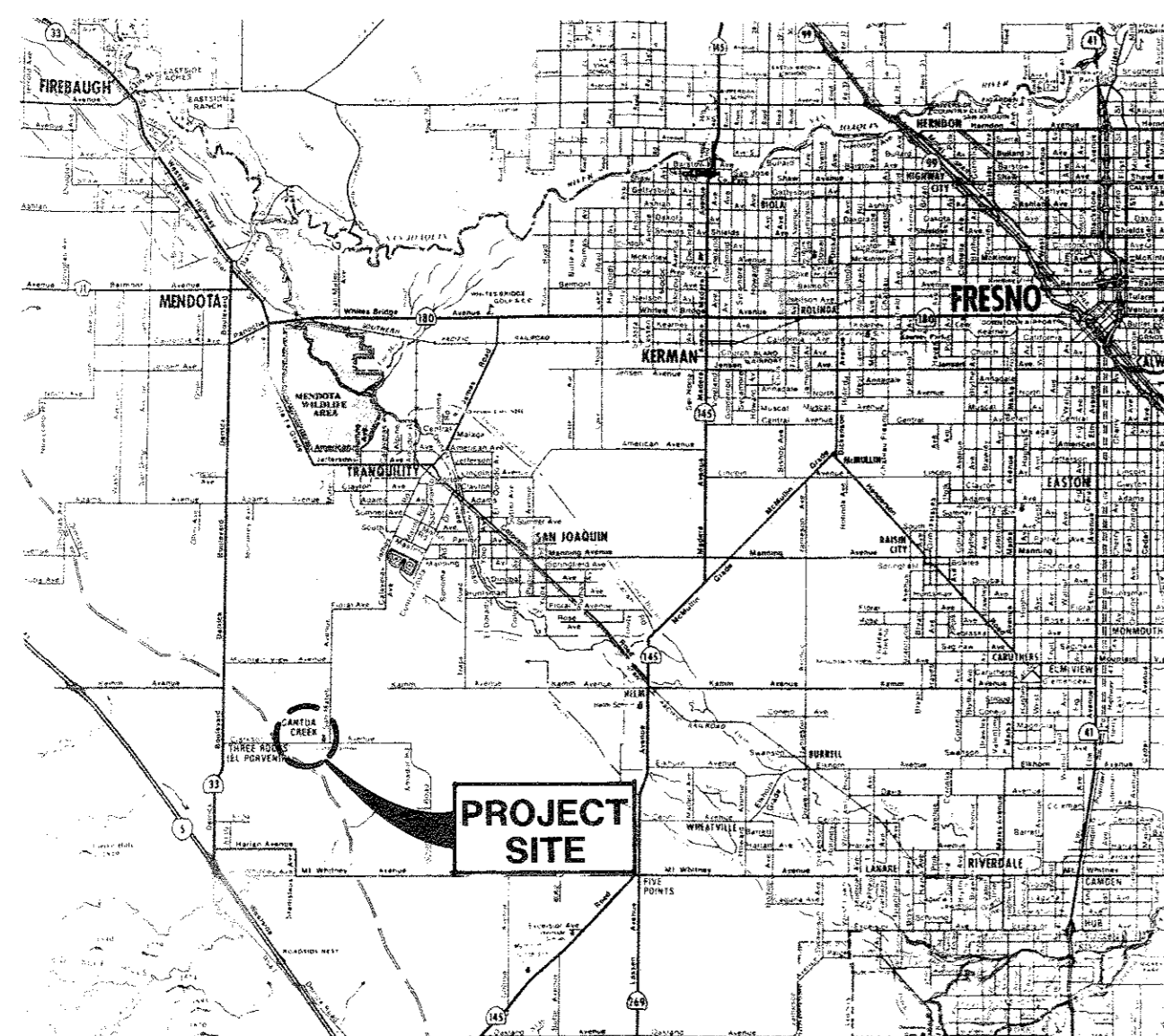


GOLDEN PLAINS UNIFIED SCHOOL DISTRICT

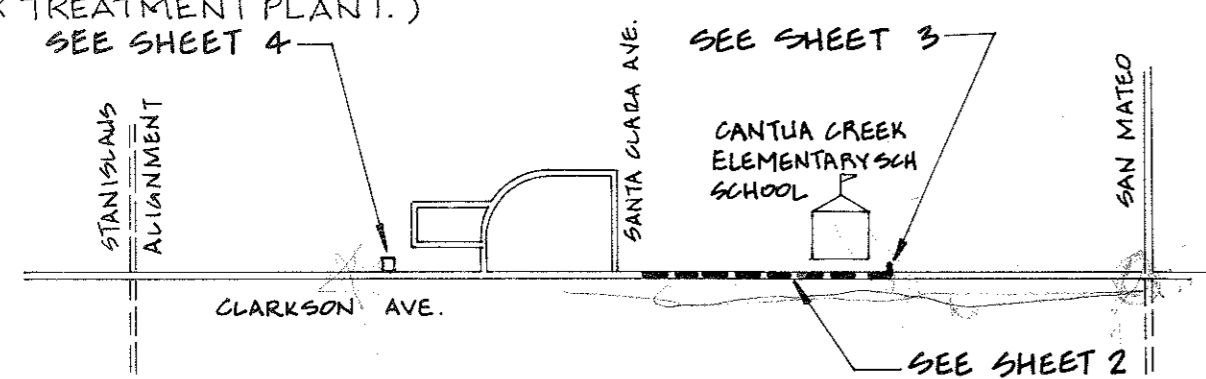
CONSTRUCTION DOCUMENTS FOR:

WATERLINE AND BOOSTER PUMP MODIFICATIONS FOR CANTUA CREEK ELEMENTARY SCHOOL



VICINITY MAP
NOT TO SCALE

(FRESNO COUNTY SERVICE AREA 32 WATER TREATMENT PLANT.)
SEE SHEET 4



LOCATION MAP
NOT TO SCALE

13-0.7-0.3
Billed current

GENERAL NOTES:

- HORIZONTAL DISTANCES AND ELEVATIONS ARE BASED UPON "PLANS FOR CONSTRUCTION - CANTUA CREEK ALTERNATE WATER SOURCE," COUNTY OF FRESNO, FEBRUARY 13, 1990.
- HORIZONTAL BEARINGS AND RIGHTS-OF-WAY ARE BASED UPON "PLANS FOR CONSTRUCTION - CANTUA CREEK HOUSING PROJECT PHASE II IMPROVEMENT PLANS," COUNTY OF FRESNO, MARCH 30, 1992.
- EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON AVAILABLE DATA. POT-HOLING OF UTILITIES WAS NOT PERFORMED FOR THIS PROJECT. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR LOCATING, PROTECTING, AND MAINTAINING ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THE PLANS.
THE BURIED TELEPHONE CABLES ARE REPORTED TO BE 3 TO 6 FEET SOUTH OF THE PROPERTY LINE ON THE NORTH SIDE OF CLARKSON AVENUE AND 30 TO 36 INCHES DEEP.
THE 6-INCH WATERLINE ON THE NORTH SIDE OF CLARKSON IS REPORTED TO BE 15 FEET NORTH OF THE SECTION LINE AND 30 TO 36 INCHES DEEP. THE WATERLINE IS OWNED BY FRESNO COUNTY AND CARRIES UNTREATED WATER FROM WESTLANDS WATER DISTRICT.
- THE CONTRACTOR SHALL NOTIFY U.S.A. (UNDERGROUND SERVICE ALERT) 48 HOURS IN ADVANCE OF PERFORMING EXCAVATIONS BY CALLING 1-800-642-2444. THE CONTRACTOR SHALL ALSO CONTACT THE VARIOUS UTILITY COMPANIES 48 HOURS IN ADVANCE OF EXCAVATION. CONTACT PERSONS FOR THE VARIOUS UTILITIES ARE AS FOLLOWS:
 - WATERLINE: FRESNO COUNTY RESOURCES DEPARTMENT (FRESNO) MR. STEVE BARLE (209) 453-5059
 - TELEPHONE: CONTINENTAL TELEPHONE COMPANY (SANGER) MR. DON BOWMAN (209) 875-8581
 - GAS AND ELECTRIC: PACIFIC GAS AND ELECTRIC COMPANY (FRESNO) MR. MIKE ROSE (209) 263-7372
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL BUILDING ENCROACHMENT, AND OTHER PERMITS REQUIRED FOR CONSTRUCTION OF THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION ALL IMPROVEMENTS DAMAGED DURING CONSTRUCTION SUCH AS FENCES, PAVED AREAS, AND CONCRETE IMPROVEMENTS. SEE SECTION 7-7 OF THE GENERAL PROVISIONS.
- AT CROSSINGS, MAINTAIN A MINIMUM OF 12 INCHES VERTICAL CLEARANCE BETWEEN NEW WATERLINES AND ALL OTHER FACILITIES.
- COORDINATE CONNECTION TO FRESNO COUNTY SERVICE AREA 32 WATER SYSTEM AND WORK AT THE WATER TREATMENT PLANT WITH THE FRESNO COUNTY RESOURCES DEPARTMENT, STEVE BARLE AT (209) 453-5059, AND THE TREATMENT PLANT OPERATOR, MR. TITO BALLING AT (209) 895-2300. WORK SHALL BE PERFORMED SO AS TO MINIMIZE WATER SERVICE INTERRUPTIONS TO CUSTOMERS OF THE SERVICE AREA 32 WATER SYSTEM.

