

# LAKE HAVASU CITY, ARIZONA

## SITE 6 BOAT RAMP

### BOAT RAMP IMPROVEMENTS



DRAWING INDEX		
SHEET NUMBER	SHEET DESCRIPTION	SHEET TITLE
01	CV01	COVER SHEET
02	GN01	GENERAL NOTES
03	GN02	GENERAL STRUCTURAL NOTES
04	REM01	REMOVALS
05	ST01	GRADING PLAN
06	ST02	STRUCTURAL DETAILS
07	ST03	STRUCTURAL DETAILS
08	B01	BID OPTION 1 REMOVALS
09	B02	BID OPTION 1 CONSTRUCTION



PREPARED BY:

**Kimley»Horn**

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#### BASIS OF HORIZONTAL CONTROL

JOB: SITE SIX BOAT RAMP

JOB SETTINGS:  
HORIZONTAL DATUM - NAD83 (2011)  
PROJECTION - ARIZONA STATE PLANE WEST (SPC AZ WEST)  
LINEAR UNITS - US FOOT  
COORDINATE - GRID  
GEOID - GEOID 2018 ZONE 5

PROJECT ADJUSTED TO GROUND COORDINATES USING AN ORIGIN POINT OF NO 2  
SCALE FACTOR = 1.000039101365 (GRID TO GROUND)

CONTROL:

SITE SIX CONTROL POINT "SITE SIX" NO 2:

N: 1255917.8834  
E: 513076.1474  
ELEV: 465.66

LOCAL PROJECT CONTROL:

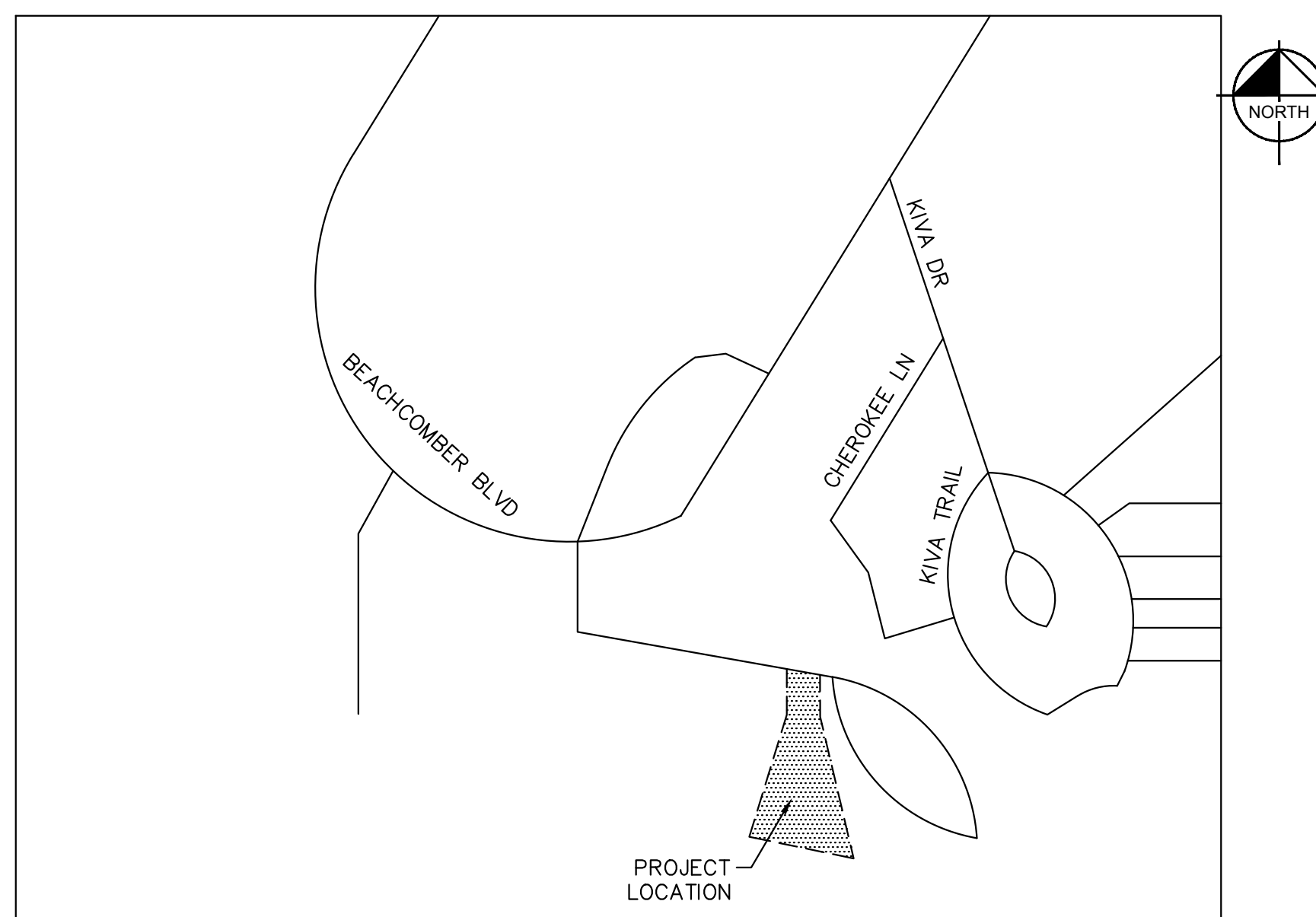
CONTROL POINT NO. 3 - 5/8" REBAR SET, 5'± NORTH OF NORTHERLY CURB AT START OF RAMP AREA.

N: 1256173.5066  
E: 512947.8068  
ELEV: 474.14

CONTROL POINT NO. 4 - 5/8" REBAR SET, 30'± SOUTH OF SOUTHERLY CURB AT START OF RAMP AREA.

N: 1255723.9324  
E: 513092.4480  
ELEV: 463.59

GRID BEARING AND DISTANCE BETWEEN CONTROL POINT 3 AND 4.  
S. 17°50'04" E. 472.27'



LOCATION MAP

SCALE: N.T.S.

NO.	#	#	#	#
REVISIONS / SUBMISSIONS				
DATE				

LAKE HAVASU CITY  
SITE 6 BOAT RAMP  
RAMP IMPROVEMENTS

Designed by:	JTF
Drawn by:	JTF
Checked by:	ATL
Date:	8/24/23
Dwg. scale:	NONE

COVER SHEET



**Kimley»Horn**

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Sheet Number:  
**CV01**  
Sheet 1 of 9

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# LAKE HAVASU GENERAL NOTES

## A. GENERAL

- ALL STRUCTURES ARE DESIGNED TO ACT AS A STRUCTURAL UNIT UPON COMPLETION. CONTRACTOR SHALL DESIGN AND PROVIDE NECESSARY BRACING, TEMPORARY SUPPORTS, AND SHORING TO RESIST FORCES ON THE STRUCTURE DURING CONSTRUCTION.
- VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO STARTING WORK. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO STARTING WORK.
- CONTRACTOR SHALL EXERCISE EXTREME CARE DURING THE EXCAVATION AND CONSTRUCTION FOR NEW STRUCTURE TO AVOID DAMAGE TO EXISTING STRUCTURES AND EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MEANS AND METHODS REQUIRED TO FACILITATE CONSTRUCTION OF THE WORK AND ENSURING THE SAFETY, STABILITY AND INTEGRITY OF ADJACENT STRUCTURES AND FACILITIES.
- THE ENGINEER SHALL BE NOTIFIED A MINIMUM OF 24 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION.
- ANY WORK PERFORMED WITHOUT THE KNOWLEDGE AND APPROVAL BY THE ENGINEER AND/OR ALL WORK MATERIAL NOT IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL CURBS, PAVEMENT AND SIDEWALKS (NEW AND EXISTING) HAVE BEEN SWEEPED CLEAN OF ALL DIRT AND DEBRIS.
- ALL QUANTITIES SHOWN ON PLANS ARE APPROXIMATE, ARE NOT VERIFIED BY THE ENGINEER, AND ARE FURNISHED SOLELY FOR THE CONTRACTOR'S CONVENIENCE. THEY DO NOT NECESSARILY CORRESPOND TO BID SCHEDULE ITEMS. PAYMENT WILL BE BASED ON BID SCHEDULE ITEMS. THE CONTRACTOR SHALL NOT BE RELIEVED OF HIS RESPONSIBILITY FOR INDEPENDENTLY ESTIMATING WORK QUANTITIES PRIOR TO BIDDING.
- BACKFILL COMPACTION SHALL BE PER MAG 301, UNLESS OTHERWISE NOTED.
- REMOVAL OF STRUCTURES AND OBSTRUCTIONS AS NECESSARY TO COMPLETE THE WORK, OTHER THAN SPECIALLY SCHEDULED IN THE BID, IS INCIDENTAL TO THE CONTRACT. NO SEPARATE MEASUREMENT OF PAYMENT FOR UNSCHEDULED REMOVAL ITEMS WILL BE MADE.
- CONSTRUCTION STAKING SHALL BE BY THE CONTRACTOR'S SURVEYOR WITH CONTROL PROVIDED BY THE DESIGN ENGINEER WHO STAMPED THE PLANS.
- THE LAKE HAVASU CITY MAY ORDER ANY OR ALL WORKMANSHIP AND MATERIALS TO BE TESTED ACCORDING TO APPLICABLE STANDARDS.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL REWORK AND/OR REMOVAL AND REPLACEMENT OF ALL MATERIALS AND/OR WORKMANSHIP REPRESENTED BY A FAILING TEST.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS OF TESTING AND QUALITY ASSURANCE/QUALITY CONTROL AS DELINEATED IN THE CITY'S PROJECT SPECIFICATIONS. THE COST OF TESTING IS INCIDENTAL TO EACH ITEM OF WORK. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE COST OF ANY CITY INSPECTION AND CITY INSPECTION TIME IF THE CONTRACTOR'S WORK IS BEING PERFORMED IN OVERTIME, AT NIGHT, OR ON WEEKENDS.
- APPROVAL OF A PORTION OF THE WORK IN PROGRESS DOES NOT GUARANTEE ITS FINAL ACCEPTANCE. TESTING AND EVALUATION MAY CONTINUE UNTIL WRITTEN FINAL ACCEPTANCE OF A COMPLETE AND WORKABLE UNIT.
- THE LAKE HAVASU CITY MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN ITS JUDGEMENT, PROGRESS IS UNSATISFACTORY, WORK BEING DONE IS UNAUTHORIZED OR DEFECTIVE, WEATHER CONDITIONS ARE UNSUITABLE, OR THERE IS A DANGER TO THE PUBLIC HEALTH OR SAFETY.
- CLEARING AND GRUBBING IS CONSIDERED INCIDENTAL TO THE WORK UNLESS SEPARATELY IDENTIFIED IN THE BID SCHEDULE. NO SEPARATE MEASUREMENT OF OR PAYMENT FOR CLEARING, GRUBBING, AND TREE REMOVAL WILL BE MADE. THE SITE OF ALL EXCAVATION, EMBANKMENTS, AND FILLS SHALL FIRST BE CLEARED OF STUMPS, TRASH, WEEDS, RUBBISH, AND LOOSE BOULDERS WHICH SHALL BE REMOVED AND DISPOSED OF. THE CONTRACTOR MUST SATISFY HIMSELF REGARDING THE CHARACTER AND AMOUNT OF LOAM, CLAY, SAND, QUICKSAND, HARDPAN, GRAVEL, ROCK, WATER, AND ALL OTHER MATERIAL TO BE ENCOUNTERED AND WORK TO BE PERFORMED.
- THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND ARE BASED ON FIELD DATA AND MAP RECORDS. THE CONTRACTOR SHALL CONTACT 1-800-STAKE-IT PRIOR TO ANY CONSTRUCTION ACTIVITY TO VERIFY THE ACTUAL LOCATION OF ALL UTILITIES. THE CONTRACTOR SHALL DETERMINE WHICH UTILITIES DO NOT PARTICIPATE IN 1-800-STAKE-IT AND CONTACT THEM DIRECTLY TO VERIFY THE LOCATION OF THOSE UTILITIES. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY CONTRACTOR'S OPERATION SHALL BE REPORTED TO THE UTILITY OWNER IMMEDIATELY AND REPAIRED OR REPLACED AT NO COST TO THE CITY. IN CASES WHEN THE EXISTING UTILITIES ARE NOT AS DEPICED ON THE PLANS SOME MINOR DEVIATION TO THE PROPOSED ALIGNMENT MAY BE ALLOWED TO MAINTAIN MINIMUM SEPARATION DISTANCES BETWEEN UTILITIES. ANY PROPOSED TO MAINTAIN MINIMUM SEPARATION DISTANCES BETWEEN UTILITIES. ANY PROPOSED TO CHANGES TO THE ALIGNMENT MUST BE SUBMITTED TO THE CITY'S REPRESENTATIVE FOR REVIEW. NO CHANGES WILL BE ALLOWED WITHOUT PRIOR APPROVAL.
- THE CONTRACTOR SHALL LIMIT THE WORK AREA TO PUBLIC RIGHT-OF-WAY AND PERMANENT EASEMENTS AS SHOWN FOR CONSTRUCTION OF THE PROJECT. TEMPORARY CONSTRUCTION EASEMENTS EXIST AS SHOWN AND INDICATED IN THE PLANS.
- CONTRACTOR SHALL OBTAIN ANY ADDITIONAL TEMPORARY EASEMENTS OR USE AGREEMENTS THAT ARE DEEMED NECESSARY FOR CONSTRUCTION AT NO ADDITIONAL COST TO THE CITY. COPIES OF ALL CONTRACTOR OBTAINED EASEMENTS AND USE AGREEMENTS SHALL BE PROVIDED TO THE CITY'S REPRESENTATIVE PRIOR TO THE UTILIZATION OF THE SITE.
- THE CONTRACTOR SHALL GRADE AND RESURFACE ALL AREAS DISTURBED BY CONSTRUCTION, INCLUDING LANDSCAPE ROCK, IN ACCORDANCE WITH THE SPECIFICATIONS AND TO A CONDITION EQUAL TO, OR BETTER THAN, THE PRE-CONSTRUCTION CONDITION.
- THE CONTRACTOR SHALL PROTECT ALL CONCRETE STRUCTURES TO REMAIN. ALL CONCRETE REPLACEMENT SHALL BE FROM JOINT TO JOINT (WALLS, SIDEWALK) AND SHALL BE REPLACED WITH 4000 PSI CONCRETE. ALL DAMAGED CONCRETE PANELS MUST BE REPLACED AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE PROTECTION TO PREVENT UNDERMINING OR DAMAGING THE STRUCTURAL INTEGRITY OF ALL FENCES, RETAINING WALLS, STREET SIGNS, OTHER UTILITY POLES, OR OTHER PRIVATE OR PUBLIC IMPROVEMENTS WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNING UTILITY AS NECESSARY TO PROVIDE TEMPORARY SUPPORT, OR PROTECTION DURING CONSTRUCTION WORK, AND SHALL NEATLY REMOVE AND PROMPTLY REPLACE NON UTILITY IMPROVEMENTS WITHOUT UNDUE DISRUPTION. THE COST OF ALL SUCH PROTECTION, REMOVAL, AND REPLACEMENT REQUIRED TO COMPLETE THE PROJECT SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
- THE CONTRACTOR SHALL REMOVE ALL FENCING, ASPHALT AND CONCRETE ROADS AND DRIVEWAYS, CURB AND GUTTER, RIP-RAP, DRAINAGE CULVERTS AND ASSOCIATED APPURTENANCES AS REQUIRED FOR CONSTRUCTION PURPOSES. ALL ITEMS DAMAGED OR REMOVED SHALL BE RESTORED IN ACCORDANCE WITH THE SPECIFICATION TO A CONDITION EQUAL TO, OR BETTER THAN, THEIR CONDITION PRIOR TO THE START OF THE PROJECT. ITEMS OF WORK NOT SPECIFICALLY INCLUDED IN THE MEASUREMENTS AND PAYMENT SECTION OF THE SPECIFICATIONS SHALL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS AND SHALL NOT BE PAID FOR SEPARATELY.
- IT IS NOT THE INTENTION OF THE SPECIFICATIONS TO SUPERSSEDE ANY FEDERAL, STATE OR LOCAL LAWS, REGULATIONS AND/OR ORDINANCES; THEY SHALL GOVERN IN ALL INSTANCES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SHOW A GOOD FAITH EFFORT AND TO PROTECT ALL EXISTING UTILITY TIES AND STRUCTURES AND TO ABIDE BY ALL FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES IN THIS RESPECT.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS ON PRIVATE PROPERTY. ALL ITEMS DAMAGED OR REMOVED SHALL BE RESTORED IN ACCORDANCE WITH THE SPECIFICATION TO A CONDITION EQUAL TO, OR BETTER THAN, THEIR CONDITION PRIOR TO THE START OF THE PROJECT.
- PROPERTY LINES SHOWN ON DRAWINGS ARE APPROXIMATE.

- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS, UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION (MAG). OTHER CITY'S, AND ADOT DETAILS (AS CITED IN PROJECT PLANS AND SPECIFICATIONS), LAKE HAVASU CITY STANDARD DETAILS WILL CONTINUE TO APPLY WHERE SUCH DETAILS WERE NOT ADOPTED OR INCLUDED BY MAG. ALTERNATE DETAILS AND SPECIFICATIONS MAY BE SUBMITTED FOR REVIEW AND ACCEPTANCE BY THE ENGINEERING DIVISION. IF ACCEPTED, ALTERNATE DETAILS WILL BE SHOWN AS PART OF THE APPROVED PLANS/DETAIL SHEETS.
- THIS SET OF PLANS HAS BEEN REVIEWED FOR COMPLIANCE WITH CITY REQUIREMENTS PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS. HOWEVER, SUCH REVIEW SHALL NOT PREVENT THE CITY ENGINEER FROM REQUIRING CORRECTION OF ERRORS OR OMISSIONS IN PLANS FOUND TO BE IN VIOLATION OF ANY LAW OR ORDINANCE.
- APPROVAL BY THE CITY ENGINEER MEANS FOR GENERAL LAYOUT IN RIGHT-OF-WAY ONLY. CONSTRUCTION PERMITS SHALL BE OBTAINED WITHIN THIS PERIOD OR THE PLANS SHALL BE RESUBMITTED FOR APPROVAL. WORK SHALL ALSO BE CONTINUOUSLY PURSUED IN ORDER TO MAINTAIN A VALID PLAN APPROVAL AND PERMIT. APPROVAL IS ONLY FOR WORK WITHIN THE JURISDICTION OF LAKE HAVASU CITY.
- AN APPROVED SET OF PLANS MUST BE AVAILABLE ON THE JOB SITE AT ALL TIMES. THE CONTRACTOR'S REPRESENTATIVE (CAPABLE OF COMMUNICATING WITH THE CITY'S REPRESENTATIVES) SHALL BE ON THE JOB AT ALL TIMES THE WORK IS BEING PURSUED.
- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE EMERGENCY TELEPHONE NUMBERS TO LAKE HAVASU CITY AT TIME OF LSSUANCE OF OFF--SLE/ON--SITE PERMITS AND HAVE PERSONNEL AVAILABLE 24--HOURS A DAY TO RESPOND TO EMERGENCIES. IF THE CITY IS REQUIRED TO RESPOND AND MAKE EMERGENCY REPAIRS ON BEHALF OF THE CONTRACTOR, THE CONTRACTOR IS RESPONSIBLE TO REIMBURSE THE CITY FOR ALL COSTS INCURRED.
- THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO PREVENT EROSION AND DEPOSITION OF SEDIMENTS INTO WATER COURSES. THE CONTRACTOR SHALL SUBMIT AN EROSION CONTROL PLAN FOR APPROVAL, PRIOR TO THE START OF ANY EXCAVATION. ALL DRAINAGE PROTECTIVE DEVICES SUCH AS SWALES, INTERCEPTION DITCHES, PIPES, PROTECTIVE BERMS, CONCRETE CHANNELS OR OTHER MEASURES DESIGNED TO PROTECT IMPROVEMENTS, WHETHER EXISTING OR PROPOSED, FROM RUNOFF OR DAMAGE FROM STORM WATER, MUST BE CONSTRUCTED PRIOR TO THE CONSTRUCTION OF ANY IMPROVEMENTS. ALL EROSION AND SEDIMENT CONTROL WORK SHALL BE INCIDENTAL TO OTHER PAY ITEMS.
- TRAFFIC CONTROL SHALL CONFORM WITH THE TRAFFIC BARRICADE MANUAL AND MUTCD GUIDELINES. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN PER THE TRAFFIC BARRICADE MANUAL. BARRICADES MUST BE CONTINUALLY MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. A TRAFFIC CONTROL PLAN (TCP) SHALL BE SUBMITTED TO THE ENGINEERING DIVISION AND ACCEPTED A MINIMUM OF 24--HOURS PRIOR TO CONSTRUCTION. AN ACCEPTED TCP WILL BE STAMPED AND A COPY RETURNED TO THE CONTRACTOR. A COPY OF THE ACCEPTED PLAN MUST REMAIN ON THE JOB SITE AT ALL TIMES.
- ALL CONTRACTORS ARE RESPONSIBLE TO OBTAIN AN ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES) PERMIT IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS, INCLUDING NOTICE OF INTENT (NOI), NOTICE OF TERMINATION, AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP). A COPY OF THE NOI AND SWPPP SHALL BE AVAILABLE ON THE JOB SITE AT ALL TIMES.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY AND ALL OTHER PERMITS AND MEET ANY REQUIREMENTS SET FORTH BY OTHER AGENCIES OR UTILITIES, WHICH HAVE JURISDICTION, AT THE CONTRACTORS EXPENSE, INCLUDING OSHA. CONTRACTOR SHALL MEET OSHA STANDARDS FOR TRENCH SAFETY.
- FIRE ACCESS TO BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION AS REQUIRED BY LAKE HAVASU CITY FIRE DEPARTMENT.
- THE CONTRACTOR SHALL KEEP SUITABLE EQUIPMENT ON HAND AT THE JOBSITE FOR MAINTENANCE DUST CONTROL, AND SHALL CONTROL DUST AS DIRECTED BY THE APPROPRIATE AGENCIES.
- ALL EXISTING FLOW LINES SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
- PROPERTY LINES SHOWN ON DRAWINGS ARE APPROXIMATE.
- THE CONTRACTOR SHALL GRADE AND RESURFACE ALL AREAS DISTURBED BY CONSTRUCTION, INCLUDING LANDSCAPE ROCK, IN ACCORDANCE WITH THE SPECIFICATIONS AND TO A CONDITION EQUAL TO, OR BETTER THAN, THE PRE-CONSTRUCTION CONDITION.
- ANY ROCK ENCOUNTERED DURING EXCAVATION SHALL BE REMOVED AT NO ADDITIONAL COST TO THE CITY. ROCK EXCAVATION COST SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.
- ANY SHORING REQUIRED SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.
- COORDINATE SHUTDOWN AND SEQUENCING REQUIREMENTS WITH OWNER 48--HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR MUST HAVE AN APPROVED SEQUENCING PLAN PRIOR TO ANY CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
- CONTRACTOR SHALL FIELD VERIFY AND REPLACE ALL PROPERTY DRAIN PIPES (6" OR SMALLER, IN KIND) TO BE LAID OVER THE FINISHED GRADE SLOPE & EXTENDED 12" BEYOND TOP OF BANK PROTECTION AS SPECIFIED ON THE TECHNICAL SPECIFICATIONS (ALLOWANCE).

