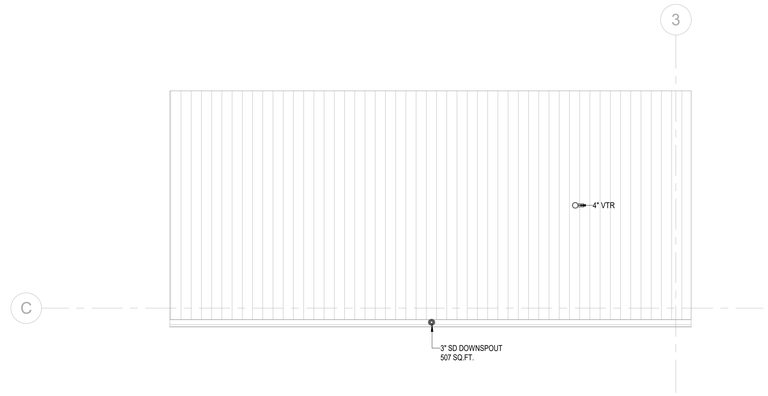


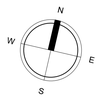


PLUMBING ROOF PLAN - RESTROOM WEST CONCOURSE | 1/4" = 1'-0" | 1



PLUMBING ROOF PLAN - CONCOURSE ENTRANCE | 1/4" = 1'-0" | 2





PLUMBING ROOF PLAN - RESTROOM EAST CONCOURSE | 1/4" = 1'-0" | 3

KEYNOTES

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY REDONDO BEACH,CA 90277

REGISTERED PROFESSIONAL ENGINEER
LELAND J. GALAZA JR.
M 32627
STATE OF CALIFORNIA

REVISIONS:

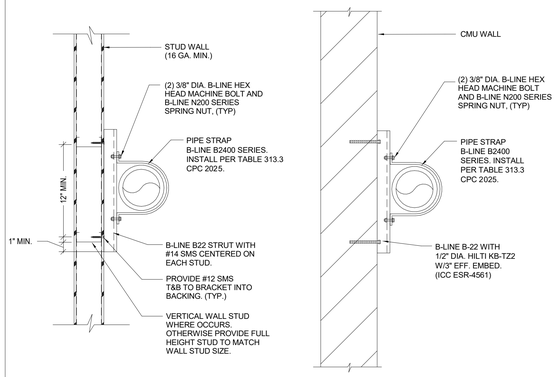
	DESCRIPTION	DATE
1	B.B. SESSION	5/22/26
2	100%DD FINAL SET	06/12/26

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DATE ISSUED: 05/29/2026
SCALE: 1/4" = 1'-0"

P11.30

PLUMBING ROOF PLAN

11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Plumbing Lead - Ron Brick
WSP Job #:US0052527.0928

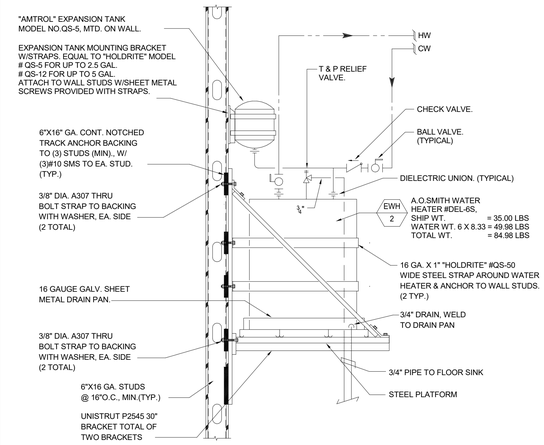


AT SHEET METAL WALL AND/OR CHASE

CMU

NOTE:
PROVIDE VERTICAL SUPPORT EVERY 6'-0".

	10	-	7	VERTICAL PIPE SUPPORT	4



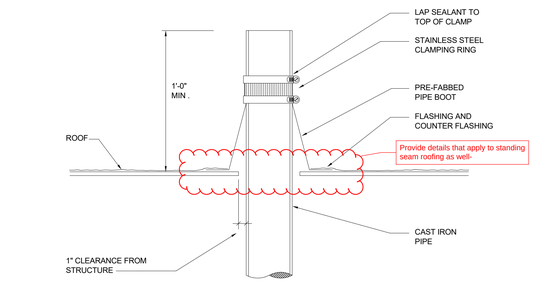
NOTE:
1. THIS DETAIL IS FOR A 5 TO 30 GALLON ELECTRIC WATER HEATER.

	1	ELECTRIC WATER HEATER WALL MTD. (SHT. MTL. WALL)	1

GENERAL NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS, DETAILS AND SECTIONS FOR ROOF CONSTRUCTION.
2. REFER TO PLUMBING LEAD SHEET AND SPECIFICATIONS FOR MANUFACTURER, MODEL NUMBER AND SPECIFIC OPTIONS.
3. REFER TO PLUMBING FLOOR PLANS FOR ROOF AND OVERFLOW DRAIN PIPE SIZES AND DIRECTION OF FLOW.

	11		8	STORM DRAIN AND OVERFLOW DETAIL	5

	12		9	–	-	6	VENT THROUGH ROOF DETAIL	3



GENERAL NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS, DETAILS AND SECTIONS FOR TYPE AND MATERIAL OF ROOF CONSTRUCTION.
2. REFER TO PLUMBING FLOOR PLANS FOR VENT THROGH ROOF PIPE SIZES.

REDONDO BEACH UNIFIED SCHOOL DISTRICT
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1 SEA HAWK WAY REDONDO BEACH,CA 90277

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M 32627
CIVIL
STATE OF CALIFORNIA

REVISIONS:

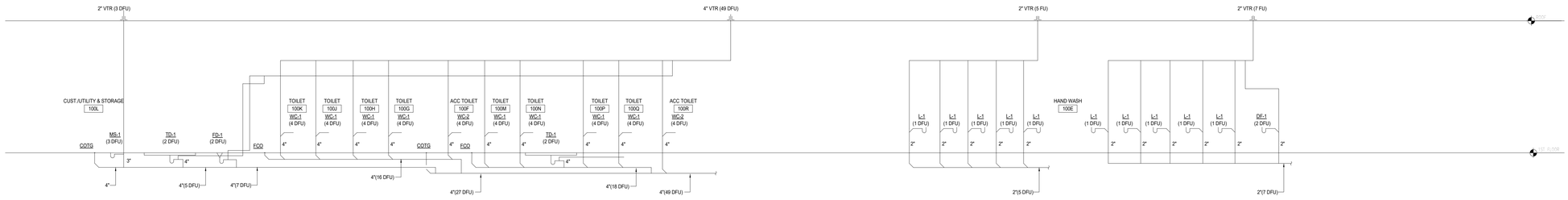
	DESCRIPTION	DATE
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PROJECT NO: 2025-40137
ISSUANCE: DSA PRGRS
DATE ISSUED: 05/29/2026
SCALE: 12" = 1'-0"

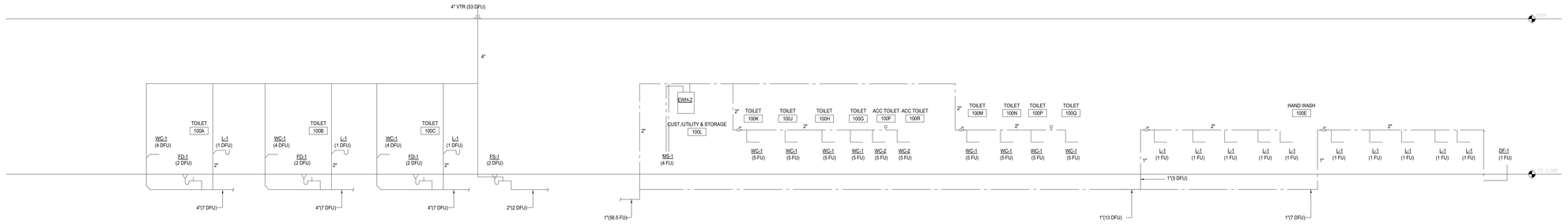
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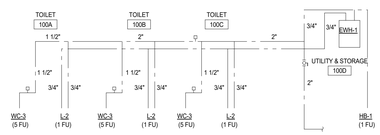
DETAILS

11870 Pierce Street, Suite 160
Riverside, California 92505
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Project Leader - Bill Voller
Plumbing Lead - Ron Brick
WSP Job #:US0052527.0928



WASTE AND VENT RISER DIAGRAM - WEST RESTROOM





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PROJECT NO: 2025-40137

ISSUANCE: DSA PRGRS

DATE ISSUED: 05/29/2026

SCALE: 1" = 10'-0"

P11.31

RISER DIAGRAMS

11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Plumbing Lead - Ron Brick
WSP Job #:US0052527.0928

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY REDONDO BEACH,CA 90277

REGISTERED PROFESSIONAL ENGINEER
WILLIAM LELAND J. GALAZKA JR.
M 32627
STATE OF CALIFORNIA

LIGHTING SYMBOLS

SITE LIGHTING FIXTURE SYMBOLS DEPICTED WITH CAPITAL LETTER(S) ADJACENT TO RESPECTIVE SYMBOL(S) INDICATE(S) LIGHT FIXTURE MOUNTING BASE DETAIL(S). SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE SYMBOL INFORMATION.

1a	LIGHTING FIXTURE CALL OUT, NUMBER(S) AND/OR UPPER CASE LETTER(S) (i.e. "1") INDICATES FIXTURE TYPE (REFER TO LIGHTING FIXTURE SCHEDULE). LOWER CASE LETTER (i.e. "a") ADJACENT TO FIXTURE TYPE INDICATES BALLAST OPTION (SEE GENERAL LIGHTING FIXTURE SCHEDULE NOTES).
J	INDICATES FINAL CONNECTION TO A LIGHTING FIXTURE, NUMBER OF CONDUCTORS AS REQUIRED.

LIGHTING CONTROL SYMBOLS

SEE THE DISTRIBUTED LIGHTING CONTROL (DLCS) SPECIFICATIONS AND SEQUENCE OF OPERATIONS (SOO) FOR MORE INFORMATION.

	LOW VOLTAGE WIRING INTERCONNECTING DLCS COMPONENTS AS REQUIRED. SEE DLCS SPECIFICATIONS FOR MORE INFORMATION.
D	WALL MOUNTED DIMMER. SEE SINGE POLE SWITCH SYMBOL FOR RELATED SUBSCRIPTS. QUANTITY OF ADJACENT LOWER CASE LETTERS INDICATES QUANTITY OF DIMMERS REQUIRED. PROVIDE DIMMER TYPE TO MATCH INDICATED BALLAST TYPE AND CONTROL REQUIREMENTS.
X y	WALL MOUNTED STAND ALONE OCCUPANCY SENSOR.
H y	WALL MOUNTED SYSTEM-BASED OCCUPANCY SENSOR.
H,AV,DM,P y	1-WAY DIRECTIONAL CEILING MOUNTED, SYSTEM-BASED OCCUPANCY SENSOR.
H,AV,DM,P y	2-WAY DIRECTIONAL CEILING MOUNTED, SYSTEM-BASED OCCUPANCY SENSOR.
L K,V y	LOW VOLTAGE MOMENTARY SWITCHES, WALL MOUNTED, FOR MANUAL ON/OFF SWITCHING, DIMMING, AND OVERRIDE CONTROL OF LIGHTING.
S y+	AUTOMATIC SWITCHING/STEP-DIMMING DAYLIGHTING CONTROLLER USED TO SWITCH OFF LIGHTS WHEN SUFFICIENT NATURAL LIGHT IS PRESENT. REFER TO THE DLCS SOO FOR TARGET ILLUMINATION VALUE.
D y+	AUTOMATIC CONTINUOUS DIMMING DAYLIGHTING CONTROLLER USED TO DIM LIGHTS WHEN SUFFICIENT NATURAL LIGHT IS PRESENT. REFER TO THE DLCS SOO FOR TARGET ILLUMINATION VALUE.

LIGHTING CONTROL SYMBOL SUPERSCRIPT & SUBSCRIPT KEY:

1. "y" INDICATES THAT SWITCH LEG "y" TO BE CONFIGURED PER THE SOO. ADJACENT LOWER CASE LETTERS INDICATES QUANTITY OF SWITCHLEGS TO BE CONTROLLED. EXACT CONTROL FUNCTION IS DETERMINED BY THE BALLAST/DRIVER/FIXTURE TYPE.
2. ADJACENT UPPER CASE LETTER(S) TO INDICATE THE FOLLOWING:
   - AV INDICATES CONNECTION TO A/V CONTROL SYSTEM.
   - DM INDICATES DUAL MODE CONTROL AT CORRIDORS, STAIRWELLS AND WAREHOUSE AISLEWAYS
   - H INDICATES CONNECTION TO HVAC SYSTEM CONTROLS VIA CONTROLLED DRY-CONTACT CLOSURE.
   - K INDICATES LOCKING SWITCH FOR THE SUBSEQUENT LOWER CASE LETTER.
   - P INDICATES CONNECTION TO MOVEABLE PARTITION INTERFACE, SENSOR AND STATUS INDICATOR.
   - V INDICATES VANDAL RESISTANT SWITCH.
3. ADJACENT LOWER CASE LETTER(S) INDICATE SWITCH LEG(S) CONTROLLED EXCEPT WHERE "DM" INDICATES DUAL MODE CONTROL SWITCH.
4. ADJACENT "+, ++ AND *" INDICATES PORTION OF SWITCHLEG CONTROLLED BY SENSOR WHERE "+" INDICATES PRIMARY SIDELIT DAYLIT ZONE, "++" INDICATES SECONDARY SIDELIT DAYLIT ZONE, AND "*" INDICATES SKYLIT DAYLIT ZONE.

MISCELLANEOUS SYSTEM SYMBOLS

ICP	INVERTER CONTROL PANEL - SEE INVERTER SPECIFICATIONS.
IAP	INVERTER ANNUNCIATOR PANEL - SEE INVERTER SPECIFICATIONS.
GAP	GENERATOR ANNUNCIATOR PANEL - SEE GENERATOR SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
IDCS	INTEGRATED DIMMING CONTROL STATION (IDCS) PANEL - WALL MOUNTED. SEE IDCS SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
DPCS	DIMMING PANEL CONTROL STATION (DPCS) PANEL - WALL MOUNTED. SEE DPCS SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
L	LIGHTING CONTROL SYSTEM LOCAL SWITCH - WALL MOUNTED. SEE LIGHTING CONTROL SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
O	LIGHTING CONTROL SYSTEM OVERRIDE SWITCH - WALL MOUNTED. SEE LIGHTING CONTROL SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
M	LIGHTING CONTROL SYSTEM MASTER SWITCH - WALL MOUNTED. SEE LIGHTING CONTROL SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
R	IDCS/DPCS SYSTEM REMOTE STATION SWITCH - WALL MOUNTED. SEE IDCS SYSTEM AND/OR DPCS SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
P	IDCS/DPCS SYSTEM PARTITION STATION SWITCH - WALL MOUNTED. SEE IDCS SYSTEM AND/OR DPCS SYSTEM SPECIFICATIONS FOR MORE INFORMATION.

BRANCH CIRCUIT SYMBOLS

A-1,3,5	HOMERUNS WITH INDIVIDUAL HASH MARKS PER CIRCUIT REPRESENT SHARED NEUTRAL FOR UP TO THREE CIRCUITS PER HOMERUN. NOTE, BREAKERS FOR CIRCUITS SHARING A NEUTRAL CONDUCTOR SHALL BE FURNISHED WITH HANDLE-TIE OR MLTI-POLE BREAKERS SHALL BE USED IN COMPLIANCE WITH CEC-210.4(B).
A-1&3&5	HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS WITH SEPARATE NEUTRALS. "&" INDICATES SEPARATE NEUTRALS.
A-1+3+5	HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS. "+" INDICATES SEPARATE #10 NEUTRAL THROUGHOUT BRANCH CIRCUIT. HASH MARK " " INDICATES AN ISOLATED GROUND CONDUCTOR.
	HOMERUNS WITH ARROWS ONLY ARE THE SAME AS ABOVE, EXCEPT EACH AROW REPRESENTS A CIRCUIT IN PLACE OF EACH PARI OF HASH MARKS.
	CONCEALED CONDUIT OR BRANCH CIRCUIT UNLESS OTHERWISE NOTED. 1/2" CONDUIT MINIMUM, (2) #12 AWG CONDUCTORS MINIMUM.
	CONDUIT OR BRANCH CIRCUIT CONCEALED BELOW GRADE, 3/4" CONDUIT MINIMUM WITH (2) 12 AWG CONDUCTORS MINIMUM AND A CODE SIZED EQUIPMENT GROUND.
	SURFACE-MOUNTED CONDUIT OR BRANCH CIRCUIT UNLESS OTHERWISE NOTED. 1/2" CONDUIT MINIMUM, (2) #12 AWG CONDUCTORS MINIMUM.
	TANDEM WIRING CONNECTION.
	CONDUIT STUB OUT, CAP, MARK AND RECORD ON AS-BUILT DRAWINGS
	CONDUIT CONTINUATION.
	FLEXIBLE CONNECTION AS REQUIRED. NUMBER OF CONDUCTORS AS REQUIRED. VERIFY CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN.
	CONDUIT/ BRANCH CIRCUIT/FEEDER CONTINUATION DOWN WALL TO FLOOR BELOW OR CONDUIT STUB DOWN.
	CONDUIT/ BRANCH CIRCUIT/FEEDER CONTINUATION UP WALL TO FLOOR ABOVE OR CONDUIT STUB UP.

FLOOR BOX / SPECIALTY WALL BOX / PEDESTAL BOX SYMBOLS

	SINGLE SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
	TWO SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
	THREE SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
	FOUR SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
	SIX SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
AV	7-GANG AV FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
#	ON-GRADE FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX SCHEDULE, DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
#	ABOVE GRADE POKE-THRU DEVICE. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX SCHEDULE, DETAILS AND SPECIFICATIONS FOR MORE INFORMATION
AV	RECESSED, ADJUSTABLE DEPTH, FLAT PANEL TV/DISPLAY WALL BOX WITH FLUSH GROMMETED COVER PANEL (CHIEF #PAC525F) AND MINIMUM OF (1) 1-1/4"C.O. FROM TOP-MOUNTED L.V. CONDUIT ENTRY BOX TO ACCESSIBLE CEILING. SEE PLANS FOR ANY ADDITIONAL CONDUIT REQUIREMENTS. PROVIDE ADDITIONAL L.V. AND LINE VOLTAGE CONDUIT ENTRY BOXES AS REQUIRED TO ACCOMPLISH WALL BOX CONFIGURATION DEPICTED ON PLANS. FLUSH GROMMETED COVER SHALL BE WHITE, BLACK OR CUSTOM COLOR PER ARCHITECT. WHEN FIELD CONDITIONS PROHIBIT INSTALLATION OF THIS DEVICE (SUCH AS WALL STUD/CAVITY DEPTH OF LESS THAN 2.5" ETC), CONFIRM VIA WRITTEN RFI THE INSTALLATION OF A TRADITIONAL POWER AND DATA RECEPTACLE INSTALLATION ALONG SIDE CCTV/AV JUNCTION BOX CONSISTING OF 2-GANG DEEP JUNCTION BOX/2-GANG RING WITH 1-1/4"C.O. TO ACCESSIBLE CEILING IN ADDITION TO ANY OTHER CONDUIT REQUIREMENTS DEPICTED ON PLANS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR MOUNTING HEIGHT.
	SINGLE OR DUAL SERVICE RECESSED EXTERIOR WALL BOX - TYPE "WP-A". PROVIDE DEVICES PER PLAN. EACH LV OR UNUSED COMPARTMENT SHALL BE EQUIPPED WITH A 1"CO TO THE NEAREST ACCESSIBLE CEILING SPACE U.O.N. SEE EXTERIOR DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
	SINGLE OR DUAL SERVICE EXTERIOR PEDESTAL - TYPE "WP-C". PROVIDE DEVICES PER PLAN. SEE EXTERIOR DETAILS AND SPECIFICATIONS FOR MORE INFORMATION. ARROW DENOTES DEVICE DOOR LOCATION.

POWER SYMBOLS

ALL RECEPTACLE OUTLETS SHOWN WITH A DIAGONAL SLASH SHALL BE CONTROLLED BY OCCUPANCY SENSOR OR LIGHTING CONTROL PANEL. SEE DISTRIBUTED LIGHTING CONTROLS FOR ADDITIONAL REQUIREMENTS. WHERE DOUBLE DUPLEX RECEPTACLE OUTLETS ARE INDICATED AS CONTROLLED, ONLY A SINGLE DUPLEX RECEPTACLE OUTLET (NON-IG, NON-GCFI TYPE) SHALL BE CONTROLLED. WITHIN ANY CONTROLLED DUPLEX RECEPTACLE OUTLET, ONLY ONE RECEPTACLE SHALL BE CONTROLLED. NOTE THAT FOR FLOOR BOXES OR POKE-THRU DEVICES, THE ASSOCIATED CONTROL RELAY MAY NEED TO BE LOCATED WITHIN THE ELECTRICAL ROOM WHERE THE CONTROLLED CIRCUIT ORIGINATES.

R a	OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM CONTROLLED RECEPTACLE RELAY. WHERE LETTER DESIGNATION "a" REPRESENTS OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM CONTROL ZONE. SEE THE DISTRIBUTED LIGHTING CONTROL SPECIFICATION FOR MORE INFORMATION.
	DUPLEX RECEPTACLE, WALL MOUNTED.
	DOUBLE DUPLEX RECEPTACLE, WALL MOUNTED.
	DUPLEX, GFCI RECEPTACLE, WALL MOUNTED. WP INDICATES WEATHERPROOF, A, B OR C INDICATES THE TYPE OF COVER, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
	DOUBLE DUPLEX, WALL MOUNTED, WITH (1) GFCI RECEPTACLE AND (1) DUPLEX RECEPTACLE CONNECTED ON LOAD SIDE OF GFCI. WP INDICATES WEATHERPROOF, A, B OR C INDICATES THE TYPE OF COVER, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
	DUPLEX RECEPTACLE, ONE HALF SWITCHED, WALL MOUNTED.
	DUPLEX, ISOLATED GROUND RECEPTACLE, WALL MOUNTED.
1,3 1,3a	COMBINATION DOUBLE DUPLEX: ONE ISOLATED GROUND DUPLEX RECEPTACLE AND ONE DUPLEX RECEPTACLE, WALL MOUNTED.
	COMBINATION DOUBLE DUPLEX: TWO ISOLATED GROUND RECEPTACLES, WALL MOUNTED.
	SIMPLEX RECEPTACLE, WALL MOUNTED.
	SPECIAL RECEPTACLE, WALL MOUNTED. REFER TO PLAN NOTES.
	DUPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	DOUBLE DUPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	DUPLEX RECEPTACLE, ONE HALF SWITCHED, FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	DUPLEX, ISOLATED GROUND RECEPTACLE, FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
1,3 1,3a	COMBINATION DOUBLE DUPLEX: ONE ISOLATED GROUND DUPLEX RECEPTACLE AND ONE DUPLEX RECEPTACLE, MOUNTED FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN FLOOR BOX SYMBOL.
	COMBINATION DOUBLE DUPLEX FLUSH IN CEILING: TWO ISOLATED GROUND RECEPTACLES - MOUNT FLUSH IN FLOOR WHEN INDICATED IN FLOOR BOX SYMBOL.
	SIMPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	SPECIAL RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	DUPLEX RECEPTACLE, WALL MOUNTED AT 6-INCHES COUNTER OR SPLASH.
	DOUBLE DUPLEX RECEPTACLE, WALL MOUNTED AT 6-INCHES COUNTER OR SPLASH.
	DUPLEX, GFCI RECEPTACLE, WALL MOUNTED AT 6-INCHES COUNTER OR SPLASH. WP INDICATES WEATHERPROOF, A, B OR C INDICATES THE TYPE OF COVER, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
	DOUBLE DUPLEX, WALL MOUNTED, WITH (1) GFCI RECEPTACLE AND (1) DUPLEX RECEPTACLE CONNECTED ON LOAD SIDE OF GFCI. WP INDICATES WEATHERPROOF, A, B OR C INDICATES THE TYPE OF COVER, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
	DUPLEX RECEPTACLE, BOTTOM HALF SWITCHED, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
	DUPLEX, ISOLATED GROUND RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
1,3 1,3a	COMBINATION DOUBLE DUPLEX: ONE ISOLATED GROUND DUPLEX RECEPTACLE AND ONE DUPLEX RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
	COMBINATION DOUBLE DUPLEX: TWO ISOLATED GROUND DUPLEX RECEPTACLES, WALL MOUNTED AT 6" ABOVE COUNTER OR SPLASH.
	SIMPLEX RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
	SPECIAL RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH. REFER TO PLAN NOTES.
WP-B	WET LOCATION-LISTED (RAINTITE-IN-USE) RECEPTACLE - SEE ELECTRICAL SPECIFICATION FOR ADDITIONAL INFORMATION.
WP-D	DAMP LOCATION-LISTED (NOT-RAINTITE-IN-USE) RECEPTACLE - SEE ELECTRICAL SPECIFICATION FOR ADDITIONAL INFORMATION.
	DUPLEX RECEPTACLES WITH TWO 5V, 3.6A USB CHARGING PORTS. PROVIDE COLOR AS REQUIRED IN 15A OR 20A CONFIGURATION AND/OR TAMPER RESISTANT AND/OR HOSPITAL GRADE AS REQUIRED BY PLANS AND THE WIRING DEVICES SECTION OF THE GENERAL ELECTRICAL SPECIFICATIONS. (PASS & SEYMOUR OR EQUAL BY HUBBELL OR LEVITON.)
	QUAD RECEPTACLES WITH TWO 5V, 3.6A USB CHARGING PORTS. PROVIDE COLOR AS REQUIRED IN 15A OR 20A CONFIGURATION AND/OR TAMPER RESISTANT AND/OR HOSPITAL GRADE AS REQUIRED BY PLANS AND THE WIRING DEVICES SECTION OF THE GENERAL ELECTRICAL SPECIFICATIONS. (PASS & SEYMOUR OR EQUAL BY HUBBELL OR LEVITON.)
J	JUNCTION BOX, WALL MOUNTED AT +18-INCHES A.F.F. OR AS NOTED. 4S/DP MINIMUM OR AS REQUIRED BY N.E.C. OR CEC, WHERE ADOPTED.
J	JUNCTION BOX, MOUNTED IN ACCESSIBLE CEILING FOR APPLICATION DENOTED ON PLAN. 4S/DP MINIMUM OR AS REQUIRED BY N.E.C. OR CEC, WHERE ADOPTED.
J	JUNCTION BOX, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH. 4S/DP MINIMUM OR AS REQUIRED BY N.E.C. OR CEC WHERE ADOPTED.
J J	JUNCTION BOX, 4S MINIMUM OR AS REQUIRED BY N.E.C., OR CEC, WHERE ADOPTED. MOUNTED IN ACCESSIBLE CEILING SPACE PER PLAN FOR FLEXIBLE CONNECTION TO PRE-WIRED FURNITURE SYSTEM. MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL. WHEN SHOWN WITH A DIAGONAL SLASH, THE LAST GENERAL RECEPTACLE CIRCUIT ON THE HOME-RUN CALL OUT SHALL BE CONTROLLED BY THE OCCUPANCY SENSOR. COORDINATE CONTROLLED CIRCUIT CONNECTION REQUIREMENTS WITH FURNITURE SYSTEM MANUFACTURER PRIOR TO ROUGH-IN. SEE DISTRIBUTED LIGHTING CONTROLS FOR ADDITIONAL REQUIREMENTS.
J J	JUNCTION BOX, WALL MOUNTED AT +18{\C4;-INCHES} A.F.F., 4S/DP MINIMUM OR AS REQUIRED BY N.E.C., OR CEC, WHERE ADOPTED, FOR FLEXIBLE CONNECTION TO PREWIRED FURNITURE SYSTEM. WHEN SHOWN WITH A DIAGONAL SLASH, THE LAST GENERAL RECEPTACLE CIRCUIT ON THE HOME-RUN CALLOUT SHALL BE CONTROLLED BY THE OCCUPANCY SENSOR. COORDINATE CONTROLLED CIRCUIT CONNECTION REQUIREMENTS WITH FURNITURE SYSTEM MANUFACTURER PRIOR TO ROUGH-IN. SEE DISTRIBUTED LIGHTING CONTROLS FOR ADDITIONAL REQUIREMENTS.
	SURFACE MOUNTED MULTI-OUTLET ASSEMBLY. REFER TO GENERAL PRODUCT SPECIFICATIONS. PROVIDE ALL COMPONENTS NECESSARY FOR A COMPLETE INSTALLATION.
T	THERMOSTAT OUTLET BOX, PROVIDE 1/2"C.O. TO RESPECTIVE MECHANICAL UNIT.
	EXHAUST FAN, OR MOTOR LOAD. REFER TO MECHANICAL, PLUMBING OR KITCHEN DRAWINGS FOR SPECIFIC LOAD REQUIREMENTS OR AS NOTED.
	FLUSH MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.
	SURFACE MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.
	DISTRIBUTION SWITCHBOARD. REFER TO SINGLE LINE DIAGRAM.
T	TRANSFORMER, REFER TO SINGLE LINE DIAGRAM.
F	FUSED DISCONNECT SWITCH, HP RATED, OR COMBINATION MOTOR STARTER/DISCONNECT SWITCH WITH FUSES PER EQUIPMENT MANUFACTURER AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT. SEE MOTORIZED EQUIPMENT SCHEDULE FOR DISCONNECT AND STARTER SIZES.
	NON-FUSED DISCONNECT SWITCH, HP RATED AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT. SEE MOTORIZED EQUIPMENT SCHEDULE FOR DISCONNECT SIZES.
M	UTILITY COMPANY METER. PROVIDE "CT's" AND "PT's" AS REQUIRED, REFER TO SINGLE LINE DIAGRAM.
A B C	CIRCUIT BREAKER: "A" REPRESENTS CIRCUIT BREAKER AMPERE RATING, "B" REPRESENTS NUMBER OF POLES AND "C" REPRESENTS MISCELLANEOUS BREAKER FEATURES. SHUNT= PROVIDE SHUNT TRIP MECHANISM GFP= GROUND FAULT PROTECTION CLCB= CURRENT LIMITING CIRCUIT BREAKER SS= PROVIDE SOLID STATE CIRCUIT BREAKER LO= PROVIDE PERMANENT LOCK-OPEN (OFF) HARDWARE LC= PROVIDE PERMANENT LOCK-CLOSED (ON) HARDWARE
A B C D	FUSIBLE SWITCH: "A" REPRESENTS SWITCH / FRAME AMPERE RATING, "B" REPRESENTS THE FUSE AMPERE RATING, "C" INDICATES NUMBER OF POLES AND "D" REPRESENTS MISCELLANEOUS FUSE / SWITCH FEATURES. SHUNT= PROVIDE SHUNT TRIP MECHANISM GFP= GROUND FAULT PROTECTION CLF= CURRENT LIMITING FUSE
	GROUND CONNECTION, SIZE AS INDICATED OR AS REQUIRED.
$ a,b	SINGLE POLE SWITCHES, WALL MOUNTED. SUBSCRIPTS AT SYMBOL INDICATE THE FOLLOWING: 2 - DOUBLE POLE, 3 - THREE WAY, 4 - FOUR WAY, K - KEY OPERATED LV - LOW VOLTAGE, P - PILOT LIGHT, R - REMOTE CONTROL, M - MOTOR STARTING RL - ROTARY LOCK KEY TYPE, PB - PUSHBUTTON, S - PROJECTION SCREEN a, b, c, ETC. - DESIGNATES QUANTITY OF SWITCHES AT EACH LOCATION. NOTE: ALL WALL SWITCHES CONTROLLING EMERGENCY CIRCUITS SHALL BE ENGRAVED WITH "EMERGENCY".
	EMERGENCY POWER OFF STATION, WALL MOUNTED PER EPO SYSTEM DETAIL.
PB, OR P	PULLBOX, SIZED PER N.E.C. OR AS NOTED.

WALL MOUNTED DEVICE MOUNTING HEIGHT NOTE:

ALL WALL-MOUNTED EQUIPMENT MOUNTING HEIGHTS SHALL BE VERIFIED PRIOR TO ROUGH-IN PER REQUIREMENTS OF THE DEVICE ALIGNMENT AND MOUNTING HEIGHT DETAILS AND SPECIFICATIONS.

