



CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT PURCHASING DEPARTMENT

February 21, 2024

Addendum No. 2

REQUEST FOR PROPOSAL BID: B23/24-05 Pool Resurfacing Project at Las Positas College

To: All Prospective Bidders

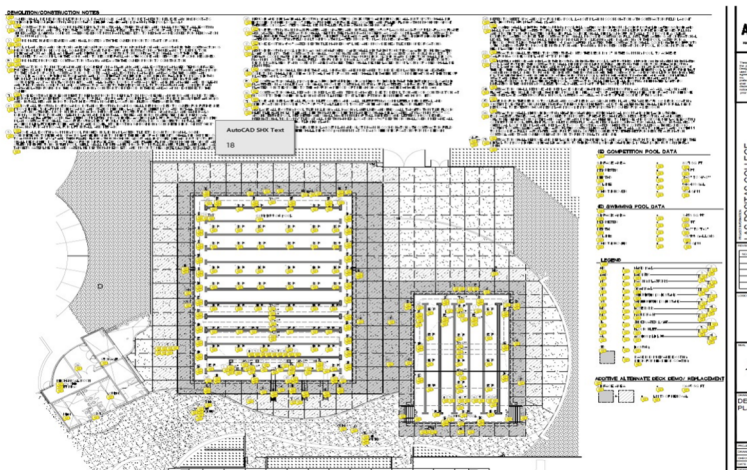
This Addendum Two (2) is issued to incorporate the following changes, additions, or deletions to the Bid No. B23/24-05. Any modifications/changes made by this addendum affect only the portions or paragraphs specifically identified herein; all remaining portions of Bid B23/24-05 to remain in force. It is the responsibility of all responders to conform to this addendum.

A. ADDITIONS, CHANGES AND/OR CLARIFICATIONS:

1. **Sheet DP-1 Demolition Plan:** Clarification on keynote #20, removed reference to sheets SP-1 and CP-1.
2. **Sheet DP-1 Demolition Plan:** Clarification on keynote #1, contractor responsible for pool drain down.
3. **Sheet DP-2.1 Swimming Pool Layout Plan:** Removal of pool section callouts A/SP-2, B/SP-2, C/SP-2 and D/SP-2.
4. **Sheet DP-2.2 Competition Pool Layout Plan:** Removal of pool section callouts A/SP-2, B/SP-2, C/SP-2 and D/SP-2.
5. **Sheet DP-4 Details:** See note #2 for clarification regarding conductors to pool. See note # 7 for clarification regarding new underwater lights.
6. **Sheet DP-5 Details:** Coordination with sheet DP-2.2. See revised 3 and Detail 5 with revised notes to indicate all new Dive Boards and Stands to be installed.
7. **Sheet DP-7 Details:** Reference detail #4 for Deck Joint Details and RFI response #14.
8. **Sheet DP-9 Details:** Clarifications provided on note #1
9. **Sheet MR-1 New/ Existing Mechanical Room Layout Plan:** Keynote #7 revised to show existing Chemical Feed Pump to remain.

B. RFI QUESTIONS AND RESPONSES:

Question No. 1: When you download plan set from the Las Positas College website; Plan Sheet DP-1 has yellow comment bubbles that cannot be removed from the plan sheet. Appears to be a formatting error.



Response: - See attached revised sheet with DP-1 with comment bubbles removed.

Question No. 2: The contract duration for this project states (120) calendar days. Some of the specified swimming pool materials & equipment may exceed this 120-calendar time frame, which will ultimately affect the project deadline of August 1st 2024. Items include, but not limited to:

- a. 1M & 3M Dive Stands & Boards (no known equal): est. lead time = +/- 18-20 weeks
- b. Polaris Plate Heat Exchangers (no known equal): est. lead time = TBD (see RFI #4)
- c. Dal Tile Ceramic Pool Tile (no known equal): est. lead time = +/- 2-3 months for standard colors per spec. If specified tile colors are changed by Owner, est. lead time is up to 6-8 months.
- d. Becsys 7 System (no known equal): est. lead time = +/- 15 weeks

Furthermore, if the add alternate is accepted, will there be associated contract duration extensions for a complete removal & replacement of the pool deck concrete?



Response:

Item a) – Installation of the thickened pad at the (5) new dive stand locations will be performed and existing dive stands and dive boards will be reinstalled at the new locations and replaced once the new dive stands and boards are delivered.

Item b) (ADG Response: After checking with vendors and manufacturers, the above listed timelines do not seem accurate. The timelines remain as listed.

Item c) ADG Response: After checking with vendors and manufacturers, the above listed timelines do not seem accurate. The timelines remain as listed.

Item d) ADG Response: After checking with vendors and manufacturers, the above listed timelines do not seem accurate. The timelines remain as listed.

Add Alternate work will need to be performed in the specified (120) calendar day timeline. The Add Alternate work contract duration will need to be sequenced and scheduled to meet the specified timeline.

Question No. 3: It appears there is not a Division 13 Mechanical Specification (13 11 07) included in the contract documents. Per the plans, there appears to be mechanical plumbing work per MR sheets. Please provide Division 13 Swimming Pool Mechanical Specification, if applicable.

Response: - See attached Specification for Division 13.

Question No. 4: Please provide specifications on the (2) existing Polaris Plate Heat Exchangers to be replaced per MR-1 note #6. Or provide exact S/N & model numbers from each unit. The heat exchanger manufacturer (Polaris) needs this information to provide a quote and to verify if the existing model is still manufactured and can be replaced in like kind. Tags on unit were illegible or difficult to read from photos taken at the job walk.

Response: ADG Response: Existing Polaris heat exchanger S/N & model numbers from each unit are as follows: Serial Number 14557, Model Number S31A-15-78 and Serial Number 14558, Model Number S31A-16-40. Contractor shall field verify.

Question No. 5: Refer to note #24 on plan Sheet DP-1, please provide existing pipe sizes & specifications for “valving and float valves” to be removed & replaced inside both surge chambers (tanks). During the job walk, these sizes could not be identified due to water in the tank.

Response: ADG Response: Competition Pool – 12” EPD #2-0080-OH; Swimming Pool – 6” EPD #2-0080-OH; the pipe to be field verified by contractor.

Question No. 6: Please reference sheet DP-1 & photo below. There is a decorative concrete strip/band of what appears to be a pebble finish that may be impacted on both the pool (base bid) deck coating and/or the pool deck demo and replacement scope of work (add alternate). For the base bid scope of work, is the contractor to install Ardex coating over decorative concrete band areas shown in dark shade? For Add Alternate scope, is the contractor to remove and replace this decorative concrete band in like kind (where shown as hatched on DP-1), or remove and replace with standard concrete deck surface finish per new deck detail?



Response: ADG Response: The deck repairs will eliminate the decorative band. See notes on sheet DP-1 detail #1 for clarifications regarding the decorative band.

Question No. 7: There appears to be an existing in-deck Colorado time system that is not identified on the plans. In order to provide an accurate cost for the Add Alternate option, please provide qty and locations of timing system deck boxes at starting platforms and provide corresponding replacement details.

Response: ADG Response: Please see the attached original timing system plan.

Question No. 8: Per note #9 on DP-1 and detail #3 on DP-8, contractor is to include all crack and rust repair to existing pool shell. Because pool shell cracks and rust may be under existing plaster/tile surface (not currently visible), the amount of crack and rust repair is unquantifiable. Please provide an estimated square footage or lineal footage of rust/crack repair that the contractor shall include in base bid. Or provide allowance for pool shell cracks and rust repair to be included on the bid form. Also, provide detail for pool shell rust repair.

Response: ADG Response: Assume 10 feet of crack repair in bid.



Question No. 9: Sheet DP-4 detail #4 shows work to be performed to an existing Expansion Joint detail. Do either of the existing pools have an existing expansion joint matching this detail?

Response: ADG Response: We are not aware of any expansion joints in either pool. This detail is shown in case an unexpected one is encountered.

Question No. 10: Per note #7 on DP-1, it states contractor shall furnish and install new deck anchors. Please confirm this is only the case if Add Alternate is accepted. If Base Bid is selected, contractor shall not furnish and install new deck anchors and associated bonding. Swimming Pool Specifications (13 11 06) do not distinguish between what shall be included in the base bid VS add alternate option.

Response: ADG Response: With the exception of the diving board anchors, all new deck anchors are only need in deck replacement option.

Question No. 11: During the job walk, it was mentioned that the Owner has already purchased (qty 20) new underwater lights and plan on installing before this project begins. Please clarify and advise if the current scope of work per plans/specs needs to be revised. There are currently no specifications in division 13 11 06 for new underwater lights and qtys to be replaced. Reference DP-1 note #23.

Response: Contractor to remove all existing pool lighting and procure and install new lighting per plan. See sheet DP-2.1 and sheet DP-2.2.

Question No. 12: During the job walk, it was mentioned that the Owner has already replaced the existing underwater light GFCI breakers in the SP Electrical Panel. Reference DP-1 note #23. Please clarify if the contractor is to include this scope of work in the base bid.

Response: GFCI scope has been removed from the scope of work. LPC has installed new GFCIs and are to remain.

Question No. 13: The Add Alternate for removal and replacement of the pool deck does not mention or show replacement of any concrete surrounds (aka tombstones or concrete bollards) that typically house UWL JB's, Timing System components, hose bibbs, and deck receptacles. Please advise if the contractor is to remove and replace any concrete surrounds that may be within the zone of influence to the hatched areas on DP-1.

Response: ADG Response: Concrete surrounds are to be protected and remain in



Question No. 14: If the Add Alternate is not accepted, how shall the contractor repair the various locations of the exiting pool deck cantilever concrete that has large, spalled/missing areas and showing signs of rusting? The specified pool deck coating will not fix areas that are spalled and rusted.

Response: ADG Response: Contractor shall use injection epoxy or grout fill cantilever damage prior to base bid coating repair.

Question No. 15: The specified Ardex K301 is a self-leveling material that would not be ideal for a sloped pool deck. The installing contractor of the deck coating at Chabot College used products that were recommended after a site inspection and preparation of a site-specific report by Ardex. Has this resource been utilized in the preparation of these bid documents? If not, we recommend contacting the local Ardex rep, Mark Skovronski at (510) 602-7633 for consultation.

Response: Consideration is given to installing ARDEX CD or ARDEX CD FINE and sealing with ARDEX CG. Contractor is responsible for a complete deck coating.

Question No. 16: What is the warranty expectation for telegraphing of existing cracks through the topping material, development of hairline cracks in the topping material and delamination of the topping material?

Response: ADG Response: Standard manufacturer warranty.

Question No. 17: If existing cracks are to be repaired prior to deck resurfacing, please provide product specifications and details for repair. Also, please provide guidance on how contractor is to determine the which cracks should be repaired. For example, "cracks smaller than a dime in width to receive no repair while cracks larger than a dime in width to be repaired per detail x/xx."

Response: ADG Response: Crack repair as directed by topping coat manufacturer.

Question No. 18: What are the engineer's estimates for base bid and alternate?

Response: Engineering Estimate of Construction Cost is \$1,500,000.00



Question No. 19: Leak: As it was mentioned in the pre-bid walk, there's currently a leak in the pool plumbing. Can you give me details on the leak repair, so that I can bid accordingly.

Response: Contractor to perform pool plumbing scope of work specified on the Construction Documents only. Contractor to field verify existing conditions related to the new scope of work specified in the Construction Documents.

Question No. 20: Tile: In the pre-bid agenda, it is not mentioned the re-installation of racing lanes in both pools, would you like me to include this in the bid. In this part of the project, I can include deck markers, waterline markers, trim tile in all steps and racing lanes, for both pools.

Response: Project requires both pools to receive the same scope as indicated on the Construction Documents. See sheet DP-2.1 and sheet DP-2.2 and sheet DP-3 and DP-6 for details.

C. ATTACHMENTS:

1. Drawings:

- DP-1 – Demolition Plan
- DP-2.1 – Swimming Pool Layout
- DP-2.2 – Competition Pool Layout Plan
- DP-3 – Details
- DP-4 – Details
- DP-5 – Details
- DP-6 – Details
- DP-7 – Details
- DP-8 – Details
- DP-9 – Details
- MR-1 – New/ Existing Mechanical Room Layout
- MR-2 – Mechanical Room Details
- CP-3 – Competition Pool/ Swimming Pool Underwater Light/ Timing System Plan

2. Specifications:

- Section 13 11 07 – Swimming Pool Mechanical

All other terms and conditions remain unchanged.

Michael McClung - Buyer, Purchasing and Warehouse Services
Chabot-Las Positas Community College District



DEMOLITION/CONSTRUCTION NOTES

- 1 CONTRACTOR SHALL BE RESPONSIBLE FOR POOL DRAIN DOWN. CARE IS TO BE TAKEN TO RELIEVE ANY HYDROSTATIC PRESSURE THROUGH EXISTING HYDROSTATIC RELIEF VALVES AND DRAINING THE POOLS SLOWLY.
- 2 THE CONTRACTOR SHALL COORDINATE DEMOLITION WITH ALL OTHER TRADES AND SHALL PROTECT ALL EXISTING WORK, BUILDINGS, AND UTILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATION OF AND PROTECT ALL UNDERWATER LIGHTING CONDUIT, WATER/SEWER/STORM DRAIN LINES, ETC. TO REMAIN AS REQUIRED FOR RENOVATION OF SWIMMING POOL.
- 3 COORDINATE INGRESS/EGRESS AND HAUL ROUTES WITH THE OWNER PRIOR TO START OF WORK.
- 4 POOL PLAN VIEWS AND SECTIONS ARE SHOWN FOR CONTRACTOR INFORMATION AND ASSISTANCE. THE CONTRACTOR IS RESPONSIBLE FOR INDIVIDUAL SQUARE FOOTAGE TAKE-OFFS AND ESTIMATIONS WITH REGARD TO DEMOLITION, PREPARATION, AS WELL AS MEANS AND METHODS OF CONSTRUCTION. CONTRACTOR SHALL VISIT THE SITE AS REQUIRED TO ACCOMPLISH THE WORK, AND TO BECOME FAMILIAR WITH SCOPE AND SERVICES OF WORK REQUIRED.
- 5 COORDINATE PROPOSED CONTRACTOR STAGING AREA WITH THE OWNER PRIOR TO CONSTRUCTION.
- 6 CONTRACTOR IS TO PHOTOGRAPH AND DOCUMENT ON A PLAN ANY AND ALL EXISTING DAMAGED ITEMS/SURFACES, FINISHES IN AND IMMEDIATELY AROUND THE WORK AREA AND ALONG ALL WORK PATHS FROM STAGING AREA PRIOR TO THE START OF WORK. CONTRACTOR IS TO SITE WALK ALL EXISTING DAMAGED AREAS WITH THE OWNER AND PROVIDE A COPY OF THE PHOTOGRAPHS AND DOCUMENTATION BEFORE WORK BEGINS. FAILURE TO PROVIDE THIS INFORMATION REPRESENTS ACCEPTANCE BY THE CONTRACTOR THAT ALL EXISTING SURROUNDING FINISHES (CONCRETE, AC PAVING, FLOORING, ETC.) AND ALL GATES, DOORS, PATHWAYS, ETC. ARE UNDAMAGED AND IN CLEAN AND FUNCTIONING CONDITION, AND CONTRACTOR ACCEPTS THE RESPONSIBILITY TO MAINTAIN AND CORRECT ANY DAMAGE LATER FOUND BY THE OWNER DURING CONSTRUCTION PERIOD IN THESE AREAS AT NO EXPENSE TO THE OWNER.
- 7 REMOVE EXISTING DECK EQUIPMENT TO REMAIN PRIOR TO DEMOLITION. PROVIDE NEW ANCHORS AND BOND TO NEW DECKING REINFORCEMENT. CONTRACTOR TO FIELD VERIFY AND DOCUMENT LOCATION OF DECK EQUIPMENT ANCHORS AND INSTALL NEW ANCHORS TO MATCH EXISTING IN SAME LOCATIONS UNLESS OTHERWISE NOTED.
- 8 REMOVE ALL EXISTING DIVE BOARDS & STANDS. EXISTING BOARDS SHALL BE PROVIDED TO OWNER FOR FUTURE USE. PROVIDE NEW DURAFIRM DIVE BOARDS AND STANDS PER NEW LAYOUT ON SHEET DP-2 AND INSTALL IN NEW LOCATIONS WITH NEW DROP IN DECK ANCHORS. REMOVE AND PROTECT EXISTING GRABRAILS AND HANDRAILS DURING CONSTRUCTION AND CLEAN, POLISH AND REINSTALL WITH NEW ANCHORS IN AFFECTED DECK REMOVAL/ COATING AREA AFTER WORK HAS BEEN COMPLETED. PROVIDE NEW ACCESSIBLE LIFTS, FOOTING AND ANCHORS PER PLAN. CONTRACTOR SHALL SAWCUT EXISTING DECK IF ONLY DECK COATING BID IS CHOSEN TO INSTALL NEW ACCESSIBLE LIFT REINFORCED ANCHOR AND DOVEL INTO EXISTING SURROUNDING CONCRETE DECK. SUBMIT SHOP DRAWINGS FOR APPROVAL FOR LIFT INSTALL AND REPAIR.
- 9 REMOVE ALL EXISTING SWIMMING POOL FINISHES INCLUDING PLASTER, TILE, ETC. DOWN TO ORIGINAL SOUND CONCRETE/SHOTCRETE. ANY CRACKS LARGER ENOUGH TO INSERT THE EDGE OF A 2" INTO, SHALL BE CHIPPED OUT TO A MINIMUM OF 3/4" X 3/4", AND THEN FILLED FLUSH WITH NON-SHRINK GROUT. ALL EXPOSED REBAR MUST SPOTS, ETC. SHALL BE BUSHED DOWN 1/2" BELOW FINISH SURFACE, ZINC COATED AND FILLED FLUSH WITH NON-SHRINK GROUT. ANY OTHER IMPERFECTIONS IN THE POOL SHELL SHALL BE REPAIRED PRIOR TO INSTALLING NEW TILED LANE LINES, WALL TARGETS, WATERLINE TILE AND WATERLINE DEPTH MARKERS, ETC. AND PRIOR TO NEW WHITE PLASTER INSTALLATION.

- 10 REMOVE AND REPLACE ALL EXISTING GRABRAIL STEPS. ONCE STEPS ARE REMOVED ALL RUST SPOTS SHALL BE EXPOSED, BUSHED DOWN 1/2" BELOW FINISHED SURFACE, ZINC COATED AND FILLED FLUSH WITH NON-SHRINK GROUT. THEN NEW CYCOLAC STEPS SHALL BE INSTALLED FLUSH WITH NON-SHRINK GROUT.
- 11 REMOVE EXISTING MAIN DRAIN FRAMES AND GRATES AND INSTALL NEW 18" X 18" LAUSON AQUATICS MLD-FG-1818 FRAME AND GRATES. THE CONTRACTOR SHALL CERTIFY THE MAIN DRAIN SYSTEMS AS V.G.B. COMPLIANT. THE CONTRACTOR SHALL ENSURE THAT MAIN DRAINS MEET CURRENT STANDARDS AND ARE CERTIFIED WITH CURRENT REQUIREMENTS. WATERPROOF EXISTING FIELD BUILT Sumps WITH PLASTER PRIOR TO PLACING NEW GRATES.
- 12 REMOVE EXISTING 4'-6" WATER DEPTH TILE MARKER (4" LINE) AND PROVIDE NEW TILE PER SPECIFICATIONS.
- 13 REMOVE EXISTING POOL DECKS AS SHOWN HATCHED. CARE SHALL BE TAKEN TO NOT EXCAVATE (E) UNDERWATER LIGHT CONDUITS. THE CONTRACTOR SHALL COORDINATE AND PROTECT ALL ADJACENT WORK, BUILDINGS, ETC. TO REMAIN. COORDINATE DECK ELEVATIONS WITH EXISTING. MAXIMUM DECK SLOPE IN ANY DIRECTION SHALL BE 2% MAXIMUM. CONTRACTOR SHALL FIELD VERIFY DECK DRAIN LOCATIONS AND EXISTING POINTS OF CONNECTION TO DECK DRAIN LINES. IF ANY CONDUITS ARE DAMAGED THEY SHALL BE REPLACED. NO SPLICING OF WIRES SHALL BE PERMITTED.
- 14 THE CONTRACTOR SHALL ENSURE THAT ALL SURFACES ARE PREPARED TO RECEIVE PLASTER FINISH. WEATHER CONDITIONS SHALL BECOME A CRITICAL PART OF WORK AND SHALL BE TAKEN INTO CONSIDERATION AT THE TIME OF PLASTER APPLICATION.
- 15 THE CONTRACTOR SHALL PROVIDE A SUFFICIENT NUMBER OF WORKERS TO ENSURE THAT THE ENTIRE POOL CAN BE PLASTERED IN A SINGLE DAY OR SHALL PROVIDE CONTINUAL MISTING OF PLASTERED SURFACES TO ENSURE THAT PLASTER IS NOT EXPOSED TO THE AIR FOR A PERIOD OF TIME WHICH WOULD CAUSE DAMAGE IN ANY WAY.
- 16 THE CONTRACTOR SHALL REPAIR OR REPLACE ANY ITEMS DAMAGED DUE TO DEMOLITION AND/OR CONSTRUCTION, AT NO COST TO THE OWNER INCLUDING BUT NOT LIMITED TO UTILITIES, FITTINGS, EQUIPMENT, ANCHORS, ETC.
- 17 REMOVE AND REPLACE ALL FLOOR INLET COVERS AND WALL INLET FITTINGS COMPLETELY PER DETAIL AND SPECIFICATIONS. PROVIDE 12" X 12" OF 1" X 1" DALL TILE D311 BISQUIT WHITE AROUND ALL FLOOR INLETS TYP.
- 18 REPLACE ALL EXISTING POOL TILE INCLUDING ALL RACING LANE LINES AND END WALL TARGETS, TRIM TILE, FLOOR INLET TILE, HANDHOLD TILE AND DEPTH MARKERS. DEPTH MARKERS SHALL BE LOCATED AT MAXIMUM 25'-0" O.C. AROUND ENTIRE POOL PERIMETER AND SHALL HAVE MINIMUM 4" TALL NUMBERS AND LETTERS. PROVIDE NEW INTERNATIONAL NO DIVING TILES AT ALL DEPTH MARKER LOCATIONS 6'-0" DEPTH OR SHALL COVER PREPARE ALL SURFACES TO RECEIVE NEW TILE PER PLANS.
- 19 REFER TO SHEET DP-2 FOR NEW DECK LAYOUT PLAN AND SLOT DRAIN IN COORDINATION WITH CONTRACTOR FIELD LAYOUT. ALL NEW CONCRETE SHALL BE 4,000 PSI MINIMUM AT 28 DAYS. SEE SPECIFICATIONS FOR MIX DESIGN REQUIREMENTS.

- 20 REFER TO SHEET DP-21 AND DP-22 FOR NEW POOL LAYOUT PLAN IN COORDINATION WITH CONTRACTOR FIELD LAYOUT AND EXISTING INFORMATIONAL PLANS.
- 21 THE OWNER SHALL IDENTIFY THE SWIMMING POOL FILL WATER SOURCE FROM CLOSEST POTABLE WATER SOURCE AND SHALL FILL TO EXTENTS THE WATER TO FILL THE POOL. THE CONTRACTOR IS RESPONSIBLE FOR FIRE HOSE, HOSES, FILLING AND PROTECTION OF PLASTER SURFACES. FILL SOURCE SHALL BE BLOW-OFF. INITIALLY TO PROVIDE A CLEAN DOMESTIC WATER SOURCE. THE CONTRACTOR SHALL PROVIDE CONTINUOUS FILL UNTIL THE WATER IS AT OPERATIONAL LEVEL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND BALANCING OF THE POOL WATER FOR A PERIOD OF NOT LESS THAN FOURTEEN (14) DAYS AFTER PLASTER. THE CONTRACTOR SHALL COORDINATE HIS EFFORTS WITH THE OWNER'S STAFF TO PROVIDE INSTRUCTION AND TRAINING IN PROPER OPERATION OF POOL. IN CONJUNCTION WITH NEW PLASTER SURFACES.
- 22 CONTRACTOR SHALL EXTEND TOP STEP TREAD INTO THE DECK BY 2" IN THE SWIMMING POOL TO ACHIEVE CALIFORNIA CODE COMPLIANT 1/4" TOP RISER.
- 23 COMPLETELY REMOVE AND REPLACE THE EXISTING UNDERWATER POOL LIGHT FIXTURES. BEFORE ORDERING NEW UNDERWATER POOL LIGHT FIXTURES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE CONDITION OF EACH EXISTING POOL LIGHT NICHE TO ENSURE THEY ARE NOT DAMAGED AND HAVE BEEN INSTALLED IN ACCORDANCE WITH ARTICLE 620 OF THE CEC. THE CONTRACTOR SHALL DETERMINE THE CORRECT SIZE AND THE TYPE OF REPLACEMENT POOL LIGHT FIXTURE THAT CAN BE PROPERLY USED TO FIT AND SECURE INTO THE EXISTING NICHE. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE FIT, HOLE THREADS AND NICHE HOOK AT EACH EXISTING POOL LIGHT NICHE ARE NOT DAMAGED AND ARE COMPLETELY INTACT AND READY TO RECEIVE A NEW POOL LIGHT FIXTURE. (OR BUILDING DEPARTMENT TO REVIEW AND APPROVE INSTALLATION PRIOR TO PLASTERING THE POOL).
- 24 CONTRACTOR SHALL REMOVE AND REPLACE SURGE CHAMBER WATERPROOFING, AS WELL AS ALL VALVING AND FLAT VALVES INSIDE SURGE CHAMBER. PROVIDE NEW COATS OF WATERPROOFING PER SPECIFICATIONS. REMOVE AND REPLACE WATERPROOFING IN POOL GUTTERS AS WELL AS PART OF THE SCOPE OF THIS WORK.
- 25 BASE BID FOR THE DECK IS TO CLEAN AND COAT DECK AS SHOWN PER PLAN WITH ARDEX K 310 DECK COATING TO EXTENTS SHOWN PER PLAN. PROVIDE PRICE FOR BOTH TO OWNER FOR A DECISION.
- 26 CONTRACTOR SHALL REMOVE EXISTING HEAT EXCHANGERS IN MECHANICAL ROOM AND REPLACE WITH NEW EQUIVALENT WITH NEW VALVES AT CONNECTION POINTS OF HEAT EXCHANGERS. REMOVE EXISTING ABANDONED CHLORINE GENERATION SYSTEM AND CAP OFF ANY PIPES AS NEEDED TO REMOVE AND DISPOSE. REPLACE EXISTING COMPETITION POOL EFFLUENT FLOOR INLET BUTTERFLY VALVE PER PLAN. CONTRACTOR SHALL ALSO INSTALL NEW 2" CHEMICAL LOOP PER PLAN AND REPLACE TWO (2) EXISTING WATER CHEMISTRY CONTROLLERS WITH NEW BECSYS SYSTEM 1 CONTROLLERS AND NEW AUTO FILTER CONTROLLERS AND CONNECT ALL WIRING TO RELAYS AND SYSTEM 1 TO PROVIDE A FULLY AUTOMATED AND FUNCTIONING SYSTEM. CONNECT TO ETHERNET FOR REMOTE AUTOMATION CONTROL AND TRAIN OWNER/OPERATOR ON ITS FUNCTIONALITY AND USE.
- 27 CONTRACTOR SHALL REMOVE AND REPLACE SURGE CHAMBER LID AND ACCESS HATCH TO EXTENTS SHOWN PER THE DETAIL TO PROVIDE NEW OPERABLE ACCESS TO THE EXISTING SURGE CHAMBER LID THAT DOES NOT CURRENTLY OPEN.

(E) COMPETITION POOL DATA

SURFACE AREA	=	8,127 SQ. FT.
PERIMETER	=	367.1 FT.
DEPTH	=	1'-0" TO 14'-0"
VOLUME	=	548,483 GAL.
6 HR TURNOVER	=	1524 GPM

(E) SWIMMING POOL DATA

SURFACE AREA	=	3,419 SQ. FT.
PERIMETER	=	250 FT.
DEPTH	=	3'-6" TO 7'-3"
VOLUME	=	128,155 GALLONS
6 HR TURNOVER	=	358 GPM

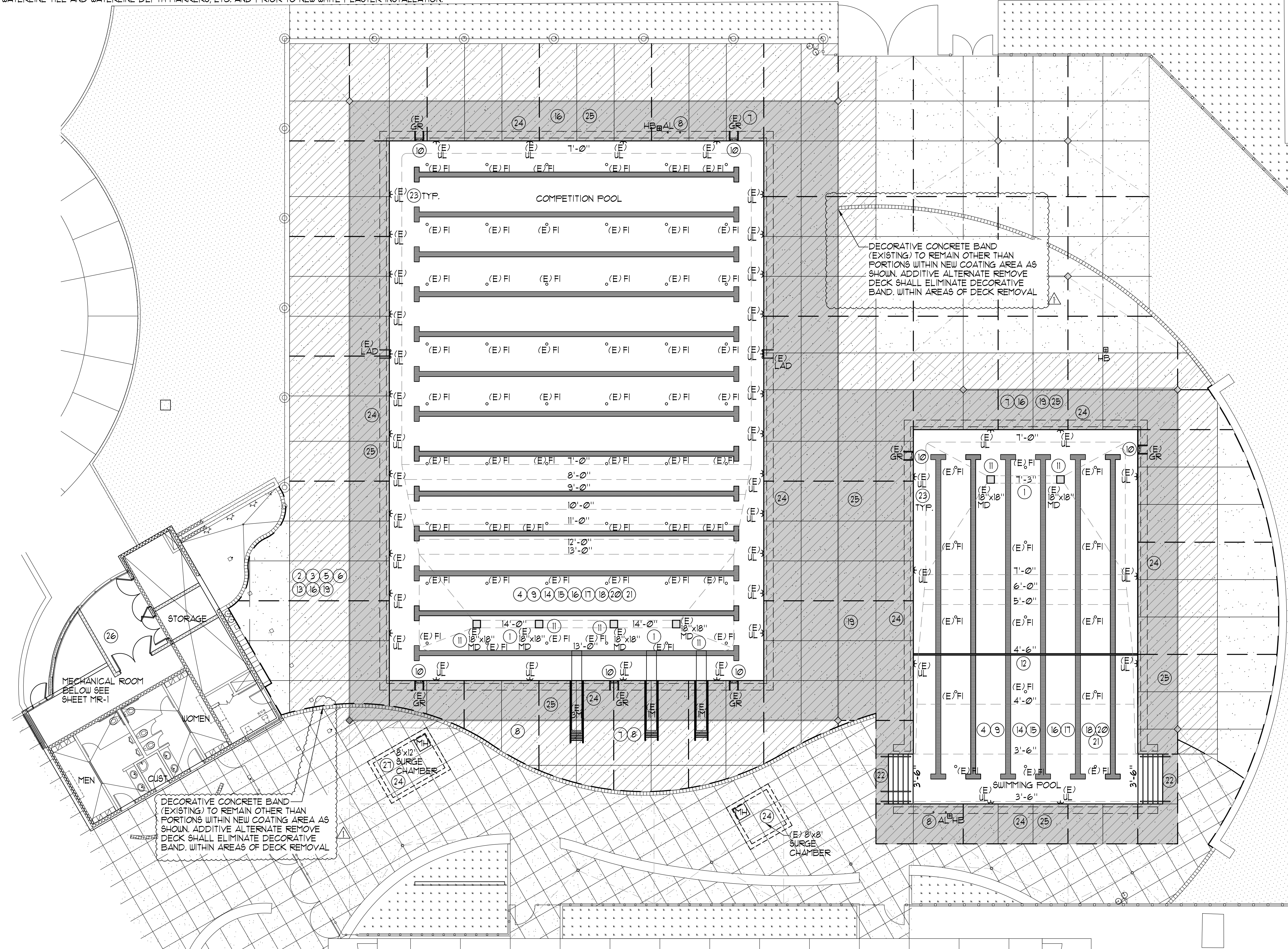
LEGEND

- HR = HAND RAIL
- LAD = LADDER
- RP = RACING PLATFORM
- GR = GRABRAIL
- IM = ONE METER DIVE STAND
- 3M = THREE METER DIVE STAND
- HB = HOSE BIBB
- MD = MAIN DRAIN
- UL = UNDERWATER LIGHT
- FI = FLOOR INLET
- AL = ACCESSIBLE LIFT
- (E) = EXISTING
- [Hatched Box] = BASE BID PREPARE EXISTING DECK FOR NEW DECK COATING

ADDITIVE ALTERNATE DECK DEMO/ REPLACEMENT

SURFACE AREA	=	11,685 SQ. FT.
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- [Hatched Box] + [Dotted Box] = LIMITS OF REMOVAL



COMPETITION POOL/SWIMMING POOL DEMOLITION PLAN

1" = 10'-0"



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PROJECT INFORMATION
LAS POSITAS COLLEGE
AQUATIC CENTER RENOVATION
3033 COLLIER CANYON ROAD
LIVERMORE, CALIFORNIA 94551

REVISIONS

NO.	DATE	DESCRIPTION
1	2/21/24	ADDENDUM 2

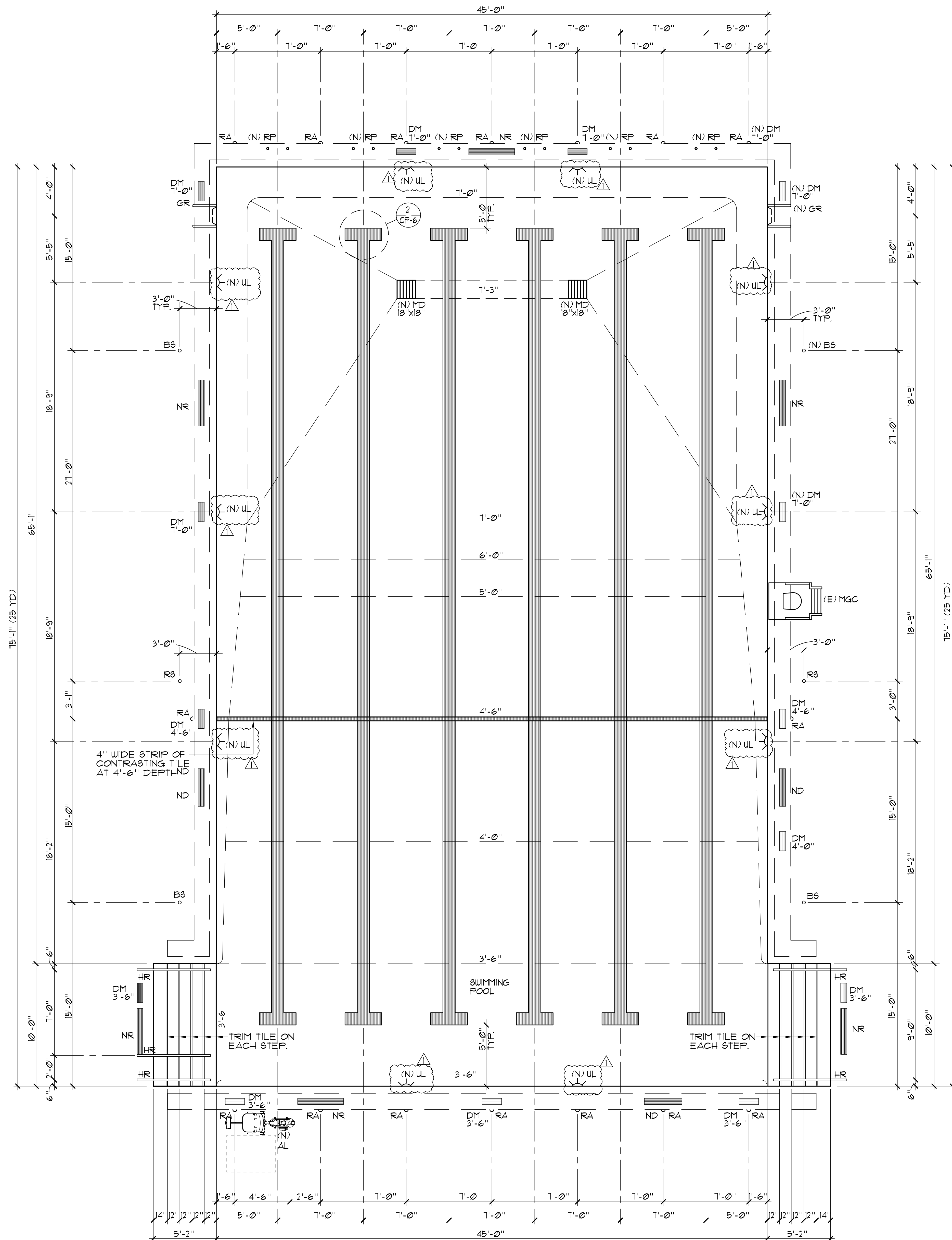
LOGO



DRAWING TITLE
DEMOLITION PLAN

PROJECT NO.	2023.037
DRAWN BY	GSF
CHECKED BY	GSF
DATE	10/16/23
DRAWING NO.	

