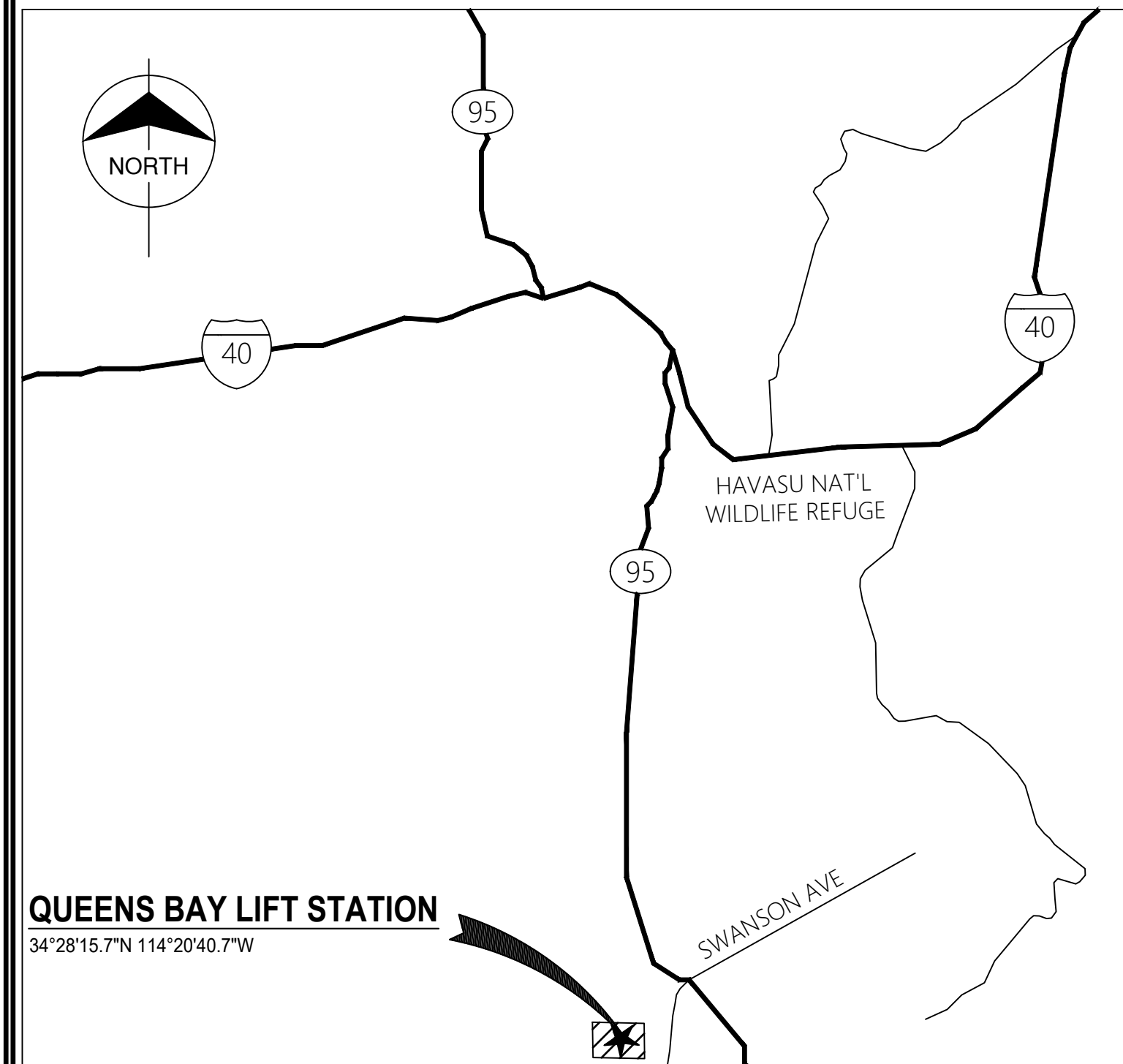


LAKE HAVASU CITY, ARIZONA

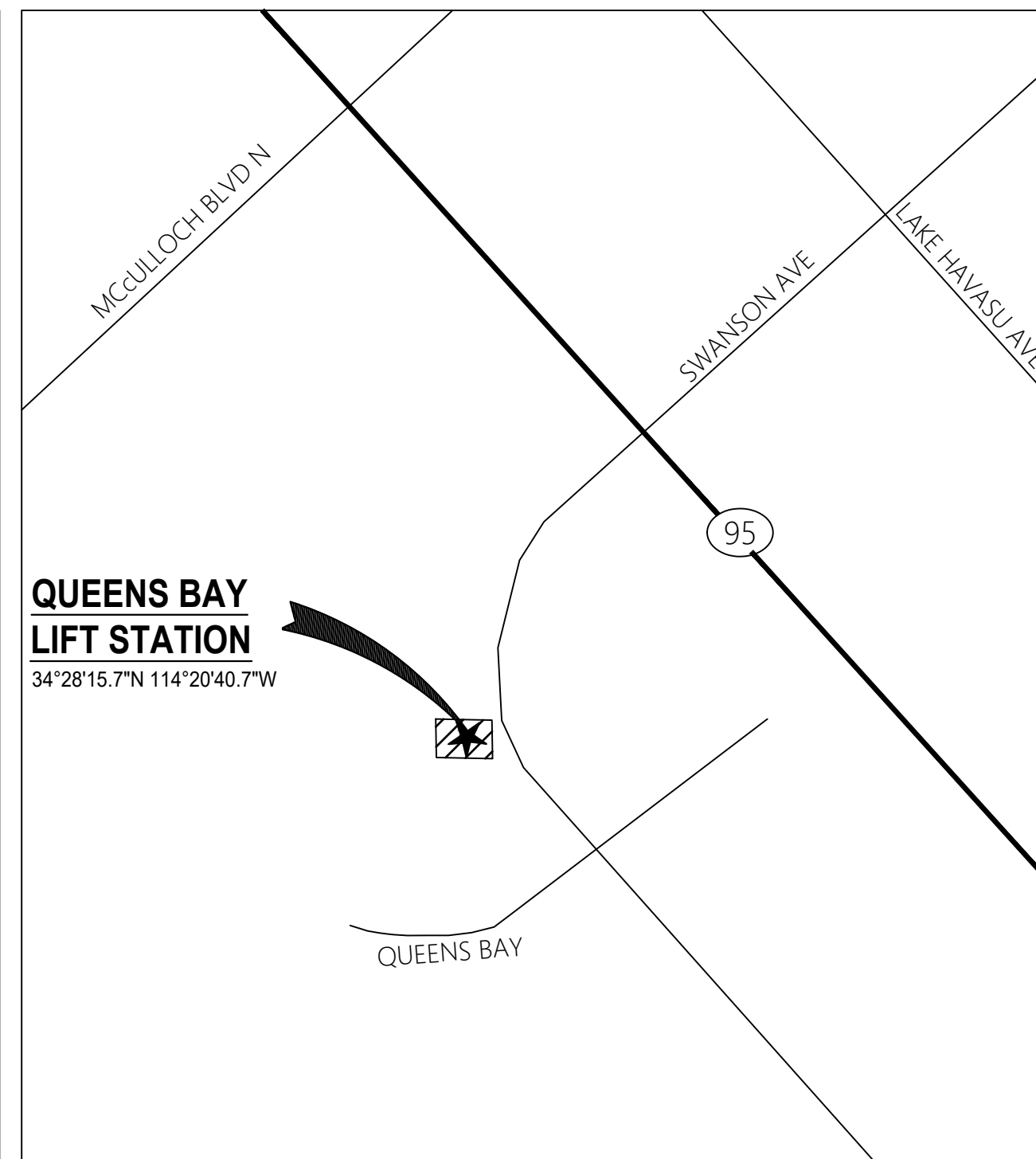
PORT DRIVE AND QUEENS BAY LIFT STATION UPGRADES

