


GENERAL NOTES

- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RIVERSIDE STANDARD DRAWINGS AND STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2003 EDITION.
- EXISTING UTILITIES SHOWN ON THIS PLAN ARE PLOTTED FROM PUBLIC RECORDS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO LOCATE AND PROTECT ALL UTILITIES WHETHER OR NOT SHOWN ON THIS PLAN.
- CONTRACTOR SHALL POthOLE AND VERIFY ALL LOCATIONS AND ELEVATIONS OF UTILITIES PRIOR TO THE START OF CONSTRUCTION TO ELIMINATE INTERFERENCE WITH NEW CONSTRUCTION.
- PRIME CONTRACTOR BIDDING THIS WORK SHALL HAVE A CLASS "A, C-34 OR C-42" LICENSE.
- ALL ELEVATIONS SHOWN ON THIS PLAN SHALL BE STAKED IN THE FIELD.
- BACKFILLING OF TRENCH AND PAVEMENT REPLACEMENT SHALL BE DONE PER CITY OF RIVERSIDE STANDARD DRAWING 453.


RIVERSIDE CALIFORNIA
PUBLIC WORKS DEPARTMENT
BRYANT PARK PUMP STATION
 (WARREN AND WELLS SEWAGE PUMP STATION REPLACEMENT)

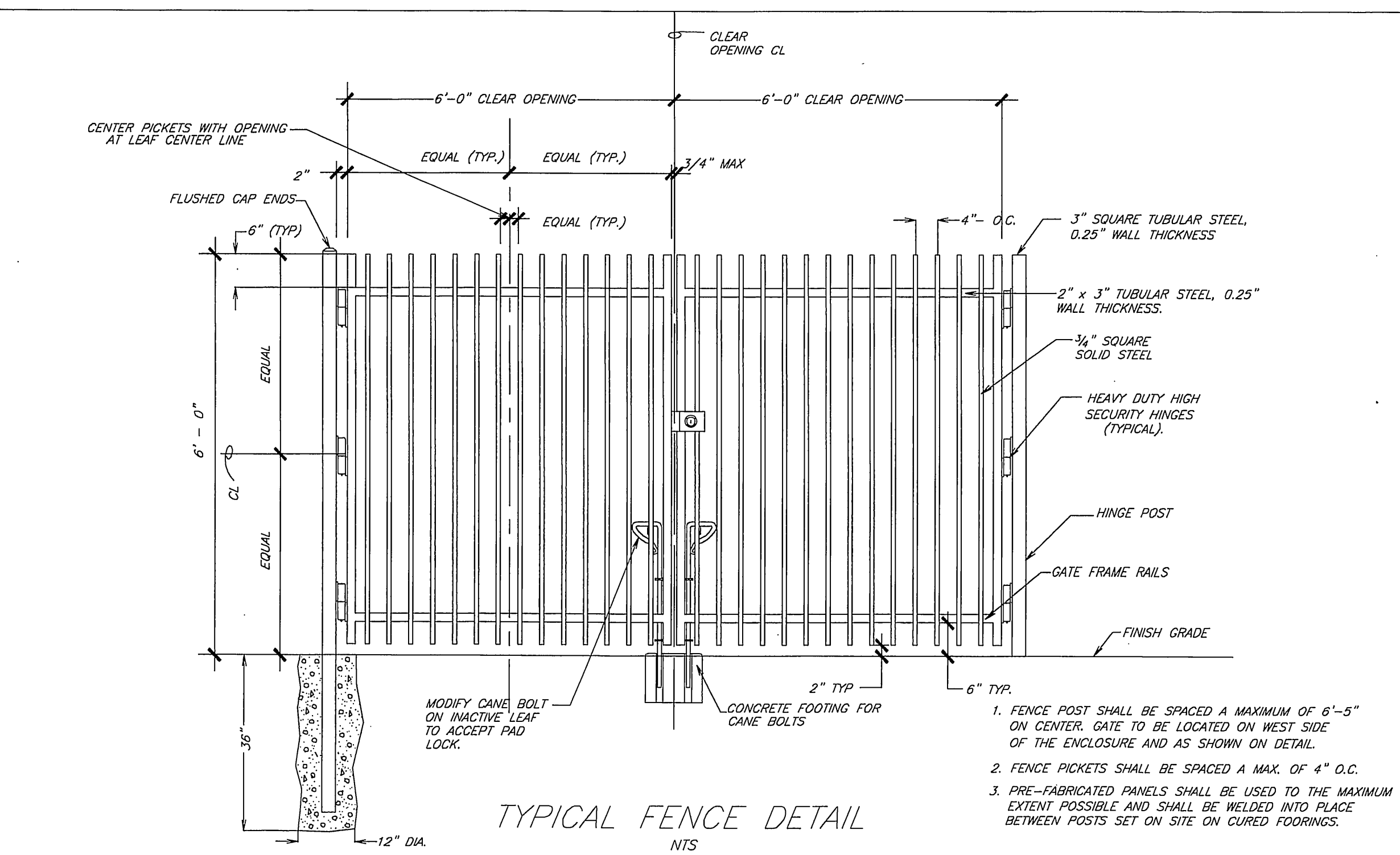
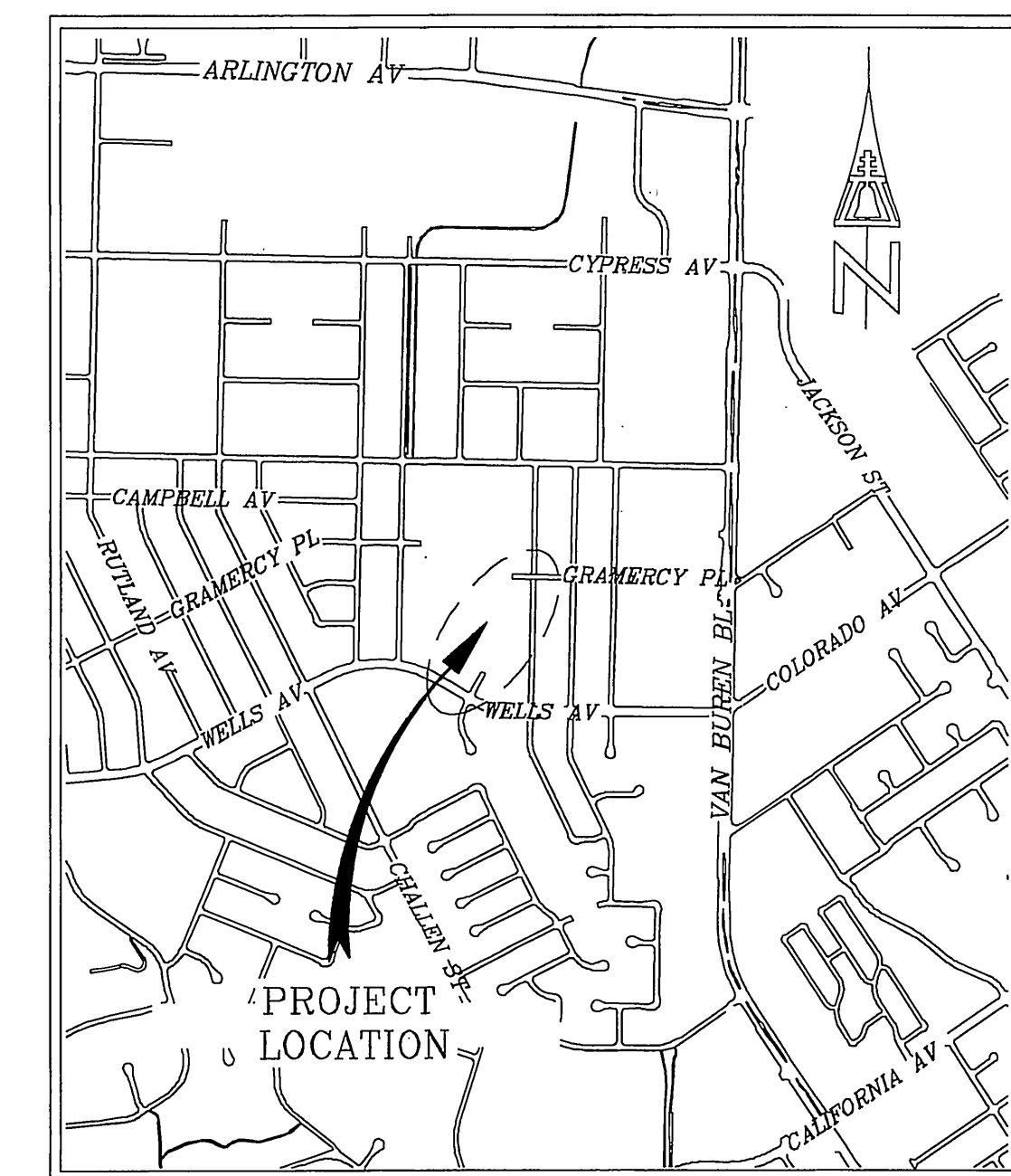
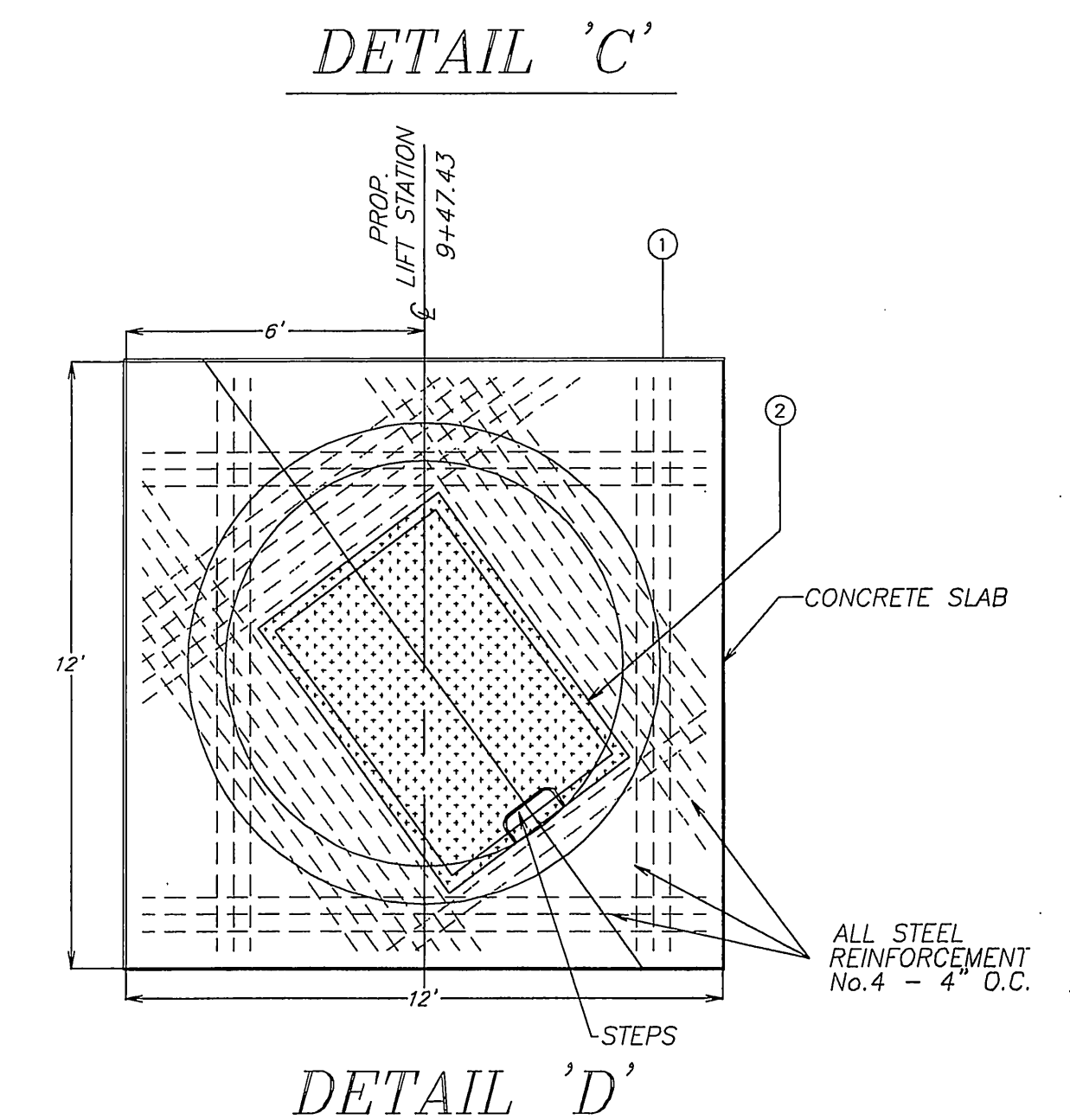
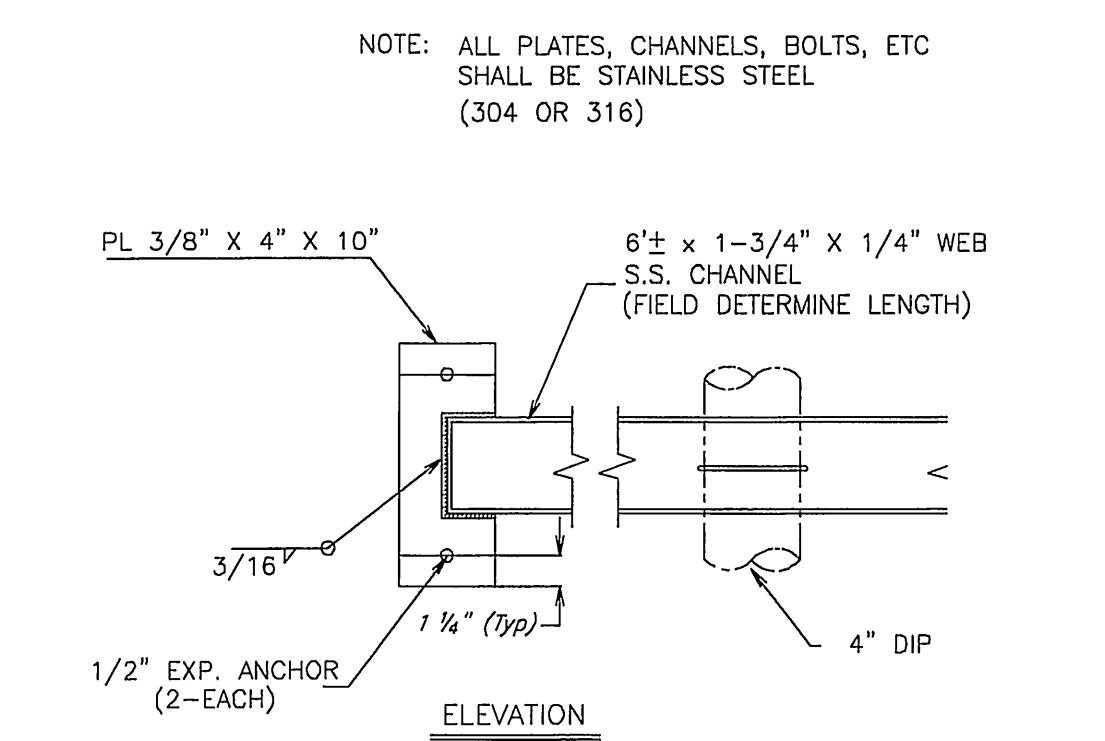
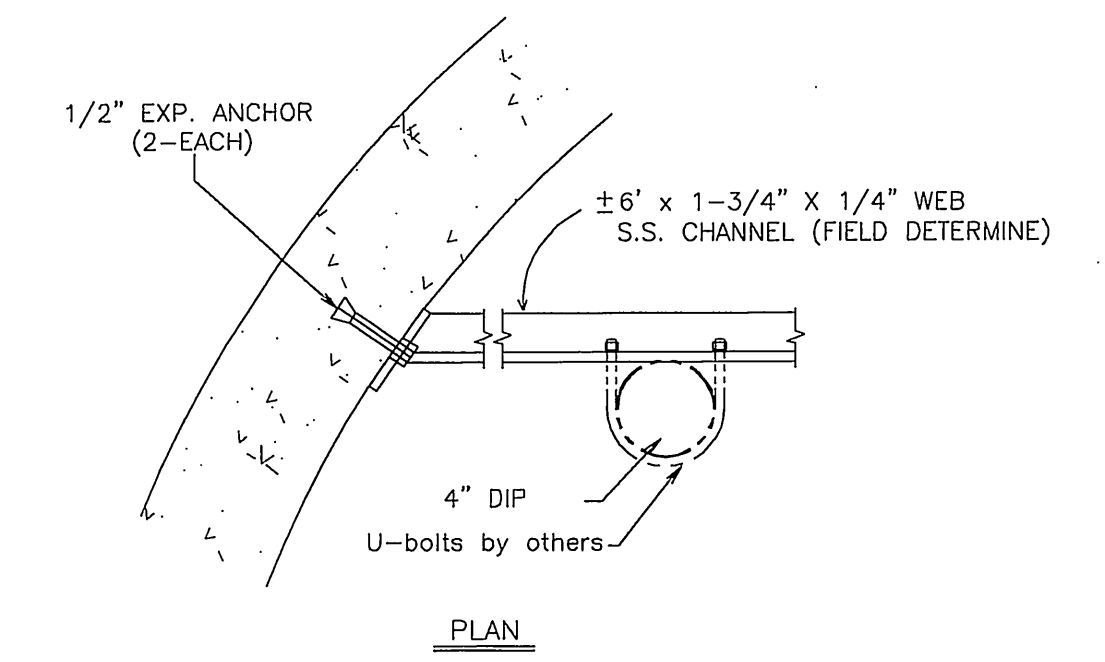
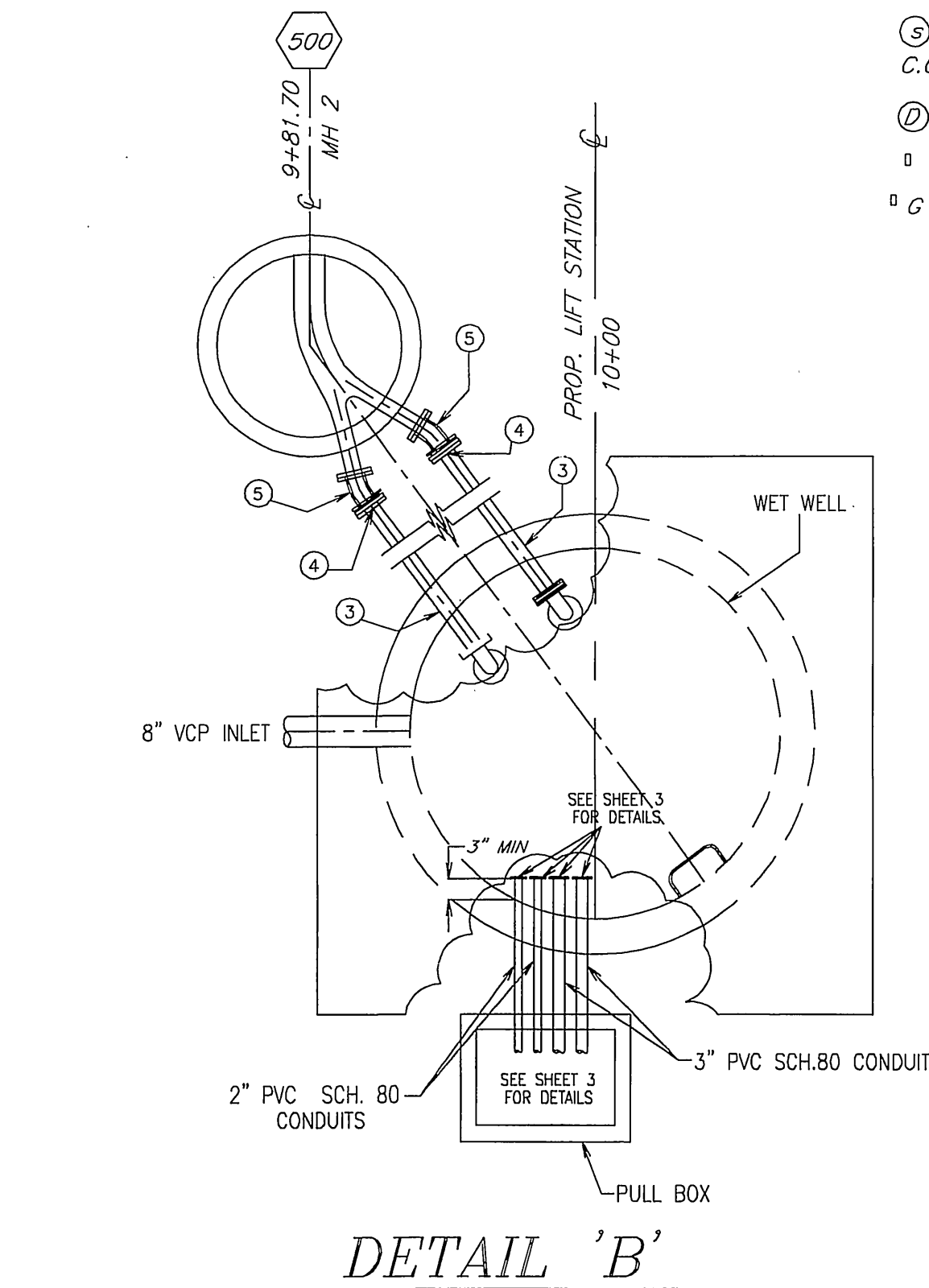
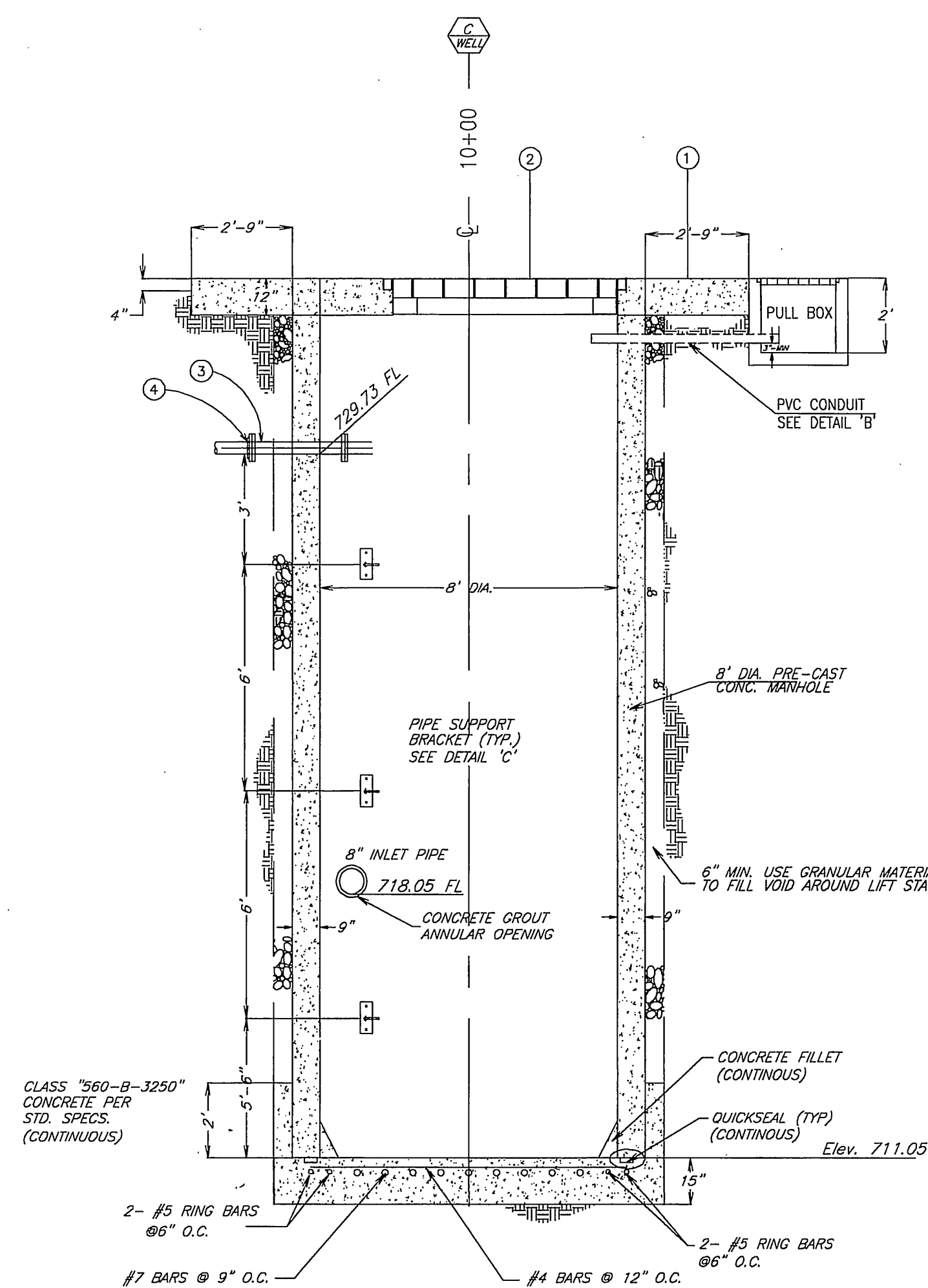
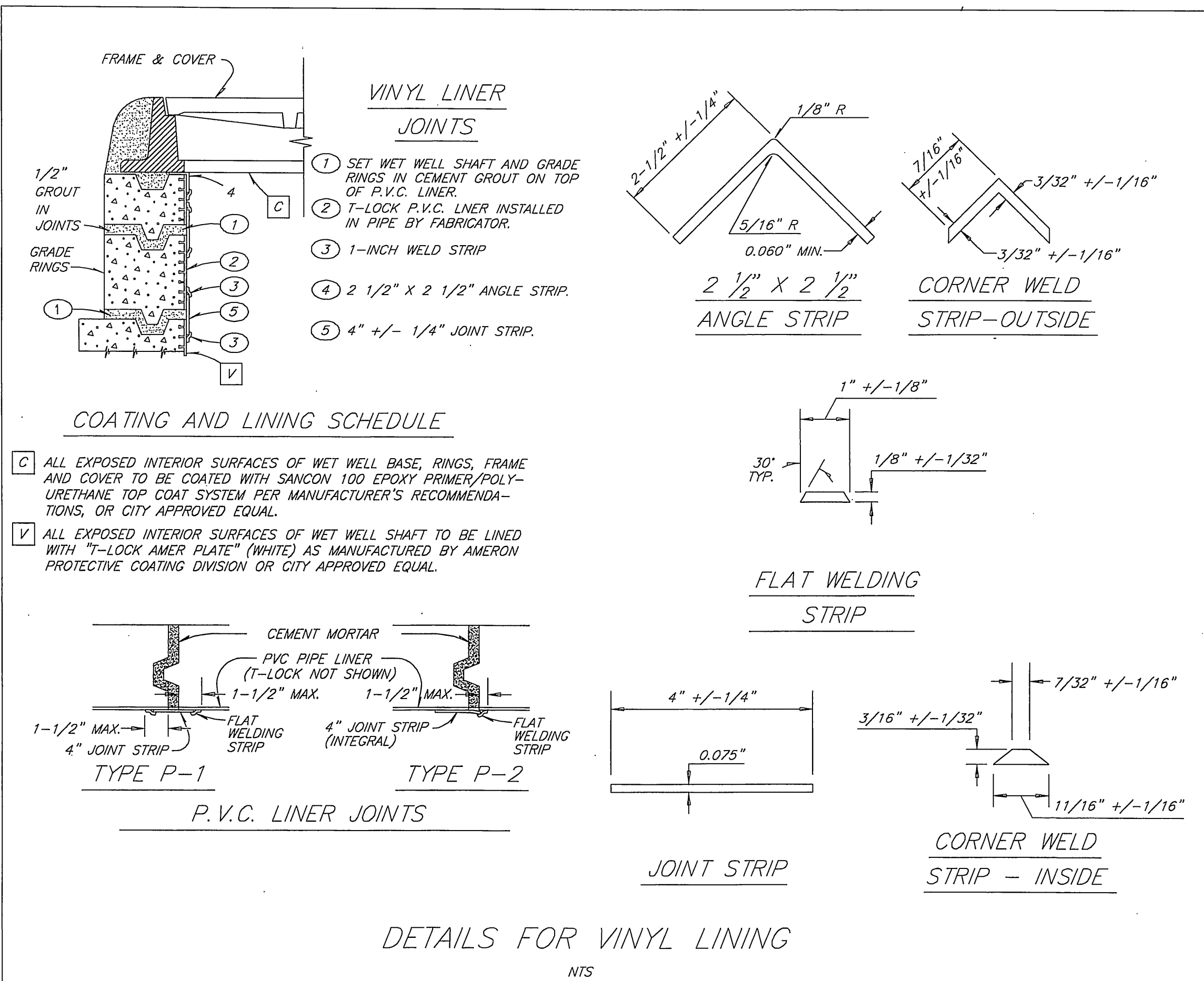
EXISTING UNDERGROUND & TOPOGRAPHY LEGEND