## ACRONYM/ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE
ACP	ASPHALTIC CONCRETE PAVEMENT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BF	BACK FACE
d <sub>n</sub>	NOMINAL DIAMETER OF BAR
CLR	CLEARANCE
CMU	CONCRETE MASONRY UNIT
CONT.	CONTINUOUS
DIA.	DIAMETER
FF	FRONT FACE
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
MIN	MINIMUM
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
PCF	POUNDS PER CUBIC FOOT
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
PSF	POUNDS PER SQUARE FOOT
TYP	TYPICAL

## LEGEND

	PROPERTY LINE, EXISTING R/W
	EXISTING EASEMENT
	EXISTING OVERHEAD ELECTRIC
	EXISTING WALL
	EXISTING UTILITY LINE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED WASH BANK
	CUT LINE
	FILL LINE
	PROPOSED CONCRETE GRADE CONTROL STRUCTURE
	PROPOSED CONCRETE SLURRY
	PROPOSED RIPRAP
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING WATER METER
	EXISTING SIGN
	EXISTING STORM DRAIN MANHOLE
	EXISTING CATCH BASIN
	EXISTING GUY WIRE
	EXISTING UTILITY POLE
	EXISTING TREE
	EXISTING PALM TREE

## ABBREVIATIONS

AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ASLD	ARIZONA STATE LAND DEPARTMENT
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
BF	BACK FACE
BLDG	BUILDING
CLR	CLEAR
CONC	CONCRETE
CT	CONSTRUCTION
DIA	DIAMETER
DWG	DRAWING
E	EAST, EASTING
ELEV	ELEVATION
ELC	ELECTRIC
ESMT	EASEMENT
EXST	EXISTING
FF	FRONT FACE
FG	FINISH GRADE ELEVATION
FT	FOOT OR FEET
GND	GROUND
HW	HIGH WATER
JT	JOINT
LF	LINEAR FEET
LOL	LAYOUT LINE
LS	LUMP SUM
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
MH	MANHOLE
N	NORTH, NORTHING
NIC	NOT-IN-CONTRACT
NPI	NON-PAY ITEM
NTS	NOT TO SCALE
OC	ON CENTER
PIP	PROTECT IN PLACE
PL	PROPERTY LINE
PROP	PROPOSED
S/W	SIDEWALK
SF	SQUARE FOOT
SPA	SPACING
SHT	SHEET
SPEC	SPECIFICATIONS
SS	SANITARY SEWER
STA	STATION
STD	STANDARD
TCE	TEMPORARY CONSTRUCTION EASEMENT
T/F	TOP OF FOOTING
T/W	TOP OF WALL



## LAKE HAVASU CITY SITE 6 BOAT RAMP RAMP IMPROVEMENTS

Designed by:	JTF
Drawn by:	JTF
Checked by:	ATL
Date:	8/24/23
Dwg. scale:	NONE

## GENERAL NOTES



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Sheet Number:

GN01

Sheet 2 of 9

# GENERAL STRUCTURAL NOTES

## DESIGN SPECIFICATIONS

2018 INTERNATIONAL BUILDING CODE (IBC) WITH LAKE HAVASU CITY AMENDMENTS

## CONSTRUCTION SPECIFICATIONS

2020 MAG STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION, WITH 2023 REVISIONS.

## DESIGN LOADS

WIND LOADS (PER ASCE 7-16):  
 BASIC WIND SPEED = 99 MPH  
 RISK CATEGORY = II  
 IMPORTANCE FACTOR ( $I_w$ ) = 1.0  
 DESIGN WIND PRESSURE = 21 PSF

EARTH LOADS (PER GEOTECHNICAL REPORT PREPARED BY NINYO & MOORE, PROJECT NO. 60771101, DATED AUGUST 04, 2023):

WEIGHT OF BACKFILL = 120 PCF  
 EQUIVALENT FLUID FOR ACTIVE SOIL PRESSURE = 40 PCF  
 EQUIVALENT FLUID FOR PASSIVE SOIL PRESSURE = 340 PCF  
 COEFFICIENT OF FRICTION = 0.40  
 ALLOWABLE SOIL BEARING PRESSURE = 1500 PSF

## EARTHQUAKE DESIGN DATA:

SITE CLASS..... D  
 $S_s$ ..... 0.25g  
 $S_1$ ..... 0.12g  
 $S_{ps}$ ..... 0.30g  
 $S_{p1}$ ..... 0.23g  
 SEISMIC DESIGN CATEGORY... D

## CONCRETE AND REINFORCEMENT

CAST-IN-PLACE CONCRETE SHALL BE MAG CLASS A, F'C = 3000 PSI MIN. UNLESS NOTED OTHERWISE.

REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60, Fy = 60,000 PSI.

HOOKS AND BENDS FOR REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-19.

ALL BEND DIMENSIONS FOR REINFORCING STEEL SHALL BE OUT-TO-OUT OF BARS. ALL PLACEMENT DIMENSIONS FOR REINFORCING STEEL SHALL BE TO CENTER OF BARS UNLESS NOTED OTHERWISE.

ALL REINFORCING SHALL HAVE 2" CLEAR COVER UNLESS NOTED OTHERWISE.

ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4".

## JOINT NOTES

CONSTRUCTION JOINTS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 30'-0". EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 90'-0".

## FOUNDATION

DESIGNS ARE BASED ON THE GEOTECHNICAL EVALUATION REPORT FOR SITE 6 BOAT RAMP IMPROVEMENTS, 591 BEACHCOMBER BOULEVARD, LAKE HAVASU CITY, ARIZONA, PREPARED BY NINYO & MOORE, PROJECT NO. 60771101, DATED AUGUST 4, 2023.

REQUIRED OVEREXCAVATION AND SUBGRADE PREPARATION, DRAINAGE PROVISIONS, AND OTHER RELEVANT SOIL CONSIDERATIONS ARE TO BE IN ACCORDANCE WITH THE ENGINEERING REPORT.

## COORDINATION

CONTRACTOR SHALL COORDINATE ALL EXISTING CONDITIONS DURING CONSTRUCTION OF PROJECT. UTILITY INFORMATION SHOWN ON THE PLANS MAY NOT BE COMPLETE OR ACCURATELY DEPICT THE LOCATION OF THE FACILITIES SHOWN. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL EXISTING, NEW, RELOCATED, AND ABANDONED UTILITIES WITH THE PROJECT PLANS AND NOTIFY RESPECTIVE OWNERS BEFORE COMMENCING THE WORK OF EXCAVATION, INCLUDING ANY DRILLING OR PILING REQUIRED FOR TEMPORARY SHORING. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED PRIOR TO PROCEEDING WITH THE WORK. SEE CIVIL AND UTILITY DRAWINGS FOR ADDITIONAL INFORMATION.

CONTRACTOR SHALL SUBMIT RAILING SPECIFICATIONS AND SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL.

VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO STARTING WORK. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

COFFERDAM SUBMITTAL IS REQUIRED AFTER AWARD AND PRIOR TO NTP.

## DIMENSIONS

DIMENSIONS SHALL NOT BE SCALED FROM DRAWINGS.

## SPECIAL INSPECTIONS

SPECIAL INSPECTION IS REQUIRED DURING THE FOLLOWING OPERATIONS PER 2018 I.B.C. SECTION 1704:

- REINFORCING STEEL PLACEMENT - PERIODIC
- CONCRETE PLACEMENT - CONTINUOUS
- CONCRETE STRENGTH - CONTINUOUS
- CONCRETE CURING - PERIODIC
- SOILS - PERIODIC

REBAR LAP SPLICE LENGTH TABLE	
BAR SIZE	LAP SPLICE LENGTH
#4	2'-5"
#5	2'-6"

TABLE 1705.3 - REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	FREQUENCY		REFERENCE FOR CRITERIA	
	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	-	X	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
REINFORCING BAR WELDING: A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706 B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 3/16" C. INSPECT ALL OTHER WELDS	- - X	X X -	AWS D1.4 ACI 318: 26.6.4	-
INSPECT ANCHORS CAST IN CONCRETE.	-	X	ACI 318: 17.8.2	-
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	X -	- X	ACI 318: 17.8.2.4 ACI 318: 17.8.2	-
VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINED THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1908.10
INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3-26.5.5	1908.9
INSPECT PRESTRESSED CONCRETE FOR: A. APPLICATION OF PRESTRESSING FORCES B. GROUTING OF BONDED PRESTRESSING TENDONS.	X X	- -	ACI 318: 26.10	-
INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	-	X	ACI 318: 26.9	-
VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	ACI 318: 26.11.2	-
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2(b)	-

## NOTES:

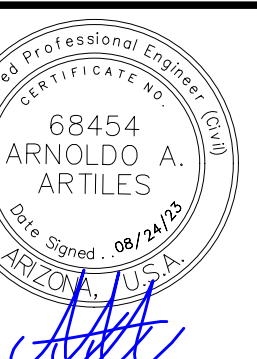
FREQUENCY REFERS TO THE FREQUENCY OF INSPECTION, WHICH MAY BE CONTINUOUS DURING THE TASK LISTED OR PERIODICALLY DURING THE LISTED TASK, AS DEFINED IN THE TABLE.

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**LAKE HAVASU CITY**  
SITE 6 BOAT RAMP  
RAMP IMPROVEMENTS

**GENERAL STRUCTURAL NOTES**



Sheet Number:

**GN02**

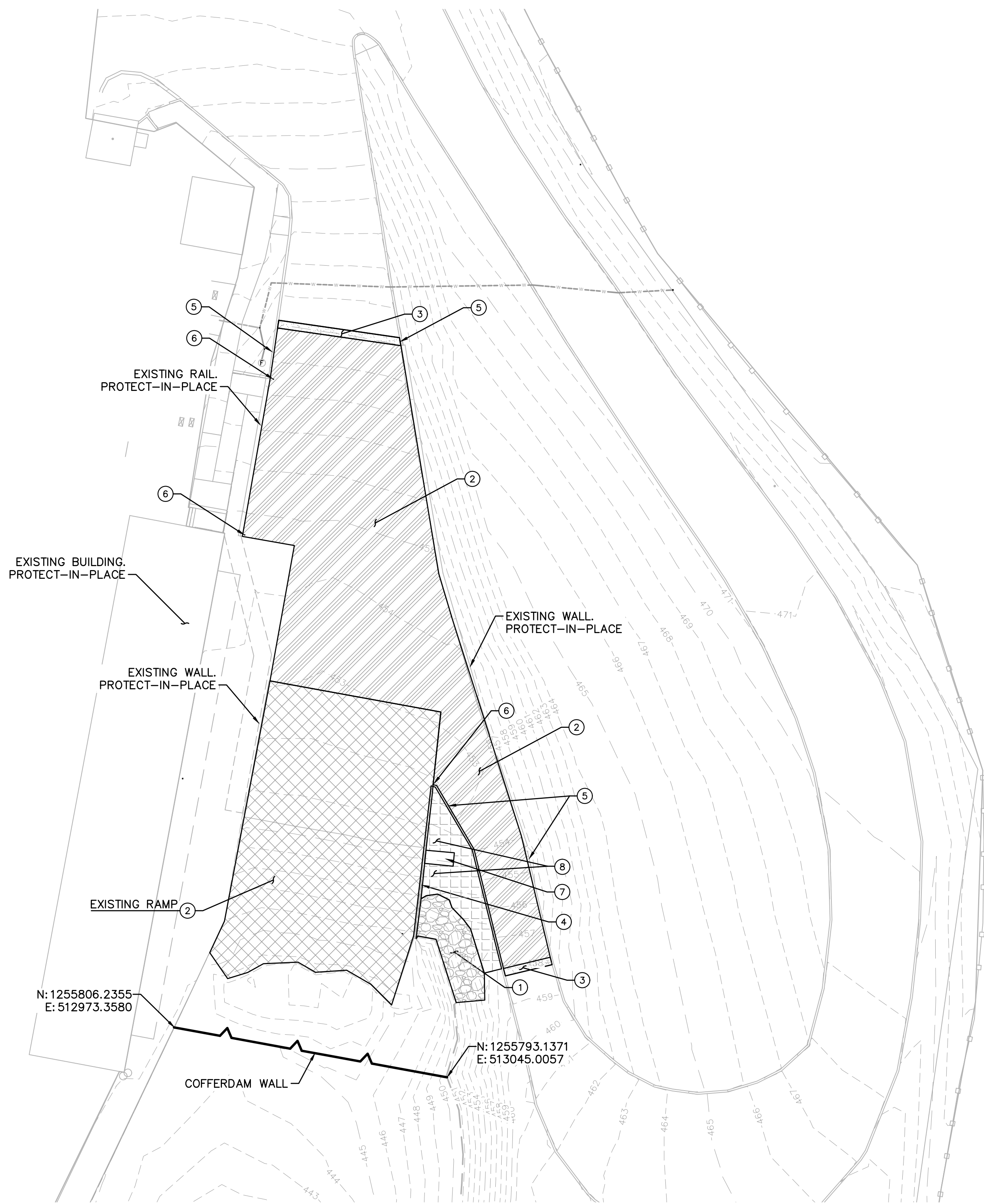
Sheet 3 of 9



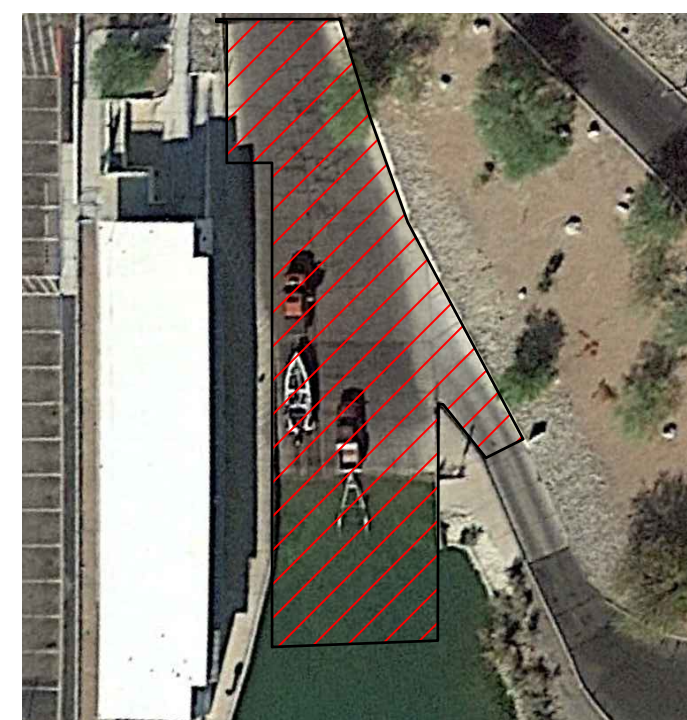
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**REMOVALS PLAN**  
SCALE: 1" = 20'-0"

