



AGENCY COMMENT REQUEST

Date 11/19/2025

We request your comments regarding the attached application currently under review.

<p>DISTRIBUTION</p> <p>INTERNAL</p> <p><input checked="" type="checkbox"/> Building Inspection Grading Inspection</p> <p>Advance Planning Housing Programs</p> <p>Trans. Planning Telecom Planner</p> <p>ALUC Staff HCP/NCCP Staff</p> <p>County Geologist</p> <p>HEALTH SERVICES DEPARTMENT</p> <p><input checked="" type="checkbox"/> Environmental Health Hazardous Materials</p> <p>PUBLIC WORKS DEPARTMENT</p> <p>Engineering Services Special Districts</p> <p>Traffic</p> <p>Flood Control (Full-size)</p> <p>LOCAL</p> <p><input checked="" type="checkbox"/> Fire District _____</p> <p><input checked="" type="checkbox"/> San Ramon Valley – (email) rwendel@srvfire.ca.gov Consolidated – (email) fire@cccfpd.org</p> <p><input checked="" type="checkbox"/> Sanitary District <u>Central San</u></p> <p><input checked="" type="checkbox"/> Water District <u>EBMUD</u></p> <p>City of _____</p> <p>School District(s) _____</p> <p>LAFCO</p> <p>Reclamation District # _____</p> <p>East Bay Regional Park District</p> <p>Diablo/Discovery Bay/Crockett CSD</p> <p><input checked="" type="checkbox"/> MAC/TAC <u>Alamo</u></p> <p><input checked="" type="checkbox"/> Improvement/Community Association (AIA)</p> <p>CC Mosquito & Vector Control Dist (email) _____</p> <p>OTHERS/NON-LOCAL</p> <p>CHRIS (email only: nwic@sonoma.edu) _____</p> <p>Fish and Wildlife, Region 3 – Bay Delta _____</p> <p>ive American Tribes</p> <p>ADDITIONAL RECIPIENTS</p> <p>_____</p>	<p><i>Please submit your comments to:</i></p> <p>Project Planner <u>Joseph Lawlor</u></p> <p>Phone # <u>925-655-2872</u></p> <p>E-mail <u>joseph.lawlor@dcd.cccounty.us</u></p> <p>County File # <u>CDVR25-01055</u></p> <p>Prior to <u>12/19/2025</u></p> <p style="text-align: center;">* * * * *</p> <p>We have found the following special programs apply to this application:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Landslide</td> <td style="width: 50%;">Active Fault Zone (A-P)</td> </tr> <tr> <td>Liquefaction</td> <td>Flood Hazard Area</td> </tr> </table> <p><input checked="" type="checkbox"/> 60-dBA Noise Control</p> <p>CA EPA Hazardous Waste Site</p> <p>High or Very High FHSZ</p> <p style="text-align: center;">* * * * *</p> <p>AGENCIES: Please indicate the applicable code section for any recommendation required by law or ordinance. Please send copies of your response to the Applicant and Owner.</p> <p>Comments: None Below Attached</p> <p>Print Name _____</p> <p>Signature _____ DATE _____</p> <p>Agency phone # _____</p>	Landslide	Active Fault Zone (A-P)	Liquefaction	Flood Hazard Area
Landslide	Active Fault Zone (A-P)				
Liquefaction	Flood Hazard Area				



CONTRA COSTA

CONSERVATION & DEVELOPMENT

Planning Application Summary

County File Number: CDVR25-01055

File Date: 11/3/2025

Applicant:

taylor hawkins Hawkins Enterprises
6 crow canyon ct suite 110
san ramon, CA 94583

taylor@hawkinspools.com
(925) 415-5258

Property Owner:

TODD A MCGREGOR
208 VALLEY OAKS DR
ALAMO, CA 94507 204

taylor@hawkinspools.com
(213) 393-3633

Project Description: The applicant requests a variance permit to allow an approximately 8 ft. 9 in. side yard setback (where 20 ft. is the minimum required), for construction of a pool with raised bond beams

Project Location: (Address: 208 VALLEY OAKS DR, ALAMO, CA 94507 204), (APN: 197371014)

Additional APNs:

General Plan Designation(s): RVL

Zoning District(s): A-2 : R-40 AP

Flood Hazard Areas: X

Fault Zone: No

60-dBA Noise Control: Yes

MAC/TAC: Alamo

Sphere of Influence: N/A

Fire District: SAN RAMON VLY FIRE

Sanitary District: CENTRAL SANITARY

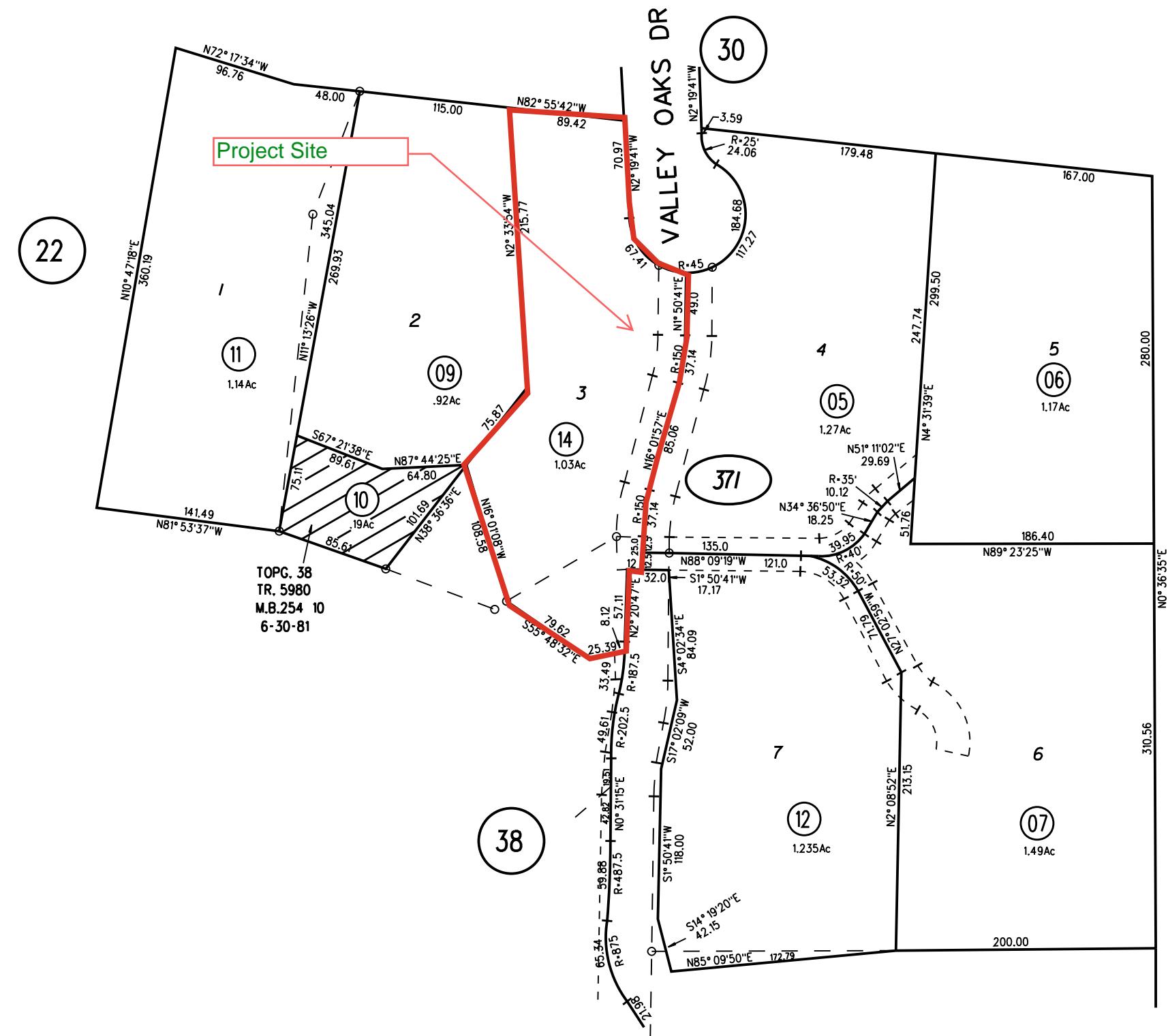
Housing Inventory Site: NO

Specific Plan: N/A

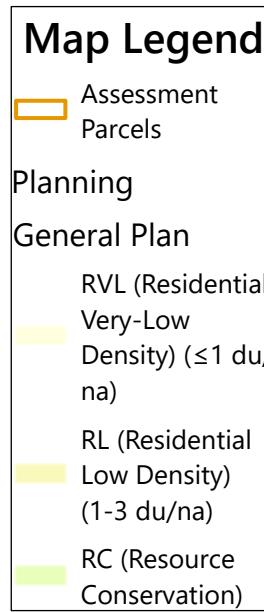
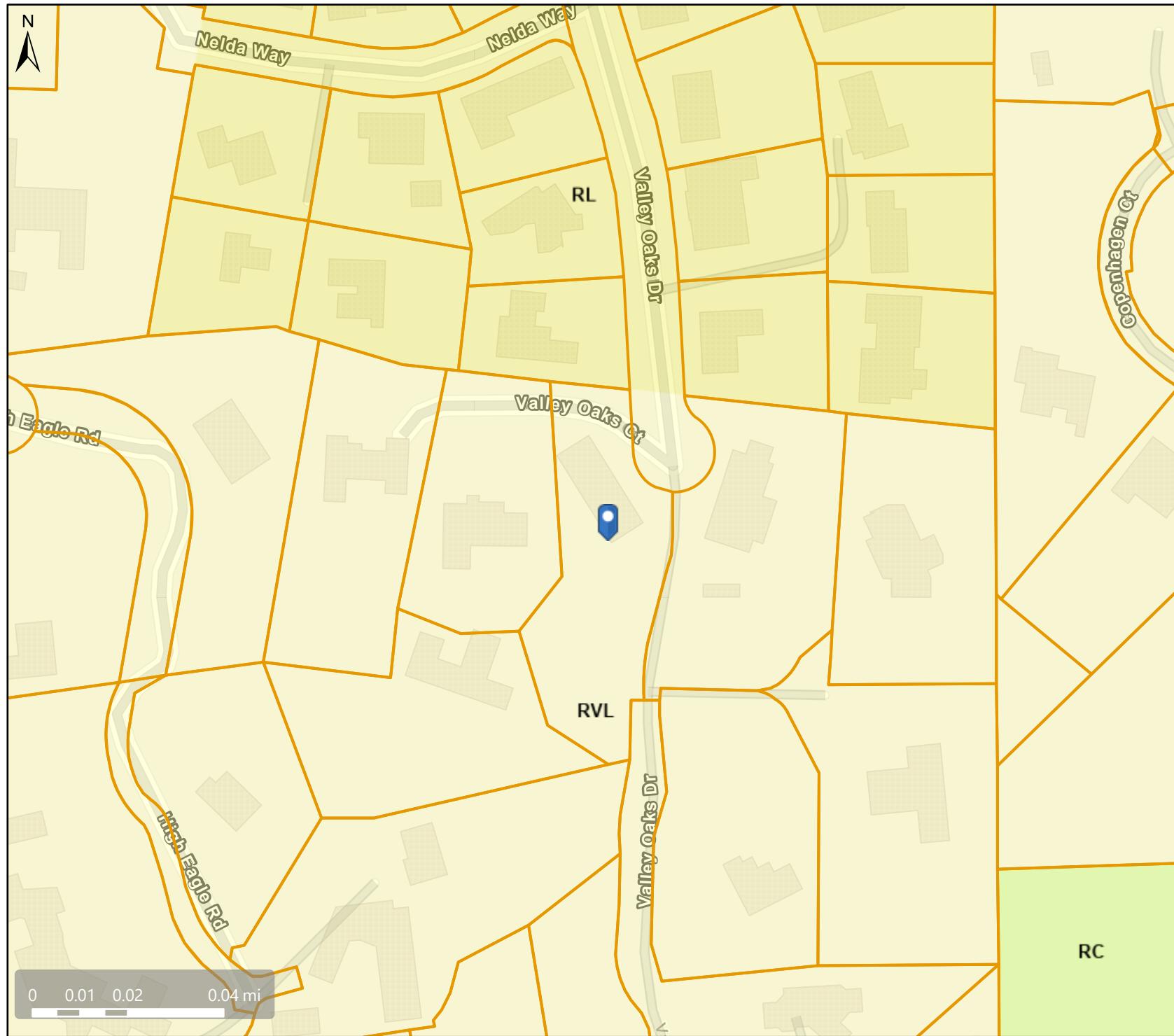
Fees:

Fee Item	Description	Account Code	Total Fee	Paid
052B	Notification Fee (\$30)	002606-9660-REV-000-5B052B	30.00	30.00
VRS0044	Zone Variance - DCD	002606-9660-REV-000-5B0044	3250.00	3250.00
		Total:	3280.00	3280.00

1979 ROLL - TRACT 5046 M.B. 218-44



General Plan RVL



This map is a user generated, static output from an internet mapping application and is intended for reference use only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION.

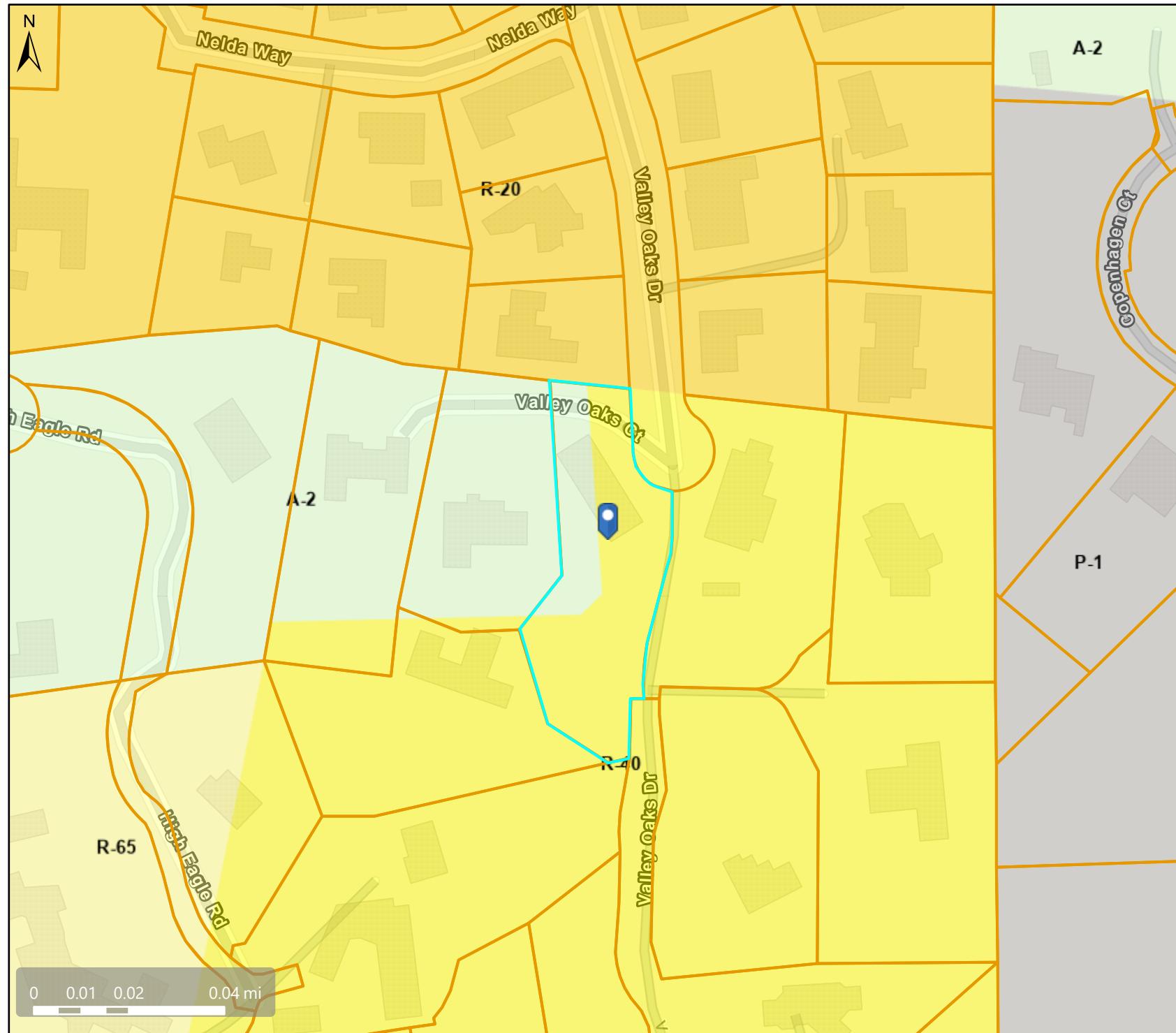
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Department of Information Technology, County GIS.

Data layers contained within the CCMap application are provided by various Contra Costa County Departments. Please direct all data inquires to the appropriate department.