ABBREVIATIONS

4S/DP	4" SQUARE BY 2-1/8" DEEP BOX
ADA	AMERICAN WITH DISABILITIES ACT
A.F.F.	ABOVE FINISH FLOOR
A.F.G.	ABOVE FINISH GRADE
AWG	AMERICAN WIRE GAUGE
AMP, A	AMPERE
A.I.C. or AIC	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
A.F.C. or AFC	AVAILABLE FAULT CURRENT
AF/AT	AMP FRAME, AMP TRIP
AHJ	AUTHORITY HAVING JURISDICTION
AS/AF	AMP SWITCH, AMP FUSE
ATS	AUTOMATIC TRANSFER SWITCH
AVG	AVERAGE
BJ	BONDING JUMPER
BDF	BUILDING DISTRIBUTION FRAME
BR	BRANCH
BLDG	BUILDING
CBC	CALIFORNIA BUILDING CODE
CEC	CALIFORNIA ELECTRICAL CODE
CIRC., CKT.	CIRCUIT
CB	CIRCUIT BREAKER
CSFD	COMBINATION SMOKE FIRE DAMPER
C	CONDUIT
C.O.	CONDUIT ONLY, COMPLETE WITH PULLSTRING
CONN	CONNECTED
CPT	CONTROL POWER TRANSFORMER
CLCB	CURRENT LIMITING CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CT	CURRENT TRANSFORMER
(D)	EXISTING DEVICE TO BE DEMOLISHED
DAS	DISTRIBUTED ANTENNA SYSTEM
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
D.P.C.S.	DIMMING PANEL CONTROL STATION
E.C.	ELECTRICAL CONTRACTOR
EMS	ENERGY MANAGEMENT CONTROL SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
EWC	ELECTRIC WATER COOLER
E.P.O.	EMERGENCY POWER OFF
E-O-L	END-OF-LINE CIRCUIT TERMINATOR
EF	EXHAUST FAN
EGC or EG or E/G	EQUIPMENT GROUND (GREEN)
(E)	EXISTING DEVICE TO REMAIN
EP	EXPLOSION PROOF
(ER)	EXISTING DEVICE TO BE RELOCATED
FT or '	FEET
FA or F.A.	FIRE ALARM
FLA	FULL LOAD AMPS
GRD	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GE or GEC	GROUNDING ELECTRODE CONDUCTOR
HACR	HEATING AIR CONDITIONING REFRIGERATION
HOA	HAND-OFF-AUTO
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
H.,W.,D.,L.	HEIGHT, WIDTH, DEPTH, LENGTH
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
IN. or "	INCHES
I/G	ISOLATED GROUND
IBC	INTERNATIONAL BUILDING CODE
I.D.C.S.	INTEGRATED DIMMING CONTROL PANEL
IDF	INTERMEDIATE DISTRIBUTION FRAME
JBOX	JUNCTION BOX
K	DEGREE KELVIN
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOUR
LCL	LONG CONTINUOUS LOAD
LF, L.F.	LINEAR FEET
LTG, LTS	LIGHTING
LPS	LOW PRESSURE SODIUM
MAX.	MAXIMUM
MBJ	MAIN BONDING JUMPER
MDF	MAIN DISTRIBUTION FRAME
MOCP	MAXIMUM OVERCURRENT PROTECTION
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
M.C.	MECHANICAL CONTRACTOR
M	METER
M/M	METER MAIN
MV	MERCURY VAPOR
MH	METAL HALIDE
MIN.	MINIMUM
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MFR.	MANUFACTURER
MTD	MOUNTED
MW	MICROWAVE
NATS	NON AUTOMATIC DISCONNECT
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
NF	NON-FUSED
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NL	NIGHT LIGHT
NO. or #	NUMBER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
%Z	PERCENT IMPEDANCE
PH. or ø	PHASE
PC	PHOTOCELL
P.C.	PLUMBING CONTRACTOR
P	POLE
PVC	POLY VINYL CHLORIDE
PDU	POWER DISTRIBUTION UNIT
PRIMARY	OVER 600 VOLTS
PROVIDE	FURNISH, INSTALL AND CONNECT
PT	POTENTIAL TRANSFORMER
PA	PUBLIC ADDRESS
(R)	DENOTES RELOCATED DEVICE LOCATION.
REC, RECEPT	RECEPTACLE
REF	REFRIGERATOR
RGS	RIGID GALVANIZED STEEL
RMS	ROOT MEAN SQUARE
SCC	SHORT CIRCUIT CURRENT
SCCR	SHORT CIRCUIT CURRENT RATING
SCS	STRUCTURED CABLING SYSTEM
SFD	SMOKE FIRE DAMPER
SECONDARY	600 VOLTS AND LESS
SMACNA	SHEET METAL AND AIR COND. CONTRACTOR'S NAT'L ASSOC.
SQ.	SQUARE
SSBJ	SUPPLY SIDE BONDING JUMPER
SBJ	SYSTEM BONDING JUMPER
TC	TIMECLOCK
TEL/DATA	TELEPHONE AND DATA
TV	TELEVISION
T.V.S.S.	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
U.G.P.S.	UNDERGROUND PULL SECTION
U.O.N.	UNLESS OTHERWISE NOTED
U.P.S. or UPS	UNINTERRUPTABLE POWER SYSTEM
VAV	VARIABLE AIR VOLUME
V	VOLTS
VA	VOLT AMPERES
VD	VOLTAGE DROP
WP	WEATHERPROOF
W	WIRE
XFMR	TRANSFORMER

ANNOTATIONS

A	PANEL CALLOUT, "A" INDICATES PANELBOARD OR EQUIPMENT DESIGNATION.
AC 2	MECHANICAL EQUIPMENT CALLOUT, "AC" INDICATES UNIT TYPE AND "2" INDICATES UNIT NUMBER. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND ELECTRICAL REQUIREMENTS.
3 E-1	DETAIL CALLOUT, "3" INDICATES DETAIL NUMBER "E-1" INDICATES SHEET NUMBER.
1.100 / 2	PLAN NOTE REFERENCE, REFER TO NOTES ON SHEET, OR AS DIRECTED.
4	REVISION REFERENCE.
	WYE CONFIGURATION
△	DELTA CONFIGURATION
	GROUND

SHEET INDEX

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E11.10	POWER PLAN
E11.20	LIGHTING PLAN
E13.10	ROOF PLAN
E21.1	PANEL SCHEDULE AND MOTORIZED EQUIPMENT SCHEDULE
E31.1	LIGHTING FIXTURE SCHEDULE
E31.2	DISTRIBUTED LIGHTING CONTROL SCHEDULE & PRODUCT SPECIFICATIONS
E31.3	DISTRIBUTED LIGHTING CONTROL SPECIFICATIONS
E31.4	SEQUENCE OF OPERATIONS
E32.1	TITLE 24 - WEST CONCOURSE (INTERIOR)
E32.2	TITLE 24 - EAST CONCOURSE (INTERIOR)
E32.3	TITLE 24 (EXTERIOR)
E41.1	DETAILS

LIGHTING CONTROL ACCEPTANCE TESTING NOTES:

UPON COMPLETION OF THE INSTALLATION, THE LIGHTING CONTROL SYSTEM SHALL BE COMPLETELY COMMISSIONED BY THE MANUFACTURER'S FACTORY AUTHORIZED TECHNICIAN WHO WILL VERIFY ALL ADJUSTMENTS AND SENSOR PLACEMENT TO ENSURE A TROUBLE-FREE INSTALLATION. THIS COMMISSIONING EFFORT SHALL BE PERFORMED IN A MANNER THAT MEETS ALL APPLICABLE FEDERAL, STATE, LOCAL ENERGY CODES AND/OR LEED CERTIFICATION PROGRAMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILLING OUT ALL APPLICABLE PAPERWORK AND/OR FORMS. CONTRACTOR TO PROVIDE A COPY OF THE COMPLETED FORMS TO THE ENGINEER OF RECORD PRIOR TO THE PUNCH LIST SITE VISIT FOR REVIEW AND POSSIBLE RECOMMENDATION OF SETTING REVISIONS.

REFER TO DISTRIBUTED LIGHTING CONTROLS SYSTEM SPECIFICATIONS, SHEET E-31.3, NOTES 15d THROUGH 15h FOR ADDITIONAL INFORMATION.

MEP COMPONENT ANCHORAGE NOTE:

ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2025 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16, CHAPTERS 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

MEP DISTRIBUTION SYSTEM BRACING NOTE FOR PIPING, DUCTWORK, AND ELECTRICAL CONDUIT:

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2025 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW AND SHALL BE IN ACCORDANCE WITH DSA IR 16-13. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☐ MD☐ PP☐ E☒ IR 16-13 SECTION 2.1: PROJECT SPECIFIC DESIGN.

MP☐ MD☐ PP☐ E☐ IR 16-13 SECTION 2.2: DESIGN BASED ON OSHPD OPM, PART OF PROJECT SUBMITTAL.
OPM NUMBERS: ______
SHEET NUMBERS: ______

MP☐ MD☐ PP☐ E☐ IR 16-13 SECTION 2.2.3: DESIGN BASED ON OSHPD OPM, DEFERRED APPROVAL.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO: 2025-40137

ISSUANCE: A#03-126194

DATE ISSUED: 06/22/2026

SCALE: 12" = 1'-0"

E00.0

SYMBOL LIST

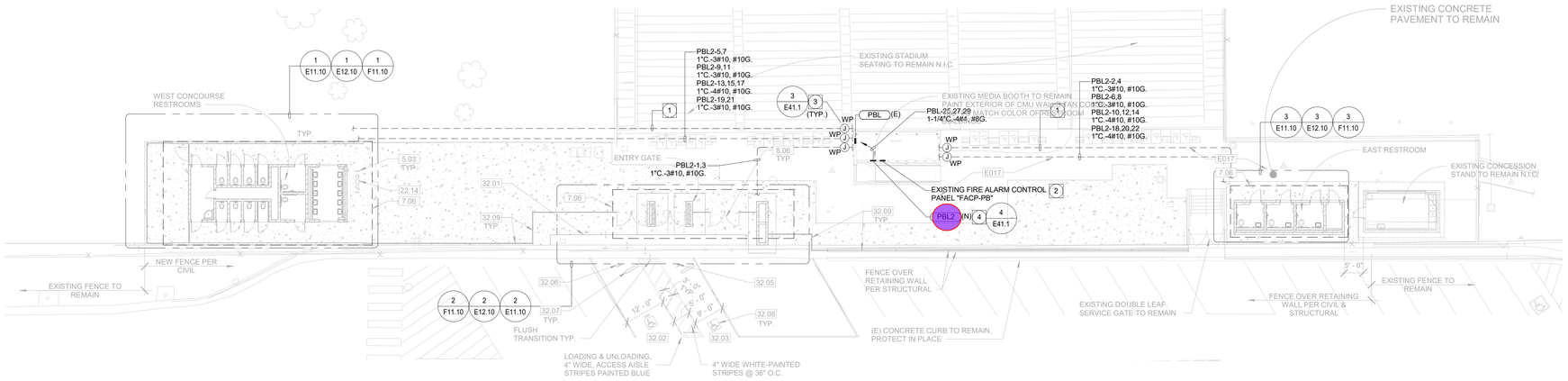
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928

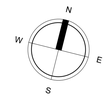
SITE PLAN GENERAL NOTES:

1. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID EXISTING DUCTS, PIPING OR CONDUITS, ETC., AND TO PREVENT HAZARDS 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 AND INSTALLED BY ANY OTHER CONTRACTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE THE NECESSARY ELEMENTS FOR CONSTRUCTION SAFETY.
2. CALL UNDERGROUND SERVICE ALERT (USA) AT 1 (800) 422-4133 OR APPLICABLE STATE AND LOCAL DIG SAFE OR UNDERGROUND ALERT HOTLINES PRIOR TO CONSTRUCTION START.
3. MINIMUM CONDUIT SIZE SHALL BE 3/4" - U.O.N.
4. MINIMUM CONDUCTOR SIZE SHALL BE #10 AWG. - U.O.N.
5. ALL SITE BRANCH CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUND CONDUCTOR THAT, AT MINIMUM, MATCHES THE SIZE OF THE ASSOCIATED BRANCH CIRCUIT CONDUCTOR. WHERE MULTIPLE BRANCH CIRCUITS ARE ROUTED/GROUPED TOGETHER, THE EQUIPMENT GROUNDING CONDUCTOR SHALL MATCH THE SIZE OF THE LARGEST BRANCH CIRCUIT CONDUCTOR IN THE GROUP.
6. ALL ELECTRICAL EQUIPMENT MOUNTED OUTDOORS SHALL BE WEATHERPROOF (NEMA #3R).
7. ALL CONDUIT ONLY SHALL BE PROVIDED WITH A NYLON PULL STRING.
8. SEE ARCHITECTURAL/LANDSCAPE ARCHITECTURAL PLANS FOR EXACT LOCATIONS OF FIXTURES, PULLBOXES, MANHOLES, OTHER ELECTRICAL DEVICES, ETC. COORDINATE ALL UNDERGROUND STRUCTURES AND CONDUIT ROUTING WITH LANDSCAPE ARCHITECT PRIOR TO ROUGH-IN TO ENSURE THAT SUCH ITEMS ARE NOT PLACED IN CRITICAL LANDSCAPE PLANTING/HARDSCAPE AREAS.
9. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.

PLAN NOTES:

1. PROVIDE THE FOLLOWING FIRE ALARM SYSTEM CONDUITS AND WIRING:
   - 1"C. FIBER (FIRE ALARM)
2. MODIFY EXISTING CONTROL PANEL AS REQUIRED TO SERVE THE NEW CONSTRUCTION. PROVIDE ADDITIONAL EQUIPMENT AS NEEDED FOR A COMPLETE AND OPERABLE SYSTEM.
3. ROUTE CONDUIT FROM BELOW GRADE EXPOSED ON BUILDING EXTERIOR TO AN ELEVATION ABOVE THE ACCESSIBLE CEILING SPACE WHERE APPLICABLE. PROVIDE A WEATHERPROOF "LB" FITTING AND SEALED PENETRATION THROUGH THE BUILDING EXTERIOR AS REQUIRED TO PERFORM WORK INDICATED. PAINT CONDUIT TO MATCH THE SURROUNDING SURFACE.
4. NEW SURFACE MOUNTED ELECTRICAL PANEL. PROVIDE A 60A FEEDER FROM EXISTING PANEL 'PBL' TO NEW PANEL 'PBL2'. VERIFY EXACT LOCATION IN FIELD AND WITH ARCHITECT PRIOR TO ROUGH-IN.





SITE PLAN | 1/16" = 1'-0" | 1

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

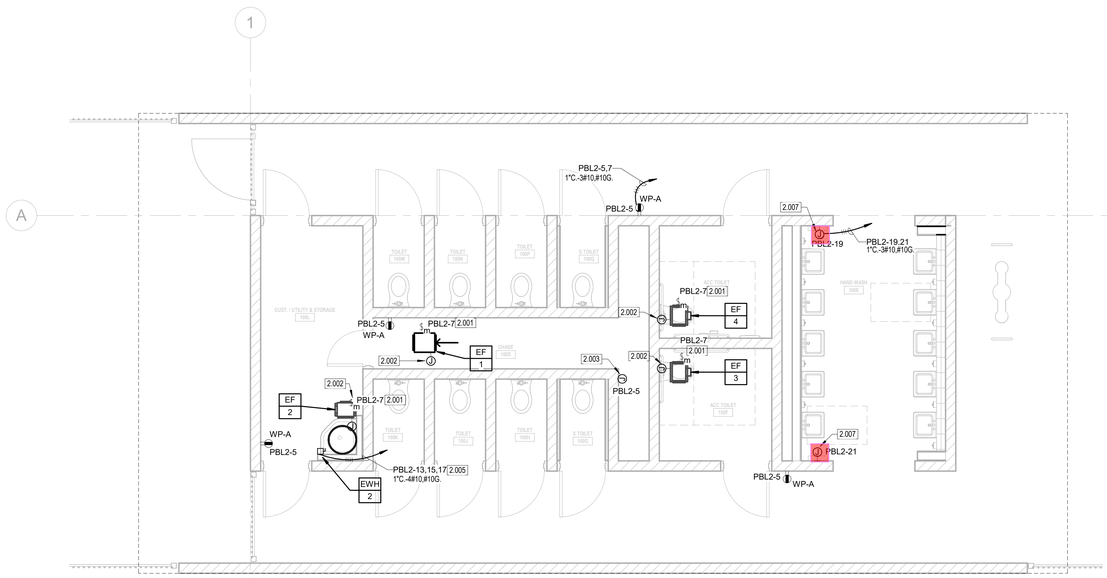
	DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 1/16" = 1'-0"

E00.1

SITE ELECTRICAL PLAN

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Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928



N
W
E
S

POWER PLAN - WEST RESTROOM | 1/4" = 1'-0" | **1**

N
W
E
S

POWER PLAN - ENTRY GATE | 1/4" = 1'-0" | **2**

N
W
E
S

POWER PLAN - EAST RESTROOM | 1/4" = 1'-0" | **3**

KEYNOTES

2.001 REFER TO MOTORIZED EQUIPMENT SCHEDULE ON SHEET E21.4 FOR MOTOR FEEDER/BRANCH CIRCUIT INFORMATION.

2.002 PROVIDE 3/4" C.O.(S) TO RESPECTIVE CONTROL DEVICE(S) FOR CONTROL WIRING. REFER TO THE EQUIPMENT CONTROL WIRING DIAGRAMS FOR ADDITIONAL INFORMATION.

2.003 PROVIDE 120V TO TRAP PRIMER AND CONNECT AS REQUIRED. COORDINATE WITH P.C. FOR EXACT LOCATION PRIOR TO ROUGH-IN. REFER TO PLUMBING DRAWINGS FOR MORE INFORMATION.

2.005 CONNECT COMPLETE TO WATER HEATER AS REQUIRED. PROVIDE DISCONNECT AS REQUIRED.

2.007 PROVIDE COMPLETE CONNECTION TO HAND DRYER PER MANUFACTURER'S REQUIREMENTS.

POWER PLAN GENERAL NOTES:

1. ALL RECEPTACLES ON COMMON WALLS SHALL BE SEPARATE BOXES AND OFFSET 24-INCHES MINIMUM.
2. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.
3. ALL WALL-MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ROUGH-IN.
4. ALL WALL-MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ROUGH-IN.
5. ALL FURNITURE WHIPS SHALL BE TRIMMED TO REDUCE EXCESS WHIP LENGTH.
6. WHEN EXPOSED CEILINGS OR OPEN GRID CONDITIONS OCCUR, THE CONTRACTOR WILL NEED TO PROVIDE THE FOLLOWING ITEMS:
   a. ALL BRANCH CIRCUITS SHALL BE EMT.
   b. ALL BRANCH CIRCUITS SHALL BE ROUTED ORTHOGONALLY, NEATLY TRAINED, IN PARALLEL TO STRUCTURES OR DUCTWORK. THE TERM "TRAINED" MEANS ALL PARALLEL CONDUITS SHALL MAINTAIN THE SAME SPATIAL RELATIONSHIP WITH EACH OTHER FOR ENTIRE RUN TO INCLUDE RADIUS BENDS AND SWEEPS.
   c. VISUALLY OBJECTIONABLE BRANCH CIRCUITS WILL BE REROUTED AT THE REQUEST OF THE ARCHITECT AT NO ADDITIONAL COST.
7. EXPOSED CABLE/CONDUCTORS INSTALLED IN A PLENUM SPACE SHALL CONFORM TO NEC, OR CEC WHERE ADOPTED, **ARTICLE 300.22(C)**.
8. PROVIDE G.F.C.I. TYPE RECEPTACLE(S) OR RECEPTACLE(S) PROTECTED BY AGFCI CIRCUIT BREAKER(S) WHEN RECEPTACLES ARE 50A OR LESS, 150V TO GROUND OR LESS AND ARE LOCATED WITHIN 6-FEET OF ANY SINK OR THERAPEUTIC TUB, LAUNDRY AREA, SERVING ANY DRINKING FOUNTAIN OR VENDING MACHINE, WITHIN ANY KITCHEN SPACE, LOCKER ROOM AREA, GARAGE AND BATHROOM SPACE AND/OR LOCATED OUTDOORS. WHERE RECEPTACLES ARE NOT READILY ACCESSIBLE, PROVIDE GFCI CIRCUIT BREAKER(S) TO PROTECT THE RESPECTIVE BRANCH CIRCUIT AND PROVIDE ADDITIONAL NEUTRAL CONDUCTORS IN THE BRANCH CIRCUITING AS REQUIRED TO ENSURE PROPER GFCI FUNCTION.
9. PROVIDE OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM CONTROLLED RECEPTACLE RELAY(S) AS REQUIRED TO SWITCH CONTROLLED RECEPTACLES. CONNECT BRANCH CIRCUITRY AND CONTROL WIRING AS REQUIRED TO ALLOW OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM RELAY TO SWITCH STANDALONE AND/OR SYSTEMS FURNITURE CONTROLLED RECEPTACLES AS INDICATED ON PLANS. PROVIDE ADDITIONAL CONDUIT, WIRING AND PATHWAYS NECESSARY TO CONNECT BRANCH CIRCUITRY AND CONTROL WIRING TO REMOTE RELAYS TO INCLUDE RELAY(S) LOCATED ON ALTERNATE FLOORS, IN ELECTRICAL ROOMS, ETC.
10. PROVIDE ADDITIONAL J-BOX NEAR PANEL FOR MULTIPLE HOMERUN CIRCUITRY.
11. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), OR EXISTING, ALL ELECTRICAL DEVICES SHOWN ARE NEW.

ROOF PLAN GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL REFER TO MECHANICAL/PLUMBING AND ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND CHARACTERISTICS OF ALL EQUIPMENT LISTED IN SCHEDULE. ANY MODIFICATIONS AND/OR ADDITIONAL WORK NECESSARY SHALL BE INCLUDED IN THE BASE BID.
2. ALL TEMPERATURE CONTROL AND INTERLOCK CONDUIT AND WIRING SHALL BE BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. SEE MECHANICAL/PLUMBING DRAWINGS FOR ALL INFORMATION.
3. ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL CONNECTION POINTS WITH THE EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.

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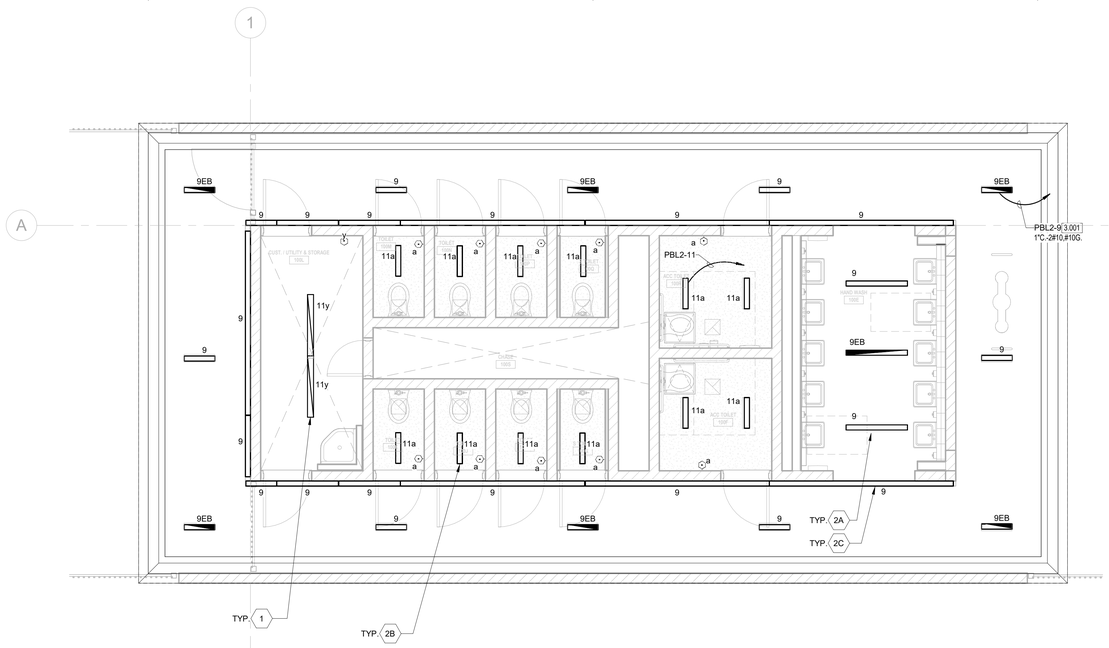
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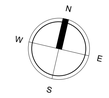
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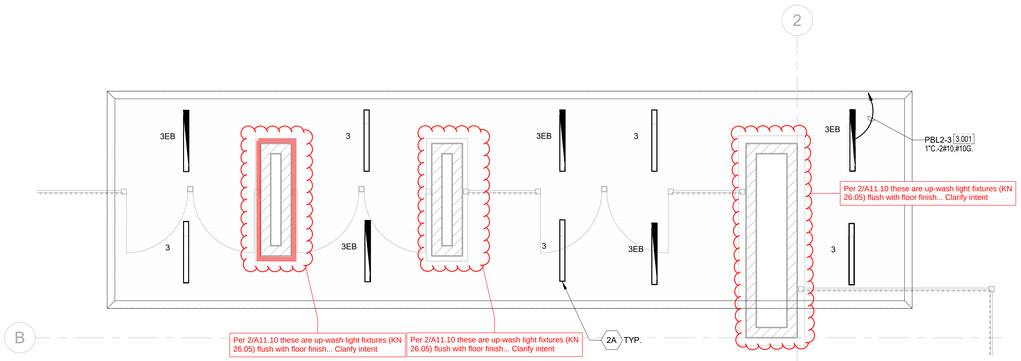
POWER PLAN

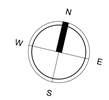
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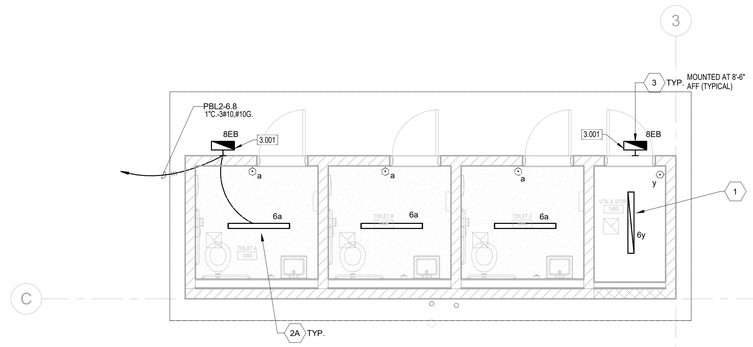


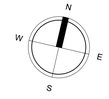
LIGHTING PLAN - WEST RESTROOM | 1/4" = 1'-0" | **1**





LIGHTING PLAN - ENTRY GATE | 1/4" = 1'-0" | **2**





LIGHTING PLAN - EAST RESTROOM | 1/4" = 1'-0" | **3**

KEYNOTES

3.001 PROVIDE RELAY AND TIMECLOCK/PHOTOCELL AS REQUIRED FOR CONTROL OF EXTERIOR LIGHTING BY PHOTOCELL ON/TIMECLOCK OFF. MOUNT RELAY IN SEPARATE BARRIERED COMPARTMENT OF PANELBOARD.

LIGHTING PLAN GENERAL NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND ELEVATION OF ALL LIGHTING FIXTURES AND ALL DEVICES. ALL WALL-MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ROUGH-IN.
2. VERIFY EXACT CEILING CONSTRUCTION WITH ARCHITECTURAL REFLECTED CEILING PLAN AND SPECS. PROVIDE LIGHTING FIXTURES WITH ALL NECESSARY MOUNTING HARDWARE.
3. ALL RECESSED FIXTURES SHALL BE PROVIDED WITH ALL STRUCTURAL SUPPORTS AS REQUIRED BY THE IBC, OR CBC WHERE ADOPTED, IN ADDITION TO ANY LOCAL CODES.
4. ALL LINE VOLTAGE DIMMING BRANCH CIRCUITS SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR FOR EACH ZONE/CHANNEL.
5. ALL LINE VOLTAGE DIMMING BRANCH CIRCUITS SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR FOR EACH ZONE/CHANNEL.
6. RECESSED FIXTURES LOCATED IN A FIRE-RATED CEILING OR WALL SHALL BE PROVIDED WITH A 5-SIDED, RATED ENCLOSURE SO CONSTRUCTED AS TO ALLOW CODE AND MANUFACTURER-REQUIRED CLEARANCES BETWEEN THE FIXTURE AND THE ENCLOSURE.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXIT SIGN CHEVRONS AND NUMBER OF FACES PER EXIT SIGN. ANY DISCREPANCIES BETWEEN EXIT SIGNS SHOWN ON THE ELECTRICAL AND ARCHITECTURAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO ORDERING EXIT SIGNS.
8. WHEN EXPOSED CEILINGS OR OPEN GRID CONDITIONS OCCUR, THE CONTRACTOR WILL NEED TO PROVIDE THE FOLLOWING ITEMS:
   a. ALL BRANCH CIRCUITS SHALL BE EMT.
   b. ALL BRANCH CIRCUITS SHALL BE ROUTED ORTHOGONALLY, NEATLY TRAINED, IN PARALLEL TO STRUCTURES OR DUCTWORK. THE TERM "TRAINED" MEANS ALL PARALLEL CONDUITS SHALL MAINTAIN THE SAME SPATIAL RELATIONSHIP WITH EACH OTHER FOR ENTIRE RUN TO INCLUDE RADIUS BENDS AND SWEEPS.
   c. VISUALLY OBJECTIONABLE BRANCH CIRCUITS WILL BE REROUTED AT THE REQUEST OF THE ARCHITECT AT NO ADDITIONAL COST.
9. ALL LED REMOTE INDICATORS FOR DUCT DETECTORS AND FIRE/SMOKE DAMPERS REQUIRED BY THE LOCAL AHJ SHALL BE LOCATED IN CEILINGS IN COORDINATION WITH ARCHITECT PRIOR TO ANY ROUGH-IN.
10. PROVIDE ADDITIONAL J-BOX NEAR PANEL FOR MULTIPLE HOMERUN CIRCUITRY.
11. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), OR EXISTING, ALL ELECTRICAL DEVICES SHOWN ARE NEW.
12. REFER TO GENERAL POWER PLAN NOTES AND COMMUNICATIONS PATHWAYS GENERAL NOTE FOR ADDITIONAL REQUIREMENTS WHEN POWER AND/OR DATA DEVICES ARE SHOWN ON THIS PLAN.
13. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.

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REDONDO UNION HIGH SCHOOL
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REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

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ISSUANCE: A#03-126194
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E11.20

LIGHTING PLAN

11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928



ROOF PLAN - CONCOURSE ENTRANCE | 1/4" = 1'-0" | 2

KEYNOTES

3.001 PROVIDE RELAY AND TIMECLOCK/PHOTOCELL AS REQUIRED FOR CONTROL OF EXTERIOR LIGHTING BY PHOTOCELL ON/TIMECLOCK OFF. MOUNT RELAY IN SEPARATE BARRIERED COMPARTMENT OF PANELBOARD.

LIGHTING PLAN GENERAL NOTES:

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2. VERIFY EXACT CEILING CONSTRUCTION WITH ARCHITECTURAL REFLECTED CEILING PLAN AND SPECS. PROVIDE LIGHTING FIXTURES WITH ALL NECESSARY MOUNTING HARDWARE.
3. ALL RECESSED FIXTURES SHALL BE PROVIDED WITH ALL STRUCTURAL SUPPORTS AS REQUIRED BY THE IBC, OR CBC WHERE ADOPTED, IN ADDITION TO ANY LOCAL CODES.
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7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXIT SIGN CHEVRONS AND NUMBER OF FACES PER EXIT SIGN. ANY DISCREPANCIES BETWEEN EXIT SIGNS SHOWN ON THE ELECTRICAL AND ARCHITECTURAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO ORDERING EXIT SIGNS.
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ROOF PLAN

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MOTORIZED EQUIPMENT SCHEDULE

TAG	ITEM	DESCRIPTION	EQUIPMENT RATING				DISC. SW. SIZE STARTER SIZE	CONDUIT AND WIRING	SPECIFIC NOTES
			VOLTS	PH.	MOTOR HP	MOCP			
EF	1	EXHAUST FAN	120	1	.25	20	MOTOR START	3/4"C.-2#12, #12G.	C
EF	2	EXHAUST FAN	120	1	.06	20	MOTOR START	3/4"C.-2#12, #12G.	C
EF	3	EXHAUST FAN	120	1	.02	20	MOTOR START	3/4"C.-2#12, #12G.	C
EF	4	EXHAUST FAN	120	1	.02	20	MOTOR START	3/4"C.-2#12, #12G.	C
EF	5	EXHAUST FAN	120	1	.02	20	MOTOR START	3/4"C.-2#12, #12G.	C
EF	6	EXHAUST FAN	120	1	.02	20	MOTOR START	3/4"C.-2#12, #12G.	C
EF	7	EXHAUST FAN	120	1	.02	20	MOTOR START	3/4"C.-2#12, #12G.	C
EF	8	EXHAUST FAN	120	1	.02	20	MOTOR START	3/4"C.-2#12, #12G.	C

MOTORIZED EQUIPMENT SCHEDULE SPECIFIC NOTES:

A. FUSED AS RECOMMENDED BY MANUFACTURER.

B. MAGNETIC MOTOR STARTER WITH CONTROL TRANSFORMER, AUXILIARY CONTACTS, INDICATOR LIGHT AND H.O.A. SWITCH. VERIFY CONTROL TRANSFORMER VOLTAGE WITH M.C. PRIOR TO ORDERING MATERIAL.