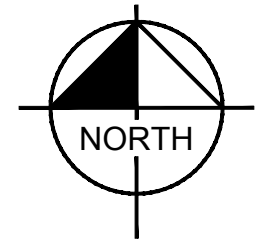


8 SIDEWALK REPLACEMENT  
SCALE: N.T.S.

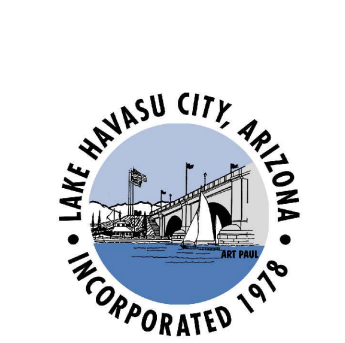
4 RETAINING WALL REPLACEMENT  
SCALE: N.T.S.

2 CONCRETE SLAB REPLACEMENT  
SCALE: N.T.S.

6 BOLLARD REPLACEMENT  
SCALE: N.T.S.



REMOVAL NOTES			
NO.	DESCRIPTION	QTY.	UNIT
1	REMOVE EXISTING RIPRAP.	34	SYD
2	REMOVE EXISTING PCCP.	960	SYD
3	REMOVE EXISTING ACP.	8	SYD
4	REMOVE EXISTING CMU RETAINING WALL.	40	LF
5	REMOVE EXISTING CONCRETE CURB.	100	LF
6	REMOVE DAMAGED BOLLARD.	3	EA
7	REMOVE EXISTING SIGN.	1	EA
8	REMOVE EXISTING SIDEWALK.	50	SYD



NO.	REVISIONS / SUBMISSIONS	DATE
#		
#		
#		
#		

**LAKE HAVASU CITY**  
**SITE 6 BOAT RAMP**  
**RAMP IMPROVEMENTS**

Designed by:	JTF
Drawn by:	JTF
Checked by:	ATL
Date:	8/24/23
Dwg. scale:	1" = 20'

**REMOVALS**

**ARIZONA BLUE STAKE**  
CALL TWO WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

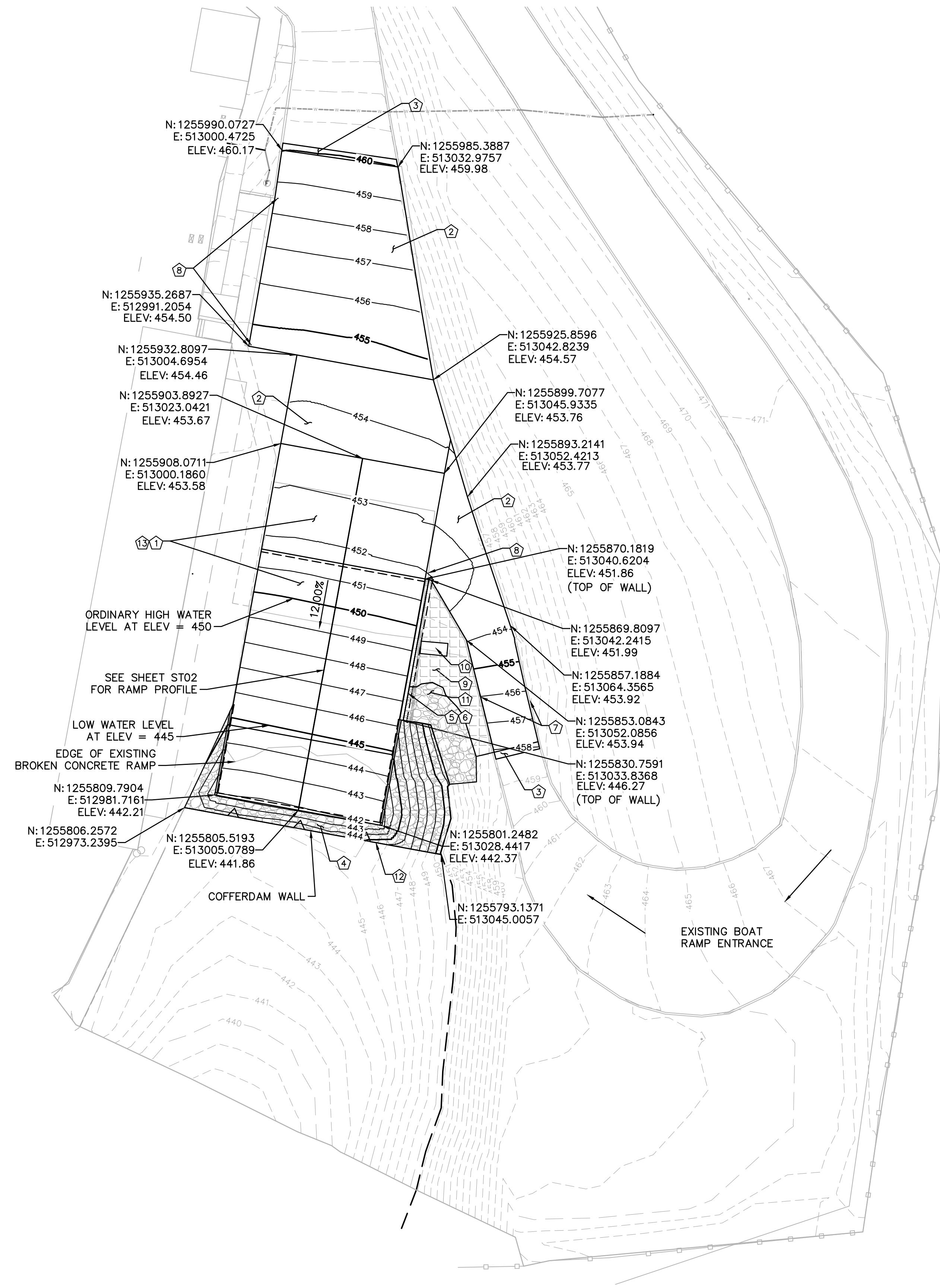


**Kimley»Horn**

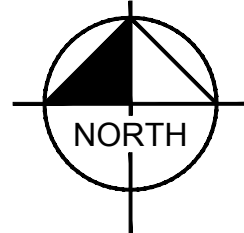
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Sheet Number:  
**REM01**  
Sheet 4 of 9

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**BOAT RAMP PLAN**  
SCALE: 1" = 20'-0"



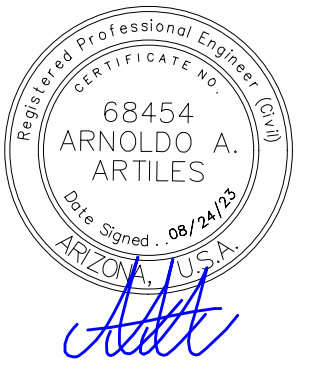
CONSTRUCTION NOTES		
NO.	DESCRIPTION	QTY. UNIT
1	CONSTRUCT REINFORCED CONCRETE RAMP PER SECTION A, SHEET ST03.	132 CY
2	CONSTRUCT PCCP PER DETAIL 4, SHEET ST03.	505 SYD
3	CONSTRUCT AC PAVEMENT PER DETAIL 5, SHEET ST03.	11 SYD
4	CONSTRUCT D50-9" RIPRAP, 18" THICK	100 SYD
5	CONSTRUCT CONCRETE RETAINING WALL PER SECTION C, SHEET ST03.	40 LF
6	CONSTRUCT SAFETY RAIL PER MAG SD 145.	40 LF
7	CONSTRUCT CONCRETE CURB PER LHC SD 213.	100 LF
8	CONSTRUCT BOLLARD PER MAG SD 140.	3 EA
9	CONSTRUCT SIDEWALK PER LHC SD 203B.	50 SYD
10	REPLACE EXISTING CAUTION SIGN.	1 EA
11	REPLACE EXISTING RIPRAP.	34 SYD
12	CONSTRUCT COFFERDAM WALL.	88 LF
13	SUBGRADE PREPARATION AT BOAT RAMP	526 CY

NO.	#	#	#	#	#
REVISIONS / SUBMISSIONS					
DATE					

**LAKE HAVASU CITY**  
**SITE 6 BOAT RAMP**  
**RAMP IMPROVEMENTS**

Designed by: JTF  
 Drawn by: JTF  
 Checked by: ATL  
 Date: 8/24/23  
 Dwg. scale: 1" = 20'

**GRADING PLAN**



**Kimley»Horn**

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Sheet Number:

**ST01**

Sheet 5 of 9

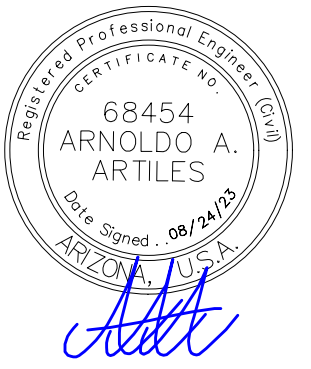


NO.	#	#	#	#
REVISIONS / SUBMISSIONS				
DATE				

**LAKE HAVASU CITY**  
**SITE 6 BOAT RAMP**  
**RAMP IMPROVEMENTS**

Designed by:	JTF
Drawn by:	JTF
Checked by:	ATL
Date:	8/24/23
Dwg. scale:	3/16" = 1'