Spatial Reference
PCS: WGS 1984 Web Mercator Auxiliary Sphere
Datum: WGS 1984

Zoning R-40 and A-2



Map Legend	
Assessment	Parcels
Planning	Zoning
Zoning	ZONE_OVER
R-20 (Single Family Residential)	R-20 (Single Family Residential)
R-40 (Single Family Residential)	R-40 (Single Family Residential)
R-65 (Single Family Residential)	R-65 (Single Family Residential)
A-2 (General Agriculture)	A-2 (General Agriculture)
P-1 (Planned Unit)	P-1 (Planned Unit)

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Spatial Reference
PCS: WGS 1984 Web Mercator Auxiliary Sphere
Datum: WGS 1984

Aerial



Map Legend	
Assessment	Parcels
Planning	Unincorporated
Board of	Supervisors'
Districts	Districts
Base Data	Address Points

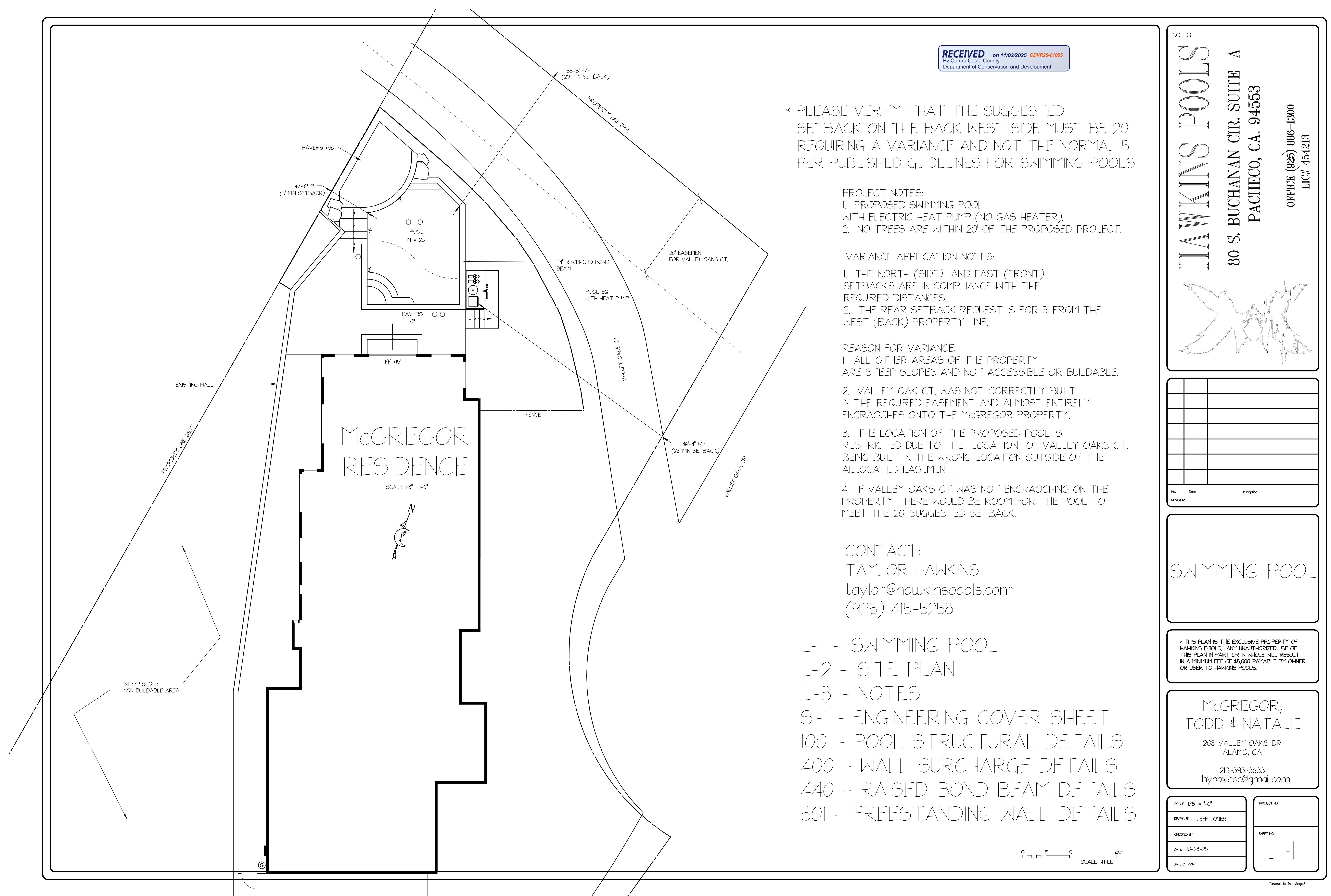
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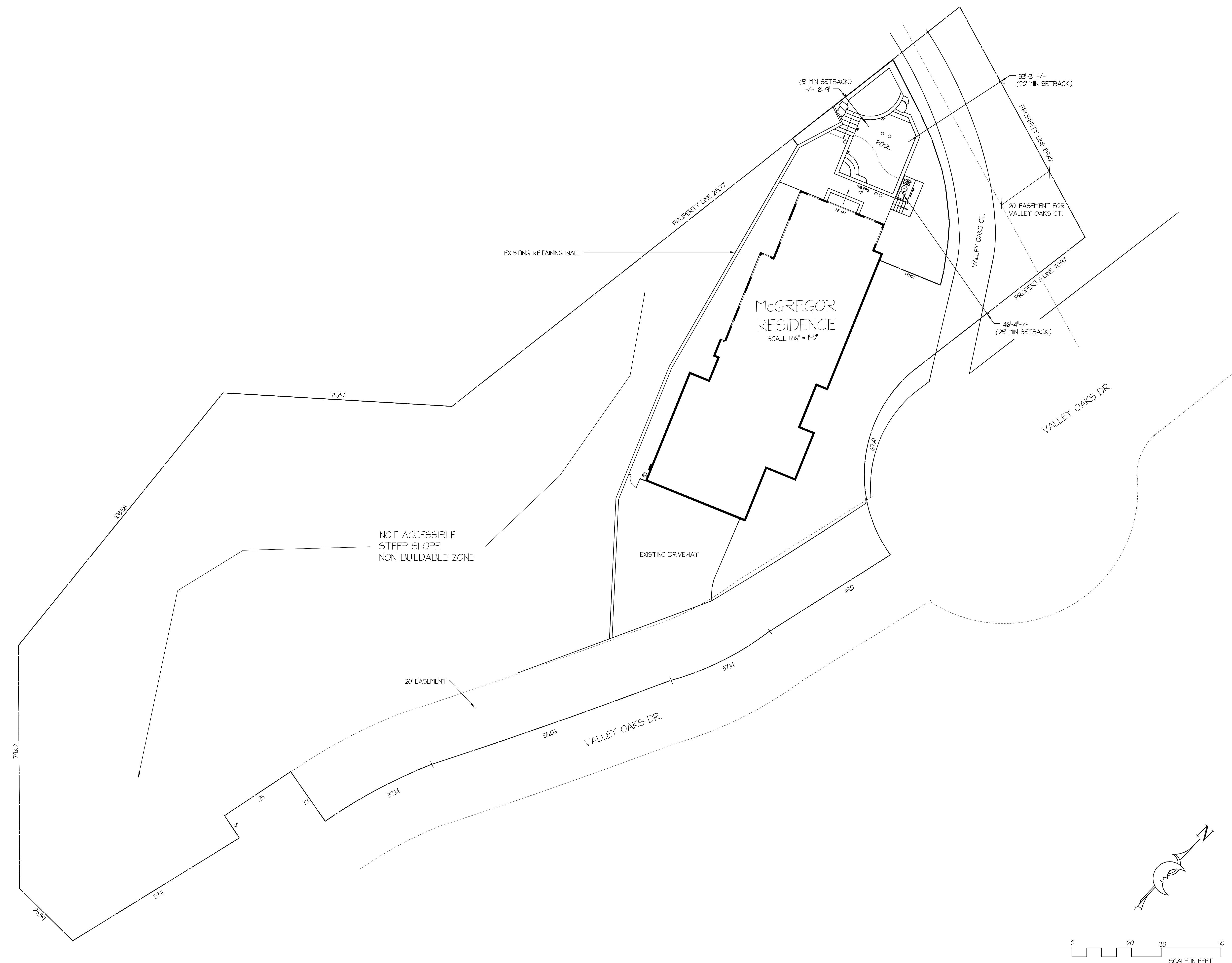
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1 Spatial Reference
PCS: WGS 1984 Web Mercator Auxiliary Sphere
Datum: WGS 1984





AWKINS POOLS
S. BUCHANAN CIR. SUITE A
PACIFICO 91553

VICE (925) 886-1300
AX (925) 838-7670
LIC. # 454213

A detailed line drawing of a crab, showing its carapace, legs, and claws. The drawing is symmetrical, illustrating the anatomical features of the crustacean.

SITE PLAN

McGREGOR,
TODD & NATALIE

208 VALLEY OAKS DR
ALAMO, CA

213-393-3633

8/28/2023 2:12:22

SCALE	1/16" = 1'-0"	PROJECT NO.
DRAWN BY		
CHECKED BY		SHEET NO.
DATE	10-28-25	
DATE OF PRINT		

HAWKINS POOLS
80 S. BUCHANAN CIR. SUITE A
PACHECO, CA. 94553
OFFICE (925) 886-1300
LIC# 454213

REVISIONS
No. Date Description

McGREGOR
RESIDENCE

SCALE 1/8" = 1'-0"

N

PROPERTY LINE 25.77

PROPERTY LINE 89.42

RAISED DECK +36"

BBQ

POOL 19 X 26'

400

140

501

C-100

+0"

FF +15"

20' EASEMENT

EXISTING DRIVEWAY

24" REVERSED BOND BEAM

0 5 10 20 SCALE IN FEET

* THIS PLAN IS THE EXCLUSIVE PROPERTY OF HAWKINS POOLS. ANY UNAUTHORIZED USE OF THIS PLAN IN PART OR IN WHOLE WILL RESULT IN A MINIMUM FEE OF \$5,000 PAYABLE BY OWNER OR USER TO HAWKINS POOLS.