EXISTING UNDERGROUND UTILITIES:

TELEPHONE CONDUIT	---	T	---	T
ELECTRICAL CONDUIT	---	E	---	E
SANITARY SEWER	---	8"S	---	
WATER LINE	---	6"W	---	24"SD
STORM DRAIN	---		---	
GAS LINE	---	3"G	---	

EXISTING TOPOGRAPHY:

③ SANITARY SEWER M.H.	W	WATER M.H.
C.O. SANITARY SEWER CLEANOUT	G	GAS M.H.
④ STORM DRAIN M.H.	W	WATER METER
□ PULL BOX	⊕	FIRE HYDRANT
□ G GAS METER		



PROPOSED LIFT STATION

DETAIL 'A'

SPECIFIC CONSTRUCTION NOTES

- CONSTRUCT 12" THICK 12'x12' CONCRETE SLAB PER DETAIL 'D' OR CITY APPROVED EQUAL. SEE DETAIL 'D'
 - 4" X 6" BILCO TYPE JD-AL H-20 VAULT COVER OR CITY APPROVED EQUAL. SEE DETAIL 'D'
 - 4" X 30" LONG, FLANGE X FLANGE END DUCTILE IRON SPOOL. CLASS 150. SEE DETAIL 'B'
 - 4" DUCTILE IRON PIPE, RESTRAINED MECHANICAL JOINT X VICTAULIC END. CLASS 150.
 - 4" X 22.5" FLANGE X FLANGE DUCTILE IRON ELBOW CLASS 150.
 - CONSTRUCT 8" DIAMETER WET WELL PER DETAIL 'A' ON SHEET 1 WITH PVC "T-LINING" PER DETAIL ON SHEET 1.
- NUMBERS ABOVE 100 IN A HEXAGON ON THE PLAN REFER TO THE RESPECTIVE STANDARD DRAWING AND SHALL BE CONSTRUCTED ACCORDINGLY. UNLESS MODIFICATIONS ARE NOTED ON THE PLAN OR COVER SHEET. ANY NUMBER SHOWN BELOW THE STANDARD DRAWING NUMBER INDICATES THE SPECIFIC ALTERNATE TO BE CONSTRUCTED.