C. ROUTE THROUGH LINE VOLTAGE CONTROL. SEE MECHANICAL AND/OR PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.

MOTORIZED EQUIPMENT SCHEDULE GENERAL NOTES:

1. ALL BRANCH CIRCUIT DATA IS BASED UPON METALLIC CONDUITS. IF THE CONTRACTOR ELECTS TO USE NONMETALLIC CONDUITS, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED PER NEC, OR CEC WHERE ADOPTED, TABLE250.122 AND THE CONDUIT SIZE SHALL BE INCREASED ACCORDINGLY.
2. ELECTRICAL CONTRACTOR SHALL REFER TO ALL DOCUMENTS RELATED TO THE EQUIPMENT (I.E. SHOP DRAWINGS, CONSTRUCTION DOCUMENTS, ETC.) IN REGARDS TO ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT LISTED IN THE SCHEDULE. ANY MODIFICATION AND/OR ADDITIONAL WORK NECESSARY SHALL BE INCLUDED IN THE BASE BID.
3. ELECTRICAL CONTRACTOR SHALL CHECK THE ROTATION OF ALL THREE PHASE MOTORS AND CORRECT THE ROTATION IF REVERSED.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE FUSES SIZED PER THE EQUIPMENT NAMEPLATE INFORMATION.
5. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, EXTERNALLY OPERATED, QUICK MAKE QUICK BREAK AND SHALL BE FUSIBLE OR NON FUSIBLE AS INDICATED. A MAXIMUM VOLTAGE, CURRENT AND HORSEPOWER SHALL BE CLEARLY MARKED ON SWITCH ENCLOSURE. SWITCHES HAVING DUAL RATINGS (HIGHER RATINGS WHEN USED WITH DUAL ELEMENT FUSES) SHALL HAVE RATINGS INDICATED ON METAL PLATES RIVETED OR OTHERWISE PERMANENTLY ATTACHED TO THE ENCLOSURE. WHEN INDICATED, TOGGLE SWITCHES SHALL BE MOTOR RATED FOR THE APPLICATION.
6. STARTERS SHALL BE FULL VOLTAGE, REDUCED VOLTAGE OR COMBINATION DISCONNECT AND STARTER, WITH CONTROL VOLTAGE AS REQUIRED, AS INDICATED ON THE DOCUMENTS RELATED TO THE EQUIPMENT, SUCH AS SHOP DRAWINGS, CONSTRUCTION DOCUMENTS, ETC. STARTERS SHALL INCLUDE MOTOR OVERLOAD PROTECTION, PHASE LOSS AND PHASE UNBALANCE PROTECTION AS REQUIRED.
7. ALL TERMINATIONS AND ENCLOSURES SHALL BE RATED FOR USE WITH 75 DEGREE C CONDUCTORS.
8. COMPLETE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF NEC (OR CEC WHERE ADOPTED) ARTICLES 430 AND 440.
9. CONTRACTOR TO COORDINATE WITH ALL OTHER PROJECT TRADES AND WITH OWNER/ TENANT FOR TO OBTAIN RESPECTIVE EQUIPMENT SCCR AND PROVIDE APPROPRIATE PROTECTIVE DEVICES TO LIMIT AVAILABLE FAULT CURRENT TO LESS THAN THE EQUIPMENT NAMEPLATE SCCR PER NEC (OR CEC WHERE ADOPTED) 110.10 . SEE POWER SYSTEM STUDY SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
10. UNLESS OTHERWISE NOTED, MOCP VALUES FOR VFD-EQUIPPED DEVICE ARE SIZED PER NEC (OR CEC WHERE ADOPTED) 430.130(A).1. CONTRACTOR SHALL COORDINATE WITH ALL OTHER PROJECT TRADES AND WITH OWNER/ TENANT (IF PROVIDING EQUIPMENT ON PROJECT) TO OBTAIN NAMEPLATE VFD-EQUIPPED DEVICE MOCP VALUE FROM MANUFACTURER INSTALLATION INSTRUCTIONS AND PROVIDE APPROPRIATE PROTECTIVE DEVICES TO COMPLY WITH NEC (OR CEC WHERE ADOPTED) 430.130(A).2.

Provide press box floor plan for intended panel location, conduit routing, etc

(NEW 30 CIRCUIT BREAKER PANEL LOCATED IN PRESS BOX)

PANEL: PBL2

MOUNTING: Surface
NEMA 3R: Yes
FEED THRU: No
M.L.O.: Yes
DOUBLE-LUGS: No
200% NEUTRAL: No
I/G BUS: No
VOLTS: 120/208 Wye
PHASE: 3
WIRE: 4
AIC: 10000
SUPPLY FROM: PBL
LOCATION: PRESS BOX)
MCB: M.L.O.
BUS: 60 A

NOTE	DESCRIPTION	BKR	POLE	TYPE	CIRC	A (VA)		B (VA)		C (VA)		CIRC	TYPE	POLE	BKR	DESCRIPTION	NOTE
	MONUMENT ENTRY RECEPT	20 A	1	R	1	540	1040					2	R.P	1	20 A	EAST CONCOURSE RECEPTACLES	
R1	MONUMENTAL ENTRY LTG	20 A	1	L	3			450	600			4	C	1	20 A	EAST CONCOURSE EXHAUST FANS	
	WEST CONCOURSE RECEPTACLES	20 A	1	R.P	5					1220	169	6	L	1	20 A	EAST CONCOURSE LTG	
	WEST CONCOURSE EXHAUST FANS	20 A	1	C	7	1117	0					8	L	1	20 A	EAST CONCOURSE EXTERIOR LTG	R1
R1	WEST CONCOURSE EXTERIOR LTG	20 A	1	L	9			1221	833			10	M	3	20 A	EWH-1 (EAST CONCOURSE)	
	WEST CONCOURSE INTERIOR LTG	20 A	1	L	11					476	833	12	--	--	--	--	--
	EWH-1 (WEST CONCOURSE)	20 A	3	M	13	333	833					14	--	--	--	--	--
--	--	--	--	--	15			333	160			16	L	1	20 A	ENTRY SIGN LIGHTING	R1
--	--	--	--	--	17					333	1200	18	P	1	20 A	EAST RR HAND DRYER	
	WEST RR HAND DRYER	20 A	1	P	19	180	1200					20	P	1	20 A	EAST RR HAND DRYER	
	WEST RR HAND DRYER	20 A	1	P	21			180	1200			22	P	1	20 A	EAST RR HAND DRYER	
	SPARE	20 A	1	--	23					0	--	24	--	1	--	SPACE	
	SPACE	--	1	--	25	--	--					26	--	1	--	SPACE	
	SPACE	--	1	--	27			--	--			28	--	1	--	SPACE	
	SPACE	--	1	--	29					--	--	30	--	1	--	SPACE	
					31							32					
					33							34					
					35							36					
					37							38					
					39							40					
					41							42					
					PHASE TOTALS:	5243.67 VA		4977.67 VA		4231.67 VA							
						44.7 A		42.4 A		35.3 A							

COMMENTS:

LOAD TYPE KEY	LOAD CLASSIFICATION	CONNECTED LOAD	AVG. DEMAND...	ESTIMATED DEMAND	PANEL TOTALS	AMPS	KVA
H = HVAC EQUIP	P	4960 VA	100.00%	4960 VA			
K = KITCHEN	R	1800 VA	100.00%	1800 VA	TOTAL CONNECTED LOAD:	40.1 A	14453 VA
L = LIGHTING	L	2476 VA	125.00%	3095 VA	TOTAL DEMAND LOAD:	44.8 A	16126 VA
M = MOTOR	M	3500 VA	117.86%	4125 VA	HIGH PHASE:	45 A	5244 VA
P = POWER	C	1717 VA	125.00%	2146 VA			
R = RECEPTACLE							
W = WATER HEATER							

(EXISTING 30 CIRCUIT BREAKER PANEL LOCATED IN PRESS BOX)

PANEL: PBL (EXISTING)

MOUNTING: SURFACE
NEMA 3R: Yes
FEED THRU: No
M.L.O.: No
DOUBLE-LUGS: No
200% NEUTRAL: No
I/G BUS: No
VOLTS: 120/208 Wye
PHASE: 3
WIRE: 4
AIC: 10000
SUPPLY FROM:
LOCATION: PRESS BOX)
MCB: 100A-3P
BUS: 100 A

NOTE	DESCRIPTION	BKR	POLE	TYPE	CIRC	A (VA)		B (VA)		C (VA)		CIRC	TYPE	POLE	BKR	DESCRIPTION	NOTE
	(E) AUTO PA SYSTEM	20 A	1	C	1	1000	540					2	C	1	20 A	(E) RECEPT	
	(E) AUTO PA SYSTEM	20 A	1	C	3			1000	540			4	C	1	20 A	(E) RECEPT	
	(E) AUTO PA SYSTEM	20 A	1	C	5					1000	720	6	C	1	20 A	(E) RECEPT	
	(E) AUTO PA SYSTEM	20 A	1	C	7	1000	540					8	C	1	20 A	(E) RECEPT	
	(E) LTG LOAD	20 A	1	C	9			99	720			10	C	1	20 A	(E) RECEPT	
	(E) LTG LOAD	20 A	1	C	11					198	500	12	C	1	20 A	(E) RECEPT	
	(E) LTG LOAD	20 A	1	C	13	248	500					14	C	1	20 A	(E) RECEPT	
	(E) LTG LOAD	20 A	1	C	15			99	500			16	C	1	20 A	(E) RECEPT	
	(E) LTG LOAD	20 A	1	C	17					546	500	18	C	1	20 A	(E) RECEPT	
	(E) FACP	20 A	1	C	19	500	1500					20	C	2	50 A	(E) WATER HEATER	
	(E) WH-2	20 A	2	C	21			1500	1500			22	--	--	--	--	--
--	--	--	--	--	23					1500	1500	24	C	2	20 A	(E) WH-2	
F	PBL2 (SUBFEED)	60 A	3	Spa..	25	5244	1500					26	--	--	--	--	--
--	--	--	--	--	27			4978	--			28	--	1	--	SPACE	
--	--	--	--	--	29					4232	--	30	--	1	--	SPACE	
					31							32					
					33							34					
					35							36					
					37							38					
					39							40					
					41							42					
					PHASE TOTALS:	12571.67 VA		10935.67 VA		10695.67 VA							
						105.1 A		91.4 A		89.1 A							

COMMENTS:

LOAD TYPE KEY	LOAD CLASSIFICATION	CONNECTED LOAD	AVG. DEMAND...	ESTIMATED DEMAND	PANEL TOTALS	AMPS	KVA
H = HVAC EQUIP	P	4960 VA	100.00%	4960 VA			
K = KITCHEN	R	1800 VA	100.00%	1800 VA	TOTAL CONNECTED LOAD:	94.9 A	34203 VA
L = LIGHTING	L	2476 VA	125.00%	3095 VA	TOTAL DEMAND LOAD:	113.3 A	40814 VA
M = MOTOR	M	3500 VA	117.86%	4125 VA	HIGH PHASE:	105 A	12572 VA
P = POWER	C	21467 VA	125.00%	26834 VA			
R = RECEPTACLE							
W = WATER HEATER							

AS-BUILT PANEL DIRECTORY NOTE:

BRANCH CIRCUIT LOCATIONS NOTED WITH "(E)" INDICATE EXISTING CIRCUIT(S). THE IDENTITIES OF THESE CIRCUITS ARE BASED ON EXISTING PANEL DIRECTORIES AND/OR LIMITED AS-BUILT INFORMATION. CONTRACTOR SHALL FIELD VERIFY EACH BRANCH CIRCUIT AND PROVIDE COMPLETE, TYPED AS-BUILT PANEL DIRECTORIES AS REQUIRED THAT DISTINGUISH EACH CIRCUIT PER NEC, OR CEC WHERE ADOPTED, ART 408.1 AND 408.4. COMPLETED DIRECTORIES SHALL BE SUBMITTED TO THE ELECTRICAL INSPECTOR PRIOR TO FINAL ELECTRICAL INSPECTION. INCLUDE ALL COSTS IN BID.

EXISTING CIRCUIT BREAKER NOTE:

PROVIDE BREAKER INTERLOCK WITH ADJACENT BREAKER(S) FOR ANY MULTI-WIRE BRANCH CIRCUIT. BREAKER INTERLOCK GROUPING SHALL BE BY BRANCH CIRCUIT GROUP (i.e. MULTIPLE CIRCUITS SHARING A COMMON NEUTRAL (NEC, OR CEC WHERE ADOPTED, 210.4(B).) COMMON YOKE (NEC, OR CEC WHERE ADOPTED, 210.7.) OR FURNITURE SYSTEM NEC OR CEC WHERE ADOPTED, 605.5 AND 605.7). WHERE AN EXISTING PANEL IS BEING ALTERED OR MODIFIED IN ANY WAY, CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID TO ADD BREAKER INTERLOCKS TO EXISTING MULTI-WIRE BRANCH CIRCUITS BASED ON CONTRACTOR'S INVESTIGATION OF EXISTING CONDITIONS.

GENERAL PANEL SCHEDULE NOTES:

1. WHERE PANEL IS INDICATED TO INCLUDE FEED THRU LUGS, PROVIDE FEED THROUGH LUGS AT THE OPPOSITE END OF THE PANELBOARD FROM THE PANELBOARD MAIN LUGS.
2. WHERE PANEL IS INDICATED TO INCLUDE DOUBLE LUGS, PROVIDE A DOUBLE LUG KIT AT THE SAME END OF THE PANELBOARD AS THE PANELBOARD MAIN LUGS.
3. WHERE PANEL IS INDICATED TO INCLUDE 200% NEUTRAL, PROVIDE PANELBOARDS UL LISTED AS HAVING NEUTRAL BUSSES RATED TO CARRY 200 PERCENT OF THE CURRENT CARRYING CAPACITY OF THE PHASE BUSSING. OTHERWISE, NEUTRAL BUSSING TO BE FULL SIZE AND RECTANGULAR.
4. WHERE PANEL IS INDICATED TO INCLUDE AN IG BUS, PROVIDE PANELBOARDS WITH AN ISOLATED GROUND BUS, DRILLED AND TAPPED FOR NUMBER OF ISOLATED GROUND CONDUCTORS SHOWN, AS WELL AS FOR ALL SPARES AND SPACES SHOWN ON THE PANELBOARD.
5. WHERE PANEL CIRCUIT BREAKER RATING IS SHOWN AS SERIES RATED, PROVIDE CIRCUIT BREAKERS IN PANELBOARD WHICH ARE SERIES RATED WITH THE UPSTREAM SYSTEM FOR THE AVAILABLE FAULT CURRENT. THE PANELBOARD SHALL BE MARKED WITH THE SERIES CONNECTED RATINGS, AS WELL AS ALL MARKING AS REQUIRED BY THE NEC, OR CEC WHERE ADOPTED, 240-86(B).
6. WHERE PANEL IS INDICATED AS RECESSED OR FLUSH MOUNTED, PROVIDE SPARE CONDUITS STUBBED UP INTO THE ACCESSIBLE CEILING SPACE. PROVIDE ONE (1) 3/4" CONDUIT ONLY FOR EACH THREE (3) SPARES OR SPACES, MINIMUM OF TWO (2). EACH CONDUIT SHALL BE TAGGED, CAPPED AND MARKED FOR FUTURE USE.
7. ALL BUSSING SHALL BE TIN PLATED ALUMINUM.
8. ALL CIRCUIT BREAKERS USED AS SWITCHES SHALL BE UL LISTED AND LABELED "SWD" FOR SWITCHING DUTY.
9. PROVIDE BREAKER INTERLOCK WITH ADJACENT BREAKER(S) FOR ANY MULTI-WIRE BRANCH CIRCUIT. BREAKER INTERLOCK GROUPING SHALL BE BY BRANCH CIRCUIT GROUP (i.e. MULTIPLE CIRCUITS SHARING A COMMON NEUTRAL (NEC, OR CEC WHERE ADOPTED, 210.4(B).) COMMON YOKE (NEC, OR CEC WHERE ADOPTED, 210.7.) OR FURNITURE SYSTEM NEC OR CEC WHERE ADOPTED, 605.6 AND 605.5). WHERE AN EXISTING PANEL IS BEING ALTERED OR MODIFIED IN ANY WAY, CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID TO ADD BREAKER INTERLOCKS TO EXISTING MULTI-WIRE BRANCH CIRCUITS BASED ON CONTRACTOR'S INVESTIGATION OF EXISTING CONDITIONS.
10. PROVIDE BREAKER LOCK OFF DEVICE ON ANY CIRCUIT BREAKER FEEDING A TRANSFORMER AS REQUIRED, PER NEC, OR CEC WHERE ADOPTED, 450.14. WHERE AN EXISTING PANEL IS BEING ALTERED OR MODIFIED IN ANY WAY, CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID TO ADD BREAKER LOCK-OFF DEVICES TO EXISTING TRANSFORMER CIRCUIT BREAKERS BASED ON CONTRACTOR'S INVESTIGATION OF EXISTING CONDITIONS.
11. ALL CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE AND SHALL BE SUITABLE FOR 75 DEGREE AMPACITY CONDUCTORS.
12. PANELS SHALL BE OF THE DEAD FRONT SAFETY TYPE. PANELS SHALL BE MINIMUM 20" WIDE AND 5-3/4" DEEP UNLESS OTHERWISE NOTED ON PLAN.
13. COORDINATE WITH APPLICABLE TRADE TO INSURE RECESSED MOUNTED PANELBOARDS WILL SEAT FLUSH IN THE WALLS PROVIDED. PANEL TRIMS SHALL HAVE CONCEALED DOORS AND FASTENERS WITH FLUSH TYPE COMBINATION LOCK AND CATCH. TWO MILLED TYPE KEYS SUPPLIED WITH EACH PANEL. ALL LOCKS SHALL BE KEYED ALIKE AND EACH DOOR SHALL HAVE A PLASTIC COVERED DIRECTORY FRAME WITH A TYPED IDENTIFICATION CARD OF ALL CIRCUIT AND PANEL NUMBERS FOR BRANCH CIRCUIT PANELBOARDS.
14. UPON PROJECT COMPLETION, CONTRACTOR SHALL INSTALL TYPED AS-BUILT PANEL DIRECTORIES IN EACH PANEL WITHIN THE MFGR-PROVIDED DIRECTORY HOLDER. THE DIRECTORY SHALL CLEARLY IDENTIFY EACH CIRCUIT TO ITS CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE. EACH CIRCUIT IDENTITY SHALL INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS PER NEC, OR CEC WHERE ADOPTED, ART 408.1 AND 408.4. HANDWRITTEN DIRECTORIES ARE UNACCEPTABLE. COPIES OF AS-BUILT PANEL SCHEDULES SHALL BE PLACED IN PANEL DIRECTORIES. E.C. TO INCLUDE ALL COSTS REQUIRED FOR LARGER-THAN-STANDARD CUSTOM PANEL DIRECTORY HOLDERS TO ACCOMMODATE COPIES OF AS-BUILT PANEL SCHEDULES.
15. PANELBOARDS SHALL BE MANUFACTURED BY G.E., CUTLER-HAMMER, SIEMENS, OR SQUARE "D". FUSED PANEL BOARDS SHALL BE BY COOPER BUSSMANN.
16. PROVIDE SHOP DRAWING SUBMITTAL PER THE ELECTRICAL SPECIFICATION SUBMITTAL REQUIREMENTS FOR EACH PANEL DEPICTING CONFORMANCE WITH THE ABOVE NOTES AND SCHEDULES.

SPECIFIC PANEL SCHEDULE NOTES:

"A"	PROVIDE LOCK-ON DEVICE.
"B"	PROVIDE LOCK-OFF DEVICE.
"C"	PROVIDE SHUNT TRIP DEVICE.
"D"	PROVIDE GFCI TYPE DEVICE.
"E"	PROVIDE A RED CIRCUIT BREAKER.
"F"	PROVIDE A NEW BREAKER TO MATCH THE EXISTING IN PANEL.
"G"	EXISTING BREAKER WITH NEW LOAD.
"R1"	PROVIDE RELAY AND TIMECLOCK/PHOTOCELL AS REQUIRED FOR CONTROL OF EXTERIOR LIGHTING BY PHOTOCELL ON/TIMECLOCK OFF. MOUNT RELAY IN SEPARATE BARRIERED COMPARTMENT OF PANELBOARD.

PANEL SCHEDULE INDEX

-	-	(N) PBL2
-	-	(E) PBL
-	-	

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWAYZE
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE:

E21.1

PANEL SCHEDULE AND MOTORIZED EQUIPMENT SCHEDULE

wsp
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928

LIGHTING FIXTURE SCHEDULE NOTES:

A. GENERAL NOTES:

1. THE LIGHTING FIXTURES, LAMPS, BALLASTS, POWER SUPPLIES, DRIVERS AND TRANSFORMERS FOR THIS PROJECT HAVE BEEN SPECIFIED TO ENSURE THAT SPECIFIC AESTHETIC AND PERFORMANCE REQUIREMENTS WILL BE SATISFIED. THESE PRODUCTS HAVE BEEN CAREFULLY RESEARCHED AND EACH SPECIFIED ITEM HAS UNIQUE QUALITIES WHICH WERE DETERMINED TO BE ESSENTIAL IN SATISFYING THE OWNER'S, ARCHITECT'S, ENGINEER'S AND LIGHTING CONSULTANT'S DESIGN CRITERIA.

2. CONTRACTOR SHALL PROVIDE ALL MATERIALS AS DETAILED ON DRAWINGS AND/OR SCHEDULES, AND LABOR AS REQUIRED TO ACHIEVE A COMPLETE AND OPERATING LIGHTING SYSTEM.

3. CONTRACTOR SHALL NOTIFY THE ELECTRICAL ENGINEER AND/OR LIGHTING CONSULTANT OF ANY PROVISIONS OF THE SPECIFICATION THAT IS IN CONFLICT WITH LOCALLY ENFORCED CODES.

4. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY REQUIRED MODIFICATIONS THAT ARE NOT SHOWN ON THE DRAWINGS.

5. ALL ELECTRICAL MATERIAL SHALL BE IN NEW & UNDAMAGED CONDITION WHEN INSTALLED. ALL EQUIPMENT SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.

6. ALL DIMENSIONS & MEASUREMENTS FOUND ON PLANS ARE APPROXIMATE. CONTRACTOR SHALL VALIDATE ALL DIMENSIONS PRIOR TO ORDERING MATERIAL TO INCLUDE MAKING FIELD MEASUREMENTS BASED ON ACTUAL SITE CONDITIONS TO DEVELOP COMPLETE ORDERS AND INSTALL SYSTEMS PER DRAWINGS AND SPECIFICATIONS.

7. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND ELEVATION OF ALL LIGHTING FIXTURES AND ASSOCIATED DEVICES AND EQUIPMENT.

8. PRIOR TO AIMING/ADJUSTING ACTIVITIES, COMMISSIONING OR PUNCHWALK COMMENCEMENT, CONTRACTOR SHALL PROPERLY TEST AND VERIFY ALL CIRCUITRY AND CONTROL WIRING AND IMPLEMENT ALL CONTROLS PROGRAMMING.

B. INSTALLATION:

1. LOCATIONS OF THE FIXTURES SHALL BE PER THE ARCHITECTURAL REFLECTED CEILING PLAN(S) AND SHALL BE COORDINATED AT TIME OF ROUGH IN. CONFLICTS BETWEEN THE ARCHITECTURAL REFLECTED CEILING PLAN(S) AND THE ELECTRICAL/LIGHTING DESIGN PLAN(S) SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO ORDERING FIXTURES.

2. LIGHTING DRAWINGS REPRESENT THE DESIGN INTENT OF THE EQUIPMENT, DEVICES, ETC. TO BE CONNECTED AND THE CIRCUITS TO WHICH THEY ARE TO BE CONNECTED. CONTRACTOR SHALL INSTALL ALL CONDUIT, J-BOXES AND ADDITIONAL HARDWARE AND DEVICES AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

3. ALL LIGHTING FIXTURES SHALL BE MOUNTED AND INDIVIDUALLY SUPPORTED IN ACCORDANCE WITH APPLICABLE CODES. FIXTURES SHALL BE FURNISHED AND INSTALLED WITH ALL REQUIRED MOUNTING DEVICES, HARDWARE AND ACCESSORIES.

4. CONTRACTOR TO VERIFY LIGHTING FIXTURE MOUNTING HARDWARE IS COMPATIBLE WITH APPROVED MOUNTING CONDITIONS. MOUNTING CONDITIONS MUST ALLOW FOR AIMING AND ADJUSTING OF LIGHTING FIXTURES ON SITE.

5. CONTRACTOR TO INCLUDE AIMING/ADJUSTING LABOR AFTER DARK AS REQUIRED FOR ANY ADJUSTABLE LIGHTING FIXTURE AND FOR EACH INDIVIDUAL LIGHTING FIXTURE HEAD OR LAMP HOLDER IN A MULTI-FIXTURE/MULTI-LAMP ASSEMBLY. LIGHTING FIXTURES TO BE AIMED/ADJUSTED PER THE DIRECTION OF OWNER, ARCHITECT AND/OR LIGHTING CONSULTANT.

6. CONTRACTOR TO SUPPLY ADEQUATE SUPPORT INCLUDING LADDERS, LIFTS OR OTHER EQUIPMENT REQUIRED TO ACCESS LIGHTING FIXTURES AT THE TIME OF FOCUS, INCLUDING EVENING OR NIGHT WORK AS MAY BE REQUIRED DUE TO SCHEDULE CONFLICT OR DAYLIGHT IMPACT. AIMING/ADJUSTING LABOR SHALL BE PREPARED FOR WORK WITH COMMON HAND TOOLS TO MAKE ADJUSTMENTS AND MINOR REPAIRS DURING AIMING.

7. ALL COVE MOUNTED LIGHTING FIXTURES SHALL EXTEND THE FULL LENGTH OF THE COVE. CONTRACTOR TO FIELD MEASURE COVE LENGTH AND ORDER QUANTITY OF LIGHTING FIXTURES AS REQUIRED. PROVIDE COMPLETE MANUFACTURER SHOP DRAWINGS OF BUILT-IN COVE OR LINEAR LIGHTING SYSTEMS.

8. CONTRACTOR TO REPLACE ALL INOPERATIVE LAMPS, LED ARRAYS OR SYSTEMS AT THE END OF THE CONSTRUCTION PHASE PRIOR TO THE FOCUS AND PROGRAMMING PHASE AND AGAIN PRIOR TO OWNER OCCUPANCY OR PROJECT OPENING.

9. ALL POLE MOUNTED FIXTURES, POST MOUNTED FIXTURES AND BOLLARDS SHALL BE PROVIDED WITH A STRUCTURAL FOOTING AS DETAILED ELSEWHERE IN THE DRAWINGS. FOOTING SIZE TO BE PROVIDED BY STRUCTURAL ENGINEER. REFERENCE FIXTURE SCHEDULE AND DETAILS FOR MORE INFORMATION.

10. ALL EXIT SIGNS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LOCAL FIRE PREVENTION CODE AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY HARDWARE SUCH THAT ALL EXIT SIGNS ARE INSTALLED IN AN APPROVED VISIBLE LOCATION. THE CONTRACTOR SHALL VERIFY CHEVRONS AND NUMBER OF FACES PER EXIT SIGN WITH ARCHITECTURAL REFLECTED CEILING PLAN(S). ANY DISCREPANCIES BETWEEN EXIT SIGNS DEPICTED ON ARCHITECTURAL AND ELECTRICAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO ORDERING EXIT SIGNS.

C. SUBMITTALS AND SUBSTITUTIONS:

1. CONTRACTOR TO SUBMIT FOR APPROVAL ON THE PRODUCTS THEY INTEND TO FURNISH WITHIN TEN (10) DAYS OF AWARD OF CONTRACT. FAILURE TO SUBMIT WITHIN DEADLINE CONSTITUTES A GUARANTEE THAT ONLY THE BASE SPECIFIED PRODUCTS WILL BE SUPPLIED AND THAT NO OTHER PRODUCTS, WHETHER LISTED AS ALTERNATES OR NOT, WILL BE CONSIDERED.

2. CONTRACTOR TO PROVIDE A SUBMITTAL/SHOP DRAWING SUBMITTAL FOR EACH LIGHTING FIXTURE TYPE INCLUDING ACCESSORIES, BALLAST(S), POWER SUPPLIES, DRIVER(S) TRANSFORMER(S), AND INTEGRAL EMERGENCY BATTERIES AND TEST SWITCHES. ANY LIGHTING FIXTURE SUBMITTAL PROVIDED WITHOUT SPECIFIC LIGHTING FIXTURE'S ACCESSORIES, BALLAST, POWER SUPPLY, DRIVER, TRANSFORMER OR BATTERY INFORMATION SHALL BE REJECTED AS INCOMPLETE.

3. SUBSTITUTIONS OF THE SPECIFIED PRODUCTS ARE STRICTLY PROHIBITED - UNLESS APPROVED AS STATED HEREIN. LIGHTING FIXTURE SUBSTITUTIONS SHALL BE FORMALLY PRESENTED TO THE ELECTRICAL ENGINEER AND/OR LIGHTING CONSULTANT, BY APPOINTMENT ONLY, AT LEAST TEN (10) WORKING DAYS PRIOR TO BID TIME. THE SUBMITTAL MATERIAL SHALL INCLUDE THE FOLLOWING ITEMS.

   a. A COMPLETE AND OPERATING SAMPLE, WIRED FOR 120V OPERATION, WITH LAMP, CORD AND PLUG .

   b. A COMPLETE PHOTOMETRIC REPORT, FOR THE PROPOSED SUBSTITUTE PRODUCT, USING THE SPECIFIED LAMP OR LED TYPE AND WATTAGE, INCLUDING TABULATED CANDLEPOWER VALUES, COEFFICIENT OF UTILIZATION, AND AN ISO-FOOT-CANDLE DIAGRAM. PRORATED DATA WILL NOT BE ACCEPTABLE. THE PHOTOMETRIC REPORT MUST BE DONE IN ACCORDANCE WITH PUBLISHED I.E.S. TESTING PROCEDURES AND CERTIFIED BY A REGISTERED ELECTRICAL ENGINEER.

   c. A CURRENT ORIGINAL CATALOG DATA SHEET WITH LIGHTING FIXTURE CATALOG NUMBERS. MODIFIED DATA SHEETS WILL NOT BE ACCEPTABLE.

   d. A SIGNED COPY OF THE "SUBSTITUTION COMPLIANCE FORM", LOCATED IN THE DIVISION 1 SPECIFICATION, STATING THAT IF THE PROPOSED SUBSTITUTION IS ACCEPTED, THE PROJECT SCHEDULE WILL NOT BE NEGATIVELY AFFECTED. IF THE COMPLETION OF THE PROJECT IS DELAYED BECAUSE OF THE APPROVED SUBSTITUTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR PAYMENT OF ANY ESTABLISHED LIQUIDATED DAMAGES.

   e. FOR SPECIFIC INTERIOR FIXTURE SUBSTITUTIONS, WHEN DIRECTED BY THE ELECTRICAL ENGINEER AND/OR LIGHTING CONSULTANT, A POINT-BY-POINT SCALED COMPUTER PRINTOUT SHALL BE PROVIDED VERIFYING THE ILLUMINATION LEVELS FOR THE SPECIFIC INTERIOR AREA. IF THE SUBSTITUTED FIXTURE IS AN EMERGENCY FIXTURE, THE REPORT SHALL BE RUN IN BOTH NORMAL AND EMERGENCY MODES. THIS REPORT SHALL BE CONFIGURED WITH SPECIFIC CONSTRAINTS, AS DIRECTED BY THE ENGINEER OF RECORD. THE REPORT MUST SHOW THAT THE SUBSTITUTED FIXTURE PROVIDES PERFORMANCE EQUAL TO OR BETTER THAN THE LIGHTING LEVELS OF THE SPECIFIED PRODUCT.

   f. FOR ALL EXTERIOR FIXTURE SUBSTITUTIONS, A POINT-BY-POINT SCALED COMPUTER PRINTOUT SHALL BE PROVIDED VERIFYING THE ILLUMINATION LEVELS FOR THE ENTIRE SITE PLAN BASED ON USING THE PROPOSED ALTERNATIVE FIXTURES. THE REPORT MUST SHOW THAT THE SUBSTITUTED FIXTURE PROVIDES PERFORMANCE EQUAL TO, OR BETTER THAN THE LIGHTING LEVELS AND UNIFORMITY RATIOS (MAX:MIN AND AVG:MIN) OF THE SPECIFIED PRODUCT. THIS REPORT SHALL BE CONFIGURED WITH THE FOLLOWING CONSTRAINTS.

      i. THE SPACING INCREMENT OR POINTS ON THE VERIFICATION REPORT SHALL NOT EXCEED TEN (10) FEET IN EITHER DIRECTION.

      ii. THE PHOTOMETRIC CALCULATION SHALL BE BASED ON PROVIDING MAINTAINED FOOT-CANDLE LEVELS USING MEAN LAMP LUMENS AND A LIGHT LOSS FACTOR, AS DIRECTED BY THE ENGINEER OF RECORD.

      iii. THE PHOTOMETRIC CALCULATION SHALL SHOW ANY ADDITIONAL ENERGY AND/OR ENERGY COSTS, FOR A TEN YEAR PERIOD, AS COMPARED TO THE ORIGINALLY SPECIFIED ITEM. THE TOTAL COSTS FOR THESE EXPENSES WILL BE DEDUCTED FROM THE CONTRACT COST.

4. DURING THE BIDDING PROCESS, THE CONTRACTOR SHALL REFER TO THE LIGHTING FIXTURE SCHEDULES ON THE ARCHITECTURAL PLANS (IF PROVIDED ON PROJECT), LIGHTING DESIGN PLANS/SPECIFICATIONS (IF PROVIDED ON PROJECT), AND THE ELECTRICAL PLANS. ANY DISCREPANCIES BETWEEN THEM INCLUDING, BUT NOT LIMITED TO, PART NUMBERS AND FIXTURE DESCRIPTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT, ELECTRICAL ENGINEER, AND LIGHTING DESIGNER WITH PRE-BID RFI(S). WHERE DISCREPANCIES ARE DISCOVERED WHEN THERE IS INSUFFICIENT TIME TO ISSUE PRE-BID RFI(S), THE BASE BID SHALL INCORPORATE THE MOST COSTLY VERSION OF THE DISCREPANCY AND SHALL BE MEMORIALIZED IN AN RFI OR AS A BID CLARIFICATION. PROVIDING A VOLUNTARY DEDUCTIVE ALTERNATE BID CLARIFYING FIXTURE SCHEDULE DISCREPANCIES IS ALSO AN ACCEPTABLE FORM OF DISCREPANCY DOCUMENTATION.