McGREGOR,
TODD & NATALIE
208 VALLEY OAKS DR.
ALAMO, CA
213-393-3633

SCALE 1/8" = 1'-0"

DRAWN BY JEFF JONES

CHECKED BY

DATE 7-8-25

PROJECT NO.

SHEET NO.

5-1

DATE OF PRINT

25-08905-dg
SITE PLAN REVIEWED
for conformance to structural details
Christopher J. Biedenbach R.C.E.
Pool Engineering, Inc.
Structural details shall take precedence over conflicts with site plan.

10/08/2025

BENCH AND STEP OPTIONS:

1. UNDISTURBED EARTH MAY BE LEFT IN PLACE TO FORM THE STEPS OR BENCHES. REINFORCING STEEL SHOULD BE PLACED AROUND THE STEP OR BENCH SHAPE EARTH (3" CLEAR FROM EARTH).
2. THE EARTH MAY BE REMOVED AND BENCHES AND STEPS MAY BE FORMED OF SHOTCRETE (GUNITE) WITHIN THE STRUCTURAL POOL SHELL. REINFORCING AT THE SURFACE OF THE BENCHES AND STEPS IS OPTIONAL.

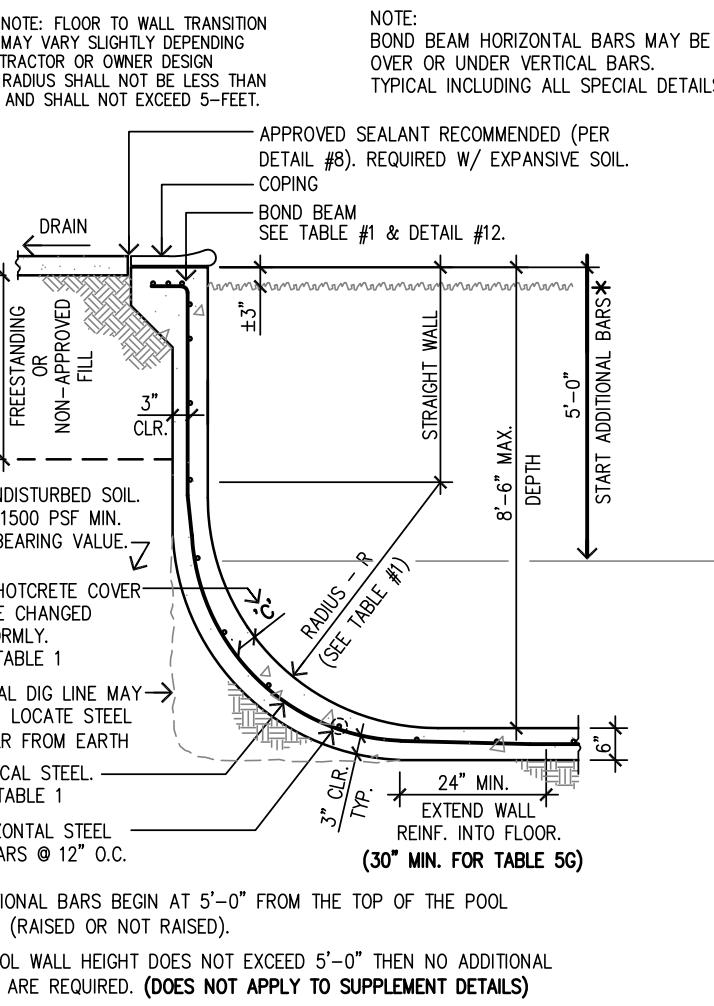
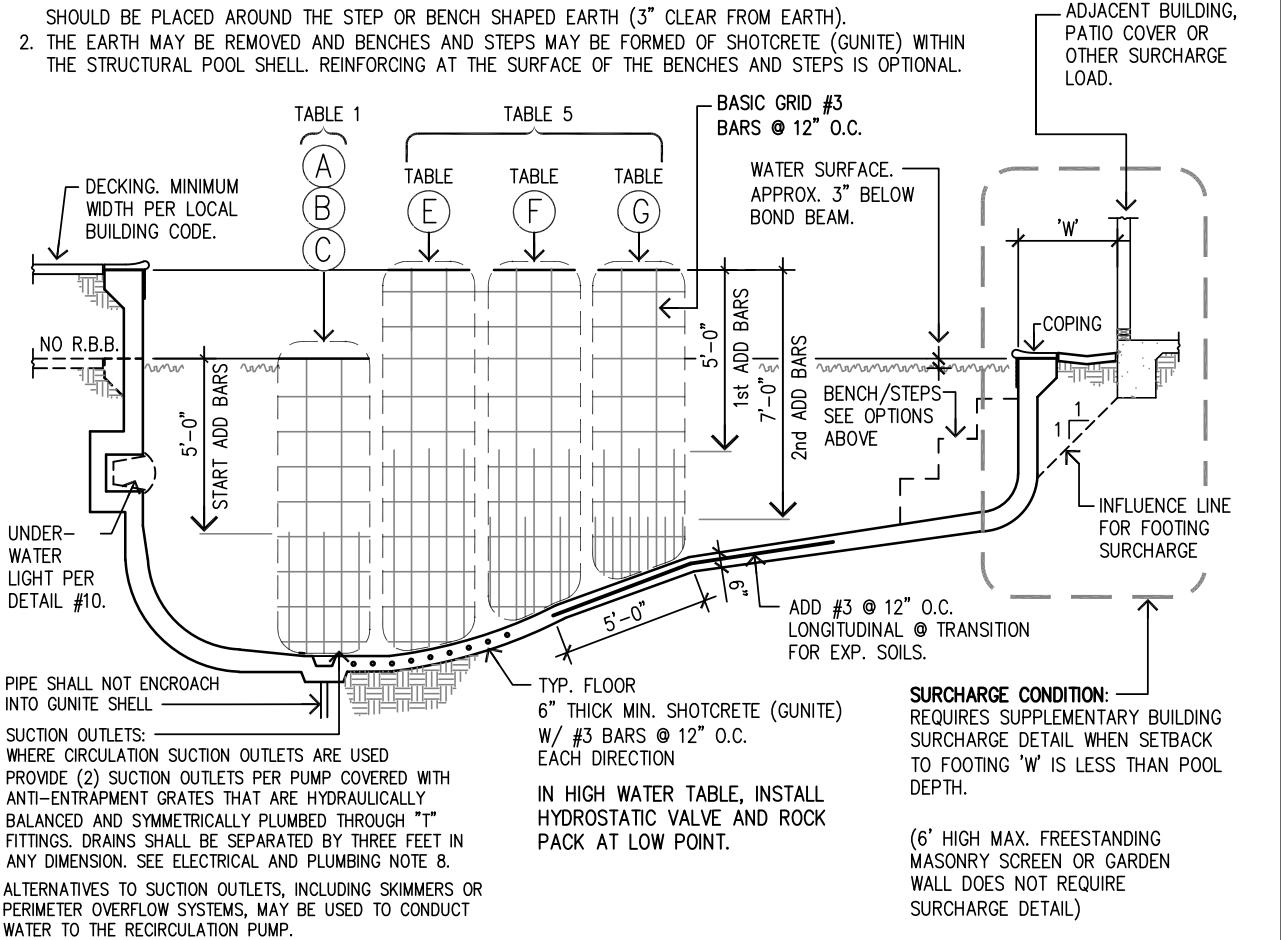


TABLE NO. 1		
NON-EXPANSIVE	EXPANSIVE	NO DECK/HIGH EXP.
A	B	C
(3) #3 BARS.	(4) #3 BARS.	(4) #3 BARS.
E.F.P.	P.C.	P.C.
D	R	C
3'0"	1'-0"	3' @ 12"
3'6"	1'-0"	3' @ 12"
4'0"	1'-0"	3' @ 12"
4'6"	1'-0"	3' @ 12"
5'0"	1'-6"	3' @ 12"
5'6"	2'-0"	3' @ 12"
6'0"	2'-6"	3' @ 12"
6'6"	3'-0"	3' @ 12"
7'0"	3'-6"	3' @ 12"
7'6"	4'-0"	3' @ 12"
8'0"	4'-6"	3' @ 12"
8'6"	5'-0"	3' @ 12"
		65 P.C.F.
		C VERTICAL STEEL
		3" #3 @ 12"
		3" #3 @ 12"
		3" #3 @ 12"
		3" #3 @ 12"
		3" #3 @ 12"
		3" #3 @ 6"
		4"
		5"
		6"
		7"
		8"
		9"
		10"
		10"