DP-1



(E) SWIMMING POOL DATA

SURFACE AREA	=	3,479 SQ. FT.
PERIMETER	=	250 FT.
DEPTH	=	3'-6" TO 7'-3"
VOLUME	=	120,755 GALLONS
6 HR TURNOVER	=	358 GPM

LEGEND

HR	=	HAND RAIL	2	DP-3
LAD	=	LADDER	3	DP-6
RP	=	RACING PLATFORM	2	DP-4
GR	=	GRABRAIL	1	DP-6
HB	=	HOSE BIBB	4	DP-8
MD	=	MAIN DRAIN	3	DP-3
UL	=	UNDERWATER LIGHT	1	DP-4
FI	=	FLOOR INLET	5	DP-4
AL	=	ACCESSIBLE LIFT	1	DP-3
(E)	=	EXISTING		
(N)	=	NEW		



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REVISIONS

NO.	DATE	DESCRIPTION
1	2/21/24	ADDENDUM 2

LOGO



DRAWING TITLE
SWIMMING POOL LAYOUT PLAN

PROJECT NO.	2023.037
DRAWN BY	GSF
CHECKED BY	GSF
DATE	10/16/23

DRAWING NO.
DP-2.1

SWIMMING POOL LAYOUT PLAN

1/4" = 1'-0"

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REVISIONS

NO.	DATE	DESCRIPTION
1	2/21/24	ADDENDUM 2

LOGO

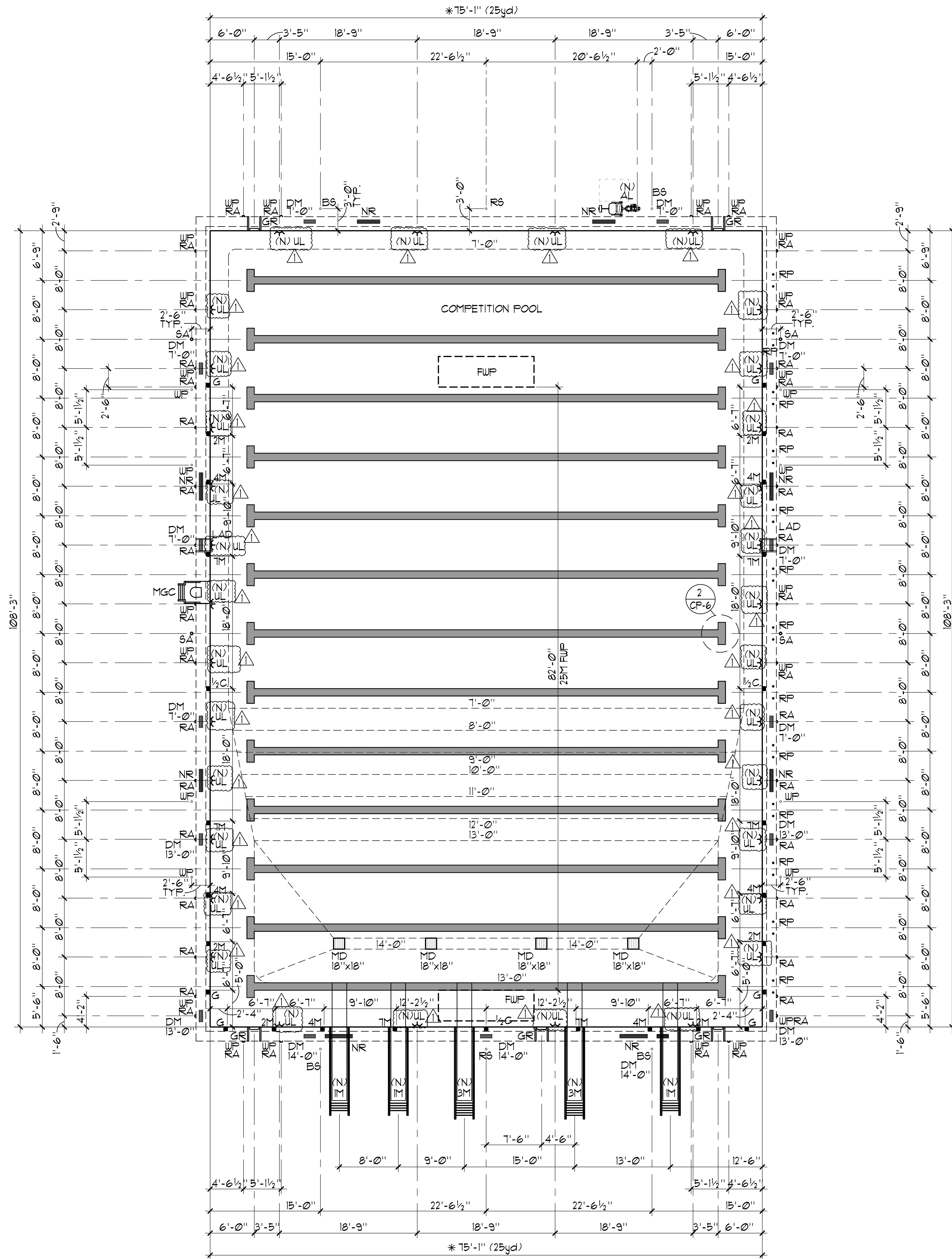
SEAL



DRAWING TITLE
COMPETITION POOL LAYOUT PLAN

PROJECT NO.	2023.037
DRAWN BY	GSF
CHECKED BY	GSF
DATE	10/16/23

DRAWING NO.
DP-2.2



COMPETITION POOL DATA

SURFACE AREA	=	8,121 SQ. FT.
PERIMETER	=	367 FT.
DEPTHS	=	7'-0" TO 14'-0"
VOLUME	=	548,483 GAL.
6 HR TURNOVER	=	1,524 GPM

LEGEND

MD	=	MAIN DRAIN	DP-3
RA	=	ROPE ANCHOR	DP-5
UL	=	UNDERWATER LIGHT	DP-4
DM	=	DEPTH MARKER	DP-7
NR	=	NO RUNNING	DP-6
EP	=	WATERPOLO GOAL ANCHOR	DP-5
BS	=	BACKSTROKE STANCHION	DP-4
RS	=	RECALL STANCHION	DP-4
RP	=	RACING PLATFORM	DP-4
MGC	=	MOVEABLE GUARD CHAIR	
AL	=	ACCESSIBLE LIFT	DP-9
HB	=	HOSE BIBB	
GR	=	GRABRAIL	DP-6
LAD	=	LADDER	DP-6
FUP	=	FLOATING WATERPOLO GOAL	
G, 2M, 4M, TM, 1/2C	=	WATERPOLO MARKERS	DP-4
SA	=	STANCHION ANCHOR	DP-5
1M	=	ONE METER DIVE STAND	DP-5
3M	=	THREE METER DIVE STAND	DP-5
(N)	=	NEW	

CERTIFICATION REQUIREMENTS

* THE CONTRACTOR SHALL RETAIN AN INDEPENDENT LICENSED SURVEYOR TO PROVIDE CERTIFICATION OF COMPLIANCE FOR REQUIRED POOL LENGTHS IN ACCORDANCE WITH USA SWIMMING REGULATIONS. THE SURVEYOR SHALL SUBMIT THE COMPLETED FORM TO USA SWIMMING NATIONAL EVENTS DEPARTMENT AND PROVIDE COPIES TO OWNER AND ARCHITECT.

SHORT COURSE - 25 YDS; (ALLOWS FOR TOUCH PADS AT ONE END) 15'-0" 5/16" MIN.; 15'-1" 3/16" MAX.

TOLERANCE AGAINST LENGTH SHALL EXTEND IN A VERTICAL PLANE 0.3M (12") ABOVE AND 0.3M (12") BELOW THE SURFACE OF THE WATER AT ALL POINTS OF BOTH END WALLS TYP. OF ALL COURSES.

COMPETITION POOL LAYOUT PLAN

1/8" = 1'-0"



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AQUATIC CENTER RENOVATION**
3033 COLLIER CANYON ROAD
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**COMPETITION/
SWIMMING
POOL DECK
PLAN AS BUILT**

PROJECT NO.	2023.037
DRAWN BY	GSF
CHECKED BY	GSF
DATE	10/16/23
DRAWING NO.	

DP-2

COMPETITION POOL DATA

SURFACE AREA	=	8,121 SQ. FT.
PERIMETER	=	367 FT.
DEPTHS	=	7'-0" TO 14'-0"
VOLUME	=	548,489 GAL.
6 HR TURNOVER	=	1,524 GPM

SWIMMING POOL DATA

SURFACE AREA	=	3,479 SQ. FT.
PERIMETER	=	250 FT.
DEPTH	=	3'-6" TO 7'-3"
VOLUME	=	128,755 GALLONS
6 HR TURNOVER	=	358 GPM

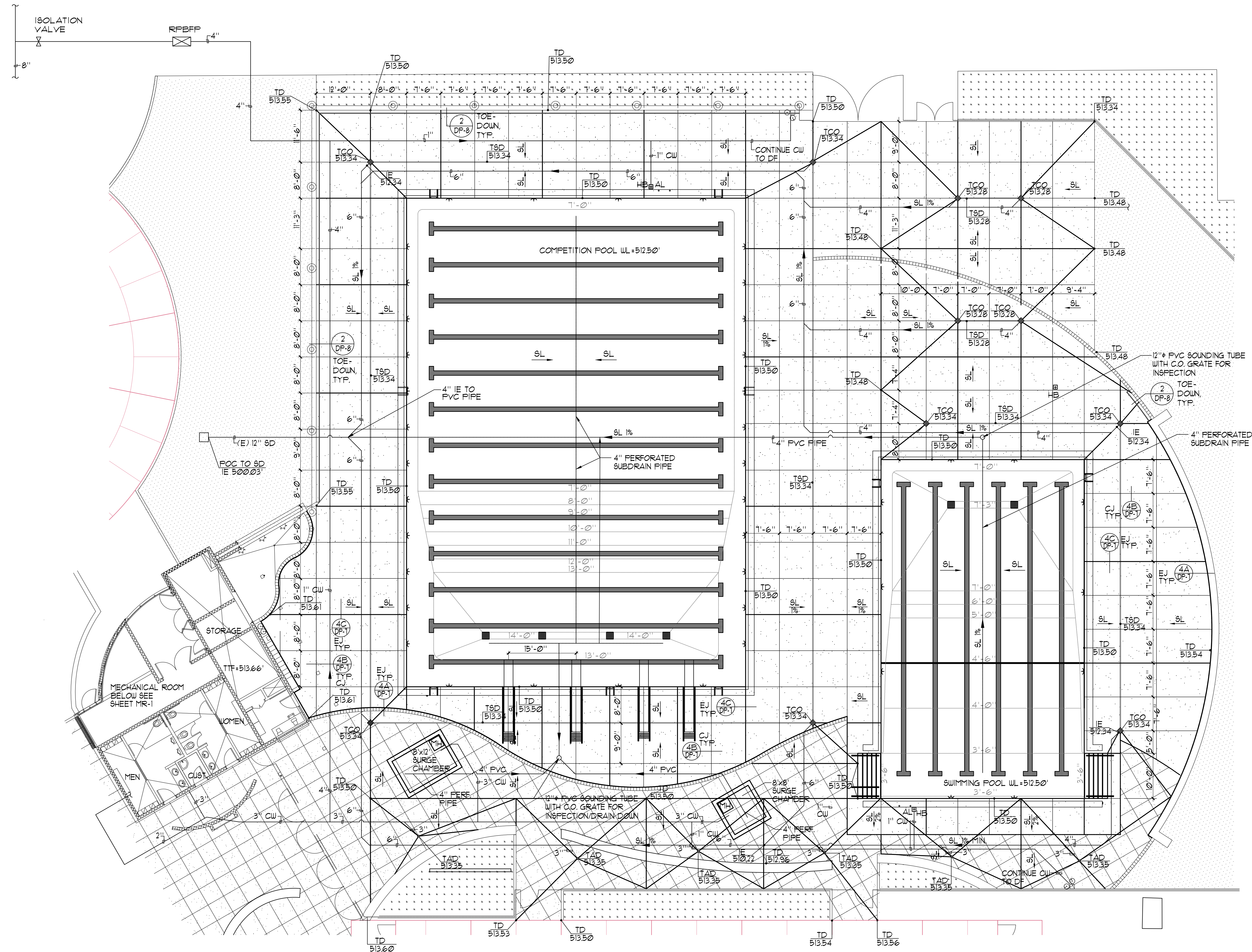
(N) DECK DATA

SURFACE AREA	=	11,685 SQ. FT.
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LEGEND

EJ	=	EXPANSION JOINT	4A	4C
CJ	=	CONTROL JOINT	4B	DP-1
TSD	=	TOP OF SLOT DRAIN	5	DP-1
TCO	=	TOP OF CLEAN-OUT	5	DP-1
HB	=	HOSE BIBB	4	DP-8
AL	=	ACCESSIBLE LIFT	4	DP-5
MH	=	MANHOLE		
SD	=	STORM DRAIN		
SL	=	SLOPE DIRECTION		
WL	=	WATERLEVEL		
TD	=	TOP OF DECK		
I.E.	=	INVERT ELEVATION		
T.F.F.	=	TOP OF FINISH FLOOR		
CW	=	COLD WATER		
DF	=	DRINKING FOUNTAIN		
TAD	=	TOP OF AREA DRAIN		
RPBFP	=	REDUCED PRESSURE BACK FLOW PREVENTOR		

CONTRACTOR SHALL UTILIZE EXISTING AS BUILT PLAN FOR NEW DECK ELEVATIONS AND INFRASTRUCTURE POINTS OF CONNECTION. FIELD VERIFY ALL CONDITIONS. SUBMIT RFI FOR ANY DISCREPANCIES.



COMPETITION POOL/SWIMMING POOL DECK PLAN AS-BUILT 1/4" = 1'-0"



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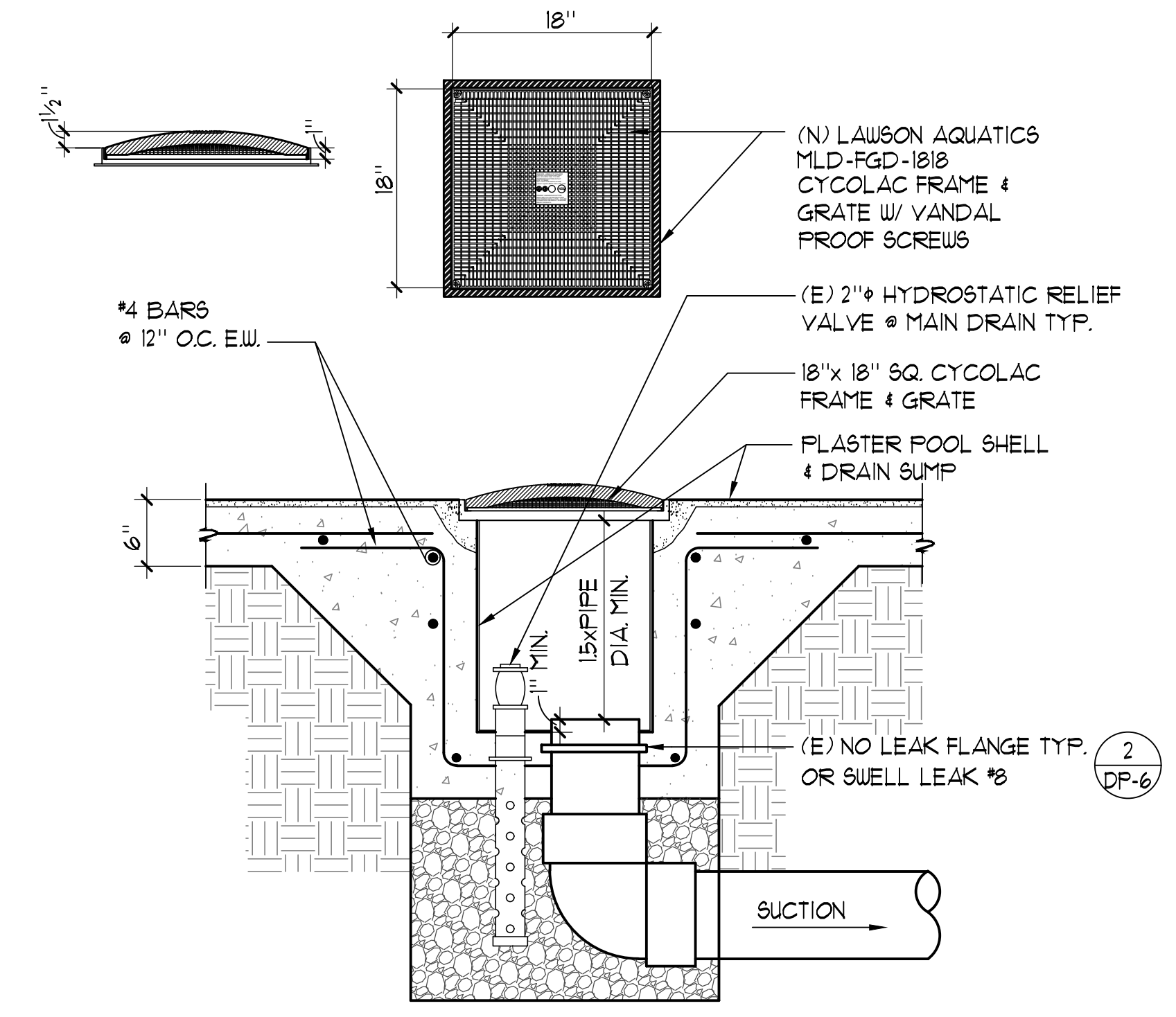
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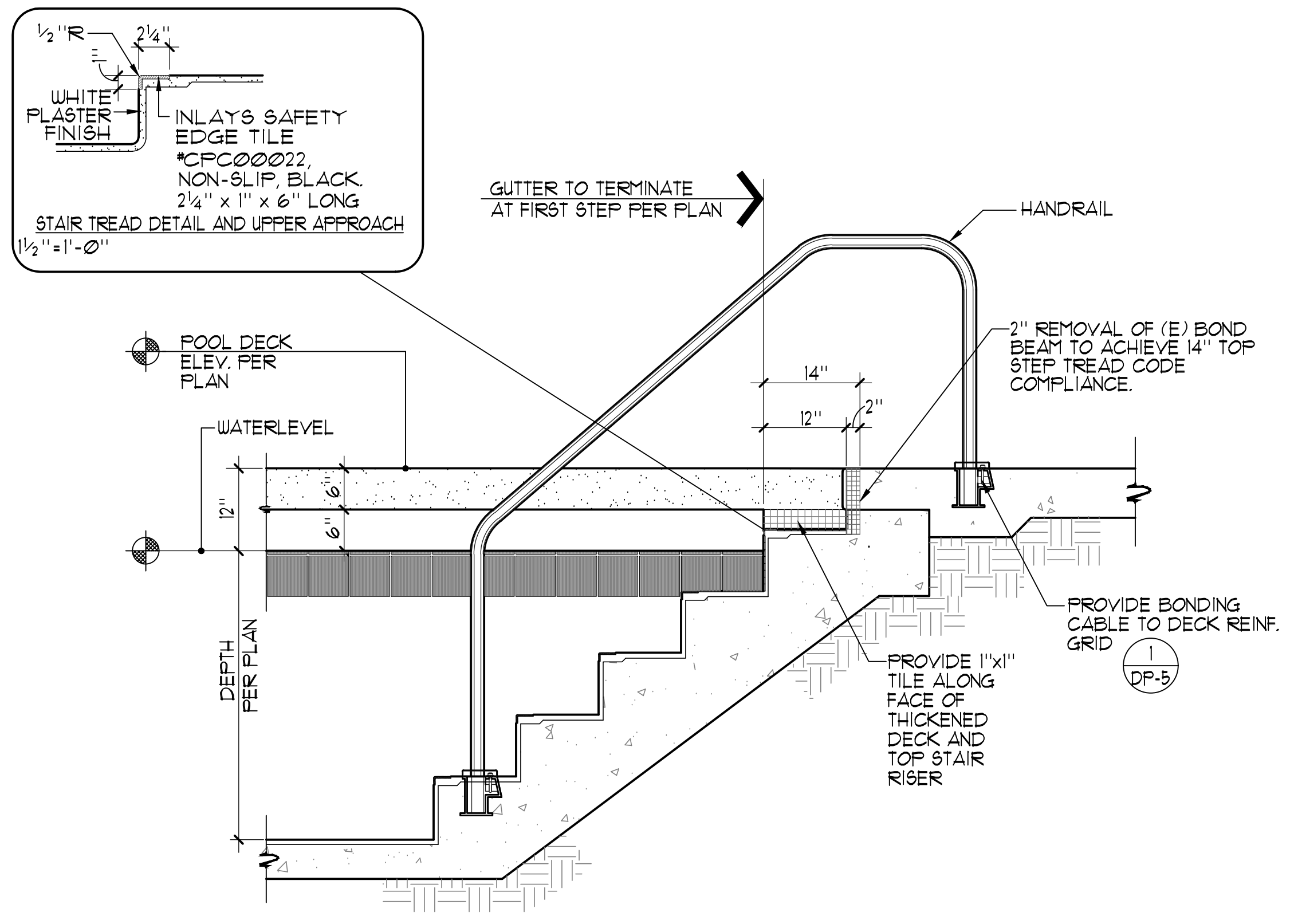
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DETAILS

PROJECT NO.	2023.037
DRAWN BY	GSF
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DATE	10/16/23

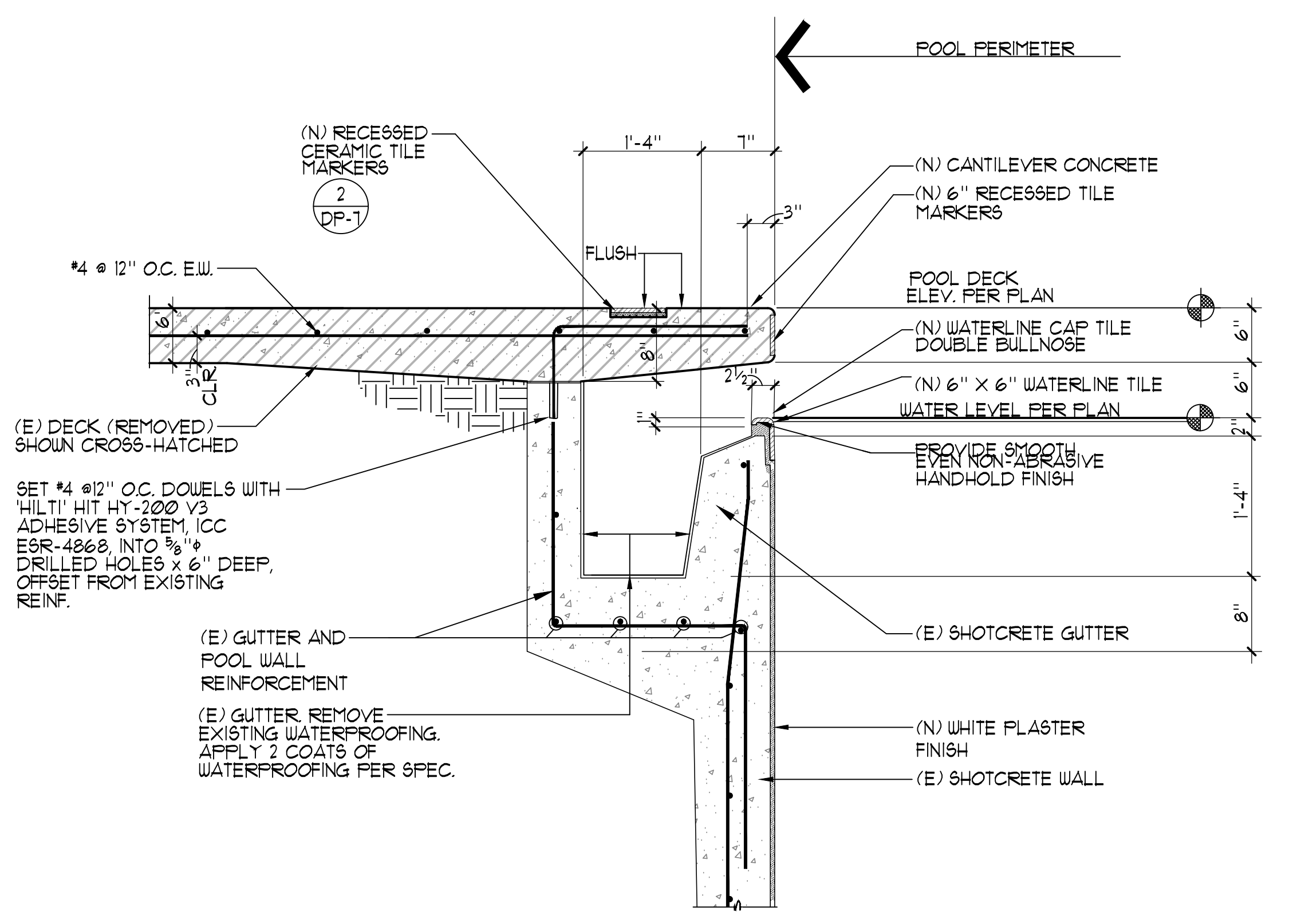
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DP-3



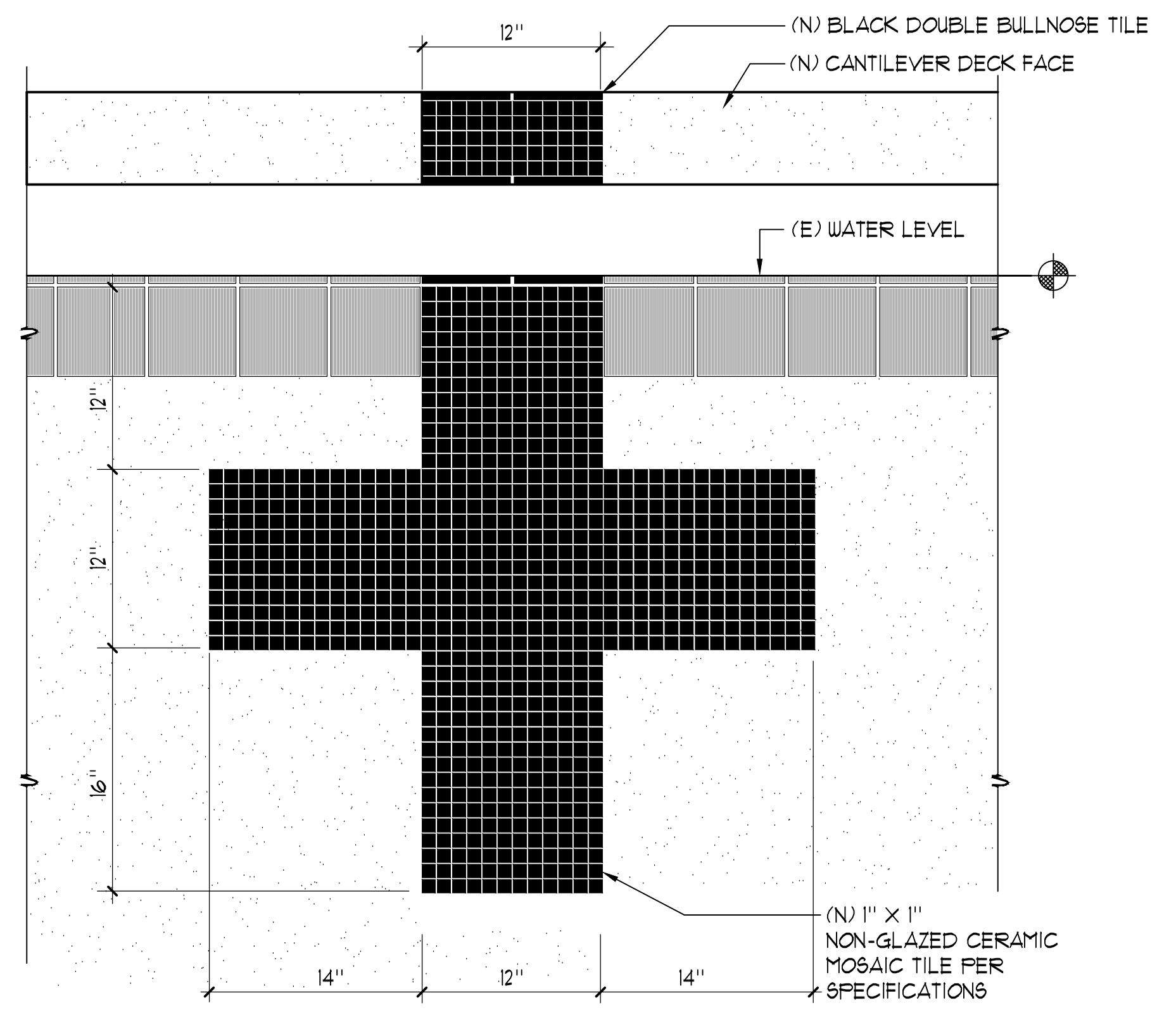
3 MAIN DRAIN 1/2" = 1'-0"



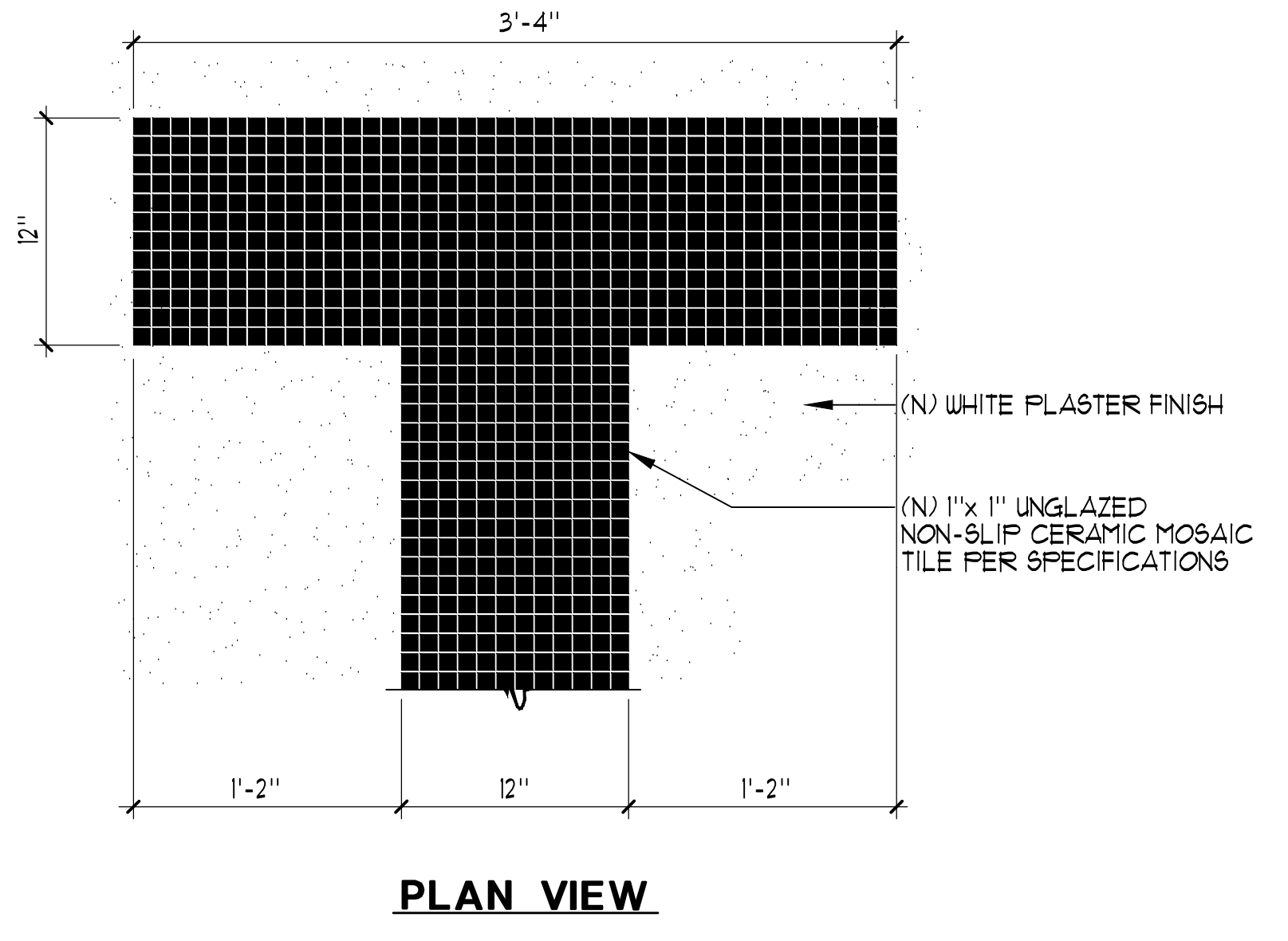
2 HANDRAIL DETAIL 3/4" = 1'-0"