5. FIXTURE FINISHES:

   a. ALL FIXTURE FINISHES AND COLORS, UNLESS NOTED AS PREMIUM OR CUSTOM, SHALL BE SELECTED FROM THE MANUFACTURERS STANDARD COLOR OPTIONS AS LISTED ON THE FIXTURE SPECIFICATION SHEET. STANDARD FINISH SHALL BE SELECTED BY THE ARCHITECT, INTERIOR DESIGNER OR OWNER. THIS DIRECTION WILL BE PROVIDED IN THE SHOP DRAWING REVIEW PROCESS.

   b. ALL FIXTURES INDICATED WITH A PREMIUM OR CUSTOM COLOR SHALL BE ASSIGNED A CUSTOM COLOR REFERENCE NUMBER (SUCH AS RAL#) OR PROVIDE FIVE (5) PAINT CHIPS FOR MANUFACTURER TO USE TO MATCH COLOR. PREMIUM OR CUSTOM FINISH SHALL BE SELECTED BY THE ARCHITECT, INTERIOR DESIGNER OR OWNER. THIS DIRECTION WILL BE PROVIDED IN THE SHOP DRAWING REVIEW PROCESS.

6. THE LIGHTING FIXTURE MODEL NUMBER MAY INDICATE A FIXTURE OPTION THAT THE CONTRACTOR MUST IDENTIFY PRIOR TO ORDERING/PROVIDING SUBMITTALS, INCLUDING, BUT NOT LIMITED TO: VOLTAGE, MOUNTING CONDITION/HARDWARE, FINISH, DIMMING REQUIREMENTS/BALLAST INFORMATION. GENERALLY, CONTRACTOR-SELECTED OPTIONS ARE DENOTED IN THE PART NUMBER WITH BRACKETS EX: [VOLTS?]

   a. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND PROVIDING ALL HANGERS, CLIPS AND NECESSARY HARDWARE TO INSTALL THE FIXTURE IN THE ENVIRONMENT AS SHOWN ON THE ARCHITECTURAL PLANS. ALL FIXTURES SHALL BE PROVIDED WITH ALL REQUIRED STRUCTURAL SUPPORTS AS REQUIRED BY THE CURRENTLY ADOPTED CODES.

   b. VOLTAGES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING - SEE ELECTRICAL DRAWINGS FOR BRANCH CIRCUIT INFORMATION. IT IS POSSIBLE THAT FIXTURES WILL BE REQUIRED IN VARIOUS VOLTAGES.

7. "NO KNOWN EQUAL" LIGHTING FIXTURE PRICING/BIDDING NOTES:

   a. EACH FIXTURE IDENTIFIED AS "NO KNOWN EQUAL" ON THIS PROJECT SHALL BE BID IN A "LINE ITEM" FORMAT. A PER UNIT MATERIAL COST SHALL BE PROVIDED FOR EACH "NO KNOWN EQUAL" FIXTURE. THIS PRICE SHALL INCLUDE LAMPS AS WELL AS ALL OTHER REQUIRED MATERIALS REQUIRED FOR INSTALLATION. THE FIXTURE PRICE QUOTED WILL BE UTILIZED, PRIOR TO SHOP DRAWING APPROVAL, FOR "ADDING" AND/OR "DELETING" ANY QUANTITY OF THE FIXTURE.

   b. A UNIT COST SHALL BE SUBMITTED FOR EACH "NO KNOWN EQUAL" FIXTURE. SUBMIT THE PRICING AS PART OF THE BID FORM ON A SEPARATE 8 1/2" X 11" SHEET.

   c. FAILURE TO SUBMIT A LINE ITEM FOR EACH "NO KNOWN EQUAL" FIXTURE MAY RESULT IN THE REJECTION, REFUSAL, OR NON-ACCEPTANCE OF THE CONTRACTOR'S BID.

8. FIXTURES IDENTIFIED AS "NO KNOWN EQUAL - OWNER STANDARD" OR "CAMPUS STANDARD" ARE TO BE PROVIDED AS SPECIFIED, WITH SUBSTITUTIONS STRICTLY PROHIBITED. SEE ADDITIONAL NOTES FOR "NO KNOW EQUAL" BIDDING REQUIREMENTS.

D. LIGHTING FIXTURE SPECIFICATIONS:

1. ALL EXTERIOR LIGHTING EQUIPMENT SHALL BE RATED FOR WET LOCATION AND THE IP RATING OF ALL EQUIPMENT, INCLUDING BALLAST, POWER SUPPLY AND TRANSFORMER ENCLOSURES SHALL CONFORM TO THE CONDITIONS IN WHICH THE LIGHTING FIXTURE IS MOUNTED.

2. ALL BALLASTS, POWER SUPPLIES, DRIVERS AND/OR TRANSFORMERS THAT ARE REMOTELY LOCATED SHALL BE INSTALLED AS NEAR TO THE LIGHTING FIXTURE(S) AS POSSIBLE, HIDDEN FROM PUBLIC VIEW IN AN ACCESSIBLE COMPARTMENT THAT IS WELL VENTILATED. CONTRACTOR TO COORDINATE LOCATION(S) WITH ARCHITECT PRIOR TO ROUGH-IN.

3. ALL TRANSFORMERS SHALL BE FUSED ON THE SECONDARY SIDE.

4. COLOR FILTERS SHALL BE GLASS OR DICHROIC UNLESS OTHERWISE INDICATED ON DRAWINGS.

5. CONTRACTOR TO PROVIDE 20% ADDITIONAL COLOR FILTERS FOR EACH COLOR AND SIZE.

6. CONTRACTOR TO VERIFY THAT ALL LIGHTING FIXTURES SPECIFIED WITH A COLOR FILTER ARE SUPPLIED WITH ANY AND ALL ATTACHMENT DEVICES FOR THE FILTER.

7. ALL TRACK LIGHTING FIXTURES SHALL BE PROVIDED WITH THE APPROPRIATE TRACK SYSTEM WHICH SHALL INCLUDE ALL MISCELLANEOUS COMPONENTS REQUIRED, AS WELL A ANY REQUIRED CIRCUIT LIMITERS FOR A COMPLETE INSTALLATION. TRACK LENGTH(S) SHALL BE PER DRAWINGS.

E. DRIVERS / TRANSFORMERS:

1. [OPTION?] IN FIXTURE MODEL NUMBER INDICATE THAT THE FIXTURE DRIVER TYPE AND QUANTITY MUST BE VERIFIED BY THE CONTRACTOR USING FIXTURE CALLOUT INFORMATION AND FIXTURE SWITCHING CONFIGURATION INFORMATION.

2. CONTINUOUS DIMMING AND CONTROLLABLE LED:

   a. PROVIDE CONTROLLABLE LED DIMMING DRIVERS (INTEGRAL OR REMOTE) WITH POWER FACTOR GREATER THAN 0.85 AND MAXIMUM THD OF 20% AT FULL LOAD.

   b. PRIOR TO BID CONTRACTOR TO VERIFY DRIVER COMPATIBILITY WITH DIMMERS. DIMMING CONTROL SYSTEM(S) AND DISTRIBUTED LIGHTING CONTROL SYSTEM(S) WITH RESPECTIVE LIGHTING MANUFACTURER(S) AND LIGHTING/DIMMING CONTROL SYSTEM MANUFACTURERS. IF COMPATIBILITY DOCUMENTATION IS UNAVAILABLE FOR A GIVEN LED FIXTURE/LIGHTING CONTROL SYSTEM COMBINATION, CONTRACTOR SHALL INCLUDE COSTS IN THE BASE BID FOR RESPECTIVE LIGHTING MANUFACTURER AND LIGHTING CONTROLS MANUFACTURER TO TEST/WARRANT COMPATIBILITY OF SAID COMBINATIONS.

   c. CONTINUOUS LED DIMMING DRIVERS SHALL BE AT MINIMUM 4-WIRE 0-10V 10% DIMMING (HOT, NEUTRAL, DIM+, DIM-).

F. EMERGENCY FIXTURES / BATTERY PACKS:

1. LIGHT FIXTURES INDICATED AS EMERGENCY SHALL BE IDENTIFIED / PROVIDED AS FOLLOWS:
   a. INTEGRAL BATTERY PACK (EB):
      - 3a/3EB - FIXTURE CONNECTED TO CIRCUIT "3", CONTROL SWITCHLEG "a" - WITH THE BATTERY CHARGING LEAD CONNECTED TO A CONSTANT HOT CIRCUIT "3".
      - 3NL/3EB - FIXTURE CONNECTED TO A CONSTANT HOT CIRCUIT "#3". BATTERY CHARGING LEAD CONNECTED TO A CONSTANT HOT CIRCUIT "3".
   b. REMOTE BACK-UP SOURCE (EM):
      - 3a/3EM - ROUTED THROUGH A U.L. LISTED TRANSFER RELAY (LC & D #GR-2001E/S) FOR SWITCHED CONTROLS OR A U.L. LISTED TRANSFER SWITCH (BODINE #GTD SERIES DEVICE) FOR DIMMING CONTROLS. CONNECTED TO A CONSTANT HOT EMERGENCY CIRCUIT "3". SEE DISTRIBUTED LIGHTING CONTROL SPECIFICATIONS FOR DEVICE REQUIREMENTS WHEN CONTROLLED BY OCCUPANCY SENSORS.
      - 3NL/3EM - FIXTURE CONNECTED TO A CONSTANT HOT EMERGENCY CIRCUIT "3".
   c. REMOTE BACK-UP SOURCE (EM) NOTES:
      - ALL REMOTE BACK UP SOURCE (EM) FIXTURES SHALL BE PROVIDED WITH AN IN LINE FUSE. PROVIDE ADDITIONAL LABELING TO INDICATE FIXTURE IS PROTECTED BY A FUSE.

2. EMERGENCY BATTERY PACK NOTES:

   a. PROVIDE INTEGRAL TEST SWITCH / CHARGE LIGHT OPTION FOR ALL EMERGENCY BATTERY PACKS INSTALLED IN LIGHT FIXTURES.

   b. ALL RECESSED DOWNLIGHTS SUPPLIED WITH A BATTERY PACK SHALL BE PROVIDED WITH AN INTEGRAL COMBINATION TEST SWITCH / CHARGING INDICATOR LIGHT- MOUNTED INSIDE THE REFLECTOR. REMOTE TEST SWITCH / CHARGING LIGHTS ARE NOT ALLOWED. THE TEST SWITCH / CHARGING INDICATOR LIGHT SHALL BE SECURELY ATTACHED TO THE REFLECTOR WITH 18" OF SLACK LEADS, FOR EASY REMOVAL OF THE REFLECTOR ASSEMBLY.

   c. ALL BATTERY PACKS AND ALL COMBINATION LED BATTERY PACK/EMERGENCY DRIVERS SHALL BE UL924 LISTED.

   d. PRIOR TO BID, CONTRACTOR SHALL VERIFY WITH FIXTURE MANUFACTURER(S) THAT EMERGENCY BATTERY PACKS ARE MANUFACTURED TO BE INTEGRAL TO FIXTURE HOUSINGS.

   e. SHOULD THE SPECIFIED LED EMERGENCY BATTERY PACK(S) NOT FIT WITHIN A GIVEN FIXTURE(S) OR SHOULD THE FIXTURE NOT BE MANUFACTURED TO ACCOMMODATE A BATTERY PACK, CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID TO LOCATE/CONNECT SELF-TESTING MINI INVERTER(S) (IOTA #LS SERIES OF BODINE#LI-5-(WATT?)) REMOTELY FROM THE FIXTURE(S) IN THE NEAREST ELECTRICAL ROOM OR TO LOCATE EMERGENCY BATTERY PACK(S) REMOTELY FROM THE FIXTURE ABOVE THE NEAREST ACCESSIBLE CEILING.

   f. LED BATTERY PACKS SHALL PROVIDE A MINIMUM OF 90 MINUTES OF EMERGENCY ILLUMINATION, AND SHALL BE RATED AT A MINIMUM OF 10 WATTS, OR AS SPECIFIED. WHERE A FIXTURE TYPE IS UNAVAILABLE WITH A 10W BATTERY PACK OR WHERE THE WATTAGE IS NOT SPECIFIED ON THE PLANS, INCLUDE ALL COST IN BASE BID TO PROVIDE THE HIGHEST WATTAGE AVAILABLE ON THE FIXTURE CUTSHEET. ANY LISTED EQUAL FIXTURE OR ANY SUBSTITUTION OFFERED BY THE CONTRACTOR MUST ALSO HAVE BATTERY PACKS CAPABLE OF PRODUCING THE SAME OR MORE LUMENS WHEN ON BATTERY AS OUTLINED ABOVE. ACCEPTABLE MANUFACTURES: BODINE OR IOTA.

   g. TO MAINTAIN UL LISTING OF LED FIXTURE, FIXTURE MANUFACTURER(S) SHALL INSTALL LED EMERGENCY BATTERY PACKS AT THE FACTORY AND OBTAIN A UL LISTING FOR THE FIXTURE WITH EMERGENCY BATTERY PACK. FIELD-INSTALLATION OF LED EMERGENCY BATTERY PACK(S) IS PROHIBITED.

   h. PROVIDE DAMP LOCATION VERSION IN ALL DAMP LABEL INSTALLATIONS.

2/A10.11, KN 26.05 references a flush floor mount fixture, yet no such fixture is shown here.. Clarify intent

LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	MANUFACTURER AND MODEL NUMBER	FIXTURE VA/ WATTS	LAMP/ LAMP OPTION	GENERAL DESCRIPTION
	1	AXIS LIGHTING WET BEAM4LED - SURFACE WBSLED-500-80-35-S-4-[FINISH]-UNV-DP-2-SF EQUAL BY: FAIL-SAFE OR ALW	22W	LED/3500K	SURFACE MOUNTED 4' LINEAR LED. EXTRUDED POLYCARBONATE LENS, WET LOCATION LISTED, IP65 RATED. 0-10V DIMMING, 1500 LUMEN. FINISH AS SELECTED BY ARCHITECT. - - -
	2A	AXIS LIGHTING WET BEAM4LED - RECESSED WBRLED-600-80-35-S-4-[FINISH]-UNV-DP-2-SF-DF-B EQUAL BY: FAIL-SAFE OR ALW	27W	LED/3500K	RECESSED DRYWALL FLANGE MOUNTED 4' LINEAR LED. EXTRUDED POLYCARBONATE LENS, WET LOCATION LISTED. IP65 RATED. 0-10V DIMMING, 2,400 LUMEN. PROVIDE EMERGENCY BATTERY PACK BACK-UP WHERE INDICATED ON PLANS. FINISH AS SELECTED BY ARCHITECT. - -
	2B	AXIS LIGHTING WET BEAM4LED - RECESSED WBRLED-750-80-35-S-2-[FINISH]-UNV-DP-2-SF-DF-B EQUAL BY:	17W	LED/3500K	SAME AS TYPE 2A, EXCEPT 2 FOOT AND 1,500 LUMENS. - - -
	2C	AXIS LIGHTING WET BEAM4LED - RECESSED WBRLED-400-80-35-S-2-[FINISH]-UNV-DP-2-SF-DF-B EQUAL BY: FAIL-SAFE OR ALW	55W	LED/3500K	SAME AS TYPE 2A, EXCEPT 12 FOOT AND 4,800 LUMENS. - - - -
	3	LITHONIA WDGE3 LED WDGE3-P1-40K-70-R3-MVOLT-SRM-E20W-PE-DMG-PIR EQUAL BY: MC GRAW EDISON OR GARDCO	52W	LED/4000K	LED, TRAPEZOID, WALL PACK, TYPE 3 DISTRIBUTION, 7,524 LUMENS, IP65 RATED, INTEGRAL PHOTOCELL AND MOTION SENSOR, PROVIDE EMERGENCY BATTERY BACK-UP WHERE INDICATED ON PLANS. FINISH AS SELECTED BY ARCHITECT. -
	4	iO LED - CoviO GRZ-05L-927-ASYMx40-OD-UNV-S-ADJ-STD-4F - EQUAL BY: MC GRAW EDISON OR GARDCO	20W	LED/2700K	LED, 4FT SIGN LIGHTING WALL WASH FIXTURE WITH INTEGRAL DRIVER, 0-10V DIMMING, IP66 RATED WET LOCATION, 500 LUMENS/FT, ASSYMENTRICAL DISTRIBUTION. PROVIDE APPROPRIATE JUMPER CABLES BETWEEN FIXTURES AS REQUIRED. -

SEE GENERAL LIGHTING FIXTURE SCHEDULE NOTES FOR CRITICAL FIXTURE SPECIFICATION AND ORDERING INFORMATION.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: NTS

E31.1

LIGHTING FIXTURE SCHEDULE

wsp
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928

DLCS SCHEDULE

SYSTEM TOPOLOGY	COMMUNICATION TOPOLOGY	FIXTURE INTEGRATED SENSING	BAS INTEGRATION	WIRELESS DLCS COMPONENT BATTERY USAGE	REMARKS
NETWORKED	WIRED	NO	NO	NONE - WIRELESS NOT ACCEPTABLE	WIRELESS NOT ACCEPTABLE

DISTRIBUTED LIGHTING CONTROL SYSTEM REQUIREMENTS:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FURNISHING OF ALL MATERIAL, LABOR, EQUIPMENT, AND SERVICES, IN CONNECTION WITH THE INSTALLATION OF A COMPLETE AND FULLY FUNCTIONING AND CODE COMPLIANT INSTALLATION.
2. IT IS THE INTENT OF THE CONTRACT DOCUMENTS, WHICH ARE PRESENTED IN A DIAGRAMMATIC FORMAT, TO PROVIDE CONTRACTOR INFORMATION THAT SUPPLEMENTS AND ENHANCES THE GENERALLY ACCEPTED CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES EMPLOYED IN CONNECTION WITH INSTALLATION OF THIS TYPE OF PRODUCT/SYSTEM.
3. THE CONTRACTOR SHALL ALSO INCORPORATE THE REQUIREMENTS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS/WARRANTY REQUIREMENTS AS PART OF THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS. IN THE EVENT OF A CONFLICT BETWEEN THE CONTRACT DOCUMENT REQUIREMENTS AND THE MANUFACTURER'S INSTALLATION REQUIREMENTS, THE MORE STRINGENT REQUIREMENTS SHALL APPLY - UNLESS THE MORE STRINGENT REQUIREMENT VOIDS APPLICABLE WARRANTIES OR VIOLATES THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. ANY SUCH CONFLICT SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING THROUGH THE FORMAL RFI PROCESS.
4. REFER TO THE ASSOCIATED SCHEDULES, SCHEMATICS, DRAWINGS, AND SPECIFICATIONS FOR DETAILED INFORMATION/REQUIREMENTS ON THIS PRODUCT/SYSTEM.
5. CONTRACTOR IS RESPONSIBLE TO VERIFY LIGHT FIXTURE DIMMING PROTOCOLS ARE COMPATIBLE WITH THE DLCS.
6. SECURITY STANDARD CERTIFICATIONS, SHOP DRAWINGS AND COMPONENT SUBMITTALS SHALL BE SUBMITTED PER THE GENERAL SPECIFICATION REQUIREMENTS SHOWING ALL COMPONENTS, WIRING CONFIGURATIONS AND PROGRAMMING SCHEDULES. SCALED SHOP DRAWINGS DEPICTING/IDENTIFYING ALL SYSTEM COMPONENT LOCATIONS SHALL BE PROVIDED. SUBMITTALS SHALL BE MADE SPECIFIC TO THE PROJECT - GENERIC SUBMITTALS AND SUBMITTALS WITHOUT SCALED SHOP DRAWINGS SHALL BE REJECTED.

nLIGHT:

WALL BOX SENSORS:
- STANDALONE SINGLE RELAY = #WSX-PDT
- STANDALONE DUAL RELAY = #WSX-PDT-2P
- SYSTEM-BASED DIMMING CONTROL = #nWSX-PDT-LV-DX

CEILING SENSORS:
- ONE-WAY DIRECTIONAL = (WIRED) #NRM-PDT-9 W/MASKING AS REQUIRED
- 360 DEGREE COVERAGE = #NRM-PDT-9 STANDARD RANGE; #(WIRED) NRM-PDT-10 EXTENDED RANGE/CORRIDOR; #RCMS-PDT-9-G2

DAYLIGHT SENSORS:
- CLOSED LOOP SENSOR = (WIRED) #NES-ADCX OR #NRM-ADCX (ONLY IF REQUIRED BY CLG. TYPE)

CONTROL UNITS:
- SWITCH / STEPPED DIMMING = (WIRED) #NPP-16/#NSP-16
  NUMBER OF RELAYS AS REQUIRED.
- CONTINUOUS DIMMING (O-10V) = (WIRED) #NPP16-D
  NUMBER OF RELAYS AS REQUIRED.
- CONTINUOUS DIMMING (UNIVERSAL) = (WIRED) #NSP5-PCD. NUMBER OF RELAYS AS REQUIRED.
- AUXILIARY INPUT/ OUTPUT CONTROL = #NAR-40
- RECEPTACLE CONTROL = (WIRED) #NPP20 PL
- AV SYSTEM SERIAL INTERFACE = #nIO X (SCREENS / AV SYSTEM INTEGRATION)
- HVAC CONTROL = #NAR-40
- MOVEABLE PARTITION INTERFACE & SENSOR = #FRESCO TOUCH PANEL #NFCS-7TSN (PER SPACE), #NIO-1S POWER PACK (SENSOR POWER), & #ENTERTAINMENT NETWORKS PARTITION SENSOR W/BOTTOM COVER (www.entertainmentworks.com).
- DUAL MODE CORRIDOR/STAIRWAY/AISLEWAY CONTROL INPUT = #NDTC

WALL CONTROLS:
- DIMMING = (WIRED) #NPODM-DX SERIES
  (# OF DIMMERS AS REQUIRED - 4 / YOKE MAX)
- KEYED SWITCH = #NIO INPUT INTERFACE W/LEVITON #1221-2L-? KEYED SWITCH

NETWORK COMM COMPONENTS:
- GATEWAY = #NECY-MVOLT BAC ADR ENC GFXK WITH ENCLOSURE
- BRIDGE = #NBRG-8-KIT

NETWORK RELAY PANELS: ARP INTENCXX NLT XXFCR MVOLT, QTY AS REQUIRED, TO INCLUDE SPARE RELAYS SHOWN IN SCHEDULES.

EMERGENCY POWER INTERFACE:
- SWITCHING / STEP DIMMING = (WIRED) NPP16-ER
  NUMBER OF RELAYS AS REQUIRED, NORMAL CIRCUIT REQUIRED.
- CONTINUOUS DIMMING = (WIRED) #NPP16-D-ER

LOAD INTERFACE DEVICE:
- LUTRON COMPONENTS = LUTRON #BCI-0-10.
- REVERSE PHASE DIMMING COMPONENTS = (WIRED) #NSP5-PCD-ELV120 OR LUTRON #PHPM-PA-DV-WH
- FORWARD PHASE DIMMING COMPONENTS = (WIRED) #NSP5-PCD-MLV OR LUTRON #PHPM-PA-DV-WH
- 2 & 3 WIRE DIMMING COMPONENTS = (WIRED) #NSP5-PCD-2W/3W OR LUTRON #PHPM-PA-DV-WH

WATTSTOPPER:

WALL BOX SENSORS:
- STANDALONE SINGLE RELAY = #DW-100
- STANDALONE 0-10V DIMMING WITH SINGLE RELAY = #PW-311
- STANDALONE DUAL RELAY = #DW-200
- SYSTEM-BASED DIMMING CONTROL = #LMDW-102

CEILING SENSORS:
- ONE-WAY DIRECTIONAL = (WIRED) #LMDC-100 WITH MASKING AS REQUIRED
- 360 DEGREE COVERAGE = (WIRED) #LMDC-100

DAYLIGHT SENSORS:
- OPEN LOOP SENSOR = (WIRED) #LMLS-500 (1-3 ZONE)
- CLOSED LOOP SENSOR = (WIRED) #LMLS-400 (1 ZONE ONLY)
- REMOTE CONTROL = #LMCT-100 (HAND TO OWNER AT COMPLETION OF PROJECT.)

CONTROL UNITS:
- SWITCHED = (WIRED) #LMRC-10? (NUMBER OF RELAYS AS REQUIRED) (WIRELESS) #LMRC-67?MCC
- CONTINUOUS DIMMING (O-10V, WIRED) = #LMRC-21? (NUMBER OF RELAYS AS REQUIRED).
- CONTINUOUS DIMMING (O-10V, WIRELESS) = #LMRC-67?MCC (NUMBER OF RELAYS AS REQUIRED).
- CONTINUOUS DIMMING (UNIVERSAL, WIRED) = #LMRC-22? (NUMBER OF RELAYS AS REQUIRED).
- RECEPTACLE CONTROL = #LMPL-101 OR LMPL-201 (WHERE MORE THAN 4 RECEPTACLE CONTROL UNIT SARE TIED TOGETHER) #LMPL-67? (WHEN AVAILABLE)
- HVAC CONTROL = (WIRED) #LMRL-100
- AV SYSTEM SERIAL INTERFACE = (WIRED) #LMDI-100
- MOVEABLE PARTITION INTERFACE & SENSOR = PARTITION INTERFACE - #LMIO-102; PARTITION SWITCH/STATUS INDICATOR - #LMPS-104; POWER PACK - #BZ-50 (SENSOR POWER); PARTITION SENSOR - #ENTERTAINMENT NETWORKS SENSOR W/ BOTTOM COVER (www.entertainmentworks.com).
- DUAL MODE CORRIDOR/STAIRWAY/AISLEWAY CONTROL INPUT = #LMZC-301, UNLESS OTHERWISE NOTED.

WALL CONTROLS:
- DIMMING = (WIRED) #LMSW-101/102/103/104/108 (# OF SWITCHES AS REQUIRED 4/YOKE MAX)
- KEYED SWITCH = #LMIO-101 INPUT INTERFACE W/ LEVITON #1Z21-2L-? KEYED SWITCH

NETWORK COMM COMPONENTS:
- ZONE SEGMENT MANAGER = (WIRED OR WIRELESS) #LMSM-3E/#LMSM-6E W/#LMSM-ENC1 ENCLOSURE.
- NETWORK BRIDGE / ROUTER / SWITCH = (WIRED) #LMBC-300/#NB-ROUTER/#NB-SWITCH
- NETWORK WIRING = (WIRED) #LM-MSTP.

NETWORK RELAY PANEL: LMCP8, 24, OR 48

EMERGENCY POWER INTERFACE:
- SWITCHING / STEP DIMMING = #ELCU-200 BYPASS DEVICE.
- CONTINUOUS DIMMING = #ELCU-200 BYPASS DEVICE.

LOAD INTERFACE DEVICE:
- LUTRON COMPONENTS = LUTRON #BCI-0-10.
- REVERSE/FORWARD PHASE DIMMING COMPONENTS = LUTRON #PHPM-PA-DV-WH.

COOPER LIGHTING SOLUTIONS NETWORK LIGHTING CONTROL (WaveLinx Wired):

WALL BOX SENSORS:
- STANDALONE SINGLE RELAY = #ONW-D-1001-MV-N SERIES
- STANDALONE DUAL RELAY = #ONW-D-1001-DMV-N SERIES
- STANDALONE SINGLE RELAY WITH 0-10VDC = #OSW-D-010 SERIES
- SYSTEM-BASED WALLBOX = NOT AVAILABLE

CEILING SENSORS:
- ONE-WAY DIRECTIONAL = (WIRED) #OAC-DT-501 & SPP-MV (WIRED DIGITAL PIR) #MTS6 (MASKING)
- 360 DEG COVERAGE = (WIRED) #OAC-DT-1000/OAC-DT-2000 & SPP-MV (WIRED DIGITAL PIR) #MTS6/MTS12

DAYLIGHT SENSORS:
- OPEN LOOP SENSOR = (WIRED DIGITAL) #MTS6/MTS12

CONTROL UNITS:
- SWITCH/CONTINUOUS DIMMING (0-10V) = (DIGITAL) #DAC-DC1 OR DAC-DC2 (ONE PER ZONE)
- CONTINUOUS DIMMING (UNIVERSAL) = ONE OF THE ABOVE PLUS #LDCM-PL/#PD216
- AUXILIARY INPUT = (DIGITAL) #UIM
- OUTPUT CONTROL = (DIGITAL) #RI-2-NA
- RECEPTACLE CONTROL = (DIGITAL) #HPRS-MV-DC1
- HVAC CONTROL = #TRELLIX BACNET (OPTIONAL) #-R OPTION ON OCCUPANCY SENSOR.
- AV SYSTEM INTERFACE = #TRELLIX API
- MOVEABLE PARTITION INTERFACE & SENSOR = (DIGITAL) #UIM/#TRR
- DUAL MODE COORIDOR/STAIRWAY/AISLEWAY CONTROL INPUT = PROGRAMMING THROUGH SYSTEM DEMAND RESPONSE. #TRELLIX SERVER LICENSE ADR-2.0b

WALL CONTROLS:
- DIMMING = (DIGITAL) #DW-TSB-RL ALL DEVICES ARE UP TO 5 ZONE/SCENE OR MIX WITH DIMMING.
- SCENE PROGRAMMABLE TOUCHSCREEN = (DIGITAL) #TSE-55 OR #TSC-80
- KEYED SWITCH = (DIGITAL) #UIM ALL USE LEVITON #1221-2L-? KEYED SWITCH

NETWORK COMM COMPONENTS:
- NETWORK ADAPTER = (WIRED) #EG2

NETWORK RELAY PANELS: ILUMIN PLUS SERIES 12, 24, OR 48

EMERGENCY POWER INTERFACE:
- SWITCH / CONTINUOUS DIMMING (0-10V) = (DIGITAL) #DACI-DC1 OR DAC-DC2

LOAD INTERFACE DEVICE:
- FORWARD PHASE DIMMING = (ALL SYSTEMS) PD216-120or277
- REVERSE PHASE DIMMING COMPONENTS = (ALL SYSTEMS) LDCM-PL

NETWORK INTERFACE: (WIRED) #EG2

STAND ALONE ROOM CONTROLLER: WHEN REQUIRED TO HAVE NON NETWORK CONTROL, USE ROOM CONTROLLER RC3D-PL OR RC3DE-PL AND ASSOCIATED SYSTEM COMPONENTS

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 12" = 1'-0"

E31.2

DISTRIBUTED LIGHTING CONTROL SCHEDULE & PRODUCT SPECIFICATIONS

11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928

DISTRIBUTED LIGHTING CONTROLS SYSTEM SPECIFICATIONS (OCCUPANCY / VACANCY SENSORS AND DAYLIGHTING CONTROLS):

1. SEE LIGHTING PLAN DRAWINGS FOR DISTRIBUTED LIGHTING CONTROL SYSTEM (DLCS) SPECIFICS, SPACE SPECIFIC CONFIGURATIONS/REQUIREMENTS, AS WELL AS FIXTURE BALLAST/DRIVER CONFIGURATIONS.

2. ALL PRODUCTS SHALL BE BACKED BY A FIVE YEAR MANUFACTURER'S WARRANTY.

3. ALL PRODUCTS LISTED IN THIS SPECIFICATION ARE BASED UPON PRODUCTS LISTED ON THIS SHEET. THE FEATURES AND CHARACTERISTICS OF THE PRODUCT LITERATURE AND SPECIFICATION SHEETS AVAILABLE ON THE VARIOUS MANUFACTURER'S WEB-SITES ARE INCLUDED IN THE REQUIREMENT OF THESE SPECIFICATIONS. ALL DLCS NETWORKED/NON-NETWORKED SYSTEM-BASED AND STANDALONE COMPONENTS SHALL BE PROVIDED BY A SINGLE MANUFACTURER.

4. DLCS COMPONENTS SHALL BE COMPLIANT WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL ENERGY CODES.

5. ALL NETWORKED AND NON-NETWORKED SYSTEM-BASED DLCS SYSTEMS SHALL BE COMPLIANT WITH AND CERTIFIED TO THE FOLLOWING SECURITY STANDARDS SET FORTH IN THE LATEST PUBLISHED VERSION OF THE DESIGNLIGHTS CONSORTIUM'S "NETWORKED LIGHTING CONTROL SYSTEM TECHNICAL REQUIREMENTS" DOCUMENT (VERSION 4.0 OR LATEST PUBLISHED VERSION):

   - DLCS COMPONENTS: UL2900-1 UL STANDARD FOR SOFTWARE CYBER SECURITY FOR NETWORK-CONNECTABLE PRODUCTS.

   - DLCS DESIGN PROCESS: UL 2900-1 UL STANDARD FOR SOFTWARE CYBER SECURITY FOR NETWORK-CONNECTABLE PRODUCTS AND/OR ISO/IEC 27001 STANDARD FOR INFORMATION SECURITY MANAGEMENT SYSTEMS.

   - DLCS CLOUD SERVICES: ANY ASSOCIATED DLCS CLOUD SERVICES SHALL MEET THE REQUIREMENTS OF ISO/IEC 27017 (WITH 27001) STANDARD FOR CODE OF PRACTICE FOR INFORMATION SECURITY CONTROLS FOR CLOUD SERVICES.