PROJECT NO. B25-PW-107027-500661, B25-PW-107028-500661

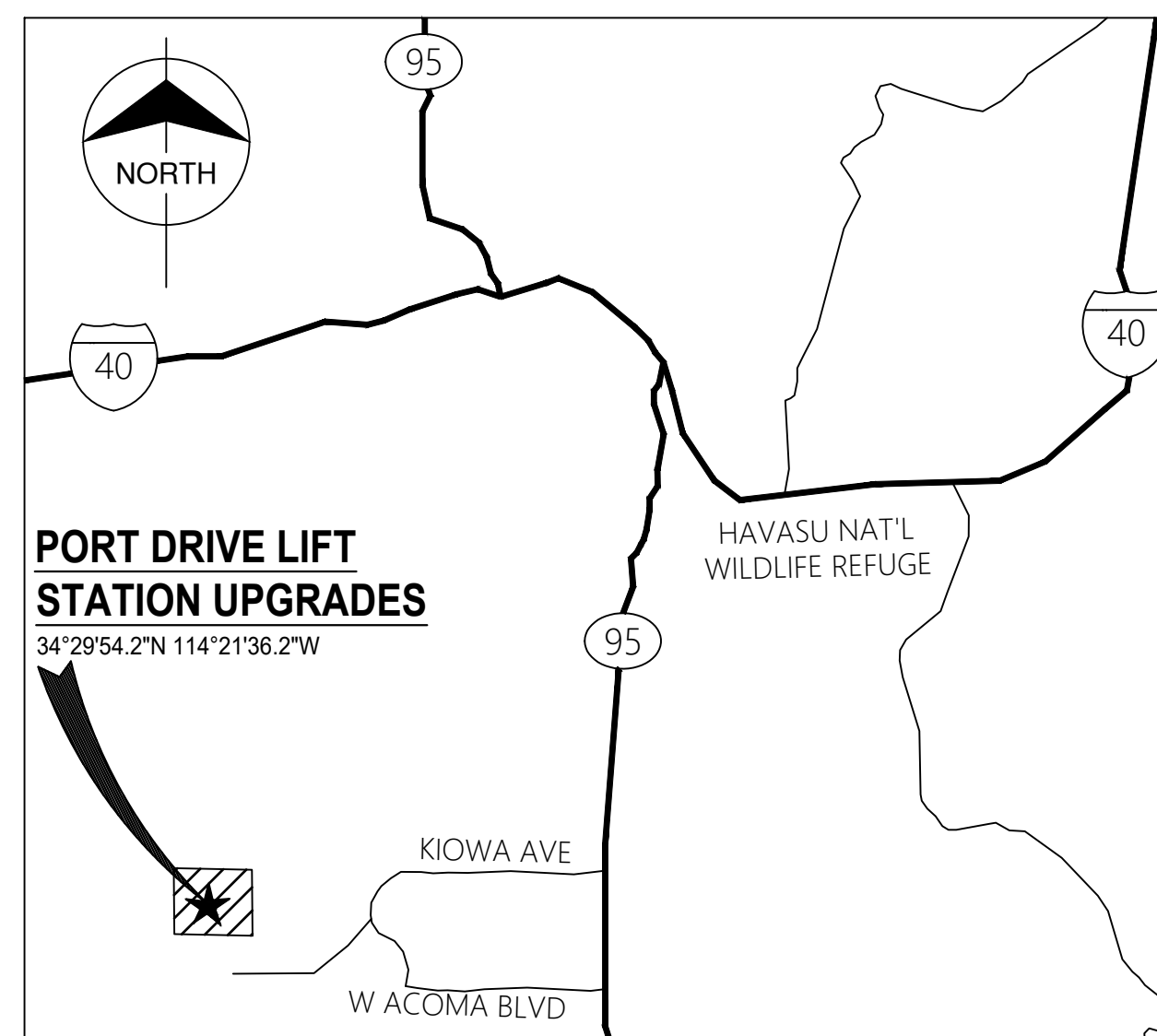
CONSTRUCTION DRAWINGS



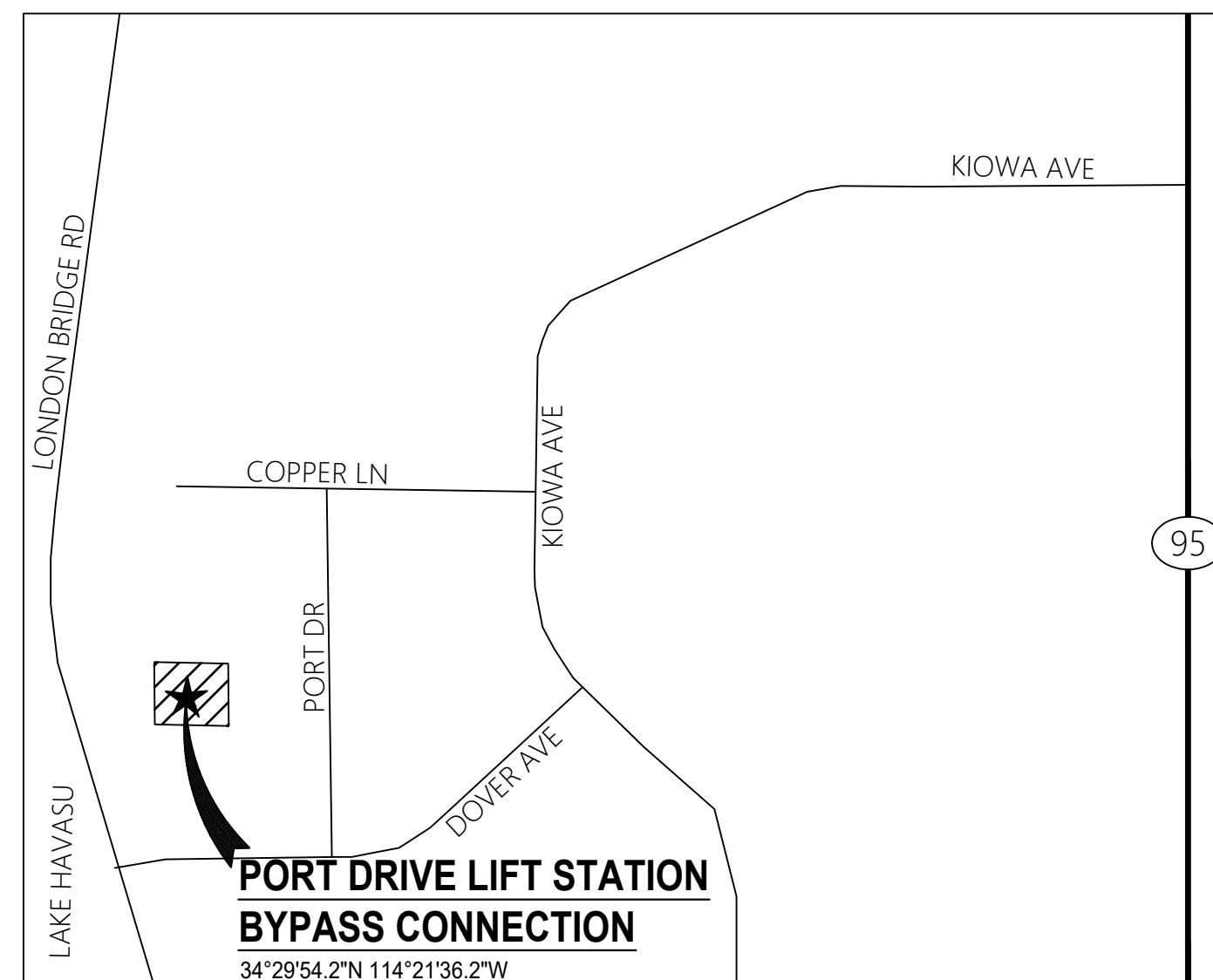
LOCATION MAP
NOT TO SCALE



QUEENS BAY VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



PORT DRIVE MAIN VICINITY MAP

NOT TO SCALE

CITY COUNCIL

CAL SHEEHY	MAYOR
MICHELE LIN	VICE MAYOR
JENI COKE	COUNCIL MEMBER
NANCY CAMPBELL	COUNCIL MEMBER
CAMERON MOSES	COUNCIL MEMBER
JIM DOLAN	COUNCIL MEMBER
DADVID DIAZ	COUNCIL MEMBER

CITY MANAGER

JESS KNUDSON

PUBLIC WORKS DIRECTOR

RON FOGGIN

PROJECT MANAGER

PHILIP PORTER

UTILITY CONTACTS

LAKE HAVASU CITY (928) 855-3999

LAKE HAVASU CITY (WATER) (928) 855-2618

SUDDEN LINK (928) 855-9855

FRONTIER COMMUNICATION (928) 453-0541

UNISOURCE ENERGY SERVICES (GAS) (877) 837-4968

UNISOURCE ENERGY SERVICES (ELECTRIC) (928) 505-7016

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
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G-01	COVER SHEET, LOCATION MAP, VICINITY MAP AND SHEET INDEX
G-02	GENERAL NOTES, LEGENDS
<u>CIVIL SHEETS</u>	
C-01-Q	OVERALL SITE PLAN-QUEENS BAY LIFT STATION
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M-01-Q	TEMPORARY BYPASS DURING CONSTRUCTION-QUEENS BAY LIFT STATION
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LAKE HAVASU CITY

PORT DRIVE AND QUEENS BAY LIFT STATION UPGRADES



02 EAST EARLL DRIVE, STE 110
PHOENIX, AZ 85012
(602) 629-0206



EXPIRATION DATE: 06/30/25

Drawn: HN

Design: VS

Approved: BH

Client Project No.
W-2S-107027-500611
W-2S-107028-500611
Project No.