ENGINEER IN RESPONSIBLE CHARGE

Lauren F. Caldwell

LAUREN F. CALDWELL
R.C.E. No. 39441 expires 12/31/05
DATE 10/25/05

REGISTERED PROFESSIONAL ENGINEER

LAUREN F. CALDWELL
No. 39441
Exp. 12-31-2005
CIVIL
STATE OF CALIFORNIA

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY: _____ BY: _____ DATE: _____

PRINCIPAL ENGINEER: _____

INSPECTOR: _____

SURVEYOR: _____

PARK & RECREATION: _____

DATE 10/25/05

DESIGNED BY: MLAMPING DRAWN BY: MLAMPING CHECKED BY: SCALDWELL

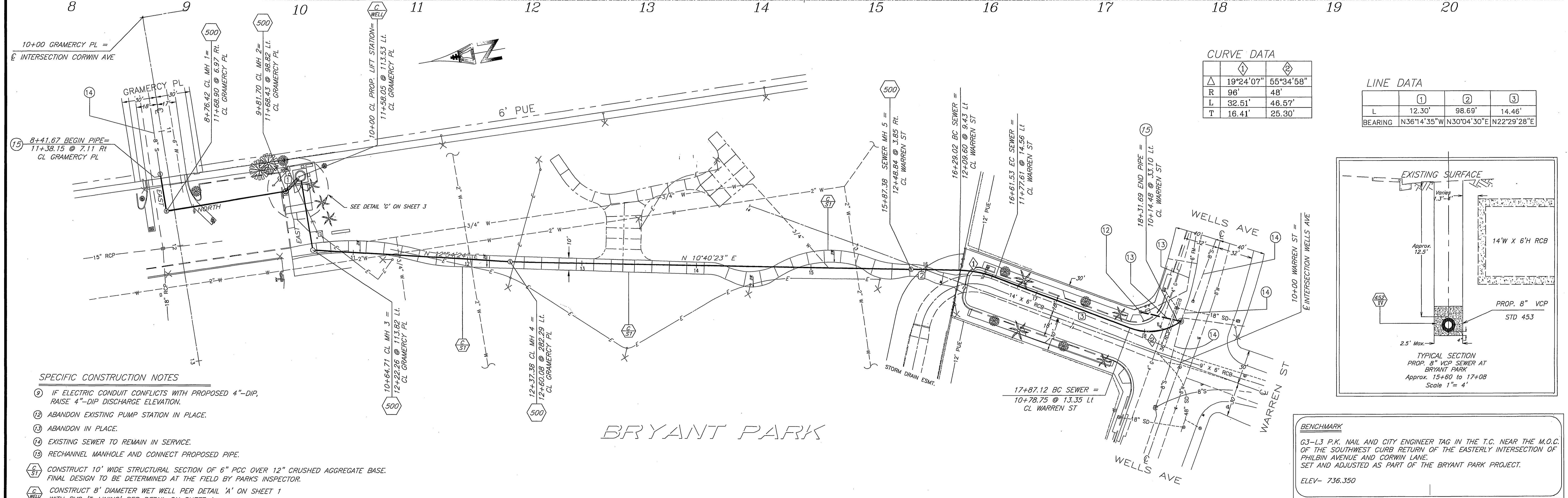
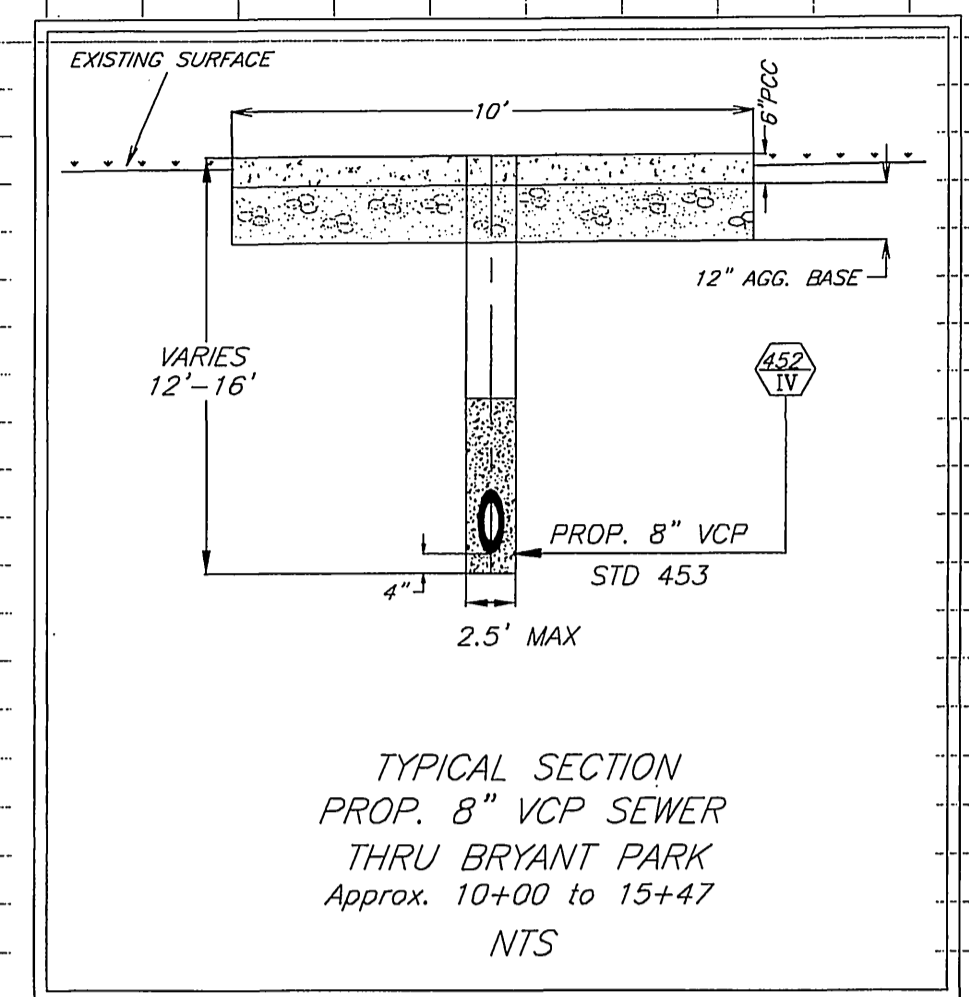
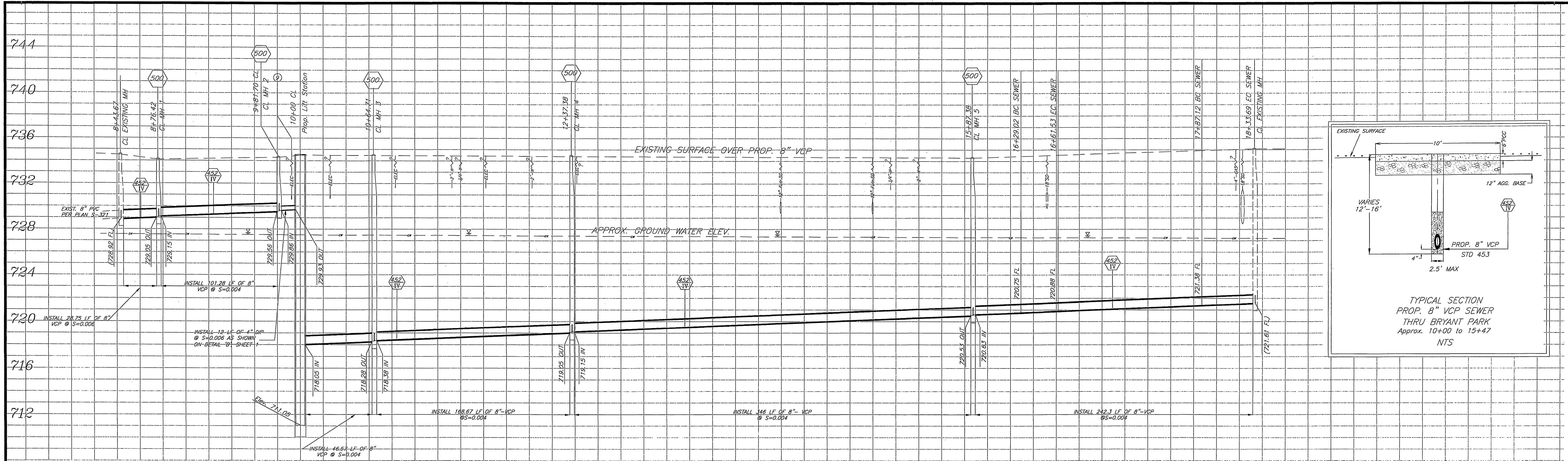
BRYANT PARK PUMP STATION
(WARREN AND WELLS SEWAGE PUMP STATION REPLACEMENT)

ACC. No. 9770723203-440301XX

S-1873

HORIZ. SCALE: 1" = 40' VERT. SCALE: 1" = 4'

SHEET 1 OF 5

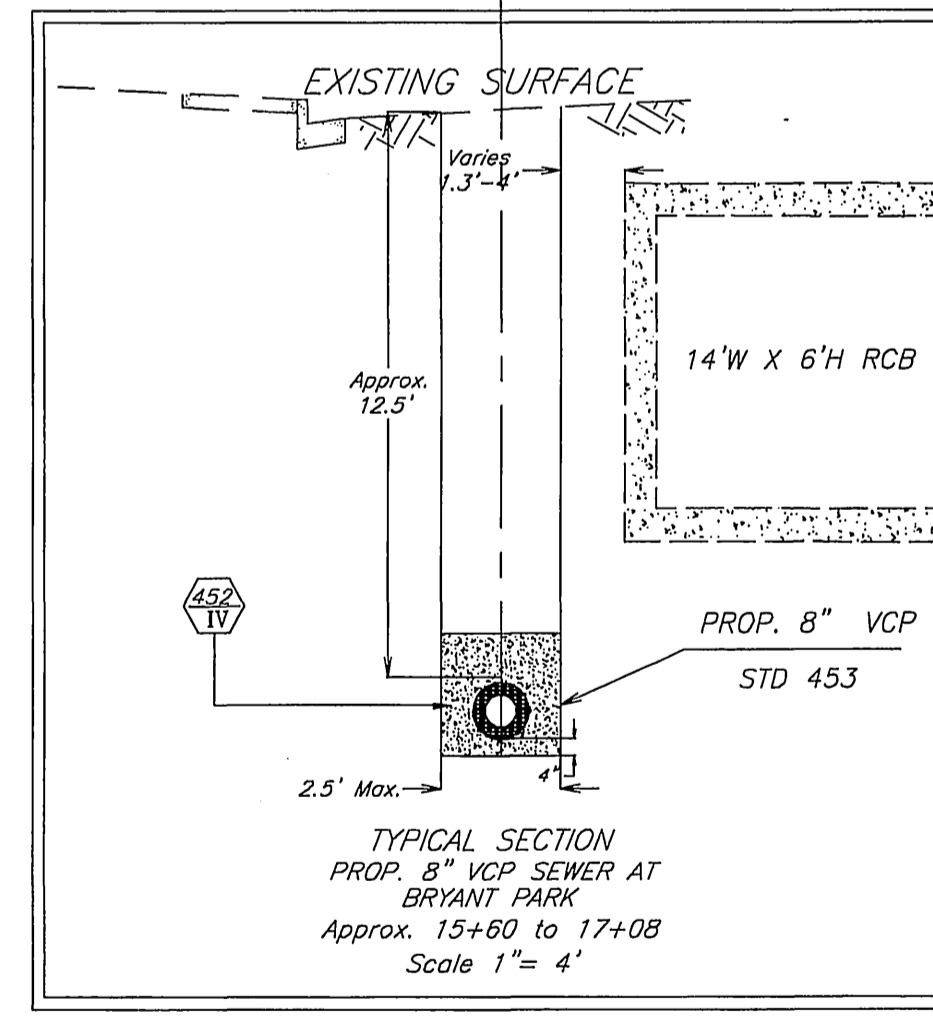


CURVE DATA

Δ	19°24'07"	55°34'58"
R	96'	48'
L	32.51'	46.57'
T	16.41'	25.30'

LINE DATA

	①	②	③
L	12.30'	98.69'	14.46'
BEARING	N36°14'35\"/>		



- SPECIFIC CONSTRUCTION NOTES**
- ① IF ELECTRIC CONDUIT CONFLICTS WITH PROPOSED 4\"/>

IMPORTANT NOTICE
 Section 4216/4217 of the Government Code requires a Dig Alert identification Number to be posted before a "Trench to Excavate" will be valid. For your Dig Alert I.D. Number call CALL TOLL FREE 48 HOURS BEFORE YOU DIG UNDERGROUND SERVICE ALERT 1-800-227-2600

ENGINEER IN RESPONSIBLE CHARGE
 LAUREN F. CALDWELL
 R.C.E. No. 39441 expires 12/31/05
 DATE 10/25/05

CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT

APPROVED BY: [Signature]
 PRINCIPAL ENGINEER
 INSPECTOR
 SURVEYOR
 PARK & RECREATION

DATE 10/25/05

BRYANT PARK PUMP STATION (WARREN AND WELLS SEWAGE PUMP STATION REPLACEMENT)

ACC. No. 977023203-440301XX
 S-1873
 SHEET 2 OF 5

INDEXED 12-23-05 LHH

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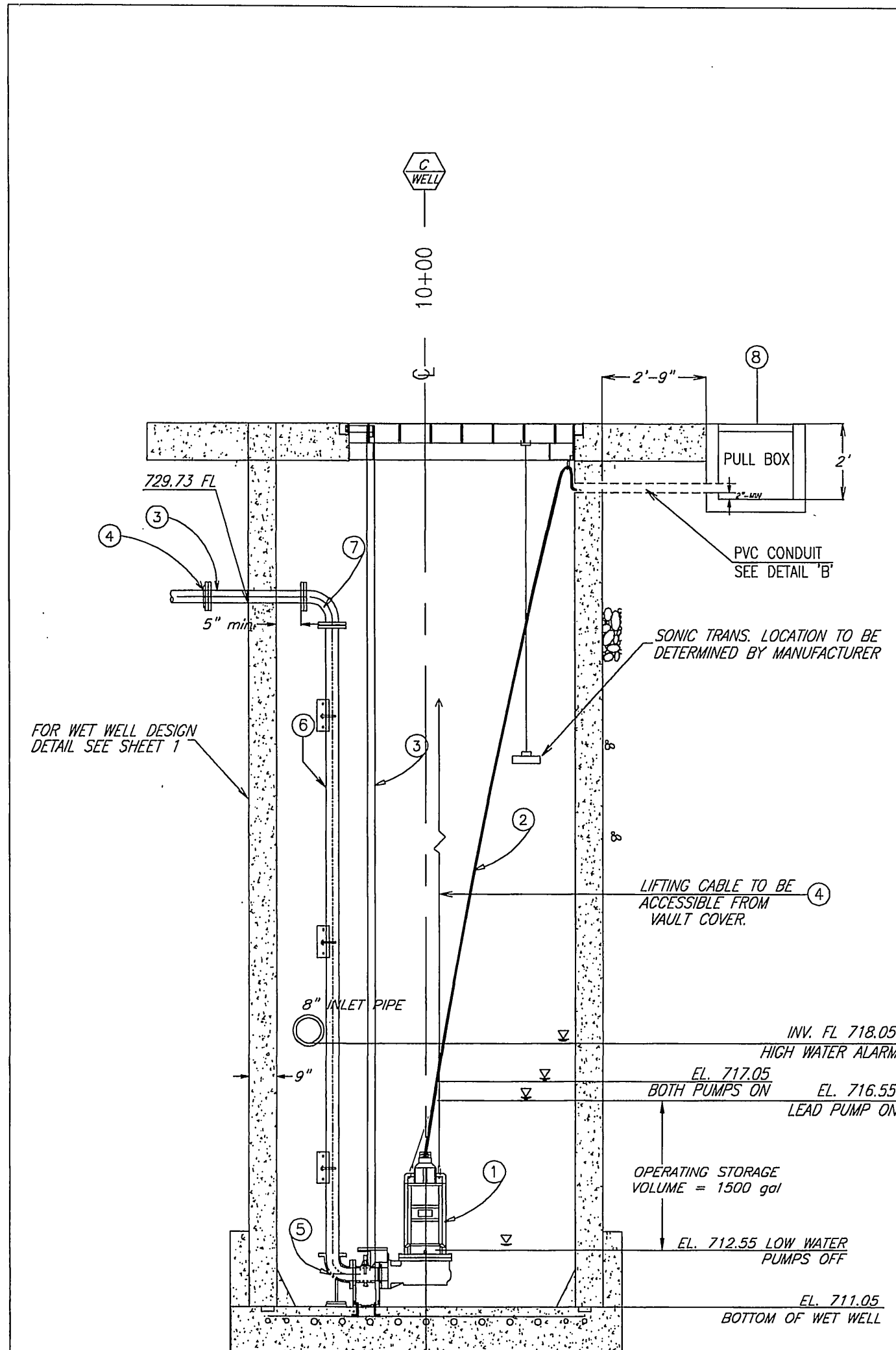
SPECIFIC NOTES