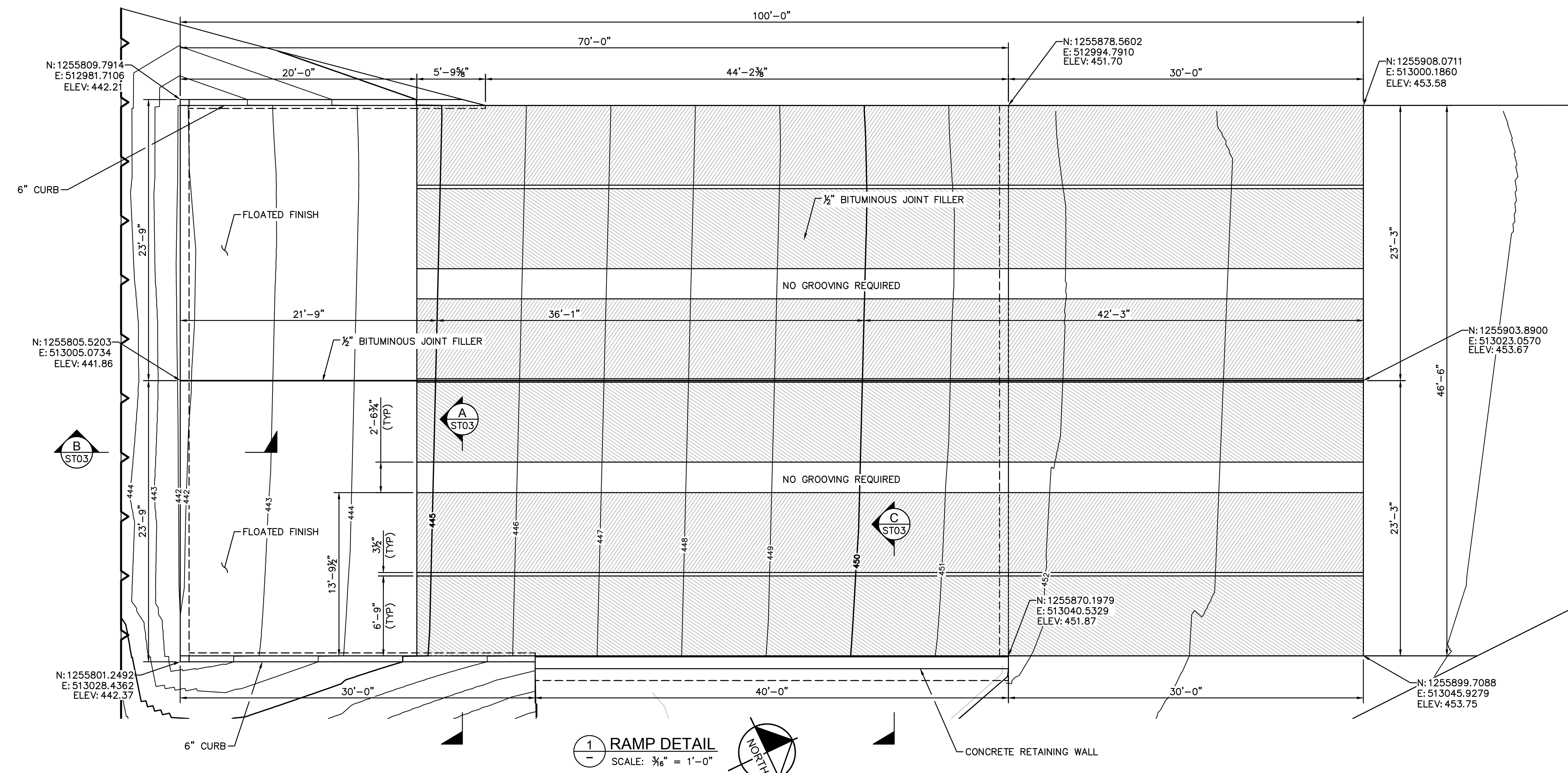
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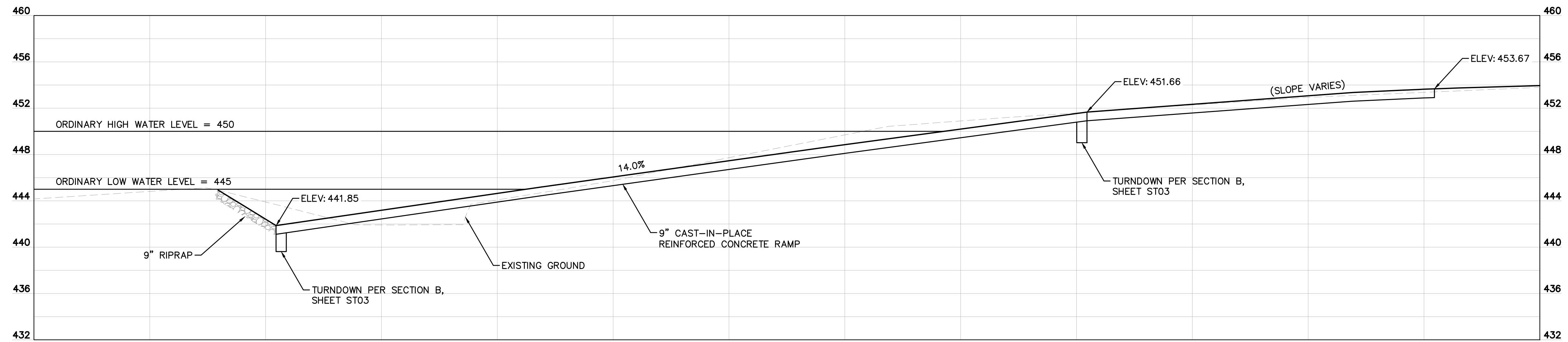
Sheet Number:

**ST02**

Sheet 6 of 9



**1 RAMP DETAIL**  
 SCALE: 3/16" = 1'-0"



**NOTE:**  
 1. PROFILE TAKEN AT RAMP CENTERLINE. ALL ELEVATIONS PERTAIN TO RAMP CENTERLINE.

**2 RAMP PROFILE**  
 SCALE: 3/16" = 1'-0"



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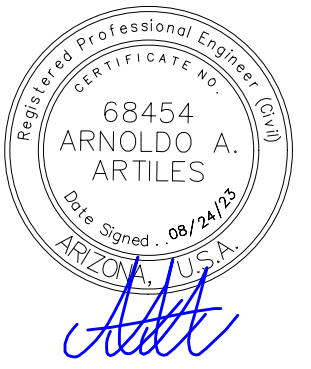
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**LAKE HAVASU CITY  
SITE 6 BOAT RAMP  
RAMP IMPROVEMENTS**

Designed by:	JTF
Drawn by:	JTF
Checked by:	ATL
Date:	8/24/23
Dwg. scale:	AS SHOWN

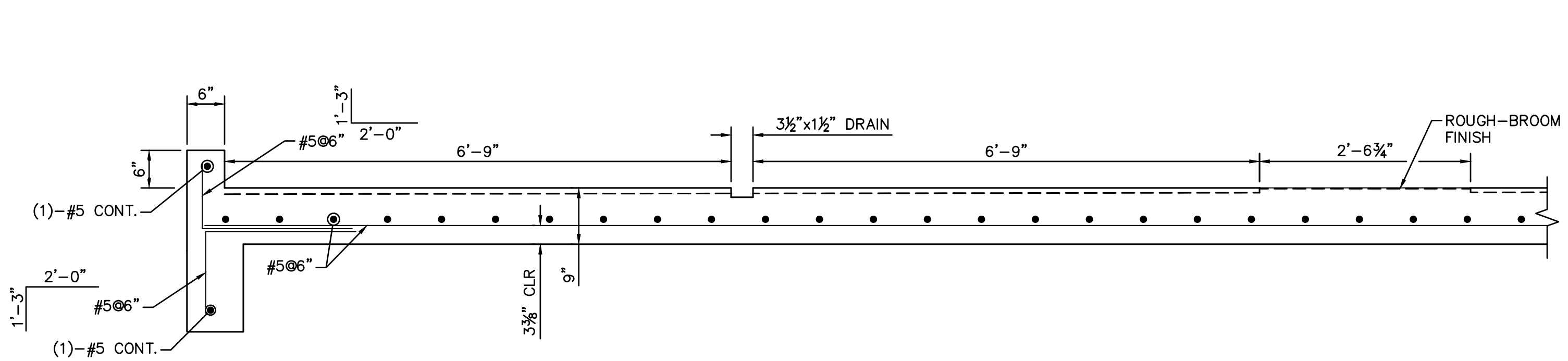
**STRUCTURAL DETAILS**



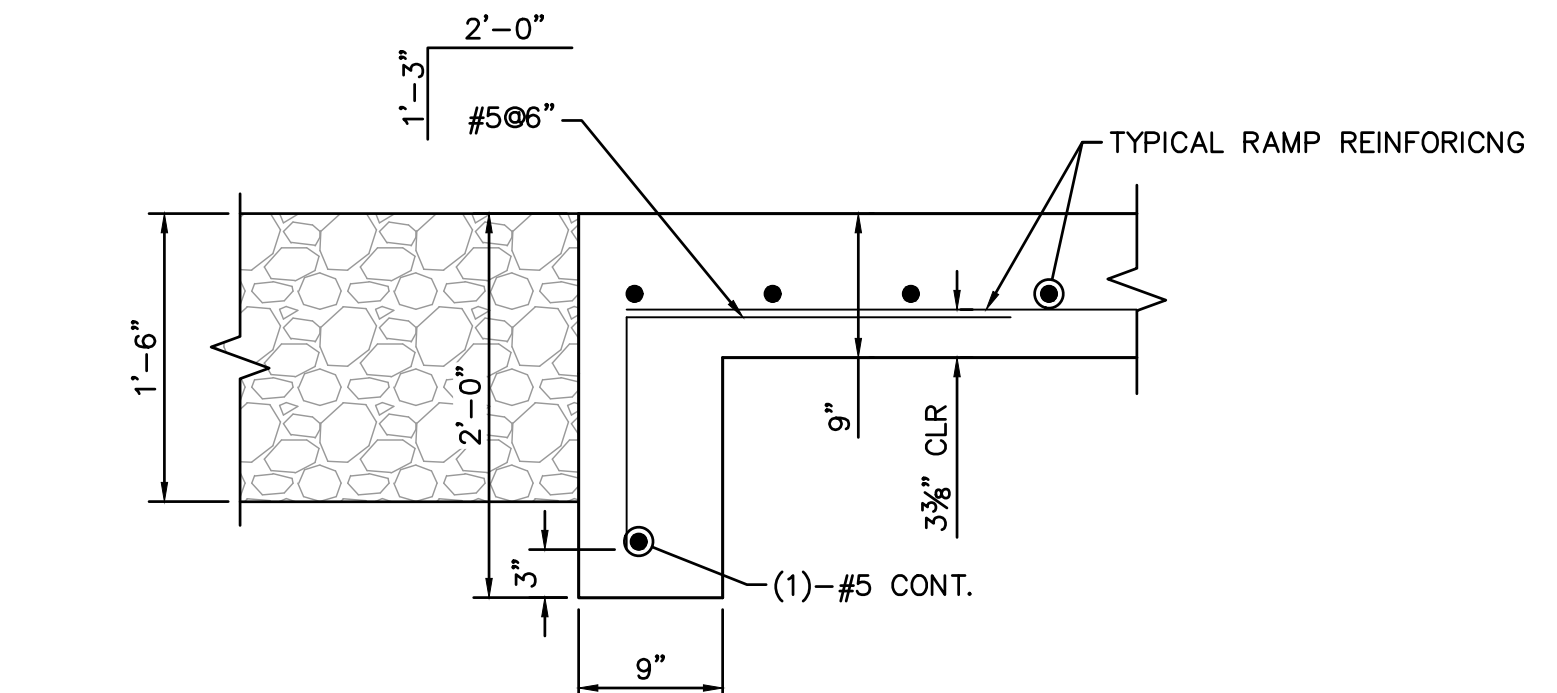
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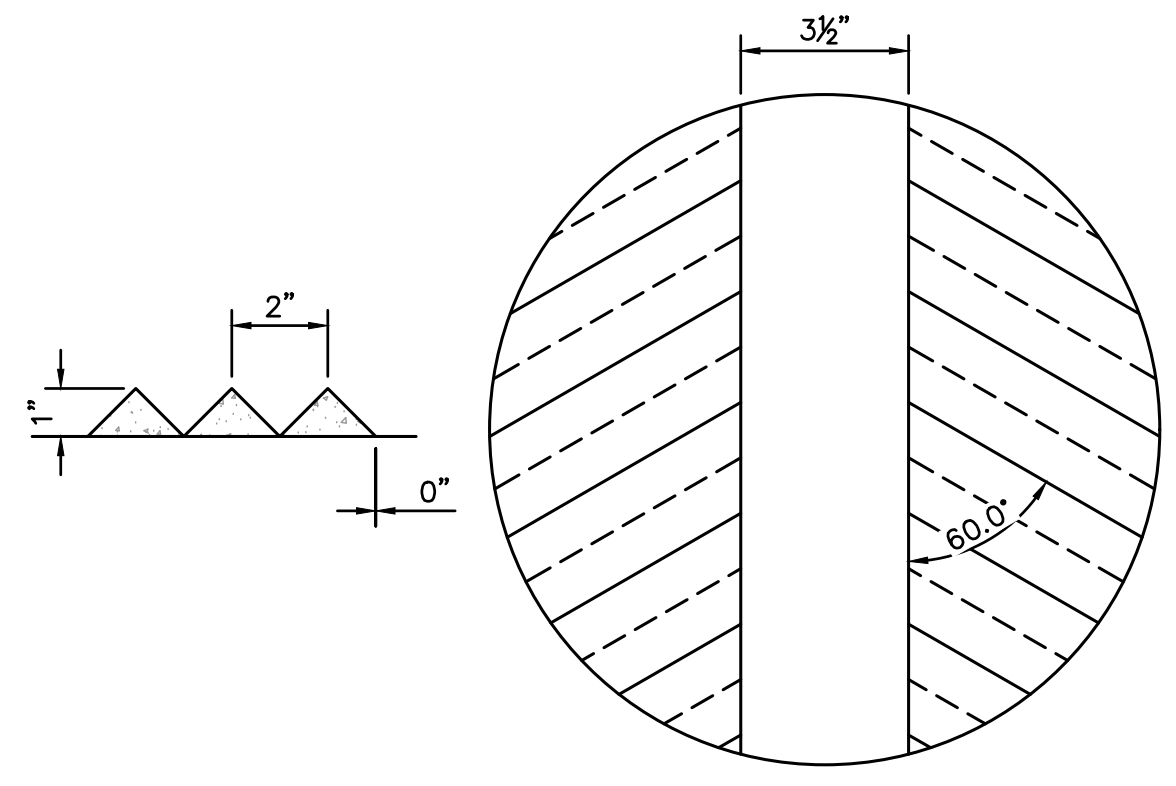
Sheet 7 of 9