GENERAL NOTES

1. THIS STANDARD POOL STRUCTURAL PLAN MUST BE ACCOMPANIED BY A CLEAR PLOT PLAN SHOWING POOL AND/OR SPA SHAPE, DEPTH, DISTANCE TO PROPERTY LINE, GRADE CHANGES & SLOPES AND ADJACENT STRUCTURES.
2. REPRESENTATIVES OF POOL ENGINEERING INC. HAVE NOT INSPECTED THE SITE & ARE RELYING ON INFORMATION PROVIDED BY THE CONTRACTOR OR OWNER TO DETERMINE THE EXACT LOCATION OF POOL AND SPA, POOL DECK, FENCE, AND POOL DECK, ETC. SITE CONDITIONS SHOULD SITE CONDITIONS VARY FROM THOSE COVERED BY THIS STANDARD POOL STRUCTURAL PLAN, IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR THE OWNER TO NOTIFY POOL ENGINEERING INC. AND OBTAIN APPLICABLE SPECIAL ENGINEERING DETAILS PRIOR TO CONSTRUCTION. EXPANSIVE SOIL DETAILS ARE VALID ONLY FOR STATED EQUIVALENT FLUID PRESSURES AND POOL ENGINEERING INC. RECOMMENDS THAT THE OWNER OR CONTRACTOR OBTAIN SOILS REPORT.
3. POOL ENGINEERING INC. (PEI) RECOMMENDS THAT THE CONTRACTOR AND/OR POOL CONTRACTOR RETAIN A GEOTECHNICAL CONSULTANT TO OBTAIN GEOTECHNICALLY RELATED DESIGN CRITERIA FOR THE PROPOSED POOL SITE. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER AND/OR POOL CONTRACTOR TO REQUIRE THAT THE LICENSED GEOTECHNICAL CONSULTANT CONFIRM THAT THE POOL STRUCTURAL PLANS PROVIDED MEET THE REQUIREMENTS OF THE PROJECT SITE AND THE GEOTECHNICAL REPORT. WHEN A GEOTECHNICAL REPORT HAS NOT BEEN PROVIDED TO PEI, IT IS THE OWNER AND/OR CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE SITE CONDITIONS CONFORM TO THE POOL STRUCTURAL PLANS FOR CONSTRUCTION OF THE POOL BASED ON THE PEI PLANS BEING USED.
4. THIS PLAN IS NOT VALID WITHOUT ADDITIONAL SURCHARGE DETAILS WHEN THE CONDITIONS AS SHOWN IN DETAIL #3 APPLY (PER CBC SECTION 1808.7.3). ALL POOLS SHALL COMPLY WITH SLOPE SETBACKS PER CBC SECTION 1808.7.3.
5. THE STANDARD POOL STRUCTURAL PLAN IS NOT INTENDED TO BE APPLICABLE TO NON-STRUCTURAL ITEMS INCLUDING BUT NOT LIMITED TO PLUMBING, ELECTRICAL, FENCING, CONCRETE DECKING AND POOL GEOMETRIES.
6. DECK CONSTRUCTION IS SHOWN AS RECOMMENDED MINIMUM CONSTRUCTION AND DOES NOT DEMONSTRATE A SYSTEM THAT WILL RESIST HEAVING DUE TO SOIL EXPANSION.
7. ALL CONSTRUCTION SHALL COMPLY WITH THE 2022 EDITIONS OF THE CALIFORNIA BUILDING CODE (CBC), CALIFORNIA ELECTRICAL CODE (CEC), CALIFORNIA MECHANICAL CODE (CMC), CALIFORNIA PLUMBING CODE (CPC), CALIFORNIA ENERGY CODE, 2022 BUILDING ENERGY EFFICIENCY STANDARDS, 2022 CALIFORNIA GREEN BUILDING STANDARDS, AND THE 2022 CALIFORNIA PLANNING CODE.
8. POOLS WITH DIVING BOARDS SHALL MEET DIVING BOARD MANUFACTURER'S POOL GEOMETRIC STANDARDS AND/OR LOCAL CODES.
9. SIGNS & SAFETY EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES.
10. PUBLIC POOLS REQUIRE COUNTY HEALTH DEPARTMENT APPROVAL AND PROVISIONS FOR ASSISTIVE DEVICES FOR THE DISABLED.
11. CONTRACTOR OR OWNER SHALL VERIFY ALL FIELD CONDITIONS & DIMENSIONS AT JOB SITE AND SHALL BE RESPONSIBLE FOR JOB SITE CONDITIONS AND THE SAFETY OF ALL PERSONNEL WORKING ON THE POOL.
12. POOL LENGTH, GRADE BREAK LOCATIONS & DEPTH DIMENSIONS AS NOTED ON THE POOL PLAN SHALL COMPLY WITH ANSI/ASPS/PHFA SUGGESTED MINIMUM STANDARDS FOR RESIDENTIAL POOLS AND LOCALLY ADOPTED POOL AND SPA CODES. PUBLIC POOLS SHALL COMPLY WITH APPLICABLE STATE AND LOCAL HEALTH DEPT. REGULATIONS.

GLAZING IN HAZARDOUS LOCATIONS

GLAZING SHALL COMPLY WITH THE CBC SECTION 2406.4, INCLUDING LOCALLY ADOPTED AMENDMENTS.

1. GLAZING IN WALLS AND FENCES USED AS A BARRIER SHALL BE SAFETY GLAZING WHEN ALL OF THE FOLLOWING CONDITIONS ARE PRESENT:
 - A. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" ABOVE ANY STANDING OR WALKING SURFACE.
 - B. THE GLAZING IS WITHIN 5 FEET OF A SWIMMING POOL OR SPA DECK AREA.

CONTINUOUS SHOTCRETE INSPECTION

WHERE REQUIRED BY THE PERMITTING AUTHORITY, PNEUMATIC CONCRETE PLACEMENT SHALL BE INSPECTED BY A SPECIAL INSPECTOR IN CONFORMANCE WITH CBC SECTION 1704. WHO SHALL SUBMIT A STATEMENT INDICATING COMPLIANCE WITH THE PLANS AND SPECIFICATIONS.

TITLE 24

1. PUMPS SHALL BE SIZED PER SECTION 150(p) OF THE LATEST ADOPTED EDITION OF THE BUILDING ENERGY EFFICIENCY STANDARDS.
2. A LENGTH OF STRAIGHT PIPE GREATER THAN OR EQUAL TO 4 PIPE DIAMETERS SHALL BE INSTALLED BEFORE THE PUMP.
3. ALL ELBOWS SHALL BE 90° ELBOWS.
4. MANDATORY REQUIREMENTS FOR POOL & SPA HEATING SYSTEMS & EQUIPMENT:
 1. SYSTEM IS CERTIFIED WITH: THERMAL EFFICIENCY THAT COMPLIES WITH THE APPLIANCE EFFICIENCY REGULATIONS, READILY ACCESSIBLE ON-OFF SWITCH, WEATHERPROOF OPERATING INSTRUCTIONS ON ENERGY EFFICIENT OPERATIONS, NO ELECTRIC RESISTANCE HEATING AND NO PILOT LIGHT.
 2. SYSTEM IS INSTALLED:
 - A) AT LEAST 12" PIPE BETWEEN FILTER & HEATER FOR FUTURE SOLAR HEATING.
 - B) COVER FOR OUTDOOR POOLS OR OUTDOOR SPA.
 3. POOL SYSTEM HAS DIRECTIONAL INLETS & A CIRCULATION PUMP TIME SWITCH TO PERMIT OFF PEAK OPERATION.

FENCING AND BARRIERS

1. PRIOR TO FILLING, THE POOL AND SPA SHALL BE COMPLETELY ENCLOSED BY 5' MIN. HIGH FENCING & GATES WITH NO OPENINGS 4' OR GREATER, GATES TO BE SELF-CLOSING & SELF-LATCHING WITH LATCH A MIN. OF 5' HIGH, ACCESS GATES THROUGH FENCING SHALL OPEN AWAY FROM THE POOL. MAXIMUM VERTICAL CLEARANCE FROM GROUND TO POOL FENCING SHALL NOT EXCEED 2 INCHES. WHERE THIS VARIES FROM LOCAL CODES, THE LOCAL CODES SHALL PREVAIL.
2. BARRIERS SHALL COMPLY WITH CBC SECTION 3109.2 (HS CODE §§ 115920-115929), INCLUDING LOCALLY ADOPTED AMENDMENTS.

CITY OF FREMONT SPECIAL NOTES

THESE NOTES ARE ONLY APPLICABLE IN THE CITY OF FREMONT.