Sheet No.
G-01



Z:_cod data transfer\2480 - lake havasu - queens boy is upgrade (project #107027)\cod-combine 2480 - 2481\2480-queens boy\GENERAL SHEET.dwg Apr 17, 2025 - 5:08pm

GENERAL NOTES

GENERAL

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL IMPROVEMENTS ARE BUILT, CONSTRUCTED, AND/OR INSTALLED IN ACCORDANCE WITH THESE PROJECT PLANS AND THE TECHNICAL SPECIFICATIONS FOR THE WORK.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE SURVEY, LAYOUT, AND STAKING OF THE PROPOSED IMPROVEMENTS FOR CONSTRUCTION PURPOSES.
3. IF THERE ARE ANY QUESTIONS REGARDING THE PLANS OR THE INTENT OF THE DESIGN, THE CONTRACTOR SHALL CONTACT THE ENGINEER AND DISCUSS THE ISSUE SO THAT IT IS CLARIFIED OR RESOLVED PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL TAKE THE NECESSARY STEPS AND PRECAUTIONS TO PROTECT AND SAFEGUARD ADJACENT IMPROVEMENTS AND PROPERTY FROM DAMAGE DUE TO CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND OBTAINING ANY PERMITS NEEDED TO COMPLETE THE PROJECT, POTENTIALLY INCLUDING AN AGENCY BUSINESS LICENSE, RIGHT OF WAY WORK PERMIT, WATER USAGE AGREEMENT, ETC., AND INCLUDE THE COSTS FOR THE SAME, IF ANY, IN THE PROJECT BID PRICES.
6. ALL PROJECT IMPROVEMENTS INCLUDING BUT NOT LIMITED TO MANHOLE FRAMES, VALVE BOXES, VAULTS, HANDHOLES, FIRE HYDRANTS, ETC., SHALL BE SET OR RESET TO FINISHED GRADE OF THE SURROUNDING GROUND OR PAVEMENT SURFACE WHETHER OR NOT SPECIFICALLY CALLED OUT ON THE PLANS OR IN THE SPECIFICATIONS.

UTILITIES

1. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES OR UTILITY STRUCTURES SHOWN ON THESE PLANS SHOULD BE VERIFIED BASED ON AN AZ 811 UTILITY MAPPING REQUEST.
2. THE LOCATION OF THE UTILITIES MAY OR MAY NOT BE ACCURATELY SHOWN ON THE UTILITY MAPPING PROVIDED AND ON THE PROJECT PLANS.
3. THERE MAY BE OTHER UTILITY LINES AND FACILITIES PRESENT THAT ARE IN SERVICE OR HAVE BEEN ABANDONED WITHIN THE PROJECT CORRIDOR OR AREA THAT ARE NOT SHOWN ON THE MAPPING AND ON THE PLANS.
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING AZ811 (BLUE STAKE) PRIOR TO COMMENCING ANY DIGGING ACTIVITIES TO HAVE THE LOCATIONS OF THE UTILITIES MARKED IN THE FIELD AT THE PROJECT SITE. EXISTING PIPING, ELECTRICAL, AND UTILITIES ARE BASED ON EXISTING RECORDS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS OF ALL EXISTING PIPING, ELECTRICAL, AND UTILITIES AND AVOIDING DAMAGE TO THE SAME.
5. THE CONTRACTOR IS ALSO RESPONSIBLE FOR VISUALLY INSPECTING THE MARKED UTILITIES AT THE PROJECT SITE TO ASCERTAIN IF ANY POTENTIAL CONFLICTS EXIST BETWEEN THE PROPOSED IMPROVEMENTS UNDER THIS PROJECT AND THE EXISTING UTILITY FACILITIES.
6. THE CONTRACTOR SHALL 'POTHOLE' TO DETERMINE THE EXACT LOCATION AND DEPTH OF EXISTING UTILITY FACILITIES TO IDENTIFY ANY POTENTIAL CONFLICTS BETWEEN UTILITY FACILITIES AND THE PROPOSED IMPROVEMENTS AND, IF NEEDED, REVIEW THE INFORMATION WITH THE OWNER AND THE ENGINEER TO RESOLVE ANY POTENTIAL CONFLICT PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR SHALL OBSERVE ALL POSSIBLE PRECAUTIONS WHEN WORKING IN CLOSE PROXIMITY TO EXISTING UTILITY LINES AND/OR STRUCTURES TO PROTECT THE SAME AND AVOID ANY DAMAGE TO THE UTILITY FACILITIES.
8. SHOULD ANY UTILITY FACILITY BE DAMAGED BY THE CONTRACTOR'S ACTIVITIES, THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH THE UTILITY OWNER FOR THE REPAIR OF THE FACILITY AT NO ADDITIONAL COST TO THE PROJECT.
9. WHEN GRAVITY SEWER SYSTEM CONTAIN PRESSURE COMPONENTS, THE MINIMUM SEPARATION BETWEEN FORCE MAINS OR PRESSURE SEWERS AND WATER MAINS SHALL BE 2 FEET VERTICALLY AND 6 FEET HORIZONTALLY UNDER ALL CONDITIONS. WHERE A SEWER FORCE MAIN CROSSES ABOVE OR LESS THAN 6 FEET BELOW A WATER LINE, THE SEWER MAIN SHALL BE ENCASED IN AT LEAST 6 INCHES OF CONCRETE FOR 10 FEET ON EITHER SIDE OF THE WATER MAIN.

