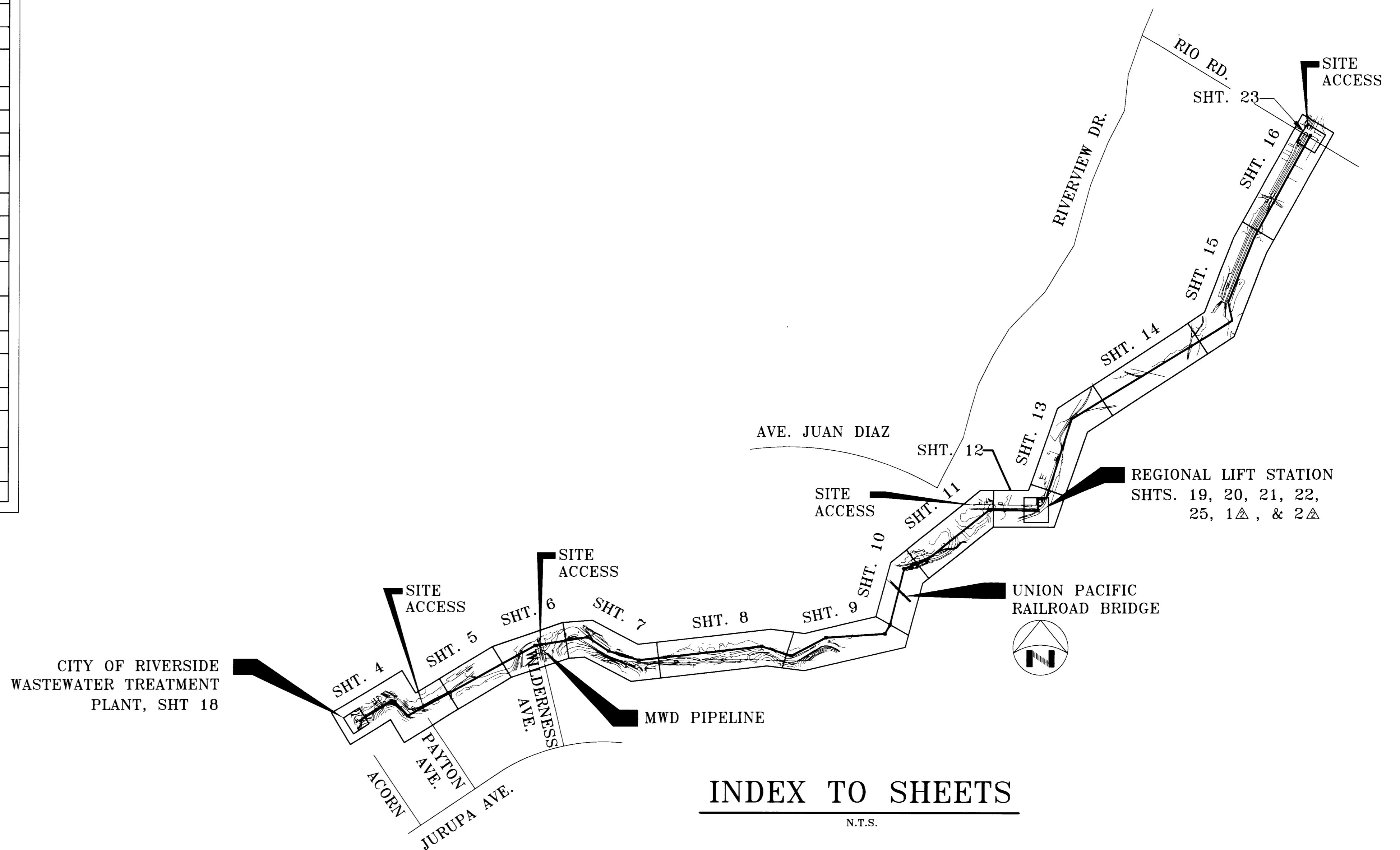
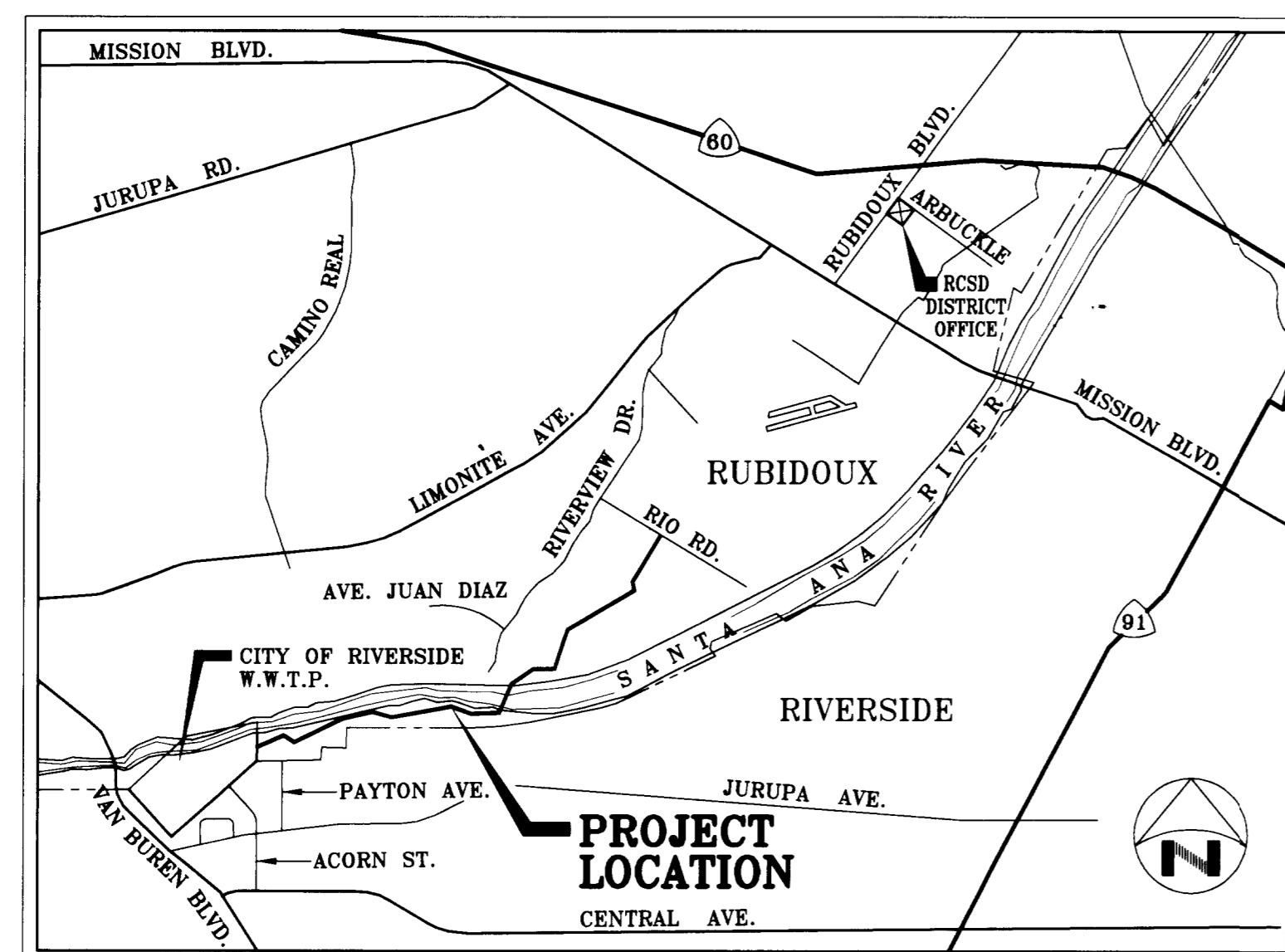


# RUBIDOUX COMMUNITY SERVICES DISTRICT REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION

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## LOCATION MAP



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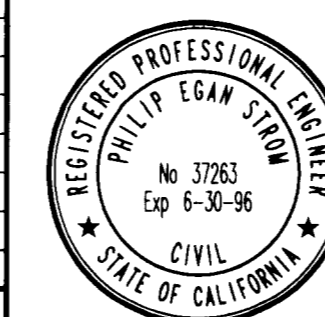
N.T.S.

DWG NO. 2851 FILE NO. 587-28 UPDATE BY JKL PROJ. ENG. MET PLOT DATE 4/17/96 PLOT TIME 10:30 AM PLOT SCALE 1=1

RUBIDOUX COMMUNITY SERVICES DISTRICT  
APPROVED BY *Steve W. Appel*  
ASSISTANT GENERAL MANAGER  
DATE 5-9-96

RUBIDOUX COMMUNITY SERVICES DISTRICT  
APPROVED BY *M. J. Krieger*  
DISTRICT ENGINEER  
DATE 5-8-96

SYM	REVISIONS	DATE	BY



**KRIEGER & STEWART** INCORPORATED  
3602 University Ave • Riverside, CA 92501 • 909-684-6900  
APPROVED BY *Phillip E. Egan*  
REGISTERED ENGINEER No. 37263 DATE 5-8-96

SCALE  
HORIZ. N/A VERT. N/A  
FIELD BK. 156/97-109  
152/83-101  
DESIGN MPT/VGK  
DRAWN TMW  
CHECKED JCR

RUBIDOUX COMMUNITY SERVICES DISTRICT  
REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
TITLE SHEET

MS 3594  
SHEET  
**1**  
OF 26 SHEETS  
R.C.S.D. PLAN No.

# CONSTRUCTION NOTES

## 1. GENERAL

DISTRICT WILL OBTAIN OR HAS OBTAINED EITHER ENCROACHMENT PERMITS, EASEMENTS OR PERMISSION FROM VARIOUS AGENCIES AND PROPERTY OWNERS TO CONSTRUCT THE REGIONAL WASTEWATER CONVEYANCE FACILITIES. REFER TO SECTION 10 OF THE SPECIAL REQUIREMENTS SECTION OF THE CONTRACT DOCUMENTS FOR AGENCY AND PROPERTY OWNER REQUIREMENTS.