SHEET INDEX

- COVER SHEET
- WATERLINE PLAN
- WATERLINE CONNECTION AT SCHOOL SITE
- TREATMENT PLANT IMPROVEMENTS
- MISCELLANEOUS DETAILS

MATERIALS NOTES:

- SEE THE CONTRACT SPECIFICATIONS FOR ADDITIONAL MATERIAL AND INSTALLATION SPECIFICATIONS CONCERNING THE FOLLOWING ITEMS:
 - MEASUREMENT AND PAYMENT - SECTION 01150
 - TRAFFIC REGULATION - SECTION 01570
 - CLEANING DURING CONSTRUCTION AND FINAL CLEANING - SECTION 01700
 - PROTECTING EXISTING UNDERGROUND UTILITIES - SECTION 02222
 - TRENCHING, BACKFILLING, AND COMPACTING - SECTION 02223
 - HORIZONTAL END SUCTION CENTRIFUGAL PUMPS - SECTION 11210
 - PRESSURE TESTING AND DISINFECTION OF PIPING - SECTION 15044
 - PVC DISTRIBUTION PIPE (AWWA C900) - SECTION 15054
 - TURBINE METERS - SECTION 15157
- SUBMIT SHOP DRAWINGS PER THE GENERAL PROVISIONS OF THE CONTRACT SPECIFICATIONS FOR MATERIALS LISTED BELOW IN NOTES 4, 5, 6, 12, 15, 16, AND 17.
- STEEL PIPE SHALL BE STANDARD WEIGHT (SCHEDULE 40) GALVANNEED PIPE CONFORMING TO ASTM A53, TYPE E OR S. STEEL PIPE FITTINGS SHALL BE S11 (STANDARD WEIGHT (150 POUND) GALVANIZED MALLEABLE IRON CONFORMING TO ASTM A47, GRADE 32510.
- PVC PIPE USED AT THE WATER TREATMENT PLANT AND ON THE SCHOOL GROUNDS FOR SERVICE CONNECTIONS SHALL BE SCHEDULE 80, TYPE 1 (CLASS 12454-B) CONFORMING TO ASTM D 1784 AND D 1785. FITTINGS SHALL BE SCHEDULE 80 CONFORMING TO ASTM D 2464 (THREADED) AND ASTM D 2467 (SOCKET). PVC FLANGES SHALL BE MADE OF THE SAME MATERIAL AS THE PVC PIPE. FLANGES SHALL MATCH THE DIMENSIONS OF ANSI 16.5, CLASS 150 STEEL PIPE. FLANGE GASKETS SHALL BE FULL FACED 1/2 INCH THICK FLANGE BOLTS AND NUTS SHALL BE CARBON STEEL ASTM A 307, GRADE B. PROVIDE A WASHER UNDER EACH NUT AND BOLT HEAD.
- GATE VALVES SHALL BE RESILIENT WEDGE TYPE CONFORMING TO AWWA C500 WITH A MINIMUM WORKING PRESSURE OF 200 PSI. VALVES SHALL BE FLUJON-BONDED EPOXY LINED AND COATED. VALVES SHALL BE NON-RISING STEM WITH 2 INCH AWWA OPERATING NUT. GATE VALVES SHALL BE AMERICAN-DARLING CRS-80 OR EQUAL.
- BUTTERFLY VALVES SHALL HAVE CAST IRON BODY CONFORMING TO AWWA C504 CLASS 150B WITH A MINIMUM WORKING PRESSURE OF 150 PSI. THE VALVE SHALL HAVE A RUBBER SEAT "IN-BODY" DESIGN. PROVIDE FACTORY STANDARD COATING FOR USE WITH POTABLE WATER. PROVIDE A PERMANENTLY ATTACHED HAND LEVER OPERATOR WITH EACH VALVE. BUTTERFLY VALVES SHALL BE PRATT MODEL 270 OR EQUAL.
- SILENT CHECK VALVES SHALL BE GLOBE STYLE WITH IRON BODY WITH A MINIMUM OPERATING PRESSURE OF 150 PSI. PROVIDE FACTORY STANDARD COATING FOR USE WITH POTABLE WATER. SILENT CHECK VALVES SHALL BE APCO SERIES 605 OR EQUAL.
- FLEXIBLE PIPE COUPLINGS SHALL HAVE MIDDLE RINGS MADE OF STEEL. MIDDLE RING SHALL BE 7 INCHES IN LENGTH. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM WORKING PRESSURE OF 250 PSI. FLEXIBLE COUPLINGS SHALL BE DRESSER STYLE 2 OR 138.
- WRAP ALL BELOWGROUND STEEL PIPE AND ABOVEGROUND PVC PIPE WITH BLACK 20-MIL POLYETHYLENE TAPE.
- ASPHALT CONCRETE PAVEMENT SHALL BE TYPE A OR B, 1/2-INCH MAXIMUM, MEDIUM GRADING PER SECTION 39 OF THE STATE SPECIFICATIONS. ASPHALT SHALL BE VISCOSITY GRADE AR 4000 OR AR 8000. ASPHALT CONTENT SHALL BE 5.5 TO 6.0 PERCENT. TACK COAT SHALL BE VISCOSITY GRADE AR 1000 PAVING ASPHALT PER SECTION 92 OF THE STATE SPECIFICATIONS.
- AGGREGATE BASE SHALL BE CLASS 2, 3/4 INCH MAXIMUM GRADING PER SECTION 26 OF THE STATE SPECIFICATIONS.
- CONCRETE FOR THRUST BLOCKS SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 2,000 PSI. CONCRETE SHALL CONTAIN AT LEAST 376 POUNDS OF CEMENT PER CUBIC YARD OF CONCRETE (4 SACK MIX). AGGREGATE SHALL BE 3/4-INCH MAXIMUM GRADING (SIZE 67) PER ASTM C 33. CONCRETE SHALL CONFORM TO ASTM C 150, TYPE II. CONCRETE MIX DESIGN SHALL CONFORM TO ACI 304 OR ASTM C 94. CONCRETE PLACEMENT SHALL CONFORM TO ACI 304, 305, 306 AND 308.
- BACKFLOW PREVENTERS SHALL BE OF THE REDUCED-PRESSURE TYPE COMPLYING WITH AWWA C508. THE DEVICE SHALL INCLUDE TWO INDEPENDENTLY OPERATING CHECK VALVES, TWO SHUTOFF BALL VALVES, AUTOMATIC PRESSURE DIFFERENTIAL RELIEF VALVE, AND TEST COCKS. BACKFLOW PREVENTERS SHALL BE FBCCO MODEL 865Y OR EQUAL.

- ELECTRICAL CONDUIT
 - RIGID STEEL CONDUIT: RIGID, THICK WALL, HOT-DIPPED GALVANIZED INSIDE AND OUT, WITH GALVANIZED THREADS. CONFORM TO ANSI C80.1 AND UL-6.
 - RIGID NONMETALLIC CONDUIT: POLYVINYL CHLORIDE (PVC) (SCHEDULE 40, 90 C RISE RATING. CONFORM TO NEMA 1C-2 AND UL-651.
 - LIQUID-TIGHT FLEXIBLE CONDUIT: IDENTICAL TO FLEXIBLE STEEL CONDUIT BUT WITH OVERALL PVC PLASTIC JACKET. CONFORM TO UL-360.
- LOW VOLTAGE BUILDING WIRE

LOW VOLTAGE BUILDING WIRE FOR USE AT 600 VOLTS OR LESS SHALL BE 600-VOLT INSULATED, TYPE XHHW OR THWN, RATED FOR CONTINUOUS OPERATION AT 75 C. CONDUCTOR SHALL BE COPPER.
- PRESSURE SWITCHES

PRESSURE SWITCHES SHALL BE BRASS BOURDON TUBE TYPE ACTUATING AN ENCLOSED METAL CONTACT SNAP-ACTION SWITCH. SWITCH SHALL HAVE SEPARATE SET POINT AND RESET POINT ADJUSTMENTS. ADJUSTMENTS OF THE SWITCH SET POINTS AND WEIING OF THE SET POINT INDICATOR SHALL BE ACCOMPLISHED WITHOUT HAVING TO GAIN ACCESS TO THE INTERIOR OF THE UNIT. PRESSURE SWITCH RANGE OF AT LEAST 30 TO 70 PSI AND NUMBER OF SWITCH CONTACTS SHALL BE AS INDICATED ON THE DRAWINGS. ENCLOSURE SHALL BE WATER TIGHT NEMA 4. PROVIDE MERCOID SERIES DAW OR EQUAL.
- PUMP CONTROL PANEL
 - CONTROL PANEL SHALL BE DEAD FRONT, DEAD REAR, FRONT ACCESSIBLE NEMA 3R ENCLOSURE. THE VOLTAGE AND AMPERE RATING SHALL BE AS INDICATED ON THE DRAWINGS. WIRING SHALL BE NEMA CLASS I, TYPE B. THE CONTROL PANEL SHOULD BE MOUNTED ON STEEL SUPPORTS, AND ATTACHED TO THE EXISTING CONCRETE SLAB.
 - LOCATE EQUIPMENT TO ENABLE TERMINATION OF FIELD WIRING FROM FRONT WITHOUT EQUIPMENT REMOVAL.
 - MECHANICALLY INTERLOCK STARTER AND CIRCUIT BREAKER DOORS SO DOORS CANNOT BE OPENED WITH UNIT ENERGIZED. PROVIDE DEFEATER MECHANISM TO ALLOW INTENTIONAL ACCESS WHILE STARTER OR CIRCUIT BREAKER IS ENERGIZED. PROVIDE PROVISIONS FOR PADLOCKING EXTERNAL DISCONNECT HANDLES IN THE OFF POSITION.
 - FEEDER CIRCUIT BREAKERS SHALL BE MOLDED-CASE TYPE. PROVIDE QUICK-MAKE AND QUICK-BREAK TOGGLE MECHANISM, INVERSE-TIME TRIP CHARACTERISTICS, AND TRIP-FREE OPERATION ON OVERLOAD OR SHORT CIRCUIT. AUTOMATIC TRIPPING SHALL BE INDICATED BY A HANDLE POSITION BETWEEN THE MANUAL OFF AND ON POSITION. PROVIDE TRIP RATINGS AND NUMBER OF POLES AS INDICATED ON THE DRAWINGS. PROVIDE BREAKERS WITH FAULT CURRENT INTERRUPTING RATINGS EQUAL TO OR GREATER THAN THE CONTROL PANEL SHORT-CIRCUIT CURRENT RATING SHOWN ON THE DRAWINGS.
 - CONTROL PANEL SHALL COMPLY WITH APPLICABLE NEMA, UL, AND ANSI STANDARDS FOR INDUSTRIAL CONTROL.
CONTROL PANEL SHALL BE GENERAL ELECTRIC, WESTINGHOUSE, ALLEN-BRADLEY, CUTLER-HAMMER OR EQUAL.
- COMBINATION MAGNETIC MOTOR STARTERS
 - COMPLY WITH NEMA ICS, CLASS A, AND WITH NEC ARTICLE 430.
 - COMBINATION MOTOR STARTERS SHALL BE CIRCUIT-BREAKER TYPE EQUIPPED WITH ADJUSTABLE MAGNETIC-TRIP CIRCUIT BREAKERS (MOTOR CIRCUIT PROTECTORS) AS NOTED ON THE DRAWINGS. THE SHORT-CIRCUIT RATING SHALL BE AT LEAST 22,000 AMPERES SYMMETRICAL.
 - PROVIDE SELECTOR SWITCHES, PUSH-BUTTONS, ETC. AS SHOWN IN THE WIRING DIAGRAMS. MOUNT ON THE FRONT OF THE CONTROL PANEL.