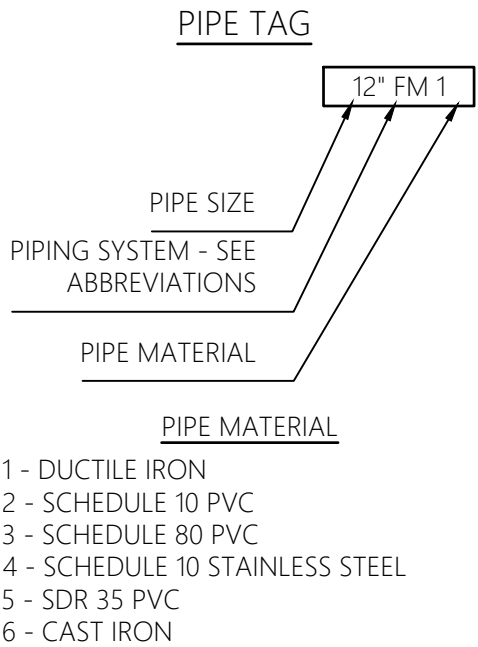
CONSTRUCTION JOBSITE SAFETY NOTES

1. THE CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.
2. THIS SAFETY REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
3. NEITHER THE OWNER NOR THE ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS.
4. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, AND MAINTENANCE OF ALL SAFETY DEVICES INCLUDING SHORING.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS.
6. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES AND REGULATIONS AS SET FORTH BY OSHA CONCERNING THE PROJECT WORK AND JOBSITE ACTIVITIES.
7. CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL PLANS FOR DEMOLITION ITEMS.
8. PROVIDE TEMPORARY THRUST RESTRAINT FOR EXISTING PIPING WHENEVER THE WORK REQUIRES. CONTRACTOR SHALL REPLACE OR RESTORE THE EXISTING RESTRAINT SYSTEM TO LIKE-NEW CONDITION.
9. DIMENSIONS AND ELEVATIONS FOR EQUIPMENT INSTALLATION TO BE DETERMINED BASED UPON EQUIPMENT MANUFACTURER SELECTED.
10. WHERE INDICATED, DIMENSIONS AND ELEVATIONS SHALL BE FIELD VERIFIED.
11. EXISTING EQUIPMENT TO BE REMOVED AND SALVAGED SHALL BE MARKED BY ENGINEER OR OWNER PRIOR TO WORK, UNLESS OTHERWISE NOTED ON THE CONTRACT DOCUMENTS.
12. ALTHOUGH SUCH WORK MAY NOT BE SPECIFICALLY INDICATED, FURNISH AND INSTALL SUPPLEMENTARY OR MISCELLANEOUS ITEMS, APPURTENANCES AND DEVICES INCIDENTAL TO, OR NECESSARY FOR A SOUND, SECURE AND COMPLETE INSTALLATION.
13. CONTRACTOR TO MAINTAIN ACCESS FOR EMERGENCY RESPONSE VEHICLES DURING CONSTRUCTION.
14. CONTRACTOR SHALL PROVIDE TEMPORARY SAFETY AND SECURITY FENCING AND SITE IMPROVEMENTS AS NEEDED AT NO EXTRA COST.
15. CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF AT LEAST WEEKLY BY THE CONTRACTOR. KEEP SITE AREA CLEAN.
16. EXCAVATED SOIL IS TO BE USED TO FILL IN LOW SPOTS PRIOR TO BEING HAULED OFF SITE. CONTRACTOR SHALL ESTABLISH A SUITABLE STAGING AREA FOR STORAGE OF EXCAVATED SOIL.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY AT THE SITE WHILE CONSTRUCTION IS IN PROGRESS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE PUBLIC FROM ANY HAZARDS ARISING FROM CONSTRUCTION OPERATIONS AND PROTECTING EXISTING AND NEW IMPROVEMENTS FROM DAMAGE DUE TO ACCIDENT OR VANDALISM.
18. ALL MATERIALS WHICH MAY COME IN CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF INTERNATIONAL STANDARD 60 AND 61.

19. REFER TO PROJECT SPECIFICATION FOR ANY SUPPLEMENT DETAILS REFERRED TO IN THE DRAWINGS.
20. MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
21. COORDINATES AND DIMENSIONS SHOWN FOR ROADWAY IMPROVEMENTS ARE TO FACE OF CURB OR EDGE OF PAVEMENT.
22. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
23. UNLESS SHOWN ON THE DRAWINGS, ALL DISTURBED AREAS NOT RECEIVING A HARD SURFACE OR GRAVEL SURFACE SHALL BE GRADED SMOOTH AND COMPACTED AS SPECIFIED.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION. EROSION CONTROL DEVICES, SILT FENCING, RUNOFF CONTAINMENT BERMS, AND STRAW BALES ARE THE MINIMUM REQUIRED.
25. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE.
26. WHERE ALUMINUM IS TO BE EMBEDDED IN CONCRETE, THE ALUMINUM SHALL FIRST BE COATED WITH COAL TAR EPOXY.
27. BACKFILLING OF PIPING AND STRUCTURES SHALL NOT BE STARTED UNTIL INSTALLATION IS APPROVED BY THE OWNER.
28. UNLESS OTHERWISE NOTED, ALL PVC INSTALLED ABOVE GROUND SHALL BE PAINTED PER SPECIFICATION SECTION 09800.
29. ALL WORK SHALL CONFORM TO THE BUILDING CODES SHOWN BELOW:
GOVERNING BUILDING CODES:
2018 INTERNATIONAL BUILDING CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL FIRE CODE
30. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND BARRICADING AS NECESSARY FOR WORK ON SWANSON AVENUE. CONTRACTOR TO SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL TWO WEEKS PRIOR TO STARTING CONSTRUCTION
31. CONTRACTOR TO SUBMIT A PROCUREMENT AND OVERALL PROJECT SCHEDULE TO THE ENGINEER AND OWNER WITHIN TWO WEEKS OF THE NOTICE TO PROCEED. CONTRACTOR WILL PROVIDE AN UPDATED PROJECT SCHEDULE WITH THE MONTHLY PAYMENT APPLICATION.
32. CONTRACTOR TO PROVIDE A THREE WEEK LOOK-AHEAD SCHEDULE TO THE OWNER EVERY TWO WEEKS.
33. CONTRACTOR TO TAKE PHOTOGRAPHS AND VIDEO THE LIFT STATION SITES PRIOR TO CONSTRUCTION TO DOCUMENT THE EXISTING CONDITIONS. PROVIDE THE PHOTOGRAPHS AND VIDEO TO THE OWNER.
34. CONTRACTOR SHALL NOT COVER THE NEW PIPELINE WITHOUT THE OWNER'S REPRESENTATIVE APPROVAL.
35. CONTRACTOR TO PROVIDE BYPASS PUMPING FOR EACH LIFT STATION FOR THE DURATION OF CONSTRUCTION UNTIL SUBSTANTIAL COMPLETION IS OBTAINED. BYPASS PUMPS TO BE ELECTRIC AND CONTRACTOR TO UTILIZE ON-SITE POWER. CONTRACTOR TO PROVIDE A ELECTRICAL PLAN AND MOPO FOR REVIEW AND APPROVAL PRIOR TO STARTING CONSTRUCTION. A FLOAT SWITCH OR OTHER MEANS OF AUTOMATIC CONTROL OF THE BYPASS PUMP START/STOP OPERATION SHALL BE PROVIDED.

ABBREVIATIONS & SYMBOLS

Ø	DIAMETER
*	FIELD VERIFY
**	VERIFY WITH VENDOR
ARV	AIR RELEASE VALVE
DIP	DUCTILE IRON PIPE
EL	ELEVATION
FL	FLANGE
FM	FORCE MAIN
GPM	GALLONS PER MINUTE
HP	HORSE POWER
IE	INVERT ELEVATION
LS	LIFT STATION
MAX	MAXIMUM
MIN	MINIMUM
MOPO	MAINTENANCE OF PLAN OPERATIONS
MJ	MECHANICAL JOINT
PI	PRESSURE INDICATOR
PPC	POLYMORPHIC POLYMERS CORPORATION
PT	PRESSURE TRANSMITTER
PVC	POLYVINYL CHLORIDE
SCH	SCHEDULE
SS	SANITARY SEWER, STAINLESS STEEL
TYP	TYPICAL



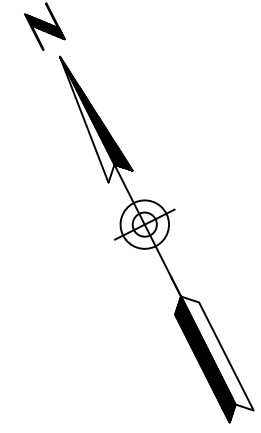
LEGEND

	BASE
	BURIED/HIDDEN
	CENTERLINE
	CONCRETE
	CONSTRUCTION KEYNOTE
	EARTH
	EXISTING PIPE
	FLANGED 90° BEND
	NEW PIPE
	PIPE CONTINUATION
	PIPE SUPPORT
	REMOVALS
	REMOVALS KEYNOTE

PIPING NOTES

1. ALL PIPING SHOULD COMPLY WITH AWWA STANDARDS
AWWA C110-21 DUCTILE IRON AND GRAY IRON FITTINGS
AWWA C512-15 AIR - RELEASE, AIR/VACUUM, AND COMBINATION AIR VALVES FOR WATER AND WASTEWATER SERVICE
AWWA C600-23 INSTALLATION OF DUCTILE IRON WATER MAINS AND THEIR APPURTENANCES AND ALL OTHER APPLICABLE AWWA STANDARDS





CONTRACTOR TO CLOSE ONE LANE OF SWANSON AVENUE TO TRAFFIC. PROVIDE TRAFFIC CONTROL AND BARRICADES. SUBMIT TRAFFIC CONTROL PLAN TO CITY FOR APPROVAL.