## 2. SITE ACCESS

A SITE ACCESS FOR CONSTRUCTION WORK ON THE NORTH SIDE OF THE SANTA ANA RIVER SHALL BE AT THE FOLLOWING LOCATIONS:

- 1) RICHWOOD SUNNYSLOPE CHANNEL ACCESS ROAD AT RIO ROAD EAST OF RIVERVIEW DRIVE
- 2) DISTRICTS ACCESS GATE AT RIVERVIEW DRIVE AND AVENUE JUAN DIAZ. CONTRACTOR SHALL PROVIDE A LOOK FOR THE EXISTING GATE

B SITE ACCESS FOR CONSTRUCTION WORK ON THE SOUTH SIDE OF THE SANTA ANA RIVER SHALL BE AT THE FOLLOWING LOCATIONS:

- 1) PAYTON AVENUE

DISTRICT WILL OBTAIN AN ENTRY PERMIT FROM RIVERSIDE COUNTY REGIONAL PARKS AND OPEN SPACE DISTRICT (PARKS DEPARTMENT). CONTRACTOR SHALL INSTALL A GATE, PROVIDE A LOCK, AND GRADE AN ACCESS ROAD AS REQUIRED FOR ACCESS. A COPY OF THE UNEXECUTED ENTRY PERMIT IS INCLUDED WITHIN THE SPECIAL REQUIREMENTS SECTION OF THE CONSTRUCTION SPECIFICATIONS. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF SAID PERMIT.

MWD ACCESS ROAD AT WILDERNESS AVENUE  
DISTRICT HAS OBTAINED AN ENTRY PERMIT FROM METROPOLITAN WATER DISTRICT (MWD) TO USE AN EXISTING MWD ACCESS ROAD AT WILDERNESS AVENUE. A COPY OF THE UNEXECUTED ENTRY PERMIT IS INCLUDED WITHIN THE SPECIAL REQUIREMENTS SECTION OF THE CONSTRUCTION SPECIFICATIONS. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF SAID PERMIT.

TWO WORKING DAYS IN ADVANCE OF CONSTRUCTION, CONTRACTOR SHALL MEET WITH JOE MARONE OF MWD (909-780-2764) AND PROVIDE A LOOK FOR THE EXISTING GATE.

IF ADDITIONAL ACCESS LOCATIONS ARE REQUIRED BY CONTRACTOR, CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM OWNERS. SAID WRITTEN PERMISSION SHALL BE OBTAINED PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOT USE ANY OTHER ACCESS LOCATIONS WITHOUT WRITTEN PERMISSION.

## 3. NOTIFICATIONS

AT LEAST FIVE WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION, CONTRACTOR SHALL NOTIFY:

- RIVERSIDE COUNTY TRANSPORTATION DEPARTMENT PERMIT SECTION AT 909-275-6790
- RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT 909-275-1277
- METROPOLITAN WATER DISTRICT 909-302-2435 AND LES BARR ET ROSS CAMPBELL AT 213-271-6245
- UNITED STATES ARMY CORP OF ENGINEERS 213-944-9820
- CALIFORNIA DEPARTMENT OF FISH AND GAME 310-590-5137
- RIVERSIDE COUNTY REGIONAL PARKS AND OPEN SPACE DISTRICT (MARK BREWER) 909-275-0216 (JOHN BURNS) 909-275-4322
- UNION PACIFIC RAILROAD 213-725-2313
- SOUTHERN CALIFORNIA GAS COMPANY 909-845-2617
- CITY OF RIVERSIDE 909-351-6188
- TORO COMPANY (ANDY STROTHER) 909-785-3346

K. LOUIS RUBIDOUX NATURE CENTER (DIANE FALLONER) (909) 683-6800  
IN ADDITION, CONTRACTOR SHALL NOTIFY RESIDENTS AND COMMERCIAL ESTABLISHMENTS OF REMEDIATION WORK. PRINTED NOTICES SHALL BE SENT TO ALL RESIDENTS AND COMMERCIAL ESTABLISHMENTS IN THE VICINITY OF THE WORK AT LEAST FOURTEEN DAYS PRIOR TO BEGINNING CONSTRUCTION. SAID NOTICES SHALL FIRST BE APPROVED BY DISTRICT AND SHALL CONTAIN A GENERAL DESCRIPTION OF THE WORK, DATES WORK WILL BE PERFORMED, DESCRIBING OF AREAS WHERE TRAFFIC WILL BE RESTRICTED OR STOPPED, AND RESTRICTED AND NAMES OF STREETS WHICH WILL BE CLOSED TO THROUGH TRAFFIC OR WHERE TRAFFIC WILL BE RESTRICTED.

IF DISTRICT OR ANY OTHER AGENCY RECEIVES COMPLAINTS FROM INDIVIDUALS AFFECTED BY THE CONSTRUCTION, CONTRACTOR SHALL TAKE IMMEDIATE ACTION TO CORRECT SAME AS DIRECTED BY THE DISTRICT. IF CONTRACTOR RECEIVES COMPLAINTS DIRECTLY, CONTRACTOR SHALL REPORT SAME IMMEDIATELY TO DISTRICT. THEREAFTER, CONTRACTOR SHALL TAKE IMMEDIATE ACTION TO CORRECT SAME AS DIRECTED BY DISTRICT.

## 4. UTILITIES

APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN ON THE CONSTRUCTION DRAWINGS.

THE PROPOSED FORCE MAIN GRAVITY SEWER AND RELATED APPURTENANCES WILL BE CONSTRUCTED ADJACENT TO AN EXISTING FORCE MAIN AND GRAVITY SEWER. DISTRICT HAS NO INFORMATION ABOUT CONSTRUCTION OF TRENCH BACKFILL FOR SAID EXISTING FORCE MAINS DURING CONSTRUCTION OF THE PROPOSED FACILITIES. CONTRACTOR SHALL REMOVE AND REPLACE SAID BACKFILL COMPACT AS SPECIFIED HEREIN. ALL ADDITIONAL BACKFILL SHALL BE COMPACTED TO 95% RELATIVE COMPACTION MINIMUM.

THE PROPOSED FORCE MAIN CROSSES BENEATH EXISTING CITY OF RIVERSIDE SEWER FACILITIES. CONTRACTOR SHALL PROTECT SAID EXISTING SEWER FACILITIES. CONTRACTOR SHALL PROTECT SAID EXISTING GRAVITY SEWERS AT MINIMUM FLOW PERIODS. VIDEO INSPECTION SHALL INCLUDE A COURTESY THAT ESTABLISHES ACCURATE STATIONS FOR EACH MANHOLE AND AN AUDIO DISCUSSION OF THE SEWER INDICATING CRACKED PIPE, DISJOINT JOINTS AND OTHER DAMAGED AREAS. WRITTEN LOG SHALL ALSO BE PROVIDED SHOWING EACH MANHOLE AND ITS STATION, AND STATION OF EACH OBSERVED DEFICIENCY. AFTER CONSTRUCTION OF THE NEW SEWER IS COMPLETED INCLUDING GRADING OVER THE EXISTING SEWER, CONTRACTOR SHALL AGAIN VIDEO INSPECT EXISTING GRAVITY SEWERS. AFTER REVIEW OF BOTH VIDEO INSPECTIONS, IF DISTRICT DETERMINES THAT CONTRACTOR DAMAGED EXISTING SEWER, CONTRACTOR SHALL REPAIR SAME AS DIRECTED BY DISTRICT AND IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS.

PRIOR TO BEGINNING CONSTRUCTION NEAR THE 30" GAS PIPELINE AT STATION 12+00, CONTRACTOR SHALL NOTIFY SOUTHERN CALIFORNIA GAS COMPANY AT (909) 845-2617. SOUTHERN CALIFORNIA GAS COMPANY WILL HAVE AN OBSERVER ON SITE DURING CONSTRUCTION NEAR THE GAS FACILITY. CONTRACTOR SHALL PROTECT EXISTING 30" GAS PIPELINE IN PLACE. CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT DEEMED NECESSARY BY THE CONTRACTOR. SOUTHERN CALIFORNIA GAS COMPANY AND DISTRICT.

CONTRACTOR SHALL HAVE A SUFFICIENT SUPPLY OF REPAIR OR REPLACEMENT MATERIALS ON THE JOB SITE TO REPAIR OR REPLACE DAMAGED OR DESTROYED FACILITIES INCLUDING BUT NOT LIMITED TO GRAVITY SEWERS, SEWER FACILITIES, MANHOLES, ELECTRICAL CONDUITS AND IRRIGATION FACILITIES. REPAIRS SHALL BE MADE WITH LIKE MATERIALS AND SAID REPAIRS SHALL BE APPROVED BY DISTRICT AND THE UTILITY OWNER PRIOR TO BACKFILL.

## 5. STORAGE OF MATERIALS AND EQUIPMENT

CONTRACTOR MAY STORE MATERIALS AND EQUIPMENT WITHIN DISTRICTS PERMANENT AND TEMPORARY CONSTRUCTION EASEMENTS ALONG THE FORCE MAIN AND GRAVITY SEWER ALIGNMENTS PROVIDED MATERIAL AND EQUIPMENT ARE NOT PLACED WITHIN THE BIKE AND HORSE TRAILS. HOWEVER, MATERIALS AND EQUIPMENT SHALL NOT BE STORED FOR MORE THAN ONE MONTH WITHIN DISTRICTS PERMANENT AND TEMPORARY CONSTRUCTION EASEMENTS THROUGH PRIVATE PROPERTY (STATIONS 27+00 TO 32+00 AND STATIONS 127+00 TO 134+00).

CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT ON PRIVATE OR PUBLIC PROPERTY BEYOND THE DISTRICTS EASEMENTS WITHOUT WRITTEN PERMISSION APPROVING SUCH USE FROM THE PROPERTY OWNER(S). SAID WRITTEN PERMISSION SHALL BE SUBMITTED TO AND APPROVED BY THE DISTRICT PRIOR TO CONTRACTOR MOVING MATERIALS OR EQUIPMENT ON SITE. SAID MATERIALS AND EQUIPMENT SHALL NOT BE LEFT IN THE PUBLIC RIGHT-OF-WAY.

## 6. PIPE MATERIALS

ALL GRAVITY SEWERS SHALL BE CONSTRUCTED USING EXTRA STRENGTH VITRIFIED CLAY PIPE (VCP) IN ACCORDANCE WITH THE BASIC SEWER SPECIFICATIONS WITH TYPE G POLYURETHANE COMPRESSION JOINTS.

ALL GRAVITY SEWER SIPHON PIPING (STATIONS 110 + 82.75 TO 114 + 70.17) SHALL BE 14" CLASS 250 DUCTILE IRON PIPE AND FITTINGS WITH SPECIAL PIPE LINING AS SPECIFIED IN THE BASIC SEWER SPECIFICATIONS.

FORCE MAIN PIPING BETWEEN STATIONS 63+00 AND 72+00 SHALL BE 18" CLASS 250 DUCTILE IRON PIPE AND FITTINGS WITH SPECIAL PIPE LINING AS SPECIFIED IN THE BASIC SEWER SPECIFICATIONS. THE BALANCE OF THE FORCE MAIN PIPING (STATIONS 10+36 TO 63+00 AND 72+00 TO 87+00) SHALL BE EITHER 18" CLASS 250 DUCTILE IRON PIPE OR 18" CLASS 185 WITH A MINIMUM DIMENSION RATIO OF 25) POLYVINYL CHLORIDE PIPE AND CLASS 250 DUCTILE IRON FITTINGS.