RECORD DRAWINGS

THESE RECORD DRAWINGS APPLY ONLY TO THOSE FACILITIES CONSTRUCTED UNDER THE CONTRACT IDENTIFIED IN THE TITLE BLOCK AND HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER/ARCHITECT WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THIS DRAWING AS A RESULT OF THE WORK BY OTHERS.



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| APPROVAL | DATE | DESIGN BY B. HOELLEN | | | |
| APPROVAL | DATE | DRAWN BY O. ROEDER | | | |
| APPROVAL | DATE | CHECKED BY BH | | | |
| | DATE | | 7/92 | RECORD DRAWING | BH |
| | DATE | | | | APP |

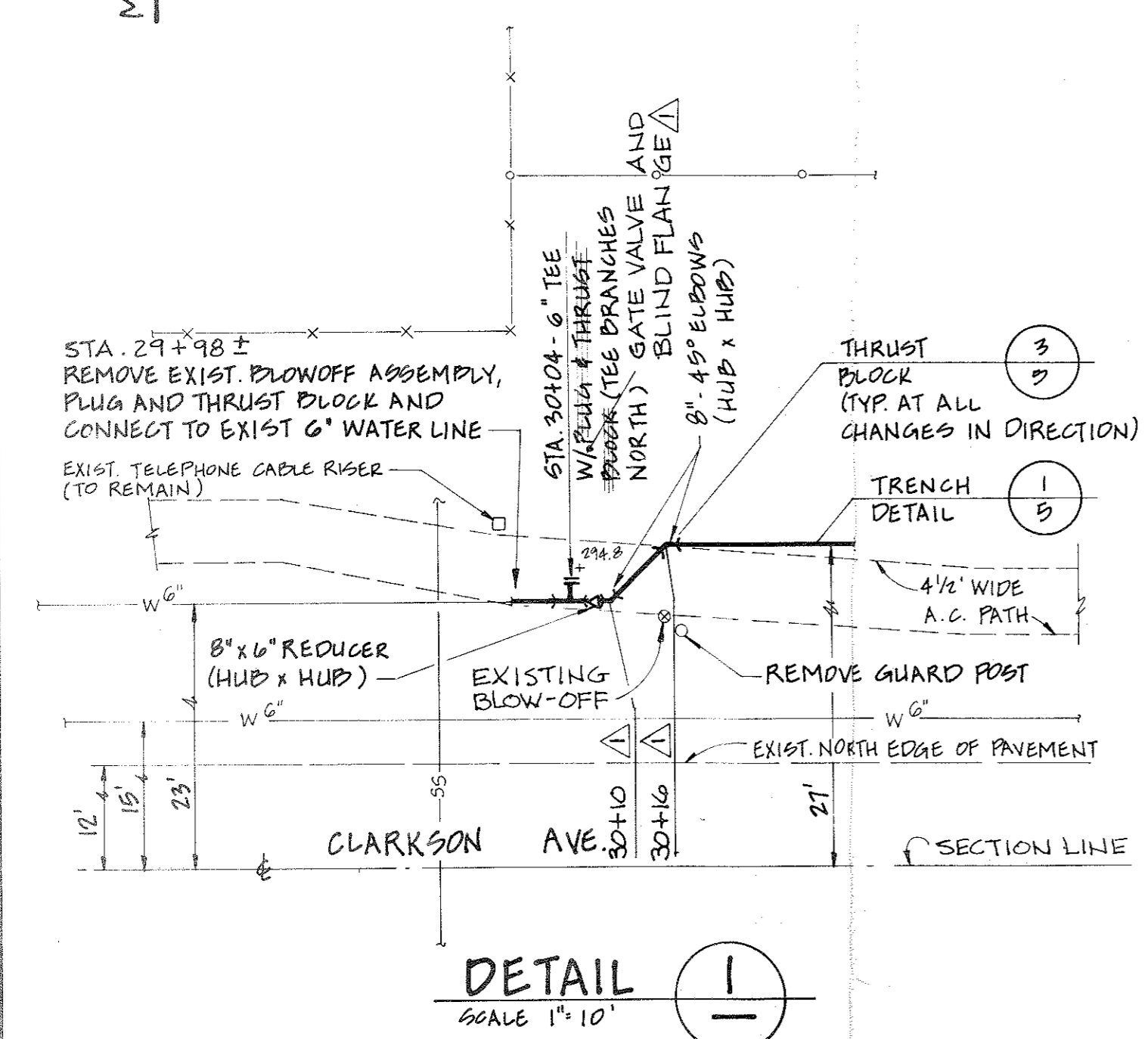
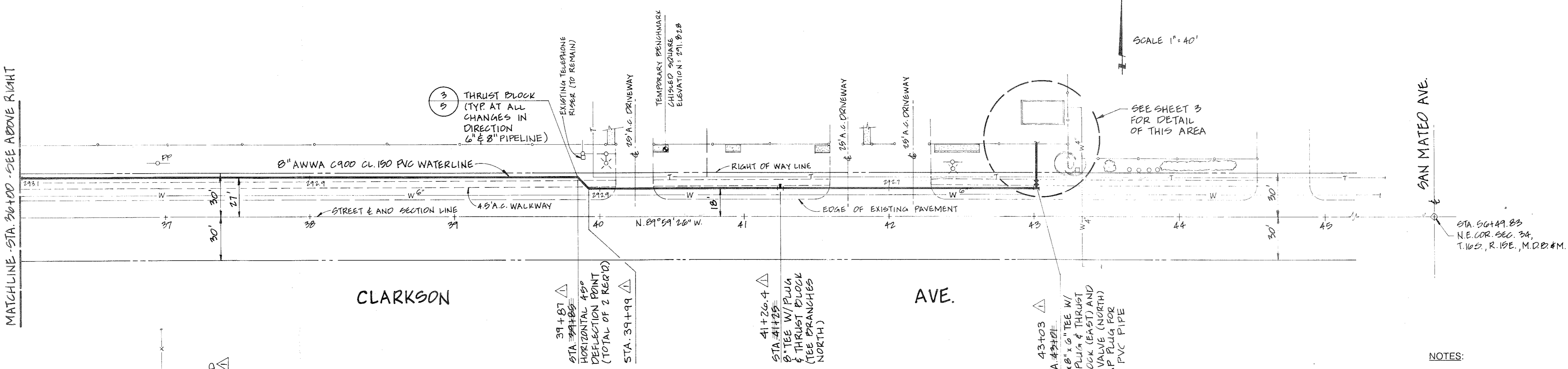
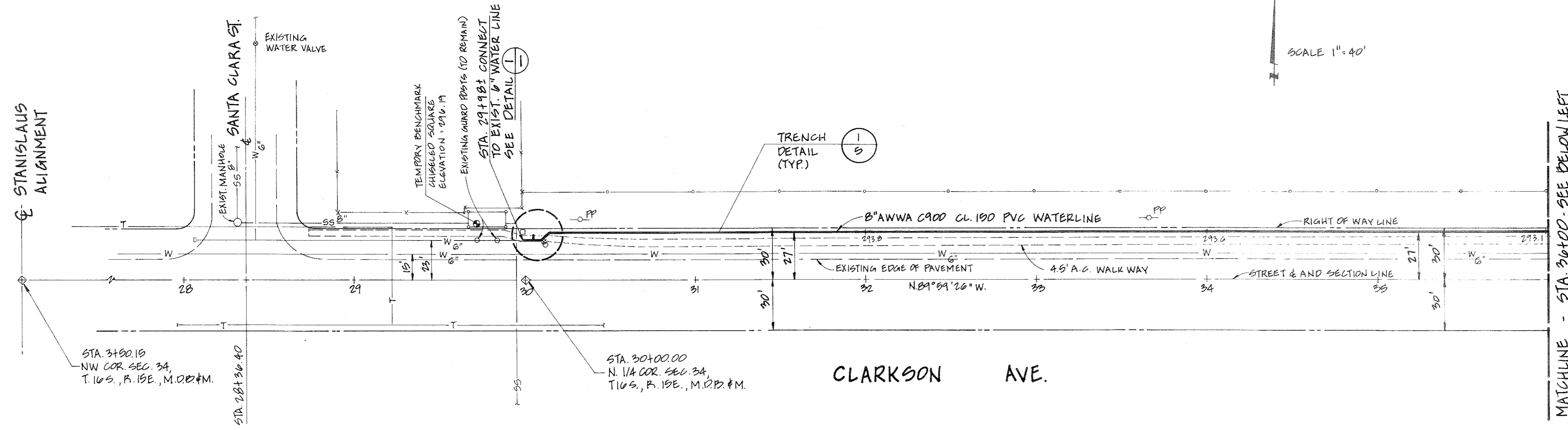