- 100AMP, 480V, NON-FUSIBLE DOUBLE THROW TRANSFER SWITCH CUTLER HAMMER, TYPE DTK IN NEMA 1 ENCLOSURE.
- UNDERGROUND PRECAST PULLBOX, 24" x 36" x 24" D. BROOKS PRODUCTS OR EQUAL WITH TRAFFIC COVER. PROVIDE 3" MIN. CABLE SLACK (COILED) IN BOX. SEE DETAIL "F".
- EXPLOSION PROOF JUNCTION BOX (SIZE AS REQUIRED) CROUSE-HIND TYPE EJB WITH HINGED COVER AND SUBMERSIBLE RESIN-CAST SPLICES (WIRING, TYP. OF 2). PROVIDE CABLE GRIPS FOR CORDS. SEE DETAIL "H".
- NOT USED
- EXPLOSION PROOF JUNCTION BOX WITH SEALING COVER FOR TRANSDUCER CABLE (NO SPLICES). SEE DETAIL "H".
- MOTOROLA MOSCAD, SUPPLIED BY CITY OF RIVERSIDE AND INSTALLED BY CONTRACTOR IN SEPARATE CABINET INSIDE THE CONTROL PANEL.
- PROVIDE GENERATOR RECEPTACLE. KILLARK 8581/21-407 AND 8581/22-407 PLUG. PROVIDE 30' MINIMUM SJD POWER CORD.
- PROVIDE CABLE BUSHINGS FOR CONDUITS INTO WET WELL.
- CONTRACTOR SHALL PROVIDE SUITABLE YAGI ANTENNA WITH MAST FOR RTU.
- THE RTU SHALL BE PROVIDED WITH 12V BATTERY BACKUP.
- XP CONDUIT SEAL.

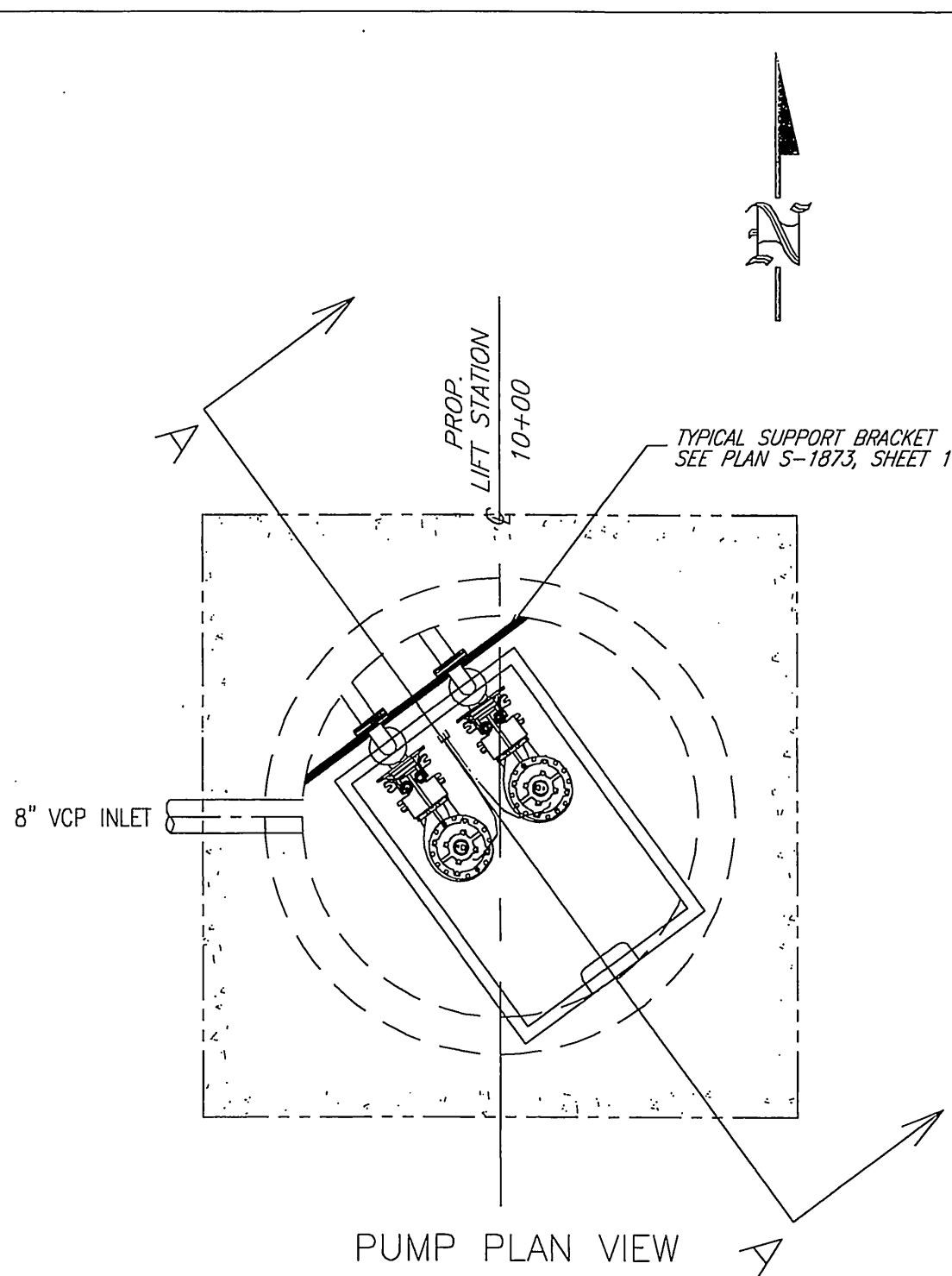
- NOTES:**
- VERIFY ANTENNA DIRECTION PRIOR TO SETTING POLE.
 - ALL MOUNTING HARDWARE SHALL BE GALVANIZED.
 - THE ANTENNA HEIGHT SHOWN IS FOR BID PURPOSE ONLY. ANTENNA HEIGHT AND FOUNDATION SIZE MAY BE REVISED AFTER RADIO SIGNAL TESTING BY CONTRACTOR IS PERFORMED.

GENERAL NOTES:

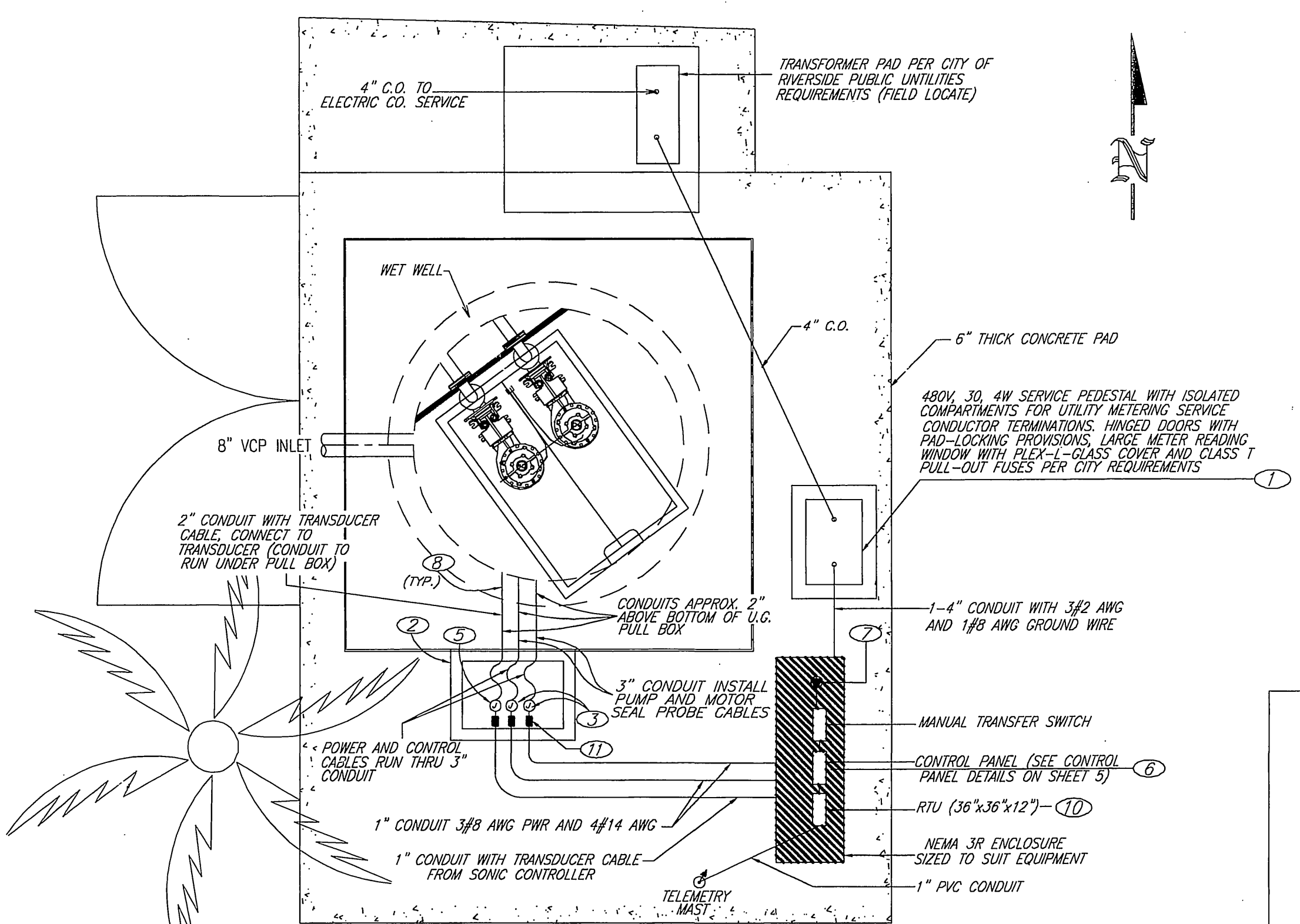
- PROVIDE ALL NECESSARY CONDUITS AND REQUIRED WIRING FROM CONTROL PANEL TO THE ELECTRICAL EQUIPMENT IN THE WET WELL, AS SHOWN AND AS REQUIRED.
- ALL WIRES MUST BE INDIVIDUALLY TAGGED AT EVERY TERMINATION AND INSIDE EVERY JUNCTION BOX. WIRE NUMBERING AND TAGGING SYSTEMS MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL.
- THE LIFT STATION WET WELL IS A CLASS 1, DIV. 1 HAZARDOUS AREA. ALL WORK AND EQUIPMENT MUST CONFORM TO THIS CLASSIFICATION.
- THE AREA WITHIN THE U.G. PRECAST CONCRETE PULL BOX IS ALSO CLASSIFIED AS A CLASS 1, DIV. 1 HAZARDOUS AREA AND IS CONSIDERED AN EXTENSION OF THE WELL BY VIRTUE OF THE UNDERGROUND CONDUIT SYSTEMS WHICH ARE TO REMAIN OPEN AND NOT SEALED, FOR THE PURPOSE OF EASILY REMOVING AND INSTALLING THE CABLE SYSTEMS IN THE WET WELL.
- THE CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE FOR TRANSDUCER, AND MOUNTING SUPPORTS FOR ALL WET WELL CABLES, ETC.
- PROVIDE A CODE SIZE GROUND WIRE IN ALL CONDUITS.
- CONTRACTOR TO FURNISH AND INSTALL TELEMETRY MAST PER CITY REQUIREMENTS.



SECTION A-A
N.T.S.



PUMP PLAN VIEW
N.T.S.

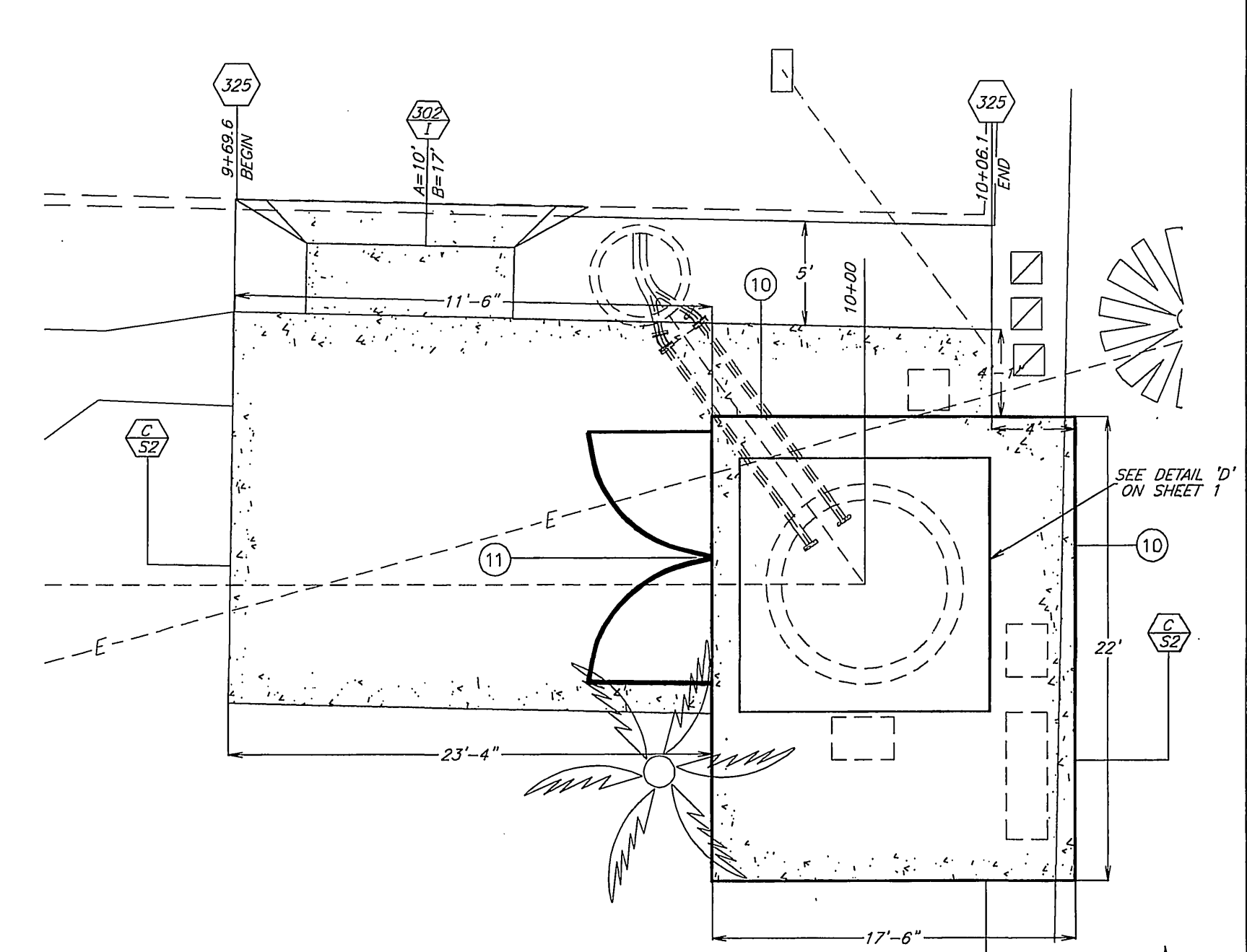


DETAIL 'F'
N.T.S.