FOR THE POLYVINYL CHLORIDE PIPE ALTERNATIVE, THE DUCTILE IRON FITTINGS BETWEEN STATIONS 10+36 AND 16+00, 31+00 AND 33+70, AND 73+70 AND 76+70 SHALL HAVE THE SPECIAL PIPE LINING AS SPECIFIED IN THE BASIC SEWER SPECIFICATIONS. POLYVINYL CHLORIDE PIPE JOINTS SHALL BE INTEGRAL BELLS AND SPOUTED WITH RUBBER GASKETS. THRUST RESTRAINT SHALL BE ACCOMPLISHED BY INSTALLING CONCRETE THRUST BLOCKS PER STANDARD DRAWINGS S102 S103 S108 AND S107.

FOR THE DUCTILE IRON PIPE ALTERNATIVE, THE DUCTILE IRON PIPE AND FITTINGS BETWEEN STATIONS 10+36 AND 16+00, 31+00 AND 33+70, AND 73+70 AND 76+70 SHALL HAVE THE SPECIAL PIPE LINING AS SPECIFIED IN THE BASIC SEWER SPECIFICATIONS. DUCTILE IRON PIPE JOINTS SHALL BE EITHER RUBBER GASKETED PUSH-TYPE JOINTS OR BOLTLESS RESTRAINED TYPE JOINTS IN ACCORDANCE WITH THE BASIC SEWER SPECIFICATIONS. RESTRAINED JOINTS SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS.

CONTRACTOR SHALL REMOVE AND DISPOSE OF VEGETATION, INCLUDING TREES AND BRUSH AT AN APPROVED LOCATION TO ACCOMMODATE FORCE MAIN GRAVITY SEWER AND APPURTENANCE CONSTRUCTION.

CONTRACTOR IS ADVISED THAT ROCK OR UNACCEPTABLE TRENCH-BACKFILL MATERIALS MAY BE ENCOUNTERED DURING TRENCHING OPERATIONS WHERE SUCH MATERIALS ARE ENCOUNTERED, CONTRACTOR SHALL REMOVE ADDITIONAL COST TO DISTRICT. EXCAVATE SAID MATERIALS BY ANY METHOD CONTRACTOR DEEMS NECESSARY AND AS APPROVED BY DISTRICT AND FURNISH AND INSTALL SUITABLE BEDDING AND BACKFILL MATERIAL, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ALL ROCK OR UNACCEPTABLE TRENCH-BACKFILL MATERIAL SHALL BE HAULED TO AND DISCARDED AT A LEGAL DISPOSAL SITE. CONTRACTOR SHALL NOT REMOVE SUCH MATERIAL ON PRIVATE OR PUBLIC PROPERTY WITH OR WITHOUT PERMISSION.

CONTRACTOR IS ADVISED THAT ROCK OR UNACCEPTABLE TRENCH-BACKFILL MATERIALS MAY BE ENCOUNTERED BETWEEN STATIONS 111+20 AND 114+70. CONTRACTOR REMOVE ROCK RIP RAP DURING EXCAVATION. CONTRACTOR SHALL REPLACE SAME AFTER SIPHON CONSTRUCTION IS COMPLETE.

PIPE ZONE BEDDING AND BACKFILL (BOTTOM OF EXCAVATION TO ONE FOOT OVER TOP OF PIPE) FOR BOTH GRAVITY AND FORCE MAIN SHALL BE IN ACCORDANCE WITH DETAIL 'C' SHEET 17. ALL PIPE ZONE BEDDING AND BACKFILL SHALL BE TYPE 'EXCEPT' FOR PIPE BETWEEN STATIONS 63+00 AND 72+00 AND STATIONS 110+82.75 TO 114+70. ALL PIPE ZONE BEDDING AND BACKFILL FOR PIPE BETWEEN STATIONS 63+00 AND 72+00 AND STATION 110+82.75 TO 114+70 SHALL BE TYPE 'ALL' PIPE ZONE BEDDING AND BACKFILL FOR PIPE BETWEEN STATIONS 71+00 AND 72+00 SHALL BE TYPE 'II'.

WHENEVER THE PROPOSED FORCE MAIN CROSSES BENEATH AN EXISTING SEWER, TRENCH SHALL BE BACKFILLED WITH A 2" SACK CEMENT SAND SLURRY. LIMITS OF SAID SLURRY SHALL BE FROM BOTTOM OF FORCE MAIN TRENCH TO SPRING LINE OF EXISTING SEWER AND SHALL EXTEND A MINIMUM OF 5 FEET ON EACH SIDE OF THE SEWER.

TRENCH BACKFILL (FROM TOP OF PIPE ZONE TO GROUND SURFACE) SHALL BE SELECT 'NATIVE' OR IMPORT MATERIAL IN ACCORDANCE WITH THE BASIC SEWER SPECIFICATIONS. TRENCH BACKFILL SHALL BE COMPACTED TO 95% RELATIVE COMPACTION MINIMUM AFTER ALL SHEETING SHORING OR SHIELDING HAS BEEN REMOVED FROM THE TRENCH. FOR AREAS BENEATH PAVED SURFACES, THE UPPER 12" OF THE SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION MINIMUM.

CONTRACTOR SHALL NOTIFY DISTRICT WHEN ANY SEGMENT OF BACKFILL IS COMPLETE AND READY FOR COMPACTION TESTING. AFTER SUCH NOTIFICATION, DISTRICT WILL HAVE ALL NECESSARY TESTS MADE. SOILS ENGINEER SHALL BE RESPONSIBLE FOR TESTING. DISTRICT WILL PAY FOR ALL PASSING TESTS. CONTRACTOR SHALL PAY FOR ALL FAILING TESTS.

COMPACTION TESTS WILL BE TAKEN IN THE BACKFILL ABOVE THE PIPE ZONE AND IN THE SUBGRADE. CONTRACTOR SHALL ASSIST AT NO ADDITIONAL COST TO DISTRICT. SOILS ENGINEER IN TAKING COMPACTION TESTS, CONTRACTOR SHALL FURNISH ALL EQUIPMENT (INCLUDING SHORING) LABOR AND MATERIALS NEEDED FOR SUCH ASSISTANCE.

CONTRACTOR TESTING SHALL BE COMPLETED AND ACCEPTED BY DISTRICT PRIOR TO ANY FORCE MAIN OR GRAVITY SEWER TESTING.

## 8. FORCE MAIN AND GRAVITY SEWER CONNECTIONS

A PRIOR TO ORDERING MATERIALS FOR CONSTRUCTION OF CONNECTION PIPING, CONTRACTOR SHALL LOCATE AND EXPOSE EXISTING UTILITIES WHICH CROSS PROPOSED CONNECTION PIPING ALIGNMENTS AND THE CONNECTION POINTS TO DETERMINE EXACT POSITION, HORIZONTAL AND VERTICAL OF EACH. IN ADDITION, FOR EACH CONNECTION LOCATION, CONTRACTOR SHALL DETERMINE OUTSIDE DIAMETER OF EXISTING UTILITY. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING AND FITTINGS INCLUDING CONNECTOR JOINT COUPLINGS NECESSARY TO COMPLETE THE CONNECTION.

B FOR CONSTRUCTION OF CONNECTIONS TO EXISTING SEWAGE CONVEYANCE FACILITIES, CONTRACTOR SHALL REFER TO THE CONSTRUCTION DRAWINGS FOR THE SPECIFIC CONNECTION REQUIREMENTS. SEQUENCE OF WORK WHICH ADDRESS SAID CONNECTION WORK, CONTRACTOR SHALL ASSUME THAT ALL EXISTING FACILITIES ARE IN SERVICE.

## 9. TRAFFIC CONTROL AND RESTORATION REQUIREMENTS

A TRAFFIC CONTROL  
CONTRACTOR SHALL PROVIDE ALL LABOR EQUIPMENT AND MATERIALS NECESSARY TO DEVIATE AND PROPERLY DISPOSE OF RAW SEWAGE FROM EXISTING FACILITIES. CONTRACTOR SHALL MAINTAIN PRIORITY TO COMMENCING CONNECTION CONSTRUCTION.

CONTRACTOR SHALL PROTECT IN PLACE OR REMOVE AND REPLACE ALL EXISTING PUBLIC AND PRIVATE IMPROVEMENTS INCLUDING BUT NOT LIMITED TO ALL UTILITIES, POWER POLES, SIGNS, BARRIERS, CURBS, SPECIAL SURFACES, BIKE TRAILS, HORSE TRAILS, DRIVEWAYS, BRIDGES, STORM DRAINS, CULVERTS, CATCH BASINS, LANDSCAPING TREES, LANDSCAPING MATERIALS, IRRIGATION SYSTEMS, GUARD POSTS, WALLS AND FENCES IN PLACE. IF SAID FACILITIES ARE DAMAGED OR UNDERMINED AS DETERMINED BY DISTRICT, ANY PERMITTING AGENCY OR PROPERTY OWNER, SAID FACILITIES SHALL BE REMOVED AND REPLACED. CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED OR DESTROYED UTILITIES OR IMPROVEMENTS AS PART OF THE CONTRACT WORK AND ALL AT NO ADDITIONAL COST TO DISTRICT. WHETHER OR NOT SAME IS SPECIFICALLY NOTED ON THE CONSTRUCTION DRAWINGS.

CONTRACTOR SHALL AS A MINIMUM ACCOMPLISH BY THE END OF EACH WORK DAY (5:00 PM) THE FOLLOWING:

- 1) REMOVE ALL DEBRIS CONSTRUCTION MATERIALS AND EQUIPMENT FROM PUBLIC STREETS AND PRIVATE PROPERTY
- 2) FILL ALL EXCAVATIONS WITH COMPACTED BACKFILL GRADED SMOOTH AND FLUSH WITH ADJACENT GROUND SURFACE OR PAVEMENT SUFFICIENT TO SUPPORT TRAFFIC
- 3) PLACE 2" MINIMUM TEMPORARY ASPHALT CONCRETE PAVEMENT IN ALL AREAS WHERE EXISTING PAVEMENT WAS REMOVED. SAID PAVEMENT SHALL BE COMPACTED ROLLED SMOOTH AND FLUSH WITH ADJACENT PAVEMENT SUFFICIENT TO SUPPORT TRAFFIC. SAID PAVEMENT MAY BE PLACED COLD PROVIDED IT IS PLACED SMOOTH AND FLUSH WITH ADJACENT EXISTING PAVEMENT ROLLED WITH A STEEL WHEELED PAVEMENT ROLLER AND PROPERLY MAINTAINED.