   WHERE THE MANUFACTURER CANNOT DEMONSTRATE COMPLIANCE WITH THE ABOVE REQUIREMENTS, THE DLCS MANUFACTURER SHALL PROVIDE A COMPREHENSIVE PRODUCT-SPECIFIC IT SECURITY STATEMENT FOR REVIEW BY THE OWNER. THE DLCS SHALL NOT BE CONNECTED TO AN OWNER-FURNISHED NETWORK WITHOUT PRIOR WRITTEN PERMISSION BY THE OWNER,

   ADDITIONALLY, WHERE INSTALLED IN THE STATE OF CALIFORNIA, SYSTEM-BASED DLCS SYSTEMS SHALL BE COMPLIANT WITH CA STATE ASSEMBLY BILL NO. 375 CALIFORNIA PRIVACY ACT OF 2018 AND CA STATE SENATE BILL NO 327 INFORMATION PRIVACY FOR CONNECTED DEVICES.

6. WHERE THE DLCS SCHEDULE INDICATES A SPECIFIC "SYSTEM TOPOLOGY" OPTION, PROVIDE ONE OF THE FOLLOWING:

   "NETWORKED" - PROVIDE A SYSTEM-BASED DLCS THAT COMMUNICATES USING A MANUFACTURER-SPECIFIC DLCS NETWORK ALLOWING BI-DIRECTIONAL FLOW OF INFORMATION BETWEEN DEVICES SUCH AS ROOM CONTROLLERS, SENSORS, RELAY PANELS AND NETWORK CONTROLLERS. PROVIDE A DLCS GUI AND RELATED SOFTWARE TO FACILITATE REMOTE DLCS DEVICE PARAMETERS CHANGES, REMOTE CONTROL ANY DLCS ELEMENT OR DEVICE, REMOTE SCHEDULE CHANGES/IMPLEMENTATIONS, AND REMOTE DLCS COMMISSIONING AND TROUBLESHOOTING. A NETWORKED SYSTEM TOPOLOGY SHALL BE CONFIGURED TO RESPOND TO LOCAL UTILITY DEMAND RESPONSE SIGNALS.

   "NON-NETWORKED" - PROVIDE A SYSTEM-BASED DLCS THAT COULD BE MADE TO COMMUNICATE USING A MANUFACTURER-SPECIFIC DLCS NETWORK, BUT FOR THIS PROJECT IS CONFIGURED WITHOUT ANY NETWORK CONNECTIVITY OR NETWORK COMPONENTS, EXCEPT FOR ANY NETWORK COMPONENTS REQUIRED FOR DUAL MODE CONTROL FOR CORRIDORS, WAREHOUSE AISLES ETC. OR WHERE REQUIRED FOR BAS INTEGRATION REQUIRED IN THE DLCS SCHEDULE OR ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS. IN A "NON-NETWORKED" DLCS, DEMAND RESPONSE CAPABILITY IS NOT REQUIRED.

   "STAND ALONE" - PROVIDE INDIVIDUAL WALL SENSORS/CONTROLS - OPERATING AT 120V OR 277V. GENERALLY, STANDALONE COMPONENT INSTALLATIONS ARE TO BE AVOIDED AND ARE LIMITED TO USE IN SMALL ROOMS WHERE ADVANCED CONTROLS, DIMMING CAPABILITY, DEMAND RESPONSE, DUAL MODE CONTROL AND/OR NETWORK CONNECTIVITY ARE NOT REQUIRED BY APPLICABLE ENERGY CODE AND WHERE ACCEPTABLE TO AN END-USER.

7. WHERE THE DLCS SCHEDULE INDICATES A SPECIFIC "COMMUNICATIONS TOPOLOGY" OPTION, PROVIDE ONE OF THE FOLLOWING:

   PROVIDE WIRING, AS REQUIRED, TO INTERCONNECT DLCS DEVICES. WIRING MAY BE A COMBINATION OF LOW AND LINE VOLTAGE CONDUCTORS BASED ON SPECIFIC MANUFACTURER REQUIREMENTS.

   "WIRELESS" - PROVIDE WIRELESS CONNECTIVITY BETWEEN WALL CONTROLS, WALL, CEILING OR FIXTURE-INTEGRATED SENSORS, ROOM CONTROLLERS, WIRELESS ROUTER(S), AND WIRELESS NETWORK BRIDGES. CONTRACTOR SHALL PROVIDE WIRELESS ROUTERS, QTY AS REQUIRED, TO MAINTAIN ROBUST COMMUNICATIONS WITH ALL WIRELESS DEVICES. ROBUST MEANS THAT A CHANGE OF VALUE FROM OR TO ANY DLCS SYSTEM COMPONENT FROM OR TO AN APPLICABLE WIRELESS ROUTER/BRIDGE OCCURS IN LESS THAN 3 SECONDS.

   "HYBRID" - WHERE A SOLELY WIRELESS DLCS TOPOLOGY IS DEEMED INADEQUATE BASED ON OPERATIONAL OR AESTHETIC REASONS, A WIRELESS TOPOLOGY SHALL BE AUGMENTED WITH WIRED SYSTEM TO FORM A HYBRID COMMUNICATIONS TOPOLOGY. AREAS REQUIRING WIRED CONNECTIVITY SHALL BE OUTLINED ON THE LIGHTING PLANS AND UNLESS OTHERWISE INDICATED, ALL RESTROOMS SHALL BE PROVIDED WITH DUAL TECHNOLOGY OCCUPANCY SENSORS WHICH REQUIRE WIRED CONNECTIVITY AND WIRED POWER SUPPLY. A NETWORKED, SYSTEM-BASED DLCS INSTALLED WITH A HYBRID COMMUNICATIONS TOPOLOGY SHALL APPEAR IN THE USER GUI/SOFTWARE AS A SINGLE UNIFIED SYSTEM. SEPARATE GUI SOFTWARE INTERFACES FOR THE WIRED AND WIRELESS PORTIONS OF THE DLCS ARE UNACCEPTABLE.

9. WHERE THE DLCS SCHEDULE REQUIRES FIXTURE-INTEGRATED SENSORS, PROVIDE OCCUPANCY AND/OR DAYLIGHT SENSORS INTEGRATED WITHIN SPECIFIED FIXTURE TYPE THAT ALSO INTEGRATE INTO THE DLCS. SEE THE LIGHTING FIXTURE SCHEDULE FOR AFFECTED FIXTURE TYPE(S). WHERE INTEGRATED SENSORS DO NOT MEET OCCUPANCY/DAYLIGHT SENSOR COVERAGE REQUIREMENTS, CONTRACTOR SHALL AUGMENT COVERAGE WITH ADDITIONAL CEILING MOUNTED SENSORS AS REQUIRED AND AS A PART OF THE BASE BID.

10. WHERE THE DLCS SCHEDULE REQUIRES THE DLCS TO INTEGRATE WITH THE PROJECT'S BUILDING AUTOMATION SYSTEM (BAS) - SEE THE DLCS START-UP, BUILDING AUTOMATION SYSTEM (BAS) INTEGRATION, COMMISSIONING, & TRAINING PORTION OF THIS SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

11. WHERE THE DLCS SCHEDULE INDICATES "WIRELESS" OR "HYBRID" COMMUNICATIONS TOPOLOGIES AND ALOS ALLOWS WIRELESS DLCS COMPONENT BATTERY USAGE, PROVIDE BATTERIES WITHIN THE WIRELESS DLCS COMPONENTS INDICATED IN LIEU OF LINE OR LOW VOLTAGE POWER SOURCES.

12. DLCS COMPONENTS SHALL BE BE PROVIDED AS FOLLOWS:

    a. STANDALONE: WALL MOUNTED OCCUPANCY SENSORS SHALL BE UL LISTED AND HAVE A MINIMUM LOAD CAPACITY OF 800 WATTS AT 120 VOLTS AND 1200 WATTS AT 277 VOLTS. WALL SENSORS SHALL ALSO BE DECORA STYLE, WITH A LOW-PROFILE APPEARANCE AND A HARD LENS FOR DURABILITY. SENSOR SHALL UTILIZE PASSIVE INFRARED TECHNOLOGY (PIR) AND ULTRASONIC/MICROPHONIC TECHNOLOGY. UNIT SHALL BE RATED FOR 120/277 VOLT WITH NO MINIMUM LOAD, COMPATIBLE WITH ALL THE SPECIFIED BALLASTS, PROVIDED WITH A NEUTRAL CONNECTION (NO LEAKAGE TO GROUND) AND NO LEAKAGE TO LOAD IN THE "OFF" MODE. SENSOR SHALL BE UTILIZED IN SPACES NOT EXCEEDING 150 SQ.FT. SINGLE RELAY SENSORS SHALL BE CONFIGURED WITH THE RELAY IN A "MANUAL ON/ AUTO OFF" SETTING. DUAL RELAY SENSORS SHALL BE CONFIGURED WITH THE FIRST RELAY IN A "AUTOMATIC ON/ AUTOMATIC OFF" SETTING AND THE SECOND RELAY IN A "MANUAL ON/ AUTOMATIC OFF" SETTING. FACTORY STANDARD COLOR TO BE APPROVED BY ARCHITECT.

    b. SYSTEM-BASED (NETWORK OR NON-NETWORK): THE OCCUPANCY SENSOR SYMBOL SHALL REPRESENT A LOW VOLTAGE, WALL MOUNTED OCCUPANCY SENSOR CONNECTED TO A CONTROL UNIT(S) AS REQUIRED. SENSOR SHALL BE DECORA STYLE WITH A LOW-PROFILE APPEARANCE, HAVE ON/OFF/RAISE/LOWER BUTTONS, AND A HARD LENS FOR DURABILITY. FACTORY STANDARD COLOR TO BE APPROVED BY ARCHITECT.

       SYSTEM-BASED (NETWORK OR NON-NETWORK) OR STANDALONE CEILING MOUNTED OCCUPANCY SENSORS SHALL SHALL REPRESENT A LOW VOLTAGE, CEILING-MOUNTED OCCUPANCY SENSOR WITH A LOW-PROFILE APPEARANCE AND SHALL BE CONFIGURED IN ONE OF THE FOLLOWING WAYS AS INDICATED ON THE DRAWINGS:

       - AUTO ON: a/b

       - SWITCHED: AUTO ON a / MANUAL ON b

       - CONTINUOUS DIMMED: AUTO ON 50% a / MANUAL ON 100% a

    c. SENSOR(S) SHALL UTILIZE DUAL TECHNOLOGY (PIR AND ULTRASONIC/MICROPHONIC TECHNOLOGY) WITH 360 DEGREE COVERAGE. IN SPACES WITH DESKTOP ACTIVITIES, THE COVERAGE SHALL BE "HAND MOTION" AND SHALL NOT EXCEED 500 SQ. FT. AT A MAXIMUM CEILING HEIGHT OF 10 FT. IN CORRIDORS, STORAGE ROOMS AND OTHER SPACES WITH NON-DESKTOP ACTIVITIES, COVERAGE SHALL BE "HALF-STEP, WALKING MOTION" AND SHALL NOT EXCEED 1200 SQ. FT. AT A MAXIMUM CEILING HEIGHT OF 10 FT. PIR-ONLY WIRELESS OCCUPANCY SENSORS SHALL NOT BE UTILIZED IN RESTROOMS OR LOCKER ROOMS.

    d. "H" AT THE OCCUPANCY SENSOR INDICATES CONNECTION TO AUXILIARY OUTPUT CONTROL DEVICE FOR CONTROL OF A THIRD PARTY DEVICE VIA LOW-VOLTAGE CONTACT CLOSURES - 1 AMP @ 24V AC/DC. NC/NO RELAYS SHALL BE CONNECTED TO A CONTROLLER TO PERFORM THE AUXILIARY CONTROL REQUIREMENTS INDICATED BY THE
       DRAWINGS.

    e. OCCUPANCY SENSORS LOCATED WITHIN CORRIDORS, HALLWAYS, STAIRWAYS/WELLS, AISLEWAYS WITHIN WAREHOUSE SPACES, AND IN OTHER AREAS PER PLANS AND/OR SOO SHALL BE CONFIGURED TO CREATE DUAL MODE CONTROL FUNCTIONALITY PER THE SOO/ZONE SCHEDULE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL DEVICES AND WIRING REQUIRED FOR DUAL MODE OPERATIONS AND ANY PROGRAMMING/CONFIGURATION OF TIME-BASED OPERATING PARAMETERS. COORDINATE WITH OWNER TO DETERMINE BUSINESS HOUR/AFTER BUSINESS HOUR MODES. IF THE PLANS IDENTIFY A NEW OR EXISTING LIGHTING CONTROL PANEL AS THE SOURCE OF DUAL MODE TIMING, E.C. SHALL INCLUDE ALL COSTS TO INSTALL ANY NECESSARY I/O TERMINALS, CARDS, ETC. TO MAKE THE SYSTEM FULLY FUNCTIONAL.

    f. NETWORK SYSTEM-BASED DLCS SYSTEMS SHALL PROVIDE/RESULT IN "LADDERLESS COMMISSIONING" OF DAYLIGHT CONTROLS. AT A MINIMUM, NETWORK ACQUIRED DATA SHALL PROVIDE CT-BASED LIGHTING POWER (WATTS) MEASUREMENTS PER THE COMMISSIONING PORTION OF THESE REQUIREMENTS. PROVIDE NETWORKED CONTROL UNITS/POWER PACKS/INTERFACES AND MISCELLANEOUS EQUIPMENT AS FOLLOWS:

       1) NETWORK SEGMENT MANAGER OR BORDER ROUTER WITH NATIVE BACnet IP - QUANTITY AS REQUIRED BASED UPON A MAXIMUM OF 100 LOCAL ROOM NETWORKS PER SEGMENT AND A MINIMUM OF ONE SEGMENT MANAGER PER FLOOR. THIS EQUIPMENT SHALL BE LOCATED IN THE TYPICAL FLOOR ELECTRICAL ROOM.

       2) NETWORK BRIDGE CONNECTING THE SEGMENT MANAGER TO THE CONTROLLER SUB/LOCAL NETWORK.

       3) ALL CORRIDORS, WAREHOUSE AISLE WAYS, AND STAIRWELLS SHALL BE PROVIDED WITH DUAL MODE CORRIDOR/STAIRWAY CONTROLS TO INCLUDE CEC-LISTED TIME CLOCK(S), ROUTERS, OR SYSTEM GATEWAYS, INTERPOSING RELAYS (WHEN INTERFACING WITH EXISTING CEC-LISTED RELAY PANELS), WIRING, 120V POWER, PROGRAMMING, ETC. NECESSARY FOR A COMPLETE AND FUNCTIONING CONTROL SYSTEM.

       4) INCLUDE ALL COSTS IN BASE BID TO PROVIDE 120V CIRCUIT(S) AND RECEPTACLE(S) NECESSARY TO POWER ALL DEMAND RESPONSE EQUIPMENT.

       5) PROVIDE DATA OUTLET/PATHWAY, DATA CABLING (IF REQUIRED ELSEWHERE BY PROJECT DOCUMENTS), AND CONNECTION TO THE PROJECT'S LOCAL AREA NETWORK.

       6) INCLUDE ALL COSTS IN BASE BID TO PROVIDE 120V CIRCUIT(S) AND RECEPTACLE(S) NECESSARY TO POWER ALL NETWORK SEGMENT MANAGERS, SWITCHES AND ROUTERS.

       7) DEMONSTRATE DLCS RESPONSE TO A SIMULATED DEMAND RESPONSE REQUEST AS PART OF THE LIGHTING COMMISSIONING PROCESS. WHERE MORE THAN ONE WIRING TOPOLOGY AND/OR ZONE IS REQUIRED TO ACCOMPLISH DEMAND RESPONSE - ALL WIRING TOPOLOGIES AND ZONES SHALL BE TESTED ACCORDINGLY. SEE DLCS SOO FOR POWER REDUCTION PERCENTAGES BY ROOM TYPE THAT SHALL BE UTILIZED IN THE SIMULATED DEMAND RESPONSE TESTING.

    g. WHERE INDICATED ON DRAWINGS, PROVIDE DLCS DAYLIGHTING CONTROLS AS FOLLOWS:

       1) AUTOMATIC SWITCHING DAYLIGHTING CONTROLS SHALL BE PROVIDED TO SWITCH SELECTED FIXTURES AND/OR LAMPS OFF AND ON BASED UPON LIGHTING LEVELS PRESENT IN THE CONTROLLED SPACE. THE DAYLIGHTING CONTROLS SHALL BE CONNECTED TO THE CONTROL UNIT. THE SENSOR SHALL UTILIZE AN INTEGRAL PHOTO DIODE TO MEASURE AMBIENT LIGHT LEVELS. CONTROLS SHALL BE FULLY ADJUSTABLE FROM 1 TO 6,500 FOOTCANDLES AND SHALL BE PROVIDED WITH AN ADJUSTABLE TIME DELAY AND ADJUSTABLE DEAD BAND SETTINGS.

       2) AUTOMATIC DIMMING DAYLIGHTING CONTROLS SHALL BE PROVIDED TO CONTINUOUSLY DIM SELECTED FIXTURES/LAMPS UP AND DOWN BASED UPON LIGHTING LEVELS PRESENT IN THE CONTROLLED SPACE. THE SENSOR SHALL UTILIZE AN INTERNAL PHOTO DIODE TO MEASURE AMBIENT LIGHT LEVELS. 0-10 VOLT DIMMING CONTROLS SHALL RANGE FROM 0.2 VOLTS TO 10 VOLTS, WITH AMBIENT LIGHTING SET POINTS FROM 1-6,500 FOOTCANDLES.

       3) AUTOMATIC DAYLIGHTING CONTROLS SHALL BE CONNECTED TO CONTROL UNITS TO PERFORM THE FIXTURE SWITCHING/DIMMING REQUIREMENTS INDICATED BY THE DRAWINGS - CONNECTIONS DIRECTLY TO A BALLAST ARE NOT ALLOWED.

       4) DAYLIGHT SENSOR SHALL PROVIDE CONTROLS FOR UP TO THREE DISTINCT LIGHTING ZONES TO ALLOW SEPARATE CONTROL OF PRIMARY DAYLIT, SECONDARY DAYLIT, AND SKYLIT ZONES.

    h. PROVIDE CONTROL UNITS AND SYSTEM FUNCTIONALITY AS FOLLOWS:

       1) CONTINUOUS DIMMING CONTROLS: SYSTEM-BASED WALL OR CEILING MOUNTED OCCUPANCY SENSORS (CONTINUOUS DIMMED - AUTO ON 50%/MANUAL ON 100%) SHALL BE PROVIDED WITH CONTROL UNITS TO PERFORM THE FIXTURE DIMMING REQUIREMENTS INDICATED BY THE BALLAST AND FIXTURE TYPE. SWITCH LEG INDICATED OUTSIDE THE PARENTHESIS TO BE CONFIGURED AS "AUTO ON 50%/MANUAL ON 100%" FOR CONTINUOUS DIMMED. SWITCH LEGS INSIDE PARENTHESIS INDICATES A MANUAL ACTION REQUIRED TO INCREASE LIGHTING LEVELS ABOVE 50%. CONTROL UNITS WITH INTEGRAL TRANSFORMERS SHALL BE UTILIZED TO PROVIDE POWER TO OCCUPANCY SENSORS AND OTHER CONTROL DEVICES. CONTROL UNITS SHALL BE LOCATED WITHIN JUNCTION BOXES AND NOT EXPOSED IN THE CEILING SPACE. CONTROL UNIT SHALL BE 120/277 VOLT RATED WITH NO MINIMUM LOAD, COMPATIBLE WITH ALL THE SPECIFIED BALLASTS PROVIDED WITH A NEUTRAL CONNECTION (NO LEAKAGE TO GROUND) AND NO LEAKAGE TO LOAD IN THE "OFF" MODE. ADDITIONAL RELAY ZONES MAY BE REQUIRED FOR THE ADDITION OF PRIMARY DAYLIT, SECONDARY DAYLIT, AND PRIMARY SKYLIT UTILIZING THE SAME CONTROL CHANNEL. (I.E. EVEN THOUGH A SINGLE LETTER "a" IS INDICATED AT THE PRIMARY SENSOR), ADDITIONAL RELAYS WOULD BE REQUIRED FOR THE "a+" (PRIMARY SIDELIT DAYLIT ZONE), "a++" (SECONDARY SIDELIT DAYLIT ZONE), AND "a*" (SKYLIT DAYLIT ZONE). WHERE MORE THAN ONE CIRCUIT/THREE SWITCH LEGS/THREE RELAY ZONES ARE REQUIRED, PROVIDE ADDITIONAL FULL FEATURE CONTROL UNITS AS REQUIRED.

       2) WHERE ADDITIONAL 120/ 277 VOLT DEVICES, RECEPTACLES, OR BRANCH CIRCUITS ARE BEING CONTROLLED BY THE ROOM CONTROLLER, AN ADDITIONAL CONTROL UNIT SHALL BE PROVIDED AS REQUIRED.

       3) THE OCCUPANCY SENSOR CONTROLLED RECEPTACLE BRANCH CIRCUIT RELAY, CONNECTED TO THE SPACE'S DISTRIBUTED LIGHTING CONTROL OCCUPANCY SENSOR RELAY, SHALL TURN ON WHEN THE ROOM IS OCCUPIED, REGARDLESS OF THE CONFIGURATION OF THE LIGHTING CONTROL STATE - I.E. AUTO ON/MANUAL ON. SEE THE DISTRIBUTED LIGHTING CONTROL SPECIFICATION FOR MORE INFORMATION. EVEN THOUGH A SINGLE SYMBOL IS INDICATED, MULTIPLE RELAYS MAY BE REQUIRED TO CONTROL THE REQUIRED NUMBER OF SWITCHLEGS/CIRCUITS.

       4) LOW VOLTAGE WALL CONTROLS SHALL BE DECORA STYLE, LOW-VOLTAGE, MOMENTARY SWITCHES WITH COLOR TO MATCH OTHER WALL DEVICES/SWITCHES. LOWER CASE LETTERS INDICATE SWITCHING CONFIGURATION. PROVIDE SWITCHING OR DIMMING CONTROL DEVICES AS REQUIRED BY DRAWINGS.

          DIMMING - NUMBER OF SWITCHES AS REQUIRED - 4 ZONES/YOKE MAX. EACH CONTROL ZONE TO HAVE A DEDICATED RAISE AND LOWER BUTTONS. FACTORY STANDARD COLOR BY ARCHITECT. EACH MULTI-ZONE DIMMING CONTROL STATION SHALL BE PROVIDED WITH MASTER ON AND MASTER OFF BUTTON IN ADDITION TO THE INDIVIDUAL CONTROL ZONE BUTTONS.

          WHERE INDICATED, PROVIDE VANDAL RESISTANT, HIGH ABUSE SWITCH CONNECTED TO THE DLCS INPUT/OUTPUT INTERFACE DEVICE FOR ON/ OFF AND DIMMING CONTROLS. SWITCHES LOCATED IN HIGH ABUSE AREAS (EXTERIOR AREAS OR AREAS SUBJECT TO WASH-DOWN ETC.) OR IDENTIFIED ON PLANS AS HIGH-ABUSE SWITCHES SHALL BE VANDAL RESISTANT, STAINLESS STEEL, TOUCH SENSITIVE AND AVAILABLE WITH UP TO TWO BUTTONS IN A SINGLE GANG. EACH HIGH ABUSE SWITCH SHALL BE ABLE TO BE PROGRAMMED FOR ON, OFF, TOGGLE OR MAINTAIN OPERATION. SWITCHES MUST BE CAPABLE OF HANDLING ELECTROSTATIC DISCHARGES OF AT LEAST 30,000 VOLTS (1CMSPARK) WITHOUT ANY INTERRUPTION OR FAILURE IN OPERATION.

          WHERE INDICATED, PROVIDE A LOCKING SINGLE POLE SWITCH CONNECTED TO THE ROOM CONTROLLER VIA A INPUT/OUTPUT INTERFACE DEVICE FOR ON/OFF CONTROLS. DIRECT CONNECTION OF THE KEYED SWITCH ON THE LOAD SIDE OF THE CONTROLLER IS PROHIBITED. PROVIDE AT LEAST THREE (3) KEYS TO OWNER AT CONCLUSION OF PROJECT. ADJACENT SWITCH SHALL ONLY BRING LIGHTS FULL ON. KEYED SWITCH ALLOWS MANUAL OFF FUNCTIONALITY. DIMMER SWITCH ALLOWS AUTO-ON 50% OVERRIDE TO 100% ALL-ON AND SHALL NOT ALLOW LIGHTING LEVELS TO DECREASE IN ANY WAY.

    i. WHEN LIGHTING SYSTEM IS INDICATED WITH A CONNECTION TO A REMOTE EMERGENCY POWER SOURCE (I.E. AN INVERTER OR GENERATOR) PROVIDE UL924 LISTED INTERFACE EQUIPMENT TO ALLOW THE OVERRIDE OF THE LOCAL SWITCHING AND/OR DIMMING CONTROLS DURING A POWER OUTAGE.

    j. WHEN LIGHTING FIXTURES/CONTROLS ARE PROVIDED WITH LUTRON 3-WIRE DIMMING BALLASTS, AN INTERFACE DEVICE SHALL BE PROVIDED TO ALLOW 0-10V CONTROL OF LUTRON 3-WIRE DIMMING BALLASTS. MOUNT INTERFACE IN A NEMA1 ENCLOSURE IN ACCESSIBLE CEILING SPACE ADJACENT TO ITS ASSOCIATED CONTROL UNIT.

    k. WHEN LIGHTING FIXTURES/CONTROLS ARE LINE VOLTAGE DIMMED OR PROVIDED ELECTRONIC LOW-VOLTAGE, MAGNETIC LOW-VOLTAGE, NEON/COLD CATHODE, LUTRON "TU-WIRE" DIMMING BALLASTS, AN INTERFACE DEVICE SHALL BE PROVIDED TO ALLOW LINE VOLTAGE CONTROL. MOUNT INTERFACE IN A NEMA1 ENCLOSURE IN ACCESSIBLE CEILING SPACE ADJACENT TO ITS ASSOCIATED CONTROL UNIT.

    l. WHEN AV SYSTEM INTERFACE IS INDICATED, PROVIDE TWO-WAY CAPABLE RS-232 COMMUNICATIONS INTERFACE TO ALLOW AV CONTROL SYSTEM TO CALL ADDRESSABLE LIGHTING/ROOM SCENES. COMMUNICATIONS INTERFACE SHALL PROVIDE FEEDBACK TO THE AV CONTROL SYSTEM FOR LIGHT LEVEL STATUS.

    m. WHEN MOVEABLE PARTITION INTERFACE IS INDICATED, PROVIDE ALL COMPONENTS, SENSORS, WIRING, POWER SUPPLIES AND PROGRAMMING NECESSARY TO MONITOR AND REPORT MOVEABLE PARTITION(S) OPEN/CLOSED STATUS. DLCS SYSTEM SHALL AUTOMATICALLY ADOPT SINGLE ROOM OR MULTI-ROOM CONTROL PROFILES AS REQUIRED BY PARTITION STATUS.

    n. WHEN NETWORKED LIGHTING CONTROL RELAY PANEL(S) ARE INDICATED, PROVIDE ALL COMPONENTS, WIRING, AND PROGRAMMING NECESSARY TO INTEGRATE RELAY PANELS WITHIN THE DLCS SYSTEM.

13. GENERAL SYSTEM REQUIREMENTS:

    a. ALL EQUIPMENT SHALL FEATURE A PRE-SET DEFAULT OPERATION. UPON INITIAL POWER UP, THE SYSTEM SHALL AUTOMATICALLY IDENTIFY THE DEVICES ON THE LOCAL NETWORK, THEN ENTERS THE PRE-SET CONFIGURATION TO ALLOW BASIC OPERATION OF ALL DEVICES. IN MOST APPLICATIONS THE RELATIONSHIP BETWEEN QUANTITY OF LOADS, SWITCHES AND OCCUPANCY SENSORS WILL NOT REQUIRE ANY ADJUSTMENTS - ALTHOUGH AN ADJUSTMENT TO THE AUTOMATIC SETTINGS SHALL BE INCLUDED IN THE BASE BID.

    b. ALL EQUIPMENT SHALL FEATURE A CONFIGURATION (CONFIG) BUTTON ON MOST DEVICES THAT ALLOWS EASY ACCESS TO THE INTEGRATED AUTO-CONFIGURATION TECHNOLOGY TO MODIFY SYSTEM OPERATION. FUNCTIONALITY OF THE CONFIG BUTTON SHALL BE STANDARDIZED THROUGHOUT THE PRODUCT LINE, AS IS THE OPERATION OF THE CONFIG LED INDICATORS.

    c. NETWORK DLCS SYSTEM CONTROL/CONFIGURATION SOFTWARE SHALL BE PRE-CONFIGURED TO THE MAXIMUM EXTENT POSSIBLE OFF-SITE AT THE DLCS FACTORY OR ENGINEERING FACILITY. THE CONTRACTOR SHALL DOCUMENT EVERY NETWORK COMPONENT'S LOCATION (ROOM AND FLOOR NUMBER) AND ITS' RESPECTIVE SERIAL NUMBER OR OTHER DEVICE IDENTIFIER ON A FULL SIZE FLOOR PLAN IN PDF FORMAT. HANDWRITTEN DOCUMENTATION IS UNACCEPTABLE. THE PREFERRED ACCEPTABLE METHOD OF NETWORK COMPONENT DOCUMENTATION IS COLLECTION OF FACTORY-PROVIDED, SELF-ADHESIVE, BAR-CODE IDENTIFIERS DESIGNED TO BE REMOVED FROM NETWORK COMPONENTS AS THEY ARE INSTALLED IN THE FIELD. BAR CODES IDENTIFIERS SHALL BE APPLIED TO A PAPER COPY OF A FLOOR PLAN WHICH SHALL BE PROVIDED TO THE FACTORY FOR USE IN OFF-SITE DLCS NETWORK PROGRAMMING AND CONFIGURATION. THE RESULTS OF EITHER METHOD SHALL BE SCANNED AND SUBMITTED AS A PART OF THE PROJECT CLOSEOUT DOCUMENTATION.

    d. NETWORK SYSTEMS SHALL BE INSTALLED BY VENDOR-CERTIFIED CONTRACTOR FIELD PERSONNEL TO PERFORM NETWORK INSTALLATIONS INCLUDING ACCURATE, REPEATABLE COMMUNICATIONS CABLING TERMINATIONS (BOTH LAN AND MS/TP TYPE). INCLUDE CERTIFICATES FOR EACH CERTIFIED INSTALLER TO BE UTILIZED ON THE PROJECT AS A PART OF THE PROJECT SUBMITTALS. A CERTIFIED FIELD INSTALLER SHALL BE ON-SITE SUPERVISING COMMUNICATIONS CABLING AND CABLING TERMINATIONS AT ALL TIMES WHEN THIS WORK IS OCCURRING ON THE PROJECT.

    e. ANY BATTERY-POWERED DLCS COMPONENTS SHALL BE PROVIDED WITH A 10 YEAR EXPECTED BATTERY LIFE. EACH COMPONENT SHALL BE PROVIDED WITH BOTH A LOCAL LOW BATTERY INDICATION ON EACH DEVICE AND A SOFTWARE-BASED LOW BATTERY ALARM. WHERE A WIRELESS DLCS SYSTEM COMPONENT IS AVAILABLE EITHER AS A BATTERY POWERED DEVICE OR A LINE/LOW VOLTAGE POWERED DEVICE, PROVIDE THE LINE/LOW VOLTAGE VERSION ALONG WITH ANY LINE OR LOW VOLTAGE WIRING, CONDUIT AND BACK BOXES TO LIMIT THE NUMBER OF BATTERIES WITHIN THE DLCS INSTALLATION TO A MINIMUM.