1. SEPARATE GRADING PERMIT IS REQUIRED FOR SWIMMING POOL INSTALLATION AT SLOPED SITE. GRADING PLAN SHALL BE PREPARED, STAMPED AND SIGNED BY A LICENSED CIVIL ENGINEER IN THE STATE OF CALIFORNIA.
2. MINIMUM DISTANCE BETWEEN EXTERIOR WALL OF ADJACENT BUILDING & SWIMMING POOL SHALL BE 3'-0" WIDE WALKWAY PLUS THE WIDTH OF SWIMMING POOL BOND BEAM AND NO LESS THAN THE DEPTH OF THE POOL ADJACENT TO THE BUILDING. REFER TO STANDARD POOL STRUCTURAL PLAN #2.
3. PUBLIC POOLS SHALL COMPLY WITH CBC SECTION 3109.2 (HS CODE §§ 115920-115929).

CITY OF ROCKLIN SPECIAL NOTES

THESE NOTES ARE ONLY APPLICABLE IN THE CITY OF ROCKLIN.

1. IN THE ABSENCE OF A SITE-SPECIFIC SOILS INVESTIGATION, SWIMMING POOL AND SPA CONSTRUCTION SHALL CONFORM TO STANDARD POOL STRUCTURAL PLAN STEEL AND GUNITE SCHEDULES FOR EACH SOIL TYPE WITH A MINIMUM SOIL EQUIVALENT FLUID PRESSURE (S.E.P.) (SCHEDULES C AND G).
2. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL OR CERTIFIED FILM COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D1557.

CITY OF SAN JOSE SPECIAL NOTES

THESE NOTES ARE ONLY APPLICABLE IN THE CITY OF SAN JOSE.

1. ENGINEER TO SPECIFY TABLES AND DETAILS THAT APPLY TO A SPECIFIC JOB BY ONE OF THE FOLLOWING METHODS:
 - A. A LETTER STAMPED AND SIGNED BY THE ENGINEER REFERRING TO THE APPROPRIATE DETAILS AND SCHEDULES.
 - B. A LETTER STAMPED AND SIGNED PROVIDED THE SAME INFORMATION.
 - C. A STANDARD POOL PLAN WITH THE ADDRESS WRITTEN IN BY THE ENGINEER ALSO IDENTIFYING SCHEDULES AND DETAILS.
2. SWIMMING POOL AND SPA CONSTRUCTION SHALL CONFORM TO STANDARD POOL STRUCTURAL PLAN STEEL AND GUNITE SCHEDULES WITH A MINIMUM SOIL EQUIVALENT FLUID PRESSURE (S.E.P.) (SCHEDULES C AND G).
3. PORTLAND CEMENT SHOTCRETE SHALL CONFORM TO ASTM C150 AND SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 2,500 PSI AND A WATER/CEMENT RATIO LESS THAN OR EQUAL TO 0.45.
4. WHERE SHOTCRETE IS EXPOSED TO SOIL OR WATER CONTAINING DELETERIOUS AMOUNTS OF WATER SOLUBLE SULFATE, OR WHERE INTENDED TO HAVE LOW PERMEABILITY WHERE EXPOSED TO WATER, SHOTCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4,500 PSI, W/C RATIO = 0.45 AND SHALL UTILIZE TYPE V CEMENT.
5. OVER THE COUNTER PERMITS ARE NOT POSSIBLE IN AREAS DESIGNATED AS 'SPECIAL GEOLOGICAL HAZARD.' THE MASTER PLAN MIGHT BE USEABLE BASED ON THE FINDINGS OF THE GEOLOGIC AND GEOTECHNICAL REPORTS.
6. IN ACCORDANCE WITH CBC SECTION 1802.2.7, A SITE-SPECIFIC SOILS INVESTIGATION MAY BE REQUIRED FOR PROJECTS LOCATED IN SEISMIC DESIGN CATEGORIES D, E, OR F.

STRUCTURAL NOTES

1. SOIL SHALL HAVE A MINIMUM BEARING VALUE OF 1800 PSF. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL OR APPROVED COMPACTED FIL. THIS PLAN IS NOT SUITABLE WHERE POTENTIAL EXISTS FOR DIFFERENTIAL SETTLEMENT FROM DISMILLAR SOIL CONDITIONS UNDER POOL, INCLUDING BUT NOT LIMITED TO CUT-FILL TRANSITIONS.
2. ALL REINFORCING STEEL SHALL BE DEFORMED BARS & CONFORM TO ASTM A615 GRADE 40 FOR #3 BARS AND #4 BARS, SPLICES TO BE LAPPED A MINIMUM OF 24". MINIMUM CLEARANCE BETWEEN PARALLEL BARS IS 2 1/2". #5 BARS USED ON SUPPLEMENTARY DETAILS SHALL BE GRADE 60 (UNLESS NOTED) AND BE LAPPED A MIN. OF 30".
3. (1) #4 BAR IS EQUIVALENT TO #3 AND MAY BE USED IN PLACE OF (2) #3 BARS, WITH THE EXCEPTION THAT #3 BARS ARE USED FOR THE BASIC GRID, THE MAXIMUM SPACING IS #4 BARS AT 18" O.C.
4. BONDING/GROUNDING (PER THE CEC) OF THE STRUCTURAL REINFORCING MUST BE INSTALLED PRIOR TO PLACEMENT OF CONCRETE/SHOTCRETE.
5. PORTLAND CEMENT SHOTCRETE SHALL CONFORM TO ASTM C150 AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,500 PSI AND A WATER/CEMENT RATIO LESS THAN OR EQUAL TO 0.45.
6. WHERE SHOTCRETE IS EXPOSED TO SOIL OR WATER CONTAINING DELETERIOUS AMOUNTS OF WATER SOLUBLE SULFATE, OR WHERE INTENDED TO HAVE LOW PERMEABILITY WHERE EXPOSED TO WATER, SHOTCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4,500 PSI, W/C RATIO = 0.45 AND SHALL UTILIZE TYPE V CEMENT.
7. KEEP CONCRETE DAMP CONTINUOUSLY FOR 14 DAYS.
8. ALL INTERIOR SURFACES OF POOL/SPA SHALL BE COATED WITH A WATERPROOF SURFACE.

TABLE NO. 5 RAISED BOND BEAM

TABLE NO. 5 RAISED BOND BEAM		
NON-EXPANSIVE	EXPANSIVE	NO DECK/HIGH EXP.
E	F	G
E.F.P.	P.C.	P.C.
D	C	C
3'6"	3' @ 12"	3' @ 12"
4'0"	3"	3" @ 12"
4'6"	3"	3" @ 12"
5'0"	3" @ 12"	3" @ 12"
5'6"	3" @ 12"	3" @ 12"
6'0"	3" @ 12"	3" @ 12"
6'6"	3" @ 12"	3" @ 12"
7'0"	3" @ 12"	3" @ 12"
7'6"	3" @ 12"	3" @ 12"
8'0"	3" @ 12"	3" @ 12"
8'6"	3" @ 12"	3" @ 12"
		65 P.C.F.
		C VERTICAL STEEL
		3" #3 @ 12"
		3" #3 @ 12"
		3" #3 @ 12"
		3" #3 @ 12"
		3" #3 @ 6"
		4"
		5"
		6"
		7"
		8"
		9"
		10"
		10"

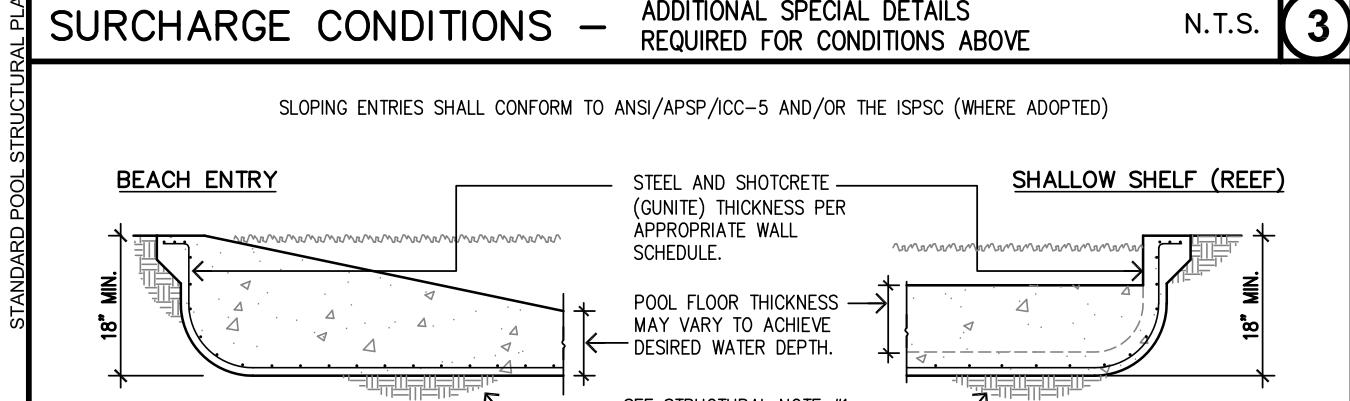
TYPICAL LONGITUDINAL SECTION

N.T.S.