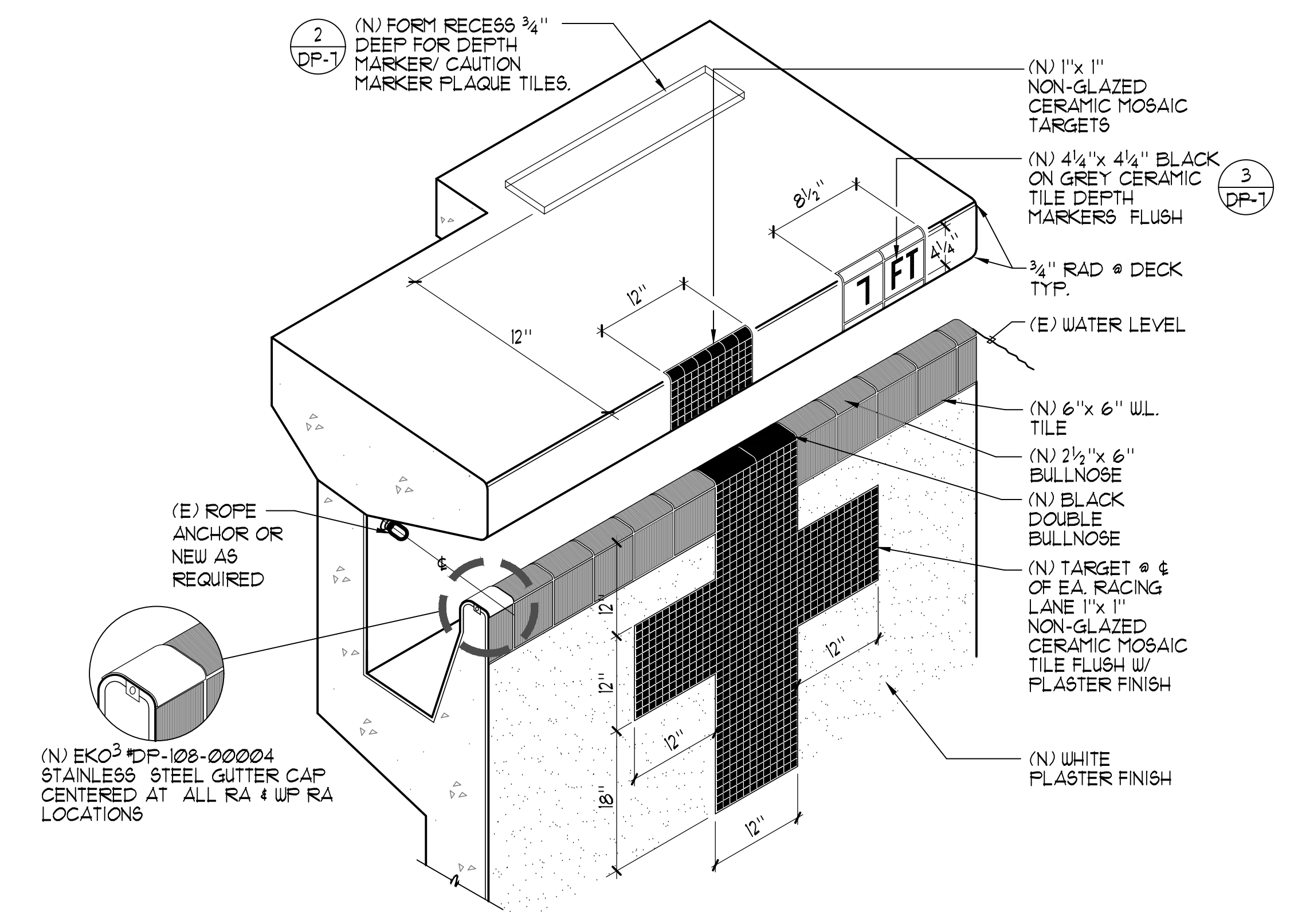
1 TYPICAL GUTTER DETAIL NO SCALE



6 END WALL TARGETS 1/2" = 1'-0"



5 RACING LANE LINE 1/2" = 1'-0"



4 DEEP GUTTER PERSPECTIVE NO SCALE

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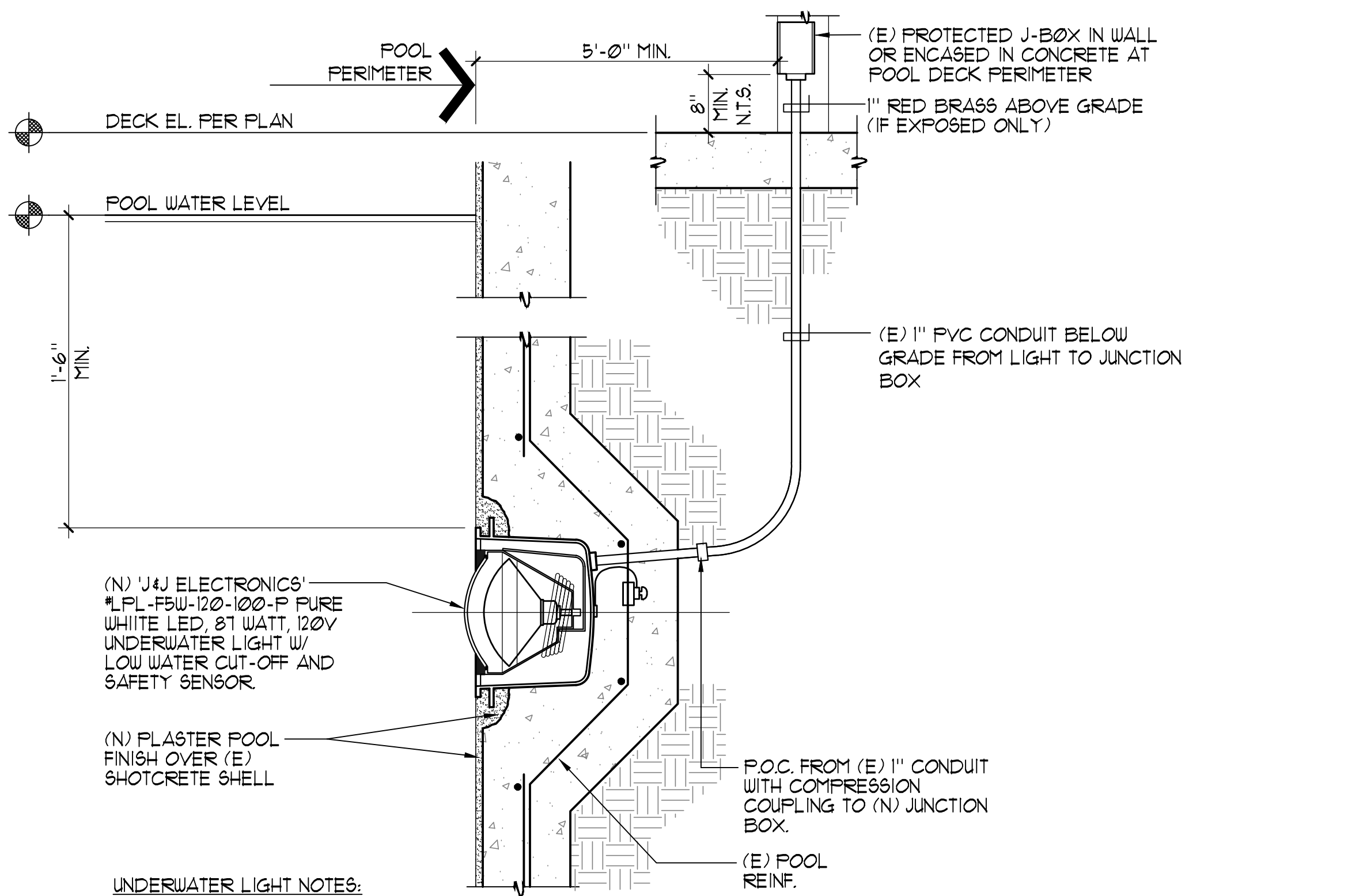
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DETAILS

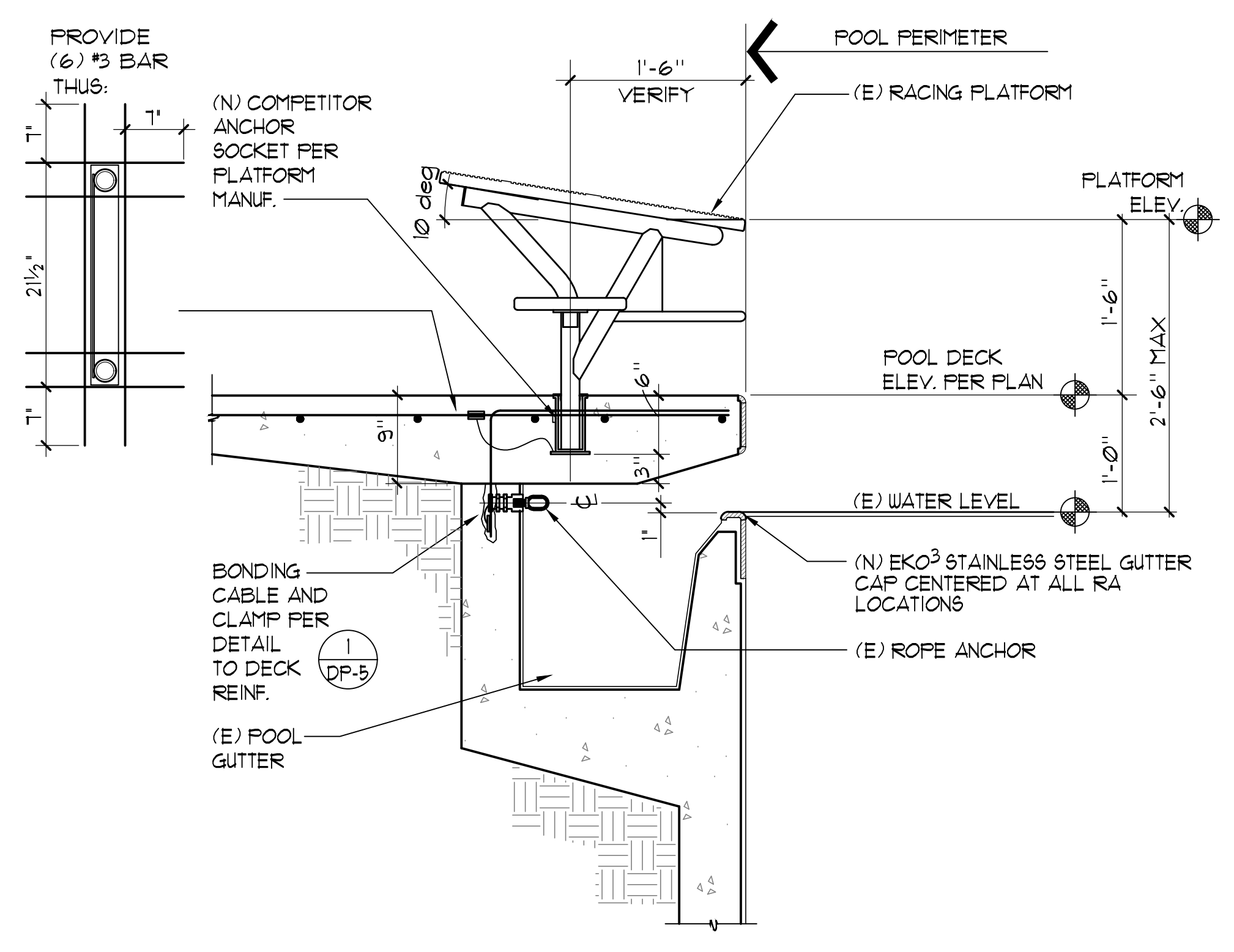
PROJECT NO.	2023.037
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DRAWING NO.	

DP-4

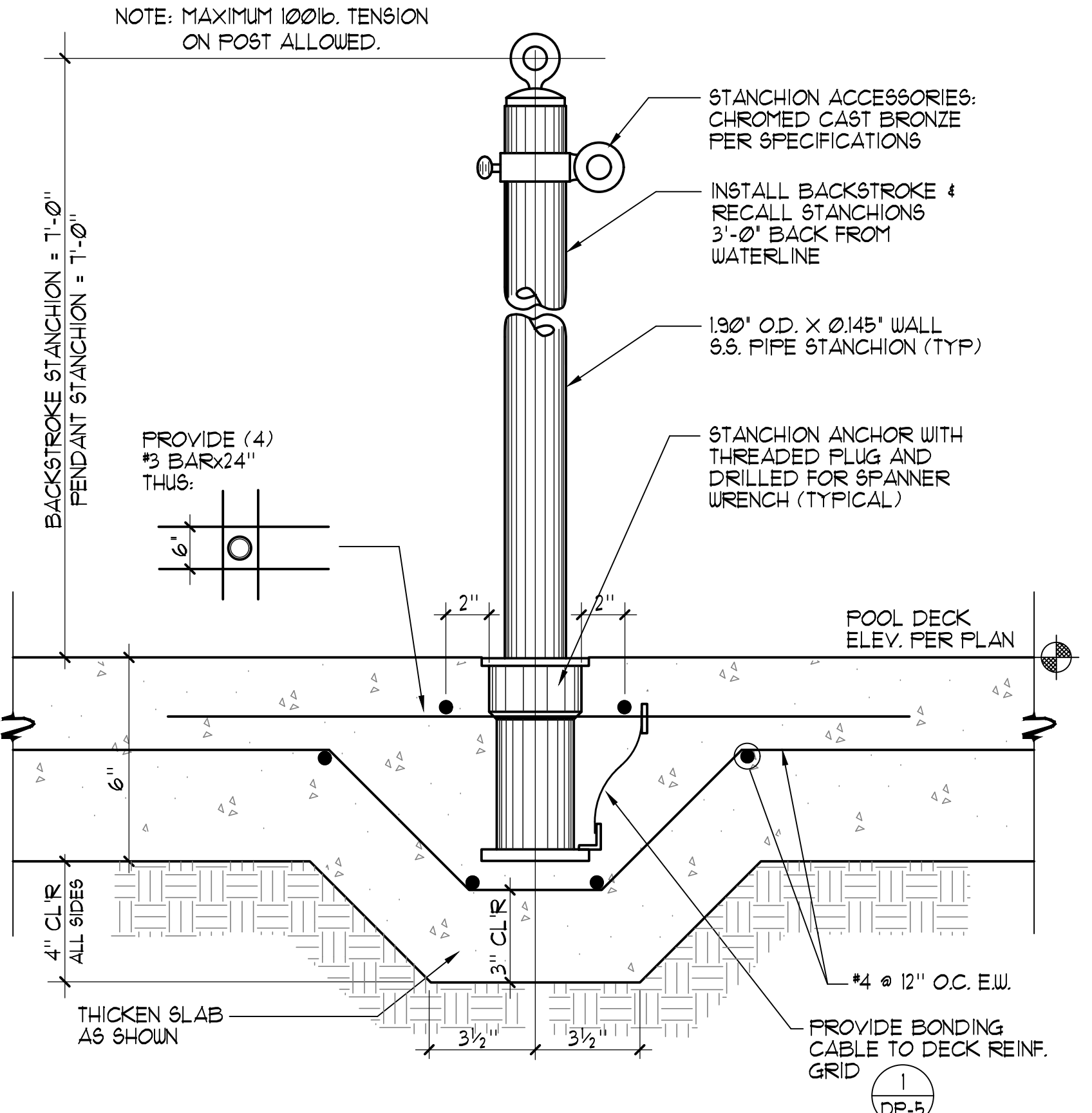


- UNDERWATER LIGHT NOTES:**
- ALL CONDUITS IN POOL LIGHTING SYSTEM TO BE A MINIMUM OF 1".
 - CONDUCTORS TO POOL J-BOXES SHALL BE MINIMUM 2-#8 & #8 SOLID UNBROKEN TO MAIN PANEL ISOLATED GROUND BUSES. THIS BUSES IS TO BE CONNECTED WITH SOLID INSULATED #8 COPPER WIRE TO USER & COLD WATER GROUNDING LUG ON GROUNDING BUSES. UPSIZE CONDUCTORS AS REQUIRED FOR HOMERUNS EXCEEDING 100'.
 - ALL BRASS POOL J-BOXES SHALL BE FLUSH MOUNTED IN WALLS. IF FLUSH MOUNTING IS NOT POSSIBLE THEN MOUNTING SHALL BE SURFACE MOUNTED AND CONCRETE ENCASED.
 - CONDUITS WHERE ALLOWED BY CODE SHALL BE PVC (POLYVINYL CHLORIDE) FROM WET NICHES TO BRASS J-BOXES TO LIGHTING PANEL. ALL CONDUITS IN FREE AIR SPACE AND ALL RISERS SHALL BE RED BRASS TYPICAL. PVC CONDUITS SHALL BE SOLVENT WELDED WITH F-110 PURPLE PRIMER AND 2111 GRAY HEAVY BODIED GLUE.
 - LIGHTING CONTACTORS SHALL BE "ALLEN-BRADLEY" #00 L1 OR EQUAL MOUNTED IN A NEMA 12 HINGED COVER - LOCKABLE ENCLOSURE. CONTACTORS TO BE SWITCHED BY MOMENTARY SWITCH EQUAL TO "HUBBELL" #5B1 MOUNTED IN J-BOX IN MECHANICAL EQUIPMENT ROOM. PROVIDE REMOTE UNDERWATER LIGHT SWITCH IN POOL BUILDING CONTROL ROOM.
 - BRASS POOL J-BOXES SHALL BE "HYDREL" #119 & W111 HUBS OR EQUAL. (NO DIE CAST BOXES).
 - NEW UNDERWATER LIGHTS SHALL BE REMOVED AND STRINGS SHALL BE PULLED IN ALL CONDUITS PRIOR TO NEW LIGHT CORDS BEING PULLED.
 - LOCAL COUNTY OR CITY CODES SHALL BE ADHERED TO. SPECIFICATIONS TO BE IN ACCORDANCE WITH SECTION 680 OF LATEST N.E.C. BOOK.
 - PROVIDE FULL BOXES AS MAY BE REQUIRED FOR RUNS EXCEEDING 150 FT. OR DUE TO CHANGES IN GRADE OR DIRECTION.
 - CONTRACTOR SHALL TEST UNDERWATER POOL LIGHT GFC CIRCUITS AND PROVIDE LETTER TO ARCHITECT AND OWNER UPON SUCCESSFUL TEST.
 - SEAL CONDUIT OPENING IN LIGHT NICHE WITH SILICON CAULKING AFTER LIGHT IS INSTALLED.
 - PRIOR TO LIGHT INSTALLATION, PROVIDE MINIMUM 10 PSI PRESSURE TEST ON ALL POOL LIGHT CONDUITS FOR FOUR (4) HOURS OBSERVED BY INSPECTOR OF RECORD. MAINTAIN PRESSURE UNTIL ALL DECKS ARE POURED.

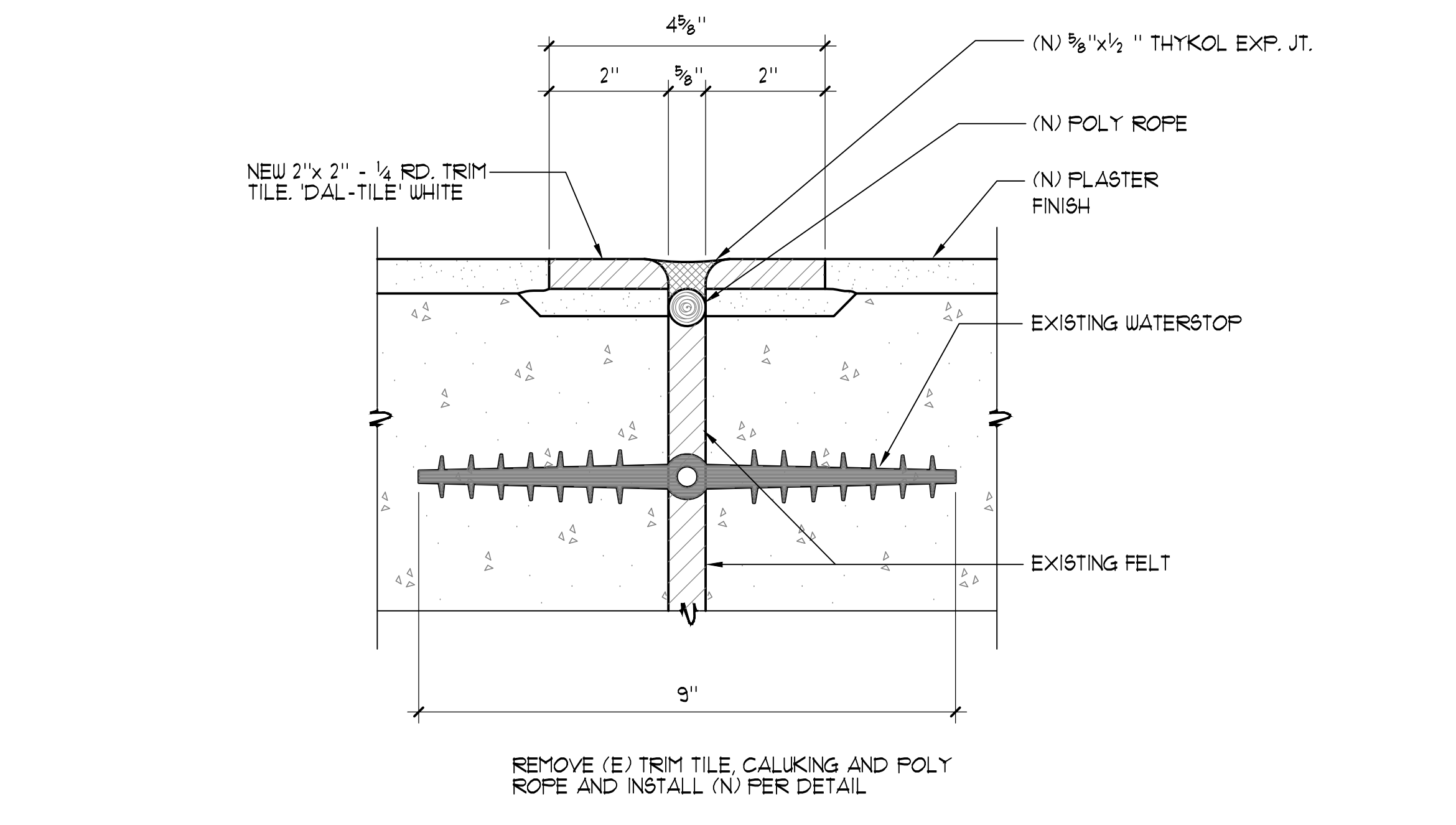
1 UNDERWATER LED LIGHT 1/2" = 1'-0"



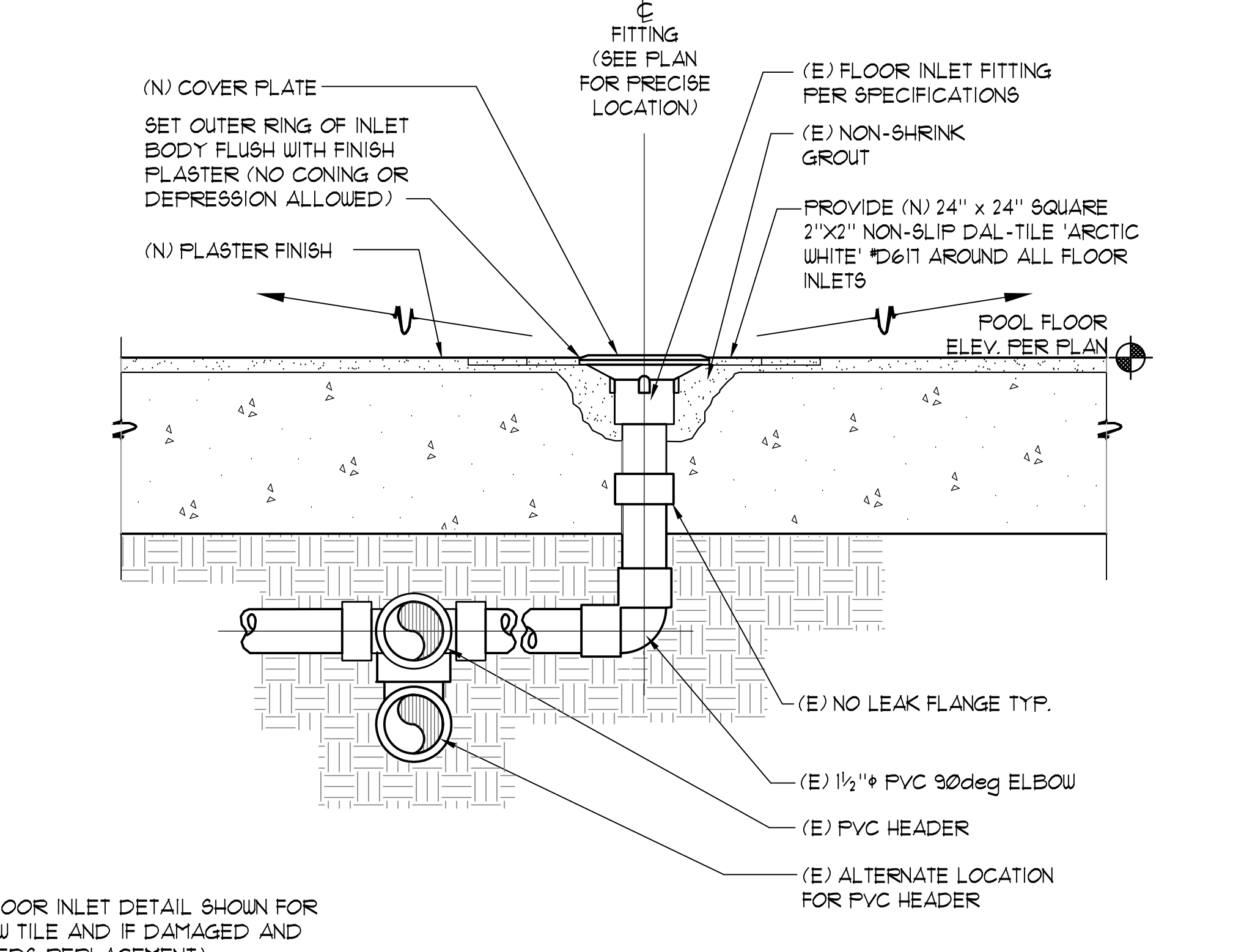
2 RACING PLATFORM 1" = 1'-0"



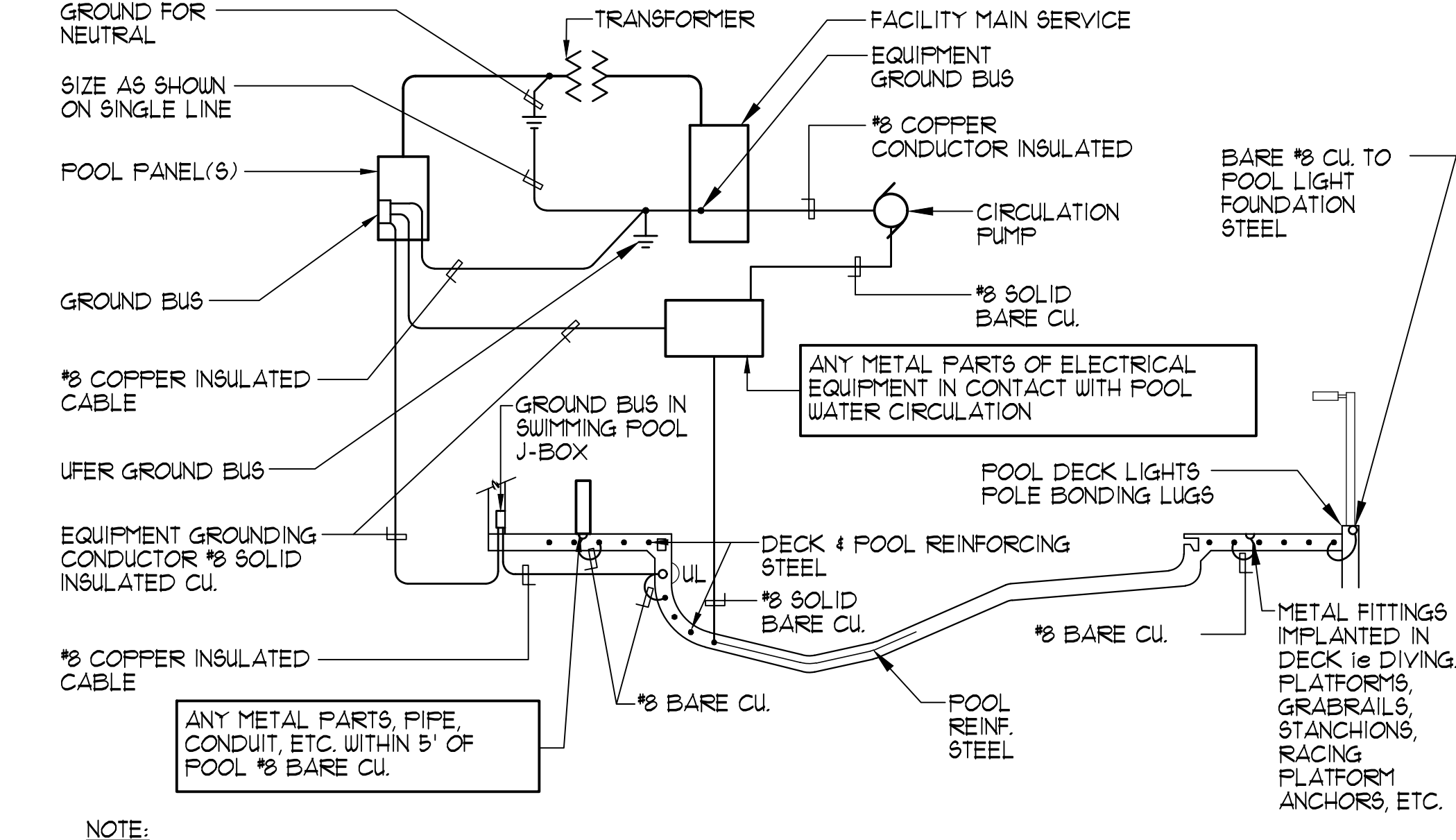
3 STANCHION POST/ANCHOR 3/4" = 1'-0"



4 EXPANSION JOINT DETAIL 1/2" = 1"

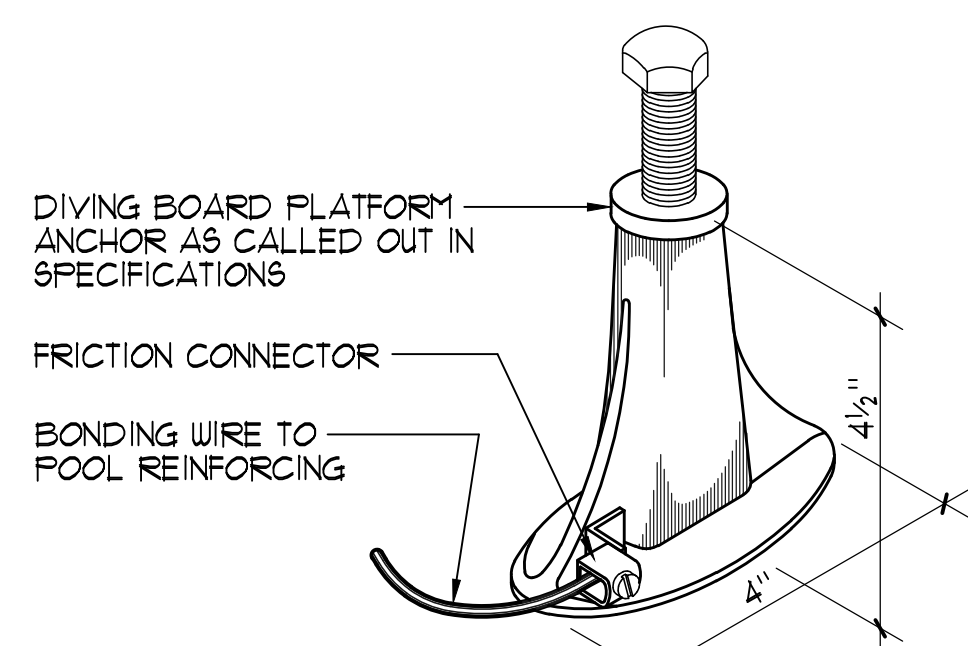


5 FLOOR INLET 3/4" = 1'-0"

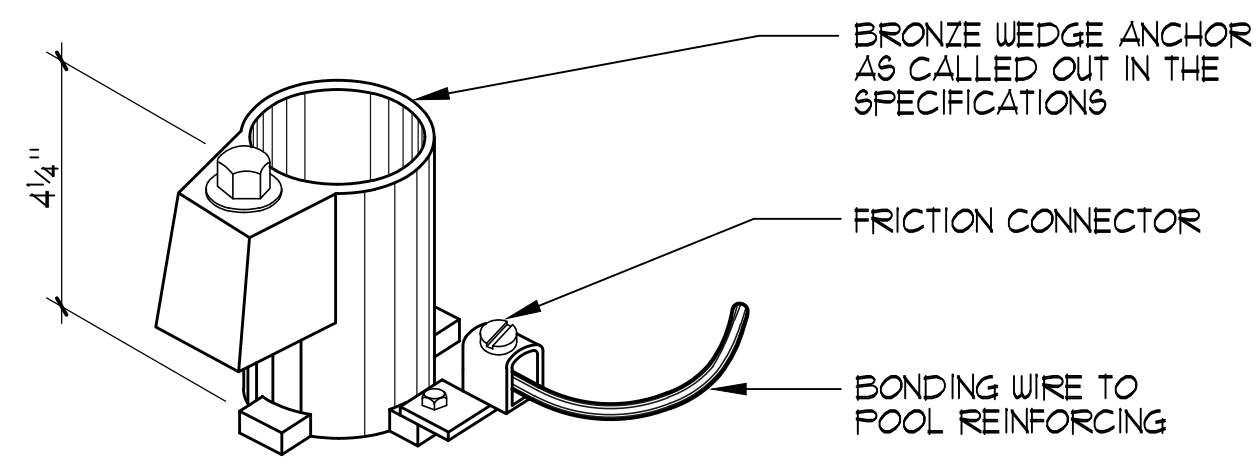


- NOTE:**
- STRUCTURAL STEEL IN POOL DECK AND POOL SHALL BE BONDED TOGETHER (TIGHTLY MADE STEEL TIE-WIRES ARE APPROVED FOR BONDING STRUCTURAL ELEMENTS).
 - BONDING CONNECTOR TO COMMON GRID. (POOL STEEL MAY BE USED FOR THAT PURPOSE) SHALL BE MADE BY PRESSURE CONNECTORS OR CLAMPS OF BRASS, COPPER, OR COPPER ALLOY.
 - ALL GROUND BUSES SHALL BE SIZED FOR CONNECTION TO AWG SIZE 8 WIRE PROVIDING ONE SPARE TERMINAL.
 - GROUND AND BOND IN ACCORDANCE WITH ARTICLE 680 OF THE CALIFORNIA ELECTRICAL CODE, i.e. LADDERS, FENCING, POLE LIGHTS, DIVING & STARTING STANCHIONS, HANDICAP HOIST ETC.
 - PROVIDE BONDING OF AUTOMATIC POOL COVER MOTORS REGARDLESS OF PROXIMITY TO POOL.