14. INSTALLATION OF CONTROL UNITS, OCCUPANCY/VACANCY SENSORS AND DAYLIGHTING CONTROLS:

    a. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND AIM SENSORS IN THE CORRECT LOCATION REQUIRED FOR COMPLETE AND PROPER VOLUMETRIC COVERAGE PER THE MANUFACTURER'S RECOMMENDATIONS. ROOMS SHALL HAVE NINETY (90) TO ONE HUNDRED (100) PERCENT COVERAGE AND SHALL ACCOMMODATE ALL HABITS OF SINGLE OR MULTIPLE OCCUPANTS AT ANY LOCATION WITHIN THE ROOM. THE LOCATIONS AND QUANTITIES OF SENSORS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE ONLY THE ROOMS THAT ARE TO BE PROVIDED WITH SENSORS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL SENSORS AS REQUIRED TO PROPERLY AND COMPLETELY COVER THE RESPECTIVE ROOM. WHERE PIR-ONLY WIRELESS CEILING OR FIXTURE-INTEGRAL OCCUPANCY SENSORS ARE UTILIZED, PROVIDE QUANTITY AS REQUIRED TO MAINTAIN THE SAME COVERAGE AND SAME MOVEMENT DETECTION SENSITIVITY AS PROVIDED BY WIRED DUAL TECHNOLOGY SENSORS. ADDITIONALLY, IT MAY BE NECESSARY FOR THE CONTRACTOR TO MAKE ADJUSTMENTS, CHANGE THE LOCATION OR TYPE OF SENSOR TO OBTAIN PROPER OPERATION IN A SPECIFIC ROOM. THE USE OF FACTORY-SUPPLIED INTERNAL MASKING (PIR) SHALL BE PROVIDED/INSTALLED AS REQUIRED TO LIMIT DETECTION TO WITHIN THE CONTROLLED SPACE ONLY. WHERE MASKING IS NOT AVAILABLE AS A FACTORY-SUPPLIED ITEM, ALTERNATE FACTORY-SUPPLIED MEANS OF COMPLIANCE OR METHODS MAY BE ACCEPTABLE. THE CONTRACTOR SHALL HAVE FINAL RESPONSIBILITY FOR PROPER OPERATION OF THE SYSTEM IN EACH ROOM AND SHOULD THEREFORE MAKE LABOR ALLOWANCES FOR CHANGES AND ADJUSTMENTS.

    b. CEILING MOUNTED SENSORS SHOULD BE LOCATED IN THE SPACE TO BE COVERED, A MINIMUM OF 4', PREFERABLY 5', AWAY FROM THE LATCH SIDE OF THE DOOR, 2" TO 3" AWAY FROM THE WALL AND 3' TO 4' FROM AN AIR SUPPLY REGISTER. DO NOT MOUNT SENSORS OVER A DOORWAY OR BEHIND A FULL HEIGHT DOOR. SENSORS SHALL BE AIMED IN THE DIRECTION OF THE SPACE TO BE COVERED. DO NOT AIM SENSORS TOWARD A DOORWAY. THE USE OF FACTORY SUPPLIED INTERNAL MASKING (PIR) SHALL BE PROVIDED/INSTALLED AS REQUIRED TO LIMIT DETECTION TO WITHIN THE CONTROLLED SPACE ONLY.

    c. ALL SENSORS SHALL BE ADJUSTED PER THE DLCS SOO/ZONE SCHEDULE. WHERE A ROOM TYPE IS NOT INDICATED ON THE DLCS SOO, ADJUST FOR FOR A TIME DELAY OF TWENTY (20) MINUTES.

    d. EACH DAYLIGHTING CONTROL SYSTEM/ZONE SHALL BE INSTALLED/ADJUSTED AS FOLLOWS:

       1) AUTOMATIC SWITCHING/DIMMING CONTROL PLACEMENT: IT IS IMPORTANT TO SELECT A LOCATION IN THE DAYLIGHTING ZONE WHERE THE DAYLIGHT CONTRIBUTION IS REPRESENTATIVE OF THE DAYLIGHTING THROUGHOUT THE ZONE. A GOOD LOCATION IS OFTEN BETWEEN THE WINDOW AND/OR DAYLIGHTING SOURCE AND THE FIRST ROW OF LIGHTING FIXTURES. AVOID INSTALLATIONS WITHIN 6'-0" OF A WINDOW, MORE THAN 15'-0" FROM A WINDOW, AND LESS THAN 4'-0" TO A LIGHTING FIXTURE WITH INDIRECT DISTRIBUTION.

       2) AUTOMATIC STEP-DIMMED/CONTINUOUS DIMMING CONTROLS SHALL NOT BE OPERATIONAL UNTIL THE LAMPS HAVE HAD AN OPPORTUNITY TO "BURN IN" - TYPICALLY A MINIMUM OF 10 HOURS - OR GREATER AS RECOMMENDED BY THE RESPECTIVE LAMP AND BALLAST MANUFACTURERS.

       3) AUTOMATIC SWITCHING/STEP-DIMMED CONTROL SETTINGS:

          CONTRACTOR TO UTILIZE THE PHOTOSENSOR AUTOMATIC CALIBRATION AND SETPOINT FUNCTIONS TO ESTABLISH THE OPTIMAL ON/OFF SETPOINTS, TIME DELAYS AND DEADBAND SETTINGS FOR EACH CONTROL ZONE INDICATED WITH DAYLIGHTING CONTROLS.

       4) AUTOMATIC CONTINUOUS DIMMING CONTROL SETTINGS SHALL BE SET USING AN ILLUMINANCE METER, AT A LOCATION FURTHEST FROM THE DAYLIGHT SOURCE, AS FOLLOWS:

          - NIGHT CONDITIONS/SETTING: SET AND ADJUST THE ILLUMINANCE LEVELS TO BE PER THE "TARGET ILLUMINATION" SYMBOL VALUE - SEE DLCS SOO/ZONE SCHEDULE. THE VALUE MUST BE AT OR BELOW THE "TARGET ILLUMINATION" SYMBOL VALUE.

          - DAY CONDITIONS/SETTING: WITH WINDOW COVERINGS IN THE "OPEN" POSITION AND THE DAYLIGHT CONTRIBUTION (LIGHTS OFF) AT A MAXIMUM OF 75% OF THE "TARGET ILLUMINATION" SYMBOL VALUE, SET AND ADJUST THE COMBINED ARTIFICIAL ILLUMINATION AND DAYLIGHTING ILLUMINATION TO MEET THE SYMBOL VALUE AT THE SAME LOCATION/POSITION OF THE NIGHT SETTINGS.

          - RAMP UP/DOWN RATES/CUT-OFF TIME DELAY.

    e. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A PRE-INSTALLATION MEETING WITH THE MANUFACTURER'S FACTORY AUTHORIZED REPRESENTATIVE, AT THE PROJECT, TO VERIFY PLACEMENT OF SENSORS AND INSTALLATION CRITERIA.

    f. PROPER JUDGMENT MUST BE EXERCISED IN EXECUTING THE INSTALLATION SO AS TO ENSURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATIONS OR INTERFERENCE OF BUILDING STRUCTURAL COMPONENTS.

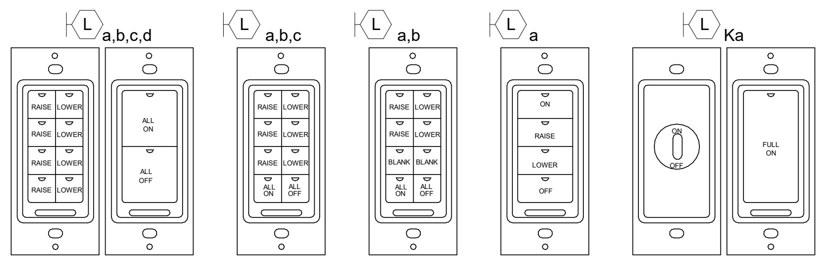
    g. CONNECT ALL DEVICES AS REQUIRED. UNLESS PROHIBITED BY LOCAL CODE, CONNECTIONS SHALL BE MADE WIRELESSLY OR WITH PLENUM-RATED CABLING ROUTED NEATLY INTO AND ABOVE THE ACCESSIBLE CEILING. CABLES SHALL BE SUPPORTED WITH DEDICATED SUPPORT WIRES AND J-HOOKS. WHERE LOCAL CODE OR PROJECT SPECIFICATIONS REQUIRES LOW VOLTAGE CABLING TO BE ROUTED IN CONDUIT, INCLUDE ALL COSTS IN BASE BID TO PROVIDE APPROPRIATELY-SIZED SYSTEM OF CONDUITS AND JUNCTION BOXES TO ROUTE CONNECTION CABLING. J-BOXES/CONTROLLERS SHALL BE LOCATED ABOVE ACCESSIBLE CEILINGS AND NEVER IN HARD-LID CEILING AREAS. PRE-TERMINATED CABLING SHALL BE PROVIDED BY THE SYSTEM MANUFACTURER AND SHALL BE GREEN IN COLOR UNLESS IT IS ROUTED IN AN EXPOSED CEILING CONDITION WHERE IT SHALL BE BLACK, WHITE OR GRAY AS DIRECTED BY THE ARCHITECT.

    h. INSTALL LINE VOLTAGE CONDUCTORS, LOW VOLTAGE CONDUCTORS AND COMMUNICATIONS CABLING BETWEEN LIGHTING FIXTURES AND DLCS COMPONENTS PER THE DLCS MANUFACTURER'S RECOMMENDATIONS REGARDING CONDUCTOR ROUTING, CONDUCTOR SEPARATION AND CONDUCTOR TERMINATIONS. CONTRACTOR SHALL UTILIZE INSTALLATION MEANS AND METHODS THAT DO NOT COMPROMISE THE DLCS SYSTEM WARRANTY.

    i. WHERE CODE OR LOCAL AHJ REQUIREMENTS REQUIRE THE INSTALLATION OF ALL LOW-VOLTAGE CONDUCTORS TO BE INSTALLED IN CONDUIT - CONTRACTOR TO PROVIDE ALL REQUIRED MANUFACTURER SPECIFIC EQUIPMENT JUNCTION BOXES AND CONDUIT ADAPTERS AS REQUIRED.

    j. UNLESS PROHIBITED BY LOCAL CODE, ALL CONTROL UNITS SHALL BE PLENUM-RATED. WHERE CONTROL UNITS ARE LOCATED IN EXPOSED CEILING SPACES, INCLUDE ALL COSTS IN BASE BID TO PROVIDE APPROPRIATELY-SIZED VENTILATED CONTROL UNIT ENCLOSURES FOR CONCEALMENT. COLOR OF ENCLOSURE PER ARCHITECT.

SYMBOLS / REPRESENTATIVE GRAPHIC IMAGES



15. DLCS START-UP, BUILDING AUTOMATION SYSTEM (BAS) INTEGRATION, COMMISSIONING, & TRAINING

    a. PRIOR TO NETWORK SYSTEM FACTORY START-UP, THE CONTRACTOR SHALL 1) TEST ALL COMMUNICATIONS CABLING FOR SHORTS, POLARITY REVERSALS AND BAD TERMINATIONS/CONNECTIONS AND MAKE NECESSARY REPAIRS AND 2) DEMONSTRATE FULL CONNECTIVITY TO ALL NETWORK AND LOCAL (IN-ROOM) DEVICES VIA MS/TP CAPTURE OR OTHER VENDOR SPECIFIC TESTING PROCESS. CONTRACTOR SHALL PROVIDE A TEST REPORT OUTLINING TEST COMPLETION AND ANY REPAIRS MADE AND CERTIFY THAT NETWORK DEVICE AND LOCAL DEVICE CONNECTIVITY HAS BEEN ACHIEVED PRIOR TO SCHEDULED FACTORY START-UP. BASED ON PAST PROJECT EXPERIENCE, FAILURE TO PERFORM ANY OF THE ABOVE STEPS HAS RESULTED IN BOTH VERY INEFFICIENT FACTORY START-UP AND PROJECT DELIVERY DELAY. ANY ADDITIONAL COSTS ARISING OUT OF A FAILURE TO COMPLETE THIS TESTING SHALL BE BORNE SOLELY BY THE CONTRACTOR.

    b. NETWORK SYSTEMS SHALL BE INSPECTED, STARTED UP, CONFIGURED AND PROGRAMMED BY FACTORY START-UP TECHNICIANS TO MEET THE INTENDED INTEGRATION AND CONTROLS SCENARIOS AND FUNCTIONALITY DESIRED BY THE SYSTEM USER. EFFORT SHALL INCLUDE REQUESTING ANY END-USER SPECIFIC NETWORK ADDRESSING OR OTHER INSTRUCTIONS FOR THE DLCS TO RESIDE ON THE END-USER LAN. FOR PROJECTS WHERE THE END-USER DOES NOT WANT THE DLCS TO COMMUNICATE WITH THE END-USER LAN, CONTRACTOR SHALL PROVIDE AND CONFIGURE ALL DLCS NETWORK COMPONENTS AS REQUIRED FOR THE SYSTEM TO FUNCTION IN ISOLATION WITHOUT PERMANENT LAN OR INTERNET ACCESS.

    c. WHERE THE DLCS SCHEDULE INDICATES BAS INTEGRATION IS REQUIRED OR WHERE REQUIRED PER MECHANICAL & MECHANICAL CONTROLS DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR'S DLCS FACTORY TECHNICIAN SHALL ASSIST THE BAS CONTRACTOR WITH DLCS POINT INTEGRATION. THE PRIMARY OBJECTIVE OF DLCS INTEGRATION WITH THE BAS IS TO ALLOW FOR OCCUPANCY-BASED HVAC SETBACK, TO ENABLE/CONTROL LIGHTING SCHEDULES AND TO INTEGRATE ZONE OR AREA OCCUPANCY LIGHTING STATUS INTO A BAS GRAPHICAL USER INTERFACE DISPLAY BASED ON ARCHITECTURAL FLOOR PLAN(S). SECONDARY OBJECTIVES INCLUDE; REMOTE TROUBLESHOOTING OF USER COMPLAINTS, INTEGRATION INTO FUTURE CONTINUOUS COMMISSIONING SYSTEMS ETC AND AS OUTLINED IN THE MECHANICAL CONTROLS DRAWINGS AND SPECIFICATIONS AND AS FOLLOWS:

       1) THE PRIMARY PROTOCOL FOR INTEGRATION SHALL BE BACNET PER ANSI/ASHRAE 135-2016 – OR LATEST PUBLISHED STANDARD.

       2) WHERE A DLCS NETWORK COMPONENT IS BTL (BACNET TESTING LAB)-LISTED, IT SHALL BE LABELED AS SUCH. WHERE A DLCS NETWORK COMPONENT IS FOUND TO CAUSE BACNET INTEGRATION ISSUES, THE DLCS MANUFACTURER SHALL BE RESPONSIBLE FOR ALL COSTS RELATED TO BOTH TROUBLESHOOTING THE ISSUE AND THE ULTIMATE RESOLUTION OF THE ISSUE TO INCLUDE COSTS ASSOCIATED WITH USE OF BACNET PROTOCOL ANALYZERS TO IDENTIFY THE PROBLEM UP TO AND INCLUDING LABOR, MATERIAL, EQUIPMENT, SOFTWARE CODING, FIRMWARE REVISIONS, AND RECOMMISSIONING ASSOCIATED WITH REPAIR, REPLACEMENT AND/OR ADDITIONAL COMPONENTS NEEDED TO CORRECT THE INTEGRATION ISSUE.

       3) THE DLCS NETWORK SHALL BROADCAST ANY OCCUPANCY SENSOR STATUS VIA CHANGE OF VALUE TO THE BAS IN LESS THAN 5 SECONDS. POLLING BY THE DLCS AS A METHOD OF OBTAINING OCCUPANCY SENSOR VALUES IS UNACCEPTABLE DUE TO EXCESSIVE LATENCY AND RESULTANT SLOW SYSTEM RESPONSE TIME.

       4) WHILE THE DLCS SHALL BE CAPABLE OF PROVIDING A MUCH LARGER VARIETY OF BACNET POINTS, THE FOLLOWING ARE REQUIRED FOR BASIC INTEGRATION AT A MINIMUM (SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR SPECIFIC POINT INTEGRATION REQUIREMENTS):

          - INTERIOR DLCS POINTS
          -- ROOM OCCUPANCY STATE: REPORTS OCCUPIED VS UNOCCUPIED.
          -- INDIVIDUAL OCCUPANCY SENSOR STATE: REPORTS OCCUPIED VS UNOCCUPIED AREA(S).
          -- LOAD/RELAY STATE: REPORTS LIGHT FIXTURE ON /OFF STATUS.
          -- LOAD DIMMING LEVEL: REPORTS AUTOMATIC OR MANUAL DIMMING STATUS.
          -- DAYLIGHT SENSOR INHIBITING: REPORTS DAY LIGHT SENSOR HOLDING LIGHTS AT A DIMMED LEVEL.
          -- ROOM SCHEDULE STATE: REPORTS NORMAL VS AFTER HOURS SCHEDULE MODE.

          - EXTERIOR DLCS POINTS
          -- RELAY PANEL SCHEDULE STATE: REPORTS NORMAL VS AFTER HOURS SCHEDULE MODE.

          -- INDIVIDUAL RELAY STATE: REPORTS LIGHT FIXTURE ZONE ON /OFF STATUS.

       5) A PROJECT-SPECIFIC BACNET OBJECT NAMING PROTOCOL SHALL BE DEVELOPED AND PROVIDED BY THE MECHANICAL CONTROLS/BAS CONTRACTOR TO BE USED BY THE DLCS CONTRACTOR IN NAMING DLCS BACNET OBJECTS INTEGRATED INTO THE BAS. CONFIRM DLCS ADDRESSING/OBJECT NAMING SCHEME WITH MECHANICAL CONTROLS/BAS CONTRACTOR PRIOR TO IMPLEMENTING IN ORDER TO REDUCE INTEGRATION CONFLICTS.

       6) ALL OF THE ABOVE POINTS, USING THE OBJECT NAMING SCHEME PROVIDED BY THE MECHANICAL CONTROLS/BAS CONTRACTOR, SHALL BE PROVIDED TO THE BAS CONTRACTOR IN AN ELECTRONIC TABLE FORMAT TO INCLUDE; BACNET OBJECT NAME, OBJECT SERIAL NUMBER, ROOM NAME AND NUMBER FOR EACH DEVICE ON THE PROJECT. FOR RELAY PANEL-BASED OBJECTS, PROVIDE ROOM NAMES OR EXTERIOR LIGHTING ZONE NAMES AS APPROPRIATE. PROVIDE BUILDING NUMBER FOR EACH DEVICE WHERE THE PROJECT CONSISTS OF MORE THAN ONE BUILDING. SEE MECHANICAL CONTROLS DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL FORMATTING REQUIREMENTS.

       7) IN ADDITION TO A POINTS LIST TABLE, PROVIDE A SHOP DRAWING DEPICTING; THE LOCATION OF EACH OCCUPANCY AND DAYLIGHT SENSOR AND EACH SENSOR OBJECT NAME. WHERE RELAY PANELS ARE PROVIDED, ALSO INDICATE EACH INTERIOR AND EXTERIOR RELAY PANEL ZONE CONTROL AREA.

       8) INCLUDE SUFFICIENT MEETING AND COORDINATION EFFORT WITH THE BAS AND MECHANICAL CONTRACTORS TO REVIEW THE ABOVE INFORMATION. WHERE OCCUPANCY SENSOR ZONES DO NOT CORRESPOND TO HVAC VARIABLE AIR VOLUME (VAV) ZONES, EC/DLCS VENDOR SHALL ASSIST THE BAS AND MECHANICAL CONTRACTORS IN RESOLVING THE CONFLICT THROUGH TROUBLESHOOTING DEVICE/OBJECT NAMING SCHEMES.

    d. UPON COMPLETION OF THE INSTALLATION, THE SYSTEM SHALL BE COMPLETELY COMMISSIONED BY THE MANUFACTURER'S FACTORY AUTHORIZED TECHNICIAN WHO WILL VERIFY ALL ADJUSTMENTS AND SENSOR PLACEMENT TO ENSURE A TROUBLE-FREE INSTALLATION. THIS COMMISSIONING EFFORT SHALL BE PERFORMED IN A MANNER THAT MEETS ALL APPLICABLE FEDERAL, STATE, LOCAL ENERGY CODES AND/OR LEED CERTIFICATION PROGRAMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILLING OUT ALL APPLICABLE PAPERWORK AND/OR FORMS. CONTRACTOR TO PROVIDE A COPY OF THE COMPLETED FORMS TO THE ENGINEER OF RECORD PRIOR TO THE PUNCH LIST SITE VISIT FOR REVIEW AND POSSIBLE RECOMMENDATION OF SETTING REVISIONS.

       CONTRACTOR SHALL INCLUDE ALL COST IN THE BASE BID AND PROVIDE THE FOLLOWING WORK FOR EVERY CONTROL ZONE:

       - INITIAL SETTINGS AS INDICATED ON SOO/ZONE SCHEDULE.

       - COMMISSIONING OF EACH LIGHTING CONTROL DEVICE/ZONE PER NOTES BELOW.

       - A FOLLOW UP SETTING(S) ADJUSTMENT, AS DICTATED BY THE ELECTRICAL ENGINEER, BASED UPON A REVIEW OF THE RESULTS OF THE CONTRACTOR'S COMMISSIONING EFFORT AND FINAL PUNCH LIST.

    e. REGARDLESS OF THE LESSER REQUIREMENTS OF ANY AHJ COMMISSIONING FORMS, THE FOLLOWING MINIMUM COMMISSIONING ITEMS MUST BE COMPLETED FOR EACH DEVICE/LIGHTING CONTROL ZONE:

       - MEASURED LIGHTING POWER (KW) AT THE FULLY DIMMED CONDITION.

       - MEASURED LIGHTING POWER (KW) AT FULL LIGHT OUTPUT.

       - ONLY LIGHTING FIXTURES IN THE DAYLIGHTING ZONE ARE AFFECTED BY THE DAYLIGHTING CONTROLS.

       - LIGHTING POWER IS REDUCED BY AT LEAST 50% IN WINDOW DAYLIT AREAS AND 65% IN SKYLIGHT DAYLIT AREAS.

       - DEMAND RESPONSE TESTING, RECORDING, PRE-TEST, "OCCUPIED" STEADY-STATE LIGHTING POWER (KW) & SIMULATED DEMAND RESPONSE LIGHTING POWER (KW) DEMONSTRATING AN OVERALL 10% ENERGY REDUCTION.

       - DIMMING SYSTEMS PROVIDE FLICKER FREE OPERATION.

       - ILLUMINATION LEVELS, LOCATIONS OF MEASUREMENTS, SPECIFIC DEVICE SETTINGS ARE DOCUMENTED ON AS-BUILTS.

    f. AS PART OF THE "RECORD DRAWINGS", INDICATE ON THE REFLECTED CEILING PLAN THE EXACT LOCATION (CEILING TILE OR ACCESS PANEL) OF ANY ABOVE CEILING DEVICE.

    g. WHEN THE PROJECT REQUIRES TWENTY-FIVE (25) OR MORE CEILING MOUNTED SENSORS, CONTRACTOR TO PROVIDE A REMOTE CONTROL PROGRAMMING/CONTROL DEVICE, AND HAND IT TO THE OWNER AT THE END OF THE PROJECT.

    h. THE CONTRACTOR TO INCLUDE ALL COSTS TO ENSURE THAT PROGRAMMING IS PERFORMED BY A FACTORY PERSON OR AUTHORIZED TECHNICIAN. FACTORY TECHNICIAN TO ALSO PROVIDE USER/OWNER TRAINING AT TURNOVER OF BUILDING WITH A SECOND TRAINING 60 TO 90 DAYS AFTER OCCUPANCY. TRAINING TO INCLUDE SYSTEM OVERVIEW, TRAINING ON SYSTEM SOFTWARE, PREVENTATIVE MAINTENANCE, SERVICE AND SUPPORT INFORMATION THAT IS DEEMED NECESSARY TO FAMILIARIZE THE OWNER'S PERSONNEL WITH THE OPERATION, USE, MAINTENANCE, ADJUSTMENT, AND PROBLEM SOLVING DIAGNOSIS OF THE OCCUPANCY SENSING DEVICES AND LIGHTING CONTROL SYSTEMS.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:	2025-40137
ISSUANCE:	A#03-126194
DATE ISSUED:	06/22/2026
SCALE:	12" = 1'-0"

E31.3

DISTRIBUTED LIGHTING CONTROL SPECIFICATIONS

11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928

AREA TYPE	OCC SENSOR					INTERIOR DAYLIGHT SENSOR			EXTERIOR PHOTOCELL		ASTRONOMICAL TIME CLOCK CONTROLS			LOCAL CONTROL			SYSTEM		NOTES	REMARKS
ALL VALUES ARE BASED ON CALIFORNIA TITLE 24 2025 LIGHTING CONTROLFOR NON-RESIDENTIAL BUILDINGS	AUTO ON WHEN OCCUPANCY DETECTED (PERCENTAGE OF NOMINAL FC)	MANUAL ON (WHEN SWITCH / BUTTON IS PRESSED)	PRIMARY OCCUPANCY SENSOR ZONE REDUCED OUTPUT OR OFF	REDUCED OUTPUT OR OFF DURING NORMAL HOURS	REDUCED OUTPUT OR OFF AFTER NORMAL HOURS	AUTO OFF AT TARGET FC FIXTURES DIM TO OFF	AUTO DIM AT TARGET FC FIXTURES REMAIN ON AT LOWEST LEVEL	TARGET ILLUMINATION LEVEL NOMINAL FOOTCANDLE & METER HEIGHT	EXTERIOR PHOTOCELL ON	EXTERIOR PHOTOCELL OFF	BEGIN NORMAL OPERATING HOURS (ASTRONOMICAL TIME CLOCK TURN ON)	END NORMAL OPERATING HOURS (ASTRONOMICAL TIME CLOCK TURN OFF)	AFTER NORMAL HOURS OVERRIDE CANNOT EXCEED 2 HOURS PER §130.1(c)3.B	ON / OFF	ON / OFF / RAISE / LOWER DIMMING	SCENE SELECTOR SCENE REQUIREMENTS: (1) SCENE GEN. LTG ONLY - NO DECORATIVE (1) SCENE ALL OFF OR "CLOSED"	PLUG LOAD CONTROL MUST BE CAPABLE OF TURNING OFF IN RESPONSE TO DEMAND RESPONSE SIGNAL	DEMAND RESPONSE LIGHTING REDUCTION FOR SYSTEMS HAVING >4,000W LIGHTING POWER REFER TO TITLE 24 DOCUMENTATION TO CONFIRM IF REQ'D	PROGRAMMING NOTES PLEASE SEE BELOW	PLEASE REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. O = INDICATES OPTIONAL COMPLIANCE, NOT REQ'D. ● = INDICATES REQUIRED COMPLIANCE ALL LIGHTING WITHIN DAYLIGHTING ZONES SHALL BE COMMISSIONED AT NIGHT, WITH NO DAYLIGHT CONTRIBUTION, IN ORDER TO ESTABLISH BASELINE ILLUMINATION LEVELS. "NORMAL HOURS" REFERS TO OWNER-DETERMINED OPERATING HOURS. "AFTER HOURS" REFERS TO ANY TIME PERIOD BEFORE OR AFTER OWNER-DETERMINED OPERATING HOURS. WHERE EXTERIOR PHOTOCELL CONTROL IS INDICATED, PLEASE PROVIDE EXTERIOR NORTH FACING DAYLIGHT SENSOR.
ELECTRICAL ROOM, MECHANICAL ROOM, TELECOMMUNICATIONS ROOM	-	-	-	-	-	-	-	'10 FC +5' AFF	-	-	-	-	-	●	-	-	-	-	-	LOCAL TOGGLE SWITCH ONLY
RESTROOMS (1) STALL	ON AT 100%	-	5 MIN. TO OFF	-	-	-	-	20 FC +15"	-	-	-	-	-	●	-	-	-	-	-	§130.1(b) EXCEPTION 2 - DIMMABLE LUMINAIRES NOT REQUIRED. §130.1(c)5 - OCCUPANCY SENSORS REQUIRED. §130.1(a) - PROVIDE MANUAL AREA CONTROL IN RESTROOM.
PARKING GARAGE																				
EXTERIOR LIGHTING ≤24 FT & >40W 24 FT OR SHORTER 40W OR MORE	ON AT 100%	ON AT 100%	PERIOD 1: 50% 10 MIN. PERIOD 2: 40% 10 MIN.	-	-	-	-	-	●	-	PERIOD 1: ON 100% AT DUSK - PERIOD 2: DIM 40% AT 24:00	OFF AT DAWN	●	-	-	-	-	-	B,J, M	§130.2(c) LIGHTS SHALL BE OFF DURING DAYTIME; LIGHTS SHALL BE AUTOMATICALL CONTROLLED BY TIME-BASED SCHEDULING CONTROLS. §130.2(c)2B - AUTOMATIC SCHEDULING CONTROLS SHALL ALLOW SCHEDULING OF MIN. OF TWO NIGHTTIME PERIODS WITH INDEPENDENT LIGHTING LEVELS.... §130.2(c)3Di - FACADE, ORNAMENTAL HARDSCAPE, OUTDOOR DINING AND SALES FRONTAGE LIGHTING ARE EXEMPT FROM MOTION SENSOR REQUIREMENT. OCCUPANCY SENSOR REQUIRED; LIGHTING SHALL REMAIN ON FROM DUSK UNTIL DAWN, REDUCED OUTPUT BETWEEN 40% AND 80% WHEN VACANT OR AFTER LOCAL CURFEW, IF REQUIRED. NO MORE THAN 1,500W OF LIGHTING CONTROLLED TOGETHER.

PROGRAMMING NOTES

NOTES: A. PROVIDE DAYLIGHTING CONTROL FOR PRIMARY AND SECONDARY DAYLIT OR SKYLIT ZONES WERE REQUIRED. DAYLIGHTING IS NOT NECESSARY WHEN AREAS DO NOT INCLUDE SKYLIGHTS OR GLAZING < 24 SQ FT OR SKYLIT+PRIMARY SIDELIT ZONE IS LESS THAN 120W. LUMINAIRES IN OR AT LEAST 50% WITHIN DAYLIGHTING ZONES MUST BE CONTROLLED.

B. CONTROLLED BY OCCUPANCY SENSOR: AUTO AND / OR MANUAL ON UNLESS OVERRIDDEN BY DAYLIGHTING SENSORS.
C. MANUAL CONTROL WALL STATIONS FOR THESE AREAS SHALL BE LOCATED IN THE NEAREST BACK OF HOUSE CLOSET, CONTROL BOOTH, ELECTRICAL ROOM, ETC. TO PREVENT UNAUTHORIZED USERS FROM ADJUSTING LIGHTING LEVELS.

D. CONFIGURE LIGHTING CONTROL TO PROVIDE PROPORTIONATE RAISE / LOWER OF ALL ROOM LIGHTING TOGETHER, REGARDLESS OF LOCATION IN DAYLIGHTING AND NON-DAYLIGHTING ZONES WHERE THEY OCCUR.
E. PROVIDE RS-232 OR ETHERNET CONNECTION TO AV SYSTEM TO ALLOW RECALL OF LIGHTING PRESETS BY AV SYSTEM WITHIN THIS ROOM, IF REQUESTED BY OWNER.
F. PROVIDE CONTROLLED RECEPTACLES IN THIS ROOM AS REQUIRED. CONTROLLED RECEPTACLE MUST BE WITHIN 6'-0" OF UNCONTROLLED RECEPTACLE.
G. PROVIDE AUTOMATIC TRANSFER RELAY, BRANCH CIRCUIT ELTS OR OTHER APPROVED METHOD WITH FACP INPUT TO FORCE LIGHTS ON TO FULL DURING LOSS OF NORMAL POWER OR DURING A FIRE ALARM EVENT. UNLESS SPECIFIED WITH A MANUAL EMERGENCY CONDITION RELEASE, LIGHTING SHALL RESTORE TO NORMAL OPERATION WHEN POWER IS RESTORED OR ALARM CONDITION IS CLEARED.

H. LIGHTING IN THIS SPACE MAY BE CONTROLLED FROM A STAGE LIGHTING SYSTEM. THE STAGE LIGHTING SYSTEM SHALL BE PROVIDED WITH A TITLE 24 COMPLIANT LIGHTING CONTROL PROCESSOR AND COMPATIBLE OCCUPANCY AND DAYLIGHT SENSORS AS REQUIRED FOR COMPLIANCE.
I. NOT USED
J. CONFIRM OPERATING HOURS WITH OWNER PRIOR TO FINAL PROGRAMMING.
K. REQUIRES CONNECTION TO BUILDING AUTOMATION SYSTEM (BAS) WHEN SUCH SYSTEM IS PRESENT.
L. FIXTURES WITHOUT OCCUPANCY SENSORS SHALL HAVE LOW END TRIM ADJUSTED TO MAINTAIN MINIMUM ILLUMINATION LEVELS.
M. LIGHTING CONTROL SYSTEM SHALL HAVE ASTRONOMICAL TIME CLOCK AND DUAL MODE CAPABILITY FOR "AFTER HOURS" CONTROL OF LIGHTING.
N. PERFORMANCE SPACE, NO DAYLIGHTING REQUIRED. TARGET ILLUMINATION LISTED ONLY FOR REFERENCE IN THIS COLUMN.