STANDARD WALL SECTION

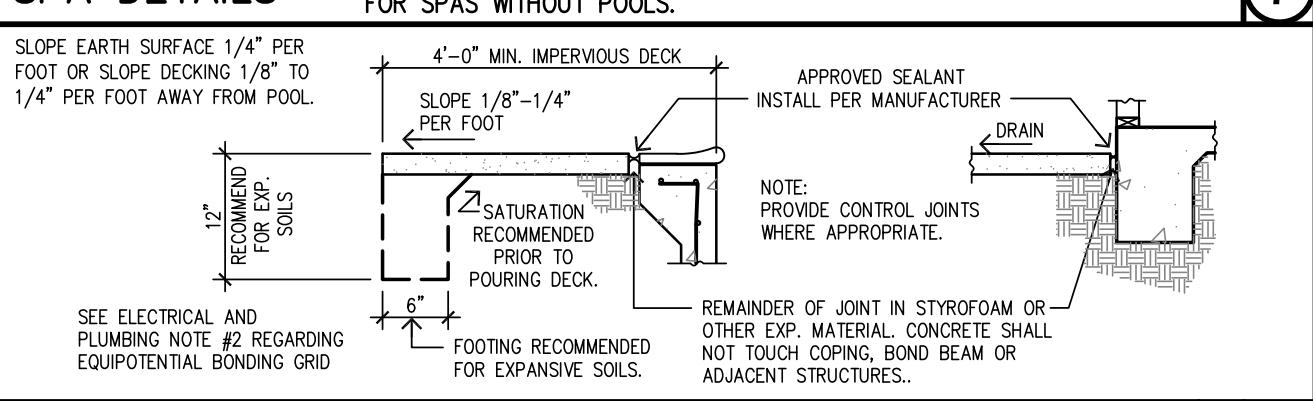
N.T.S.

1



SPA DETAILS - SPA DETAILS MAY BE USED FOR SPAS WITHOUT POOLS.

N.T.S.



IN EXPANSIVE SOILS WHERE MIN DECK REQMTS ARE NOT MET USE TABLE 1, SCHEDULE 'C'

RAISED BOND BEAM

N.T.S.

4

N.T.S.

8

SKIMMER DETAIL

N.T.S.

9

SECTION AT LIGHT

N.T.S.

10

SHALLOW/DEEP END RAMP

N.T.S.

11

BOND BEAM DETAILS

N.T

CALCULATIONS

METHODOLOGY:

(SURCHARGE LOADING BASED ON BOUSSINESQ METHOD, MODIFIED BY TERZAGI FOR TYPICAL BUILDING/FOOTING, 1,000 P.S.F. BEARING PRESSURE).

γ = EQUIVALENT FLUID PRESSURE

$$OTM = 1/6 \gamma H^3 + \sum (P_i)(r_i)$$

WHERE γ = 60 p.c.f. AND

$$P_i = 1/2(\sigma_i + \sigma_{i+1})(6 \text{ in})$$

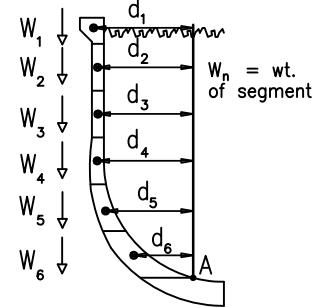
r_i = vertical dist. from P_i to z depth.

NET MOM = OTM - RESISTING MOMENT

$$fs = \frac{M(12 \text{ in}/\text{ft})}{As j d} = \frac{Mt (12)}{As (0.887) d}$$

RESISTING MOMENT:

RESISTING MOMENT ABOUT POINT A
 $RM = W_1 d_1 + W_2 d_2 + \dots + W_n d_n$



$$fc = \frac{M(2) 12 \text{ in}/\text{ft}}{j k b d^2}$$

$$= \frac{Mt (2)(12)}{(0.887)(0.339)(12) d^2} < 1125 \text{ psi}$$

$$vc = \frac{(1/2) \gamma H^2}{(12 \text{ in}/\text{ft}) j d}$$

$$= \frac{\gamma H^2}{(2)(12)(0.887) d} < 55 \text{ psi}$$

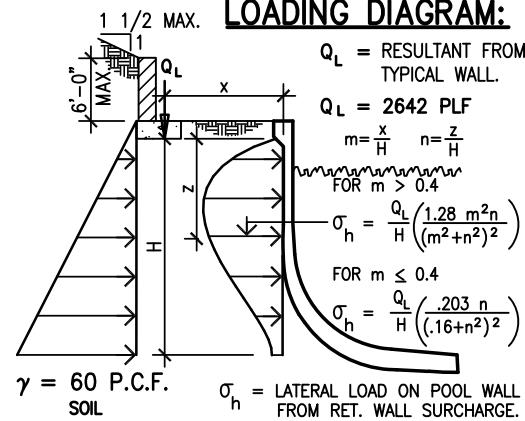
$$f'c = 2,500 \text{ p.s.i.}$$

$$Fs = 20,000 \text{ p.s.i.}$$

$$fc = 0.45 f'c = 1125 \text{ p.s.i.}$$

$$Vc = 1.1 \sqrt{f'c} = 55 \text{ p.s.i.}$$

LOADING DIAGRAM:



CALCULATION RESULTS:

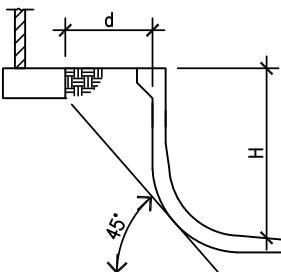
RETAINING WALL SURCHARGE, E.F.P. = 60 P.C.F.
 RESULTS FOR 'X' = 1'-0" W/ NO RAISED BOND BEAM

DEPTH 'D'	SOIL OTM ft-#	LOAD OTM ft-#	SOIL RM ft-#	NET Mom	t	VERTICAL STEEL	fs p.s.i.	fc p.s.i.	vc p.s.i.
2'-0"	80	56	78	95	6"	#3 @ 12"	3985	110	8.3
2'-6"	156	176	89	349	7"	#3 @ 6"	5492	189	11.2
3'-6"	429	674	123	1301	9"	"	13191	356	14.8
4'-6"	911	1486	214	2710	10"	#3 @ 3"	11981	440	19.0
5'-6"	1664	2531	443	4329	11"	"	16589	562	21.8
6'-6"	2746	3734	925	5755	13"	add 3 #4	11280	439	21.6
7'-6"	4219	5045	1935	7329	13"	"	14367	560	26.0
8'-6"	6141	6431	6214	6358	13 1/2"	"	11828	447	29.1

RESULTS FOR 'X' = 1'-0" W/ 2'-6" RAISED BOND BEAM

HEIGHT 'H'	SOIL OTM ft-#	LOAD OTM ft-#	SOIL RM ft-#	NET Mom	t	VERTICAL STEEL	fs p.s.i.	fc p.s.i.	vc p.s.i.
2'-0"	80	33	78	95	6"	#3 @ 12"	3985	110	6.4
2'-6"	156	106	89	349	7"	#3 @ 6"	5492	189	8.5
3'-6"	429	433	123	1301	9"	"	13191	356	11.9
4'-6"	911	1021	172	2784	10"	#3 @ 3"	12307	452	16.1
5'-6"	1664	1839	227	4739	11"	"	18160	615	19.5
6'-6"	2746	2839	320	6770	13"	add 3 #4	13270	517	20.0
7'-6"	4219	3976	582	8536	13"	"	16731	652	24.6
8'-6"	6141	5215	1127	10532	13 1/2"	"	19591	741	28.0
9'-0"	7290	5864	1563	11674	13 1/2"	add 3 #5	15116	723	30.6
10'-0"	10000	7211	3023	14187	13 1/2"	"	18370	879	35.8
11'-0"	13310	8608	8719	13200	14"	"	16251	755	39.4

THIS DETAIL IS NOT
NEEDED WHEN 'd' IS
GREATER THAN 'H'.