CONTRACTOR SHALL RESTORE THE BIKE TRAIL, FENCES, IRRIGATION PIPELINES AND VEGETATION AS FOLLOWS:

- 1) BIKE TRAIL  
CONTRACTOR SHALL NOT USE THE BIKE TRAIL TO ACCESS THE CONSTRUCTION SITE. CONSTRUCTION ACTIVITIES NEAR THE BIKE TRAIL SHALL BE LIMITED TO THOSE AREAS WITHIN DISTRICT EASEMENTS AND TEMPORARY CONSTRUCTION EASEMENTS.

PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL PROVIDE A FIELD SURVEY OF THE EXISTING BIKE TRAIL WITHIN DISTRICT EASEMENTS OR TEMPORARY CONSTRUCTION EASEMENTS. THE SURVEY FIELD SHALL INCLUDE BIKE TRAIL WIDTHS AND ELEVATIONS OF EACH SIDE OF THE BIKE TRAIL AT 25 FOOT INTERVALS. SURVEY NOTES OF SAID SURVEY SHALL BE APPROVED BY DISTRICT PRIOR TO BEGINNING CONSTRUCTION.

TWO WEEKS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL ADVERTISE BIKE TRAIL CLOSURE IN THE "RIVERSIDE PRESS ENTERPRISE." SAID ADVERTISEMENT SHALL INDICATE APPROXIMATE DATES OF CLOSURE AND INDICATE THAT THE TRAIL WILL BE OPEN TO THE PUBLIC ON WEEKENDS.

IN ADDITION, TWO WEEKS PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL POST BIKE TRAIL CLOSURE SIGNS AT THE BIKE TRAIL INLETS NEAR VAN BUREN BOULEVARD AND MARTHA McLEAN. ANZ NARROWS PARK. THE SPECIFIC LOCATION SHALL BE APPROVED BY THE DISTRICT PRIOR TO INSTALLATION. SIGNS SHALL INDICATE APPROXIMATE DATES OF CLOSURE, CONTRACTORS NAME AND TELEPHONE NUMBER AND SHALL INDICATE THAT BIKE TRAIL WILL BE OPEN TO PUBLIC ON WEEKENDS. SIGN LETTERING SHALL BE 2" MINIMUM IN SIZE. LETTERING SHALL BE BLACK PLACED ON A WHITE BACKGROUND. SIGNS SHALL BE INSPECTED AND REPAIRED IF NECESSARY BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION EACH WEEK.

CONTRACTOR SHALL TEMPORARILY REPAIR BIKE TRAIL EVERY FRIDAY WITH 2" OF TEMPORARY ASPHALT CONCRETE PAVEMENT SAID PAVEMENT SHALL BE COMPACTED ROLLED SMOOTH AND FLUSH WITH ADJACENT PAVEMENT. SAID PAVEMENT MAY BE PLACED COLD PROVIDED IT IS PLACED WITH A STEEL WHEELED PAVEMENT ROLLER. CONTRACTOR SHALL PROPERLY MAINTAIN TEMPORARY ASPHALT CONCRETE PAVEMENT AND REPAIR SAME AS NECESSARY AND AS DIRECTED BY DISTRICT.

ONCE ACCEPTABLE FORCE MAIN TEST RESULTS (STATIONS 10+36 TO 63+00) HAVE BEEN DEMONSTRATED BY THE CONTRACTOR, CONTRACTOR SHALL SET CONSTRUCTION STAKES AT 25 FOOT INTERVALS ALONG THE BIKE TRAIL ALIGNMENT DAMAGED DURING CONSTRUCTION BASED ON CONTRACTORS ORIGINAL SURVEY AND PERMANENTLY REPAIR BIKE TRAIL WITH EITHER 2" OF ASPHALT CONCRETE PAVEMENT OVER 6" OF CLASS 2 AGGREGATE BASE, 3-1/2" OF PORTLAND CEMENT CONCRETE OVER 6" OF CLASS 2 AGGREGATE BASE OR 6-1/2" REINFORCED PORTLAND CEMENT CONCRETE OVER 6" OF CLASS 2 AGGREGATE BASE AS FOLLOWS:

CONTRACTOR SHALL RESTORE THE BIKE TRAIL, FENCES, IRRIGATION PIPELINES AND VEGETATION AS FOLLOWS:

- 1) BIKE TRAIL  
CONTRACTOR SHALL NOT USE THE BIKE TRAIL TO ACCESS THE CONSTRUCTION SITE. CONSTRUCTION ACTIVITIES NEAR THE BIKE TRAIL SHALL BE LIMITED TO THOSE AREAS WITHIN DISTRICT EASEMENTS AND TEMPORARY CONSTRUCTION EASEMENTS.

PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL PROVIDE A FIELD SURVEY OF THE EXISTING BIKE TRAIL WITHIN DISTRICT EASEMENTS OR TEMPORARY CONSTRUCTION EASEMENTS. THE SURVEY FIELD SHALL INCLUDE BIKE TRAIL WIDTHS AND ELEVATIONS OF EACH SIDE OF THE BIKE TRAIL AT 25 FOOT INTERVALS. SURVEY NOTES OF SAID SURVEY SHALL BE APPROVED BY DISTRICT PRIOR TO BEGINNING CONSTRUCTION.

TWO WEEKS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL ADVERTISE BIKE TRAIL CLOSURE IN THE "RIVERSIDE PRESS ENTERPRISE." SAID ADVERTISEMENT SHALL INDICATE APPROXIMATE DATES OF CLOSURE AND INDICATE THAT THE TRAIL WILL BE OPEN TO THE PUBLIC ON WEEKENDS.

IN ADDITION, TWO WEEKS PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL POST BIKE TRAIL CLOSURE SIGNS AT THE BIKE TRAIL INLETS NEAR VAN BUREN BOULEVARD AND MARTHA McLEAN. ANZ NARROWS PARK. THE SPECIFIC LOCATION SHALL BE APPROVED BY THE DISTRICT PRIOR TO INSTALLATION. SIGNS SHALL INDICATE APPROXIMATE DATES OF CLOSURE, CONTRACTORS NAME AND TELEPHONE NUMBER AND SHALL INDICATE THAT BIKE TRAIL WILL BE OPEN TO PUBLIC ON WEEKENDS. SIGN LETTERING SHALL BE 2" MINIMUM IN SIZE. LETTERING SHALL BE BLACK PLACED ON A WHITE BACKGROUND. SIGNS SHALL BE INSPECTED AND REPAIRED IF NECESSARY BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION EACH WEEK.

CONTRACTOR SHALL TEMPORARILY REPAIR BIKE TRAIL EVERY FRIDAY WITH 2" OF TEMPORARY ASPHALT CONCRETE PAVEMENT SAID PAVEMENT SHALL BE COMPACTED ROLLED SMOOTH AND FLUSH WITH ADJACENT PAVEMENT. SAID PAVEMENT MAY BE PLACED COLD PROVIDED IT IS PLACED WITH A STEEL WHEELED PAVEMENT ROLLER. CONTRACTOR SHALL PROPERLY MAINTAIN TEMPORARY ASPHALT CONCRETE PAVEMENT AND REPAIR SAME AS NECESSARY AND AS DIRECTED BY DISTRICT.

ONCE ACCEPTABLE FORCE MAIN TEST RESULTS (STATIONS 10+36 TO 63+00) HAVE BEEN DEMONSTRATED BY THE CONTRACTOR, CONTRACTOR SHALL SET CONSTRUCTION STAKES AT 25 FOOT INTERVALS ALONG THE BIKE TRAIL ALIGNMENT DAMAGED DURING CONSTRUCTION BASED ON CONTRACTORS ORIGINAL SURVEY AND PERMANENTLY REPAIR BIKE TRAIL WITH EITHER 2" OF ASPHALT CONCRETE PAVEMENT OVER 6" OF CLASS 2 AGGREGATE BASE, 3-1/2" OF PORTLAND CEMENT CONCRETE OVER 6" OF CLASS 2 AGGREGATE BASE OR 6-1/2" REINFORCED PORTLAND CEMENT CONCRETE OVER 6" OF CLASS 2 AGGREGATE BASE AS FOLLOWS:

CONTRACTOR SHALL RESTORE THE BIKE TRAIL, FENCES, IRRIGATION PIPELINES AND VEGETATION AS FOLLOWS:

STATION	APPROX. FORCE MAIN ELEVATION	APPROX. GRAVITY SEWER ELEVATION	REMARKS
4+13+00	10-26	54	
8+28+00	10-26	54	
20+81	10-26	54	
30+16	10-26	54	
30+80	10-26	54	
30+84	10-26	54	
30+88	10-26	54	
30+92	10-26	54	
30+96	10-26	54	
30+100	10-26	54	
30+104	10-26	54	
30+108	10-26	54	
30+112	10-26	54	
30+116	10-26	54	
30+120	10-26	54	
30+124	10-26	54	
30+128	10-26	54	
30+132	10-26	54	
30+136	10-26	54	
30+140	10-26	54	
30+144	10-26	54	
30+148	10-26	54	
30+152	10-26	54	
30+156	10-26	54	
30+160	10-26	54	

NOTE: ALL SECTIONS ARE PERPENDICULAR TO BIKE TRAIL EXCEPT SECTION H-H. SAID SECTION H-H IS PARALLEL WITH BIKE TRAIL.

PERMANENT ASPHALT CONCRETE PAVEMENT PORTLAND CEMENT CONCRETE AND LANE SIGNING AND STRIPING SHALL BE PLACED IN ACCORDANCE WITH THESE CONSTRUCTION NOTES (NOT 8 TRAFFIC CONTROL AND RESTORATION REQUIREMENTS SUBSECTION G PERMANENT ASPHALT CONCRETE PAVEMENT LOCATIONS AND SPECIFICATIONS FOR THE CONSTRUCTION OF SANTA ANA RIVER BIKE TRAIL PHASE III ON FILE AT THE OFFICE OF THE ENGINEER) THE MOST STRINGENT REQUIREMENTS SHALL PREVAIL.

FENCES  
PRIOR TO STARTING ANY CONSTRUCTION WITHIN THE PRIVATE PROPERTY PARCELS BETWEEN STATIONS 127+00 AND 134+00, CONTRACTOR SHALL INSTALL A TEMPORARY 6 FOOT HIGH (6 GAGE) CHAIN LINK FENCE (BURIED 9 INCHES BENEATH THE GROUND SURFACE) ALONG THE EDGE OF THE TEMPORARY CONSTRUCTION EASEMENT. SAID FENCE SHOULD REMAIN IN PLACE FOR 3 MONTHS MAXIMUM AFTER THE 3 MONTH PERIOD, CONTRACTOR SHALL RELOCATE THE FENCE TO THE EDGE OF THE PERMANENT EASEMENT AT THE CONCLUSION OF THE PROJECT. CONTRACTOR SHALL REMOVE THE FENCE FROM THE EDGE OF THE PERMANENT EASEMENT.