NOTE:
- CONTRACTOR SHALL OBTAIN SERVICES OF PUMP MANUFACTURER'S ENGINEERING REPRESENTATIVE TO REVIEW AND APPROVE INSTALLATION OF PUMPS.
- CONTRACTOR SHALL DEMONSTRATE REMOVAL AND REPLACEMENT OF BOTH PUMPS AS PART OF INSTRUCTION OF CITY'S PERSONNEL.

LEGEND

- PLAN**
- CONTROL PANEL
 - UNDERGROUND CONDUIT
 - UNDERGROUND CONDUIT, STUBBED UP
 - WALL MOUNTED JUNCTION AND/OR TERMINAL BOX (CODE SIZE)
 - 480V, 100 AMP 3W, 4P, W.P. RECEPT. MOUNTED ON EXTERIOR OF PNL ENCLOSURE
 - CABLE
 - INDICATES REFERENCE TO SPECIFIC NOTE
 - PCC - PORTLAND CEMENT CONCRETE



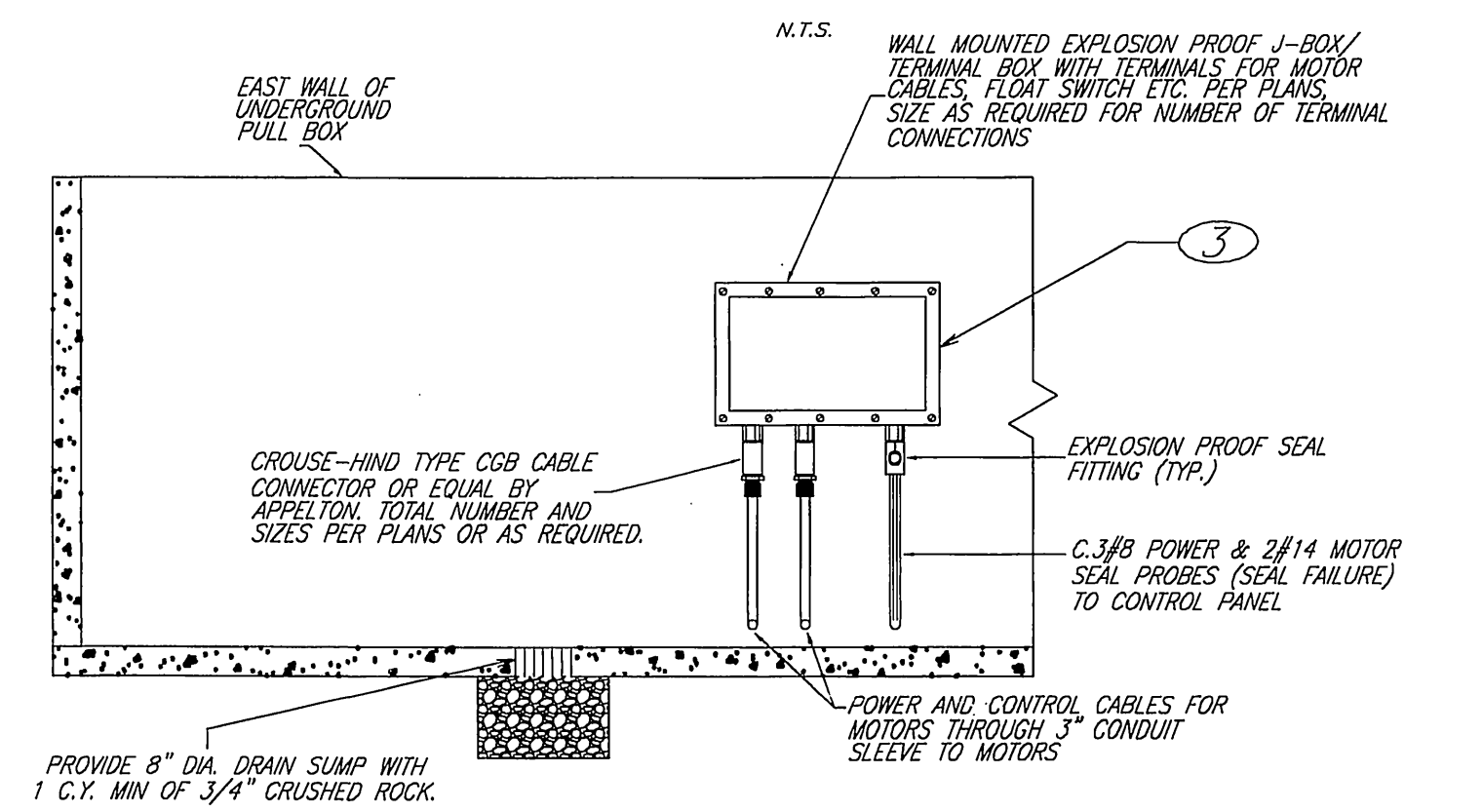
DETAIL 'G'
N.T.S.

SPECIFIC CONSTRUCTION NOTES

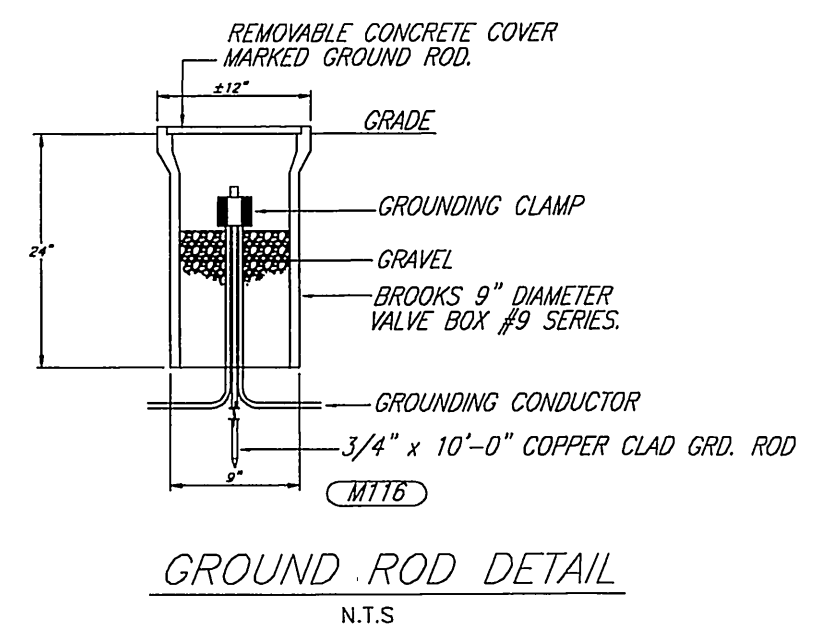
- SUBMERSIBLE SEWAGE PUMP (CONTRACTOR TO SUPPLY PUMP SPECIFICATIONS AND PERFORMANCE CURVES FOR CITY APPROVAL) TDH 20' GPM 200 RPM 1160
- POWER CABLE SHALL BE U.L. LISTED. ONE IS REQUIRED FOR EACH PUMP.
- SCHEDULE 40 STAINLESS STEEL PIPE GUIDE RAILS, AS SUPPLIED BY PUMP MANUFACTURER (TO BE ADJUSTED AS NECESSARY PER PUMP MANUFACTURER'S SPECIFICATIONS).
- STAINLESS STEEL NYLON COVERED LIFTING CABLE WITH STAINLESS STEEL EYE BOLT AS RECOMMENDED BY PUMP MANUFACTURER.
- MATING 90° ELBOW FOR SLIDE-AWAY COUPLING.
- 4" DUCTILE IRON PIPE WITH FLANGED ENDS. A.N.S.I. CLASS 150.
- 4" x 90° FLANGED DUCTILE IRON ELBOW, CLASS 150.
- BROOKS PRODUCT 67PB PRECAST PULL BOX (24" x 36" x 24" DEEP) WITH TRAFFIC COVER OR CITY APPROVED EQUAL.

DETAIL 'E'

TYPICAL EXPLOSION PROOF J-BOX/TERMINAL BOX DETAIL IN UNDERGROUND PULL BOX

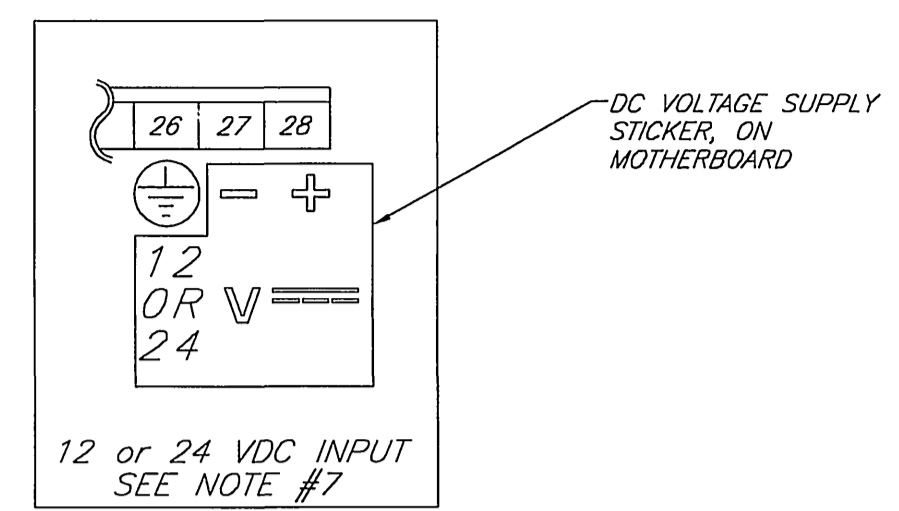
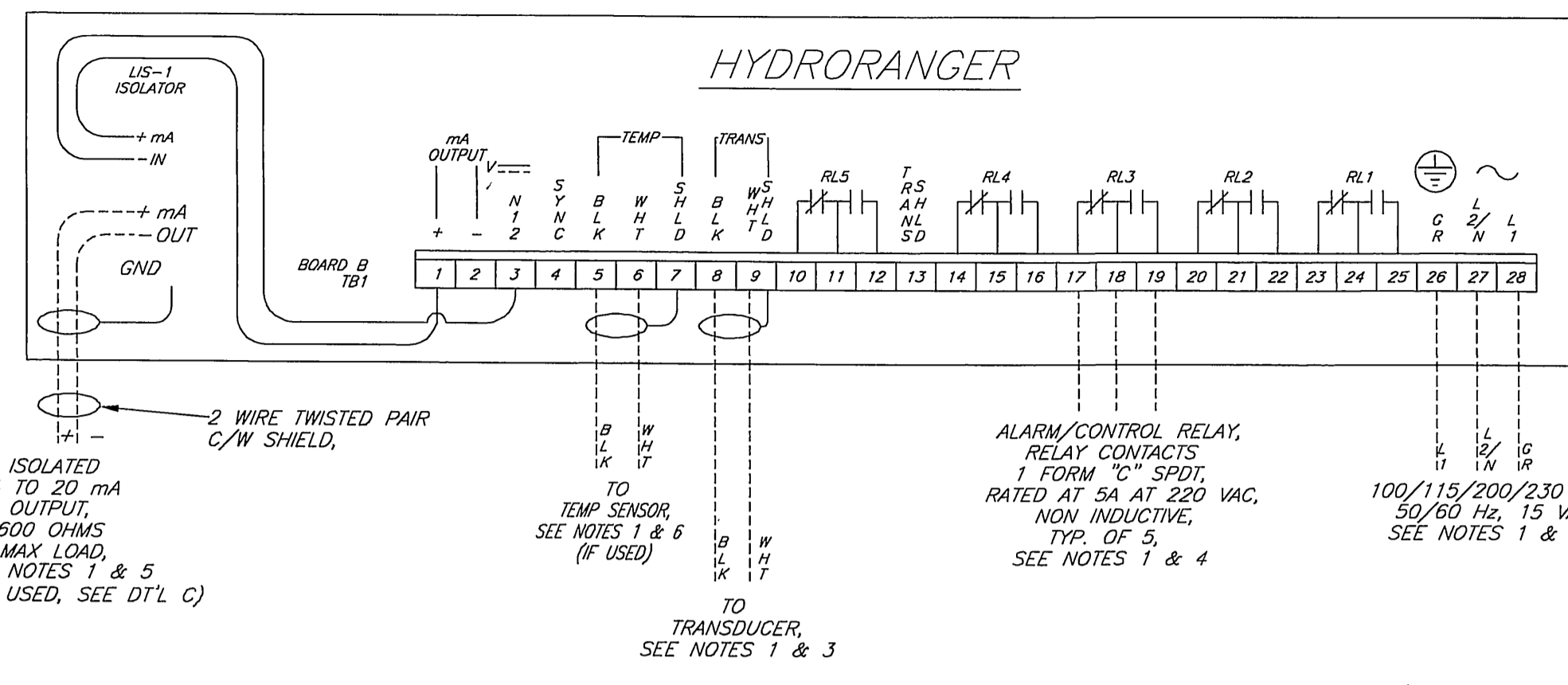


DETAIL 'H'
N.T.S.

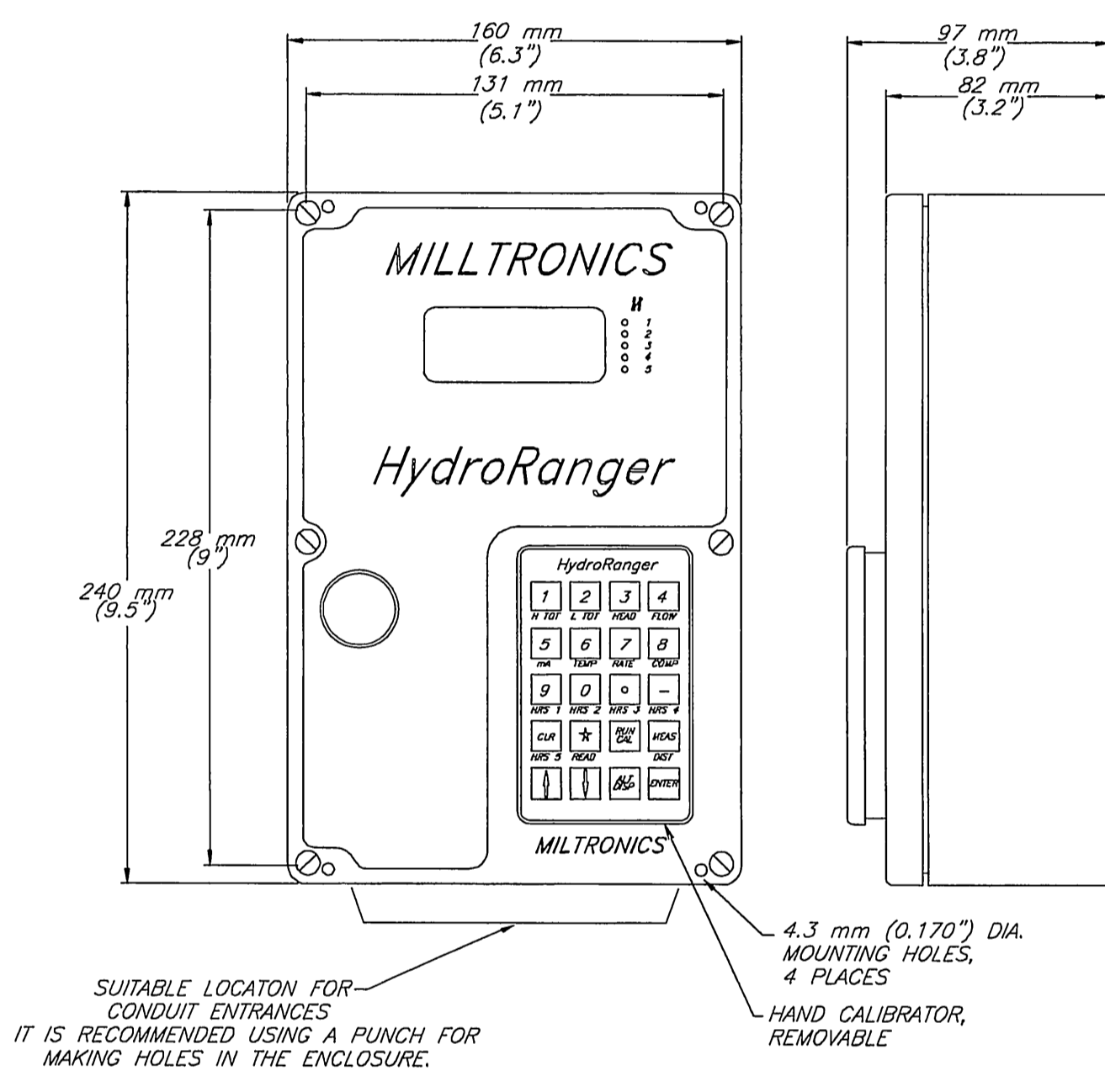


GROUND ROD DETAIL
N.T.S.