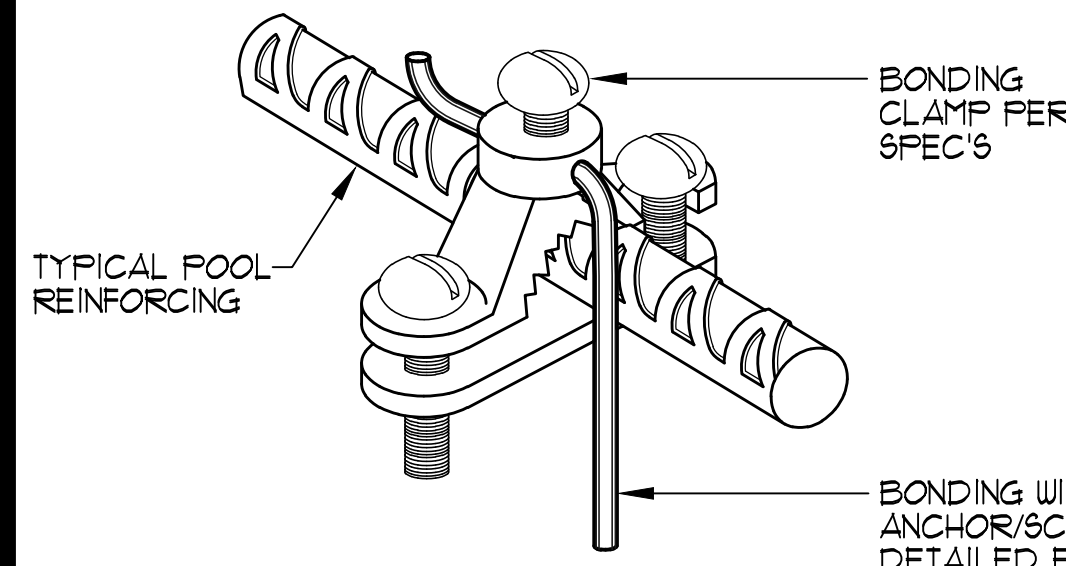
6 TYPICAL POOL BONDING AND GROUND DETAIL NO SCALE



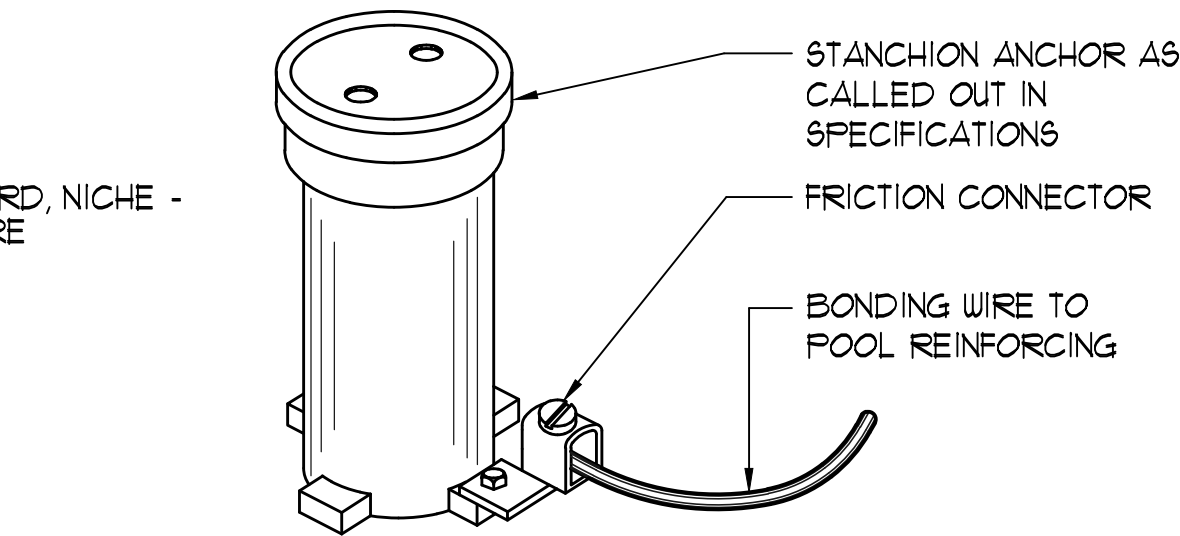
A NICHE CONNECTOR
NO SCALE



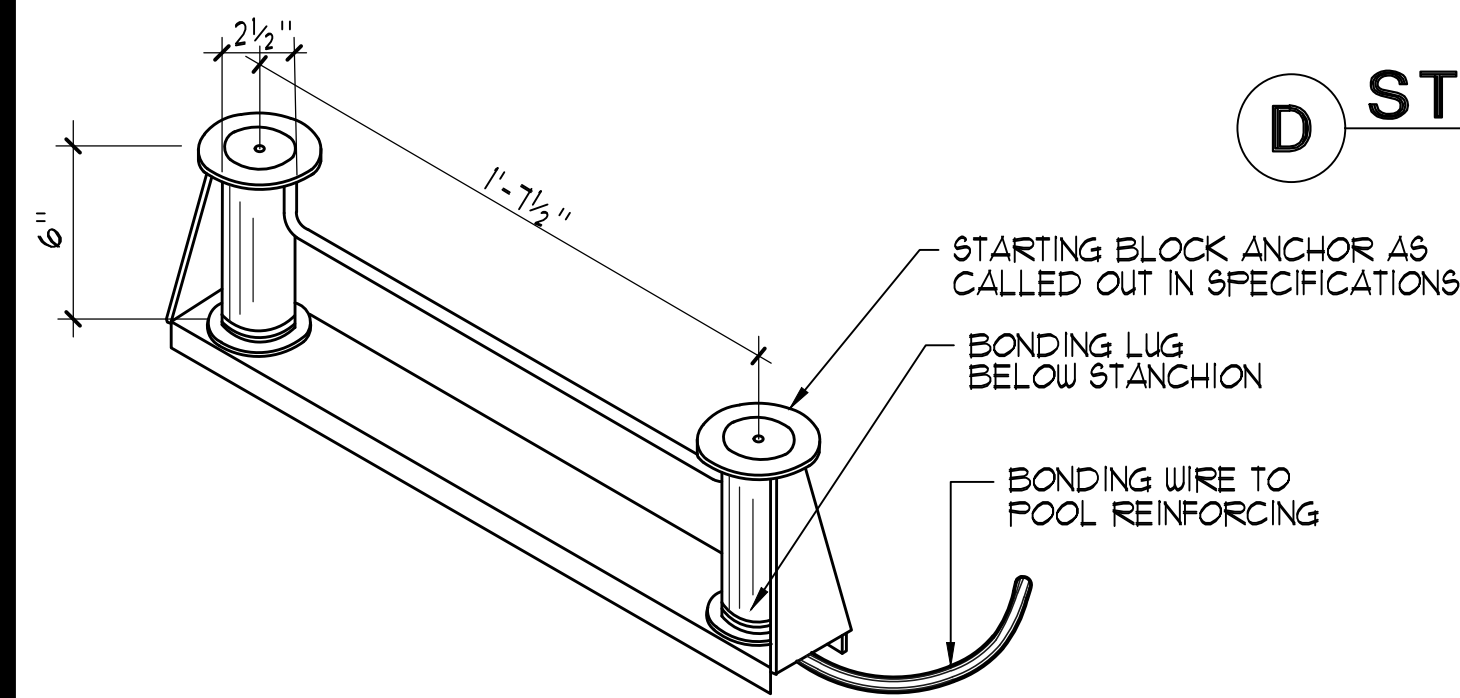
B WEDGE ANCHOR
NO SCALE



C BONDING CLAMP
NO SCALE

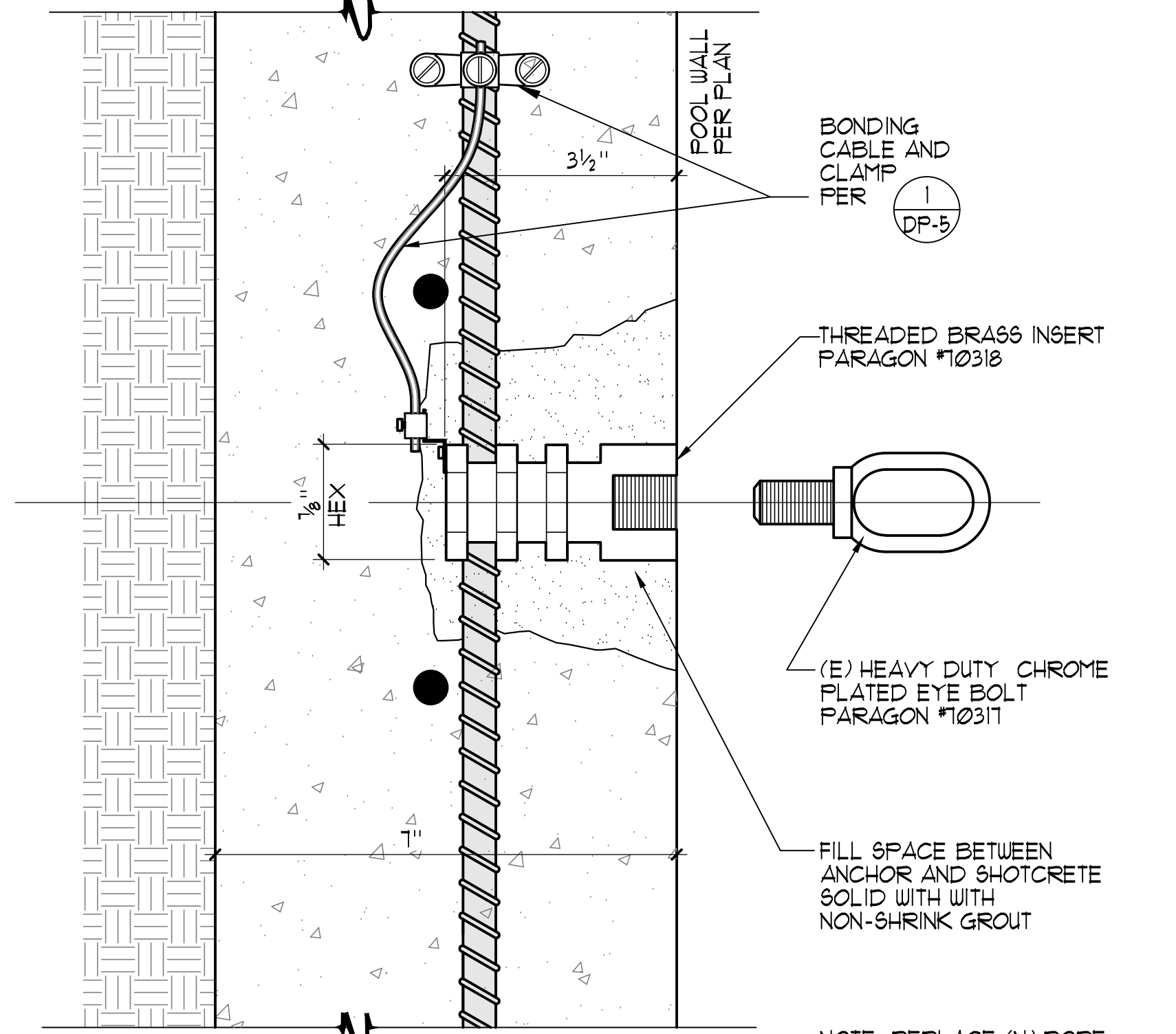


D STANCHION ANCHOR

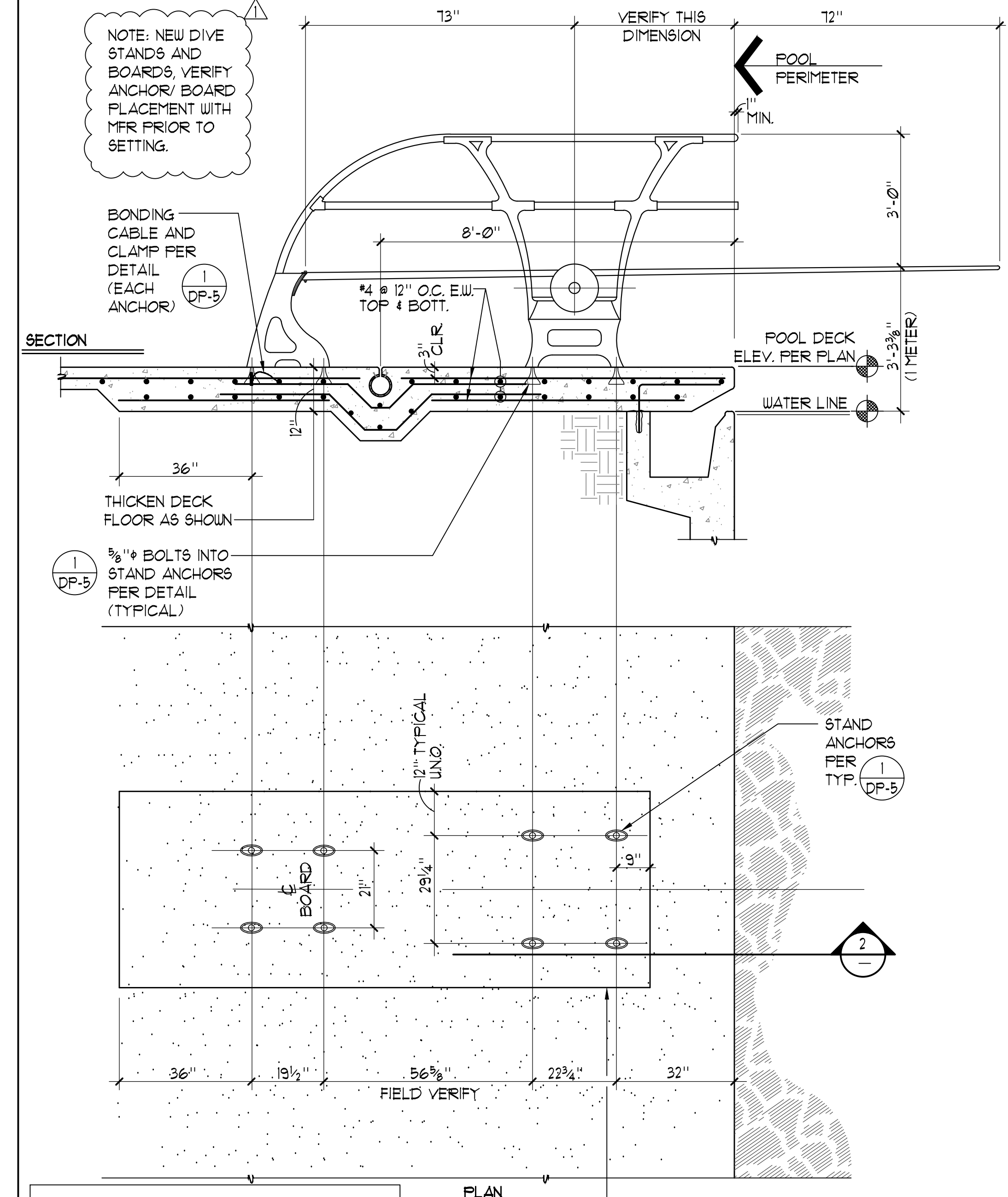


E STARTING BLOCK ANCHOR

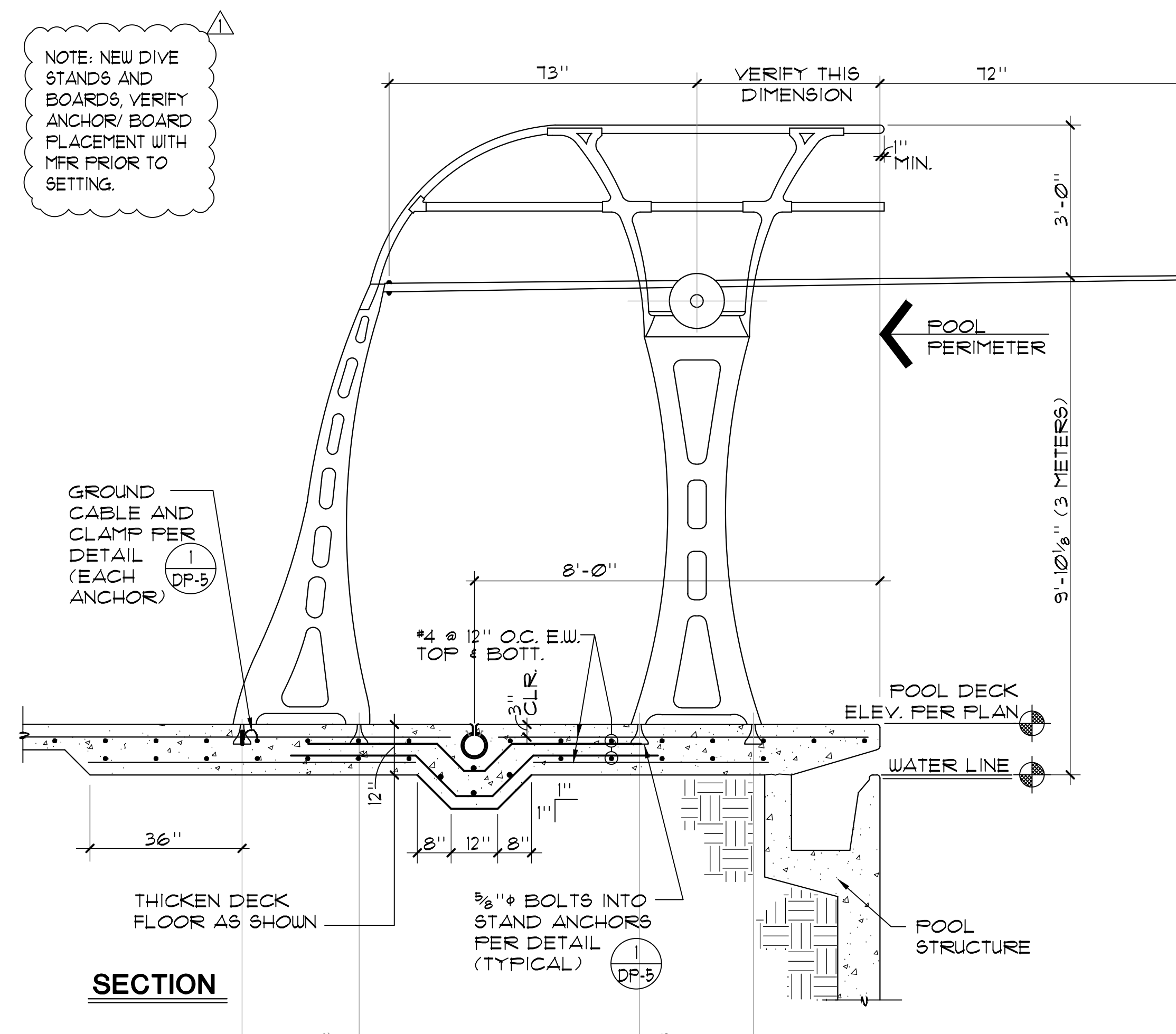
1 BONDING DETAILS NO SCALE



2 HEAVY EYEBOLT ANCHOR 1/2" = 1"

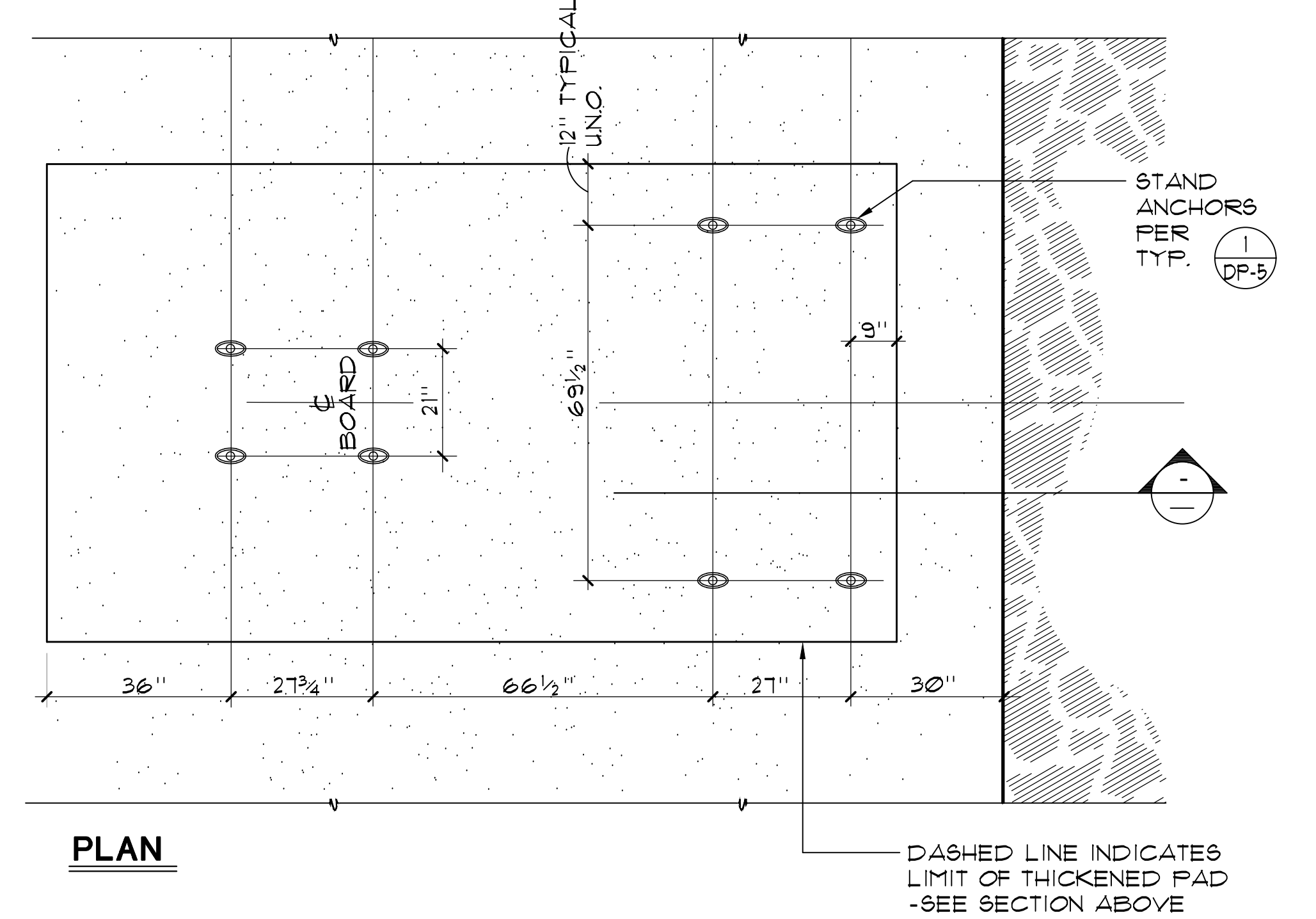


3 1 METER DIVE STAND 1/2" = 1'-0"



NOTE:
FOR NEW 3M DIVE STAND INSTALL WITH DROP IN ANCHORS PLEASE FOLLOW MANUFACTURERS INSTALLATION REQUIREMENTS

5 3 METER DIVE STAND 1/2" = 1'-0"



4 3 METER DIVING STAND 1/2" = 1'-0"