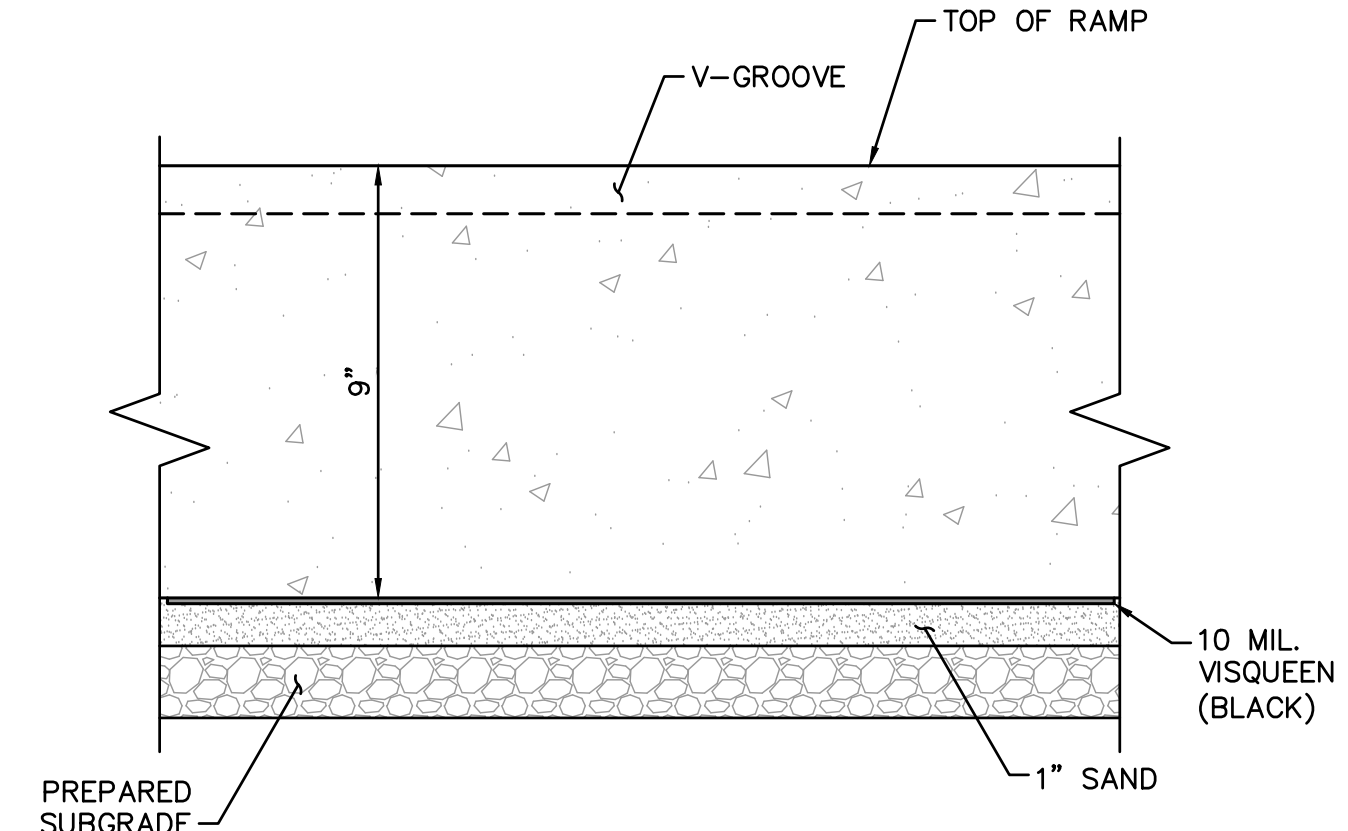
**A SECTION**  
SCALE: 3/4" = 1'-0"



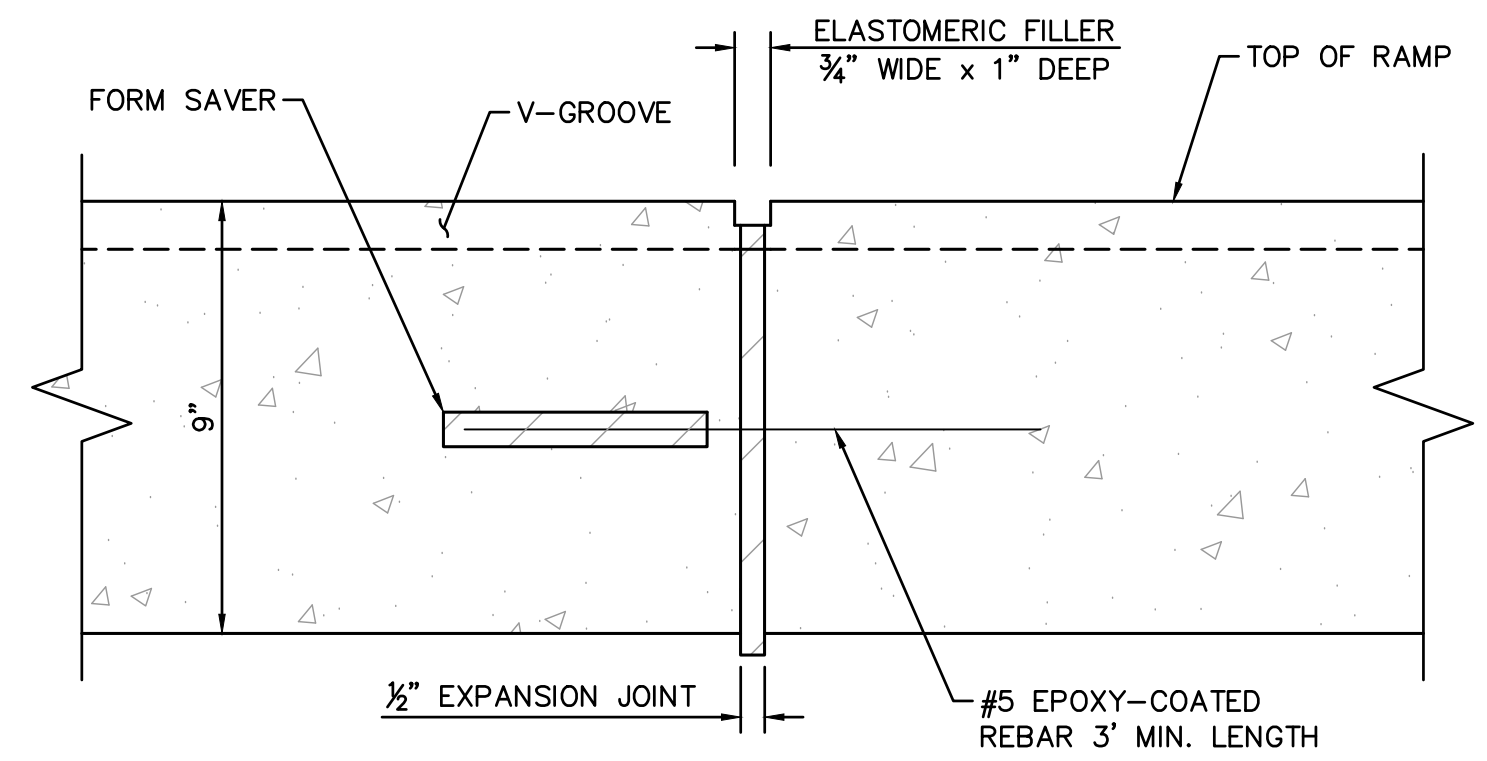
**B SECTION**  
SCALE: 1" = 1'-0"



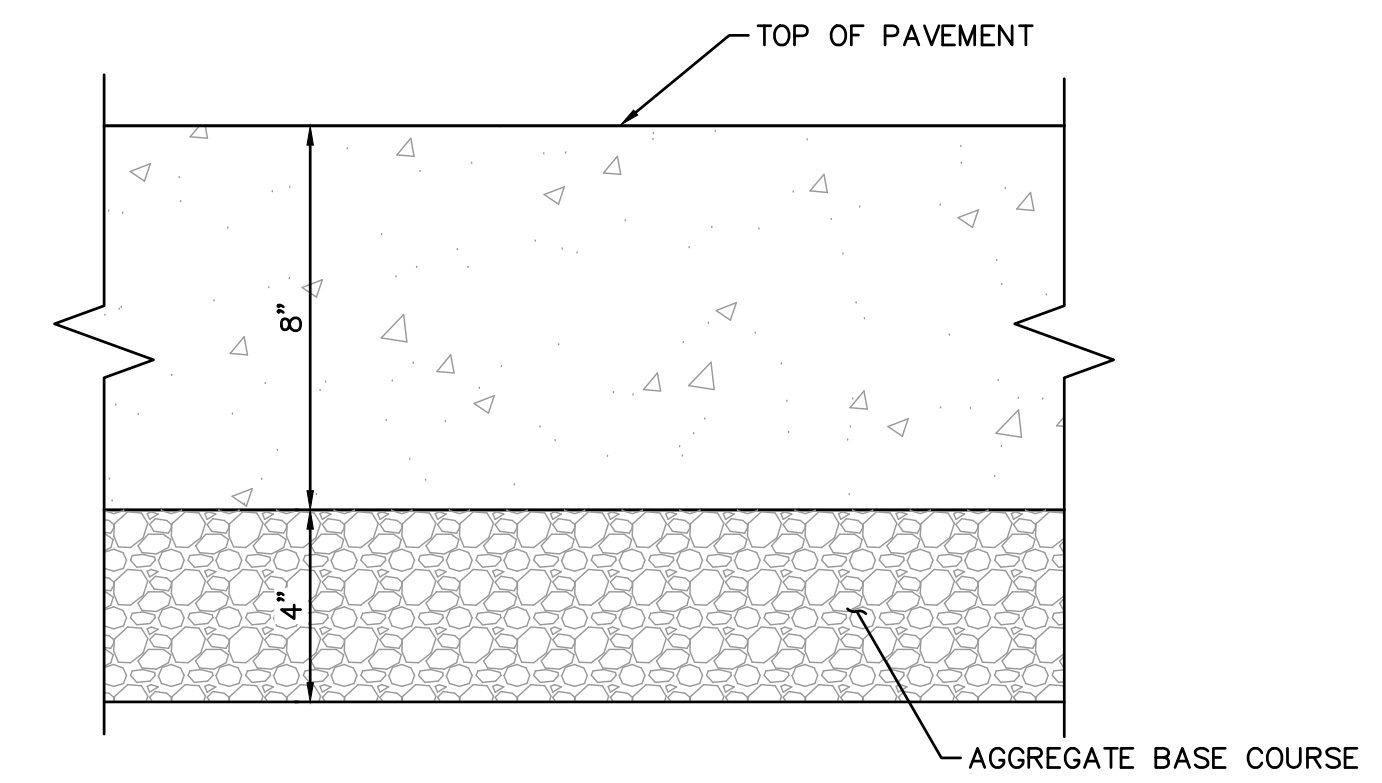
**1 GROOVING PATTERN DETAIL**  
SCALE: 3" = 1'-0"