GOLDEN PLAINS UNIFIED SCHOOL DISTRICT
WATERLINE AND BOOSTER PUMP MODIFICATIONS
COVER SHEET

CSA 32-School
Water Lines

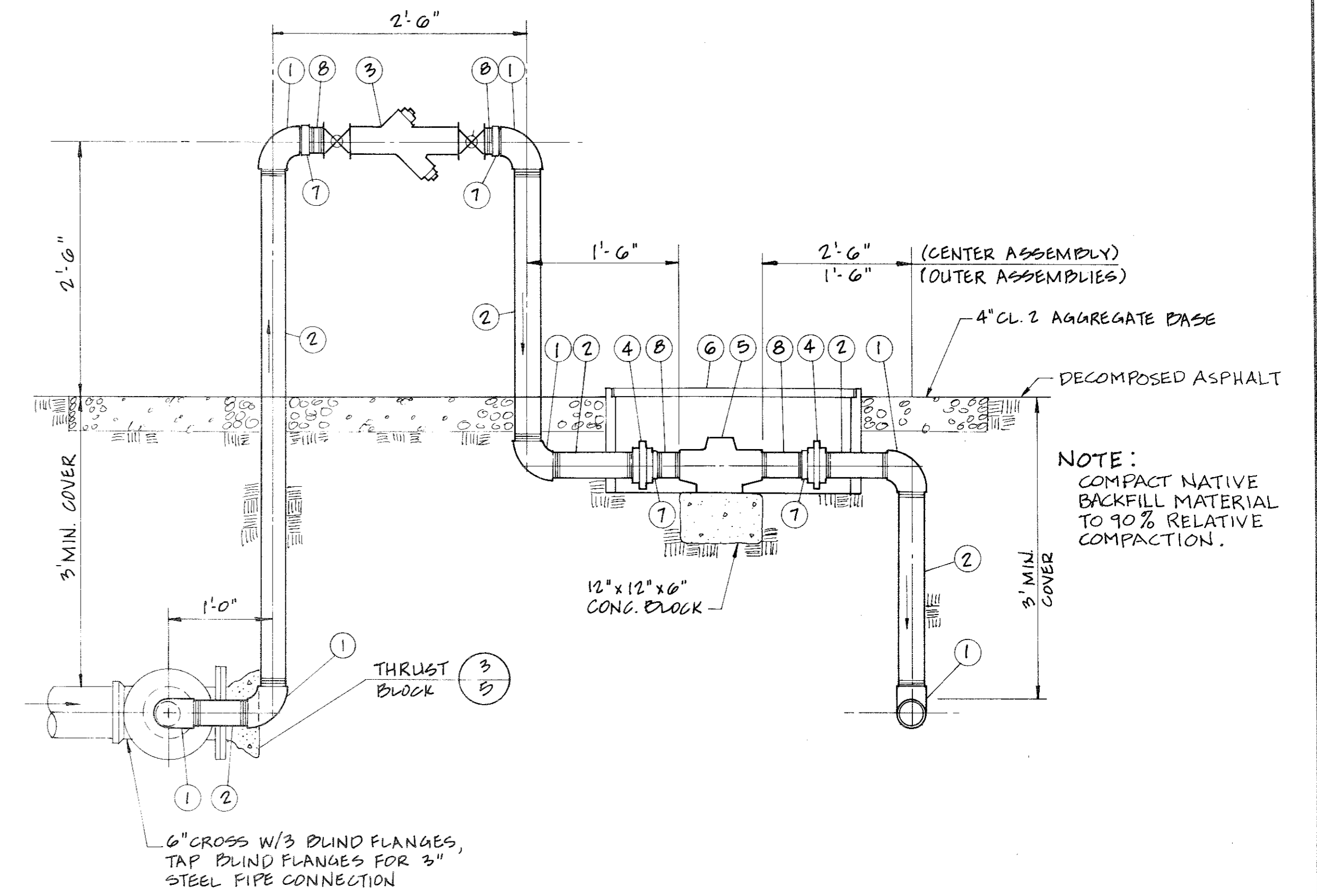
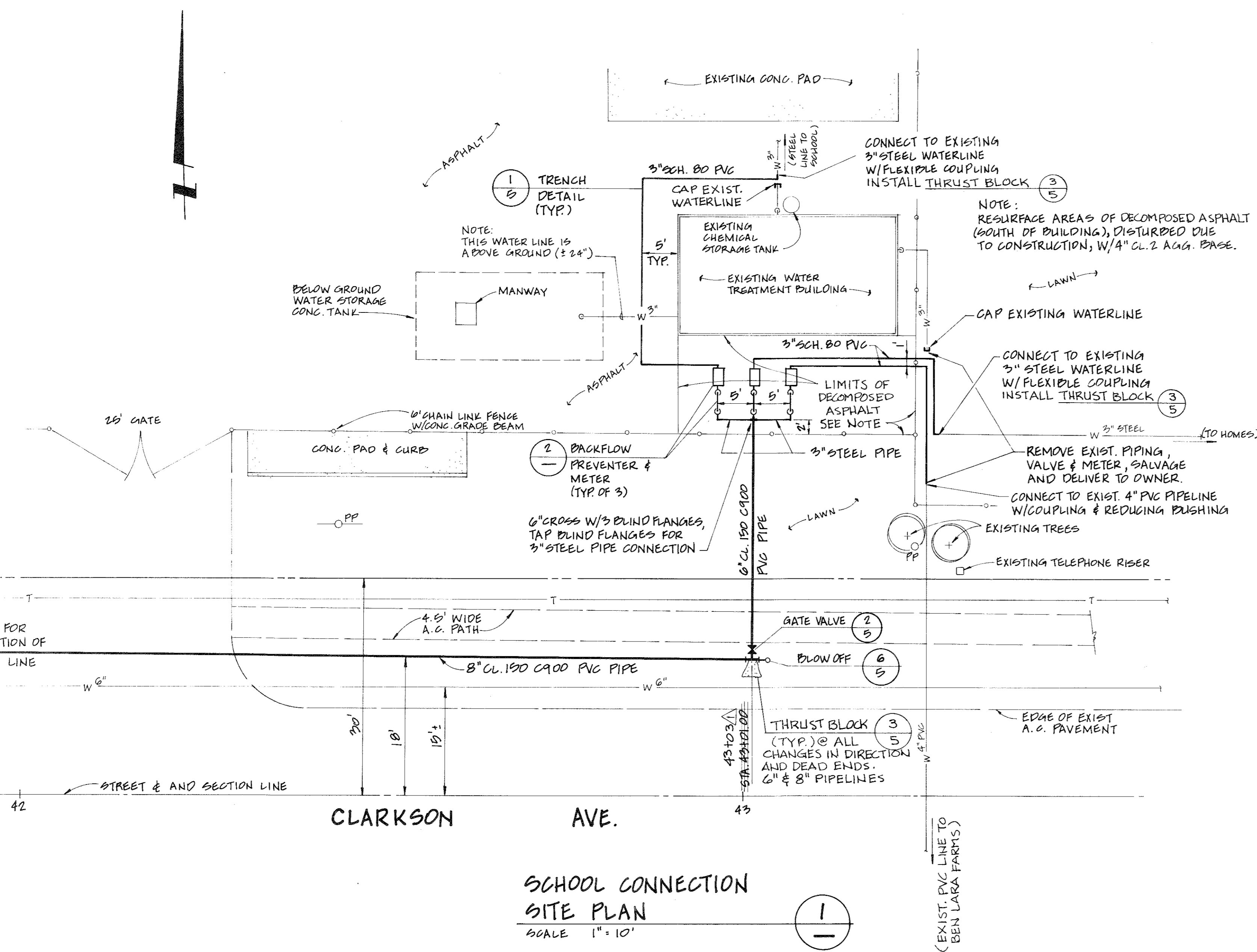
SHEET 1
OF 5 SHEETS
DRAWING NO.

D-359



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BACKFLOW PREVENTER AND METER

SCALE 1" = 1'-0"

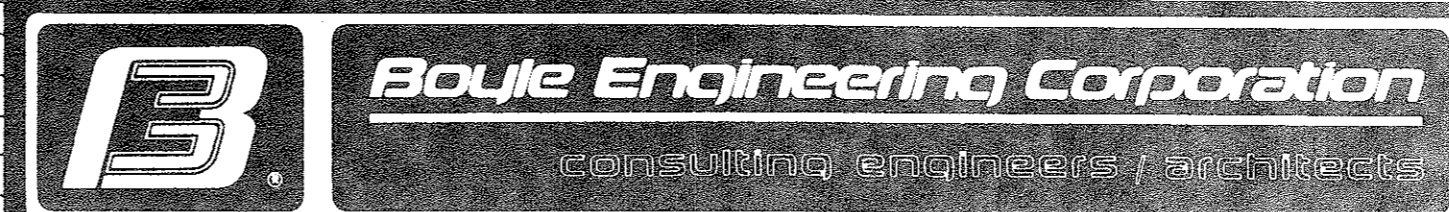
- LIST OF MATERIALS
- 3" φ 90° STEEL ELBOW
 - 3" φ STEEL PIPE
 - 2" φ REDUCED PRESSURE BACKFLOW PREVENTOR, FEBCO 825Y-BV OR EQUAL. INCLUDES BALL VALVES AND TEST COCKS
 - 3" φ STEEL UNION
 - 2" φ TURBINE METER, HERSEY MODEL MHR-160 OR EQUAL
 - 17" X 30" METER BOX WITH STEEL TRAFFIC COVER AND READING LID, BROOKS PRODUCTS 65TR
 - 3" X 2" REDUCING BUSHING, STEEL
 - 2" φ STEEL PIPE NIPPLE

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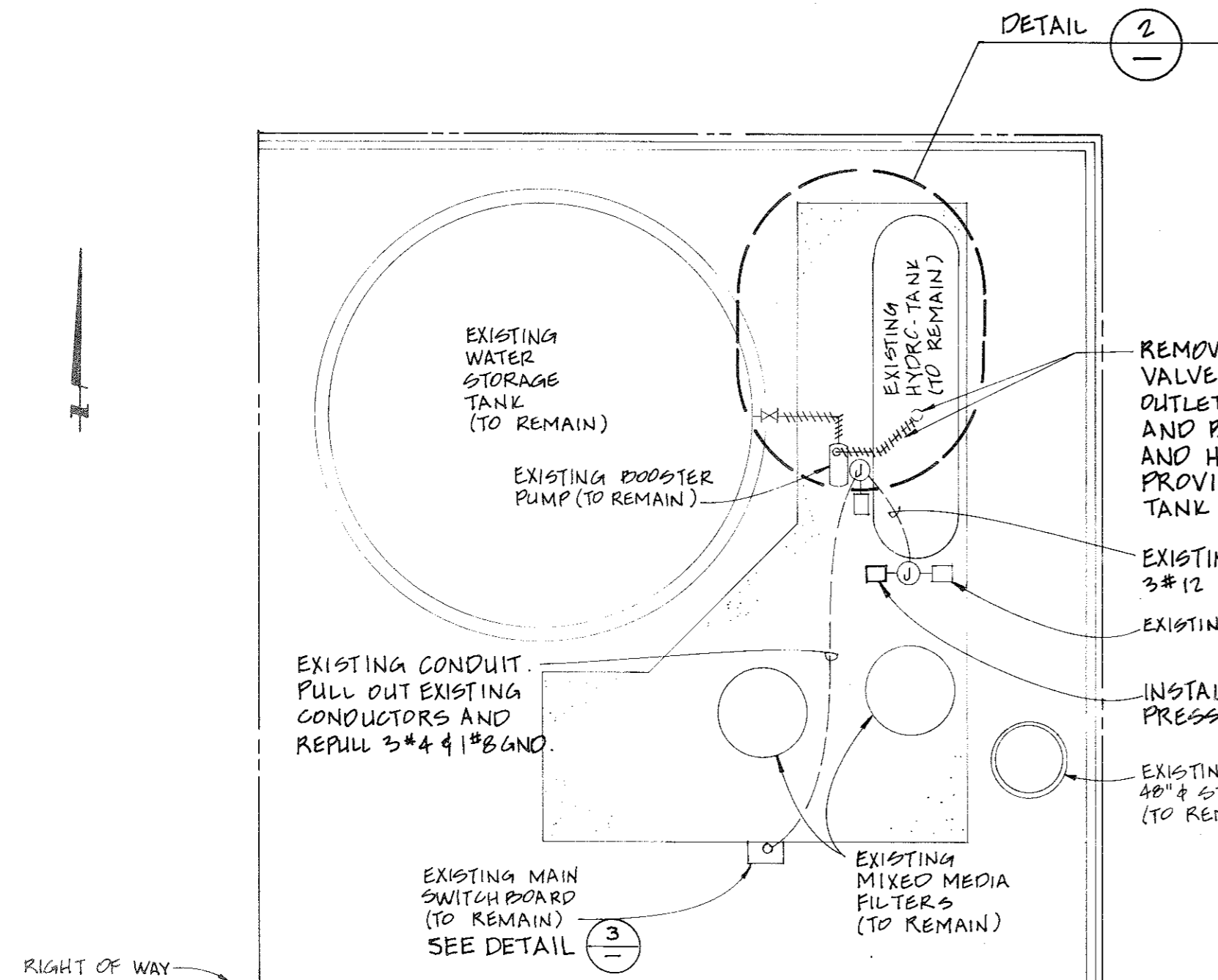
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| APPROVAL | DATE | DRAWN BY O. RODRIGUEZ | | | |
| APPROVAL | DATE | CHECKED BY BH | | | |
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GOLDEN PLAINS UNIFIED SCHOOL DISTRICT