ONCE ACCEPTABLE TEST RESULTS HAVE BEEN DEMONSTRATED BY THE CONTRACTOR, CONTRACTOR SHALL PERMANENTLY RESTORE ALL FENCES AT THE PRECONSTRUCTION LOCATIONS AND CONDITIONS IN ACCORDANCE WITH THE BASIC FENCING SPECIFICATION. RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT SPECIFICATIONS AND ANADIOS METROPOLITAN WATER DISTRICT SPECIFICATIONS AND STANDARDS OF CITY OF RIVERSIDE REQUIREMENTS AND STANDARDS WHICH EVER IS APPLICABLE. FENCING SPECIFICATION FOR EACH ARE ON FILE AT THE OFFICE OF THE ENGINEER.

IRRIGATION PIPELINES  
A. GENERAL  
PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL MEET WITH DISTRICT CITY OF RIVERSIDE COUNTY OF RIVERSIDE PARKS AND OPEN SPACE DISTRICT AND TORO REPRESENTATIVES. AT SAID MEETING, REPRESENTATIVES WILL EXPLAIN AND DEMONSTRATE IRRIGATION SYSTEM OPERATION.

CONTRACTOR IS ADVISED THAT EXISTING IRRIGATION PIPELINES WILL BE ENCOUNTERED DURING SITE CLEARING AND FORCE MAIN CONSTRUCTION. SAID IRRIGATION PIPELINES MAY HAVE INSUFFICIENT COVER.

B) STATIONS 13+50 TO 32+00  
PRIOR TO BEGINNING SITE CLEARING ALONG THE FORCE MAIN ALIGNMENT BETWEEN STATIONS 13+50 AND 32+00, CONTRACTOR SHALL INSTALL A TEMPORARY ABOVE GROUND IRRIGATION PIPELINE SUITABLE FOR 175 PSI WORKING PRESSURE. SAID PIPELINE SHALL BE LOCATED ADJACENT TO THE EDGE OF THE PRECONSTRUCTION EASEMENT. ONCE CONTRACTOR DEMONSTRATES TO THE SATISFACTION OF DISTRICT CITY OF RIVERSIDE COUNTY OF RIVERSIDE PARKS AND OPEN SPACE DISTRICT AND TORO REPRESENTATIVES AND SHALL DEMONSTRATE THAT THE EXISTING IRRIGATION PIPELINES OPERATE PROPERLY, CONTRACTOR SHALL BEGIN SITE CLEARING.

IN ADDITION, CONTRACTOR MAY BASED ON CONTRACTORS FIELD MEASUREMENTS BE REQUIRED TO RELOCATE THE EXISTING IRRIGATION PIPELINE AT STATION 31+70 IF THE VERTICAL ALIGNMENT OF EACH ARE IN CONFLICT.

AFTER FORCE MAIN CONSTRUCTION IS COMPLETE, CONTRACTOR SHALL MEET WITH DISTRICT CITY OF RIVERSIDE COUNTY OF RIVERSIDE PARKS AND OPEN SPACE DISTRICT AND TORO REPRESENTATIVES AND SHALL DEMONSTRATE THAT THE EXISTING IRRIGATION PIPELINES OPERATE TO THE SATISFACTION OF THE OWNERS. CONTRACTOR SHALL REPAIR ALL DEFECTS DISCOVERED DURING THE MEETING OR SUBSEQUENT TO THE MEETING TO THE SATISFACTION OF EACH OWNER OR USER. ONCE THE CONDITION AND OPERATION OF THE EXISTING IRRIGATION SYSTEM IS APPROVED BY THE DISTRICT, CONTRACTOR SHALL REMOVE AND DISPOSE OF TEMPORARY ABOVE GROUND IRRIGATION PIPELINE.

C) STATIONS 40+00 TO 58+00 AND 81+00 TO 87+00  
FOR THE EXISTING IRRIGATION FACILITIES BETWEEN STATIONS 40+00 AND 58+00 AND 81+00 AND 87+00, CONTRACTOR SHALL REMOVE SAME AND REPAIR TO ACCOMMODATE FORCE MAIN CONSTRUCTION. HOWEVER, CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM DISTRICT AND OWNER OF IRRIGATION FACILITY PRIOR TO REMOVING CONTRACTOR SHALL REPLACE REMOVED IRRIGATION PIPELINE AND DEMONSTRATE THAT THE IRRIGATION SYSTEM IS OPERATING PROPERLY.

PROTECTION OF VEGETATION  
CONTRACTOR SHALL REMOVE ONLY THE MINIMUM AMOUNT OF VEGETATION NECESSARY FOR THE CONSTRUCTION OF FACILITIES. ALL VEGETATION RESULTING FROM CONSTRUCTION CLEARING SHALL BE REMOVED FROM THE WORK SITE AND HAULED TO AND DISCARDED AT A LEGAL DISPOSAL SITE UNLESS SPECIFIED OTHERWISE.

REVEGETATION  
CONTRACTOR SHALL REVEGETATE THE DESIGNATED AREAS (STATION 60+85 TO 71+85 AND 111+20 TO 114+20 WITH NATIVE PLANT SPECIES. REVEGETATION SHALL BE COMPLETED IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS (SEE SPECIAL REQUIREMENTS SECTION 4) REVEGETATION).

PERMANENT ASPHALT CONCRETE PAVEMENT  
RIO ROAD BIKE TRAIL AND RIVERSIDE WASTEWATER TREATMENT PLANT  
PERMANENT ASPHALT CONCRETE PAVEMENT SHALL BE PLACED IN ACCORDANCE WITH THESE CONSTRUCTION NOTES, THE COUNTY ENCROACHMENT PERMIT REQUIREMENTS AND THE SPECIFICATIONS FOR THE CONSTRUCTION OF SANTA ANA RIVER BIKE TRAIL PHASE III AND CITY OF RIVERSIDE STANDARDS AND SPECIFICATIONS THE MOST STRINGENT REQUIREMENTS SHALL PREVAIL.

## 11. PREPARATION

CONTRACTOR SHALL SAW CUT PAVEMENT EDGES TO STRAIGHT, NEAT, VERTICAL EDGES EITHER PERPENDICULAR TO OR PARALLEL WITH THE TRENCH OR CENTERLINE OF THE BIKE TRAIL. ALL EXISTING PAVEMENT ADJACENT TO THE TRENCH THAT IS DAMAGED, UNDERMINED OR SCARRED AS DEFINED BY DISTRICT SHALL BE REMOVED AND REPLACED. CONTRACTOR SHALL EXCAVATE UNDERLYING 12" OF SUBGRADE AND COMPACT SUBGRADE TO 95% RELATIVE COMPACTION MINIMUM.

## 12. THICKNESS

PERMANENT ASPHALT CONCRETE PAVEMENT SHALL BE HOT PLACED TO 5" THICKNESS MINIMUM (4" BASE PAVEMENT PLUS 1" PAVEMENT OVERLAY) PLACED OVER 10" OF CLASS 2 BASE COMPACTED TO 95% RELATIVE COMPACTION MINIMUM. ALL LIFTS EXCEPT THE FINAL LIFT (OVERLAY) SHALL BE PLACED WITH A BARBER GREENE OR APPROVED EQUAL.

## 13. ASPHALT CONCRETE PAVEMENT SPECIFICATIONS

AS A MINIMUM, CONTRACTOR SHALL PLACE THE ASPHALT CONCRETE PAVEMENT OVERLAY (1" MINIMUM THICKNESS) OVER THE ENTIRE WIDTH OF ALL TRAVEL LANES DISTURBED BY RIO ROAD.

FOR THE BIKE TRAIL PAVEMENT, CONTRACTOR SHALL PLACE ASPHALT CONCRETE OVERLAY (1" MINIMUM THICKNESS) BASED ON CONTRACTORS PRECONSTRUCTION SURVEY.

FOR CITY OF RIVERSIDE WASTEWATER TREATMENT PLANT, CONTRACTOR SHALL PLACE ASPHALT CONCRETE PAVEMENT OVERLAY OVER THE TRENCH TO A MINIMUM OF 1' BEYOND EACH EDGE OF TRENCH.

EDGES SHALL BE STRAIGHT AND PARALLEL WITH TRENCH OR TRAVEL LANE AS DETERMINED BY DISTRICT AND EDGES SHALL BE FEATHERED TO MEET EXISTING PAVEMENT. AFTER PLACEMENT, PAVEMENT SHALL NOT VARY MORE THAN 0.01' FROM A STRAIGHT EDGE PLACED ACROSS THE LIMITS OF OVERLAY.

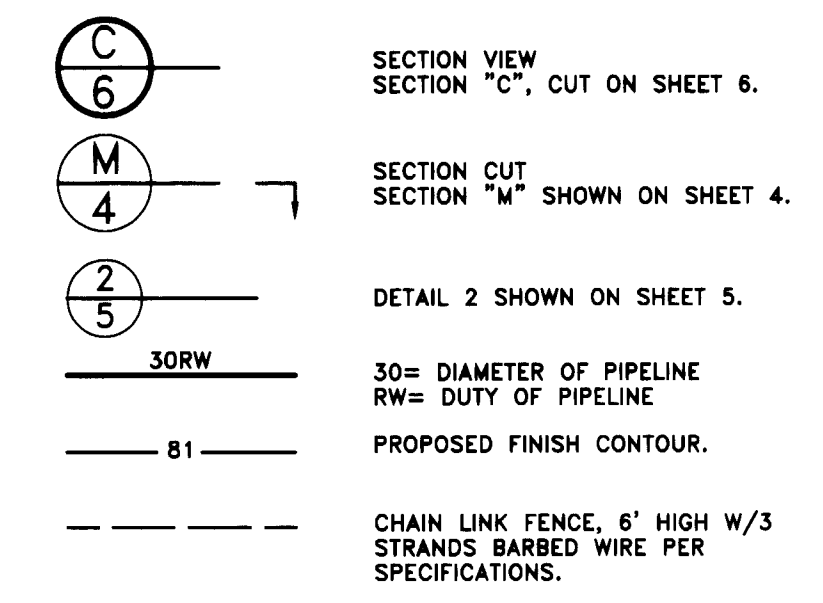
PAVEMENT AND ITS PLACEMENT SHALL COMPLY WITH THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, JANUARY 1988, AND COUNTY STANDARDS. THE FIRST LIFT SHALL BE 1/2" MAXIMUM, MEDIUM MAX. 4000. THE SECOND LIFT SHALL BE 3/4" MAXIMUM, 4000.