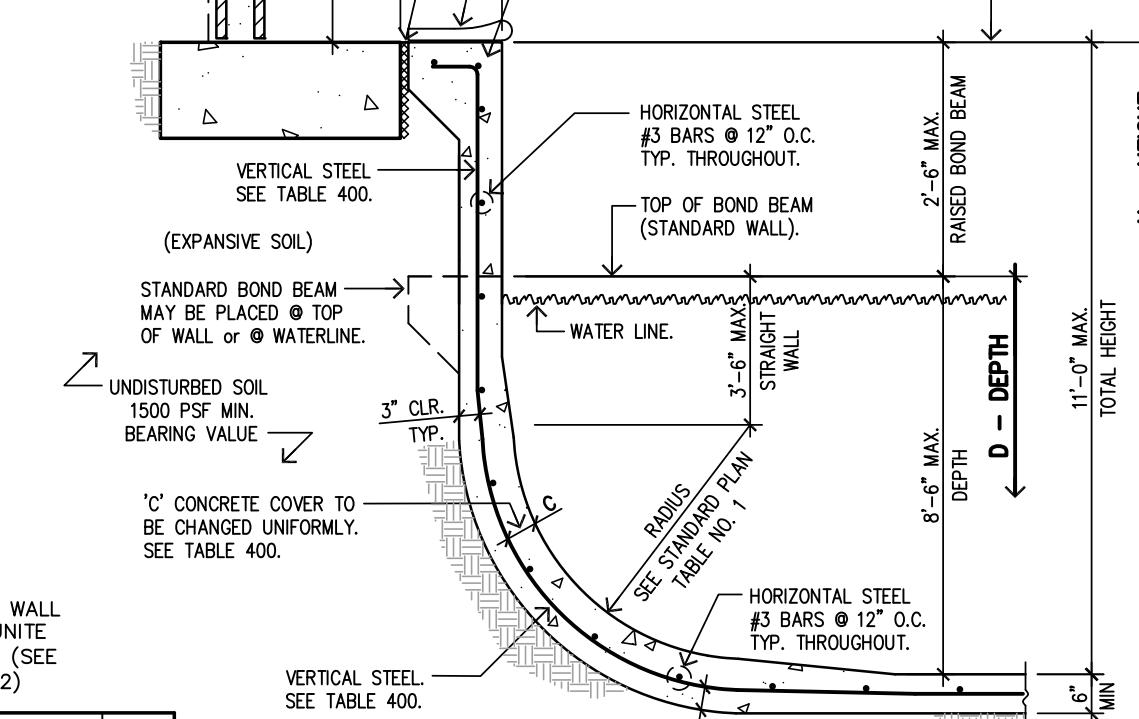
UP TO 1 1/2:1 SLOPE OR FLAT BACKFILL.

NOTE: THIS DETAIL IS
NOT SUITABLE FOR USE
WITH INVERTED FOOTING
RETAINING WALLS (NO TOE).

RETAINING WALL BY OTHERS
OR EXISTING RETAINING WALL.

COPING.
BOND BEAM PER STANDARD POOL
STRUCTURAL PLAN, DTL. #1 & #12.

TOP OF BOND BEAM
(WALL W/ R.B.B.).



SHORING NOTES:

1. THIS PLAN DEPICTS THE STRUCTURES IN A COMPLETED STATE ONLY. THE INSTALLER IS RESPONSIBLE FOR JOB SITE CONDITIONS AND THE SAFETY OF ALL PERSONS & PROPERTY DURING THE COURSE OF CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND PROVIDING BRACING DURING CONSTRUCTION AND/OR ERECTION TO SUPPORT ALL LOADS TO WHICH THE STRUCTURES AND SUPPORTING SOIL MAY BE SUBJECTED.

TABLE 400

'D' OR 'H' IS DISTANCE FROM TOP OF POOL WALL DOWNWARD. BEGIN SPECIFIED STEEL & GUNITE THICKNESS AT INDICATED 'D' OR 'H' DEPTH. (SEE STANDARD STRUCTURAL PLAN, DETAIL #2)

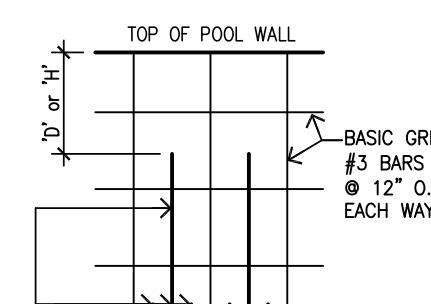
POOL DEPTH	NO R.B.B.		REQ'D TRANS.
	D	C	VERTICAL STEEL
0 to 2'0"	3"	#3 @ 12"	2'-0"
2'-6"	4"	#3 @ 6"	2'-0"
3'-6"	6"	"	2'-0"
4'-0"	7"	"	2'-0"
4'-6"	7"	#3 @ 3"	2'-5"
5'-0"	7"	"	2'-10"
6'-0"	9"	"	3'-2"
6'-6"	9 1/2"	add 3 #4	3'-3"
7'-6"	9 1/2"	"	4'-8"
8'-0"	9 1/2"	"	4'-11"
8'-6"	10"	"	4'-11"
9'-0"	10"	add 3 #5	4'-11"
10'-0"	10"	"	5'-0"
10'-6"	10 1/2"	"	5'-2"
11'-0"	10 1/2"	"	5'-3"

SEE ADD BARS DIAGRAM

TOTAL HEIGHT	2'-6" MAX. R.B.B.		REQ'D TRANS.
	H	C	VERTICAL STEEL
0 to 2'0"	3"	#3 @ 12"	2'-0"
2'-6"	4"	#3 @ 6"	2'-0"
3'-6"	6"	"	2'-0"
4'-0"	7"	"	2'-0"
4'-6"	7"	#3 @ 3"	2'-5"
5'-0"	7"	"	3'-2"
6'-0"	9"	"	4'-3"
6'-6"	9 1/2"	add 3 #4	4'-8"
7'-6"	9 1/2"	"	4'-11"
8'-0"	9 1/2"	"	4'-11"
8'-6"	10"	"	4'-11"
9'-0"	10"	add 3 #5	4'-11"
10'-0"	10"	"	5'-0"
10'-6"	10 1/2"	"	5'-2"
11'-0"	10 1/2"	"	5'-3"

SEE ADD BARS DIAGRAM

TOP OF POOL WALL



CALCULATIONS

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WHERE γ = 60 p.c.f. AND

$$P_i = 1/2(\sigma_i + \sigma_{i+1})(6 \text{ in})$$

r_i = vertical dist. from P_i to z depth.

NET MOM = OTM - RESISTING MOMENT

$$fs = \frac{M(12 \text{ in}/ft)}{As j d} = \frac{Mt (12)}{As (0.887) d}$$

$$fc = \frac{M(2) 12 \text{ in}/ft}{j k b d^2} = \frac{Mt (2)(12)}{(0.887)(0.339)(12) d^2} < 1125 \text{ psi}$$

$$vc = \frac{(1/2) \gamma H^2}{(12 \text{ in}/ft) j d} = \frac{\gamma H^2}{(2)(12)(0.887) d} < 55 \text{ psi}$$

$f'c = 2,500 \text{ p.s.i.}$

$F_s = 20,000 \text{ p.s.i. GR. 40}$
 $32,000 \text{ p.s.i. GR. 60}$

$fc = 0.45 f'c = 1125 \text{ p.s.i.}$

$V_c = 1.1 \sqrt{f'c} = 55 \text{ p.s.i.}$

RETAINING WALL SURCHARGE, E.F.P. = 60 P.C.F.

RESULTS FOR 6'-0" MAX. RAISED BOND BEAM

HEIGHT 'H'	SOIL OTM ft-#	LOAD OTM ft-#	SOIL RM ft-#	NET MOM	t	VERTICAL STEEL	fs p.s.i.	fc p.s.i.	vc p.s.i.
2'-0"	80	18	38	136	6"	#3 @ 12"	5667	163	5.2
2'-6"	156	60	49	390	7"	#3 @ 6"	6102	220	6.7
4'-6"	911	647	132	2824	10"	#3 @ 3"	12425	478	13.4
6'-6"	2746	1987	260	6819	12 1/2"	add 3 #4	14051	591	19.0
9'-0"	7290	4481	516	13228	15 1/2"	add 3 #5	14110	634	24.4
12'-0"	17280	8201	2012	23608	17 1/2"	#3 @ 3"	18191	828	33.2
14'-6"	30486	11647	14000	28134	19 1/2"	#5 @ 3"	18883	795	39.8

INDICATES GRADE 60 STEEL

RESISTING MOMENT:

RESISTING MOMENT ABOUT POINT A

$$RM = W_1 d_1 + W_2 d_2 + \dots + W_n d_n$$

$$W_n = \text{wt. of segment}_n$$

$$d_1, d_2, d_3, d_4, d_5, d_6$$

$$W_1, W_2, W_3, W_4, W_5, W_6$$

$$\gamma = 60 \text{ P.C.F.}$$

$$\text{SOIL}$$

$$\sigma_h = \text{LATERAL LOAD ON POOL WALL FROM RET. WALL SURCHARGE.}$$

LOADING DIAGRAM:

$Q_L = \text{RESULTANT FROM TYPICAL WALL.}$

$$Q_L = 2642 \text{ PLF}$$

$$m = \frac{x}{H}, n = \frac{z}{H}$$

FOR $m > 0.4$

$$\sigma_h = \frac{Q_L (1.28 m^2 n)}{(m^2 + n^2)^2}$$

FOR $m \leq 0.4$

$$\sigma_h = \frac{Q_L (203 n)}{(H (0.16 + n^2)^2)}$$

σ_h

SOIL

γ

Q_L

$6'-0"$

$1 1/2 \text{ MAX.}$

11

$6'-0"$

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