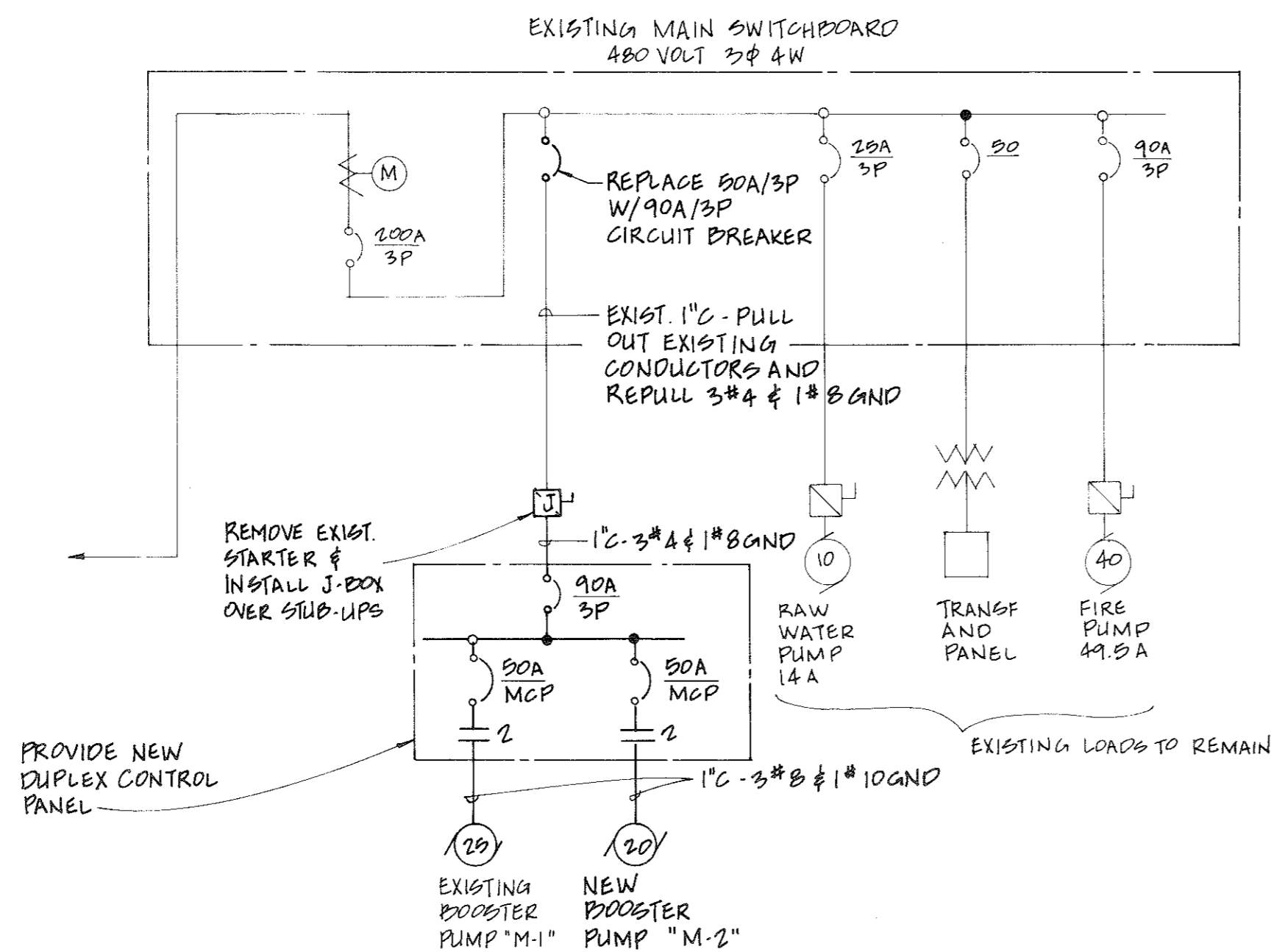
WATERLINE AND BOOSTER PUMP MODIFICATIONS

WATER LINE CONNECTION AT SCHOOL SITE



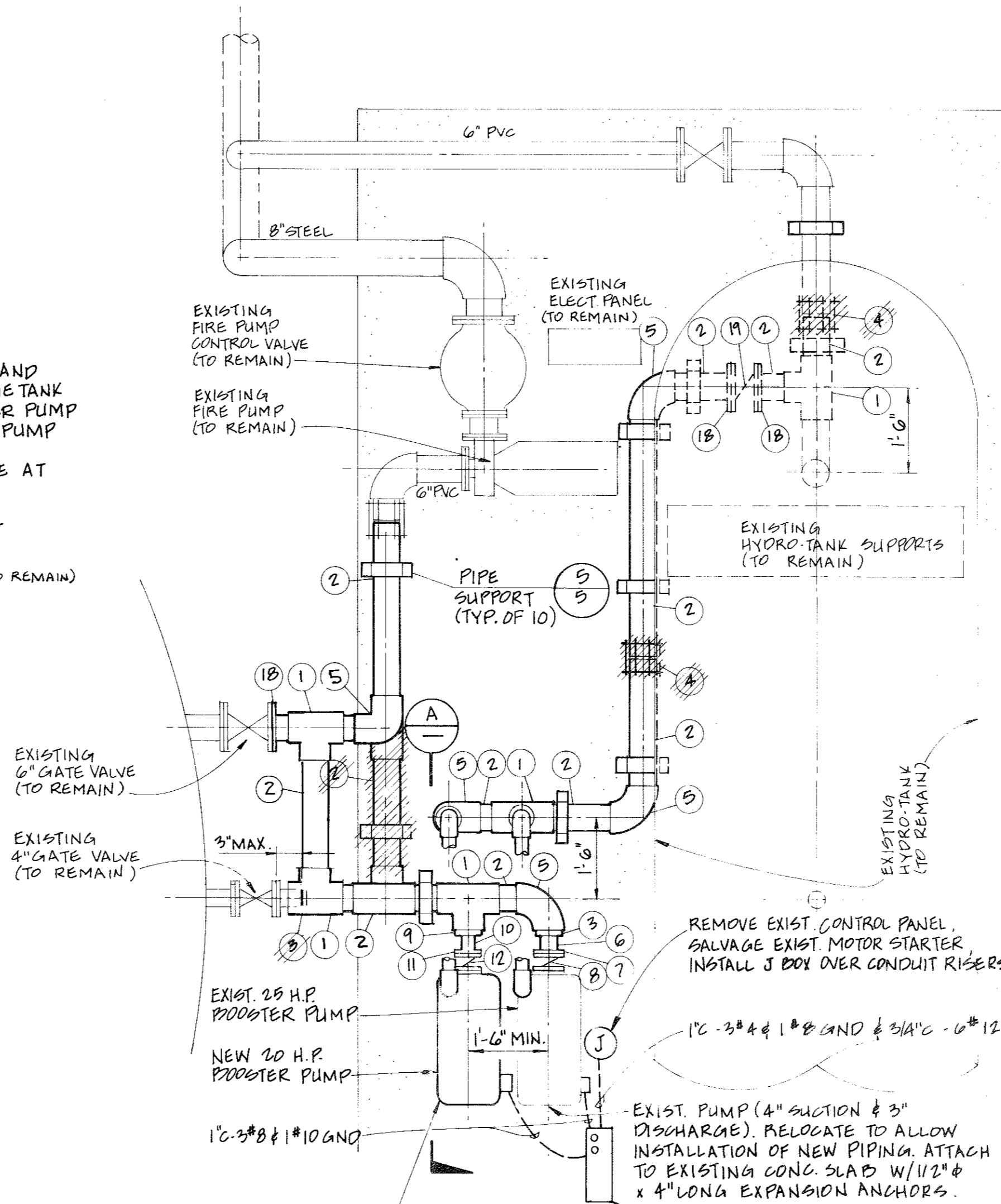
NOTE: ADDITIONAL ON-SITE PIPING NOT SHOWN FOR CLARITY.