ADJUST TO GRADE  
AFTER ASPHALT CONCRETE OVERLAY IS COMPLETED, CONTRACTOR SHALL ADJUST ALL MANHOLES, VAULTS, AND VALVES TO GRADE.

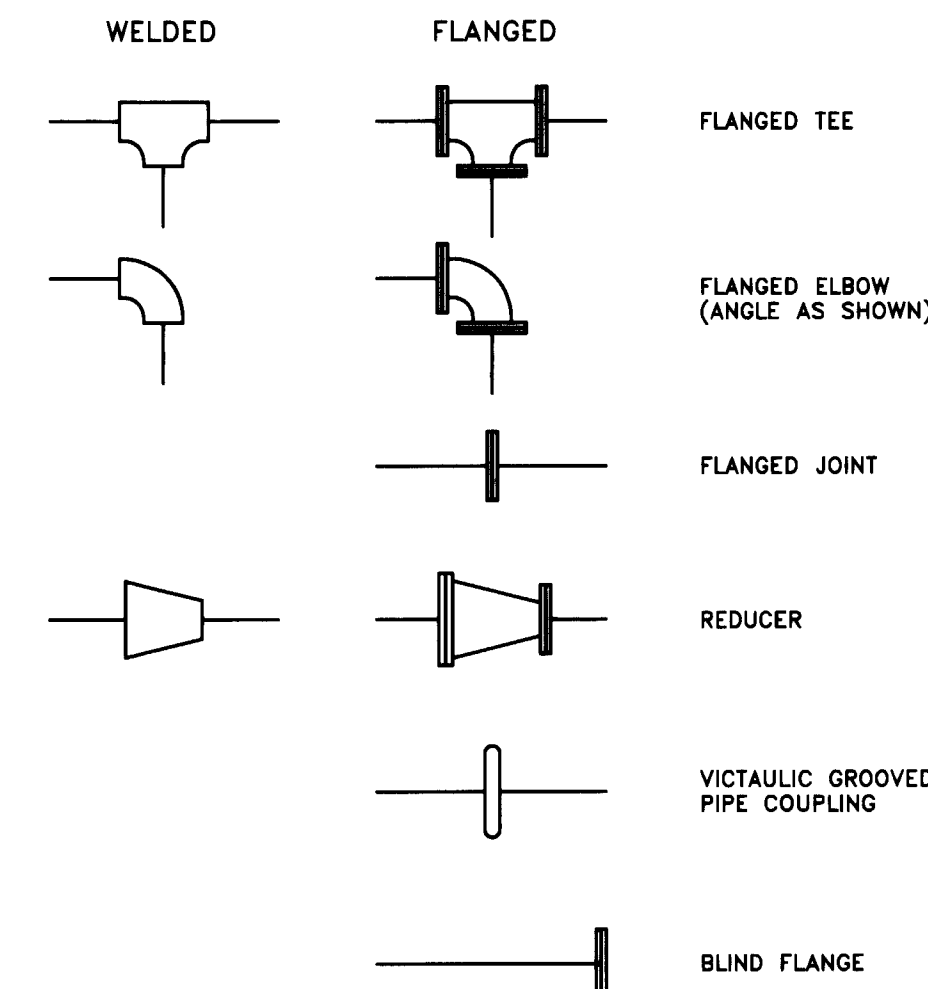
FOG SEAL  
CONTRACTOR SHALL PLACE A FOG SEAL ON ASPHALT CONCRETE AND DUCTILE IRON PIPE ALTERNATE. CONTRACTOR SHALL INSTALL TRANSPORTATION DEPARTMENT ENCROACHMENT PERMIT.

TRAFFIC SIGNING AND STRIPING  
CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING SIGNS.

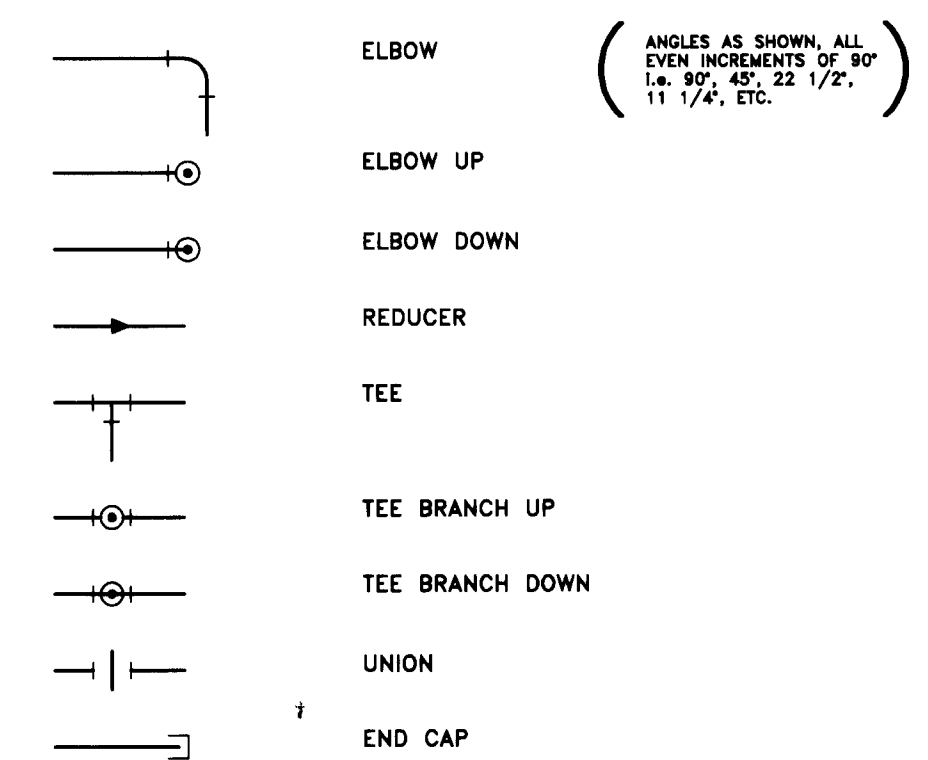
**SYMBOLS AND LEGEND**



**FITTING SYMBOLS**

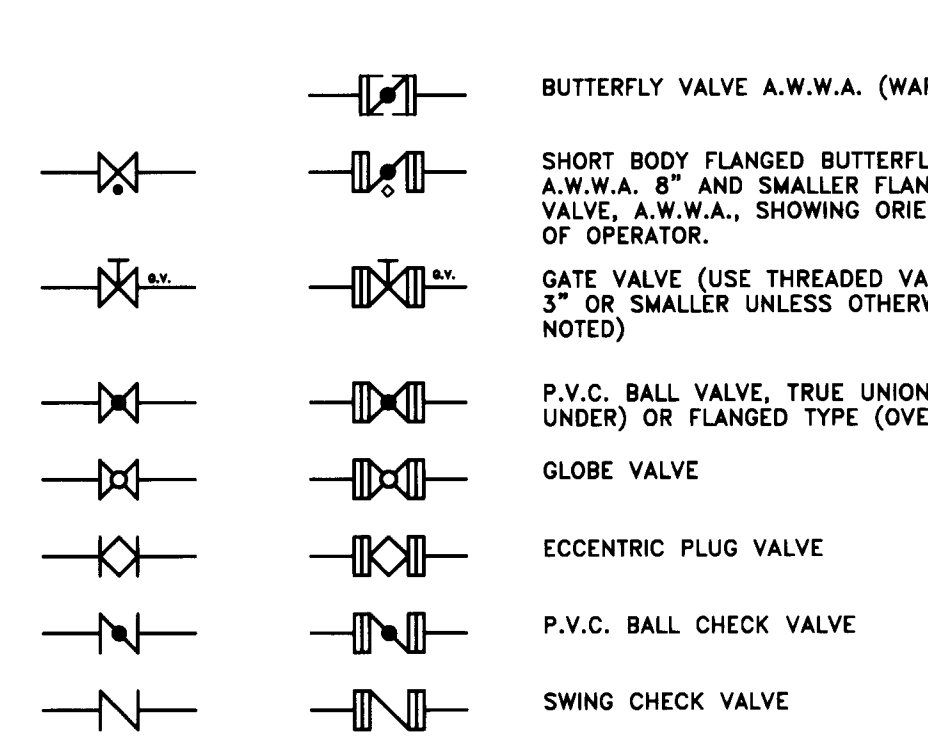


**SYMBOLS THREADED AND SOLVENT-WELDED FITTINGS**



**VALVES**

ALL METAL VALVES SHALL BE FLANGED, UNLESS NOTED OTHERWISE.



**ABBREVIATIONS AND NOTATIONS**

AC	ASPHALT CONCRETE
AL	ALUMINUM
AS	AS SHOWN
BOT	BOTTOM
C	CONDUIT OR CONDUCTOR
CL	CENTERLINE
CRT. CT	LIGHTING PANEL CIRCUIT
CL EL	CENTERLINE ELEVATION
CLR	CLEAR, CLEARANCE
CO	CONDUIT ONLY (MIN 3/4") WITH CAP OR PLUG AT ENDS AND PULL CHORD
CONT	CONTINUOUS
DI	DUCTILE IRON
DIP	DUCTILE IRON PIPE
E	EAST COORDINATE
EG	EXISTING GRADE ELEVATION
EL	ELEVATION
EW	EACH WAY
EX. EXIST	EXISTING
FF. FIN. FLR	FINISH FLOOR ELEVATION
FG	FINISHED GRADE ELEVATION
FL	FLOW LINE ELEVATION
FLG	FLANGE
FRP	FIBERGLASS REINFORCED POLYESTER
FUT	FUTURE CONSTRUCTION
GAL	HOT DIPPED GALVANIZED
GIP	GALVANIZED IRON PIPE (STD. WT.)
HB	HOSE BIB
HGD	HOT DIP GALVANIZED OR HOT DIP GALVANIZED ELECTRICAL RIGID CONDUIT (SCHED. 40)
HOA	HAND-OFF-AUTOMATIC SELECTOR SWITCH
HMWL	HIGH WATER LEVEL
HMWL	HIGH HIGH WATER LEVEL
INV	INVERT ELEVATION
LLH	LONG LEG HORIZONTAL
LWL	LOW WATER LEVEL
LLWL	LOW LOW WATER LEVEL
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MJ	MECHANICAL JOINT CONNECTION
N	NORTH COORDINATE
PF	POWER FEEDER PER SINGLE LINE DIAGRAM
P	PROPERTY LINE
PL	PLATE
PLCS	PLACES
PS-1	PIPE SUPPORT TYPE 1, 2, ETC. REFER TO MISCELLANEOUS DETAILS AND STANDARD DRAWINGS
PVC	POLYVINYL CHLORIDE
PW	POTABLE WATER
R	RADIUS
SCH. SCHED	SCHEDULE
SPEC	BOUND SPECIFICATIONS, TWO VOLUMES - PART OF CONTRACT DOCUMENTS
SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION)
S STL. SS	STAINLESS STEEL
STD DWG	STANDARD DRAWING - REFER TO BOUND SPECIFICATION
STL	STEEL
T & B	TOP AND BOTTOM
TC	TOP OF CONCRETE ELEVATION
TD	TOP OF DRAIN
TG	TOP OF GRATE ELEVATION
TS	TOP OF SLAB
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
UNO UNO	UNLESS NOTED OTHERWISE
VCP	VITRIFIED CLAY PIPE (EXTRA STRENGTH)
WP	WATERPROOF
WS	WATER SURFACE
WW	WASH WATER
	DENOTES A DIMENSION DEPENDENT UPON THE EQUIPMENT FURNISHED DIMENSION TO BE VERIFIED PRIOR TO CONSTRUCTION AND PRIOR TO ORDERING EQUIPMENT DEPENDENT UPON DIMENSION CONTRACTOR TO VERIFY DIMENSION WITH ACTUAL EQUIPMENT DELIVERED TO SITE SEE GENERAL CONSTRUCTION NOTES
	P.V.C. BALL VALVE, TRUE UNION (4\"/>