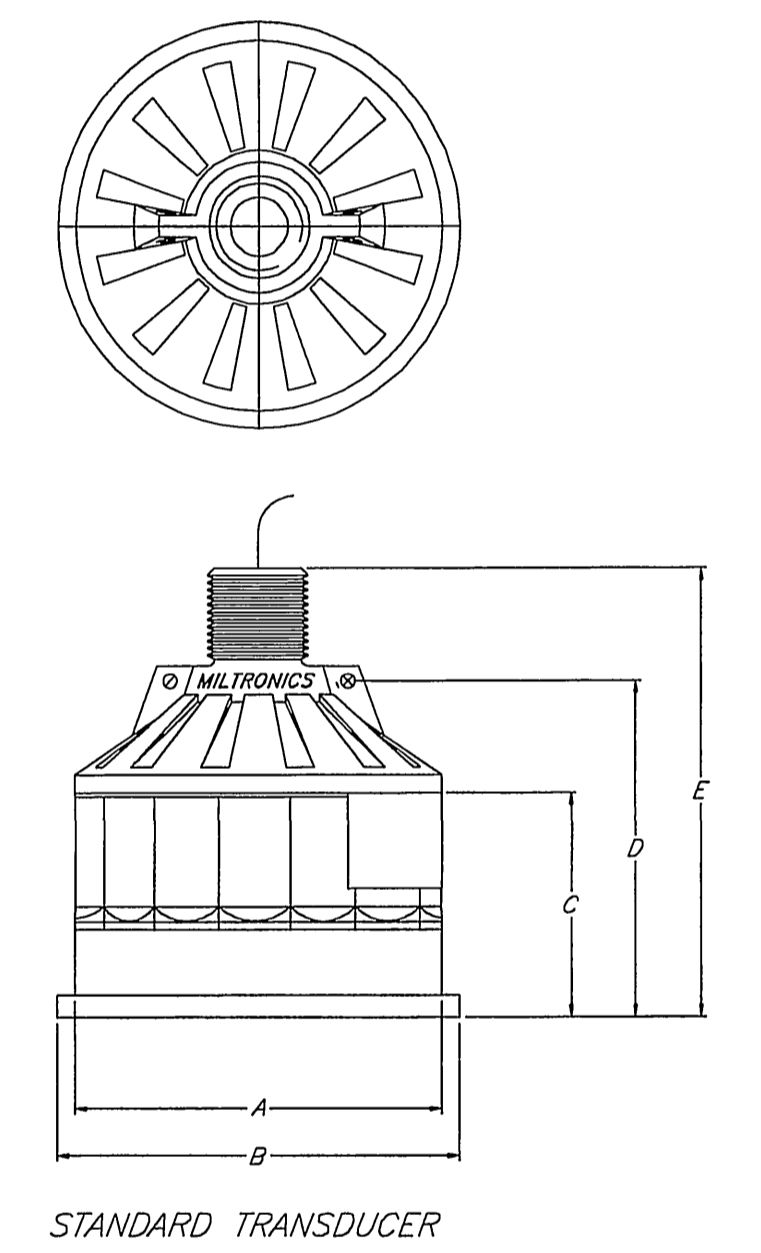
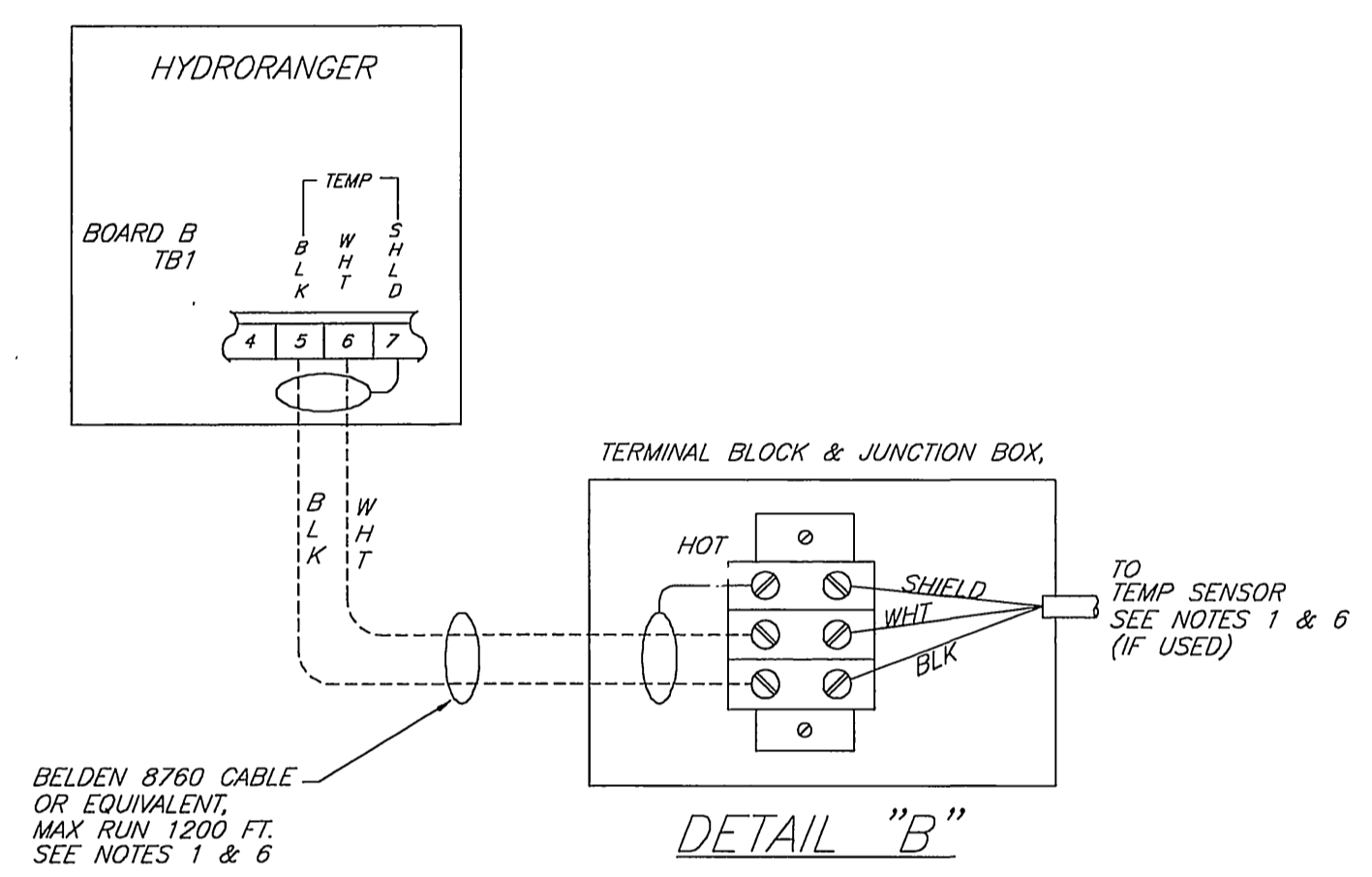
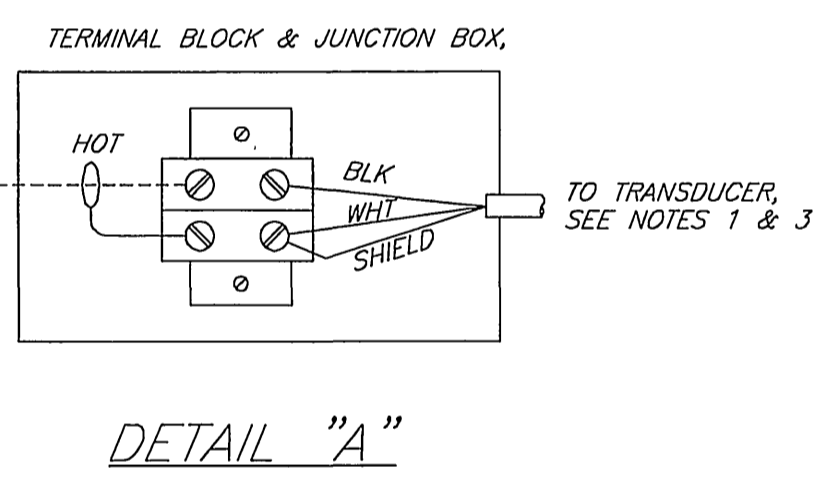
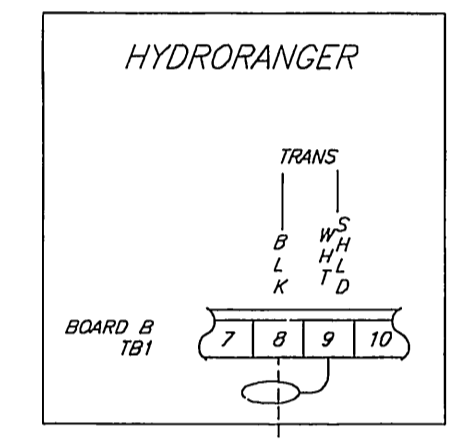
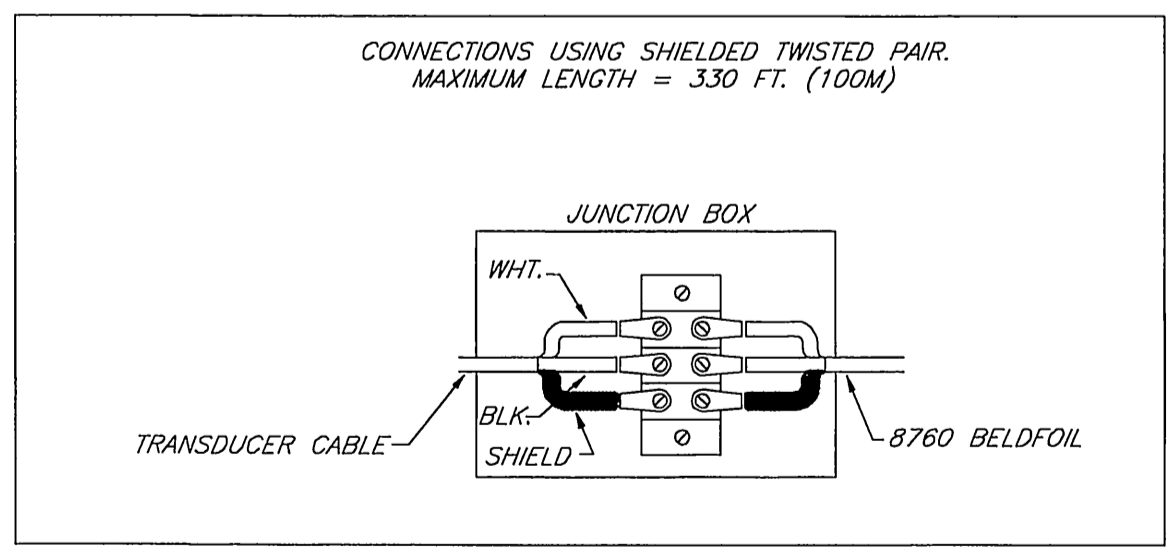
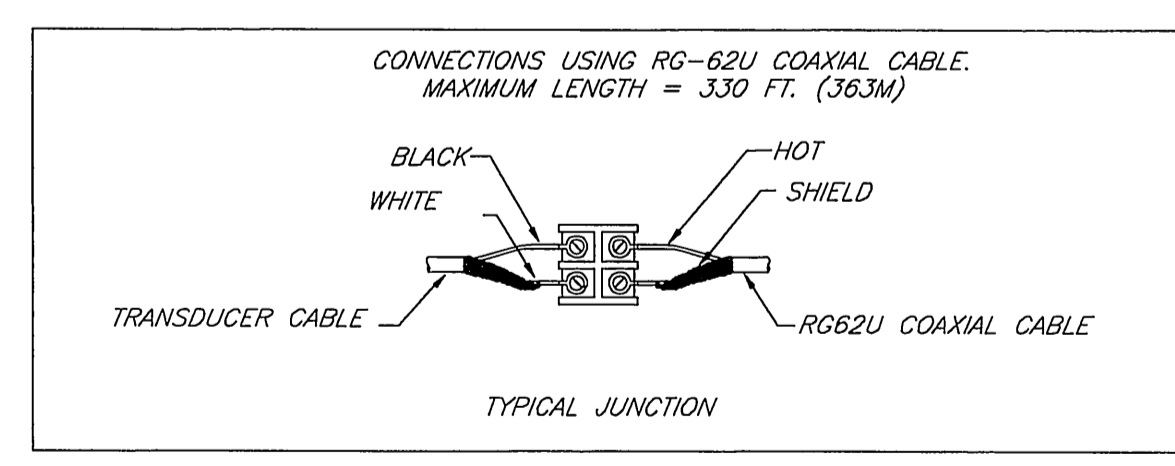
<p>ENGINEER IN RESPONSIBLE CHARGE LAUREN F. CALDWELL R.C.E. No. 39441 expires 12/31/05 DATE 10/25/05</p>	<p>CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT</p> <p>APPROVED BY: [Signature] DATE: 10/25/05</p> <p>INSPECTION: [Signature] DATE: 10/25/05</p> <p>SURVEYOR: [Signature] DATE: 10/25/05</p> <p>WASTE WATER OPS. MGR.: [Signature] DATE: 10/25/05</p> <p>PARK & RECREATION: [Signature] DATE: 10/25/05</p>	<p>ACC. No. 977023203-440301XX</p> <p>BRYANT PARK PUMP STATION (WARREN AND WELLS SEWAGE PUMP STATION REPLACEMENT)</p> <p>S-1873</p>
		<p>HORIZ. SCALE: 1" = 40' VERT. SCALE: 1" = 4'</p> <p>SHEET 3 OF 5</p>



- NOTES:**
- 1) ——— DENOTES WIRING BY MILLTRONICS.
----- DENOTES WIRING BY CONTRACTOR.
ALL WIRING MUST BE DONE IN CONJUNCTION WITH APPROVED CONDUIT BOXES, AND FITTINGS AND TO PROCEDURES IN ACCORDANCE WITH ALL GOVERNING REGULATIONS.
 - 2) SELECT CORRECT VOLTAGE VIA SELECTOR SW1 ON BOARD B.
 - 3) TRANSDUCER CABLE, COAXIAL RG-62U OR EQUIVALENT, MUST BE RUN IN A GROUNDED METAL CONDUIT OR EMT WITH NO OTHER ELECTRICAL CIRCUITS. GROUND SHIELD AT THE HYDRORANGER ONLY. FOR CABLE RUNS LONGER THAN THE TRANSDUCER CABLE SEE DETAIL "A". INSULATE SHIELD AT JUNCTIONS TO PREVENT INADVERTENT GROUNDING.
 - 4) CONTACTS OF RELAYS SHOWN IN DE-ENERGIZED ALARM CONDITION. ALL RELAYS ARE CERTIFIED FOR USE IN EQUIPMENT WHERE SHORT CIRCUIT CAPACITY OF THE CIRCUITS IN WHICH THEY ARE CONNECTED IS LIMITED BY FUSES HAVING RATINGS NOT EXCEEDING THE RATINGS OF THE RELAYS.
 - 5) ROUTE 4-20 mA CABLE IN A SEPARATE CONDUIT, ENTERING THE ENCLOSURE AS NEAR AS POSSIBLE TO THE ISOLATOR. KEEP WIRING AS SHORT AS POSSIBLE. DO NOT ROUTE CABLE ALONG TERMINAL BLOCK. KEEP SHIELD INTACT UP TO OUTPUT TERMINALS.
 - 6) CHANGE SW2 POSITION IF USING A SEPARATE TEMPERATURE SENSOR. TEMPERATURE SENSOR CABLE, BELDEN 8760 OR EQUIVALENT, MAY BE RUN IN CONDUIT WITH THE TRANSDUCER CABLE. FOR CABLE RUNS LONGER THAN THE TEMPERATURE SENSOR CABLE SEE DETAIL "B". CHANGE SW2 POSITION BACK IF THE TEMPERATURE SENSOR IS REMOVED.
 - 7) CONTRACTOR TO VERIFY THAT THE DC INPUT VOLTAGE CONFORMS TO THE VOLTAGE STATED ON THE INPUT VOLTAGE STICKER, (ON MOTHERBOARD).
 - 8) FOR FURTHER INFORMATION REFER TO THE HYDRORANGER INSTRUCTION MANUAL OR CONTACT THE NEAREST MILLTRONICS REPRESENTATIVE.