SITE PLAN - WATER TREATMENT FACILITY
(SERVICE AREA 32)
NOT TO SCALE



SINGLE LINE DIAGRAM

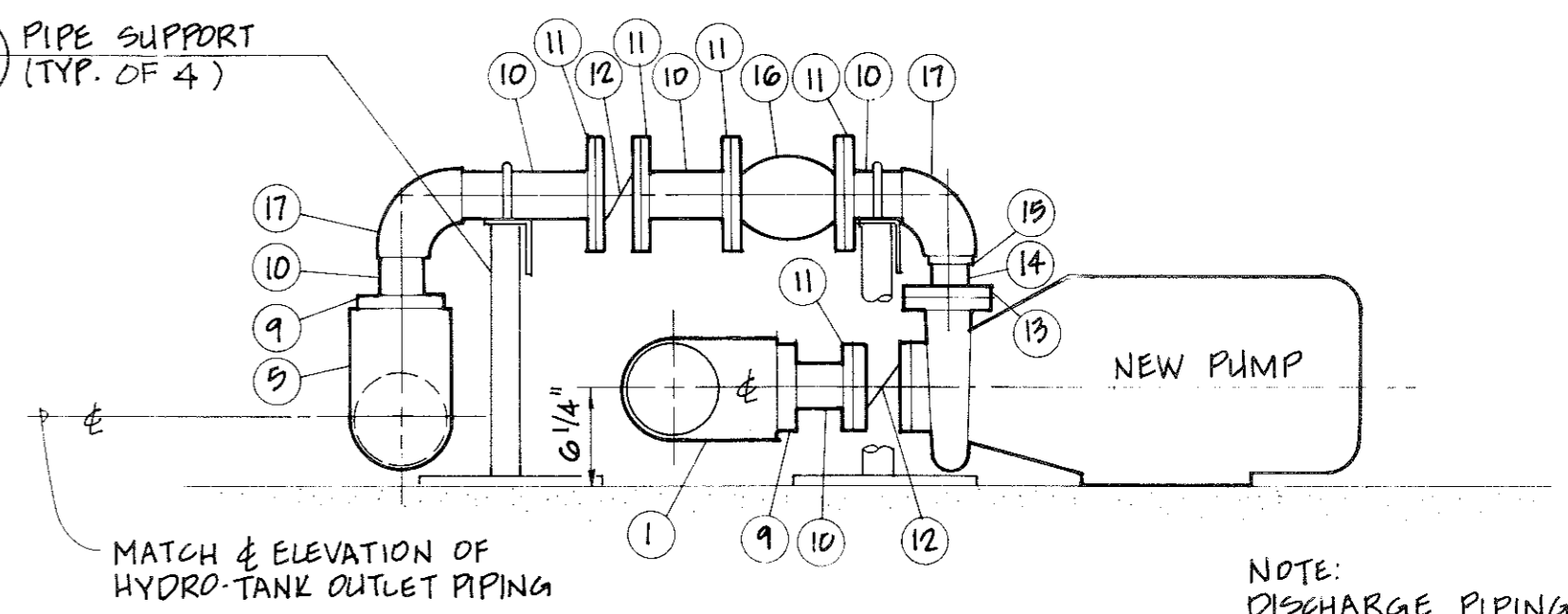
3



DETAIL
SCALE 1/2" = 1'-0"

2

4 PIPE SUPPORT (TYP. OF 4)

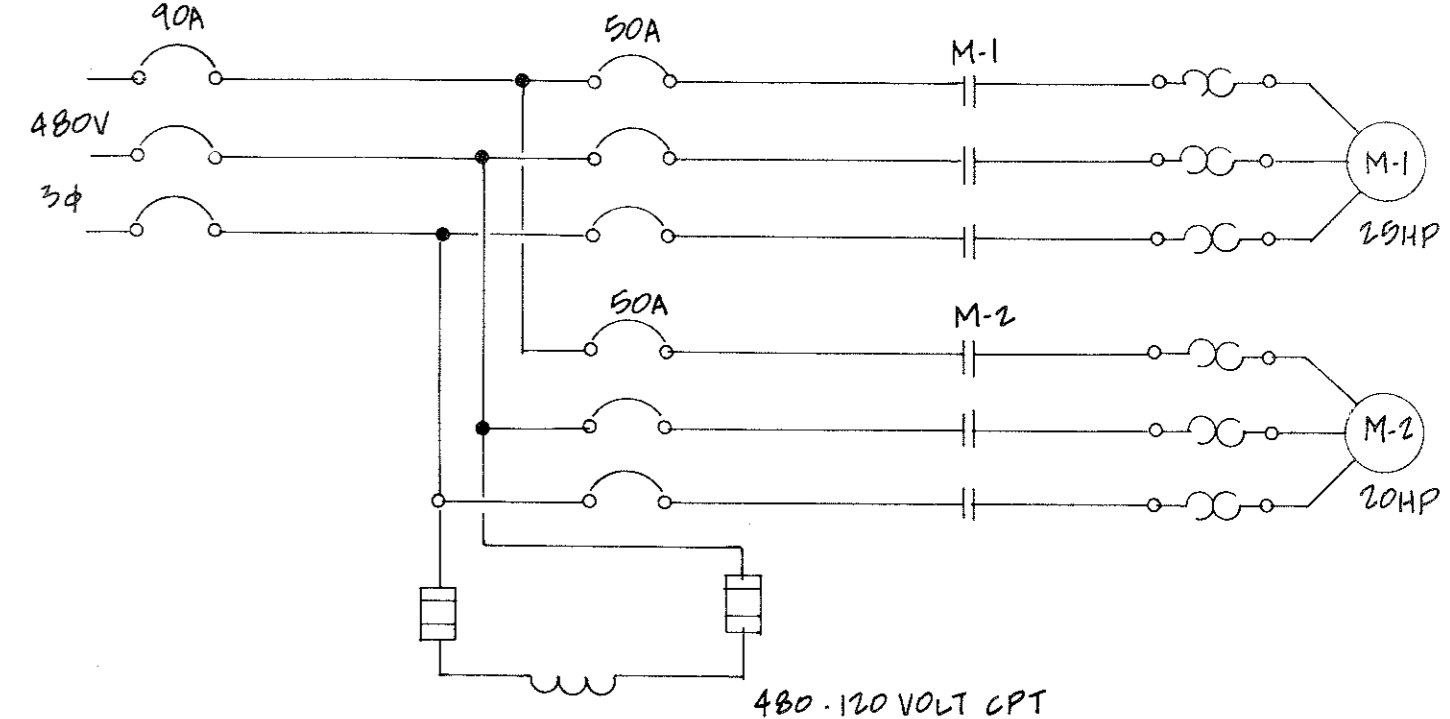


SECTION A
SCALE 1" = 1'-0"

NOTE: DISCHARGE PIPING FOR EXISTING PUMP SHALL BE SIMILAR.

LIST OF MATERIALS

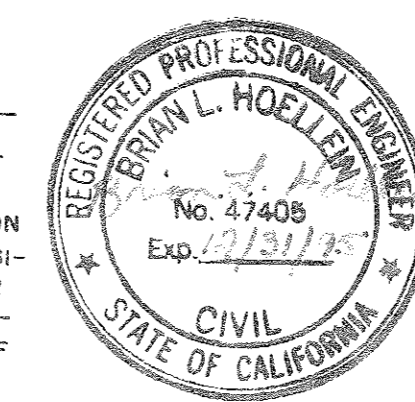
- 6" PVC TEE
- 6" PVC PIPE
- 6" X 4" PVC REDUCING BUSHING
- FLEXIBLE COUPLING
- 6" PVC 90° ELBOW
- 4" PVC PIPE
- 4" PVC FLANGE
- 4" BUTTERFLY VALVE, FLANGED
- 6" X 3" PVC REDUCING BUSHING
- 3" PVC PIPE
- 3" PVC FLANGE
- 3" BUTTERFLY VALVE, FLANGED
- 2-1/2" PVC FLANGE
- 2-1/2" PVC PIPE
- 2-1/2" X 3" PVC REDUCING BUSHING
- 3" SILENT CHECK VALVE, FLANGED
- 3" PVC 90° ELBOW
- 6" PVC FLANGE
- 6" BUTTERFLY VALVE, FLANGED