**GENERAL**

- EQUIPMENT AND MATERIALS, INCLUDING PIPING, VALVES, FITTINGS, DRAINS, PIPE SUPPORTS, ETC. ARE SHOWN ON THE DRAWINGS BY SYMBOLS HEREON. SIZE IS SHOWN AS STANDARD CALL OUT WITH SIZE AND PIPE DUTY. MATERIAL DESCRIPTION LISTS WHERE PROVIDED ARE FOR CLARITY AND SPECIAL ITEMS ON SOME DRAWINGS. NOT ALL EQUIPMENT, PIPING, VALVES, AND FITTINGS ARE INCLUDED IN MATERIAL DESCRIPTION LISTS. CONTRACTOR SHALL FURNISH AND INSTALL EQUIPMENT AND MATERIALS AS SHOWN ON THE DRAWINGS BY SYMBOL AND PER MATERIAL DESCRIPTION LISTS INCLUDING MINOR PIPE FITTINGS, ADAPTERS AND APPURTENANCES NECESSARY TO PROVIDE COMPLETE OPERABLE SYSTEMS.
  - ASTERISK (\*) DENOTES A DIMENSION DEPENDENT UPON ACTUAL EQUIPMENT FURNISHED DIMENSION TO BE VERIFIED PRIOR TO CONSTRUCTION AND PRIOR TO ORDERING EQUIPMENT DEPENDENT UPON DIMENSION CONTRACTOR SHALL FIELD VERIFY DIMENSIONS WITH ACTUAL FABRICATED EQUIPMENT DELIVERED TO PROJECT CONTRACTOR SHALL ALLOW FOR ADJUSTMENTS TO CONNECTIONS TO EQUIPMENT DUE TO FABRICATION TOLERANCES AND INSTALLATION TOLERANCES.
  - CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND CROSS CHECK DETAILS AND DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS WITH RELATED REQUIREMENTS OF THE CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS AND EQUIPMENT SHOP DRAWINGS. FLOOR AND WALL OPENINGS, SLEEVE, VARIATIONS IN THE STRUCTURAL SLAB ELEVATIONS AND OTHER CIVIL, MECHANICAL, OR ELECTRICAL REQUIREMENTS MUST BE COORDINATED BEFORE CONTRACTOR PROCEEDS WITH CONSTRUCTION.
  - IN ALL CASES WHERE A CONFLICT MAY OCCUR, SUCH AS ITEMS COVERED BY SPECIFICATIONS, NOTES ON THE DRAWINGS, OR BETWEEN GENERAL NOTES AND SPECIFIC DETAILS, THE OWNER SHALL BE NOTIFIED AND THE WELL INTERPRET THE INTENT OF THE CONTRACT DOCUMENTS.
  - IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON DRAWINGS.
  - THE PRECISE DIMENSIONS AND LOCATIONS OF ALL OPENINGS SHALL BE DETERMINED FROM STRUCTURAL, CIVIL, MECHANICAL, ELECTRICAL, OR SIMILAR REQUIREMENTS FOR THE ACTUAL EQUIPMENT BEING FURNISHED. SHOP DRAWINGS WITH ADEQUATE AND ACCURATE DIMENSIONS MUST BE SUBMITTED AND REVIEWED PRIOR TO CONTRACTOR CONSTRUCTING FACILITIES, INCLUDING CONNECTING PIPING OR ELECTRICAL, THAT ARE AFFECTED BY SAID EQUIPMENT.
  - CONTRACTOR SHALL COORDINATE WORK WITH OWNER AND SHALL RESTRICT WORK ACTIVITIES GENERALLY TO THE PROJECT SITE. CONTRACTOR SHALL NOT OPERATE ANY EQUIPMENT (INCLUDING VALVES) OR IN ANY WAY ALTER THE REGIONAL CONVEYANCE FACILITIES OPERATION WITHOUT PRIOR WRITTEN APPROVAL BY OWNER. CONTRACTOR SHALL NOT INTERFERE NOR INTERRUPT THE OPERATION OF THE EXISTING REGIONAL WASTEWATER CONVEYANCE FACILITIES, EXCEPT AS SPECIFICALLY APPROVED BY THE OWNER. CONTRACTOR SHALL FOLLOW THE SEQUENCE OF WORK SPECIFIED AND SUBMIT A SCHEDULE FOR CONNECTING TO EXISTING PIPING. BY-PASS OPERATIONS, START UP OF NEW FACILITIES, MODIFICATION OF EXISTING FACILITIES, CONVERSION OF EXISTING FACILITIES AND TEMPORARY EQUIPMENT RELOCATIONS TO ALLOW CONSTRUCTION AND CONTINUOUS STATION OPERATION. UNLESS SPECIFIED OTHERWISE, A MINIMUM OF 10 WORKING DAYS NOTICE TO THE OWNER IS REQUIRED PRIOR TO CONNECTION TO EXISTING FACILITIES.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROJECT SITE SECURITY. LIFT STATION AT TREATMENT PLANT SITE SHALL REMAIN SECURED BY 6 FOOT CHAIN LINK FENCE AT ALL TIMES WHEN CONTRACTOR IS NOT ON SITE. AREA MUST BE SECURE AT END OF EACH WORK DAY. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AS REQUIRED.
  - CONTRACTOR SHALL PROVIDE HIS OWN SANITARY AND OFFICE FACILITIES INCLUDING TELEPHONE AND ELECTRIC POWER. CONTRACTOR SHALL NOT UTILIZE OWNER'S FACILITIES OR CITY OF RIVERSIDE FACILITIES. CONTRACTOR SHALL ARRANGE TO OBTAIN TEMPORARY CONSTRUCTION POWER FROM EITHER CALIFORNIA Edison AND PAY ALL EXPENSES FOR SAME. CONTRACTOR SHALL PAY MONTHLY CHARGES AND POWER CONSUMPTION COSTS FOR HIS SERVICE. CONTRACTOR MAY UTILIZE THE OWNER'S ELECTRICAL POWER SERVICE FOR WORK PERFORMED AT THE REGIONAL LIFT STATION.
  - PROTECTION OF EXISTING PIPING, VALVES, AND ELECTRICAL CONDUIT, AND CONDUCTORS ARE SHOWN BASED ON OWNER'S EXISTING RECORDS. CONTRACTOR SHALL EXERCISE CARE DURING EXCAVATIONS TO AVOID DAMAGE TO SAID FACILITIES. AS FIRST ITEM OF WORK CONTRACTOR SHALL EXCAVATE AND EXPOSE EXISTING FACILITIES IN LOCATIONS WHERE NEW FACILITIES ARE PROPOSED, TO ESTABLISH THEIR EXACT LOCATION AND SIZE, AND DETERMINE IF THERE WILL BE INTERFERENCE WITH PROPOSED FACILITIES. OWNER SHALL BE NOTIFIED OF SAID INTERFERENCES IMMEDIATELY TO DETERMINE MODIFICATION OF PROPOSED FACILITIES OR RELOCATION OF EXISTING FACILITIES.
  - ALL WEDGE ANCHORS, SLEEVE ANCHORS, ANCHOR BOLTS, MACHINE BOLTS, LAG SCREWS AND FASTENERS SHALL BE 304 STAINLESS STEEL, UNO. NUTS SHALL BE COPPER-SILICON ALLOY AND WASHERS SHALL BE TYPE 303 OR 304 STAINLESS STEEL.
  - UNSTRUT SUPPORTS FOR SUPPORT OF PIPING AND ELECTRICAL CONDUIT WHERE SPECIFIED ON THE DRAWINGS SHALL CONSIST OF 1.58" X 1.58" X 12 GA. STRUT CHANNEL ANCHORED TO CONCRETE WITH 3/8" EXPANSION ANCHORS AND ANCHORED TO WOOD WITH 3/8" LAG SCREWS. PROVIDE CLAMP NUTS, PIPE AND CONDUIT CLAMPS, AND END FITTINGS AS NECESSARY FOR COMPLETE SUPPORT SYSTEM. SUPPORTS SHALL BE HOT DIPPED GALVANIZED ENDS OF STRUT CHANNEL WHERE CUT SHALL BE SMOOTHED, GROUND FREE OF BURRS AND NEATLY COATED WITH GALVANIZED REPAIR COATING. SUPPORTS SHALL BE INSTALLED AT 8'-0" MAXIMUM SPACING.
- WOOD CONSTRUCTION/WORK CONSTRUCTION**
- ALL CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH CHAPTER 23 OF THE UNIFORM BUILDING CODE, LATEST EDITION.
  - ALL LUMBER SHALL BE DOUGLAS FIR-LARCH NO. 1 WITH MINIMUM 1500 PSI ALLOWABLE FIBER BENDING STRESS FOR SINGLE MEMBER USES.
  - ALL PLYWOOD USED SHALL BE IN ACCORDANCE WITH U.S. PRODUCT STANDARD PS-1-83.
  - ROOF SHEATHING SHALL BE 5/8" APA RATED SHEATHING, 3216, EXPOSURE 1. PLYWOOD NAILING PATTERNS ARE DESCRIBED ON THE DRAWINGS.
- CONCRETE CONSTRUCTION**
- ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE BASIC CONCRETE SPECIFICATIONS, BASIC CONCRETE FORMWORK SPECIFICATIONS, AND BASIC CONCRETE REINFORCEMENT SPECIFICATIONS, AND NOTES HEREON, UNLESS NOTED OTHERWISE. ALL CONCRETE INCLUDING SLABS, WALLS, AND TANKS AND THEIR FOUNDATIONS SHALL BE PLACED ON EARTH COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 95% AT A DEPTH OF 12" MINIMUM. ALL CONCRETE SHALL BE CLASS "A" STRUCTURAL CONCRETE UNLESS INDICATED OTHERWISE ON DRAWINGS. FOR ALL CONCRETE USE TYPE V PORTLAND CEMENT.
  - FORMWORK, CURING, AND BACKFILL
    - ALL CURING SHALL BE IN ACCORDANCE WITH SECTION 3.09 OF THE BASIC CONCRETE SPECIFICATIONS.
    - FOUNDATIONS
      - CURE PER SPECIFICATIONS. MINIMUM TIME TO STRIP FORMS AND BEGIN BACKFILLING AGAINST FOUNDATION IS 72 HOURS FROM COMPLETION OF PLACEMENT. MINIMUM CURE TIME PRIOR TO PLACING CONCRETE WALLS IS 14 DAYS. SLABS SHALL BE PROTECTED UNTIL THAT TIME.
      - WALLS
        - CURE PER SPECIFICATION. FORMS MAY BE STRIPPED AND CONSTRUCTION CAN COMMENCE FOR NEXT WALL PLACEMENT AFTER A MINIMUM OF 72 HOURS FROM END OF PREVIOUS PLACEMENT. BACKFILLING AGAINST WALLS MAY COMMENCE AFTER 14 DAYS AND 75% OF DESIGN STRENGTH ARE REACHED. TEST CYLINDERS SHALL BE CURED IN FIELD.
        - TOP SUSPENDED SLAB AND BEAMS
          - CURE PER SPECIFICATION. FORMS SHALL REMAIN IN PLACE UNTIL A MINIMUM OF 14 DAYS AND 100% OF DESIGN STRENGTH ARE REACHED. TEST CYLINDERS SHALL BE CURED IN FIELD.
    - CONCRETE FINISHING
      - GRADE SLABS, FLOOR SLABS AND ROOF SLABS SHALL RECEIVE A CLASS "2" FINISH WITH A LIGHT BROOM AFTER TROWELING AS APPROVED BY OWNER.
      - ALL EXPOSED EXTERIOR FORMED CONCRETE SHALL RECEIVE AN ARCHITECTURAL FINISH PER BASIC CONCRETE SPECIFICATIONS.
      - REFER TO SECTION 3.07 OF THE BASIC CONCRETE SPECIFICATIONS FOR SURFACE FINISHES OF ITEMS NOT MENTIONED ABOVE.