4 DETAIL NOT USED



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PROJECT NO.	2023.037
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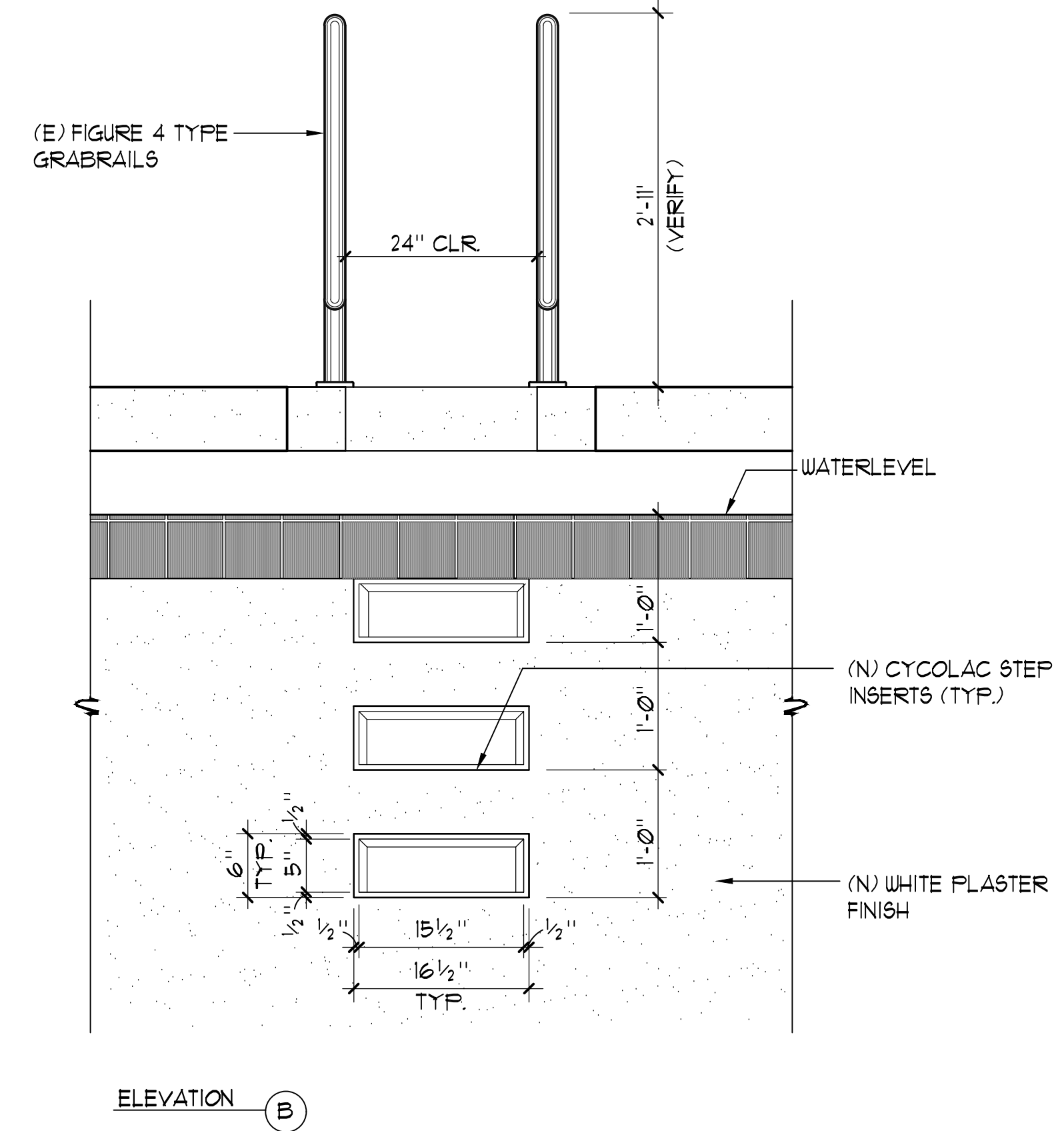
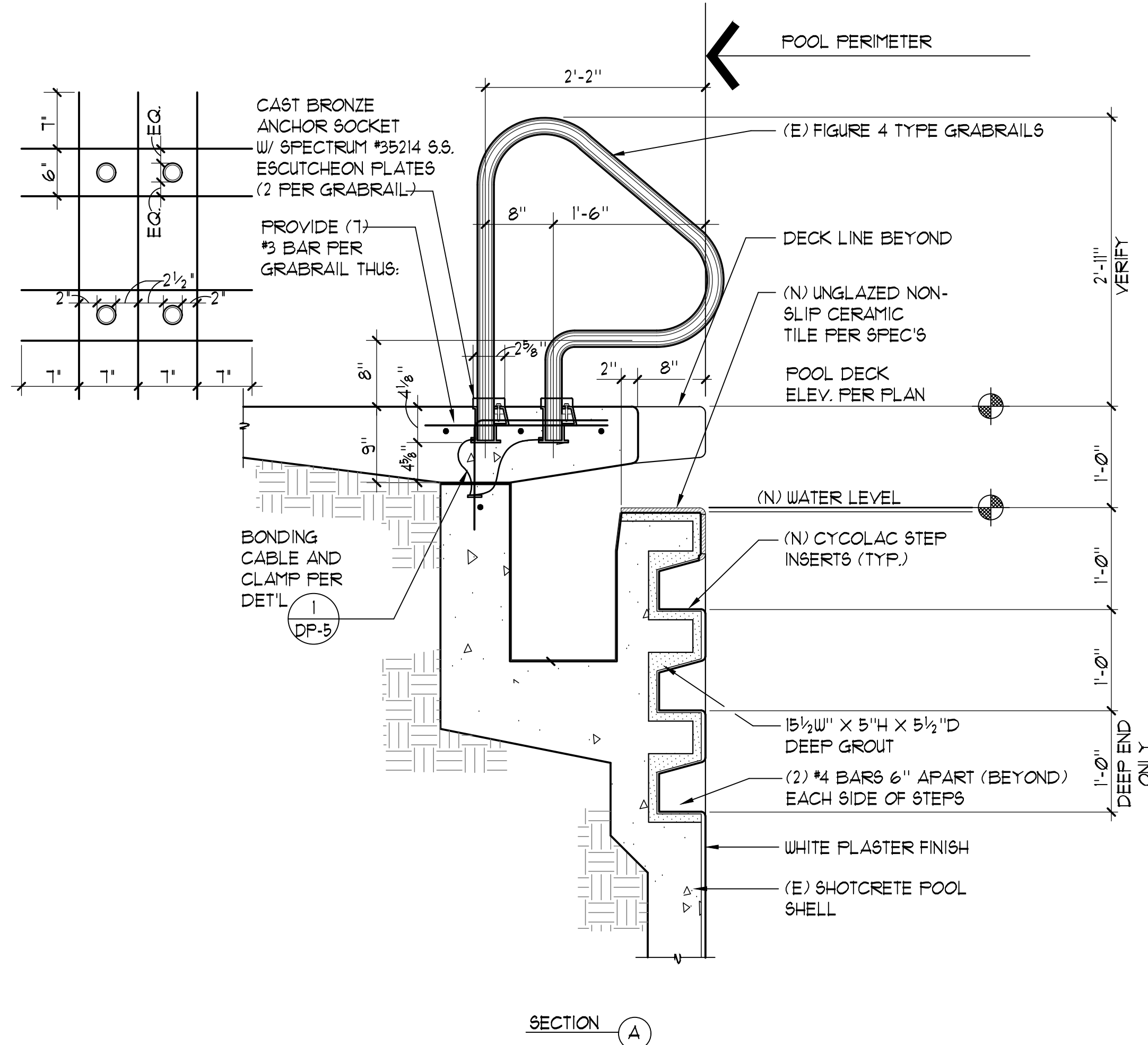
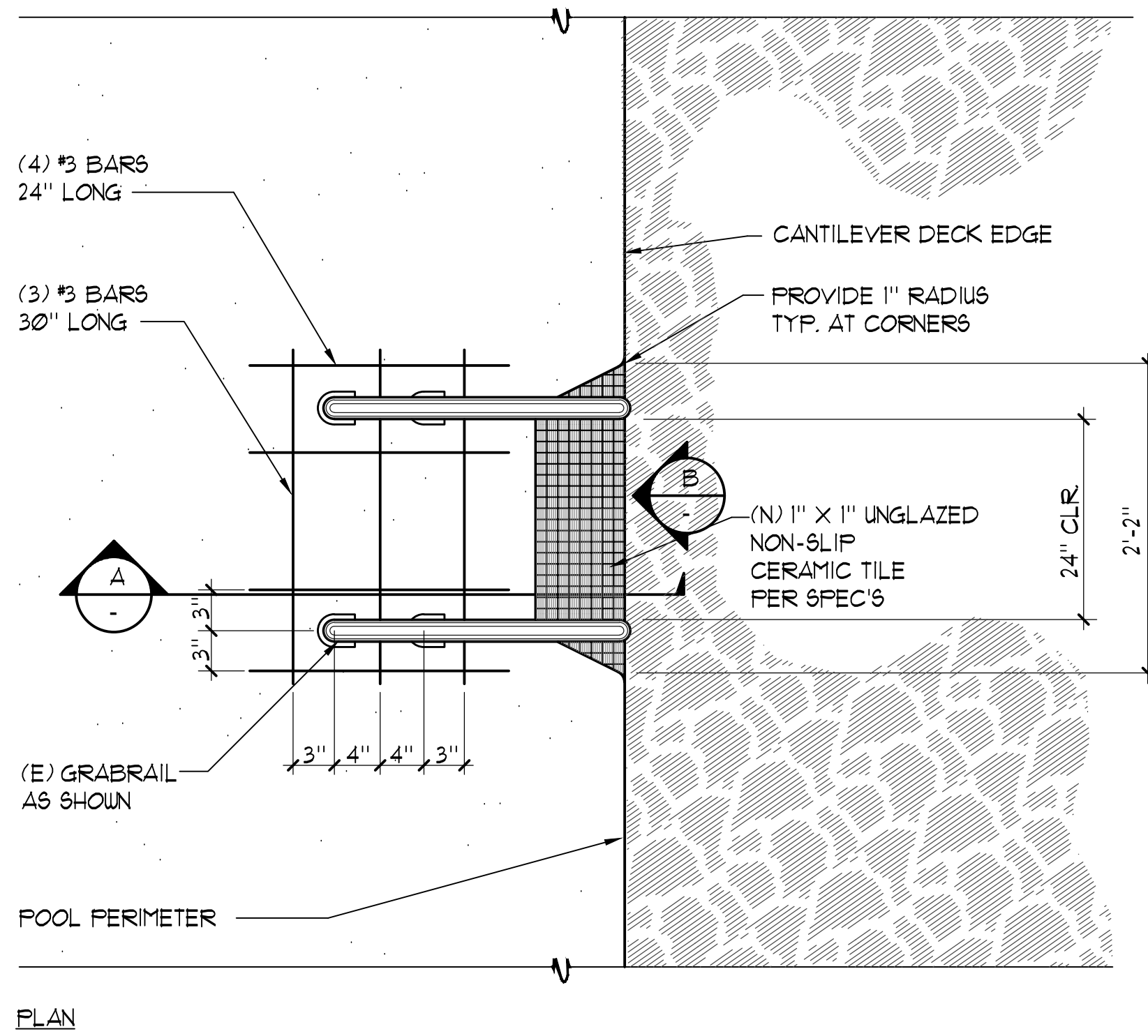
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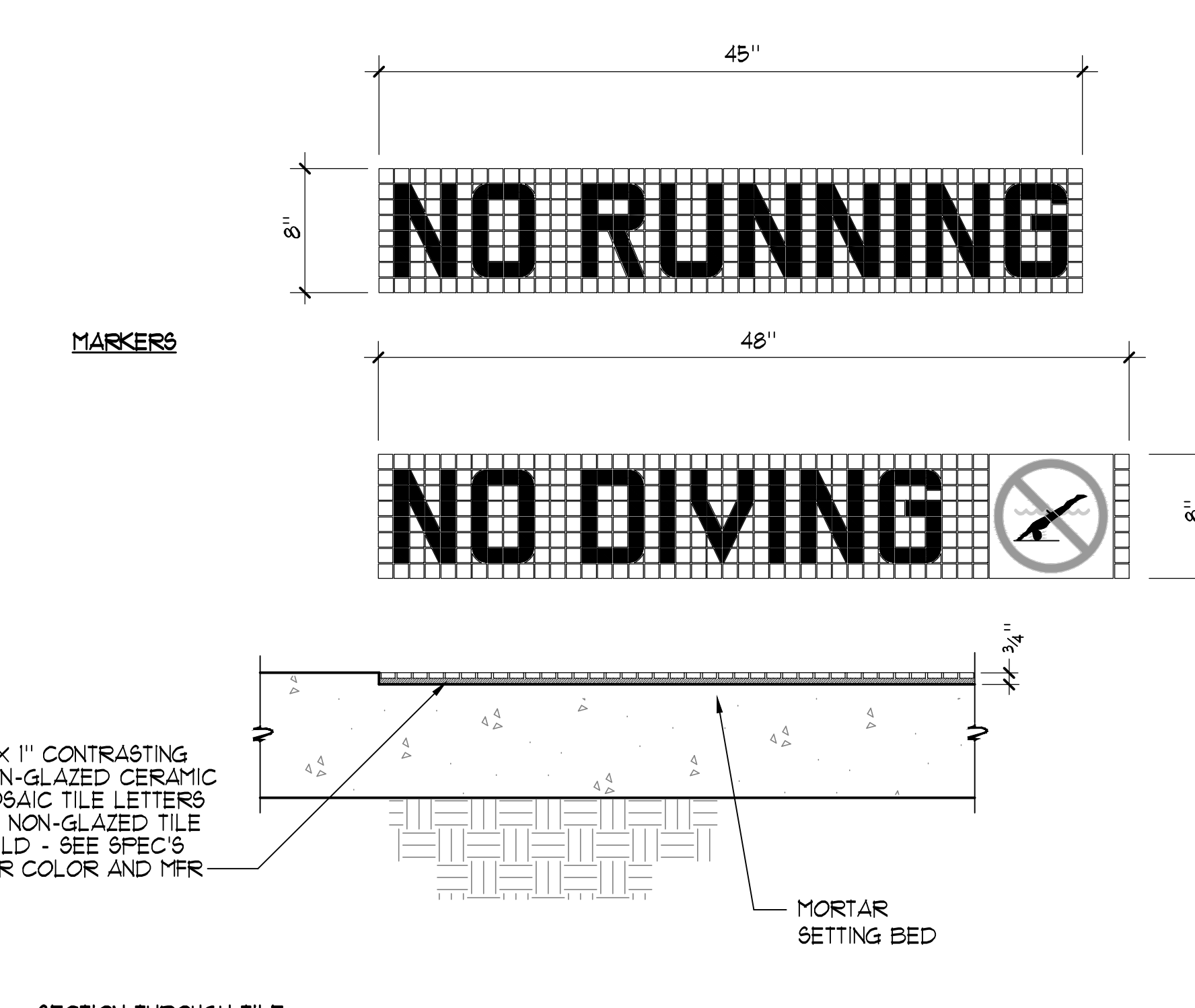
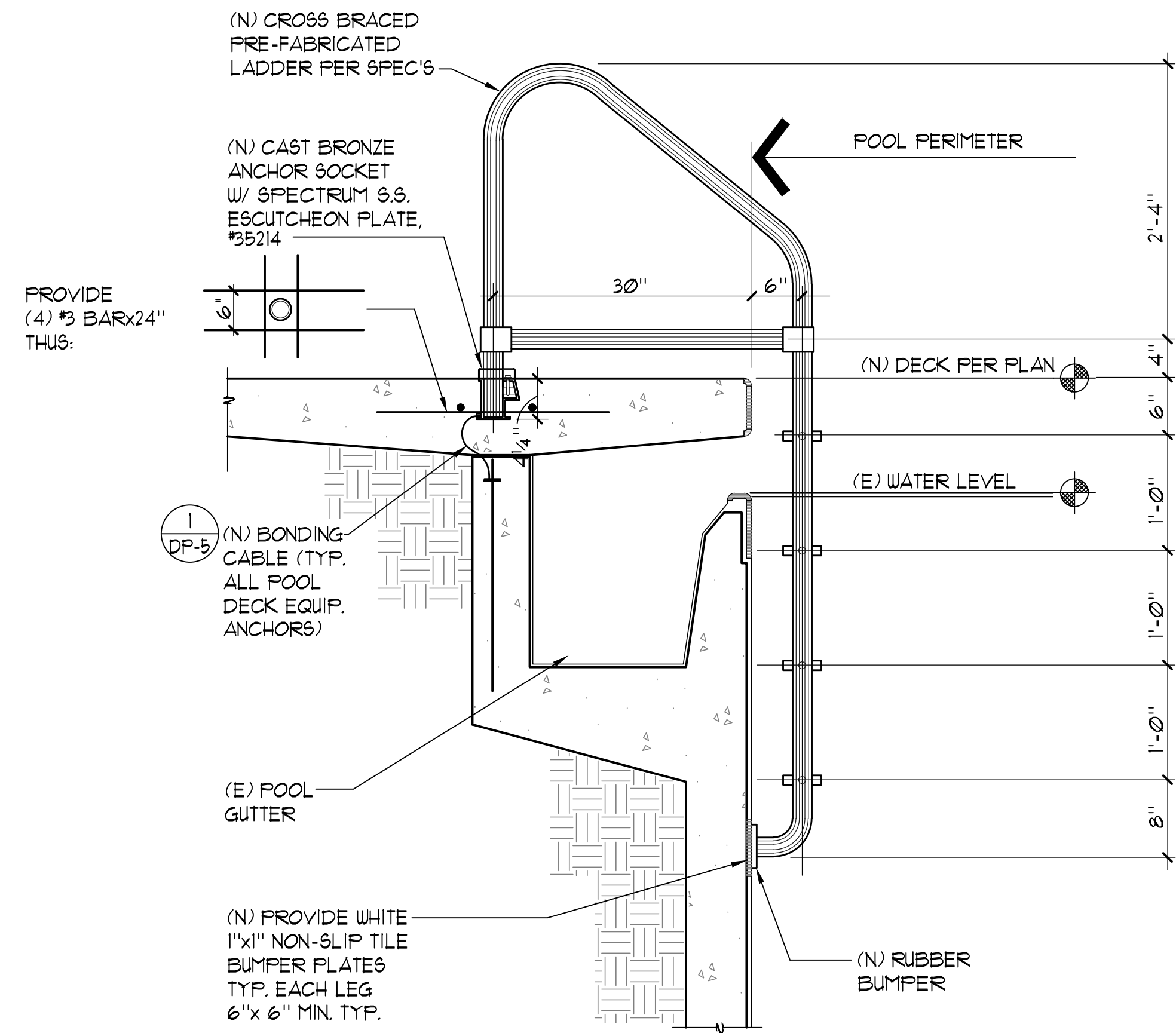
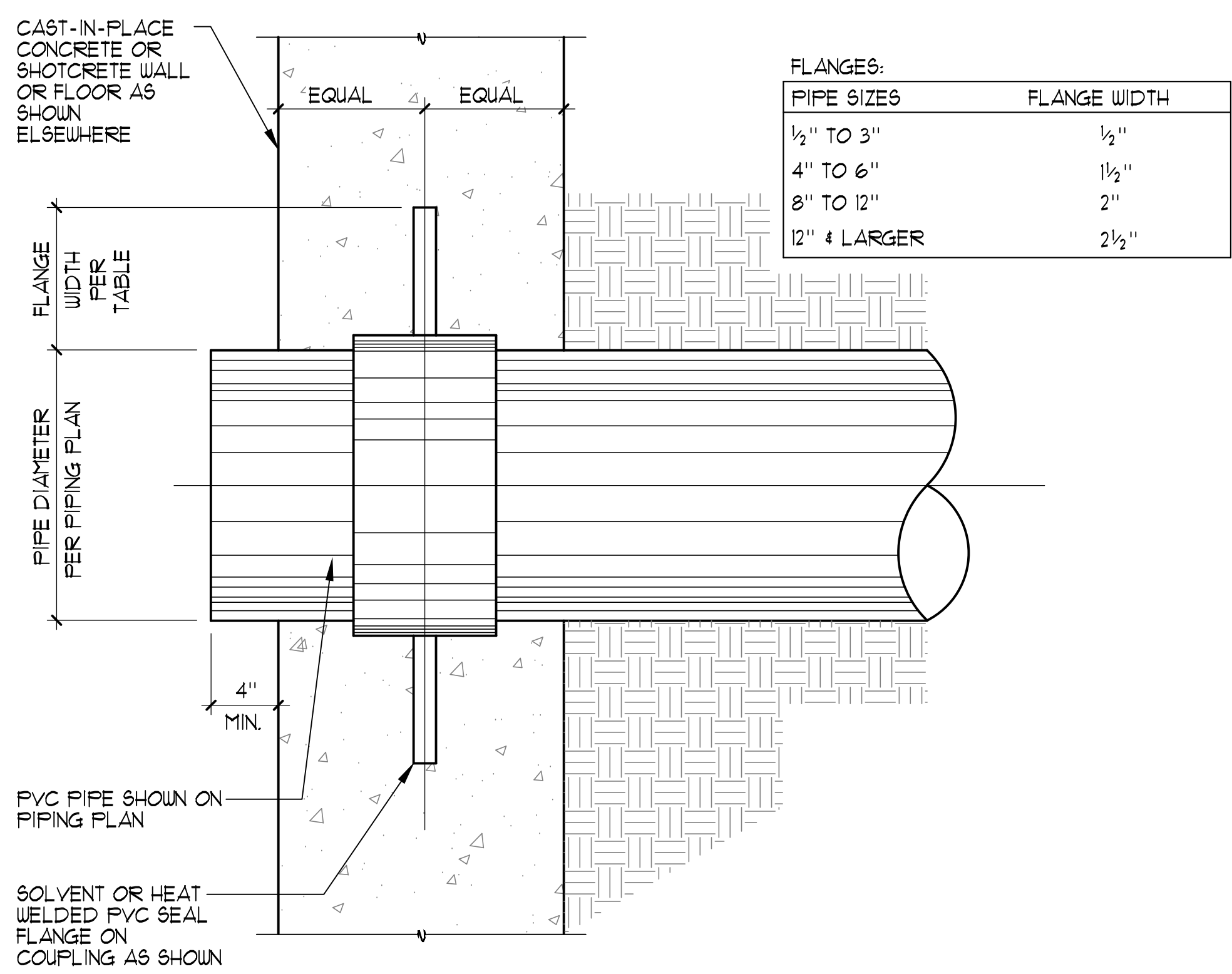
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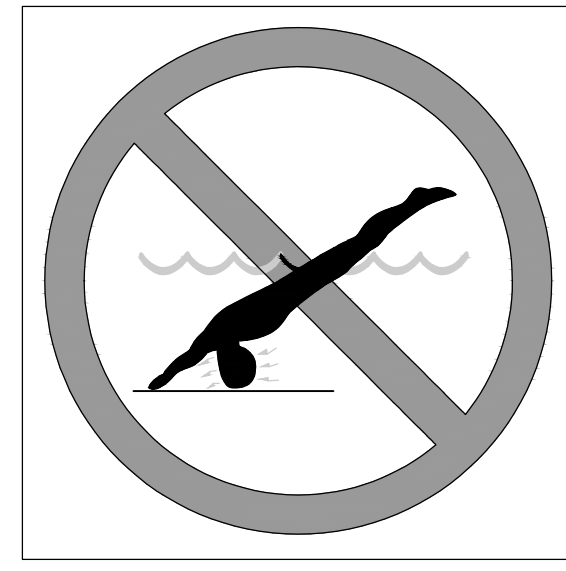
DRAWING NO.
DP-6



1 GRABRAIL WITH STEPS 1"=1'-0"



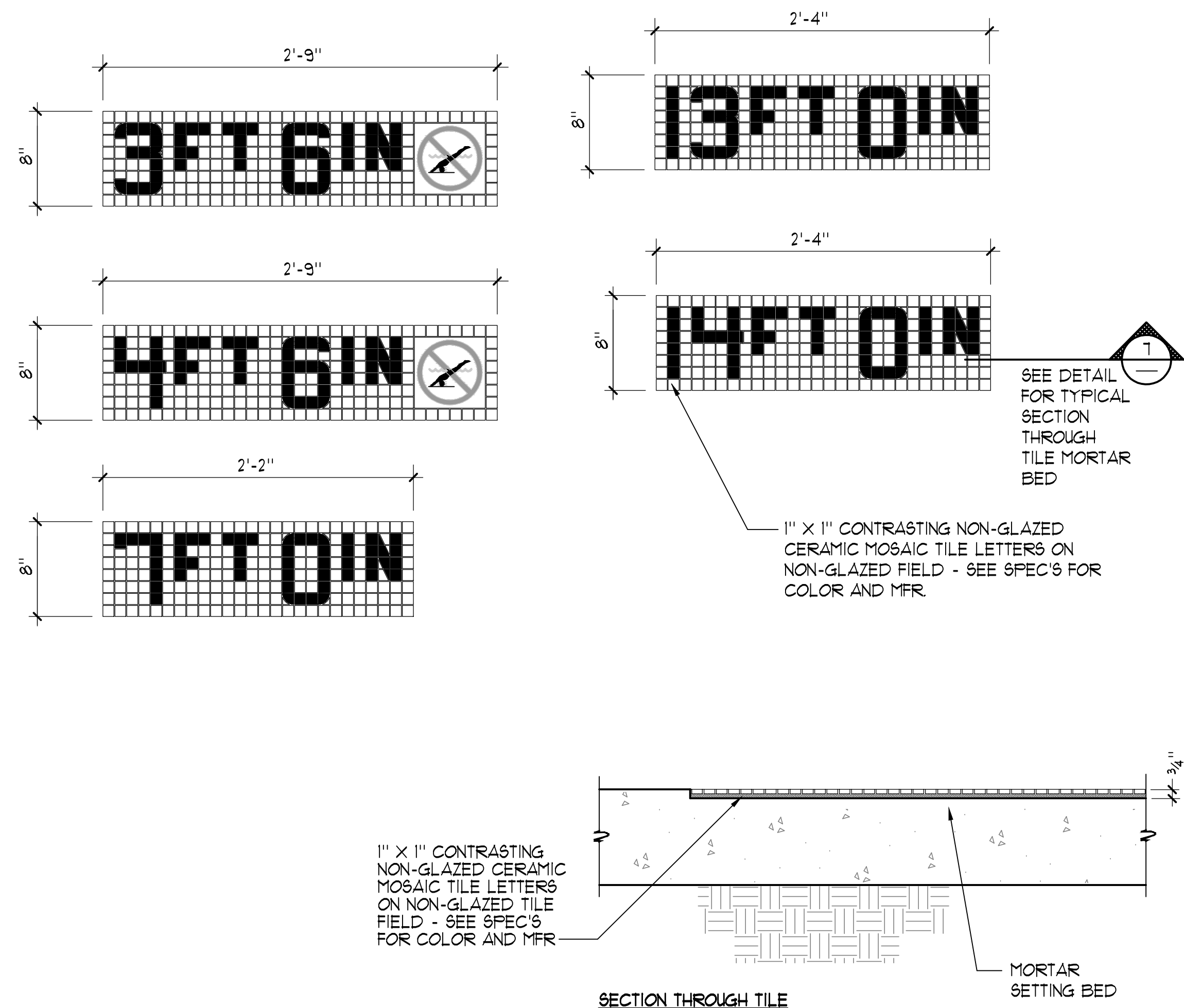
2 WATER STOP DETAIL NO SCALE **3 POOL LADDER 1"=1'-0"** **4 "NO RUNNING" / "NO DIVING" MARKERS 1/2" = 1'-0"**



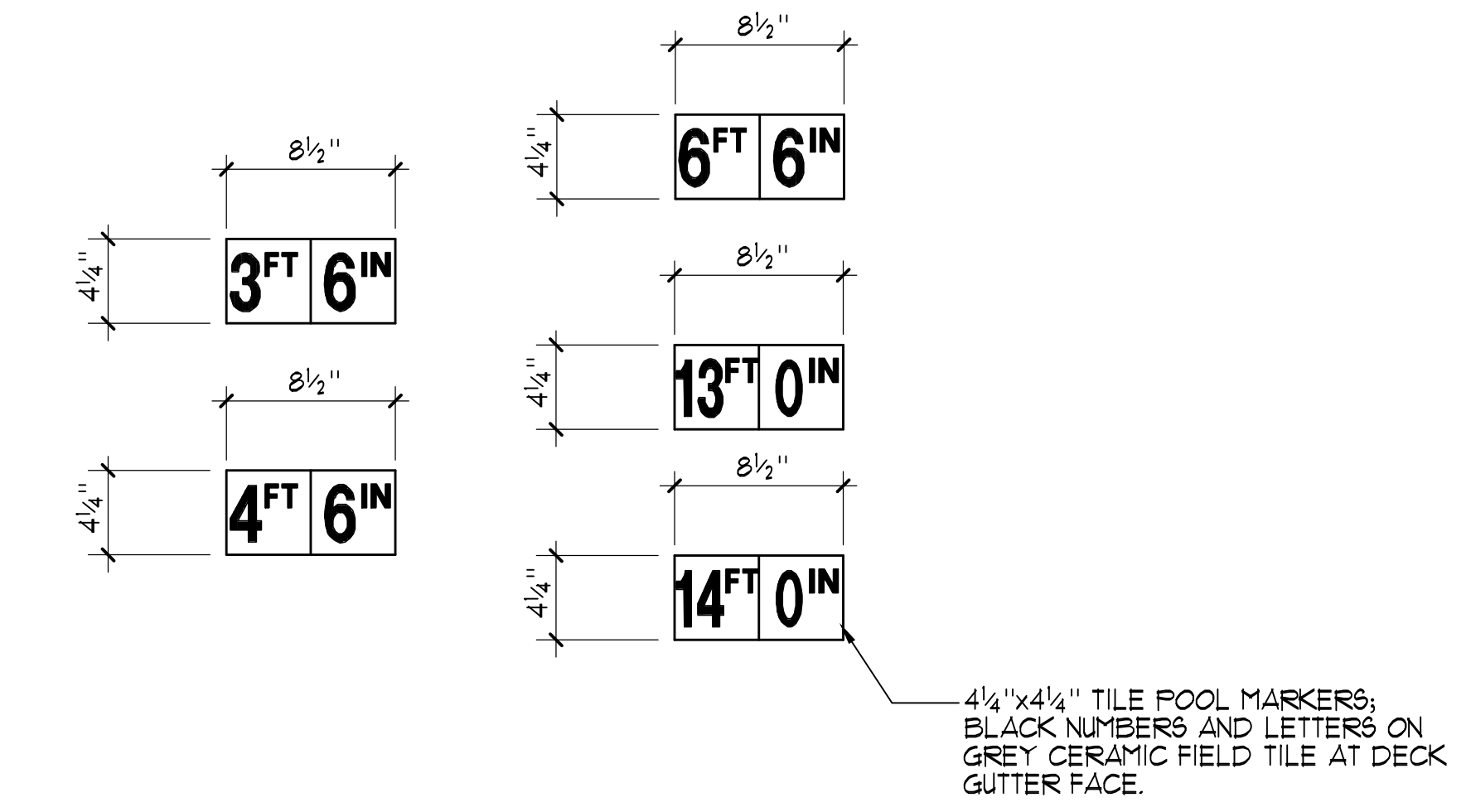
NOTE: PLACE IN DECK AT ALL DEPTH MARKER LOCATIONS 6'-0" AND SHALLOWER

SILK SCREEN

1. 6"x6" INLAYS DOUBLE GLAZED WHITE SLIP RESISTANT TILE TYP. OF (1) PIECE OVER 1/4" MORTAR BED WITH 1/8" GROUT JOINTS. SEE PLAN FOR LOCATION.
2. 1" WIDE RED CIRCLE WITH 1" WIDE RED DIAGONAL LINE.
3. 1/8" BLUE WATER.
4. 1/16" RED TICKS ABOUT THE HEAD.
5. TAN COLOR BODY WITH BLACK OUTLINE, HAIR AND TRUNKS.
6. 1/8" BLACK POOL FLOOR.



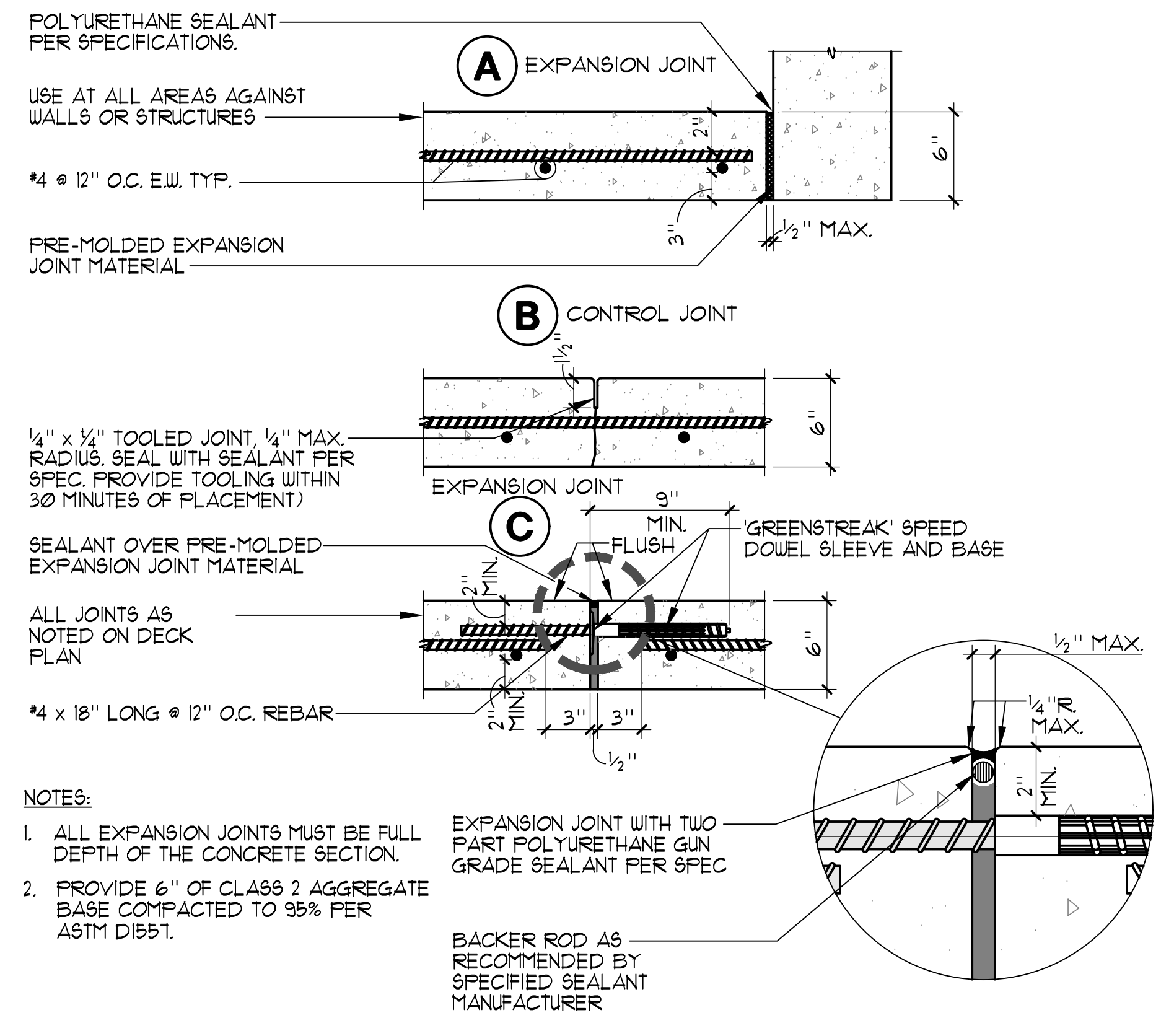
PROVIDE DEPTH MARKERS ON DECK AND FRONT CANTILEVER DECK FACE AT ALL DEPTH MARKER LOCATIONS. DEPTH MARKERS SHALL BE SLIP RESISTANT ON POOL DECK.



1 INTERNATIONAL 'NO DIVING' MARKER 1/2" = 1'-0"

2 DEPTH MARKERS (ON DECK) 1/2" = 1'-0"

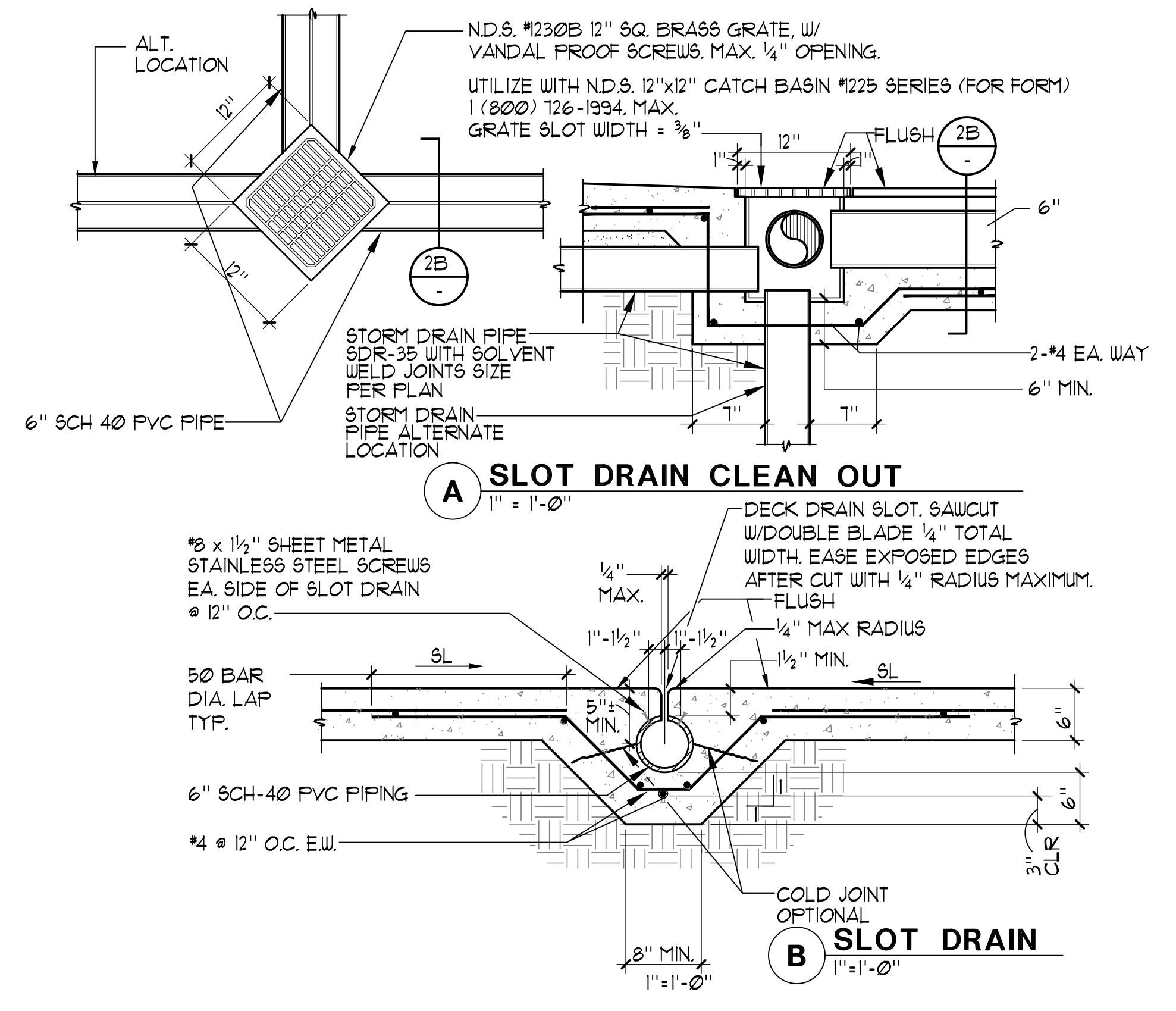
3 DEPTH MARKERS (AT CANTILEVER DECK FACE) 1/2" = 1'-0"



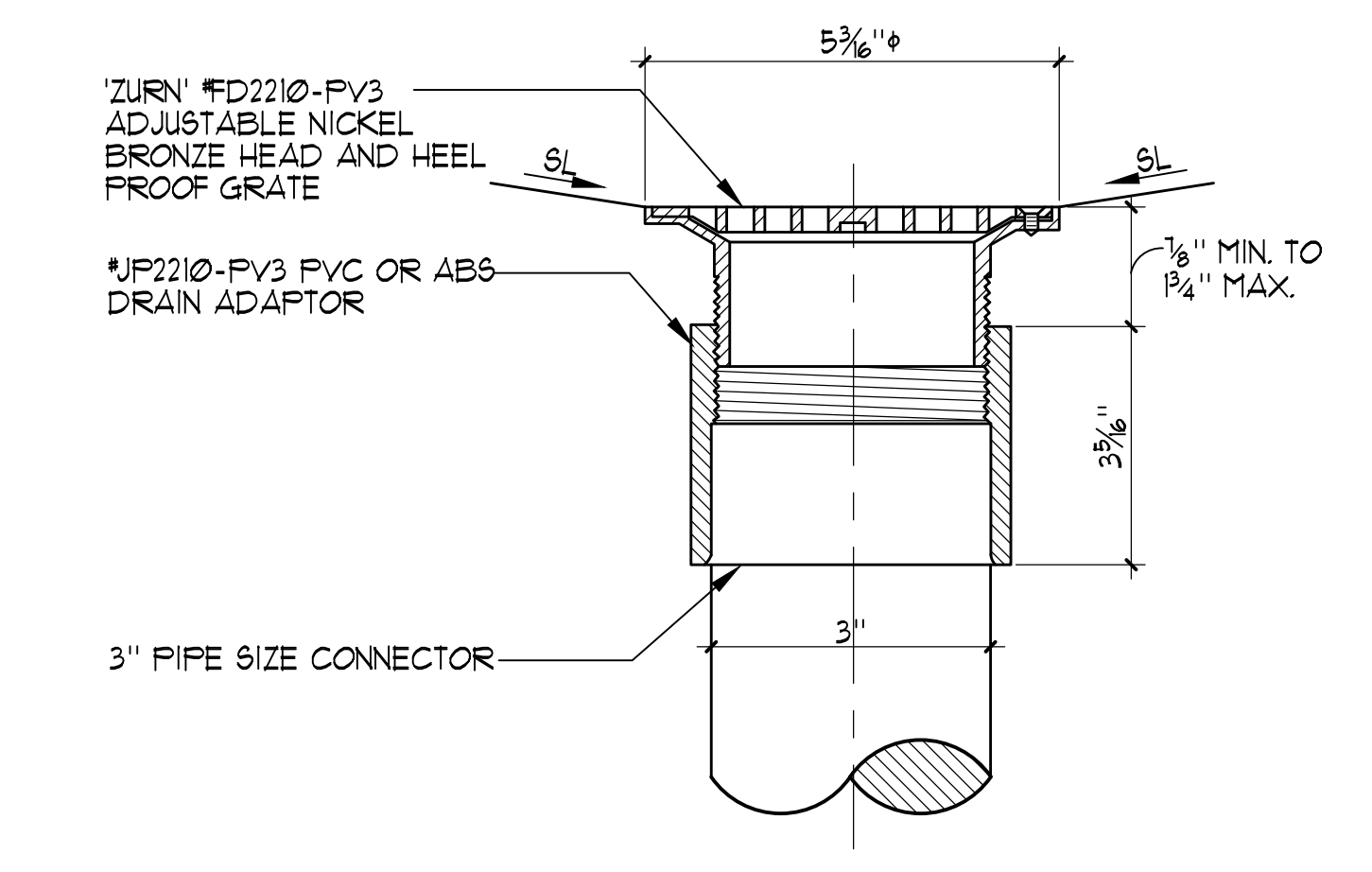
NOTES:

1. ALL EXPANSION JOINTS MUST BE FULL DEPTH OF THE CONCRETE SECTION.
2. PROVIDE 6" OF CLASS 2 AGGREGATE BASE COMPACTED TO 95% PER ASTM D1557.