HORIZ SCALE IN FEET

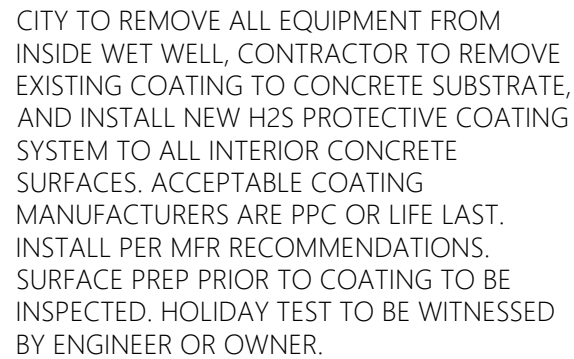


Rev No	Revision Note	Date	Design	Drawn	Checked

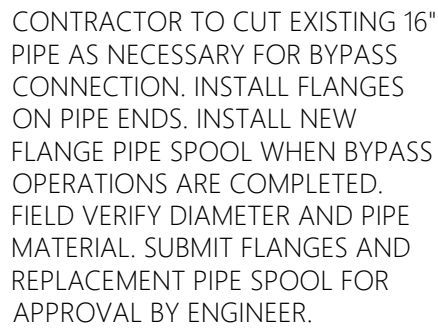
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Sheet Title:	
OVERALL SITE PLAN-QUEENS BAY LIFT STATION	
Project name	
PORT DRIVE AND QUEENS BAY LIFT STATION UPGRADES	
Project Location	
LAKE HAVASU CITY	
Drawn By:	HN
Date:	4/17/2025
Design By:	VS
Date:	4/17/2025
Approved By:	BH
Date:	4/17/2025
Client Project No.	Sheet
PW-2S-107028-500661 PW-2S-107027-500661	C-01-Q



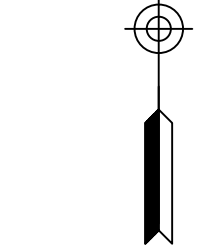


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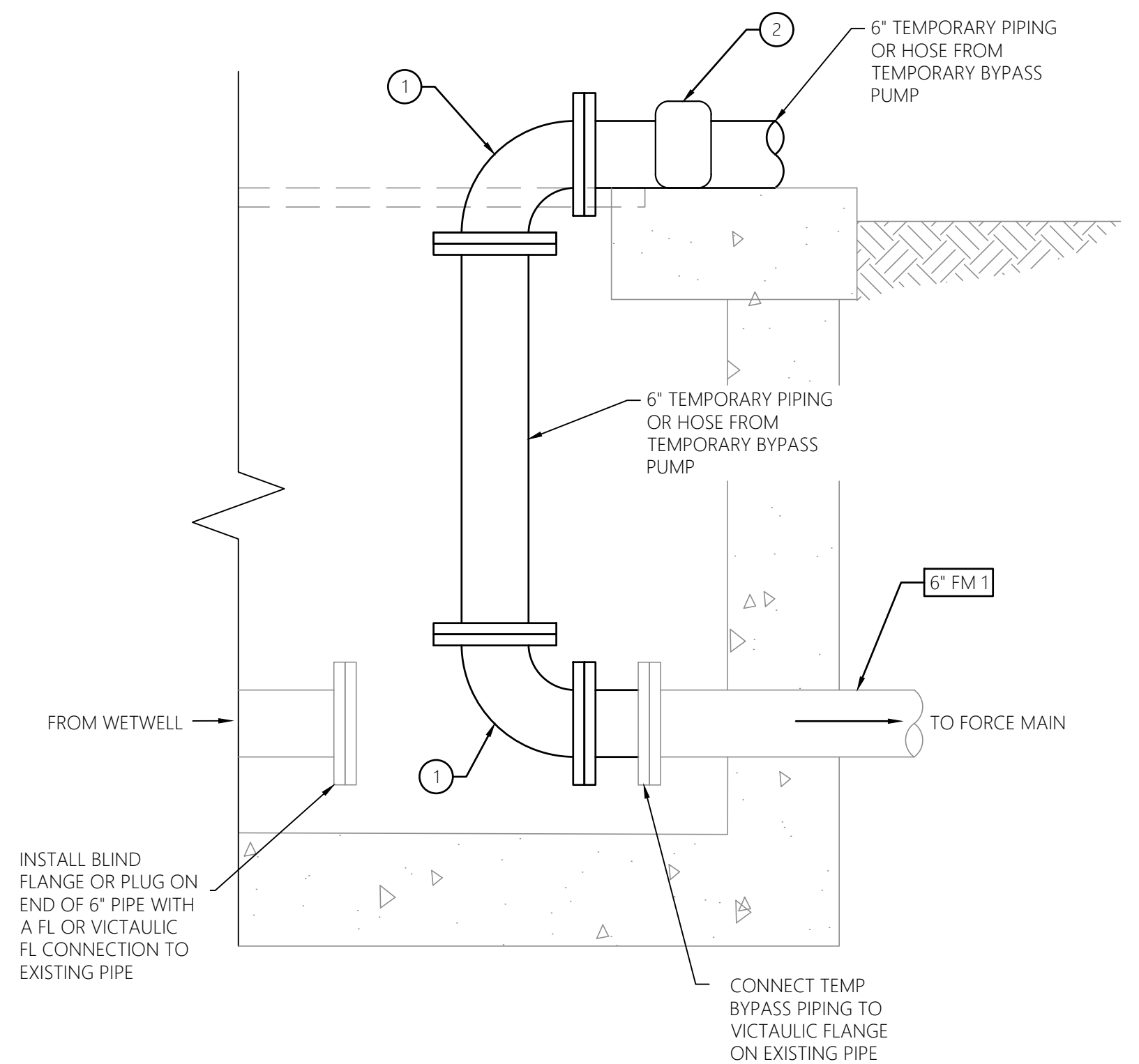
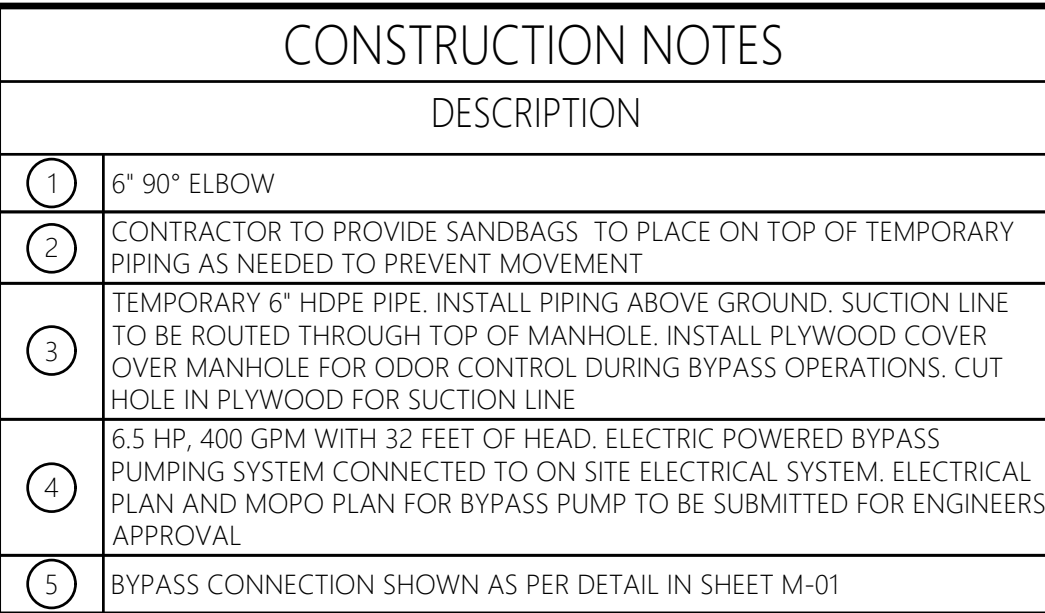


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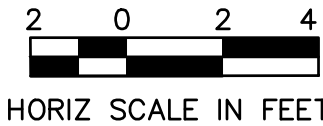
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Sheet Title: OVERALL SITE PLAN-PORT DRIVE LIFT STATION		
Project name: PORT DRIVE AND QUEENS BAY LIFT STATION UPGRADES		
Project Location: LAKE HAVASU CITY		
Drawn By: HN	Date: 4/17/2025	
Design By: SW	Date: 4/17/2025	
Approved By: RN	Date: 4/17/2025	
Client Project No. PW-2S-107028-500661 PW-2S-107027-500661		Sheet C-01-P