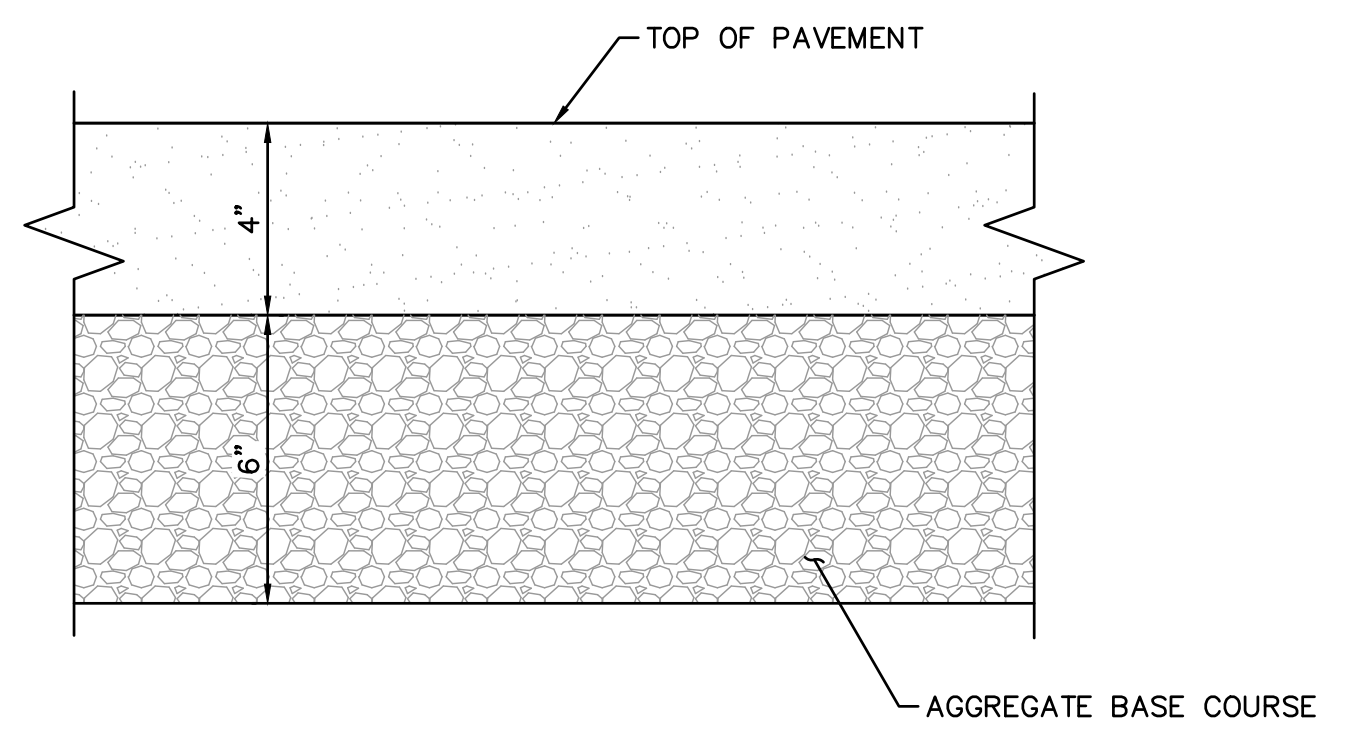
**2 RAMP SUBGRADE DETAIL**  
SCALE: 3" = 1'-0"



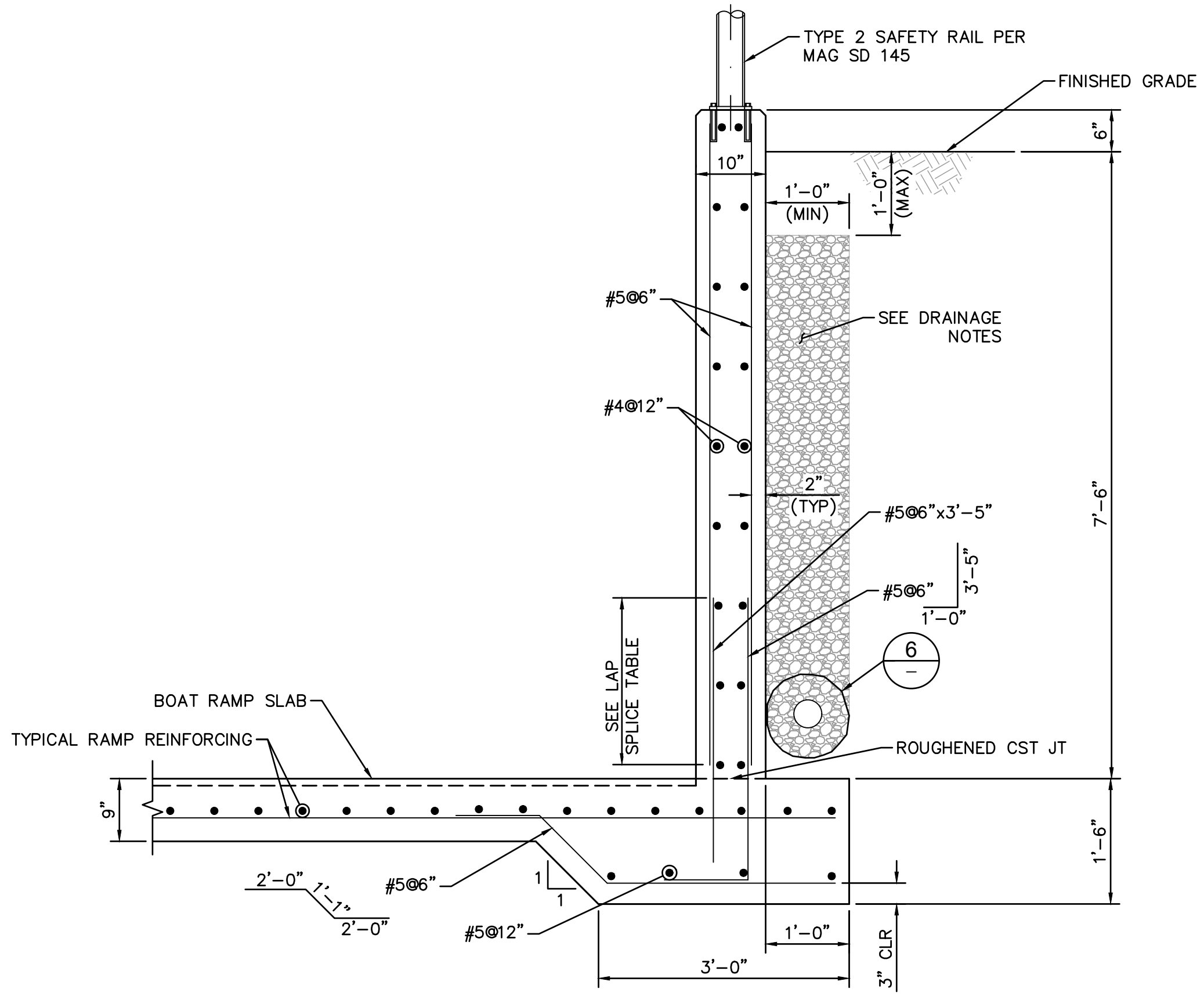
**3 JOINT DETAIL**  
SCALE: 3" = 1'-0"



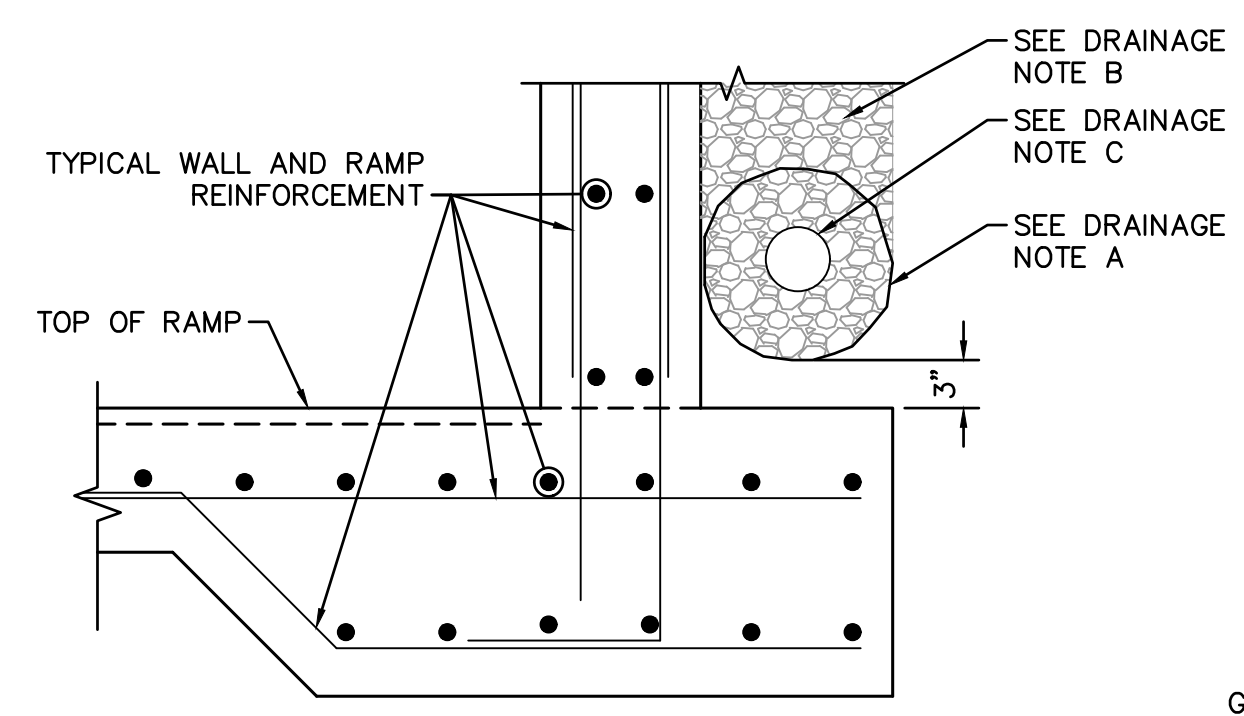
**4 PCCP CROSS-SECTION**  
SCALE: 3" = 1'-0"



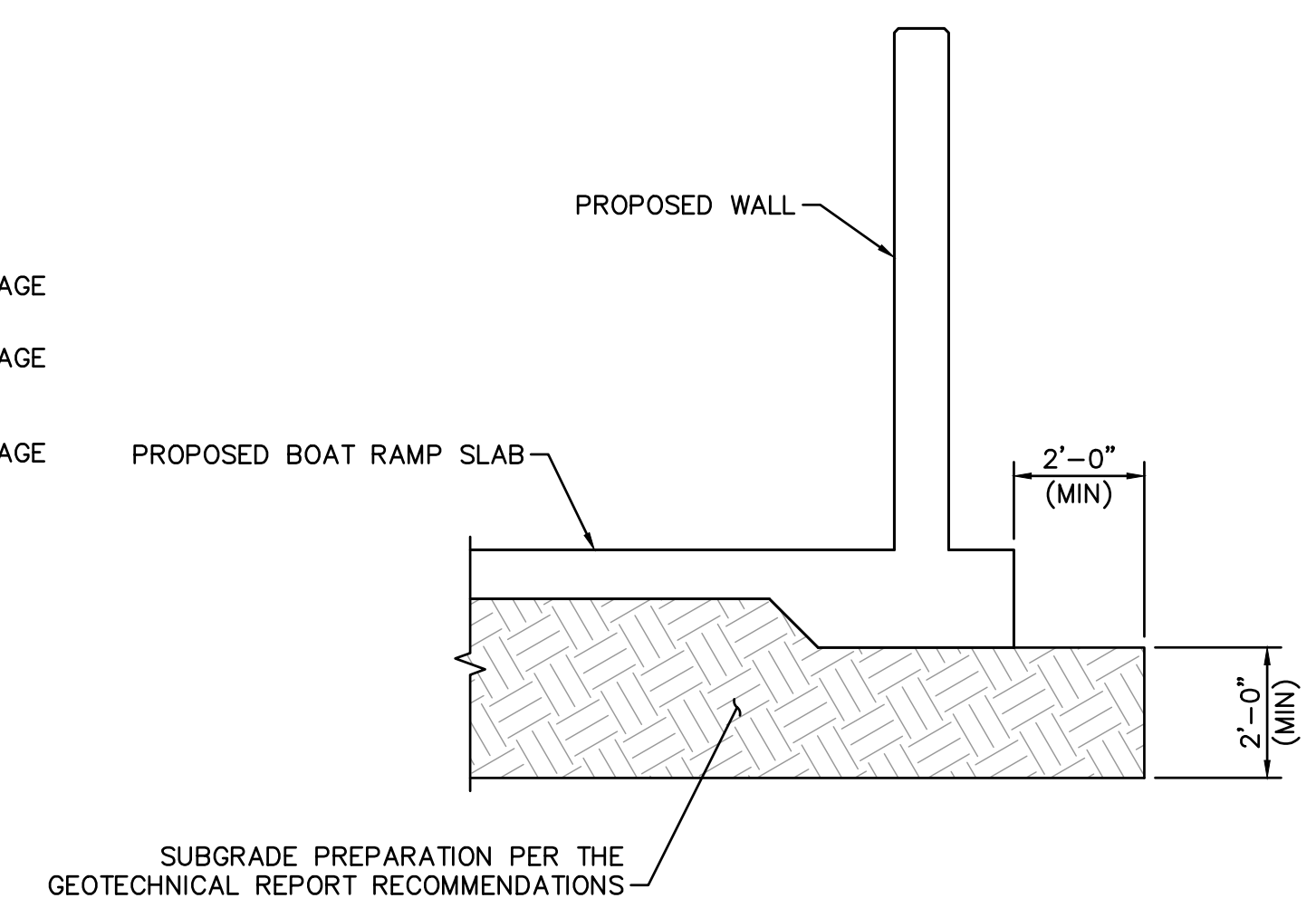
**5 ACP CROSS-SECTION**  
SCALE: 3" = 1'-0"