1. TRANSDUCER CABLE CONNECTION MAY BE SOLDERED OR ASSEMBLED ON A TERMINAL STRIP.
2. ALL PULL BOXES, CONDUITS, AND JUNCTION BOXES MUST BE GROUNDED TO THE CONDUIT.
3. TRANSDUCER CABLE MUST BE RUN IN A GROUNDED CONDUIT SYSTEM WITH NO OTHER ELECTRICAL CIRCUITS.
4. ROUTE CONDUIT FOR LOWEST EMF INTERFERENCE FROM MOTOR DRIVES, POWER BUSES, ETC.
5. OBSERVE STANDARD WORK PRACTICES, THE NEC AND LOCAL REGULATIONS.



TRANSDUCER TYPE	DIMENSIONS [METRIC]						THREAD SIZE	CABLE TYPE
	"A"	"B"	"C"	"D"	"E"	"F"		
XCT-8	3.2 [81.3]	3.45 [87.6]	2.6 [66.0]	3.6 [91.4]	4.8 [121.9]	0.15 [3.8]	1"NPT	LR29248
XCT-12	4.5 [114.3]	4.75 [120.7]	2.6 [66.0]	3.85 [97.8]	5.17 [131.3]	0.20 [5.1]	1"NPT	LR29248
XPS-10	3.2 [81.3]	3.45 [87.6]	2.6 [66.0]	3.6 [91.4]	4.8 [121.9]	0.15 [3.8]	1"NPT	YR40154
XPS-15	4.5 [114.3]	4.75 [120.7]	2.6 [66.0]	3.85 [97.8]	5.17 [131.3]	0.20 [5.1]	1"NPT	YR40154
XPS-30	6.6 [167.6]	6.92 [175.8]	4.58 [116.3]	6.4 [162.6]	7.7 [195.6]	0.20 [5.1]	1.5"NPT	YR40154
XPS-40	7.8 [198.1]	8.10 [205.7]	5.5 [139.7]	7.6 [193.0]	9.15 [232.4]	0.30 [7.6]	1.5"NPT	YR40154

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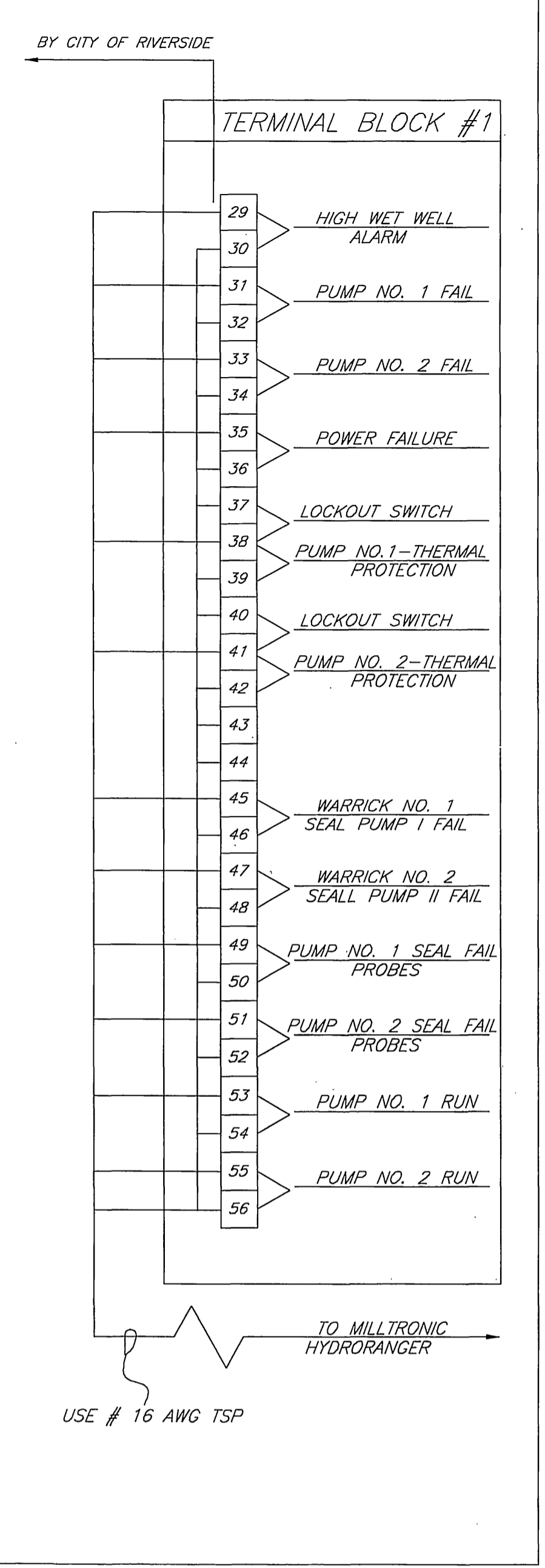
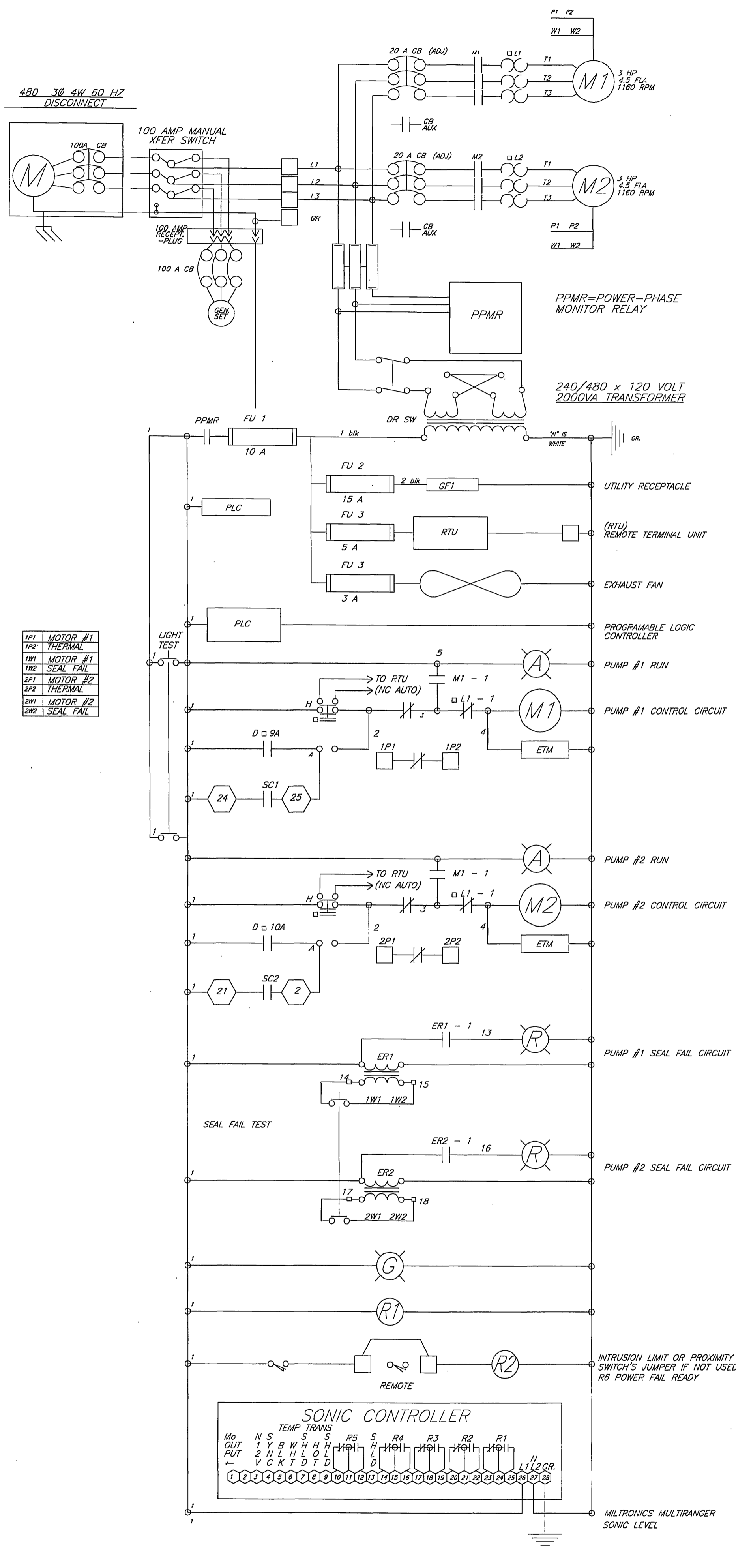


CITY OF RIVERSIDE, CALIFORNIA
 PUBLIC WORKS DEPARTMENT

APPROVED BY: [Signature]
 PRINCIPAL ENGINEER
 INSPECTION: [Signature]
 SURVEYOR: [Signature]
 PARK & RECREATION: [Signature]

BRYANT PARK PUMP STATION
 (WARREN AND WELLS SEWAGE PUMP STATION REPLACEMENT)

ACC. No. 9770723203-440301XX
 S-1873
 SHEET 4 OF 5



LIFT STATION NOTES:

- GENERAL NOTES:**
- THE CONTRACTOR MUST SUBMIT MAINTENANCE AND SPARE PARTS INFORMATION FOR THE PUMPS, ELECTRICAL AND INSTRUMENTATION COMPONENTS. MECHANICAL COMPONENTS MUST HAVE SECTION VIEWS, EXPLODED VIEWS, AND A COMPLETE PARTS LISTING. THE NAME, ADDRESS AND TELEPHONE NUMBER FOR ALL SUPPLIERS MUST BE PROVIDED.
 - THE CONTRACTOR MUST PROVIDE SPARE PARTS.
 - THREE PHASE POWER IS REQUIRED FOR LIFT STATION (480 VOLT)
 - THE PUMP MOTORS MUST BE SIZED NOT TO EXCEED THEIR RATED HORSE POWER AT ANY POINT IN THE PUMP CURVE.
 - THE CONTRACTOR MUST PROVIDE A 30 FOOT (min.) JUMPER FROM THE CONTROL PANEL TO THE GENERATOR FOR EMERGENCY POWER CONNECTION. ACTUAL LENGTH WILL BE DETERMINED BY AVAILABILITY OF GENERATOR PARKING.
 - CONTRACTOR MUST PROVIDE COMPLETE AS-BUILT DRAWINGS OF THE ELECTRICAL SYSTEM. THIS INCLUDES THE GENERAL WIRING AND THE INTERNAL WIRING OF THE PANELS. THE CITY WILL REVIEW AND APPROVE THE DRAWINGS. THE CONTRACTOR WILL MAKE ANY CHANGES AND SUBMIT FINAL SETS. COMPLETED RECORDED DRAWINGS ARE REQUIRED BEFORE FINAL PAYMENT IS RECEIVED BY THE CONTRACTOR.
 - ALL WIRES MUST BE INDIVIDUALLY TAGGED. THEY MUST BE TAGGED AT EVERY TERMINATION AND INSIDE EVERY JUNCTION BOX. WIRE NUMBERING AND TAGGING SYSTEMS MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL.

NOTES:

- DENOTES TERMINALS REQUIRING WIRES TO BE CONNECTED FROM CONTROL PANEL TO REMOTE EQUIPMENT.
- PANEL TO BE COMPLETELY WIRED WITH ALL WIRES AND TERMINALS NUMBERED AND TERMINATED ON TERMINAL STRIPS. WIRING DIAGRAM TO BE GIVEN TO CITY OF RIVERSIDE
- MANUFACTURER TO BE ALLEN BRADLEY, FURNAS, TOSHIBA, CUTLER HAMMER OR CITY APPROVED EQUAL.
- PROVIDE NECESSARY CONDUITS TO PUMP LOCATION FROM M.C.C. (ONE FOR POWER, ONE FOR CONTROL, ONE FOR MILLTRONIC HYDRORANGER)
- FLUORESCENT LIGHT TO BE INSTALLED IN CONTROL PANEL FOR NIGHT MAINTENANCE.
- CONTROL PANEL IS TO BE COMPLETELY WIRED WITH ALL WIRES AND TERMINALS NUMBERED AND TERMINATED ON TERMINAL STRIPS, INCLUDING ALL WIRING BETWEEN ALL COMPONENTS COMPRISING THE ENTIRE CONTROL PANEL. WIRING DIAGRAMS ARE TO BE GIVEN TO THE CITY OF RIVERSIDE.
- MANUFACTURER OF EQUIPMENT TO BE ALLEN-BRADLEY, FURNAS, TOSHIBA, CUTLER-HAMMER OR CITY APPROVED EQUAL.
- THE CONTRACTOR MUST SUBMIT MAINTENANCE AND RECOMMENDED SPARE PARTS FOR ALL ELECTRICAL AND INSTRUMENTATION COMPONENTS. A COMPLETE PARTS LISTING WITH THE NAME, ADDRESS, AND TELEPHONE NUMBER FOR ALL THE SUPPLIERS MUST BE PROVIDED.
- THE CONTRACTOR MUST PROVIDE THE RECOMMENDED SPARE PARTS.
- THE CONTRACTOR MUST PROVIDE COMPLETE AS-BUILT DRAWINGS OF THE ELECTRICAL SYSTEM. THIS INCLUDES THE GENERAL WIRING AND THE INTERNAL WIRING OF ALL THE CONTROL PANEL COMPONENTS. THE CITY WILL REVIEW AND APPROVE THE DWGS. THE CONTRACTOR WILL MAKE ANY CHANGES AND SUBMIT FINAL SETS. COMPLETED RECORDED DRAWINGS ARE REQUIRED BEFORE FINAL PAYMENT IS RECEIVED BY THE CONTRACTOR.
- CONDUIT AND WIRING WITHIN THE CONTROL PANEL IS NOT SHOWN. PROVIDE AND INSTALL AS REQUIRED.
- PROVIDE AUX. CONTACT BLOCKS FOR HOA SWITCH TO MONITOR SWITCH POSITION.