BOOSTER PUMP CONTROL SCHEMATIC DIAGRAM

4

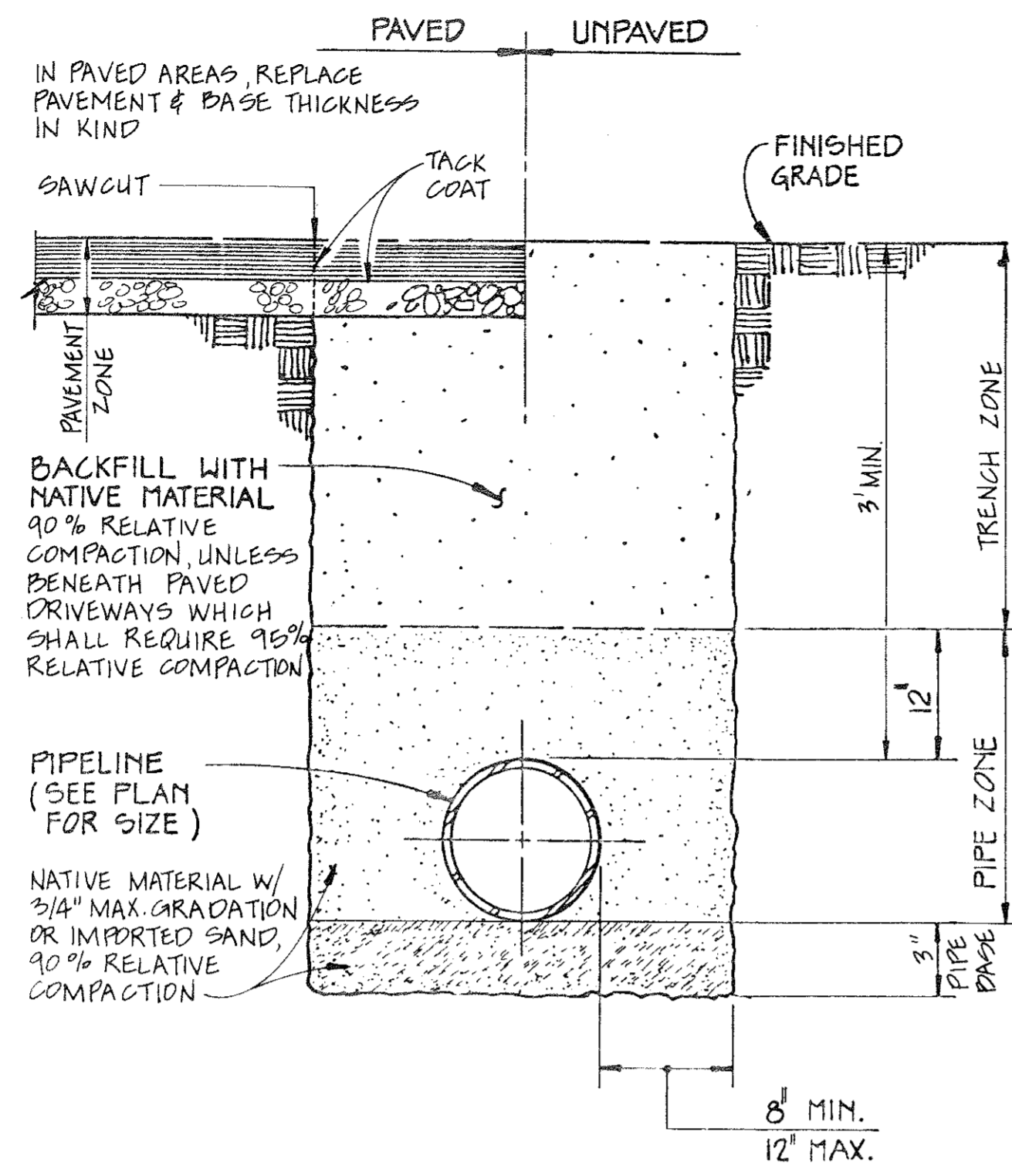
RECORD DRAWINGS
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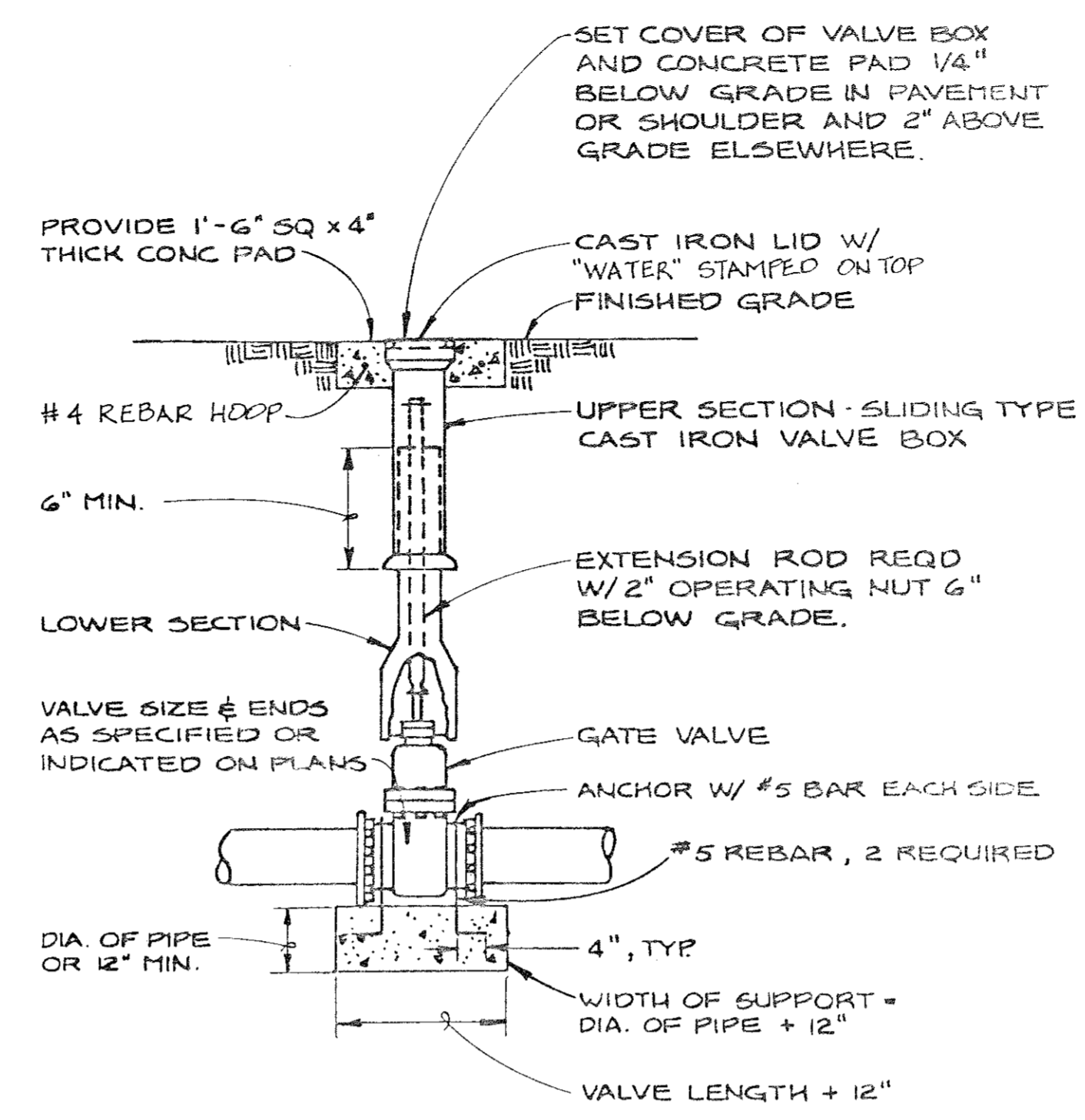


GOLDEN PLAINS UNIFIED SCHOOL DISTRICT
WATERLINE AND BOOSTER PUMP MODIFICATIONS
TREATMENT PLANT IMPROVEMENTS

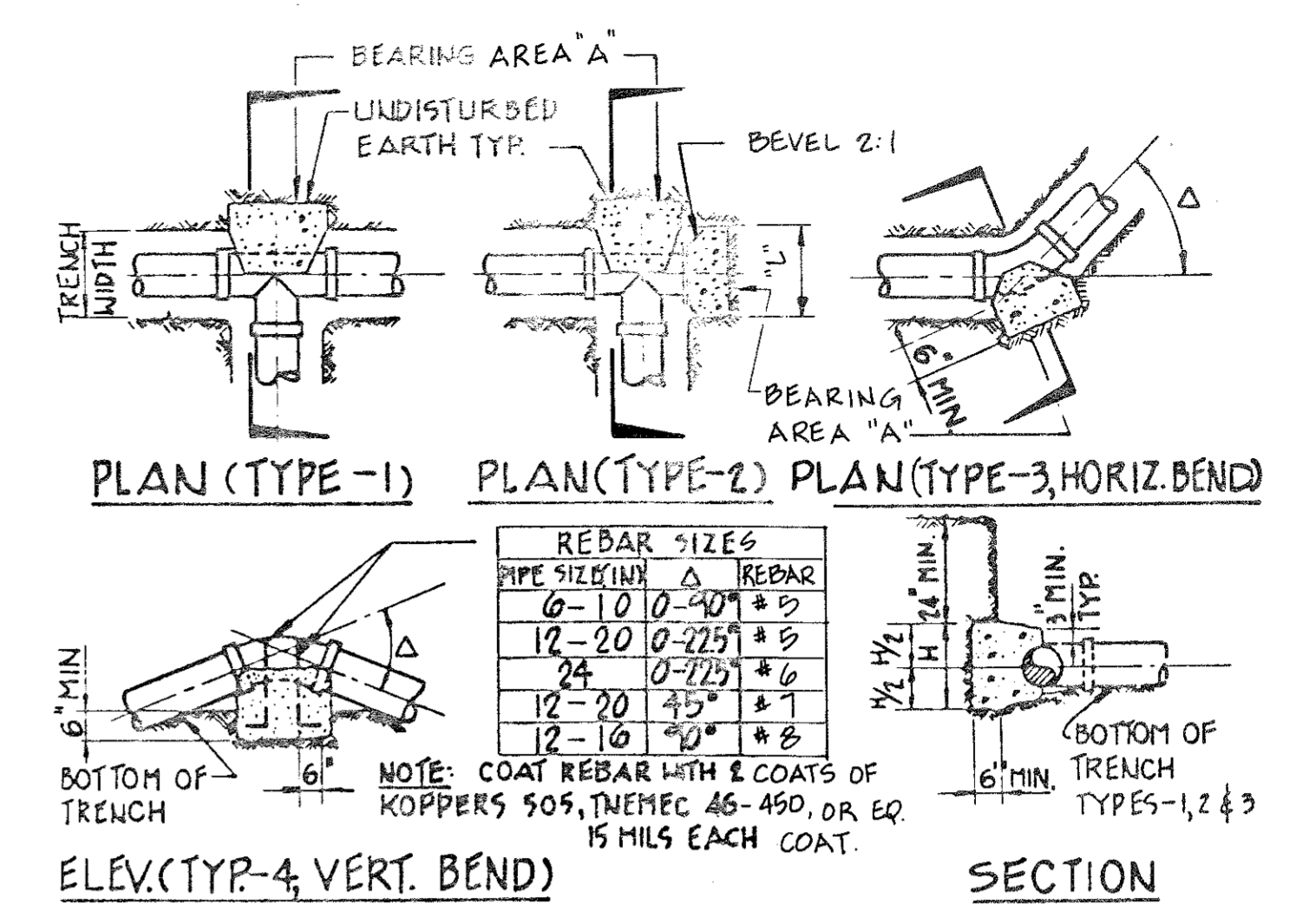


NOTE:
3" PVC & STEEL PIPELINES
& SCHOOL GROUNDS DO
NOT REQUIRE SAND BEDDING.