4 (N) CONCRETE DECK JOINT DETAILS 1/2" = 1'-0"



5 (N) SLOT DRAIN DETAIL AS NOTED



6 (N) DECK/AREA DRAIN 1/2" = 1"

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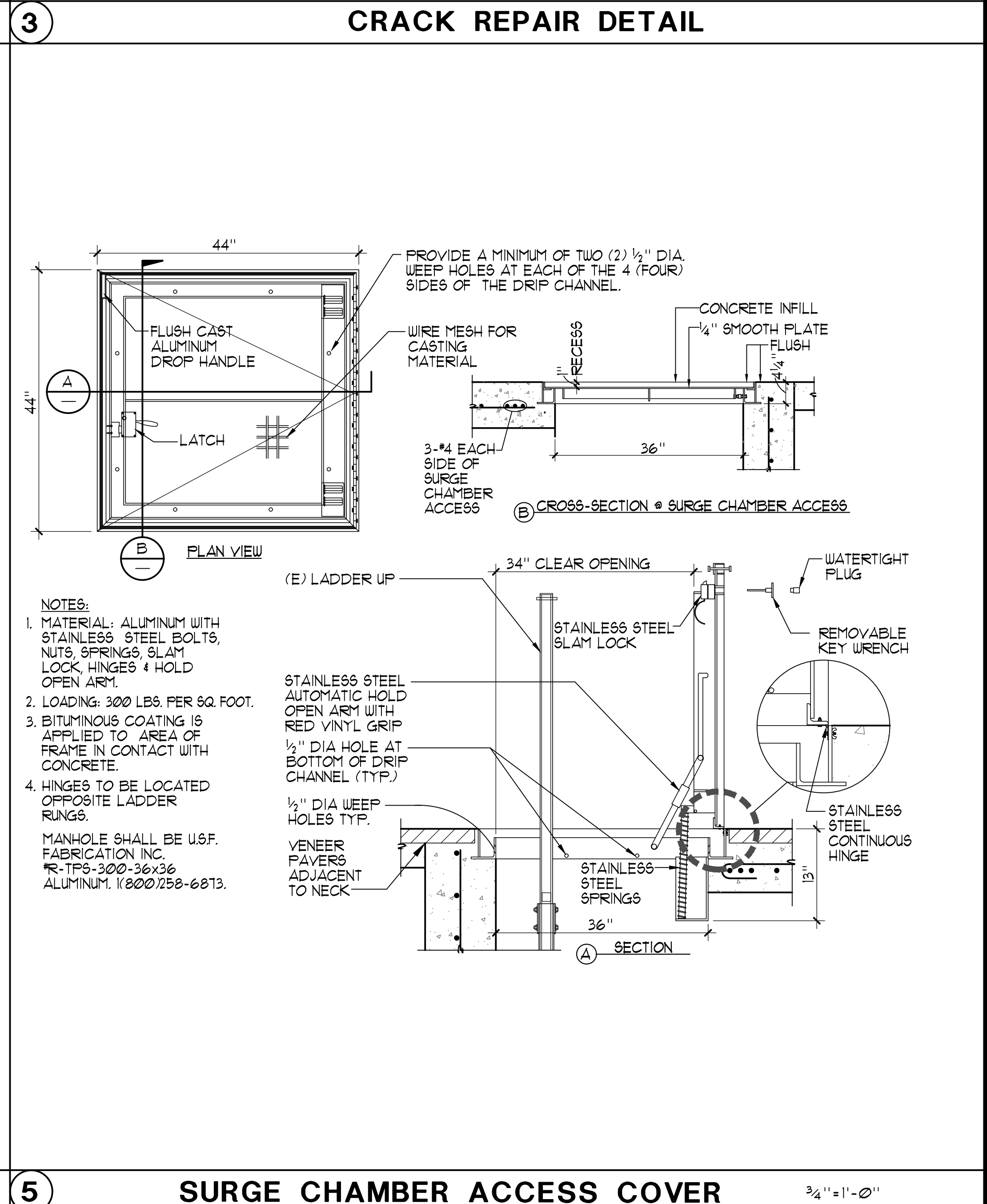
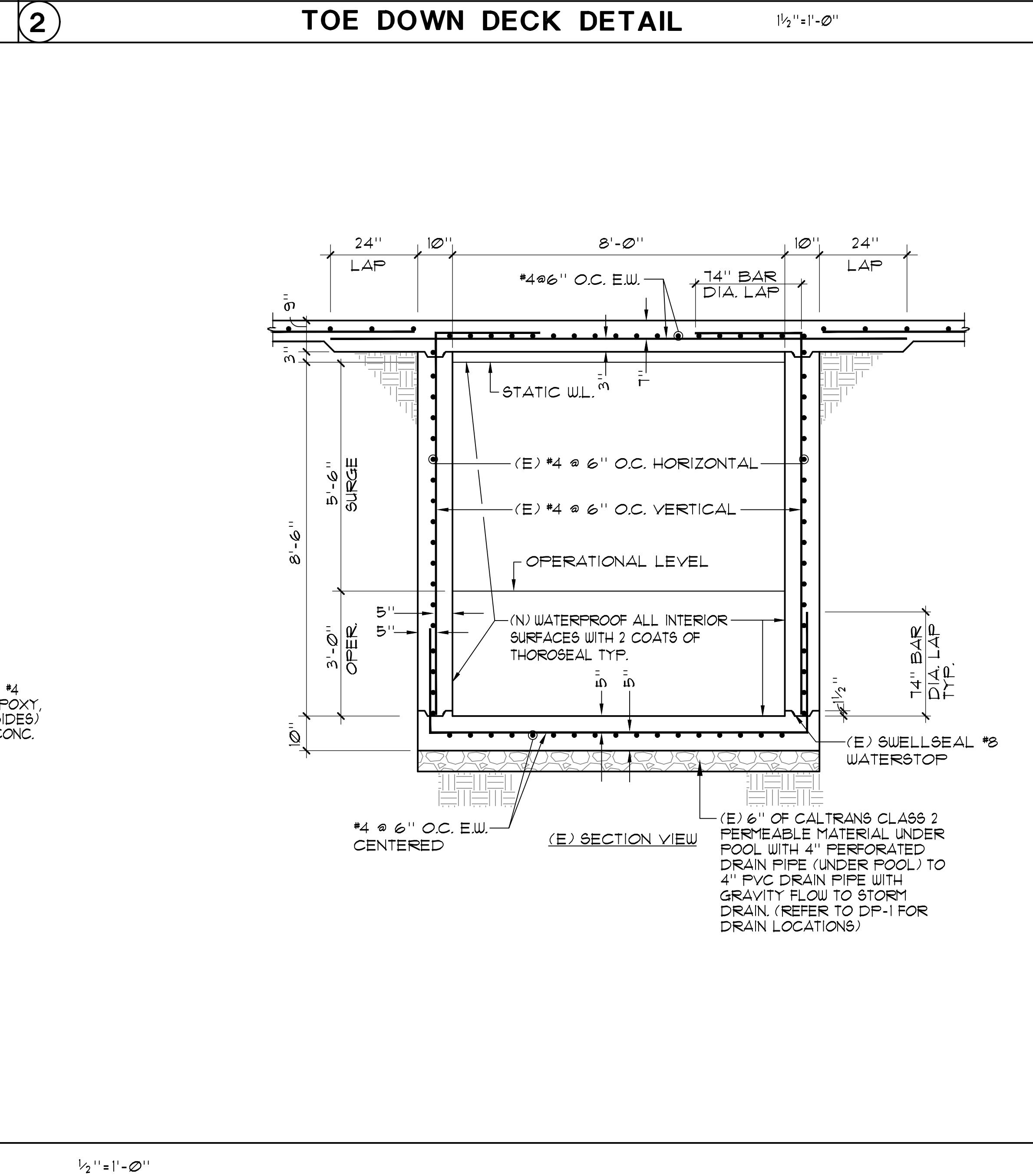
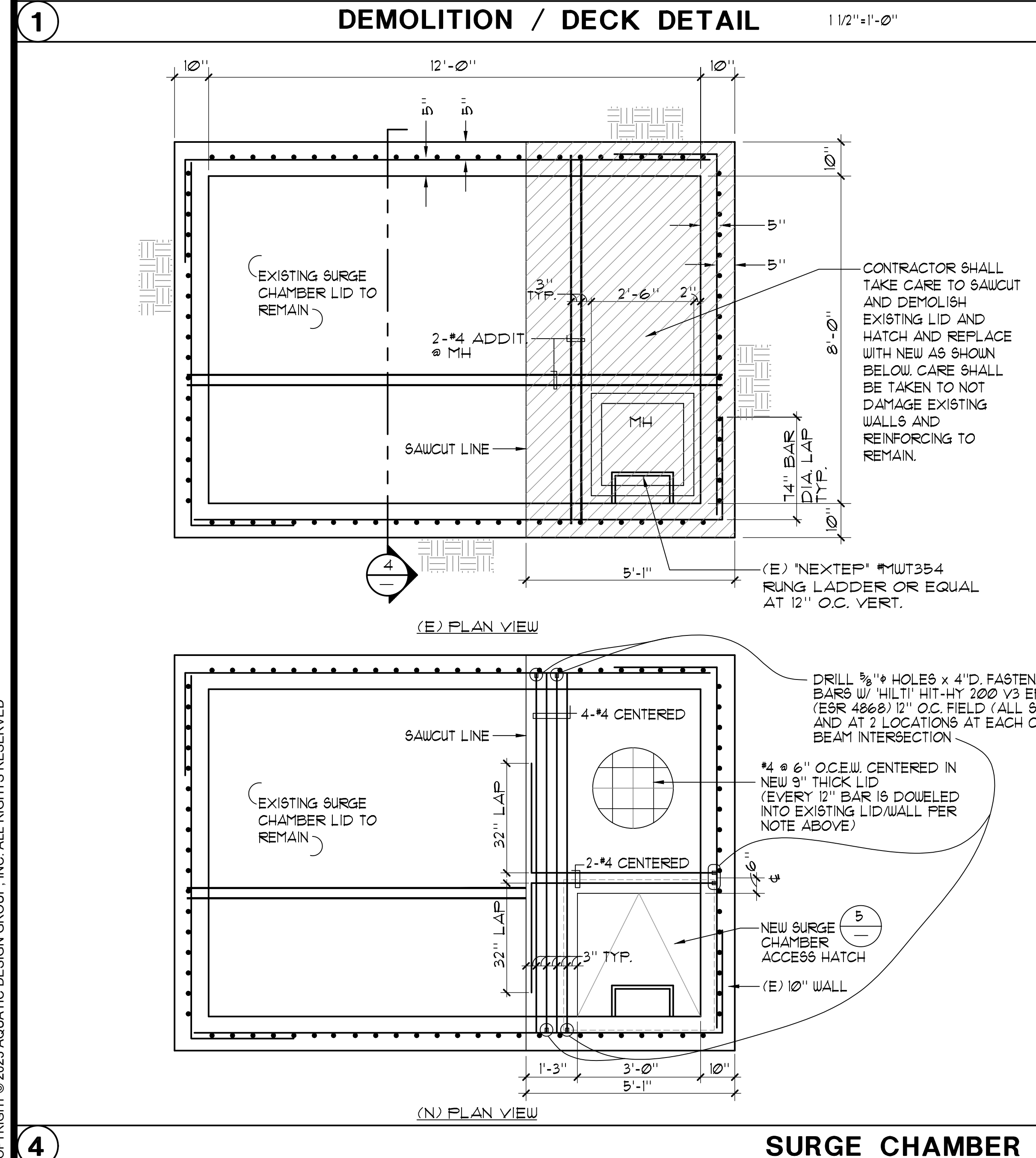
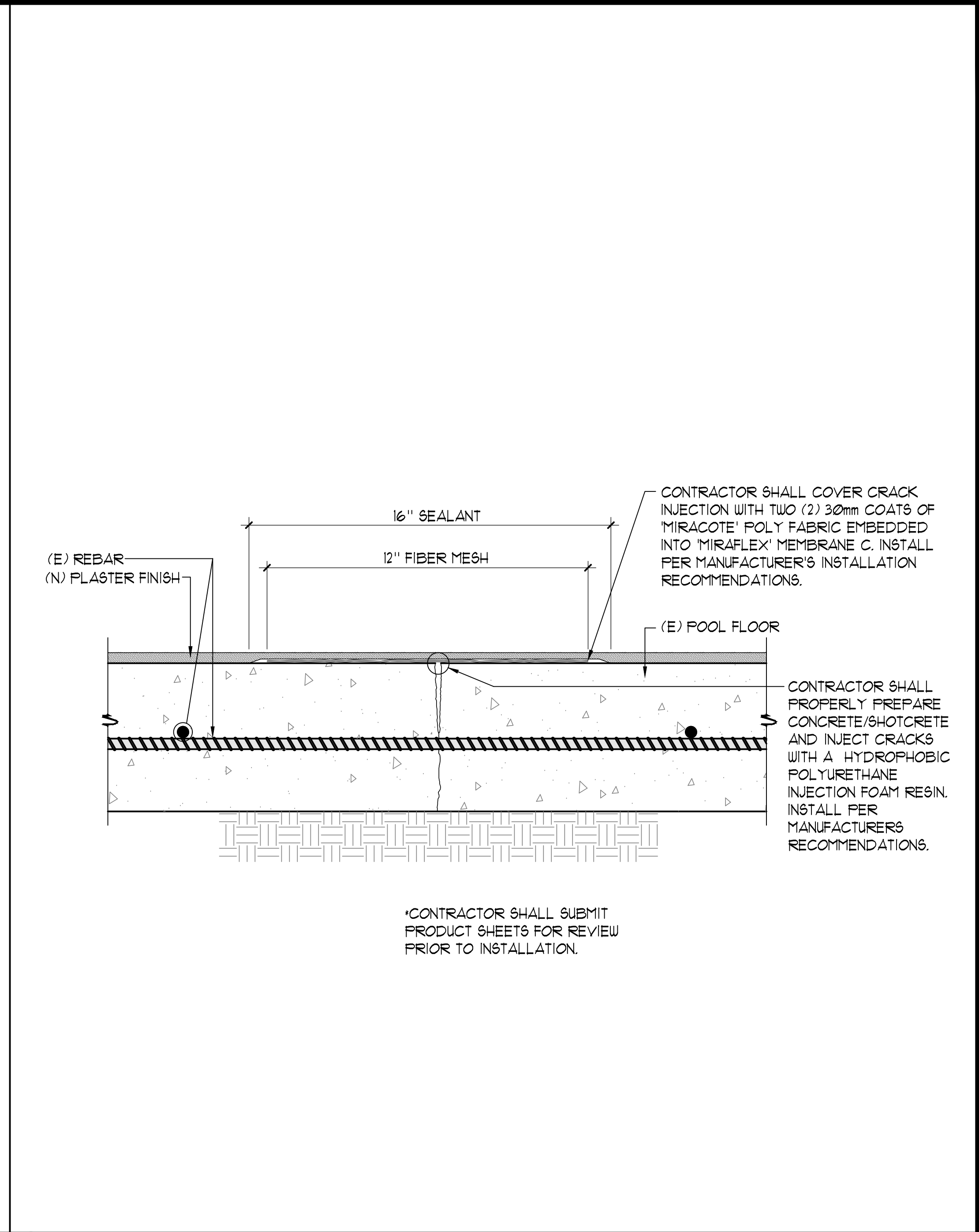
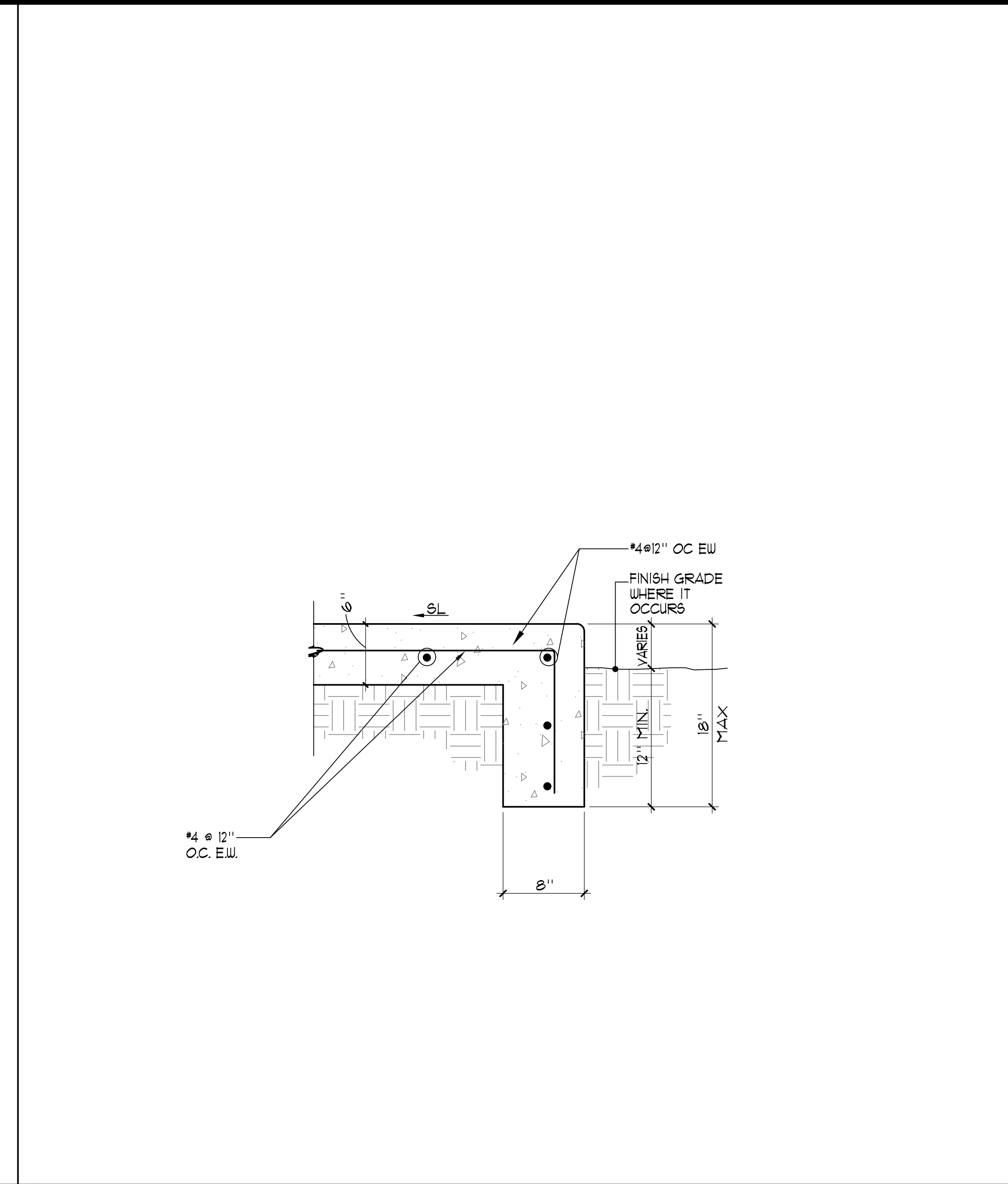
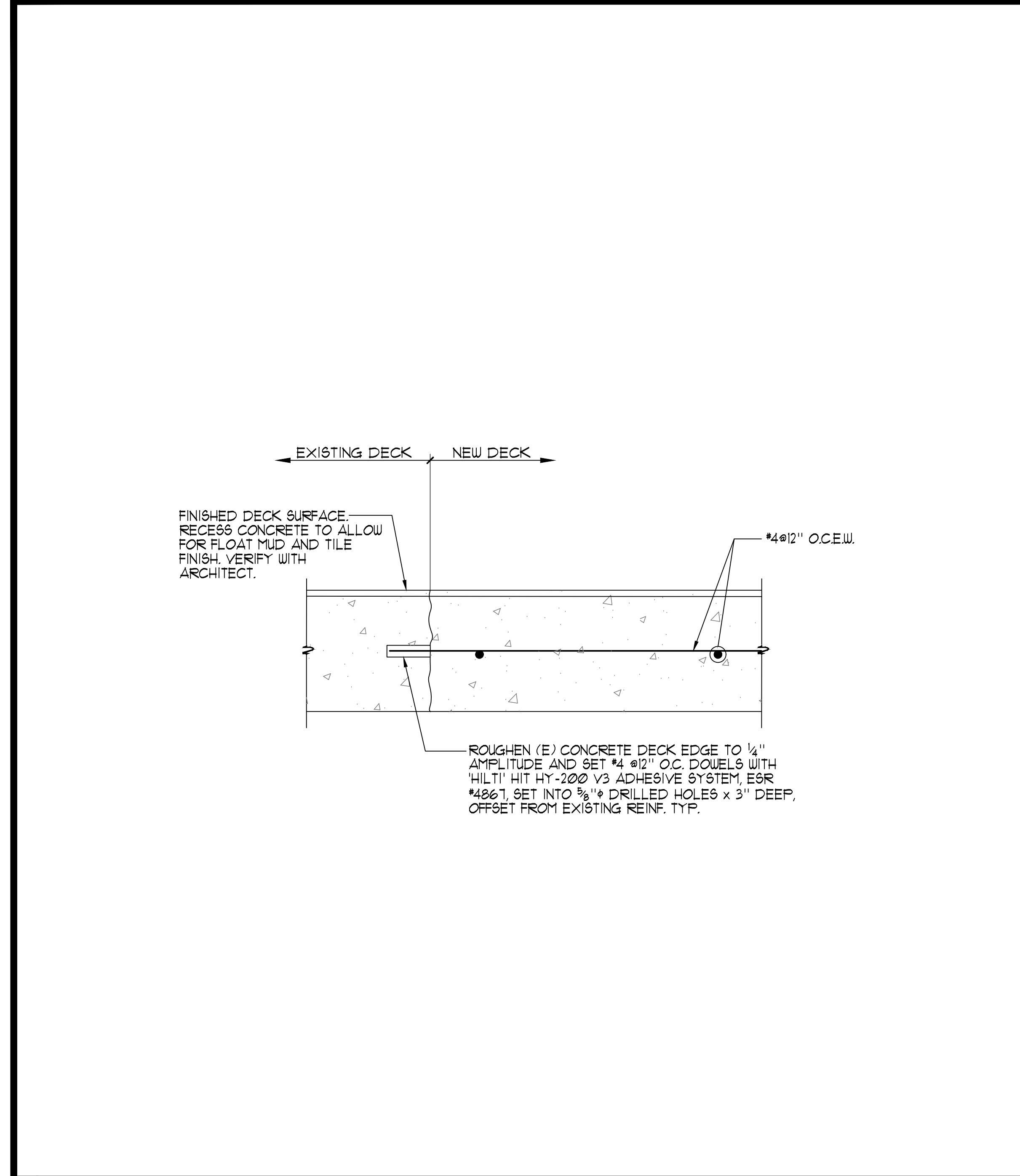
SEAL



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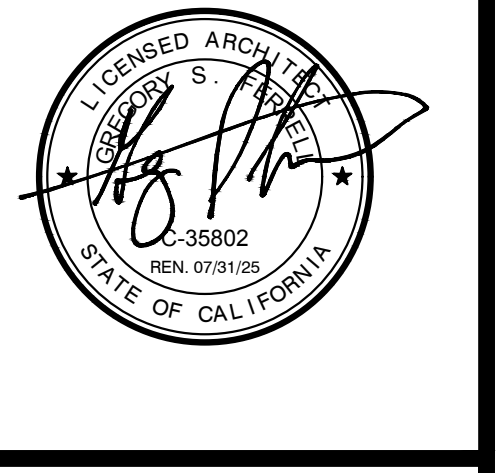
PROJECT INFORMATION
**LAS POSITAS COLLEGE
 AQUATIC CENTER RENOVATION**
 3033 COLLIER CANYON ROAD
 LIVERMORE, CALIFORNIA 94551

REVISIONS

NO.	DATE	DESCRIPTION
1	2/21/24	ADDENDUM 2

LOGO

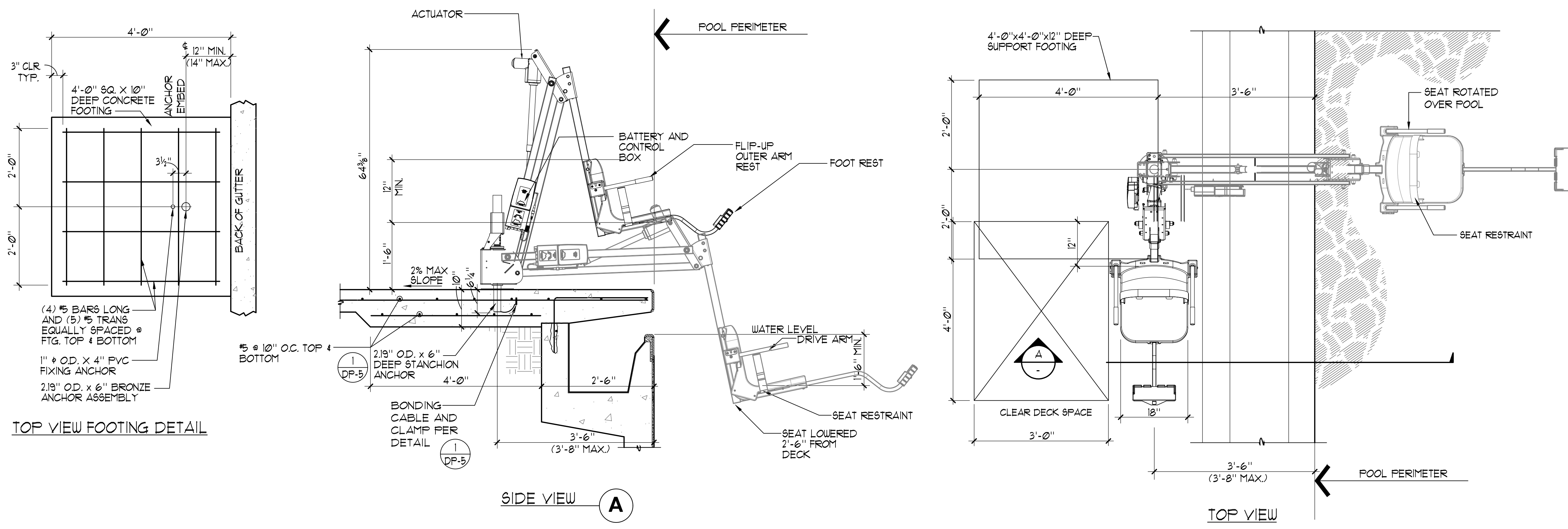
SEAL



DRAWING TITLE
DETAILS

PROJECT NO.	2023.037
DRAWN BY	GSF
CHECKED BY	GSF
DATE	10/16/23
DRAWING NO.	

DP-9



- NOTES:**
1. 'AQUA CREEK' MIGHTY 400 F-MTY 400 (350 lb. MIN. AND 400 lb. MAX. LIFTING CAPACITY) OR APPROVED EQUAL.
 2. GUSSET COVER FLATE TO BE ATTACHED REQUIRING A TOOL FOR REMOVAL.
 3. CONTRACTOR SHALL PROVIDE COVER FOR LIFT 'AQUA CREEK'; EXTRA BATTERY PACK 'AQUA CREEK' F-004AB; AND TRANSPORTER CART 'AQUA CREEK' F-MTTC.
 4. REFER TO ARCH. PLANS FOR LOCATION OF DISABLED LIFT BATTERY CHARGE STATION. PROVIDE 'AQUA CREEK' CHARGER *F-044GH.
 5. POOL LIFT SHALL BE LOCATED WHERE THE WATER LEVEL IS AT LEAST 36" AND DOES NOT EXCEED 48" DEEP, UNLESS ENTIRE POOL IS GREATER THAN 48" DEEP. (CBC SECTION 11B-10092.1)
 6. ON THE RAISED POSITION, THE CENTERLINE OF THE SEAT SHALL BE LOCATED OVER THE DECK AND 16" MINIMUM FROM THE EDGE OF THE POOL. THE DECK SURFACE BETWEEN THE CENTERLINE OF THE SEAT AND THE POOL EDGE SHALL HAVE A 2% MAX. SLOPE. (CBC SECTION 11B-10092.2)
 7. CLEAR DECK SPACE SHALL BE PROVIDED ON SIDE OF SEAT OPPOSITE THE WATER PARALLEL TO THE WATER 36" WIDE x 48" MINIMUM FROM A LINE LOCATED 12" BEHIND THE REAR EDGE OF THE SEAT. THE CLEAR SPACE SHALL HAVE A 2% MAX. SLOPE. (CBC SECTION 11B-10092.3)
 8. THE HEIGHT OF THE LIFT SEAT SHALL BE DESIGNED TO ALLOW A STOP AT 17" MIN. TO 19" MAX. MEASURED FROM THE DECK TO THE TOP OF THE SEAT SURFACE WHEN IN THE RAISED POSITION. (CBC SECTION 11B-10092.4)
 9. THE SEAT SHALL BE RIGID AND 17" MIN. TO 19" MAX. WIDE. THE LIFT SEAT SHALL HAVE A BACK SUPPORT 17" MIN. TALL. (CBC SECTION 11B-10092.4)
 10. FOOTRESTS SHALL BE PROVIDED EXCEPT FOR SPA LIFTS, AND SHALL MOVE WITH THE SEAT. LIFT SHALL HAVE TWO ARRESTS. THE ARREST POSITIONED OPPOSITE THE WATER SHALL BE REMOVABLE OR SHALL FOLD CLEAR OF THE SEAT WHEN THE SEAT IS IN THE RAISED POSITION. (CBC SECTION 11B-10092.6)
 11. THE LIFT SHALL BE CAPABLE OF UNASSISTED OPERATION FROM BOTH THE DECK AND WATER LEVELS. CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL BE UNOBSTRUCTED WHEN THE LIFT IS IN USE. (CBC SECTION 11B-3093.4). LIFT MUST BE STABLE AND NOT PERMIT UNINTENDED MOVEMENT WHEN A PERSON IS GETTING INTO OR OUT OF THE SEAT. (CBC SECTION 11B-10092.7)
 12. THE LIFT SHALL BE DESIGNED SO THAT THE SEAT WILL SUBMERGE TO A WATER DEPTH OF 18" MIN. BELOW THE STATIONARY WATER LEVEL. (CBC SECTION 11B-10092.8)
 13. LIFT SEAT MUST HAVE AN OCCUPANT RESTRAINT FOR USE BY THE OCCUPANT OF THE SEAT AND THE RESTRAINT MUST MEET THE STANDARDS FOR OPERABLE CONTROLS IN COMPLIANCE WITH CBC SECTION 11B-10092.4 AND SECTION 11B-3093.

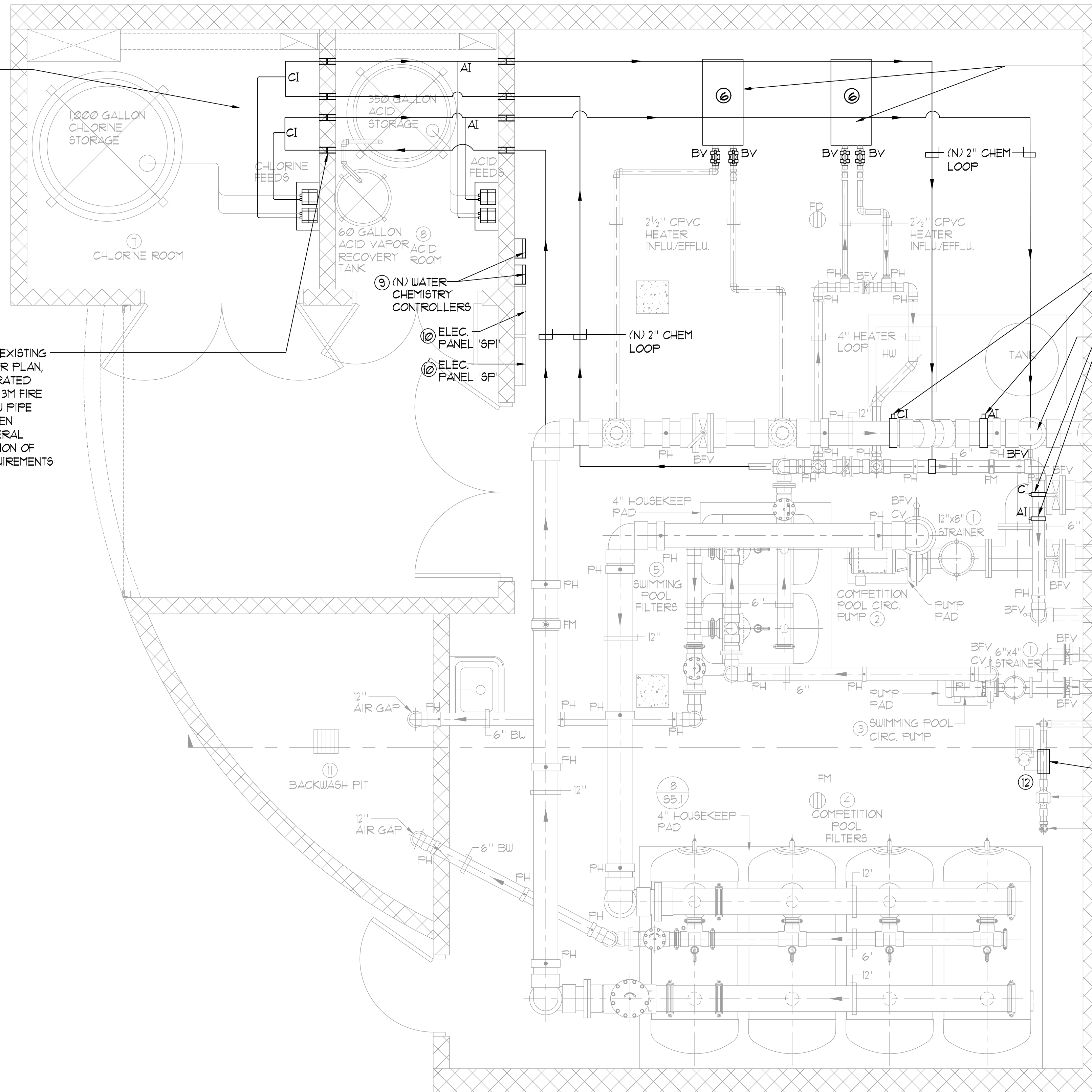
1 ACCESSIBLE LIFT 3/4" = 1'-0"

NEW/ EXISTING EQUIPMENT LIST

- ① (E) COMPETITION POOL/SWIMMING POOL CIRCULATION PUMP: MER-MADE' F.O. SERIES FRP REDUCING BASKET STRAINERS, ONE (1) 12"x8" STANDARD AND ONE (1) 6"x4" STANDARD WITH ACRYLIC LID AND TWO (2) STAINLESS STEEL STRAINERS EA. (50lbs.) TWO (2) TOTAL.
- ② (E) COMPETITION POOL CIRCULATION PUMP: PACO 6035-1: 6"x8"x15" TYPE LC END SUCTION CENTRIFUGAL PUMP, 1150 RPM, 460V 3PH, 40HP, RATED AT 1550 GPM @ 65 FT TDH, 81% EFFICIENT, PREMIUM EFFICIENCY TEFC MOTOR, EPOXY COAT ALL WET SURFACES. PACO, AURORA OR EQUAL. (1170lbs.)
- ③ (E) SWIMMING POOL CIRCULATION PUMP: PACO 5035-5: 3"x4"x9 1/2" TYPE LC END SUCTION CENTRIFUGAL PUMP, 1150 RPM 460V 3PH, 10HP, RATED AT 330 GPM AT 65 FT. TDH, 81% EFFICIENT, PREMIUM EFFICIENCY TEFC MOTOR EPOXY COAT ALL WET SURFACES PACO, AURORA, OR EQUAL. (160lbs.)
- ④ (E) COMPETITION POOL FILTERS: EKO SYSTEMS 42-215-4 AFC FULLY AUTOMATIC HI-RATE PERMANENT MEDIA FILTER WITH 110 SQ. FT. OF FILTER AREA RATED AT 1650 GPM AT 15 GPM/SQ. FT. COMPLETE WITH 12" FACE PIPING, 6" BACKWASH, SEISMIC ANCHORAGE. PROVIDE ALL UTILITIES, PIPING VALVING, ETC. (1215 lbs. EA. TANK) EKO3 SYSTEMS OR EQUAL. PROVIDE SIGNET MK-515 FLOSENSOR WITH DIGITAL READ-OUT.
- ⑤ (E) SWIMMING POOL FILTERS: EKO3 SYSTEMS 34-126-2 AFC FULLY AUTOMATIC HI-RATE PERMANENT MEDIA FILTER WITH 252 SQ. FT. OF FILTER AREA RATED AT 403 GPM AT 16 GPM/SQ. FT. COMPLETE WITH 6" FACE PIPING, 6" BACKWASH, SEISMIC ANCHORAGE. PROVIDE ALL UTILITIES, PIPING VALVING, ETC. (5100 lbs. EA. TANK) EKO3 SYSTEMS OR EQUAL. PROVIDE SIGNET MK-515 FLOSENSOR WITH DIGITAL READ-OUT.
- ⑥ (N) POLARIS PLATE HEAT EXCHANGERS: REPLACE IN KIND WITH SAME MODEL NUMBER AND FLOW RATE. CONTRACTOR SHALL FIELD VERIFY WITH MANUFACTURER PRIOR TO ORDERING. PROVIDE NEW INFLUENT AND EFFLUENT VALVING. TWO (2) SYSTEMS TOTAL.
- ⑦ (E) CHLORINE STORAGE/FEED SYSTEM: PROVIDE ONE (1) CHEM-TAINER 1000 GALLON #CT1485DC (8340 lbs.) DUAL STORAGE/CONTAINMENT TANK WITH LID SEISMICALLY RESTRAINED. (2915 lbs.) COMPLIES WITH FED. REG. 40CFR-264-163. COMPETITION POOL FEED PUMP SHALL BE LMI #SD43-28F-KS1: 288 GPD @ 150 PSI WITH FRP SHELF BRACKET. PROVIDE NEW FEED PIPING FROM (E) FEED PUMP TO NEW CHEMICAL LOOP PIPING.
- ⑧ (E) ACID STORAGE/FEED SYSTEM: PROVIDE CHEM-TAINER 350 GALLON #CS256DC; DUAL STORAGE/CONTAINMENT TANK WITH LID SEISMICALLY RESTRAINED. (2915 lbs.) COMPLIES WITH FED. REG. 40CFR-264-163. COMPETITION POOL FEED PUMP SHALL BE LMI #SD43-28F-KS1: 288 GPD @ 150 PSI WITH FRP SHELF BRACKET. (N) SWIMMING POOL FEED PUMP SHALL BE LMI #B121-39291: 60 GPD @ 100 PSI WITH FRP SHELF BRACKET. RECHARGE EXISTING COMPLETE ACID VAPOR RECOVERY SYSTEM. PROVIDE NEW FEED PIPING FROM FEED PUMP TO NEW CHEMICAL LOOP PIPING.
- ⑨ (N) WATER CHEMISTRY CONTROLLERS: PROVIDE ETHERNET CONNECTION TO BECSYS CS-BECSYS1-BF-E WATER CHEMISTRY CONTROLLER. PROVIDE COMPLETE SYSTEM CONTROL PACKAGE WITH NEW AUTO FILTER CONTROL. BECSYS SYSTEM 1, IMPACT, WALLACE & TIERNAN OR APPROVED EQUAL. TWO (2) TOTAL.
- ⑩ ELECTRICAL: PROVIDE ALL ELECTRICAL WIRING, CONDUIT, PANEL(S) STARTER/DISCONNECT INTERCONNECT(S) ETC. AS REQUIRED FOR PROPER EQUIPMENT INSTALLATION PER MANUFACTURERS RECOMMENDATIONS AND SHOP DRAWINGS. COORDINATE ALL WORK WITH OTHER TRADES AS REQUIRED. REFER TO ELEC. PLANS FOR ALL ADDITIONAL INFO.
- ⑪ (E) BACKWASH PIT: 12'-0" X 12'-6" X 1'-0" TALL WITH 2" P-TRAP OUTLET TO SEWER. PROVIDE TWO COATS THOROSEAL COATING ON ALL INTERIOR SURFACES. COORDINATE WITH STRUCTURAL AND PLUMBING PLANS.
- ⑫ (E) FILL SYSTEM: 3" GLA-VAL FILL SYSTEM FROM DOMESTIC SOURCE PROTECTED WITH REDUCED PRESSURE BACKFLOW PREVENTOR. PROVIDE #124-01AKX-3" VALVE WITH CIXX FLOAT CONTROL IN 8" PVC STILLING WELL IN SURGE CHAMBER. TWO (2) SYSTEMS TOTAL. PROVIDE HONEYWELL AMCO EVOQ4 ELECTROMAGNETIC FLOW METER 3" SIZE SO OWNER CAN SUBMETER THEIR WATER USAGE. PROVIDE WITH DISPLAY AND LEAD WIRE AND DISPLAYED IN U.S. GALLONS.

CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING CHLORINE GENERATION SYSTEM CURRENTLY INSIDE THE CHLORINE ROOM AND CAP ANY PIPING THAT NEEDS TO REMAIN OFF ORIGINAL POOL FILTRATION SYSTEM COMPLETE.

CONTRACTOR SHALL CORE THROUGH EXISTING WALL FOR NEW 2" CHEMICAL LOOP PER PLAN, TYP. AND IN COMPLIANCE WITH 1 HR RATED SPACE REQUIREMENTS AND PROVIDE 3M FIRE CAULK AND SUPPORT PIPING WITH NEW PIPE HANGERS NOT TO EXCEED 6FT BETWEEN SUPPORTS AND SHALL PROVIDE LATERAL BRACING AT AND CHANGE OF DIRECTION OF PIPE TO MEET SEISMIC BRACING REQUIREMENTS PER CODE.



NOTE:
CONTRACTOR SHALL BALANCE OUT SYSTEM WITH ADDITION OF NEW CHEMICAL LOOPS AND PROVIDE ANY ADDITIONAL VALVING AS REQUIRED TO PROVIDE ANGLE WATER DIVERSION INTO CHEMICAL LOOPS AND STILL PROVIDE PROPER FLOW THROUGH HEAT EXCHANGERS AS REQUIRED PER MANUFACTURER OF HEAT EXCHANGER FIELD VERIFY ALL CONDITIONS.

CONTRACTOR SHALL VERIFY EXISTING HEAT EXCHANGER MODELS AND REPLACE WITH NEW EQUIVALENT TO EXISTING AND PROVIDE NEW VALVING AT EACH HEAT EXCHANGER FROM HEATER LOOP ON BOTH POOL WATER AND DOMESTIC WATER SIDE. FIELD VERIFY ALL CONDITIONS WHICH MAY NOT MATCH THIS PLAN EXACTLY DUE TO AS BUILT CONDITIONS.

CONTRACTOR SHALL REMOVE EXISTING CHEMICAL FEED TUBES AND PROPERLY CAP AND ABANDON EXISTING CHEMICAL INJECTION POINTS AND PROVIDE A NEW CHEMICAL FEED LOOP WITH NEW INJECTION POINTS INTO EACH RESPECTIVE CHEMICAL ROOM.

CONTRACTOR SHALL REMOVE AND REPLACE EXISTING EFFLUENT BUTTERFLY VALVE THAT HAS CEASED UP. REPLACE WITH NEW 12" VALVE LINK SEAL TYP.

12" COMPETITION POOL FLOOR INLET RETURN

12" COMPETITION POOL SURGE CHAMBER SUCTION

12" COMPETITION POOL MAIN DRAIN SUCTION

6" SWIMMING POOL FLOOR INLET RETURN

6" SWIMMING POOL SURGE CHAMBER SUCTION

6" SWIMMING POOL MAIN DRAIN SUCTION

⑫ 3" TO POOL FILL @ SURGE CHAMBER

REMOVE (E) SPECTRUM COLD WATER BOOSTER PUMP SYSTEM AND INSTALL NEW HONEYWELL AMCO EVOQ4 FLOW METER FOR SUBMETER WATER MANAGEMENT

THREE PHASE MOTOR LOADS AT 460V

COMPETITION POOL CIRCULATION PUMP: 40 HP @ 460V.	=	52 AMPS
SWIMMING POOL CIRCULATION PUMP: 10 HP @ 460V.	=	14 AMPS
TOTAL AMPS	=	66 AMPS

LEGEND

- BV = BALL VALVE
- BFV = BUTTERFLY VALVE
- CV = CHECK VALVE
- FM = FLOUMETER
- AI = ACID INJECTION
- CI = CHLORINE INJECTION
- PH = PIPE HANGER
- FD = FLOOR DRAIN
- RFBFP = REDUCED PRESSURE BACKFLOW PREVENTOR
- (N) = NEW
- (E) = EXISTING



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REVISIONS

NO.	DATE	DESCRIPTION
1	2/21/24	ADDENDUM 2

LOGO



DRAWING TITLE
NEW/ EXISTING MECHANICAL ROOM LAYOUT PLAN

PROJECT NO.	2023.037
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DATE	10/16/23
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MR-1



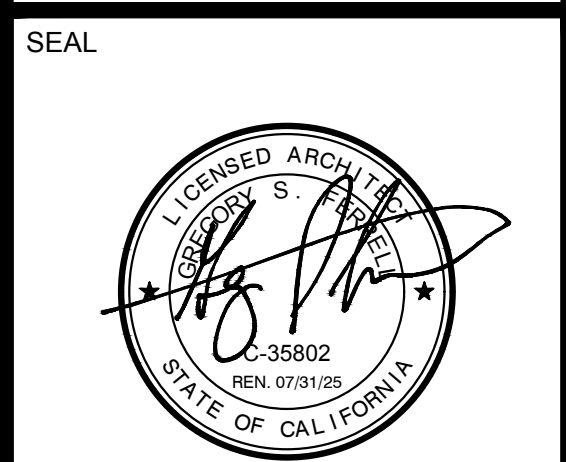
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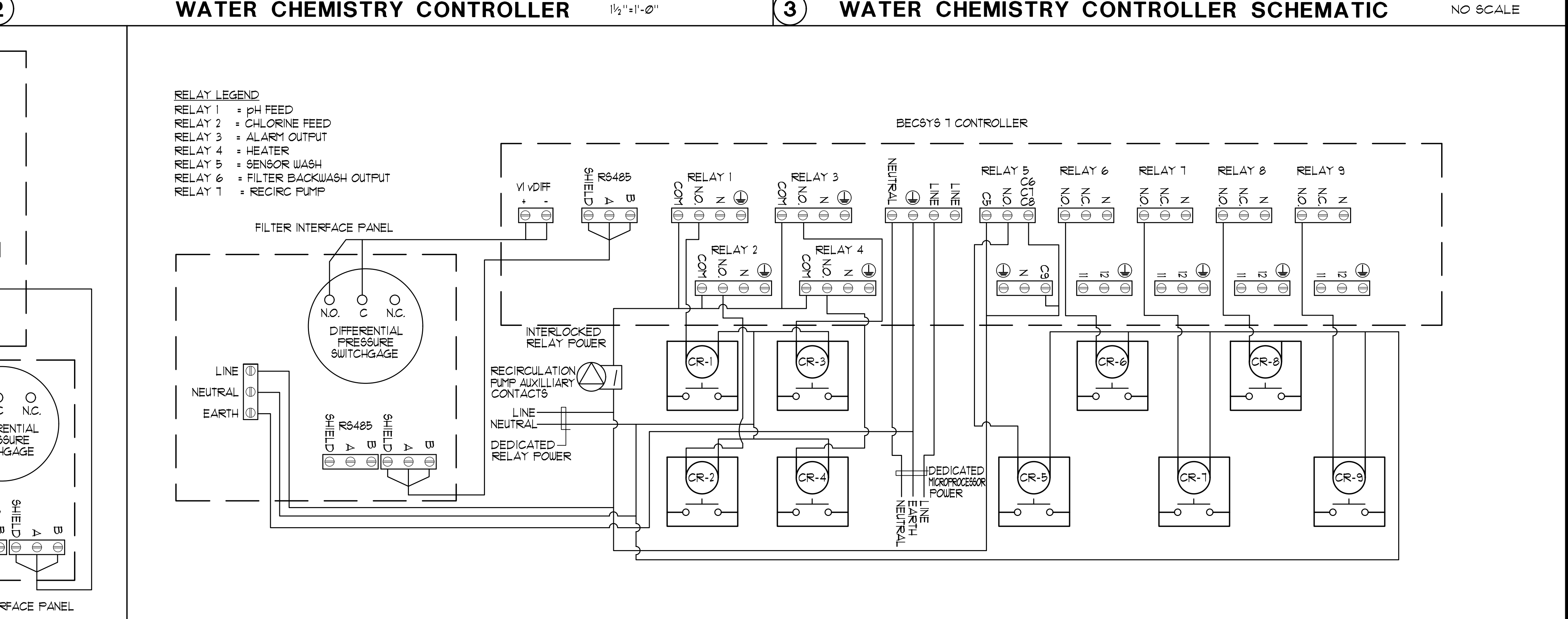
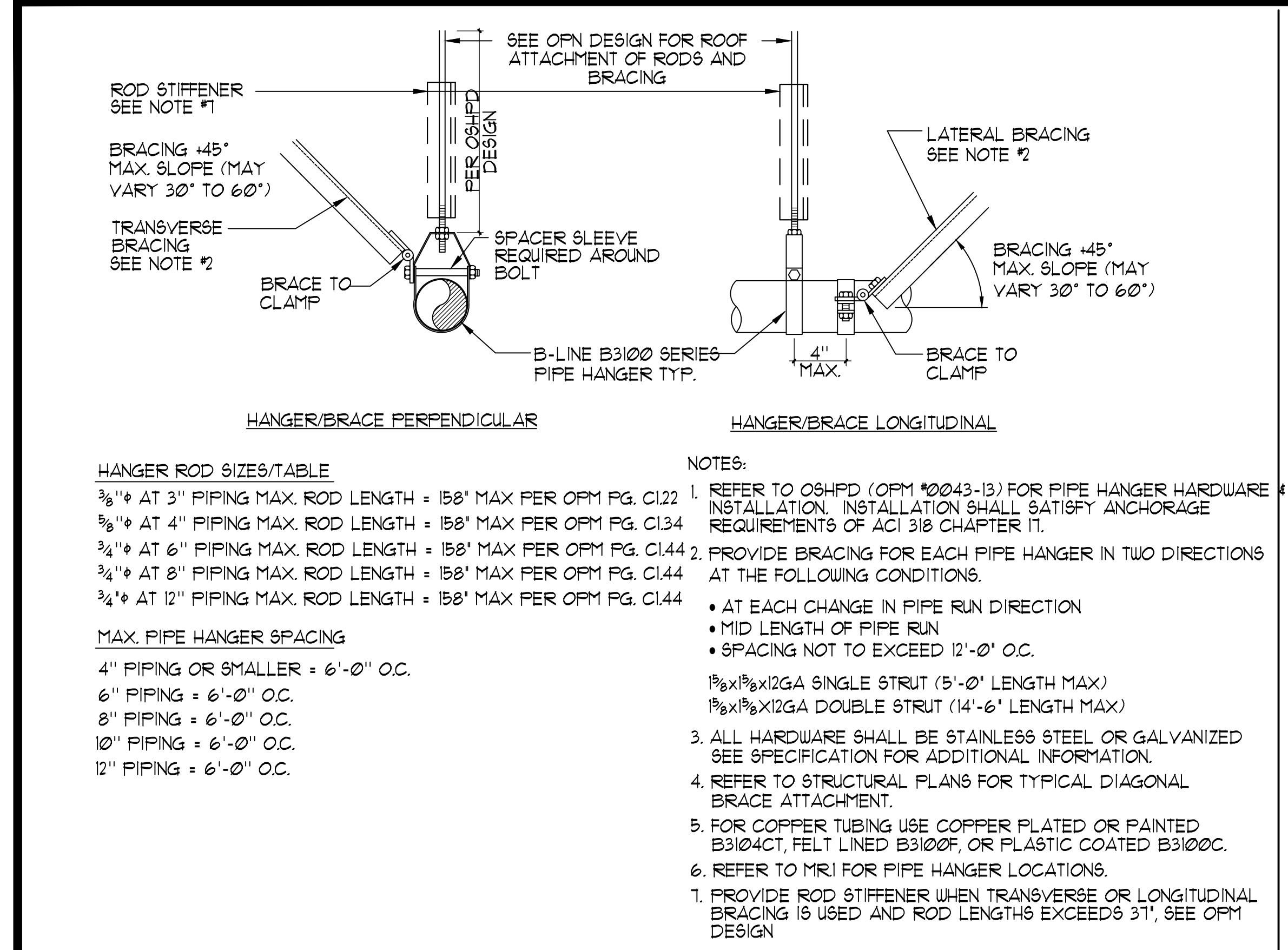
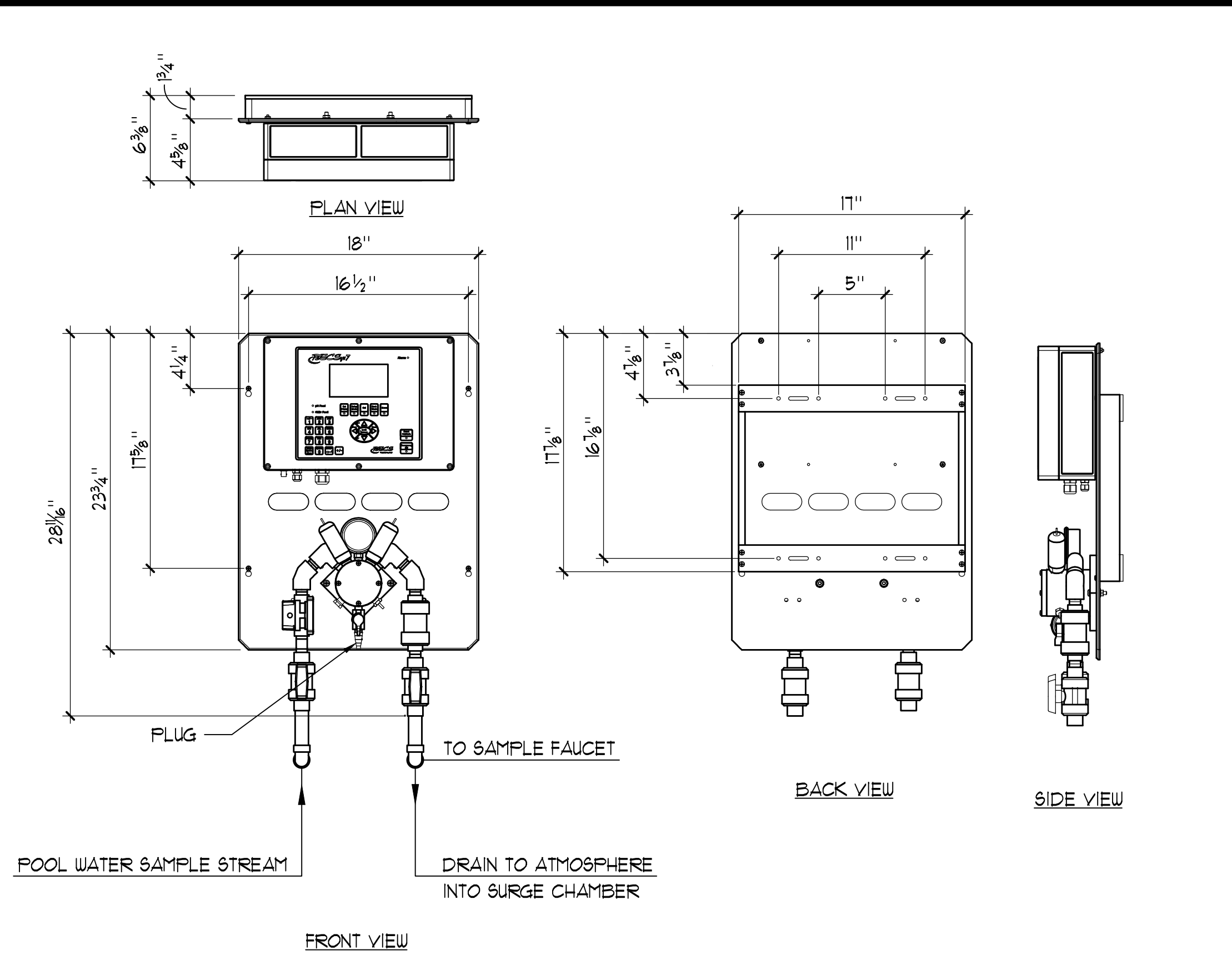
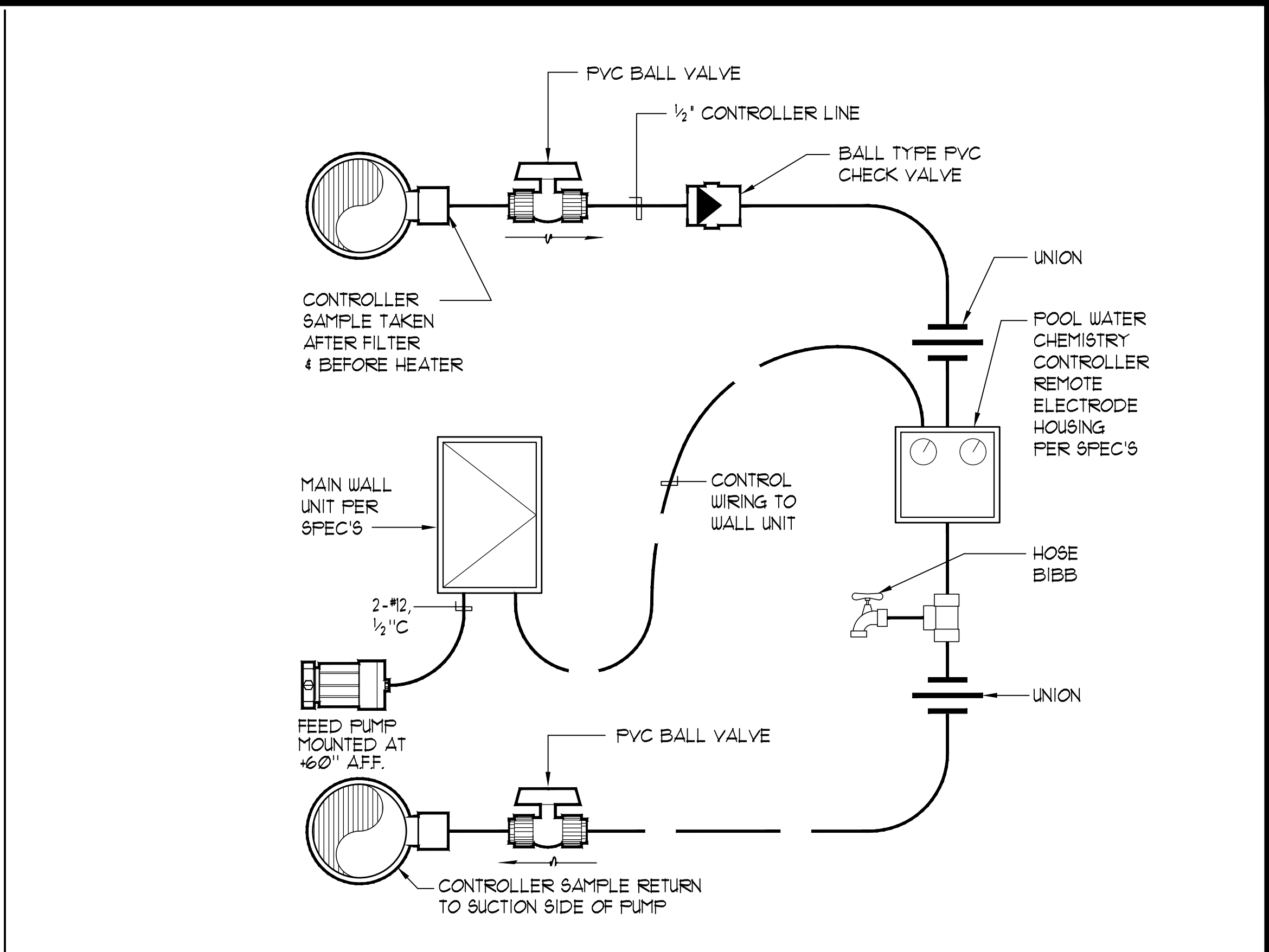
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LOGO



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MECHANICAL ROOM DETAILS

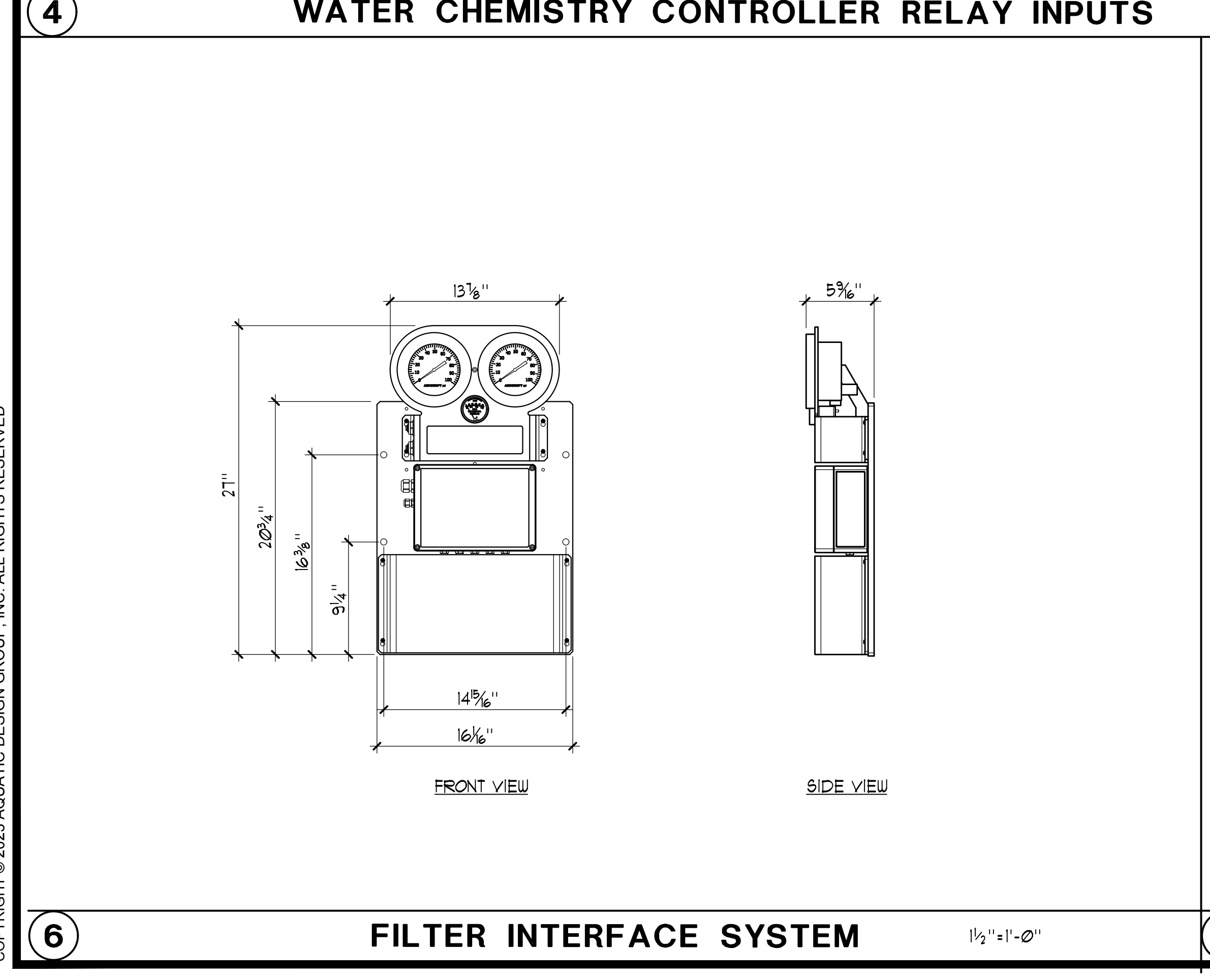
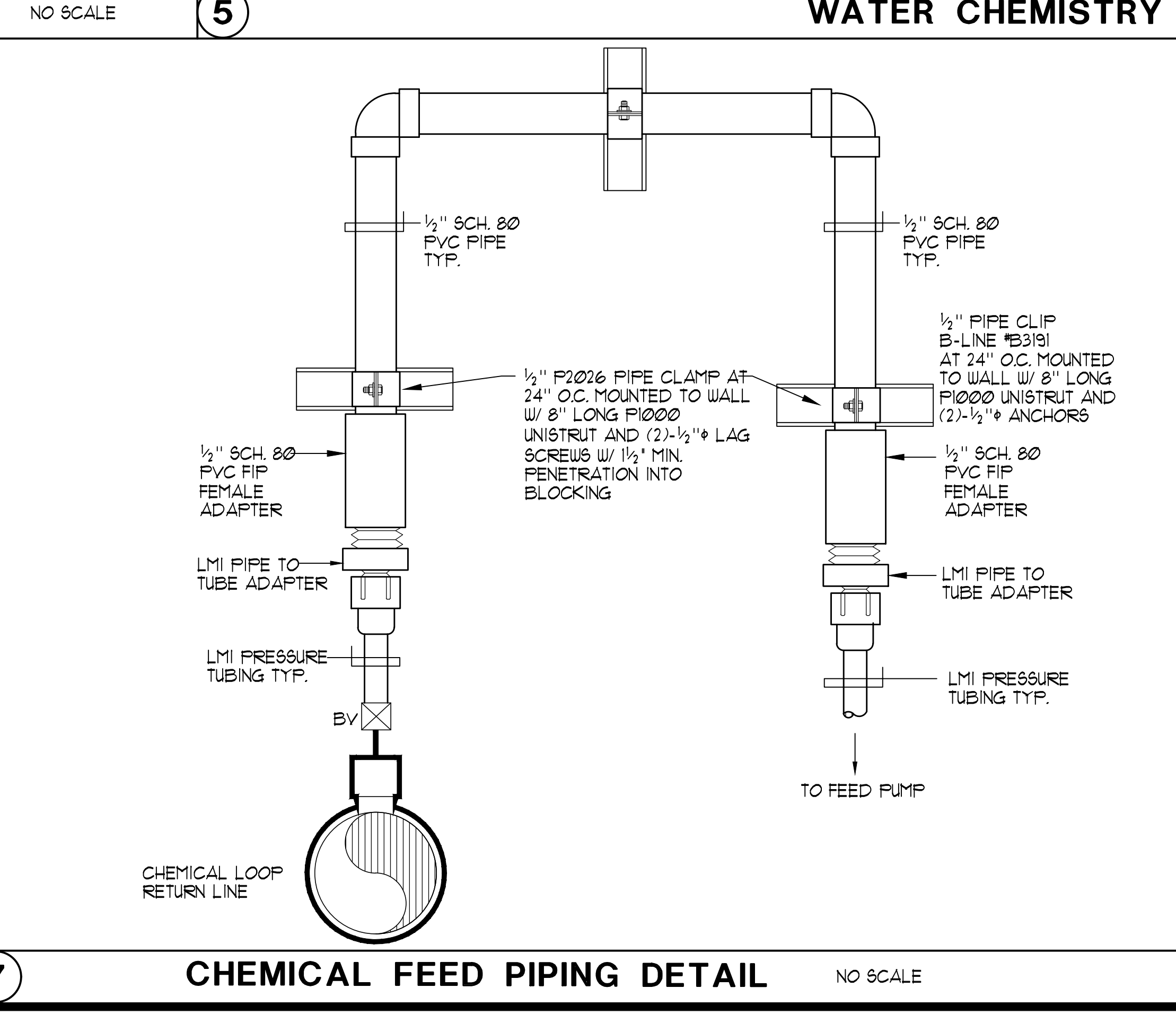
PROJECT NO.	2023.037
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DATE	10/16/23
DRAWING NO.	MR-2



DESIGNATION: 'SP' VOLTAGE: 120/208V 3PH 4W LOCATION: MECHANICAL ROOM
 200 AMP MAIN BREAKER MAIN LUG MINIMUM DEVICE 10,000 PANELBOARD KEY NOTES
 RECESSED SURFACE A.I.C. RATING 14,000

DESCRIPTION:	C/B/C/S	φ A	φ B	φ C	C/B/C/S	DESCRIPTION:
CP UNDERWATER LIGHTS	1	1000			2	SP UNDERWATER LIGHTS
	3	1000			4	
	5	1000		1000	6	
	7	1000			8	
	9	1000		1000	10	
	11			1000	12	
	13	1900			14	CP FILTER AFC
	15	1200			16	CP CIRC. PUMP INTERCON.
	17	1000		1000	18	CP CIRC. PUMP MOTOR CONTR.
	19	1000		1000	20	CP PRESSURE AMP. PUMP
	21	1200		1000	22	CP WATER CHEM. RELAY
	23	1000		1000	24	CP HEATER IGNIT./FAN
	25	1000		1000	26	CP HEATER RECIRC.
	27	1440		1000	28	CP HEATER IGNIT./FAN
	29			1440	30	CP HEATER RECIRC.
	31	1000		1000	32	CHEMICAL FEEDS
	33			720	34	CHEMICAL FEEDS
	35			720	36	SPARE
	37	720		720	38	SPARE
	39			720	40	SPARE
	41			720	42	SPARE
TOTAL PER PHASE		13500	12400	11560		16875 ± 120v = 141 AMPS
+ 25% L.C.L.		3375	3100	2890		
TOTAL		16875	15500	14450		

① GFI PROTECTED CIRCUIT
 CP = COMPETITION POOL
 SP = SWIMMING POOL



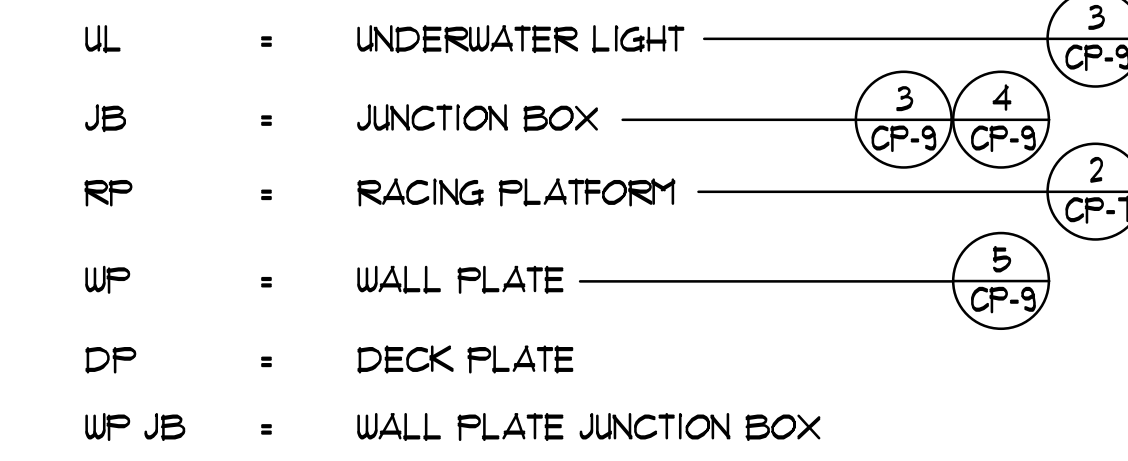
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△	07/25/07	RR DSA BACK CHECK
△	02/23/07	SJF DSA SUBMITTAL
NO	BY	
REVISIONS		

DRAWN: RCQ	CHECKED: SJF
DATE: 02/23/07	SCALE: AS NOTED
PROJECT NUMBER: 0521400	

**COMPETITION POOL/
SWIMMING POOL
UNDERWATER LIGHT/
TIMING SYSTEM PLAN**

LEGEND



TIMING SYSTEM NOTES/EQUIPMENT

NOTE: THE CONTRACTOR SHALL SUPPLY AND INSTALL DECK PLATE BOXES, WALL PLATE BOXES, WALL PLATE JUNCTION BOXES, CONDUIT, WIRING, SCOREBOARD AND ALL EQUIPMENT CONDUIT AS SHOWN FOR THE 'DAKTRONICS', 'COLORADO' TIME SYSTEM OR EQUAL.