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS
1 SEA HAWK WAY. REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
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13		

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE:

E31.4

SEQUENCE OF OPERATIONS

wsp
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 3 of 7)**
	Date Prepared:	6/16/2026

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change [1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3 / §170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
1	Type 1 - Surface Linear LED	No	NA	22	Mfr. Spec	2	No	44	☐	☐
2A	Type 2A - Recessed 4ft Linear LED	No	NA	27	Mfr. Spec	2	No	54	☐	☐
2B	Type 2B - Recessed 2ft Linear LED	No	NA	13	Mfr. Spec	8	No	104	☐	☐
					Total Designed Watts: UNCONDITIONED SPACES			202		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B /§170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) /§160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
		Pass	Fail
Mandatory Demand Response §110.12(c)	Shut-off controls §130.1(c) / §160.5(b)4C		

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 2 of 7)**
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C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1 /§170.2(e)	Allowed Lighting Power per §140.6(b) /§170.2(e) (Watts)					Adjusted Lighting Power per §140.6(a) /§170.2(e) (Watts)				Compliance Results
	01	02	03		04	05	06		07	08
	Complete Building §140.6(c)1	Area Category §140.6(c)2 /§170.2(e)4	Area Category Additional §140.6(c)2G / §170.2(e)4Av (+)	=	**Total Allowed** (Watts)	Total Designed (Watts)	Adjustments PAF Lighting Control Credits §140.6(a)2 /§170.2(e)1B (-)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 §140.6 /§170.2(e)**
	(See Table I)	(See Table I)	(See Table J)			(See Table F)	(See Table P)			
Conditioned				=				=		
Unconditioned		203.8	0	=	204	202	0	=	202	COMPLIES
							Controls Compliance (See Table H for Details)			COMPLIES
							One-for-one Luminaire Alterations Compliance (See Table Q for Details)			

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 1 of 7)**
Project Address: 1 Sea Hawk Way	**Date Prepared:**	6/16/2026

A. GENERAL INFORMATION

01	Project Location (city)	Redondo Beach	04 Total Conditioned Floor Area (ft²)	0
02	Climate Zone	6	05 Total Unconditioned Floor Area (ft²)	352
03	Occupancy Types Within Project (select all that apply):		06 # of Stories (Habitable Above Grade)	1
	• Support Areas			

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 / §170.2(e) or §141.0(b)2 / §180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	0	Area Category Method	352
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	0		352	

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
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V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Whole Building Time Switch;
NRCA-LTI-03-A - Must be submitted for daylight responsive controls.	Whole Building;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 5 of 7)**
	Date Prepared:	6/16/2026

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. ONE-FOR-ONE LUMINAIRE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

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

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 4 of 7)**
	Date Prepared:	6/16/2026

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Required >= 4,000W subject to multilevel	Whole Building Auto Time Switch	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Controls §130.1(a) /§160.5(b)4A	Multi-Level Controls §130.1(b) /§160.5(b)4B	Shut-Off Controls §130.1(c) //§160.5(b)4C	Primary/Sky lit Daylighting §130.1(d) /§160.5(b)4D	Secondary Daylighting §130.1(d) /§160.5(b)4D	Interlocked Systems §140.6(a)1/ §170.2(e)2A	Field Inspector	
								Pass	Fail
Whole Building	All Other Space Types	Readily Accessible and located in the same space.	Dimmer	Building Level (Shut-off control requirements are met at the building level)	Included	Included	No	☐	☐
								13	
								Plan Sheet Showing Daylit Zones:	

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per §140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used .

Unconditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area CategoryPAF	PAF
Restrooms	Restroom	0.65	252	163.8	No	No
Custodial	All Other Space Types	0.4	100	40	No	No
		TOTALS:	352	203.8	See Tables J, or P for detail	

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 7 of 7)**
Project Address: 1 Sea Hawk Way	**Date Prepared:**	6/16/2026

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Raymond Swartz	
Company: WSP USA	Signature Date: 2026-06-16
Address: 11870 Pierce Street, Ste 160	CEA/AEA/ECC Certification Identification (if applicable): E15610
City/State/Zip: Riverside CA 92505	Phone: 951-299-4160

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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

Responsible Person Name:	Responsible Person Signature:
Raymond Swartz	
Responsible Person Scope:	
Company: WSP USA	Date Signed: 2026-06-16
Address: 11870 Pierce Street, Ste 160	License: E15610
City/State/Zip: Riverside CA 92505	Phone: 951-299-4160

TITLE 24 PROCEDURES FOR TESTING AND ADJUSTING

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTIONS 13.1.2.2 AND 13.1.2.3.

LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-02-A** DOCUMENTS.

AUTOMATIC DAYLIGHT CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-03-A** DOCUMENTS.

DEMAND RESPONSE LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-04-A** DOCUMENTS.

INSTITUTIONAL TUNING PAF ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-05-A** DOCUMENTS.

OUTDOOR LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTO-02-A** DOCUMENTS.

ALL LIGHTING CONTROLS TESTING AND ADJUSTING DOCUMENTS NOTED ABOVE ARE AVAILABLE FROM THE CALIFORNIA ENERGY COMMISSION WEB SITE AT:
https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency-5

TITLE 24 GENERAL NOTE

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTION 14.1.2.

SEE STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS SECTIONS 10-103(a)3A AND 10-103(a)3B AND SECTION 130.4 FOR MORE INFORMATION.

SEE STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL CHAPTER 14 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

SEE STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS RESIDENTIAL COMPLIANCE MANUAL CHAPTER 2 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

PROVIDE COMPLETED INSTALLATION CERTIFICATE(S) AND CERTIFICATE(S) OF ACCEPTANCE AS REQUIRED TO THE SATISFACTION OF THE ENFORCEMENT AGENCY.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
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12		
13		
14		

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE:

E32.1

TITLE 24 - WEST CONCOURSE (INTERIOR)

11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 3 of 7)**
	Date Prepared:	6/16/2026

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change [1]	Watts per luminaire [2]	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3 / §170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
1	Type 1 - Surface Linear LED	No	NA	22	Mfr. Spec	2	No	44	☐	☐
2A	Type 2A - Recessed 4ft Linear LED	No	NA	27	Mfr. Spec	3	No	81	☐	☐
							Total Designed Watts: UNCONDITIONED SPACES	125		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B /§170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) /§160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
		Pass	Fail
Mandatory Demand Response §110.12(c)	Shut-off controls §130.1(c) / §160.5(b)4C	☐	☐
Required >= 4,000W subject to multilevel	Whole Building Auto Time Switch	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 2 of 7)**
	Date Prepared:	6/16/2026

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1 /§170.2(e)	Allowed Lighting Power per §140.6(b) /§170.2(e) (Watts)					Adjusted Lighting Power per §140.6(a) /§170.2(e) (Watts)				Compliance Results
	01	02	03		04		05	06		07	08
	Complete Building §140.6(c)1	Area Category §140.6(c)2 /§170.2(e)4	Area Category Additional §140.6(c)2G / §170.2(e)4Av (+)	=	**Total Allowed** (Watts)	≥	Total Designed (Watts)	Adjustments: PAF Lighting Control Credits §140.6(a)2 /§170.2(e)1B (-)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 §140.6 /§170.2(e)**
	(See Table I)	(See Table I)	(See Table J)				(See Table F)	(See Table P)			
Conditioned				=		≥			=		
Unconditioned		210.2	0	=	210	≥	125	0	=	125	COMPLIES
								Controls Compliance (See Table H for Details)			COMPLIES
								One-for-one Luminaire Alterations Compliance (See Table Q for Details)			

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 1 of 7)**
Project Address: 1 Sea Hawk Way	**Date Prepared:**	6/16/2026

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §130.1, §140.6 and §141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in §160.5, §170.2(e) and §180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	Redondo Beach	04	Total Conditioned Floor Area (ft²)	0
02	Climate Zone	6	05	Total Unconditioned Floor Area (ft²)	338
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1
● Support Areas					

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 / §170.2(e) or §141.0(b)2 / §180.2(b)4 for alterations.

Scope of Work	**Conditioned Spaces**		**Unconditioned Spaces**	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	0	Area Category Method	338
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	0		338	

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 6 of 7)**
	Date Prepared:	6/16/2026

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Whole Building Time Switch;
NRCA-LTI-03-A - Must be submitted for daylight responsive controls.	Whole Building;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 5 of 7)**
	Date Prepared:	6/16/2026

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. ONE-FOR-ONE LUMINAIRE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

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

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 4 of 7)**
	Date Prepared:	6/16/2026

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Controls §130.1(a) /§160.5(b)4A	Multi-Level Controls §130.1(b) /§160.5(b)4B	Shut-Off Controls §130.1(c) /§160.5(b)4C	Primary/Sky lit Daylighting §130.1(d) /§160.5(b)4D	Secondary Daylighting §130.1(d) /§160.5(b)4D	Interlocked Systems §140.6(a)1/ §170.2(e)2A	Field Inspector	
								Pass	Fail
Whole Building	All Other Space Types	Readily Accessible and located in the same space.	Dimmer	Building Level (Shut-off control requirements are met at the building level)	Included	Included	No	☐	☐
								13	
								Plan Sheet Showing Daylit Zones:	

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per §140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used .

Unconditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category/PAF	PAF
Restrooms	Restroom	0.65	300	195	No	No
Custodial	All Other Space Types	0.4	38	15.2	No	No
		TOTALS:	338	210.2	See Tables J, or P for detail	

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:**	**(Page 7 of 7)**
Project Address: 1 Sea Hawk Way	**Date Prepared:**	6/16/2026

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Raymond Swartz	Documentation Author Signature:
Company: WSP USA	Signature Date: 2026-06-16
Address: 11870 Pierce Street, Ste 160	CEA/AEA/ECC Certification Identification (if applicable): E15610
City/State/Zip: Riverside CA 92505	Phone: 951-299-4160

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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

Responsible Person Name: Raymond Swartz	Responsible Person Signature:
Responsible Person Scope:	
Company: WSP USA	Date Signed: 2026-06-16
Address: 11870 Pierce Street, Ste 160	License: E15610
City/State/Zip: Riverside CA 92505	Phone: 951-299-4160

TITLE 24 PROCEDURES FOR TESTING AND ADJUSTING

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTIONS 13.1.2.2 AND 13.1.2.3.

LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-02-A** DOCUMENTS.

AUTOMATIC DAYLIGHT CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-03-A** DOCUMENTS.

DEMAND RESPONSE LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-04-A** DOCUMENTS.

INSTITUTIONAL TUNING PAF ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-05-A** DOCUMENTS.

OUTDOOR LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTO-02-A** DOCUMENTS.

ALL LIGHTING CONTROLS TESTING AND ADJUSTING DOCUMENTS NOTED ABOVE ARE AVAILABLE FROM THE CALIFORNIA ENERGY COMMISSION WEB SITE AT:
https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency-5

TITLE 24 GENERAL NOTE

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTION 14.1.2.

SEE STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS SECTIONS 10-103(a)3A AND 10-103(a)3B AND SECTION 130.4 FOR MORE INFORMATION.

SEE STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL CHAPTER 14 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

SEE STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS RESIDENTIAL COMPLIANCE MANUAL CHAPTER 2 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

PROVIDE COMPLETED INSTALLATION CERTIFICATE(S) AND CERTIFICATE(S) OF ACCEPTANCE AS REQUIRED TO THE SATISFACTION OF THE ENFORCEMENT AGENCY.

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE:

E32.2

TITLE 24 - EAST CONCOURSE (INTERIOR)

11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:** (Page 3 of 8)
	Date Prepared: 6/16/2026

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

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

Designed Wattage:

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires [2]	Luminaire Status[3]	Excluded per §140.7(a) / §170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output §130.2(b) /§160.5(c).1 [4]	Field Inspector	
									Pass	Fail
2A	Type 2A - Recessed 4ft Linear LED	☐ Linear	27	Mfr. Spec	10	New	☐	270	NA: < 6200 lumens	☐ ☐
2B	Type 2B - Recessed 2ft Linear LED	☐ Linear	17	Mfr. Spec	12	New	☐	204	NA: < 6200 lumens	☐ ☐
2C	Type 2C - Recessed 12ft Linear LED	☐ Linear	55	Mfr. Spec	7	New	☐	385	NA: < 6200 lumens	☐ ☐
3	Type 3 - Wall pack LED	☐ Linear	52	Mfr. Spec	2	New	☐	104	NA: < 6200 lumens	☐ ☐
							Total Design Watts:	963		

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

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

STATE OF CALIFORNIA
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C. COMPLIANCE RESULTS

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

Calculations of Total Allowed Lighting Power (Watts) §140.7 / §170.2(e)6 or §141.0(b)2L / § 180.2(b)4Bv												Compliance Results		
01		02		03		04		05		06		07	08	09
General Hardscape Allowance §140.7(d)1 / §170.2(e)6 (See Table I)	+	Per Application §140.7(d)2 / §170.2(e)6 (See Table J)	+	Sales Frontage §140.7(d)2 (See Table K)	+	Ornamental §140.7(d)2 / §170.2(e)6 (See Table L)	+	Per Specific Area §140.7(d)2 / §170.2(e)6 (See Table M)	OR	Existing Power Allowance §141.0(b)2L / § 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
233	+	---	+	---	+	---	+	859	OR	---	=	1,092	≥	963	COMPLIES
										Shielding Compliance (See Table G for Details)					N/A
										Controls Compliance (See Table H for Details)					Not applicable

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
This document is used to demonstrate compliance with requirements in §110.9, §130.0, §130.2, §140.7, and §141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in §160.5, §170.2(e)6, §180.1(a) and §180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.	
Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:** (Page 1 of 8)
Project Address: 1 Sea Hawk Way	**Date Prepared:** 6/16/2026

A. GENERAL INFORMATION

01	Project Location (city)	Redondo Beach	04	Total Illuminated Hardscape Area (ft²)	800
02	Climate Zone	6			
03	Outdoor Lighting Zone per Title 24 Part 1 §10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☒ LZ-2: Moderate - Urban Clusters	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval		
☐	LZ-1: Low - Rural Areas	☐ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				
● All Other Occupancies					

B. PROJECT SCOPE

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

My Project Consists of:

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

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

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

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M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This table includes areas using the wattage allowance per specific area from Table 140.7-B /Table 170.2-S. More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.

01	02	03	04	05	06	07	08	09	10
		CALCULATED ALLOWANCE (Watts)			**DESIGN WATTS**				
Area Description	Specific Area Type per Table 140.7-B	Specific Area (ft²)[1]	Allowed Density (W/ft²)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Additional Allowance (Watts)
Canopy	SalesCanopy	2330	0.5	1095.1	2A	27	10	270	859
					2B	17	12	204	
					2C	55	7	385	
							Total Design Watts for this Area:	859	
							Total Allowance (Watts) All Areas:		859

[1] FOOTNOTES: See Table 140.7-B /Table 170.2-S for rules for calculating the specific areas (ft²) for these additional lighting allowances.
[2] For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

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

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
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I. LIGHTING POWER ALLOWANCE (per §140.7 /§170.2(e))

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

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

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

02	03	04	05	06	07	08	09
	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			
Area Description	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	Total General AWA + LWA (Watts)
Pedestrian Hardscape	800	0.019	15.2	120	0.2	18	33
					Initial Wattage Allowance for Entire Site (Watts):		200
					Instances of Initial Wattage Allowance (LZ 0 only)[1]		
					Total General Hardscape Allowance (Watts):		233

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

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G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

H. OUTDOOR LIGHTING CONTROLS

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

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

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1 / §160.5(c)	Auto-Schedule §130.2(c)2 / §160.5(c)	Motion Sensor §130.2(c)3 / §160.5(c)	Field Inspector	
				Pass	Fail

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

TITLE 24 GENERAL NOTE

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTION 14.1.2.

SEE STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS SECTIONS 10-103(a)3A AND 10-103(a)3B AND SECTION 130.4 FOR MORE INFORMATION.

SEE STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL CHAPTER 14 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

SEE STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS RESIDENTIAL COMPLIANCE MANUAL CHAPTER 2 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

PROVIDE COMPLETED INSTALLATION CERTIFICATE(S) AND CERTIFICATE(S) OF ACCEPTANCE AS REQUIRED TO THE SATISFACTION OF THE ENFORCEMENT AGENCY.

TITLE 24 PROCEDURES FOR TESTING AND ADJUSTING

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2025 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTIONS 13.1.2.2 AND 13.1.2.3.

LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-02-A** DOCUMENTS.

AUTOMATIC DAYLIGHT CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-03-A** DOCUMENTS.

DEMAND RESPONSE LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-04-A** DOCUMENTS.

INSTITUTIONAL TUNING PAF ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTI-05-A** DOCUMENTS.

OUTDOOR LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO **NRCA-LTO-02-A** DOCUMENTS.

ALL LIGHTING CONTROLS TESTING AND ADJUSTING DOCUMENTS NOTED ABOVE ARE AVAILABLE FROM THE CALIFORNIA ENERGY COMMISSION WEB SITE AT:
https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency-5

STATE OF CALIFORNIA
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Project Name: Redondo Union High School - Sea Hawk Bowl Improvements	**Report Page:** (Page 8 of 8)
Project Address: 1 Sea Hawk Way	**Date Prepared:** 6/16/2026

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Raymond Swartz	Documentation Author Signature:
Company: WSP USA	Signature Date: 2026-06-16
Address: 11870 Pierce Street, Ste 160	CEA/HERS/ECC Certification Identification (if applicable): E15610
City/State/Zip: Riverside CA 92505	Phone: 951-299-4160

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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

Responsible Person Name: Raymond Swartz	Responsible Person Signature:
Responsible Person Scope:	
Company: WSP USA	Date Signed: 2026-06-16
Address: 11870 Pierce Street, Ste 160	License: E15610
City/State/Zip: Riverside CA 92505	Phone: 951-299-4160

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION

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P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no NRCA forms required for this project.

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS
1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

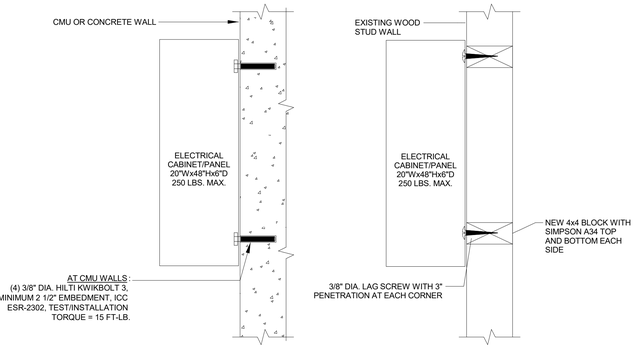
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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE:

E32.3

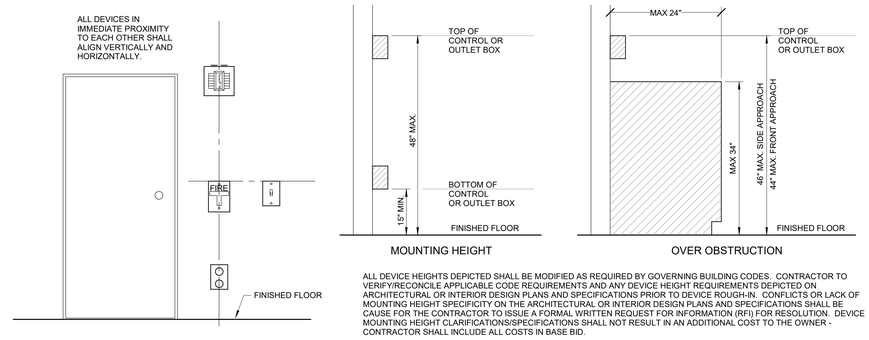
TITLE 24 (EXTERIOR)

wsp
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928



4 PANEL ANCHORAGE

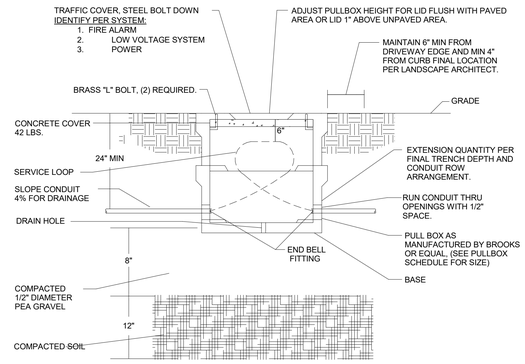
SCALE: NOT TO SCALE



ALL DEVICE HEIGHTS DEPICTED SHALL BE MODIFIED AS REQUIRED BY GOVERNING BUILDING CODES. CONTRACTOR TO VERIFY/RECONCILE APPLICABLE CODE REQUIREMENTS AND ANY DEVICE HEIGHT REQUIREMENTS DEPICTED ON ARCHITECTURAL OR INTERIOR DESIGN PLANS AND SPECIFICATIONS PRIOR TO DEVICE ROUGH-IN. CONFLICTS OR LACK OF MOUNTING HEIGHT SPECIFICITY ON THE ARCHITECTURAL OR INTERIOR DESIGN PLANS AND SPECIFICATIONS SHALL BE CAUSE FOR THE CONTRACTOR TO ISSUE A FORMAL WRITTEN REQUEST FOR INFORMATION (RFI) FOR RESOLUTION. DEVICE MOUNTING HEIGHT CLARIFICATIONS/SPECIFICATIONS SHALL NOT RESULT IN AN ADDITIONAL COST TO THE OWNER - CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID.

1 DEVICE ALIGNMENT & MOUNTING HEIGHT DETAILS

SCALE: NOT TO SCALE

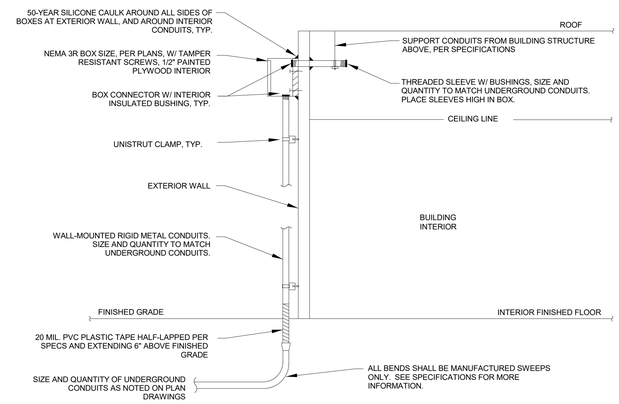


PULL BOX NOTES

1. ALL BOXES SHALL BE SET ON A MINIMUM 8" GRAVEL BASE WITH 1/2" DIAMETER PEA GRAVEL.
2. ALL INCIDENTAL CONCRETE SHALL BE REMOVED FROM BOXES.
3. PROVIDE WATERTIGHT SPLICES AND CAPS FOR POWER CONDUCTORS.
4. PROVIDE SEALING GEL IN ALL CONDUITS (BOTH W/ CONDUCTORS AND IN EMPTY SPARE CONDUITS.) THE GEL SHALL BE INSERTED IN THE CONDUIT TO A DEPTH OF 6" AND FLUSH W/ THE END OF THE CONDUIT. THE GEL SHALL BE MANUFACTURED BY 3M #4442 RE-ENTERABLE ENCAPSULANT.
5. PROVIDE IDENTIFYING TAGS ON ALL POWER AND COMMUNICATION CONDUCTORS IN PULLBOXES.
6. PULLBOX SHALL BE SIZED PER N.E.C. REQUIREMENTS.

2 PULLBOX DETAIL

SCALE: NOT TO SCALE



NOTES:

1. ALL BOXES/PLYWOOD TO BE SECURED TO BUILDING STRUCTURE USING MIN. ¼" X 2" WALL ANCHORS/LAG BOLTS.
2. 50-YEAR SILICONE CAULK AROUND ALL PENETRATIONS, BOXES AND ALL THREADS AS REQUIRED.
3. SEAL ALL UNDERGROUND CONDUITS PER COMMUNICATION PATHWAY NOTES, GENERAL PROJECT NOTES, AND PROJECT SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR MORE INFORMATION.

3 EXTERIOR JUNCTION BOX DETAIL

SCALE: NOT TO SCALE

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: As indicated

E41.1

DETAILS

wsp
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #US0052527.0928

FIRE ALARM NOTES

1. WALL MOUNTED, AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM ABOVE THE FINISHED FLOOR, AND NO CLOSER THAN 6" TO A HORIZONTAL STRUCTURE. (NFPA 72, SECTION 18.4.8.1). ALL WALL MOUNTED VISUAL APPLIANCES AND COMBINATION AUDIBLE/VISUAL APPLIANCES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM ABOVE FINISHED FLOOR AS MEASURED TO THE LENS. (NFPA 72, SECTION 18.5.5.1)
2. ALL EQUIPMENT SHALL BE U.L. AND C.S.F.M. LISTED.
3. ALL FIRE ALARM WIRING SHALL BE FLP (FIRE POWER LIMITED) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
4. PER THE CEC, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. THERE MUST BE AT LEAST 6' OF LEAD WIRE FROM THE BOX TO THE DEVICE. ALL BOXES TO BE SIZED PER CEC AND SHALL HAVE THEIR COVERS PAINTED RED WHERE APPLICABLE.
5. DO NOT DEVIATE FROM CONDUIT RUNS AS SHOWN ON FLOOR PLANS WITHOUT PRIOR APPROVAL FROM ELECTRICAL ENGINEER. FACTORS SUCH AS EXCESSIVE VOLTAGE DROP, ADDITIONAL PARTS, ENGINEERING, ETC., THAT ARE A RESULT OF CONDUIT RUN DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
6. NOT USED.
7. NOT USED.
8. ALL FIRE ALARM DEVICE BACKBOXES, FIRE ALARM TERMINAL CABINETS, GUTTERS, JUNCTION BOXES AND ASSOCIATED CONDUITS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. REFER TO FIRE ALARM SYMBOL LIST AND/OR MOUNTING DETAILS FOR ADDITIONAL INFORMATION. SYSTEM SUPPLIER PROVIDED BACKBOXES SHALL BE INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
9. SMOKE DETECTOR TESTING SHALL BE PERFORMED TO ENSURE THAT EACH DETECTOR IS WITHIN ITS LISTED AND MARKED SENSITIVITY RANGE USING THE METHODS RECOMMENDED PER CFC, SECTION 907.8.4 AND NFPA 72, SECTION 14.4.4.3.4.
10. ALL WIRING, INITIATING DEVICES AND ANNUNCIATOR PANEL SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION. THE FIRE ALARM CONTROL PANEL TO SUPERVISE THE ANNUNCIATOR PANEL, ALL INITIATING AND INDICATING DEVICE CIRCUITS.
    A. INITIATING DEVICE CIRCUITS (IDC): CLASS B
    B. SIGNALING LINE CIRCUITS (SLC): CLASS B
    C. NOTIFICATION APPLIANCE CIRCUITS (NAC): CLASS B
11. ALL WIRING SHALL BE CUT FOR IN AND OUT. WIRING SHALL NOT BE LOOPED THROUGH DEVICES.
12. POINT AND COMMON ANNUNCIATION AND T-TAPPING ARE PROHIBITED. (T-TAPPING IS ALLOWABLE ON SLC LOOPS).
13. PROVIDE 3/4" CONDUIT FROM FIRE ALARM CONTROL PANEL TO TELEPHONE BACKBOARD FOR OWNER PROVIDED CENTRAL STATION MONITORING, WHEN APPLICABLE.
14. CONTRACTOR TO FIELD VERIFY AND PROVIDE DECIBEL METER FOR TESTING OF AMBIENT NOISE LEVELS AUDIBLE DEVICES TO BE AT LEAST 15 DBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75 DBA AT 10 FEET OR 5 DBA ABOVE THE MAXIMUM SOUND LEVEL BUT NOT MORE THAN 110 DBA AT THE MINIMUM HEARING DISTANCE. SOUND LEVEL SHALL BE MAINTAINED FOR DURATION OF AT LEAST 60 SECONDS. (CFC, SECTION 907.5.2.1.1) THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS. PROVIDE UPDATED PLANS AND CALCULATIONS THROUGH THE "CHANGE ORDER" PROCESS WHEN INSTALLING ADDITIONAL DEVICES.
15. VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15-CANDELA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
16. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT OR APPROVED SURFACE RACEWAY IN A NEAT AND PROTECTED MANNER AS INDICATED ON THE DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS. ALL CONDUITS SHALL BE 3/4" MINIMUM. CONTRACTOR TO VERIFY CONDUIT FILL PRIOR TO INSTALLATION.
17. NOT USED.
18. ALL DEVICES IN THE ALARM SYSTEM SHALL BE COMPATIBLE AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
19. SYSTEM SHALL BE FURNISHED AND INSTALLED BY AN AUTHORIZED DISTRIBUTOR.
20. FIRE ALARM SYSTEM INSTALLATION COMPANY SHALL BE UL LISTED (UUJS).
21. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURER'S SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
22. NOT USED.
23. PER CBC, SECTION 11B-309 ACTIVATION OF INITIATING DEVICE SHALL NOT REQUIRE MORE THAN 5 LBS. (22.2N) OF FORCE OR REQUIRE TIGHT GRASPING PINCHING, OR TWISTING OF WRIST.
24. THE SYSTEM SHALL CONFORM TO CALIFORNIA CODE OF REGULATIONS (CCR) TITLES 19 AND 24 AS APPLICABLE TO THIS PROJECT.
25. THE FIRE ALARM SYSTEM SHALL COMPLY WITH NFPA 72, SECTIONS 18.4 AND 24.4 FOR GENERAL REQUIREMENTS, INTELLIGIBILITY, AUDIBILITY, TONES, ETC.
26. A DEDICATED 120V BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION AND BE LABELED AS FOLLOWS:
    A. "FIRE ALARM" FOR FIRE ALARM SYSTEMS
    B. "EMERGENCY COMMUNICATIONS" FOR EMERGENCY COMMUNICATION SYSTEMS, OR
    C. "FIRE ALARM/ECS" FOR COMBINATION FIRE ALARM AND COMMUNICATIONS SYSTEMS.
27. WHERE A DETECTOR IS INSTALLED ABOVE THE CEILING, THE DETECTOR SHALL BE EASILY ACCESSIBLE AND THE LOCATION OF THE DETECTOR SHALL BE CLEARLY MARKED. FOR DUCT SMOKE DETECTORS A REMOTE TEST STATION SHALL BE PROVIDED. ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS TO AREAS THAT REQUIRE SERVICING, TROUBLE SHOOTING, ETC.
28. THE "END OF LINE RESISTANCE" OF EACH CIRCUIT SHALL BE TESTED IN THE PRESENCE OF THE I.O.R. AND SHALL NOT EXCEED THE LISTED MANUFACTURER'S MINIMUM OPERATING VOLTAGE..
29. UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATERTIGHT FITTINGS AND WIRE LISTED FOR WET LOCATIONS, IN ACCORDANCE WITH CEC, SECTIONS 110.11, 300.5(B), 300.6, 300.9, 310.10, AND 760.3(D).
30. FIRE ALARM SYSTEM IS A FULLY AUTOMATIC SYSTEM. CONTRACTOR TO UTILIZE AREA COVERAGE SMOKE DETECTORS AND ADDRESSABLE CONTROL RELAYS FOR THE SHUTDOWN AND/OR CLOSURE OF HVAC UNITS AND COMBINATION SMOKE/FIRE DAMPERS. CONTROL RELAYS TO BE LOCATED WITHIN 3FT OF THE CONTROLLED CIRCUIT OR APPLIANCE PER NFPA 72, SECTION 21.2.4.
31. PROVIDE (VIA CHANGE ORDER PROCESS) APPROPRIATE MANUFACTURER PRODUCT DATA SHEETS AND APPLICABLE CSFM LISTINGS FOR ALL SUBSTITUTED MANUFACTURER'S MATERIAL, EQUIPMENT OR APPLIANCES, TO DSA PRIOR TO START OF INSTALLATION.
32. CONTRACTOR SHALL PROVIDE FIRE WATCH FOR ALL OCCUPIED AREAS OF WORK WHERE THE REQUIRED FIRE ALARM SYSTEM IS OUT OF SERVICE FOR THE DURATION OF THE SYSTEM OUTAGE. FIRE WATCH AND SYSTEM/EQUIPMENT SHALL BE PER CFC, SECTION 901.7.
33. ALL MEMBRANE AND THROUGH-PENETRATIONS OF RATED ASSEMBLIES SHALL BE PROTECTED BY AN APPROVED FIRE STOP SYSTEM AS IDENTIFIED IN CBC, CHAPTER 7, UL OR OTHER LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE FIRE ALARM SECTION OF THE PROJECT SPECIFICATIONS.
34. CONTROL PANELS AND REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48" ABOVE THE FINISHED FLOOR.

FIRE ALARM SYSTEM TESTING NOTES:

1. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
2. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
3. DISTRICT SHALL PROVIDE A CERTIFIED IMPARTIAL FIRE ALARM INSPECTOR. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
4. 100% OF THE SYSTEM IN CONTRACT WILL BE TESTED AND INSPECTED WITH THE CONTRACTOR OR CONTRACTOR'S SUB AND DISTRICT'S ETS STAFF MEMBER PRESENT. INSPECTION WILL INCLUDE, BUT NOT BE LIMITED TO, REMOVING STROBES/HORNS TO CHECK FOR "T-TAPS", REMOVING J-BOX COVERS TO CHECK WIRE GAGE AND SPLICES.
5. FOLLOW ALL REQUIREMENTS AND INSTRUCTIONS PROVIDED BY MANUFACTURER UPON INSTALLATION OF MANUFACTURER'S PRODUCTS AND DEVICES.
6. PRIOR TO REQUESTING FINAL APPROVAL OF THE INSTALLATION, THE INSTALLING CONTRACTOR SHALL FURNISH A WRITTEN STATEMENT TO THE FIRE CODE OFFICIAL THAT THE SUBJECT FIRE PROTECTION SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH APPROVED PLANS AND HAS BEEN TESTED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND THE APPROPRIATE INSTALLATION STANDARD. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT. ANY DEVIATIONS FROM THE DESIGN STANDARDS SHALL BE NOTED AND COPIES OF THE APPROVALS FOR SUCH DEVIATIONS SHALL BE ATTACHED TO THE WRITTEN STATEMENT. (CFC, SECTION 901.2.1)
7. UPON COMPLETION OF SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF AND IN A MANNER ACCEPTABLE TO DSA/I.O.R. CONTRACTOR SHALL SUPPLY NECESSARY TESTING EQUIPMENT, INCLUDING A "SOUND LEVEL METER" TO CHECK ACCEPTABLE NOISE LEVELS OF AUDIBLE DEVICES. PROVIDE TEST RESULTS PER NFPA 72 TO ARCHITECT, D.S.A., I.O.R. AND TO LOCAL FIRE AUTHORITY, PER CFC, SECTION 907.8.2.
8. INSPECTION, TESTING AND MAINTENANCE SHALL BE IN COMPLIANCE WITH NFPA 72, CHAPTER 14, REACCEPTANCE TESTING SHALL BE IN COMPLIANCE WITH NFPA 72, SECTION 14.4.2.
9. THE LOCAL FIRE AUTHORITY SHALL BE NOTIFIED FOR TESTING. THE FIRE AUTHORITY SHALL BE PRESENT AND SHALL BEAR WITNESS FOR TESTING PROCEDURES. DOCUMENTATION FOR WHETHER THE FIRE AUTHORITY WAS PRESENT AND WITNESSED TESTING SHALL BE DOCUMENTED AS PART OF TESTING PROCEDURES DOCUMENTATION.
10. PRIOR TO COMPLETION OF FIRE ALARM SYSTEM THE TWO WAY COMMUNICATION SYSTEM SHALL BE TESTED AND CERTIFIED VIA NFPA 72 EMERGENCY COMMUNICATION SYSTEM SUPPLEMENTARY RECORD OF INSPECTION AND TESTING FORM.
11. THE INSTALLING CONTRACTOR SHALL PROVIDE A COMPLETED RECORD OF COMPLETION PER NFPA 72, FIGURE 7.8.2(A) THROUGH (I) AS APPLICABLE. A COMPLETE RECORD OF THE TESTS AND OPERATIONS OF EACH SYSTEM SHALL BE KEPT UNTIL THE NEXT TEST AND FOR ONE YEAR AFTER PER NFPA 72, SECTION 7.7.1.
12. FIRE ALARM SYSTEM DOCUMENTS SHALL BE HOUSED IN THE DOCUMENT CABINET. THE DOCUMENT CABINET SHALL BE INSTALLED AT THE SYSTEM CONTROL UNIT OR AT ANOTHER APPROVED LOCATION AT THE PROTECTED PREMISES AS REQUIRED BY NFPA 72, SECTION 7.7.2.
13. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CFC, SECTION 907.6.6. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING A FIRE ALARM SYSTEM MONITORING CONTRACT.