SCALE: NTS

- NOTE:**
1. DURING BYPASS CONNECTION THE EXISTING FLOW METER TO BE REMOVED.
 2. DURING TEMPORARY BYPASS CONNECTION THE CONTRACTOR TO CLOSE ONE LANE OF SWANSON AVENUE TO TRAFFIC. PROVIDE TRAFFIC CONTROL AND BARRICADE SUBMIT TRAFFIC CONTROL PLAN TO CITY FOR APPROVAL



202 EAST EARLL DRIVE, STE 110
PHOENIX, AZ 85012
(602) 629-0206

<http://www.ncseng.com>



EXPIRATION DATE: 06/30/25

Sheet Title:

TEMPORARY BYPASS DURING CONSTRUCTION-QUEENS BAY LIFT STATION

Project name

PORT DRIVE AND QUEENS BAY LIFT STATION
UPGRADES

Project Location

LAKE HAVASU CITY

Drawn By: HN Date: 4/17/2025

Design By: VS Date: 4/17/2025

Approved By: BH	Date: 4/17/2025
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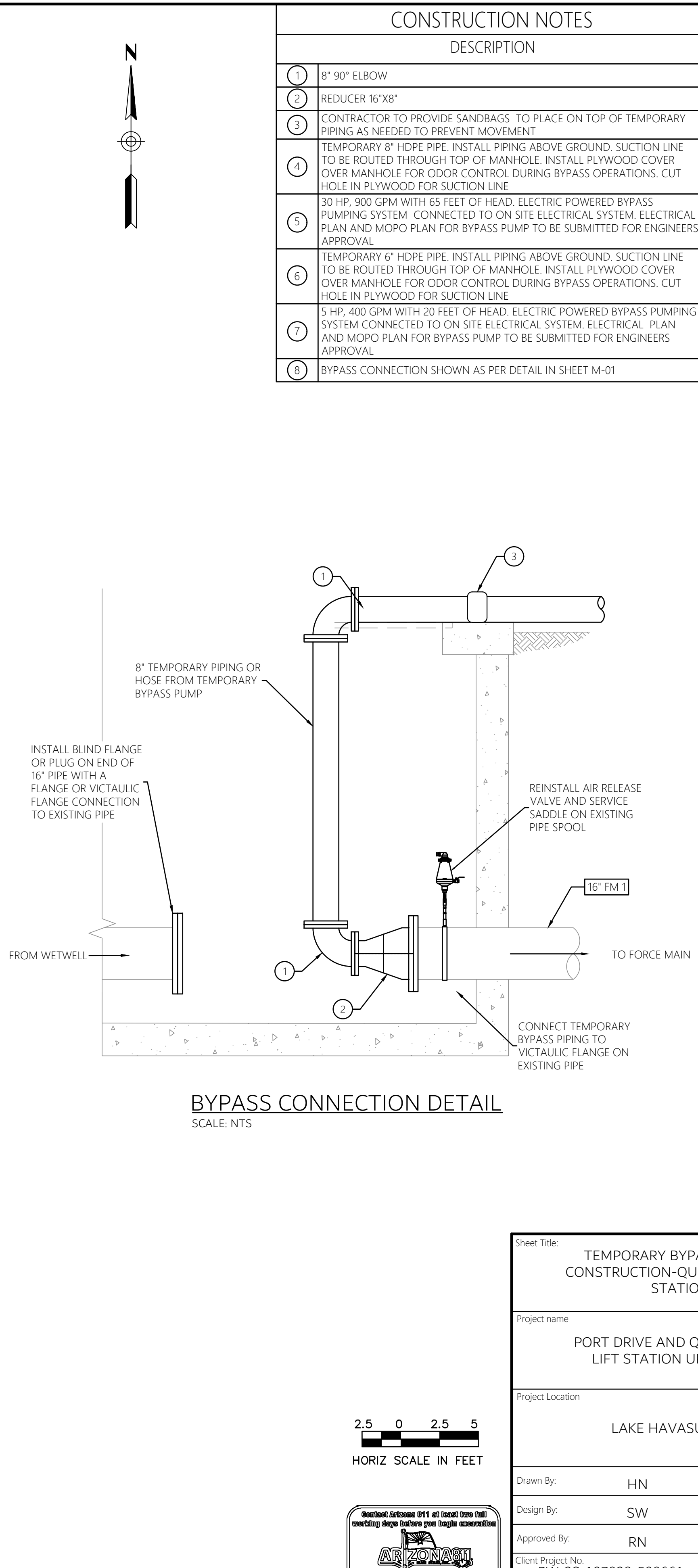
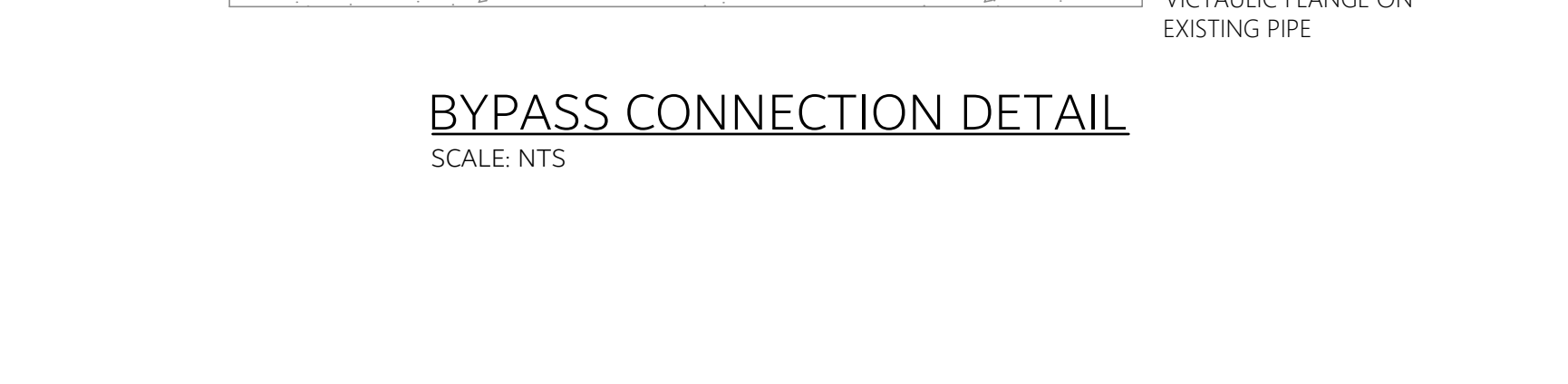
Client Project No. PW-2S-107028-500661 PW-2S-107027-500661	Sheet M-01-Q
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Contact Arizona 811 at least two full working days before you begin excavation.



Call 811 or click Arizona811.com

SCALE: 1" = 4'


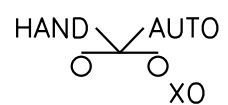

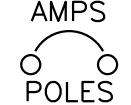

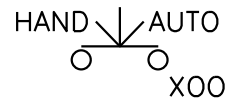

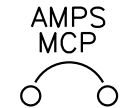



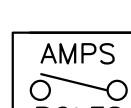





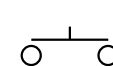







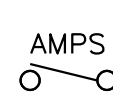







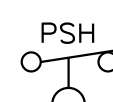



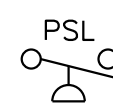

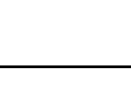

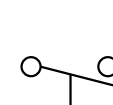



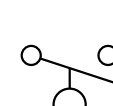



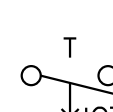



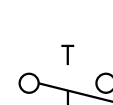



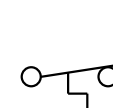

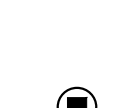

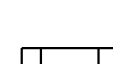



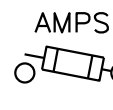














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HORIZ SCALE IN FEET



Sheet Title: TEMPORARY BYPASS DURING CONSTRUCTION-QUEENS BAY LIFT STATION		
Project name PORT DRIVE AND QUEENS BAY LIFT STATION UPGRADES		
Project Location LAKE HAVASU CITY		
Drawn By:	HN	Date: 4/17/2025
Design By:	SW	Date: 4/17/2025
Approved By:	RN	Date: 4/17/2025
Client Project No. PW-2S-107028-500661 PW-2S-107027-500661		Sheet M-01-P