- TIMING SYSTEM**
 QTY MODEL DESCRIPTION
 ① 1 SPORTS TIMER ① US LISTED MULTI-SPORT TIMING/SCORING CONSOLE
 HARDWARE:
 MULTI-SPORT AQUATICS TIMING AND SCORING CONSOLE WITH CARRYING CASE, SPORT INSERTS TO INCLUDE SWIMMING, DIVING, WATER POLO AND FACE CLOCK. SYSTEM TO INCLUDE 15" FULL LCD DISPLAY, CD-RW DRIVE, UNLIMITED RACE/MEET STORAGE, EXTERNAL MOUSE AND KEYBOARD PORT AND BACKUP RECHARGEABLE SYSTEM.
 SOFTWARE:
 SWIMMING, DIVING, WATER POLO AND FACE CLOCK SOFTWARE SHALL BE PROVIDED. SWIMMING SOFTWARE SHALL BE CAPABLE OF STORED LAP AND CUMULATIVE SPLITS. SPLIT INFORMATION SHALL BE POSTED TO SCOREBOARD IN LAP OR CUMULATIVE FORMAT. SOFTWARE SHALL BE CAPABLE OF TIMING UP TO 10 LANES OF COMPETITION-NEAR AND FAR END. SOFTWARE SHALL HAVE TIMING CAPABILITY OF ONE TOUCHPAD WITH UP TO THREE BUTTON BACKUP AND RELAY TAKE-OFF PLATFORM. SWIMMING SOFTWARE SHALL OPERATE IN A POINT AND CLICK WINDOWS® ENVIRONMENT.
- 1 CABLE HARNESS TEN-LANE ABOVE DECK TIMING HARNESS INCLUDES AN TEN-LANE CABLE HARNESS AND ONE PUSHBUTTON PER LANE.
- ③ 10 TP-18G ① US LISTED 18"x22" TOUCHPAD. TOUCHPAD SHALL BE CONSTRUCTED OF STAINLESS STEEL TO PREVENT THE POSSIBILITY OF WARPING IN EXTREME HEAT.

TOUCHPAD CADDY

- QTY MODEL DESCRIPTION
 1 CART TOUCHPAD CADDY FOR GUTTERHUNG TOUCHPADS. HOLDS UP TO TEN TOUCHPADS. SHALL ARRIVE ON SITE FULLY ASSEMBLED.

START SYSTEM

- QTY MODEL DESCRIPTION
 ③ 1 HORN START ELECTRONIC START SYSTEM WITH WIRELESS MICROPHONE, WIRED MICROPHONE, VOLUME CONTROLS FOR AUXILIARY SPEAKERS 4 INDIVIDUAL LANE SPEAKERS, BUILT-IN EXTERNAL 360-DEGREE STROBE LIGHT WITH CAPABILITY TO ADD REMOTE EXTERNAL STROBE, AC POWER CAPABILITY FOR MEET OPERATION IN THE EVENT THE BATTERY SYSTEM FAILS, LED BATTERY LEVEL INDICATION LIGHT, ABILITY TO DISABLE RECALL FUNCTION.
- 10 LANE SPEAKER INDIVIDUAL 6 WATT LANE SPEAKER FOR START½ SYSTEM
 1 AUX SPEAKER 40 WATT SPEAKER WITH 100' OF CABLE
 1 BRACKET BACKSTROKE FLAGPOLE MOUNTING BRACKET FOR START SYSTEM.
 1 CABLE THIRTY FOOT JUMPER CABLE

IN-DECK

- QTY MODEL DESCRIPTION
 ② 10 LANE DECK PLATE ① US LISTED INDIVIDUAL LANE DECK PLATE. PLATE SHALL HAVE CONNECTIONS FOR (1) TOUCHPAD (3) BACKUP BUTTON TYPING, RELAY TAKE-OFF PLATFORM AND INDIVIDUAL LANE SPEAKER. PLATES SHALL BE MOUNTED PERMANENTLY TO THE DECK ON 4"x4"x6" FVC JUNCTION BOXES (CARLON E589NR).
- ④ 2 WALL PLATE ① US LISTED WALL PLATE, TIMING
 WALL PLATE TO BE MOUNTED ON 12"x12"x6" PVC JUNCTION BOX (CARLON E589R).

SCOREBOARD

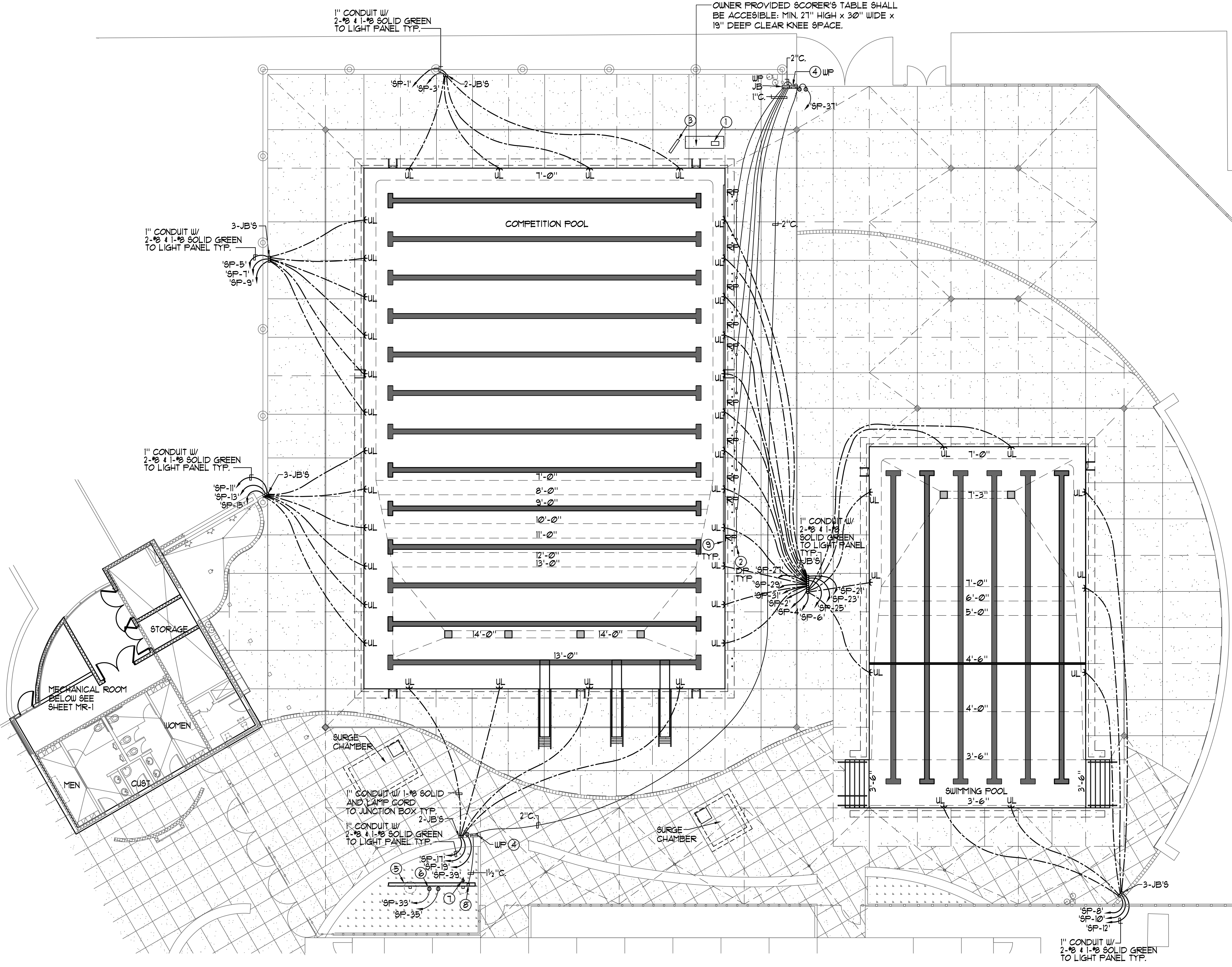
- QTY MODEL DESCRIPTION
 ⑤ 1 SCOREBOARD ① US LISTED TEN-LINE OUTDOOR LED SCOREBOARD:
 EACH MODULE INCLUDES: EIGHT, 10-INCH LED DIGITS. (CHOICE OF RED OR AMBER DIGITS) BEAM MOUNTING HARDWARE
 SCOREBOARD FUNCTIONS: DISPLAY LANE, PLACE, AND TIME FOR LANES 1-8 ONE LINE TO DISPLAY HOME/GUEST SCORES ONE LINE TO DISPLAY LENGTHS/RECORD TIME
 ② ONE (1) DEDICATED 15 AMP CIRCUIT TO BE TERMINATED INTO SCOREBOARD LOAD CENTER
 ① MASTER ON/OFF SCOREBOARD SWITCH WITH PILOT LIGHT, W/ LOCKABLE ENCLOSURE.
 ③ SCOREBOARD DATA CONNECTION BOX CONNECT TO TIMING/WALL BOX LOCATION W/ 1½" PVC CONDUIT.

FACE CLOCK/WATER POLO SHOT CLOCK/REACTION TIMER

- QTY MODEL DESCRIPTION
 2 TIMER MULTI-USE OUTDOOR TIMER WITH 1" OUTDOOR LED DIGITS
 FACE CLOCK FUNCTIONS:
 MULTI-SPORT TIMING/SCORING CONSOLE CAPABLE OF DOWNLOADING WORKOUTS FROM HY-TEK WORKOUT MANAGER UNIT CAPABLE OF OPERATING AS A STAND-ALONE FACE CLOCK. FUNCTIONS INCLUDE COUNT UP, WORKOUT PROGRAM, TIME OF DAY.
 WATER POLO SHOT CLOCK FUNCTIONS:
 OPERATES IN CONJUNCTION WITH MULTI-SPORT TIMING/SCORING CONSOLE TO ACT AS A PORTABLE BATTERY-OPERATED WATER POLO SHOT CLOCK. CAN ALSO ACT AS STAND-ALONE SHOT CLOCK OPERATED BY SWITCHES ON THE SIDE OF THE UNIT.
 REACTION TIMER FUNCTIONS:
 OPTIMIZES START REACTION TIMES AND PERFECTS RELAY EXCHANGES WHEN USED IN CONJUNCTION WITH TOUCHPAD AND/OR RELAY JUDGING PLATFORM
- 1 RJP RELAY JUDGING PLATFORM TO BE USED IN CONJUNCTION WITH MULTI-USE OUTDOOR TIMER

WATER POLO

- QTY MODEL DESCRIPTION
 1 WATER POLO WATER POLO PACKAGE TO INCLUDE HAND-HELD GAME CLOCK START/STOP/HORN SWITCH, HAND-HELD SHOT CLOCK START/STOP/RESET SWITCH AND ABOVE DECK SHOT CLOCK DATA CABLES



COMPETITION POOL/SWIMMING POOL UNDERWATER LIGHT/TIMING SYSTEM PLAN

1"=10'-0"



SECTION 13 11 07**SWIMMING POOL MECHANICAL****PART 1 GENERAL****1.01 WORK INCLUDED**

- A. Swimming pool mechanical piping as indicated on the Drawings for circulation and filtration systems, pool water heating systems, chemical control systems, booster pump systems and appurtenances.
- B. Domestic water system from points of connection within swimming pool mechanical equipment room to make-up water system.
- C. Filter backwash piping to point of connection with backwash retention pit as required.

1.02 QUALITY ASSURANCE

- A. Qualifications of Workers:
 - 1. The entity performing the work of this Section shall have been successfully engaged in the respective trade for at least five (5) years immediately prior to commencement of the Work.
 - 2. For actual construction operations, use only trained and experienced workers with a minimum of three (3) years experience with the materials and methods specified.
 - 3. Provide at least one person who shall be present at all times during execution of the work of this Section, with a minimum of five (5) years experience with the type of materials being installed, the referenced standards, and who shall direct all Work performed under this Section.
- B. Standards:
 - 1. All equipment supplied or work performed shall comply with Chapter 31 of California Building Code, 2022 edition.
 - 2. Work shall be performed in accordance with the applicable editions of all National, State and local codes, laws, regulations and ordinances, including the following:
 - a. American National Standards Institute (ANSI).
 - b. American Society for Testing Materials (ASTM).
 - c. American Waterworks Association (AWWA).
 - d. American Welding Society (AWS).
 - 3. Do not construe anything in the Drawings or Specifications to permit Work not conforming to these requirements.

1.03 SUBMITTALS AND SUBSTITUTIONS

- A. Provide submittals in conformance with the requirements of Section 01 33 00. Requests for substitutions shall conform with requirements of Article 1.10.A of Section 13 11 00.

- B. Required submittals include:
1. Pipe and Fittings as specified in Article 2.02 of this Section.
 2. Valves as specified in Article 2.03 of this Section.
 3. Pressure / Vacuum Gauges as specified in Article 2.04 of this Section.
 4. Pipe Hangers and Supports as specified in Article 2.05 of this Section.
 5. Sleeves and Waterstops as specified in Article 2.06 of this Section.
- C. Submit proof of qualifications as specified in Article 1.02.A of this Section.

1.04 PRODUCT HANDLING

- A. Delivery: Deliver all materials to the Project Site in the manufacturer's original unopened containers with all labels intact and legible.
- B. Storage: Store all materials under cover in a manner to prevent damage and contamination, and store only the specified materials at the Project site.
- C. Protection: Use all means necessary to protect swimming pool mechanical items before, during and after installation and to protect the installed Work specified in other Sections.
- D. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner and at no additional cost to the Owner.

1.05 JOB CONDITIONS

- A. Cooperate with entities performing Work specified in other Sections to so that no conflict of new construction or occupied space may occur. Should any installation Work be done without such craft coordination, that Work so installed shall be removed and re-installed.

PART 2 PRODUCTS

2.01 PRODUCT QUALITY

- A. Materials and equipment shall be new, of the best quality for the purpose intended, and shall be clearly marked with the manufacturer's name and nameplate data or stamp and rating. As far as practicable, materials and equipment shall be of one manufacturer.

2.02 PIPE AND FITTINGS

- A. PVC Schedule 40: Type 1, normal impact, NSF approved for solvent welding applications, ASTM Specification D-1785, color shall be white. Dura, Lasco, or approved equal.
- B. PVC Schedule 80: Type 1, normal impact, NSF approved for solvent welding applications, ASTM Specification D-1785, color shall be gray. Dura, Lasco, or approved equal.
- C. CPVC Schedule 80 Influent/Effluent Heater Piping: Type 1, normal impact, NSF approved for solvent welding applications, ASTM Specification D-1785, color shall be gray. Dura, or Lasco.

- D. PVC DR25: Conforming to ATSM D-1784, use with epoxy coated bell and spigot-type fittings or epoxy coated mechanical joint by flange adapters with epoxy coated cast iron fittings as specified in Article 2.02 (F), below. Johns-Manville "Big Blue", Diamond Plastics, or approved equal.
- E. Copper Tubing: ASTM Specification B-88, hard drawn, with ANSI Standard B16.22 wrought copper fittings.
- F. Steel: ASTM Specification A-120, Schedule 40 black or galvanized pipe with ASTM A-47 150 lb. banded malleable iron threaded fittings.
- G. Cast Iron: ASTM Specification B16.1, cast iron flanged fittings, provide epoxy coating as required for use with chlorinated water.

2.03 VALVES

- A. Ball Valves:
 - 1. For pool system: True-Union design, PTFE seat material with FPM or FKM Double O-ring stem seals, locking handle, NSF certified. PVC schedule 80 body for below grade installation. PVC Schedule 80 body for above grade installation. Furnish ball valves on all pipe diameters 2 1/2" or less with a rating of at least 200psi at 73° F, Asahi, Iplex or Nibco.
 - 2. For copper pipe system: 3-piece full-port Bronze body valve with Teflon seat, 'Apollo', 'Nibco' or approved equal.
- B. Butterfly Valves:
 - 1. Epoxy coated cast or ductile iron body, 316 stainless steel disc and stem, viton seat material, furnish hand wheel/gear operators on all valves 8" and larger. DeZurick, Keystone, Iplex or equal.
 - 2. PVC body, PVC disc and EPDM construction suitable for chlorinated water applications. Stem shall be of 316 stainless steel and non-wetted. Valves shall be self-gasketed design with a convex sealing arrangement. Valves 1-1/2" – 10" shall be rated to 150 psi and 12" valves shall be rated to 100 psi at 70°F. Asahi Pool-Pro, no known equal.
- C. Check Valves: Wafer-type, epoxy coated cast or ductile iron body, 316 stainless steel plates and shaft, viton seat material. Centerline, Metraflex, or approved equal.
- D. Surge Chamber Float Valve: EPD #2-0020-019 Float Control Valve, " line size, as manufactured by Environmental Products Division of Doughboy Recreational, Rancho Cucamonga, CA, no known equal.
- E. Surge Chamber Isolation Valve: Butterfly valve, tapped lug style, bronze body, stainless steel stem, bronze disc, phenolic back-up ring, EPT seat material. Provide stainless steel shaft extension, shaft housing and tool operator located 2'-0" above floor level with deck access grate as required. DeZurick, Keystone, Asahi, Spears, Iplex or approved equal.

- F. RP Backflow Preventer: Febco #835-B for 2" and smaller; #825 for 2-1/2" and larger. Febco, Watts, or approved equal.
- G. Make-up Water Control: Cla-Val make-up water control valve with ductile iron body/cover, bronze trim, globe pattern, Buna-N rubber seals. Pilot system materials to consist of bronze/brass with stainless steel wetted parts and Buna-N rubber seals.

System to include: 100-01 Hytrol valve, CF1-C1KX float control, X46A flow clean strainers, and copper tubing with brass fittings. Float linkage and float rod shall be PVC and brass. Base plate shall be 316 stainless steel. The plastic float shall be provided with 8' PVC rod and stops and a brass counter weight. Provide model #124-01AKX available KSI (714) 754-044.

2.04 PRESSURE / VACUUM GAUGES

- A. Furnish and install pressure and vacuum gauges on the discharge and suction sides of all pumps. 2" or 2 1/2" diameter dial, bottom connection, chrome ring, shut-off cock and snubber. Ranges shall be selected to indicate between mid-point and two-thirds of maximum range under design conditions. Marsh, Terrice, or approved equal.

2.05 PIPE HANGERS AND SUPPORTS

- A. General:

- 1. The requirements of this Section relates to various requirements of the Agreement, General and Supplementary Conditions, Specifications, Drawings, and modifying documents which are part of the Construction Contract. Responsibility for coordination of all such applicable requirements will be that of the Contractor.

- B. Description:

- 1. This section provides guidelines and limitations for the support of all mechanical, electrical, plumbing or architectural items from the building structure, and for the seismic bracing of such items.
- 2. Design and install all support and bracing systems as required for the swimming pool systems. Provide for attachment to portions of the building structure capable of bearing the loads imposed. Design these systems to not overstress the building structure.

- C. Quality Assurance:

- 1. Design and install all support systems to comply with the requirements of the 2022 California Building Code, Chapter 16A.
- 2. Seismic bracing is to be designed by a professional engineer licensed in the State of California.

- D. Submittals:

- 1. Submit shop drawings for all substructures and attachment methods.

2. Submit proposed alternative methods of attachment for review and approval by the Architects, prior to deviating from the requirements given below.
3. For all pipe hangers and support systems, submit structural calculations and details which include all resultant forces applied to the building structure and are prepared and signed by the Contractor's licensed California professional engineer. Calculations will be reviewed for compliance with design criteria, not for arithmetic.

E. Materials:

1. Use Kin-Line, Grinnel, or approved equal.
2. Support all pipelines individually with hangers, each branch having at least one hanger. Lateral brace as noted and required.
3. Support piping near floor with steel stanchions welded to end plates secured to pipe and floor.
4. Support vertical piping at each floor level. Install coupling in piping at each support. Coupling shall rest on and transmit load to support. Isolate copper from steel supports with vinyl electrician's tape around pipe and coupling.
5. Use Stoneman "Trisolator," Unistrut, or approved equal, isolators at each hanger and other support points on bare copper tubing system.
6. For PVC pipe, space hangers four (4) feet apart for pipe sizes 1" and under, five (5) feet apart for pipe sizes 1-1/4" to 2", and six (6) feet apart for pipe sizes over 2". Space hangers for horizontal pipes at a maximum of six (6) feet for copper 2" and smaller and for steel 1-1/4" and smaller; ten (10) feet for copper 2-1/2" and larger and for steel 1-1/2" and larger.
7. Size hanger rods, screws, bolts, nuts, etc., according to manufacturer's sizing charts.
8. Trapeze hangers may be used for parallel lines.
9. Use galvanized or stainless steel hangers, attachments, rods, nuts, bolts, and other accessories in pool mechanical room, high humidity areas, or where exposed to weather. Hot dip galvanize all items which are not factory furnished. Plating for hinged movements must be done at the factory.
10. Lateral Bracing: To prevent swaying of the piping systems, provide angle iron bracing and anchor into wall or overhead framing. Piping shall be braced or anchored in such a way as to resist a horizontal force of 50% of its operating weight in any direction.
11. Do not use wire or other makeshift devices for hangers.
12. Furnish all substructures and fasteners required to comply with the limitations given below. Use material as specified in the various sections and as appropriate to their use.
13. Install stainless steel or FRP Unistrut, pipe clamps/hangers, supports/bracing with stainless steel hardware in the chemical storage rooms, surge/balance tanks, or any other corrosive environment.

F. Guidelines & Limitations:

1. Each Contractor will coordinate the load requirements from all subcontractors so that no combination of loads overstresses the building structure or exceed the limitations given below.
2. Concrete Structure:
 - a. Support all loads hung from concrete structure with cast-in-place inserts, unless

- drilled-in anchors are specifically approved in writing prior to placing the concrete.
- b. Concrete anchors must not penetrate into reinforcing bars. Where the anchors boring indicates the presence of reinforcing bar, patch hole with an epoxy type grout and relocate anchor 12 diameters away.
 - c. Individual expansion anchors cannot support any loads greater than 300 pounds or manufacturer's specified load capacity without approval.

3. Steel Structure:

- a. Hang no more than 20 pounds per metal deck rib in any span.
- b. At beams, hang all beam loads greater than 40 pounds concentric to beam, not off the flanges.
- c. Attached no loads to the beams or girders greater than the following without specific approval from the architect;
 - i. Roof beams and girders: 300 pound point load or 600 pound total load for a single span.

G. Seismic Bracing:

1. Design and install seismic bracing to not ground out vibration and sound isolation systems.
2. All items of mechanical and electrical equipment 60" or more in height are to be seismically braced whether such bracing is shown or not.

2.06 SLEEVES AND WATERSTOPS

- A. Provide sleeves where work of this Section passes through fire rated partitions, floors and ceilings, concrete slabs or exterior of structure. Caulk clearance space using sealant appropriate for application in conformance with manufacturer's recommendations and Title 24 of California Code of Regulations. 3m, Dow Corning, or approved equal. In lieu of sleeves and caulking, "Link Seal" products may be used.
- B. Provide prefabricated waterstops as indicated on the Drawings at all pipe penetrations through structures containing stored water (i.e., swimming pools, balance/surge tanks, etc.) to insure leak-proof seals.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection:

1. Prior to Work of this Section, carefully inspect the installed Work of other trades and verify that such work is complete to the point where this installation may properly commence.
2. Verify that items of this Section may be installed in accordance with the original design

and referenced standards.

B. Discrepancies:

1. In the event of discrepancy, immediately notify the Owner's Representative.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.
3. Failure to notify the Owner's Representative and give written notice of discrepancies shall constitute acceptance by the Contractor of existing conditions as fit and proper to receive his work.

3.02 ABBREVIATIONS AND SYMBOLS

- A. Abbreviations and symbols on the Drawings are those most commonly used. Obtain clarification from the Owner's Representative on any questionable items before bid.

3.03 GENERAL PIPING REQUIREMENTS

- A. Size any section of pipe for which size is not indicated or any intermediate section erroneously shown undersized the same size as the largest pipe connecting to it. Sizes listed are nominal.
- B. Cut pipe accurately to job measurements and install without springing or forcing, true to line and grade, generally square with building and/or structures and adequately supported to prevent undue stress on pipe, fittings and accessories.
- C. Make changes of direction with manufactured fittings. Street ells, bushings, reducing flanges, close nipples or bending of pipe is not allowed.
- D. Use great care to install piping in accordance with best practice. Plastic pipe shall be "snaked" in trenches to allow for thermal expansion.
- E. All above grade, below grade and buried or imbedded PVC shall be installed using solvent weld fittings. Also, each and every fitting and pipe end shall be prepared with solvent primer. Fittings shall be joined individually and with enough time between assembly of adjacent joints to allow them to seal solidly. After joining, an even ring of primer must be visible around the entire fitting. If any fittings are installed without visible primer, the fitting shall be removed and discarded and piping recut, rechamfered and joint made up again using a new fitting. All procedures, methods and techniques used to make up solvent weld joints shall be in strict accordance with manufacturer's recommendations.
- F. Arrange pipe and hangers to allow for expansion, contraction and structural settlement. No pipe shall contact structure except penetrations as shown on the Drawings.
- G. Provide dielectric connections between copper and dissimilar metals. In copper systems, threaded piping including connections to equipment shall be brass pipe and fittings. Install dielectric connections in vertical sections of piping only.
- H. Run pipe full size through shut-off valves, balancing valves, etc. Change pipe size within three (3) pipe diameters of final connection to control valves, fixtures and other equipment.

- I. Provide unions or flanges at connections to equipment, on service side of valves and elsewhere as required to facilitate ease of maintenance.
- J. Locate equipment shut-off valves as close to equipment as possible maintaining easy valve access.
- K. Make all connections between domestic water systems and equipment or face piping with approved backflow prevention devices as required.
- L. All PVC pipe exposed to direct sunlight shall be painted with two coats of Exterior Acrylic Semi-gloss Paint, Sherwin Williams or equal. Color to be selected by the Architect. Prior to painting the PVC pipes, the exterior of all PVC pipes shall be wiped with Methyl Ethyl Ketone, or an approved equal, to remove the glaze from the pipes.
- M. The Main Drain pipe must run either level or uphill from the main drain sump, through the surge pit (if applicable) and then to the circulation pump.

3.04 TRENCH EXCAVATION AND BACKFILL

A. Excavation:

1. Excavate and backfill trenches as required for the Work of this Section. Conform to requirements of Section 13 11 01.
2. The Contractor shall perform all excavation of every description and of whatever materials encountered, to the depths indicated on the Drawings or as necessary. The Contractor shall dispose of the excavated materials not required or suitable for backfill as directed, and shall perform such grading as may be necessary to prevent surface water from flowing into the trenches. The Contractor shall provide adequate equipment for the removal of storm or subsurface waters, which may accumulate in the excavated areas.

B. Trenching:

1. Excavate trenches to lines and grades as indicated on the Drawings and with banks as nearly vertical as practicable.
2. Bottoms of trenches shall be accurately graded to provide uniform bearing on undisturbed soil for the entire length of each section of pipe.
3. The width of the trench at and below the top of the pipe shall be such that the clear space between the barrel of the pipe and the trench wall shall not exceed 8" on either side of the pipe. The width of trench above the top of pipe may be wider if necessary.
4. Over-depth excavations shall be filled with tamped sand to required grades.
5. Excavations of five (5) feet or more in depth shall be shored or supported in conformance with rules, and regulations of State and Federal Governments. Shoring shall be constructed, maintained and removed in a manner to prevent caving of the excavation walls or other load on the pipe.

C. Backfilling:

1. Material for backfilling of pipes shall be approved granular material less than two (2) inches in diameter obtained from the excavation. No material of a perishable, spongy or otherwise unsuitable nature shall be used as backfill.
2. Backfilling of pipe trenches shall commence immediately after installation and testing to preclude damage to the installed pipe. Backfill around pipe shall be carefully placed so as not to displace or damage the pipe, and shall be carried up symmetrically on each side of the pipe to one foot above the top of the pipe. The material shall be carefully compacted or consolidated before additional backfill is placed.
3. Backfill above an elevation of one foot above the top of pipe in conformance with requirements of Section 131101. Material for balance of backfill shall be approved granular material less than six (6) inches in diameter taken from the excavation.
4. Unless otherwise indicated on the Drawings, all pipe shall have a minimum of eighteen (18) inches of cover.

3.05 GENERAL EQUIPMENT REQUIREMENTS

- A. Position equipment to result in good appearance and easy access to all components for maintenance and repairs.
- B. Install piping, flues, breeching and ducts so that they do not interfere with equipment access.
- C. Install level, secure and out of moisture. Provide shims, anchors, support straps, angles, grouted bases, or other items as required to accomplish proper installation.
- D. All screws, nuts, bolts and washers shall be galvanized, or stainless steel. After fabrication, hot-dip galvanize unfinished ferrous items for outdoor, below grade or other use subject to moisture.
- E. Extend 1/2" Schedule 40 black steel pipe lubrication tubes from all hard to reach locations to front of equipment or to access points. Terminate with proper type of lubrication fitting.

3.06 VALVES AND STRAINERS

- A. If no shut-off is indicated, provide ball valves at inlet connections and balance valves at outlet connections to fixtures and equipment. Provide proper valve trim for service intended.
- B. Use no solder end valves unless noted otherwise; provide adapters in copper tubing systems.
- C. Locate valves with stems above horizontal plane of pipe. In general, locate valves within six (6) feet of floor, out from under equipment, in accessible locations with adequate clearance around hand wheels or levers for easy operation.
- D. Provide all valves, cocks and strainers, full pipe size unless indicated otherwise.
- E. Provide hand wheel operators on all valves 6" and larger, under 6" lever operators may be used.
- F. Provide tool operated valve with stainless steel shaft extension and 'on deck' tool operation for surge chamber butterfly isolation valve.

3.07 IDENTIFICATION OF PIPING

- A. Identify each valve by a numbered brass tag with hole and brass chain mounted on valve stem or handle. Tag to be a minimum of 1" in diameter and numbers at least 1/4" high stamped into tag. Valves and plumbing lines shall be labeled clearly with the source or destination descriptions.
- B. Install an identification chart in a plastic or glass framed enclosure, which schematically illustrates the proper operation of all piping systems and indicates number and location of all valves and control devices within the system.
- C. The direction of flow for the recirculation equipment shall be labeled clearly with directional symbols such as arrows on all piping in the equipment area. Where the recirculation equipment for more than one pool is located on site, the equipment shall be marked as to which pool the system serves.

3.08 TESTS

- A. Perform tests in presence of Owner's Representative with no pressure loss or noticeable leaks.
- B. Do not include valves and equipment in tests. Include connection to previously tested sections if systems are tested in sections.
- C. Perform tests as follows:

<u>System</u>	<u>Test Pressure</u>	<u>Test Medium</u>	<u>Duration</u>
Skimmer Lines and Lawson Main Drain sump lines	20psig	Water*	4 hours
Pool Piping	50 psig	Water*	4 hours
Pool Main Drains	30 psig	Water*	4 hours
Domestic Water	150 psig	Water*	4 hours

***Never test PVC pipe or fittings with air or other gases, always use water.**

3.09 PIPE MATERIAL APPLICATION

- A. PVC Schedule 40: Below grade swimming pool piping and domestic water piping up to 12" line size; use standard solvent weld fittings.
- B. PVC Schedule 80: Above grade swimming pool piping up to 12" line size; use solvent weld Schedule 80 or epoxy coated cast iron fittings.
- C. Type L Hard Copper: Above grade domestic water piping.
- D. CPVC Schedule 80; Pool Heater Piping.

- E. Schedule 40 Steel: Natural gas piping.

3.10 CUTTING AND DRILLING

- A. Cutting or drilling necessary for installation of Work of this Section shall be done only with approval of Owner's Representative.

3.11 CLOSING-IN OF UNINSPECTED WORK

- A. Do not cover or enclose Work before testing and inspection. Re-open Work prematurely closed and restore all Work damaged.

3.12 QUIETNESS

- A. Quietness is a requirement. Eliminate noise, other than that caused by specified equipment operating at optimum conditions, as directed by Owner's Representative.

3.13 FLUSHING OF LINES

- A. Flush or blow out pipes free from foreign substances before installing valves, stops or making final connections. Clean piping systems of dirt and dust prior to initial start-up.
- B. Just prior to plastering the pool, under the observations of the IOR, the pool mechanical system shall be flushed using the pool circulation pump. Circulate water through the mechanical system until the effluent water from the pool return heads runs clean.

3.14 CLEAN-UP

- A. After all Work has been tested and approved, the Swimming Pool Subcontractor shall thoroughly clean all parts of the equipment installations, including all pool pipe and fittings in the pool mechanical room. Exposed parts shall be cleaned of cement, plaster and other materials and all grease and oil spots removed with solvent.
- B. The Swimming Pool Subcontractor shall remove debris from the Project site. Cartons, boxes, packing crates and excess materials not used, occasioned by this work shall be disposed of to the satisfaction of the Owner's Representative.
- C. If the above requirements of clean up are not performed to the satisfaction of the Owner's Representative, the Owner reserves the right to order the work done, the cost of which shall be borne by the Swimming Pool Subcontractor.

END OF SECTION