RTU:

- SHALL MONITOR ONLY, NOT CONTROL
- INDICATE LOW LEVEL (D1)
- INDICATE WET WELL LEVEL ANALOG OUTPUT (D)
- INDICATE SITE ENTRY (D1)
- INDICATE AC FAILURE (D1)
- INDICATE INDIVIDUAL PUMP FAILURE (D1)
- INDICATE PUMP AUTO, PUMP NOT AUTO (D1)
- INDICATE PUMP RUN STATUS (D1)
- INDICATE ULTRASONIC FAILURE (D1)

CONTROLS:

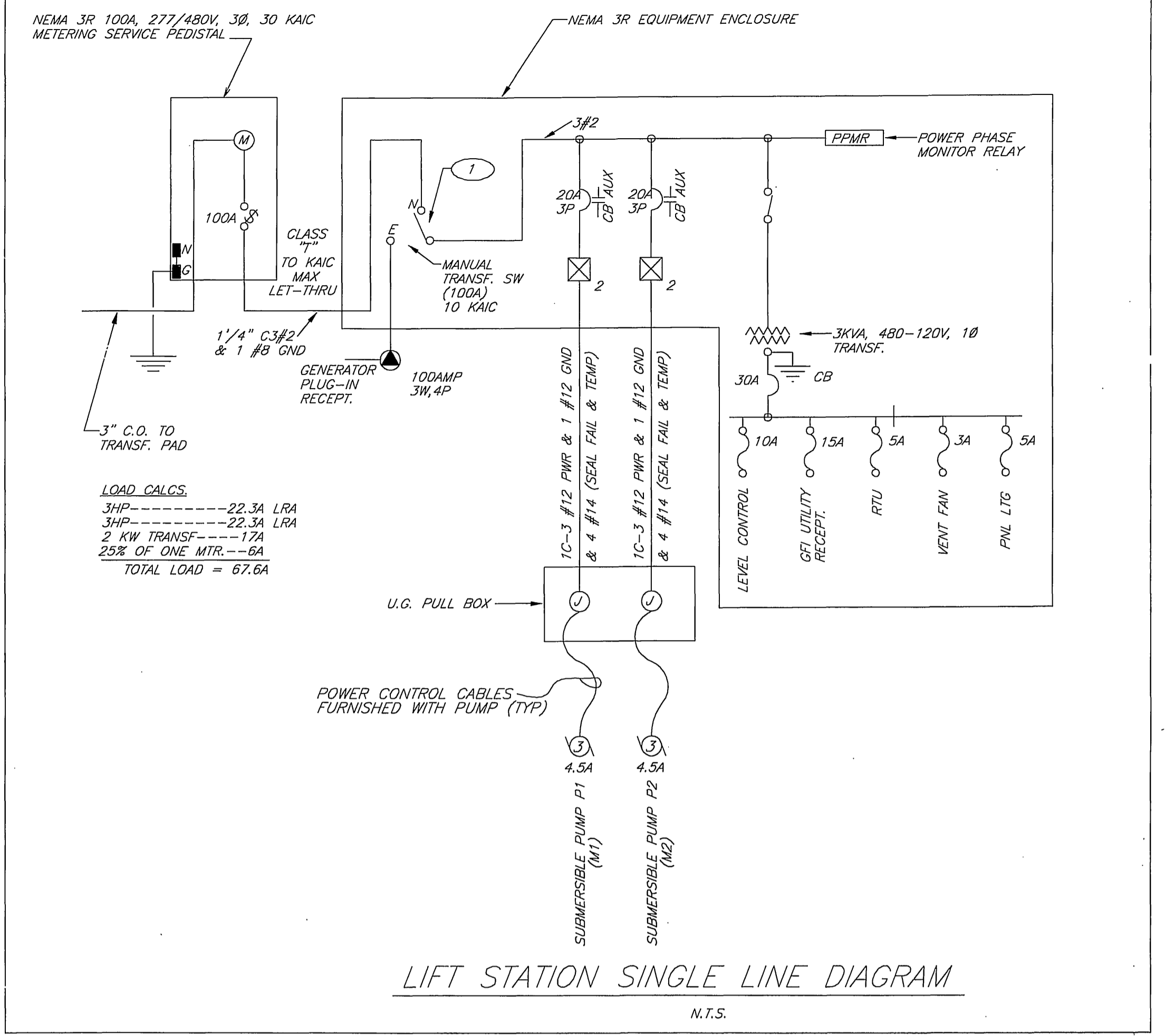
- MANUAL BYPASS: LEVELS, PLC, MILLTRONICS, ETC. AND SHALL DIRECTLY ENERGIZE THE STARTERS
- AUTO FUNCTION SHALL BE CONTROLLED BY THE PLC OR IN EVENT OF THE PLC FAILURE, THE MILLTRONICS WILL PROVIDE BACKUP CONTROL START, STOP, AND ALTERNATE LEAD AND LAG PUMPS.

CONTROL LOGIC NOTES:

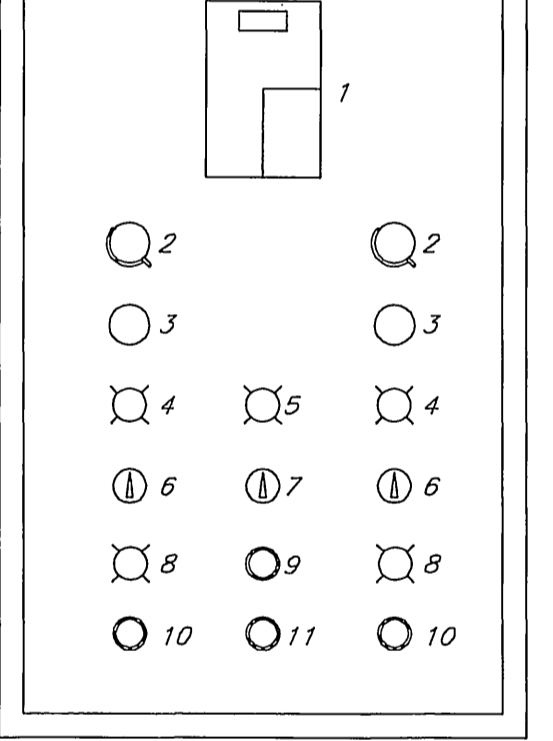
- THE PLC WILL PERFORM THE FOLLOWING CONTROL FUNCTIONS:
- 100AMP, 480V, NON-FUSABLE DOUBLE THROW TRANSFER SWITCH CUTLER HAMMER, TYPE DTK IN NEMA 1 ENCLOSURE.
 - CYCLE PUMPS ON AND OFF ACCORDING TO WET WELL LEVELS.
 - ALTERNATE LEAD AND LAG PUMPS EVERY 24 HOURS.
 - RECORD PUMP LAPSED TIME RUN HOURS.
 - PROVIDE LOW LEVEL AND HIGH LEVEL ALARMS.
 - TURN OFF PUMPS ON SEAL FAILURE.
 - TURN OFF PUMPS ON THERMAL OVERLOAD.
 - CALL LAG PUMP IN EVENT OF LEAD PUMP FAILURE.
 - RECOGNIZE ULTRASONIC LEVEL CONTROL SYSTEM FAILURE AND CLOSE ALARM CONTACT.
 - RECOGNIZE PUMP HAND SWITCH POSITION AND ADJUST CONTROL LOGIC.
 - RECOGNIZE ANY FAILURE CONDITION AND CLOSE BEACON LIGHT CONTACT.
 - RECOGNIZE POWER FAILURE AND CLOSE ALARM CONTACT.
 - RECOGNIZE SITE ENTRIES AND CLOSE ALARM CONTACT.
 - MILLTRONICS LEVEL CONTROLLERS SHALL PROVIDE BACKUP PUMP CONTROL IN EVENT OF PLC FAILURE. ALL ALARM CONTACTS AND SIGNALS TO THE RTU WILL BE CONTROLLED BY THE PLC.
 - THE RTU SHALL BE PROVIDED WITH 12V BATTERY BACKUP.

INSTRUMENTATION & CONTROL NOTES:

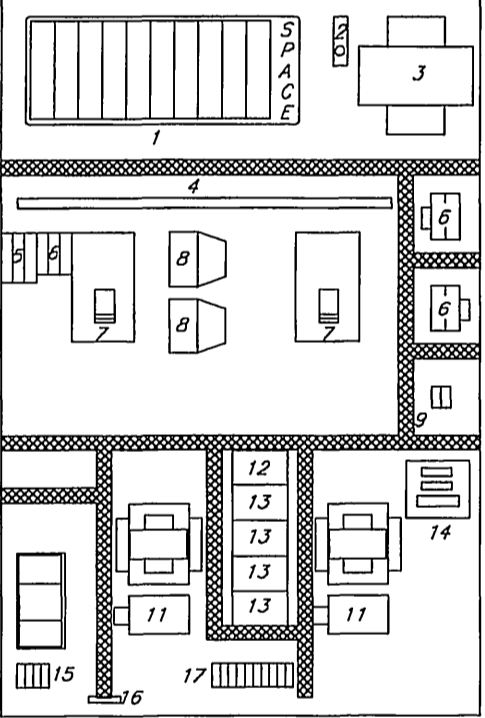
- CONTROL PANEL MUST BE CUSTOM BUILT TO THE CITY REQUIREMENTS.
- CONTRACTOR MUST SUBMIT ALL WIRING DIAGRAMS FOR REVIEW BY THE CITY PRIOR TO ASSEMBLY.
- CONTRACTOR MUST PROVIDE THE CITY THE OPPORTUNITY TO INSPECT PANEL DURING ASSEMBLY.
- THE PANEL SHALL BE NEMA 4X.
- PUMPS SHALL BE CONTROLLED USING A SQUARE D PLC. NO SUBSTITUTIONS. THIS IS REQUIRED FOR STANDARDIZATION.
- CONTRACTOR MUST SUBMIT A COPY OF THE PLC PROGRAM FOR REVIEW AND APPROVAL. A FINAL FULLY ANNOTATED PROGRAM MUST BE PROVIDED WITH THE AS-BUILT DRAWINGS.
- WET WELL LEVEL MUST BE MONITORED USING A MILLTRONICS MULTIRANGER ULTRASONIC LEVEL METER. NO SUBSTITUTIONS. THIS IS REQUIRED FOR STANDARDIZATION.
- THE LIFT STATION SHALL BE EQUIPPED WITH ULTRASONIC FAILURE INDICATOR.
- THE CONTROL PANEL SHALL BE EQUIPPED WITH ACROSS THE LINE STARTING SO THE PUMPS CAN BE OPERATED MANUALLY IN THE EVENT OF PLC OR OTHER EQUIPMENT FAILURE.
- PROVIDE GENERATOR RECEPTACLE. KILLARK 8581/21-407 AND 8581/22-407 PLUG. PROVIDE 30' MINIMUM SJO POWER CORD.
- THE CONTROL PANEL MUST BE EQUIPPED WITH MOTOROLA MT 2000 RTU. THE RTU WILL COMMUNICATE WITH THE INTRAC BASE STATION AT THE WASTEWATER TREATMENT PLANT.
- THE CONTRACTOR MUST CONNECT AND TEST THE RTU TO ESTABLISH COMMUNICATION WITH THE WASTEWATER TREATMENT PLANT BASE. THE CONTRACTOR MUST INTEGRATE THE RTU INTO PLANT SCADA CONTROL SYSTEM.



CONTROL PANEL INNER DOOR LAYOUT



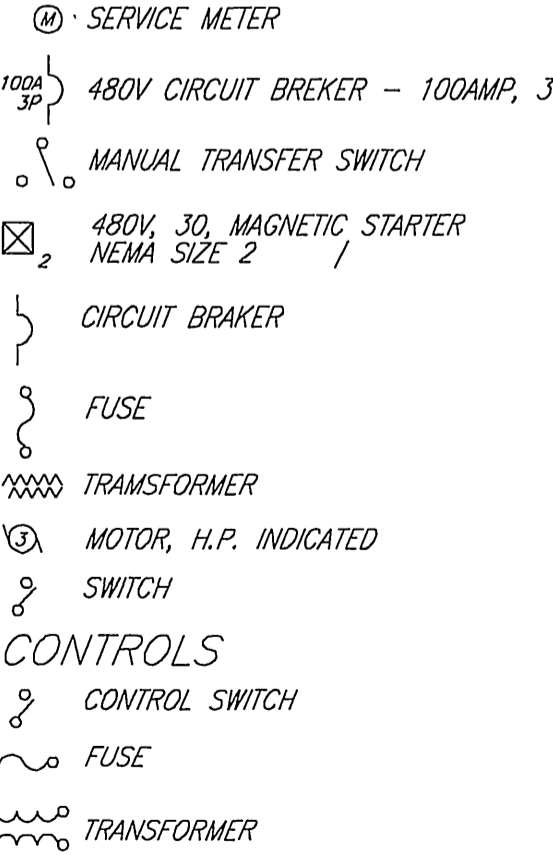
BACK PANEL LAYOUT



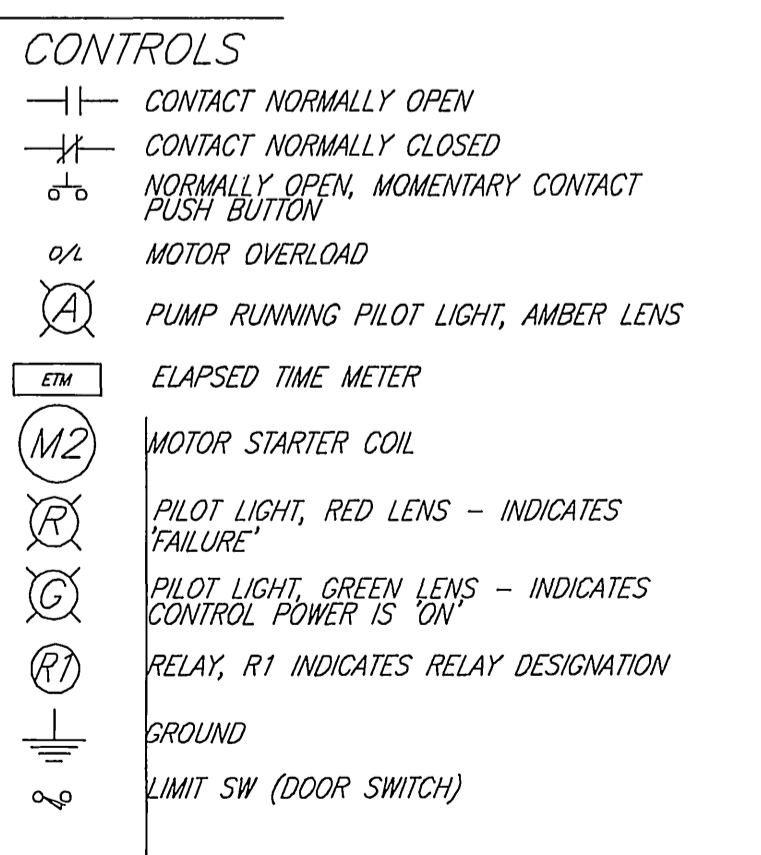
PLC AND CONTROLS PANEL LAYOUT

N.T.S.

SINGLE LINE DIAGRAM



LEGEND



ENGINEER IN RESPONSIBLE CHARGE
Lauren F. Caldwell
 LAUREN F. CALDWELL
 R.C.E. No. 39441 expires 12/31/05
 DATE 10/25/05



MARK	REVISIONS	APPR.	DATE

CITY OF RIVERSIDE, CALIFORNIA
 PUBLIC WORKS DEPARTMENT
 APPROVED BY: **[Signature]** DATE: 10/25/05
 INSPECTION: **[Signature]** DATE: 10/25/05
 SURVEYOR: **[Signature]** DATE: 10/25/05
 PARK & RECREATION: **[Signature]** DATE: 10/25/05

BRYANT PARK PUMP STATION
 (WARREN AND WELLS SEWAGE PUMP STATION REPLACEMENT)

ACC. No. 977023203-440301XX
S-1873
 HORIZ. SCALE: 1" = 40' VERT. SCALE: 1" = 4'
 SHEET 5 OF 5