Apr 17, 2025 - 3:53pm
X:\2400's\N02445 Lake Havasu - North End WW System Expansion\100 - Etl Design\CAD Files\Queens bay\02445_E01.dwg

SCHEMATIC DIAGRAM SYMBOLS				POWER SINGLE LINE DIAGRAM SYMBOLS				ELECTRICAL ABBREVIATIONS				COPYRIGHT © 2025							
	CONTROL RELAY		2 POSITION SELECTOR SWITCH POSITION LEGEND: X=CLOSED O=OPEN		JUNCTION BOX WITH POWER DISTRIBUTION BLOCK OR LUGS		CIRCUIT BREAKER, SHOWN WITH TRIP RATING AND NUMBER OF POLES	A	AMPERE	L, LO	LOW	PO	PULSE OUTPUT	Checked	Drawn				
	TIME DELAY RELAY		3 POSITION SELECTOR SWITCH HAND - OFF - AUTO POSITION LEGEND: X=CLOSED O=OPEN		CONDUIT SEALOFF		MOTOR CIRCUIT PROTECTOR WITH TRIP RATING AND NUMBER OF POLES	AFD	ADJUSTABLE FREQUENCY DRIVE	LAN	LOCAL AREA NETWORK	PPB	POWER PULLBOX						
	ALARM RELAY		NORMALLY CLOSED PUSH BUTTON		LTC CONNECTION		DISCONNECT SWITCH SHOWN WITH RATING AND NUMBER OF POLES	AFF	ABOVE FINISHED FLOOR	LC	LOOP CONTROLLER	PPG	POUNDS PER GALLON						
	ELAPSED TIME METER		LOCKOUT STOP PUSH BUTTON		MC CONNECTION		MOTOR MANAGEMENT RELAY	AI	ANALOG INPUT	LCL	LEVEL CONTROL LOW	PPH	POUNDS PER HOUR						
	MOTOR STARTER OR CONTACTOR COIL		NORMALLY OPEN PUSH BUTTON		BOND TO METALLIC WATER PIPE		SURGE PROTECTIVE DEVICE	AIC	AMPS INTERRUPTING CAPACITY	LOS	LOCK-OUT-STOP	PPM	PARTS PER MILLION	Design					
	PHOTO CELL		EMERGENCY STOP PUSH BUTTON (MAINTAINED)		UTILITY METER		SOLID STATE STARTER	AO	ANALOG OUTPUT	LOR	LOCAL/OFF/REMOTE	PR	PAIR						
	BEACON ALARM LIGHT LETTER INDICATES COLOR R=RED, A=AMBER, B=BLUE, G=GREEN		DISCONNECT SWITCH SHOWN WITH RATING AND NUMBER OF POLES		MOTOR, NUMBER DESIGNATES NEMA HORSEPOWER SIZE		VARIABLE FREQUENCY DRIVE	AS	AIR SUPPLY	LS	LEVEL (i.e.. FLOAT) SWITCH	PRES	PRESSURE						
	PILOT LIGHT LETTER INDICATES COLOR R=RED, A=AMBER, B=BLUE, G=GREEN		LIMIT OR POSITION SWITCH		FUSE		ELECTRONIC OVERLOAD RELAY	ATC	ANALOG INPUT	LTC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT	PS	PRESSURE SWITCH, HIGH						
	OUTPUT DV/DT FILTER		PRESSURE SWITCH HIGH		MOTOR, NUMBER DESIGNATES NEMA HORSEPOWER SIZE		HARMONIC FILTER	BC	CONDUIT	M	MOTOR	PSI	POUNDS PER SQUARE INCH	Date					
	HEATING ELEMENT		PRESSURE SWITCH LOW		FUSEHOLDER OR FUSEBLOCK		GROUND CONNECTION	CB	CIRCUIT BREAKER	MA	MANUAL/AUTO	PV	PROCESS VARIABLE						
	TRANSFORMER		FLOW SWITCH		GENERATOR		TRANSFORMER	CCW	COUNTER CLOCKWISE	MAX	MAXIMUM	RAS	RETURN ACTIVATED SLUDGE						
	CURRENT TRANSFORMER		LEVEL FLOAT SWITCH		TELEPHONE OUTLET		FIELD DEVICE	CL2	CHLORINE	MC	MANUFACTURER'S CABLE	RW	RAW WATER						
	GROUND CONNECTION		TIMER RELAY CONTACT INSTANTANEOUS CLOSE TIME DELAY OPEN		SINGLE POLE SWITCH		GROUND ROD	CON	CONTACTOR	MCB	MAIN CIRCUIT BREAKER	RIO	REMOTE INPUT OUTPUT	Revision Note					
	GENERATOR		TIMER RELAY CONTACT NORMALLY OPEN TIME DELAY CLOSE		3 WAY SWITCH		DUPLEX RECEPTACLE	CPB	CONTROL PULLBOX	MCC	MOTOR CONTROL CENTER	RS	RAW SEWAGE						
	HORN		TEMPERATURE SWITCH		4-WAY SWITCH		ANTENNA MAST	CU	COPPER, BARE	MCP	MOTOR CIRCUIT PROTECTOR	RSP	RAW SEWAGE PUMP						
	FULL VOLTAGE NON-REVERSING (FVNR) MOTOR STARTER OR CONTACTOR NUMBER DESIGNATES NEMA SIZE		FUSE		MANUAL MOTOR STARTER		CONDUIT SEALOFF	CV	CONTROL VALVE	MFR(S)	MANUFACTURER(S)	RST	RESET						
	NORMALLY OPEN CONTACT		FUSEHOLDER OR FUSEBLOCK		SPECIAL PURPOSE OR WELDING OUTLET		DISCONNECT SWITCH	CW	CLOCKWISE	MGD	MILLION GALLONS PER DAY	RTD	RESISTANCE TEMPERATURE DETECTOR	Rev No					
	NORMALLY CLOSED CONTACT		THERMAL OVERLOAD RELAY		SMOKE DETECTOR		MOTOR	DI	DISCRETE INPUT	MH	MANHOLE	RWT	REFLECTED WAVE TRAP						
	RTU OR PLC CONTACT		TERMINAL BLOCK		THERMOSTAT		CONDUIT TURN UP	DO	DISCRETE OUTPUT	MIN	MINIMUM	SCA	SHORT CIRCUIT AMPS						
	CONDUIT SEALOFF		CONDUIT SEALOFF		CONDUIT TURN DOWN		CONDUIT TURN DOWN	DP	DISTRIBUTION PANEL	MOV	MOTOR OPERATED VALVE	SCCR	SHORT CIRCUIT CURRENT RATING						
				CIRCUIT SCHEDULE LEGEND															



B PORT DRIVE TEMPORARY BYPASS LOAD CALCULATION

C CALLOUT SCHEDULE

ALL SHORT CIRCUIT INTERRUPTING AND PROTECTING DEVICES SHALL HAVE A SHORT CIRCUIT INTERRUPTING RATING EQUAL TO OR GREATER THAN THE AVAILABLE SHORT CIRCUIT ON THE BUS.

UNSIIZED OVERCURRENT PROTECTIVE DEVICES SHALL BE SIZED PER ASSOCIATED EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.

ALL OVERCURRENT PROTECTIVE DEVICES SHALL BE PROPERLY COORDINATED AS REQUIRED BY NEC AND SO AS TO ENSURE LOCALIZATION OF OVERCURRENT CONDITIONS TO THE CIRCUIT OR EQUIPMENT AFFECTED.

ALL EXISTING EQUIPMENT INFORMATION WAS GATHERED ON A SITE VISIT HELD MARCH 4, 2025. CONTRACTOR SHALL FIELD VERIFY EXISTING EQUIPMENT RATINGS PRIOR TO CONSTRUCTION AND NOTIFY THE OWNER AND ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE INFORMATION ON THIS DRAWING.

CONTRACTOR SHALL DISCONNECT AND SECURE EXISTING LOAD SIDE CONDUCTORS AT MAIN DISCONNECT SWITCH. AFTER COMPLETION OF BYPASS PUMPING PHASE, CONTRACTOR SHALL DETERMINATE EXISTING CONDUCTORS TO MAIN DISCONNECT SWITCH.