**C SECTION**  
SCALE: 3/4" = 1'-0"



**6 DRAINAGE DETAIL**  
SCALE: N.T.S.



**7 FOUNDATION PREPARATION DETAIL**  
SCALE: 3/8" = 1'-0"

**DRAINAGE NOTES**

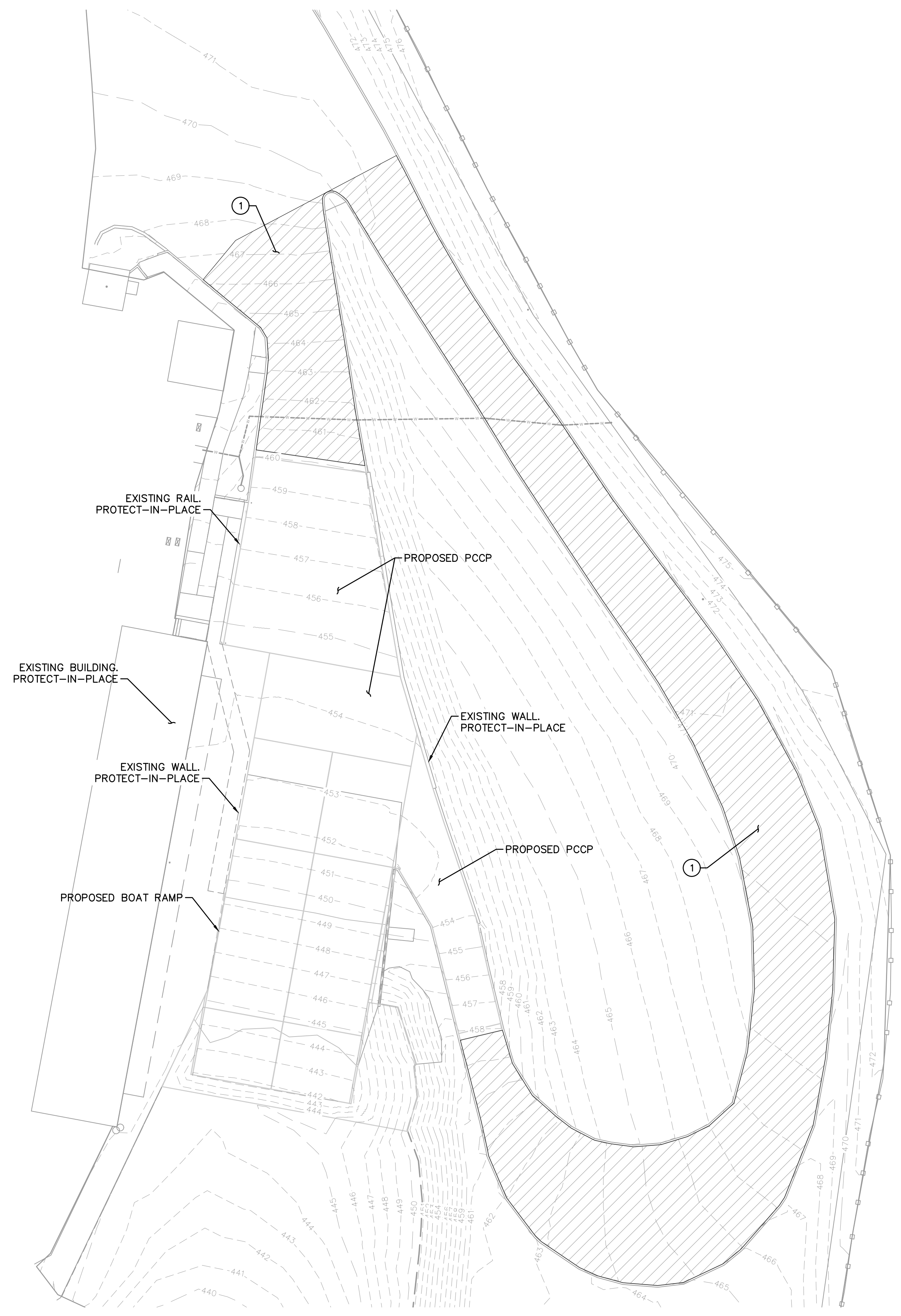
- A. MINIMUM OF 2 CUBIC FEET OF DRAIN ROCK PER FOOT OF LENGTH OF RETAINING WALL WRAPPED IN FILTER FABRIC, MIRAFI 140N, OR EQUIVALENT. DRAIN ROCK SHALL CONSIST OF CLEAN, UNIFORMLY SIZED GRAVEL, 3/4" IN NOMINAL SIZE.
- B. PERVIOUS BACKFILL MATERIAL CONTINUOUS BEHIND RETAINING WALL.
- C. 4" DIA PERFORATED SCHEDULE 40 DRAIN PIPE OR EQUIVALENT. LOCATE HIGH POINT AT THE CENTER OF THE BACK WALL. SLOPE PIPE TO DRAIN AND DAYLIGHT ON EACH SIDE WALL.



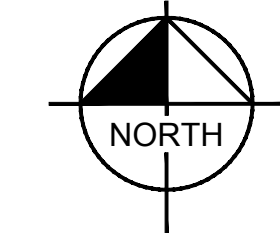
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**BID OPTION 1 REMOVALS PLAN**  
SCALE: 1" = 20'-0"



BID OPTION 1 REMOVAL NOTES		
NO.	DESCRIPTION	QTY. UNIT
1	REMOVE EXISTING ACP.	1336 SYD



NO.	REVISIONS / SUBMISSIONS	DATE
#	-	-
#	-	-
#	-	-
#	-	-

**LAKE HAVASU CITY**  
**SITE 6 BOAT RAMP**  
**RAMP IMPROVEMENTS**

Designed by:	ATL
Drawn by:	ATL
Checked by:	AAA
Date:	8/24/23
Dwg. scale:	1" = 20'

**BID OPTION 1 REMOVALS**

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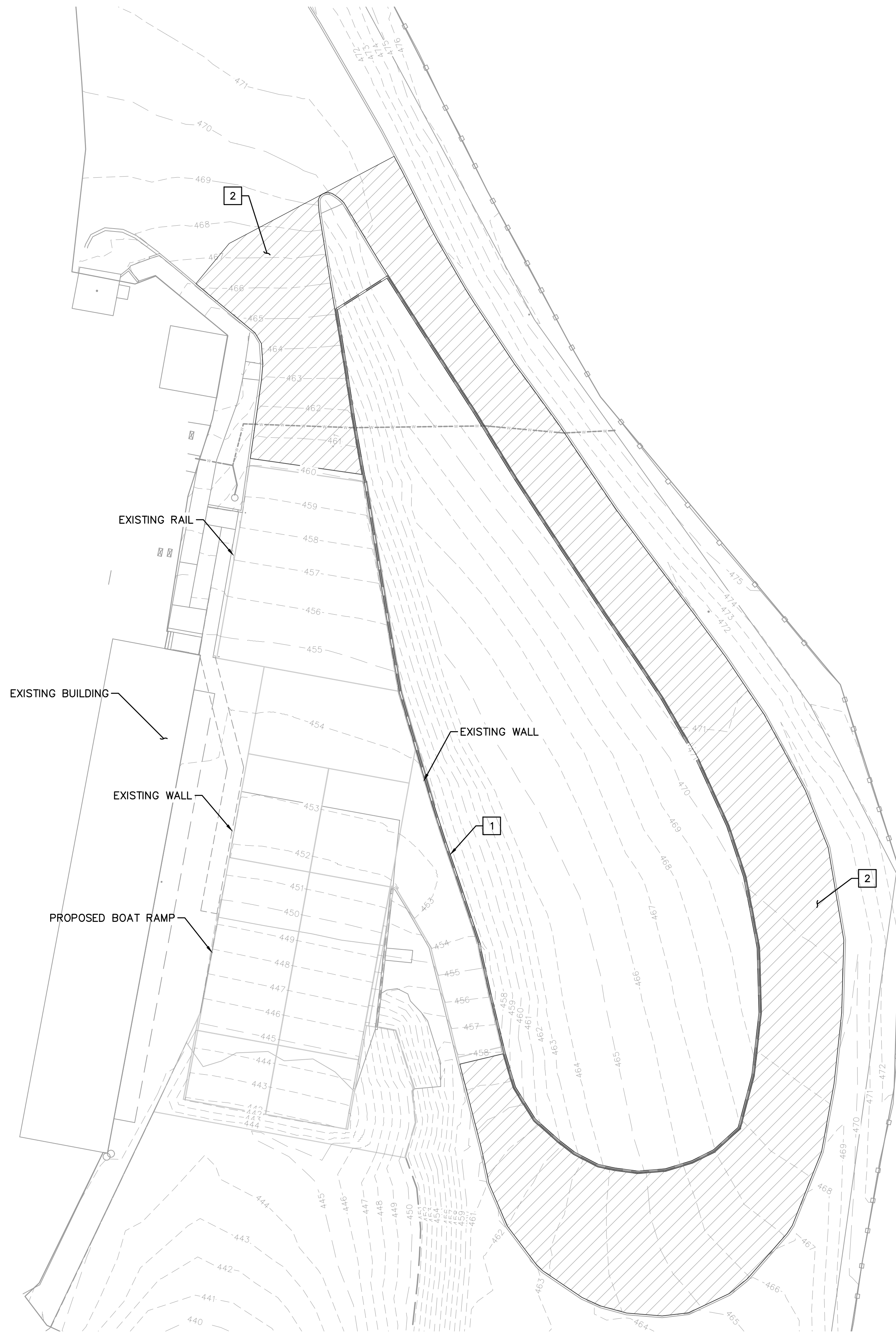
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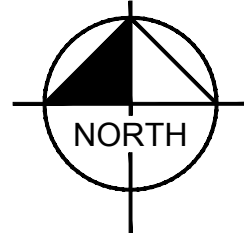
Sheet 8 of 9



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**BID OPTION 1 PLAN**  
SCALE: 1" = 20'-0"



BID OPTION 1 CONSTRUCTION NOTES		
NO.	DESCRIPTION	QTY. UNIT
1	INSTALL BLACK POWDER COATED DOUBLE TOP RAIL.	594 LF
2	CONSTRUCT PCCP PER DETAIL 4, SHEET ST03.	1336 SYD



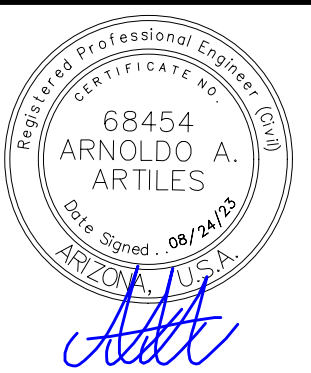
NO.	#	#	#	#
REVISIONS / SUBMISSIONS	-	-	-	-
DATE	-	-	-	-

**LAKE HAVASU CITY**  
**SITE 6 BOAT RAMP**  
**RAMP IMPROVEMENTS**

Designed by:	ATL
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Checked by:	AAA
Date:	8/24/23
Dwg. scale:	1" = 20'

**BID OPTION 1 CONSTRUCTION**

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Sheet Number:

**B02**

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