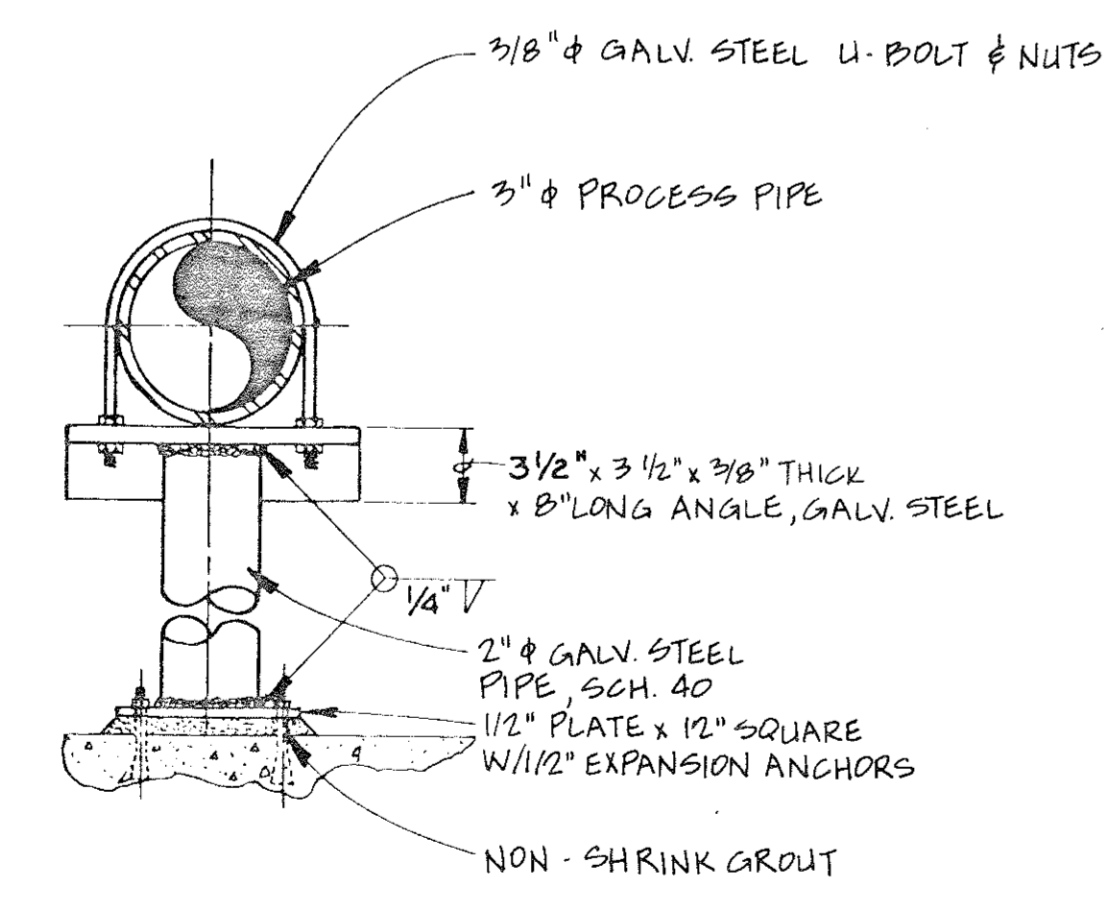
TRENCH DETAIL (1)
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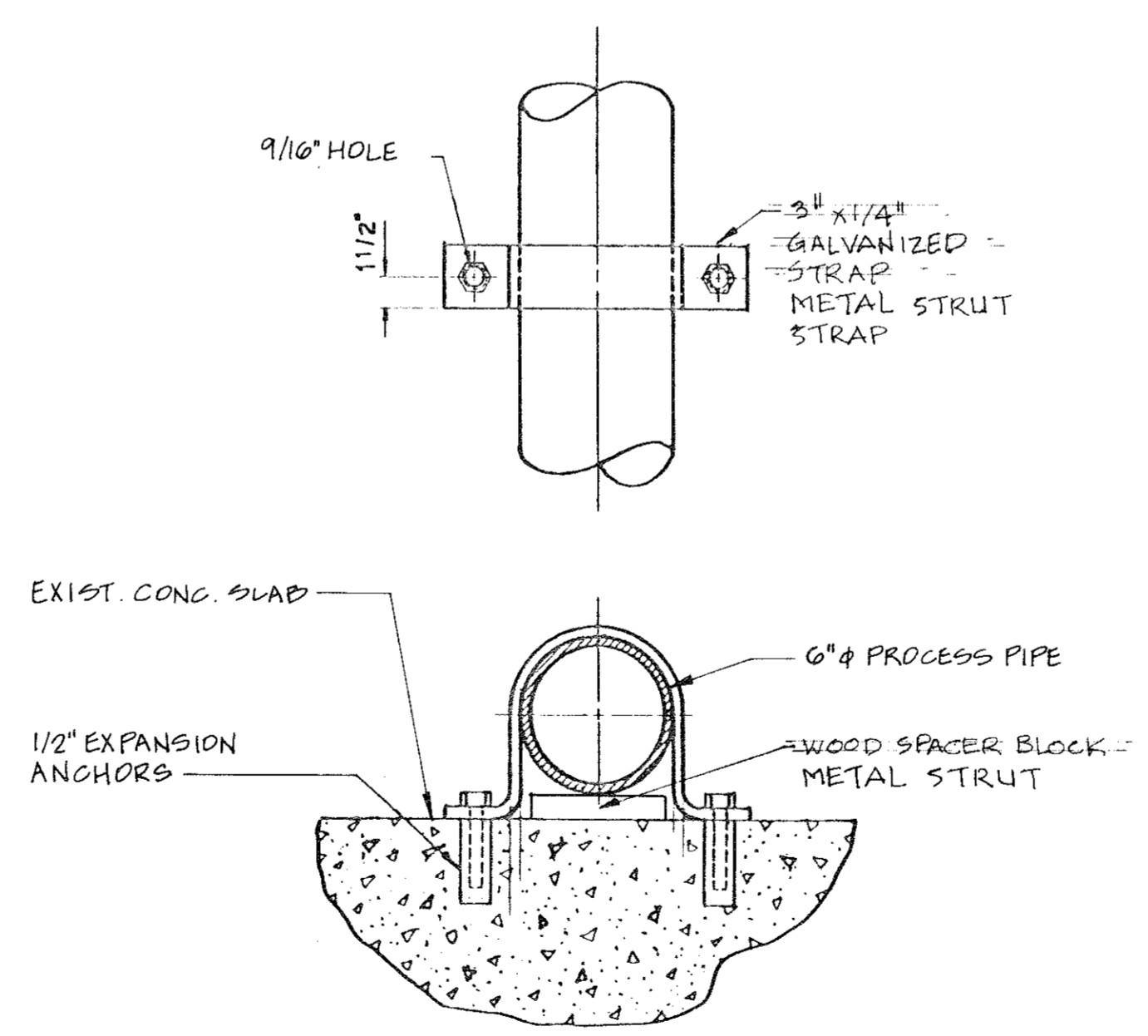
BURIED VALVE (2)
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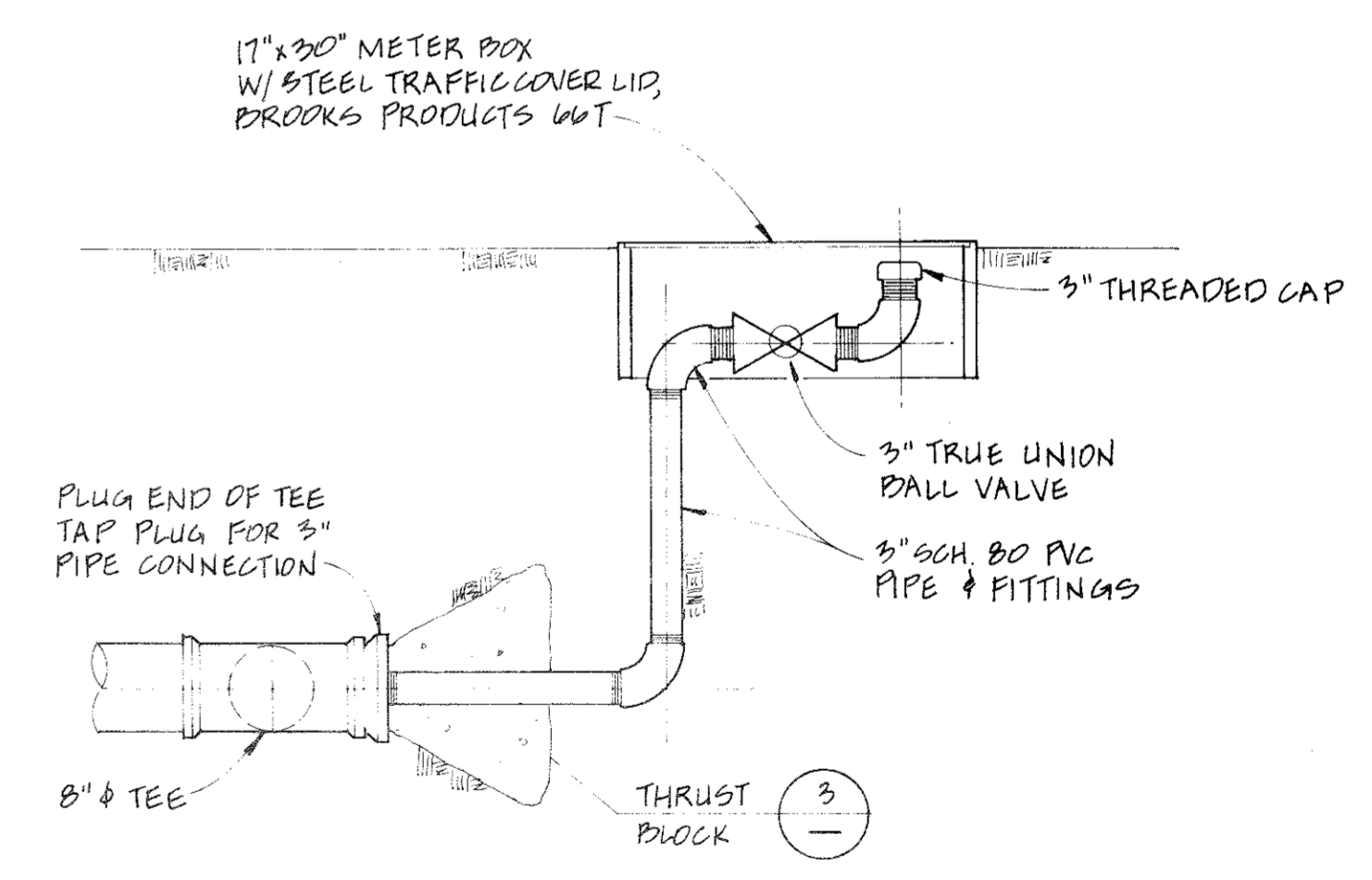
THRUST BLOCK (3)
NOT TO SCALE



PIPE SUPPORT (4)
NOT TO SCALE



PIPE SUPPORT (5)
NOT TO SCALE



BLOWOFF (6)
NOT TO SCALE

RECORD DRAWINGS
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| APPROVAL | DATE | DESIGN BY | DATE | RECORD DRAWING |
|----------|------|--------------|---------|----------------|
| | | B. HOELLEIN | | |
| | | D. RODRIGUEZ | | |
| | | BH | 7/92 | |
| | | | FEB. 92 | |



GOLDEN PLAINS UNIFIED SCHOOL DISTRICT
WATERLINE AND BOOSTER PUMP MODIFICATIONS
MISCELLANEOUS DETAILS