CONTRACTOR TO INSTALL TEMPORARY POWER CABLING TO LOAD SIDE TERMINATION OF MAIN DISCONNECT SWITCH FOR POWER OF BYPASS PUMPING SKID. TEMPORARY POWER CABLING SHALL HAVE 90 DEGREE CELSIUS INSULATION (MIN.) AND BE RATED FOR INSTALLATION IN DIRECT SUNLIGHT, HEAVY USE AND WET LOCATIONS.

CONTRACTOR SHALL DISCONNECT POWER AT GENERATOR MAIN CIRCUIT BREAKER DURING CONSTRUCTION.

TEMPORARY BYPASS PUMPING SKID IS A PREFABRICATED SKID THAT INCLUDES A PUMP STARTER, TWO PUMPS AND ASSOCIATED BRANCH MOTOR CIRCUIT WIRING. THE PUMP STARTER IS EQUIPPED TO OPERATE VIA FLOAT LEVEL SWITCH. FLOAT LEVEL SWITCHES SHALL BE INSTALLED WITHIN EXISTING WETWELL TO PROVIDE AUTOMATIC LEVEL CONTROL OF THE BYPASS PUMPS. REFER TO MECHANICAL SHEETS FOR LEVEL FLOAT INSTALLATION DURING TEMPORARY LIFT STATION BYPASS.

CONTRACTOR SHALL PROVIDE ALTERNATE POWER SOURCE TO BYPASS PUMPING SKID DURING PLANT POWER SHUT DOWNS FOR BOTH THE TIE IN OF THE BYPASS PUMP SKID TO MAIN DISCONNECT TO START THE BYPASS PUMPING PHASE AND THE RECONNECTION OF THE EXISTING PLANT AT THE CONCLUSION OF THE BYPASS PUMPING PHASE. THE EXISTING ONSITE GENERATOR SHALL NOT BE USED AS AN ALTERNATE POWER SOURCE. MAXIMUM ALLOWABLE PLANT SHUTDOWN TIMES ARE DEFINED IN SPECIFICATIONS.

CONTRACTOR SHALL RECEIVE WRITTEN APPROVAL FROM THE ELECTRICAL UTILITY COMPANY TO UTILIZE FULL VOLTAGE (ACROSS THE LINE) STARTING ON ANY MOTORS LARGER THAN 25HP PRIOR TO THE START OF BYPASS PUMPING.

CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH OWNER ON THE STARTUP OF PLANT CONTROL SYSTEM UPON RE-ENERGIZATION OF EXISTING ELECTRICAL, INSTRUMENTATION AND CONTROL EQUIPMENT FOLLOWING BYPASS PUMPING PHASE.

CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH ELECTRICAL UTILITY PRIOR TO FURNISHING OR INSTALLATION OF BYPASS PUMPING SKID. ENSURE BYPASS PUMPING SKID IS RATED SUFFICIENTLY FOR AVAILABLE FAULT CURRENT.

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Registered Professional Engineer
No. 74459
AARON G. ARMENTA
Date Signed 10/17/2014
ARIZONA, U.S.A.

EXPIRATION DATE: 12/31/27

Sheet Title: SINGLE LINE DIAGRAM - PORT DRIVE TEMPORARY BYPASS PUMING	
Project name PORT DRIVE AND QUEENS BAY LIFT STATION UPGRADES	
Project Location LAKE HAVASU CITY	
Drawn By: EMB	Date: 4/17/2025
Design By: EMB	Date: 4/17/2025
Approved By: AA	Date: 4/17/2025
Client Project No. PW-2S-107028-500661 PW-2S-107027-500661	Sheet E-02P



B QUEENS BAY TEMPORARY BYPASS LOAD CALCULATION

 CALLOUT SCHEDULE

1. ALL SHORT CIRCUIT INTERRUPTING AND PROTECTING DEVICES SHALL HAVE A SHORT CIRCUIT INTERRUPTING RATING EQUAL TO OR GREATER THAN THE AVAILABLE SHORT CIRCUIT ON THE BUS.
2. UNSIZED OVERCURRENT PROTECTIVE DEVICES SHALL BE SIZED PER ASSOCIATED EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
3. ALL OVERCURRENT PROTECTIVE DEVICES SHALL BE PROPERLY COORDINATED AS REQUIRED BY NEC AND SO AS TO ENSURE LOCALIZATION OF OVERCURRENT CONDITIONS TO THE CIRCUIT OR EQUIPMENT AFFECTED.
4. ALL EXISTING EQUIPMENT INFORMATION WAS GATHERED ON A SITE VISIT HELD MARCH 4, 2025. CONTRACTOR SHALL FIELD VERIFY EXISTING EQUIPMENT RATINGS PRIOR TO CONSTRUCTION AND NOTIFY THE OWNER AND ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE INFORMATION ON THIS DRAWING.
5. CONTRACTOR SHALL DISCONNECT AND SECURE EXISTING LOAD SIDE CONDUCTORS AT MAIN DISCONNECT SWITCH. AFTER COMPLETION OF BYPASS PUMPING PHASE, CONTRACTOR SHALL DETERMINE EXISTING CONDUCTORS TO MAIN DISCONNECT SWITCH.
6. CONTRACTOR TO INSTALL TEMPORARY POWER CABLING TO LOAD SIDE TERMINATION OF MAIN DISCONNECT SWITCH FOR POWER OF BYPASS PUMPING SKID. TEMPORARY POWER CABLING SHALL HAVE 90 DEGREE CELSIUS INSULATION (MIN.) AND BE RATED FOR INSTALLATION IN DIRECT SUNLIGHT, HEAVY USE AND WET LOCATIONS.
7. CONTRACTOR SHALL DISCONNECT POWER AT GENERATOR MAIN CIRCUIT BREAKER DURING CONSTRUCTION.
8. TEMPORARY BYPASS PUMPING SKID IS A PREFABRICATED SKID THAT INCLUDES A PUMP STARTER, TWO PUMPS AND ASSOCIATED BRANCH MOTOR CIRCUIT WIRING. THE PUMP STARTER IS EQUIPPED TO OPERATE VIA FLOAT LEVEL SWITCH. FLOAT LEVEL SWITCHES SHALL BE INSTALLED WITHIN EXISTING TIEWELL TO PROVIDE AUTOMATIC LEVEL CONTROL OF THE BYPASS PUMPS. REFER TO MECHANICAL SHEETS FOR LEVEL FLOAT INSTALLATION DURING TEMPORARY LIFT STATION BYPASS.
9. CONTRACTOR SHALL PROVIDE ALTERNATE POWER SOURCE TO BYPASS PUMPING SKID DURING PLANT POWER SHUT DOWNS FOR BOTH THE TIE IN OF THE BYPASS PUMP SKID TO MAIN DISCONNECT TO START THE BYPASS PUMPING PHASE AND THE RECONNECTION OF THE EXISTING PLANT AT THE CONCLUSION OF THE BYPASS PUMPING PHASE. THE EXISTING ONSITE GENERATOR SHALL NOT BE USED AS AN ALTERNATE POWER SOURCE. MAXIMUM ALLOWABLE PLANT SHUTDOWN TIMES ARE DEFINED IN SPECIFICATIONS.
10. CONTRACTOR SHALL RECEIVE WRITTEN APPROVAL FROM THE ELECTRICAL UTILITY COMPANY TO UTILIZE FULL VOLTAGE (ACROSS THE LINE) STARTING ON ANY MOTORS LARGER THAN 25HP PRIOR TO THE START OF BYPASS PUMPING.
11. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH OWNER ON THE STARTUP OF PLANT CONTROL SYSTEM UPON RE-ENERGIZATION OF EXISTING ELECTRICAL, INSTRUMENTATION AND CONTROL EQUIPMENT FOLLOWING BYPASS PUMPING PHASE.
12. CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH ELECTRICAL UTILITY PRIOR TO FURNISHING OR INSTALLATION OF BYPASS PUMPING SKID. ENSURE BYPASS PUMPING SKID IS RATED SUFFICIENTLY FOR AVAILABLE FAULT CURRENT.

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ARIZONA, U.S.A.

EXPIRATION DATE: 12/31/27

E-02Q