SEQUENCE OF OPERATIONS

ACTION \ DEVICE	120 VOLT POWER FAILURE	SYSTEM TROUBLE: WIRING TO GROUND, GROUND FAULT, SYSTEM LOW BATTERY, CIRCUIT SHORT	AREA SMOKE DETECTOR	AREA w/ ATTIC HEAT DETECTOR
SOUND CONTROL PANEL TROUBLE BUZZER	YES	YES	NO	NO
SOUND CONTROL PANEL SUPERVISORY BUZZER	NO	NO	NO	NO
SOUND CONTROL PANEL ALARM BUZZER	NO	NO	YES	YES
ACTIVATE RELAY FOR CENTRAL STATION MONITORING	YES	YES	YES	YES
ANNUNCIATE AT FIRE ALARM CONTROL PANEL (ALARM)	NO	NO	YES	YES
ANNUNCIATE AT FIRE ALARM CONTROL PANEL (TROUBLE)	YES	YES	NO	NO
ANNUNCIATE AT REMOTE ANNUNCIATOR PANEL (ALARM)	NO	NO	YES	YES
ANNUNCIATE AT REMOTE ANNUNCIATOR PANEL (TROUBLE)	YES	YES	NO	NO
ACTIVATE AUDIBLE NOTIFICATION ALARM SIGNAL THROUGHOUT CAMPUS	NO	NO	YES	YES
ACTIVATE VISUAL NOTIFICATION ALARM SIGNAL THROUGHOUT CAMPUS	NO	NO	YES	YES
ACTIVATE AUDIBLE NOTIFICATION ALARM SIGNAL THROUGHOUT BLDG	NO	NO	YES	YES
ACTIVATE VISUAL NOTIFICATION ALARM SIGNAL THROUGHOUT BLDG	NO	NO	YES	YES
NOTIFY FIRE DEPARTMENT V/A MONITORING STATION -	NO	NO	YES	YES
SOUND AN ALERT TONE TEMPORAL 3	NO	NO	YES	YES

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	MODEL	MANUFACTURER	BACKBOX	MOUNTING HEIGHT	C.S.F.M. NUMBER
FACP	EXISTING FIRE ALARM CONTROL PANEL WITH COMMUNICATOR	NFS2-640	NOTIFIER	EXISTING	EXISTING	EXISTING
	AREA SMOKE DETECTOR (ADDRESSABLE/PHOTO.)	FSP-951	NOTIFIER	4S DEEP BOX W/ 3-0 RING	CEILING	7272-0028:0503
	AREA HEAT DETECTOR (ADDRESS./FIXED 200°F)	FST-951H	NOTIFIER	4S DEEP BOX W/ 3-0 RING	ABOVE ACCESSIBLE CEILING, U.O.N.	7270-0028:0502
HF cd	FIRE ALARM HORN/STROBE (CEILING)	PC2WLED (WHITE)	SYSTEM SENSOR	4S DEEP BOX W/ 4S EXTENSION	CEILING	7135-1653:0526
H WP	FIRE ALARM HORN (WEATHERPROOF/WALL)	HRK (RED)	SYSTEM SENSOR	WP BACKBOX PROVIDED	90" A.F.F. TO TOP	7125-1653:0189
J	FIRE ALARM JUNCTION BOX	N/A	BY ELECTRICIAN	4S BOX, U.N.O.	VERIFY IN FIELD	N/A

A.F.F.	ABOVE FINISHED FLOOR	N/A	NOT APPLICABLE
E.O.L.	END OF LINE RESISTOR	U.N.O.	UNLESS NOTED OTHERWISE
(E)	EXISTING DEVICE	VL	VERIFY LOCATION IN FIELD
F.B.O.	FURNISHED BY OTHERS	WP	WEATHERPROOF DEVICE
TSP	TWISTED SHIELDED PAIR	cd	INDICATED CANDELA RATING OF STROBE DEVICE

GENERAL FIRE ALARM SYMBOL LIST NOTES:

1. CONFIRM NOTIFICATION DEVICE COLOR (WHITE OR RED) WITH ARCHITECT PRIOR TO ANY ORDER OR INSTALLATION. COLOR TO BE INDICATED IN SHOP DRAWING SUBMITTAL.
2. NUMBER ADJACENT TO VISUAL DEVICES INDICATES MINIMUM CANDELA RATING OF STROBE DEVICE.

WIRING LEGEND

WIRE DESIGNATION	WIRE IN CONDUIT	WIRE IN CONDUIT UNDERGROUND/WET LOC.	UNDERGROUND/WET WIRE DESIGNATION
INITIATING CIRCUITS Z	2 CONDUCTOR #18 FPL TWISTED/ UNSHIELDED W/OVERALL JACKET	2 CONDUCTOR #18 FPL TWISTED/ UNSHIELDED W/OVERALL JACKET	INITIATING CIRCUITS ZU
POWER CKT. P	2 CONDUCTOR #12 THHN STRANDED	2 CONDUCTOR #12 STRANDED TYPE THWN	POWER CKT. PU
NETWORK CONTROL C	2 CONDUCTOR #12 THHN STRANDED	2 CONDUCTOR #12 STRANDED TYPE THWN	NETWORK CONTROL CU
ANNUNCIATOR D	4 CONDUCTOR #18 FPL TWISTED/ UNSHIELDED W/OVERALL JACKET	4 CONDUCTOR #18 FPL TWISTED/ UNSHIELDED W/OVERALL JACKET	ANNUNCIATOR DU
AUDIBLE LOOP B	2 CONDUCTOR #18 FPL TWISTED/ SHIELDED W/OVERALL JACKET	2 CONDUCTOR #18 FPL TWISTED/ SHIELDED W/OVERALL JACKET	AUDIBLE LOOP BU
NOTIFICATION CKT. N	2 CONDUCTOR #12 FPL TWISTED/ UNSHIELDED W/OVERALL JACKET	2 CONDUCTOR #12 FPL TWISTED/ UNSHIELDED W/OVERALL JACKET	NOTIFICATION CKT. NU
S-BUS S	4 CONDUCTOR #16 FPLR (2 PAIR)	4 CONDUCTOR #16 FPLR (2 PAIR)	S-BUS SU

NOTE:
1. ALL WIRE TO BE CLASS 'B' PATHWAY SURVIVAL LEVEL 1.
2. ALL CABLING TO BE WEST PENN OR APPROVED EQUAL.
3. COLOR CODE ALL FIRE ALARM CONDUCTORS PER DISTRICT STANDARDS. VERIFY COLOR SCHEMES PRIOR TO ORDERING FIRE ALARM CONDUCTORS.

PLAN REVIEW REQUIREMENTS AND APPLICABLE CODES AND STANDARDS

1.0 FIRE ALARM PLAN REVIEW

A. FIRE ALARM PLAN REVIEW

1. AS PART OF THE FIRE ALARM PLAN REVIEW, PLANS AND SPECIFICATIONS FOR THE FIRE ALARM SYSTEM HAVE BEEN INCLUDED FOR REVIEW AND COMMENT BY THE DIVISION OF THE STATE ARCHITECT, FIRE & LIFE SAFETY.
2. THE FLOOR PLANS AND SPECIFICATIONS INCLUDE THE FOLLOWING : LOCATIONS OF ALL ALARM-INITIATING AND SIGNALING DEVICES, CONTROL AND TROUBLE SIGNALING EQUIPMENT (FIRE ALARM CONTROL PANEL, BUILDING ANNUNCIATION (FIRE ALARM ANNUNCIATOR).

B. FIRE ALARM COMPONENTS

1. PROVIDE CALIFORNIA STATE FIRE MARSHAL LISTING SHEETS AND U.L. LISTING NUMBERS FOR EACH COMPONENT.
2. EQUIPMENT POWER CONNECTIONS.
3. RISER DIAGRAM SHOWING EACH COMPONENT.
4. VOLTAGE DROP CALCULATIONS.
5. POWER CONNECTIONS TO APPLICABLE COMPONENTS.
6. WIRE AND/OR CABLING TYPES AND SIZES.
7. PROVIDE CATALOG DATA SHEETS FOR ALL FIRE ALARM SYSTEM COMPONENTS.
8. CONTRACTOR TO FURNISH STATEMENT OF COMPLIANCE BEFORE REQUESTING FINAL APPROVAL OF INSTALLATION IN ACCORDANCE WITH CFC, SECTION 901.2.1.
9. A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE PROJECT INSPECTOR AND, IF APPLICABLE, LOCAL FIRE AUTHORITY.
10. THE INSTALLER SHALL SUPPLY THE OWNER WITH A WRITTEN OPERATING, TESTING AND MAINTENANCE INSTRUCTIONS, POINT-TO-POINT AS BUILT DRAWINGS AND EQUIPMENT SPECIFICATIONS. AS BUILT RECORDS SHALL BE MAINTAINED ON PREMISES FOR A MINIMUM OF THREE YEARS PER CFC, SECTION 901.6.3.

C. SCOPE OF WORK

1. INSTALL A FULLY AUTOMATIC, ADDRESSABLE, FIRE ALARM SYSTEM WITHIN ALL BUILDINGS IN SCOPE OF PROJECT AS DEFINED PER CFC, SECTION 907.2.3 AND NFPA 72.
2. FIRE ALARM SYSTEM SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72. THE SUPERVISING STATION SHALL BE U.L. LISTED AS UUFX (CENTRAL STATION) PER CFC, SECTION 907.6.6.3.

APPLICABLE CODES AS OF APRIL 6, 2025

2025 California Administrative Code (CAC), Part 1, Title 24, C.C.R.
2025 California Building Code (CBC), Volumes 1 & 2, Part 2, Title 24, C.C.R.
2025 California Electrical Code (CEC), Part 3, Title 24, C.C.R.
2025 California Mechanical Code (CMC), Part 4, Title 24, C.C.R.
2025 California Plumbing Code (CPC), Part 5, Title 24, C.C.R.
2025 California Energy Code, Part 6, Title 24, C.C.R.
2025 California Historical Building Code, Title 24, C.C.R.
2025 California Fire Code (CFC), Part 9, Title 24, C.C.R.
2025 California Existing Building Code (CEBC), Part 10, Title 24, C.C.R.
2025 California Green Building Standards Code (CALGreen), Part 11, Title 24, C.C.R.
2025 California Referenced Standards Code, Part 12, Title 24, C.C.R.
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) or ADA Standards for Accessible Design (Appendix A of 28 CFR Part 36.)
For Title III: ADA Standards for Accessible Design (Appendix A of 28 CFR Part 36.)
Americans with Disabilities Act Accessibility Guidelines (ADAAG) (with amendments through September 2002)

APPLICABLE STANDARDS:

For a list of applicable standards, including California amendments to the NFPA Standards, refer to CBC Chapter 35 and CFC Chapter 80.

COMPLETE FIRE ALARM SUBMITTAL

AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM

SHEET INDEX

F00.1	FIRE ALARM SYSTEM NOTES & SYMBOLS LIST
F00.2	FIRE ALARM DETAILS
F00.3	FIRE ALARM RISER DIAGRAM AND CALCS
F11.10	FIRE ALARM PLAN

REDONDO BEACH UNIFIED SCHOOL DISTRICT

REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

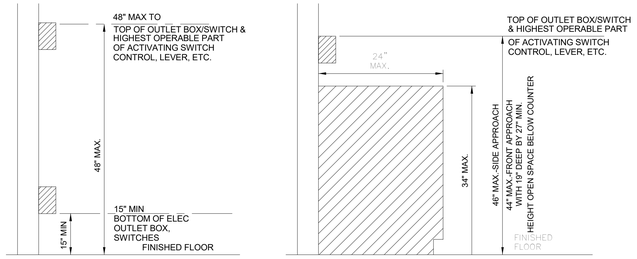
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PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 12" = 1'-0"

F00.1

FIRE ALARM SYSTEM NOTES & SYMBOLS LIST

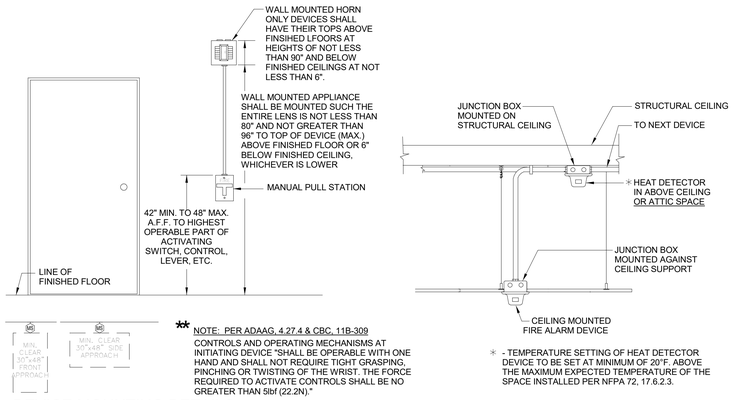
wsp
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #:US0052527.0928



ALL DEVICE HEIGHTS DEPICTED SHALL BE MODIFIED AS REQUIRED BY GOVERNING BUILDING CODES. CONTRACTOR TO VERIFY/RECONCILE APPLICABLE CODE REQUIREMENTS AND ANY DEVICE HEIGHT REQUIREMENTS DEPICTED ON ARCHITECTURAL OR INTERIOR DESIGN PLANS & SPECIFICATIONS PRIOR TO DEVICE ROUGH-IN. CONFLICTS OR LACK OF MOUNTING HEIGHT SPECIFICITY ON THE ARCHITECTURAL OR INTERIOR DESIGN PLANS & SPECIFICATIONS SHALL BE CAUSE FOR THE CONTRACTOR TO ISSUE A FORMAL WRITTEN RFI FOR RESOLUTION. DEVICE MOUNTING HEIGHT CLARIFICATIONS/SPECIFICATIONS SHALL NOT RESULT IN AN ADDITIONAL COST TO THE OWNER - CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID.

MOUNTING HEIGHT OVER OBSTRUCTION DETAIL 4

SCALE: NTS



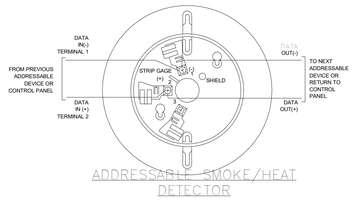
** NOTE: PER ADAAG, 4.27.4 & CBC, 11B-309

CONTROLS AND OPERATING MECHANISMS AT INITIATING DEVICE "SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5lbf (22.2N)."

* - TEMPERATURE SETTING OF HEAT DETECTOR DEVICE TO BE SET AT MINIMUM OF 20°F. ABOVE THE MAXIMUM EXPECTED TEMPERATURE OF THE SPACE INSTALLED PER NFPA 72, 17.6.2.3.

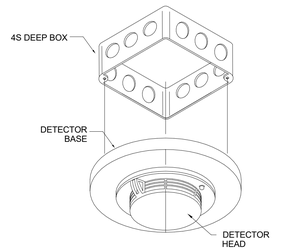
DEVICE MOUNTING DETAILS 5

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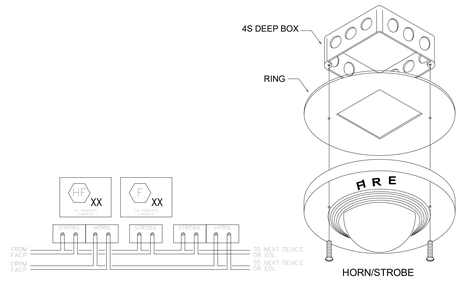
DEVICE WIRING DETAILS 6

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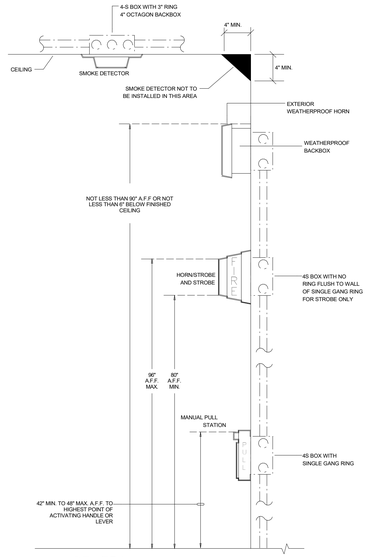
DETECTOR MOUNTING DETAIL 1

SCALE: N.T.S.



CEILING MTD. AUDIBLE/VISUAL 2

SCALE: N.T.S.



GENERAL NOTES:

1. THE ENTIRE LENS OF STROBE LIGHTS MUST BE BETWEEN 80" AND 96" ABOVE FLOOR FINISH. (NFPA 72, 18.5.5)
2. MANUAL FIRE ALARM BOXES SHALL BE INSTALLED IN ACCORDANCE WITH CFC, SECTIONS 907.4 THROUGH 907.5.
3. WHEN APPLICABLE, MANUAL FIRE ALARM BOXES SHALL BE LOCATED NOT MORE THAN 5 FEET FROM THE ENTRANCE TO EACH EXIT. ADDITIONAL MANUAL FIRE ALARM BOXES SHALL BE LOCATED SO THAT TRAVEL DISTANCE TO THE NEAREST BOX DOES NOT EXCEED 200 FEET. (CFC, 907.4.2.1)

MOUNTING HEIGHT DETAIL 3

SCALE: N.T.S.

COMPLETE FIRE ALARM SUBMITTAL

AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS

1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137

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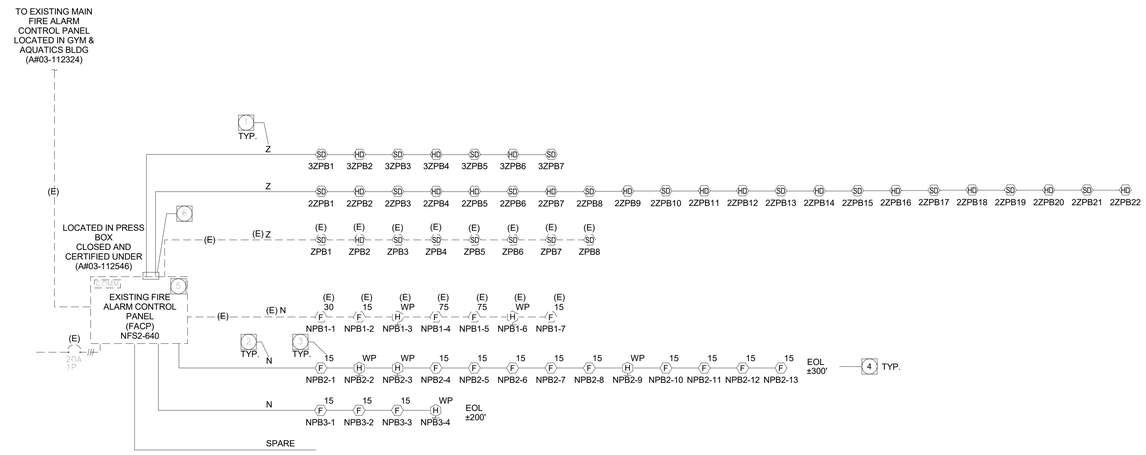
DATE ISSUED: 06/22/2026

SCALE: 12" = 1'-0"

F00.2

FIRE ALARM DETAILS

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11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #US0052527.0928



FIRE ALARM RISER DIAGRAM

RISER DIAGRAM SPECIFIC NOTES:

1. 'Z' INDICATES ZONABLE/ADDRESSABLE CIRCUIT, PROVIDE 2#18 TWISTED PAIR PER CIRCUIT. SEE WIRE LEGEND FOR ADDITIONAL INFORMATION.
2. 'N' INDICATES NOTIFICATION APPLIANCE CIRCUIT (NAC), SEE WIRE LEGEND FOR ADDITIONAL INFORMATION.
3. NUMBER INDICATES CANDELA RATING OF STROBE DEVICE.
4. INDICATES LENGTH OF WIRE IN FEET. SEE WIRING DIAGRAM FOR WIRE TYPES. SEE VOLTAGE DROP CALCULATIONS FOR PERCENT DROPPED AND ADDITIONAL INFORMATION.
5. EXISTING FIRE ALARM CONTROL PANEL WITH INTEGRAL COMMUNICATOR (COMM), TO REMAIN.
6. PROVIDE ADDITIONAL SLC LOOP EPANDERS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

VOLTAGE DROP CALCULATIONS - SEA HAWK BOWL

May 20, 2026	DEVICE CURRENT		VISUAL CIRCUIT		VISUAL CIRCUIT
DEVICE	AMPS	NO.	NPB2	NO.	NPB3
HORN (EXTERIOR)	0.021	3	0.063	1	0.021
STROBE (WALL) 15 CD	0.060	10	0.600	3	0.180
			0.000		0.000
			0.000		0.000
TOTAL CURRENT ON CIRCUIT			0.663 AMPS		0.201 AMPS
TOTAL WIRE LENGTH IN FEET			300		200
% VOLTAGE DROP			**2.74**		**0.55**
WIRE SIZE			#12		#12
CIRCUIT LOCATION			FAPS-PB		FAPS-PB
VOLTS DROPPED			**0.66**		**0.13**

VOLTAGE DROP CALCULATIONS GENERAL NOTES:

1. THE LISTED MANUFACTURE OPERATING VOLTAGE RANGE FOR EQUIPMENT AND DEVICES ARE AS FOLLOWS:

   DEVICES = 16 - 33 VDC (STROBES), 70.7 VDC (SPEAKERS)
   EQUIPMENT = +24VDC FILTERED, REGULATED
   BATTERY = 20.4 VDC END OF USEFUL LIFE PER NFPA 72 HANDBOOK AND UL 864.

2. VOLTAGE DROP OPERATING VOLTAGE FORMULA:

   $\left(\frac{\text{WIRE LENGTH x TOTAL CURRENT AMPS x 21.6}}{\text{CIRC. MILS.}}\right)$ = VOLTS DROPPED

   $\left(\frac{\text{VOLTS DROPPED x 100}}{20.4}\right)$ = % VOLTS DROPPED

   VOLTS DROPPED - 20.4 = OPERATING VOLTAGE

BATTERY SIZING CALC

PROJECT NAME: REDONDO UNION HIGH SCHOOL
PANEL LOCATION: PRESS BOX 303
DATE PERFORMED: May 20, 2026

FACP-PB (NFS2-640)

QTY.	DEVICE NAME	STD-BY (AMPS)		ALARM (AMPS)	
1	EXISTING LOAD	0.2531	0.2531	0.9831	0.9831
	NEW DEVICES				
0	PULL STATION	0.0004	0.0000	0.0004	0.0000
14	SMOKE DETECTOR	0.0004	0.0056	0.0004	0.0056
15	HEAT DETECTOR	0.0003	0.0045	0.0003	0.0045
4	WP HORN	0.0000	0.0000	0.0210	0.0840
13	15cd STROBE (CEILING)	0.0000	0.0000	0.0650	0.8450
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
	TOTALS =		0.2632		1.9222

STAND-BY LOAD = 0.2632 ALARM LOAD = 1.9222 AMPS
STAND-BY TIME = 60 ALARM TIME = 10 / 60 HRS

STAND-BY = 15.792 ALARM = 0.3204 AMP HRS

TOTAL = STAND-BY + ALARM
= 15.79 + 0.32
= 16.11 Ah (AMP HRS)
MULTIPLY BY DERATING FACTOR OF 1.25 = 20.14 Ah (AMP HRS)

MINIMUM BATTERY SIZE = 20.14 AMPERE HOURS
EXISTING 25.00 AMP HOUR BATTERY PACK IS ADEQUATE FOR NEW LOAD

BATTERY CALCULATIONS GENERAL NOTE:

1. CONTRACTOR TO PROVIDE BATTERY MANUFACTURER DATE STAMP PER NFPA 72. TYPICAL FOR ALL CONTROL PANELS, POWER SUPPLY PANELS AND AUDIO AMPLIFIER PANELS.

COMPLETE FIRE ALARM SUBMITTAL

AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM

FIRE ALARM PLAN GENERAL NOTES:

1. NOTIFICATION DEVICES IN ROOMS CONTAINING (2) OR MORE AUDIBLE AND/OR (2) OR MORE VISUAL DEVICES SHALL BE SYNCHRONIZED PER NFPA 72. THIS SHALL INCLUDE AUDIBLE AND VISUAL DEVICES LOCATED IN ADJACENT/ADJOINING SPACES.
2. DO NOT DEVIATE FROM CONDUIT RUNS AS SHOWN ON FLOOR PLANS WITHOUT PRIOR APPROVAL FROM SYSTEM SUPPLIER / ENGINEER. FACTORS SUCH AS EXCESSIVE VOLTAGE DROP, ADDITIONAL PARTS, ENGINEERING, ETC. THAT ARE A RESULT OF CONDUIT RUN DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIR-FLOW, NOR CLOSER THAN 3 FEET (915 mm) FROM ANY AIR SUPPLY DIFFUSER.
4. THE AUDIBLE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIED SPACE WITHIN THE BUILDING PER CFC SECTION 907.5.2.1.1. THE MINIMUM SOUND PRESSURE LEVEL SHALL BE 60 dBA PER NFPA 72, TABLE A.18.4.3.
5. NOT USED.
6. REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR PRECISE OUTLET LOCATIONS.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING MOUNTED DEVICES.
8. IF SHIELDED WIRE IS USED, THE FOLLOWING MUST BE OBSERVED.
   A. METALLIC CONTINUITY OF THE SHIELD MUST BE MAINTAINED AND INSULATED THROUGHOUT THE ENTIRE LENGTH OF THE CABLE.
   B. THE ENTIRE LENGTH OF THE CABLE MUST HAVE A RESISTANCE GREATER THAN 1 MEGOHM TO EARTH.
9. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRE STOP SYSTEM EQUAL TO OR GREATER THAN THE FIRE RATING OF THE STRUCTURE / SURFACE BEING PENETRATED AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE FIRE ALARM SECTION OF THE PROJECT SPECIFICATIONS.
10. A SYSTEM GROUND MUST BE PROVIDED FOR EARTH DETECTION AND LIGHTNING PROTECTION DEVICES. THIS CONNECTION SHALL BE MADE TO AN APPROVED DEDICATED EARTH CONNECTION PER CEC, ARTICLE 250.
11. WIRING IN DUCTS, PLENUMS AND OTHER AIR HANDLING SPACES MUST BE INSTALLED IN ACCORDANCE WITH CEC.
12. UNDERGROUND WIRING MUST BE FREE OF ALL WATER.
13. ALL FIRE ALARM SYSTEM CONDUCTORS SHALL BE RUN IN A DEDICATED FIRE ALARM CONDUIT SYSTEM.
14. WHERE A DETECTOR IS INDICATED TO BE INSTALLED ABOVE THE CEILING AND NO ACCESS TO THE CEILING SPACE EXISTS, THE ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS. THE DETECTOR SHALL BE EASILY ACCESSIBLE AND THE LOCATION OF THE DETECTOR SHALL BE CLEARLY MARKED.
15. WIRING OTHER THAN THAT CONNECTED TO ELEVATOR CABS MUST NOT BE RUN IN ELEVATOR SHAFTS (CEC, ARTICLE 620).
16. FIRE ALARM SYSTEM UTILIZES A COMPLETE COVERAGE, FULLY AUTOMATIC SYSTEM. PROVIDE RELAY MODULE(S) AT FATC/FACP LOCATIONS FOR CONTROL OF HVAC SHUT DOWN, SMOKE/FIRE DAMPER CLOSURE AND DOOR HOLD RELEASES.
17. WHERE NEW DEVICES (AND ASSOCIATED CONDUIT) CANNOT PHYSICALLY BE MOUNTED CONCEALED IN WALLS, RUN IN PANDUIT SURFACE RACEWAY/WIREWAY (AND DEVICES SHALL BE MOUNTED ON SURFACE OUTLET BOXES). REFER TO SPECIFICATIONS. PROVIDE SIZE OF RACEWAY TO ACCOMMODATE THE REQUIRED CONDUCTORS. WHERE CONDUIT IS INDICATED, PROVIDE SURFACE RACEWAY WITH AN EQUAL CROSS SECTION TO THE DIAMETER OF THE CONDUIT INDICATED.
18. DETECTOR SENSITIVITY SHALL BE TESTED USING MANUFACTURER'S CALIBRATED SENSITIVITY INSTRUMENT OR OTHER CALIBRATED TESTING METHOD. (CFC, SECTIONS 907.8.3 AND 907.8.4)

REDONDO BEACH UNIFIED SCHOOL DISTRICT
REDONDO UNION HIGH SCHOOL
SEA HAWK BOWL IMPROVEMENTS
1 SEA HAWK WAY, REDONDO BEACH, CA 90277

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2027
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

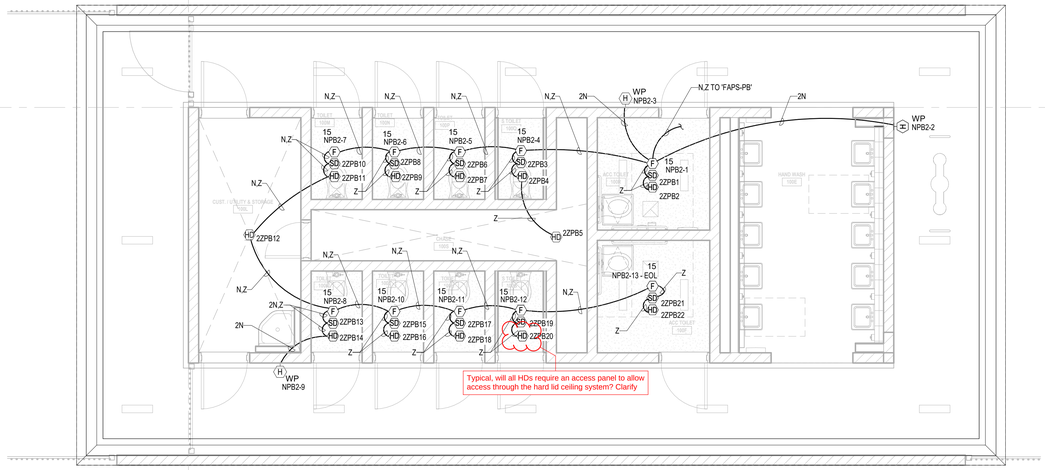
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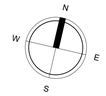
PROJECT NO: 2025-40137
ISSUANCE: A#03-126194
DATE ISSUED: 06/22/2026
SCALE: 12" = 1'-0"

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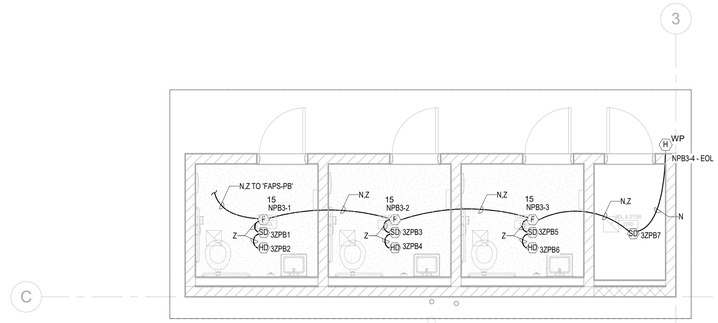
FIRE ALARM RISER DIAGRAM AND CALCS

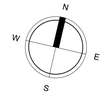
wsp
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 wsp.com
Project Leader - Bill Voller
Electrical Lead - Andrea Lawson
WSP Job #US0052527.0928





FIRE ALARM PLAN - WEST RESTROOM | 1/4" = 1'-0" | **1**





FIRE ALARM PLAN - EAST RESTROOM | 1/4" = 1'-0" | **3**

KEYNOTES

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AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM

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REDONDO UNION HIGH SCHOOL SEA HAWK BOWL IMPROVEMENTS

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STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2025-40137

ISSUANCE: A#03-126194

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SCALE: As indicated

F11.10

FIRE ALARM PLAN

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