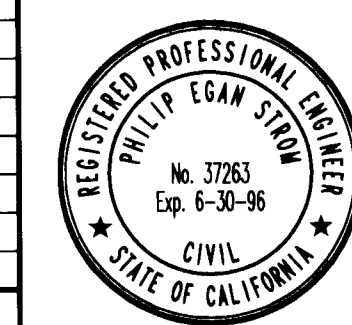
- THE LOCATION OF ALL CONSTRUCTION JOINTS NOT SPECIFICALLY NOTED OR SHOWN SHALL BE APPROVED BY THE OWNER.
  - ALL WATER HOLDING STRUCTURES SHALL BE PROVIDED WITH WATERSTOPS AT ALL JOINTS IN EXTERIOR WALLS. WATERSTOP SHALL BE GREENBRETHER PVC STYLE 752 (8" WIDE) AT JOINTS WITHIN NEW CONCRETE. INSTALL PVC WATERSTOP PER BASIC CONCRETE SPECIFICATION AT JOINTS BETWEEN NEW AND EXISTING CONCRETE. WATERSTOP SHALL BE VOLCLAY WATERSTOP-EX AS MANUFACTURED BY AMERICAN COLLOID CO. WATERSTOP SHALL BE ATTACHED TO EXISTING CONCRETE WITH VOLCLAY RX PRIMER. JOIN TO 8" PVC WATERSTOP BY FORMING SLOT IN VOLCLAY WATERSTOP TO RECEIVE PVC WATERSTOP. INSTALL VOLCLAY WATERSTOP IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  - JOINT BEGINS IN ALL CONCRETE SHALL BE PLACED IN ALL HORIZONTAL AND VERTICAL JOINTS OF ALL CAST-IN-PLACE EXTERIOR WALLS. PROVIDE 1" WIDE X 1/2" DEEP FORMED GROOVE FOR JOINT SEALANT. SEALANT STRIP MATERIAL AND INSTALLATION PROCEDURE SHALL BE PER BASIC CONCRETE SPECIFICATION.
  - THE HOLES AND CONCRETE HOLES SHALL BE FILLED OR REPAIRED PER BASIC CONCRETE SPECIFICATION.
  - AT OPENINGS IN REINFORCED CONCRETE STRUCTURES WHERE NORMAL REINFORCEMENT IS INTERRUPTED ADDITIONAL REINFORCEMENT SHALL BE PROVIDED AS FOLLOWS:
    - OPENINGS IN WALLS WITH TWO LAYERS OF REINFORCEMENT
      - ADDITIONAL BARS (HORIZONTAL AND VERTICAL) WITH TOTAL AREA EQUIVALENT TO TOTAL AREA OF INTERRUPTED BARS SHALL BE PLACED ON EACH SIDE OF OPENING AT EACH FACE OF WALL. ADDITIONAL BARS SHALL BE EQUALLY DISTRIBUTED (I.E. ONE-HALF OF AREA ON EACH SIDE). BARS SHALL EXTEND 22" MINIMUM PAST THE OPENING.
      - ADDITIONAL DIAGONAL BARS SHALL BE PROVIDED AT EACH FACE OF WALL. SIZE OF DIAGONAL BARS SHALL BE THE SIZE OF THE LARGEST NORMAL REINFORCEMENT INTERRUPTED BY THE OPENING. BARS SHALL BE PLACED WITH 2" CLEARANCE TO OPENING AND EXTEND 20" MINIMUM PAST THE OPENING (TANGENT TO OPENING IF CURVED).
    - BEND BARS AS REQUIRED AT FOUNDATIONS AND INTERSECTING WALLS.
  - WHERE INDICATED ON THE CONSTRUCTION DRAWINGS, EPOXY REBAR DOWELS AND ANCHOR BOLTS SHALL BE INSTALLED IN EXISTING REINFORCED CONCRETE STRUCTURES UNLESS NOTED OTHERWISE. REBAR DOWELS SHALL BE ASTM A615 GRADE 60 STEEL AND ANCHOR BOLTS SHALL BE 316 STAINLESS STEEL THREADED ROD. REBAR DOWELS AND ANCHOR BOLTS SHALL BE INSTALLED TO THE DEPTHS SHOWN ON THE DRAWINGS. HOLES SHALL BE DRILLED 1/16" LARGER THAN THE DOWEL OR ANCHOR BOLT DIAMETER WHERE SAID DIAMETER IS 1/2" DIAMETER WHEN SAID DIAMETER IS GREATER THAN 1/2". UNLESS NOTED OTHERWISE, REBAR DOWELS AND ANCHOR BOLTS SHALL BE EPOXY WITH THE ITM RAMMED/HEAD TAPON SYSTEM. PRIOR TO INJECTING EPOXY EACH DRILLED HOLE SHALL BE CLEANED OUT WITH A NYLON BRUSH. CONTRACTOR SHALL INSTALL DOWELS AND ANCHOR BOLTS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
- PIPES/VALVES**
- PIPING AND VALVES SHALL BE FURNISHED AND INSTALLED PER BASIC SEWER SPECIFICATIONS. RAW SEWAGE PIPELINE MATERIALS SHALL BE AS SHOWN ON THE DRAWINGS. FLANGED AND GROOVED DIP SHALL BE MINIMUM CLASS 3 PER AWWA C151. GROOVED DIP SHALL BE PROVIDED WITH THREADED DUCTILE IRON FLANGES PER AWWA C115. GROOVED DIP AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF AWWA C608. FLANGED JOINTS SHALL BE PROVIDED WHERE SHOWN. WHERE SHOWN RESTRAINED JOINTS SHALL BE FLANGED VICTAULIC (GROOVED TYPE), U.S. PIPE FIELD LOK GASKET, OR EQUAL. THRUST BLOCKS SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD DRAWINGS.
  - POTABLE WATER AND WASH WATER PIPE MATERIALS SHALL BE SCHEDULE 40 PVC WHERE BURIED AND SCHEDULE 40 GIP WHERE EXPOSED. TRANSITION SHALL BE AT BELOW GRADE GIP ELBOW.
  - UNLESS OTHERWISE SPECIFIED, FLANGE BOLTS SHALL BE STANDARD HEX HEAD MACHINE PER ASTM A325. NUTS SHALL BE HEAVY HEX COLD-PRESS SEMI-FINISHED STEEL PER ASTM A194, 2H. THREADS SHALL BE LUBRICATED WITH AN APPROVED ANTI-SIZE COMPOUND. BELOW GRADE, ALL EXPOSED STEEL SHALL BE FIELD COATED WITH AN APPROVED BITUMASTIC.
  - PIPELINES SHALL BE STRAIGHT GRADE BETWEEN ELEVATIONS SHOWN. CONTRACTOR SHALL PROVIDE SHORTS, SPOOLS, AND FITTINGS TO MEET ELEVATIONS SPECIFIED.
  - VALVES SHALL BE AS SPECIFIED, AS LISTED IN EQUIPMENT AND MATERIALS DESCRIPTIONS, AND AS SHOWN BY SYMBOL ON THE DRAWINGS.
  - PIPE SHALL BE INSTALLED IN TRENCH CONDITION AND AS SPECIFIED IN THE BASIC SEWER SPECIFICATIONS. BACKFILL SHALL BE COMPLETED INCLUDING COMPACTION TESTS PRIOR TO PRESSURE TESTING. BACKFILL IN PIPE ZONE SHALL BE COMPACTED BY HAND TAMPING TO MINIMUM 90% COMPACTION UNLESS OTHERWISE SPECIFIED.
  - ALL PRESSURE PIPE SHALL BE HYDROSTATIC AND LEAK TESTED PER SPECIFICATIONS AND AS MODIFIED HEREIN. CONTRACTOR SHALL INSTALL BULKHEADS AND TOP OUTLETS AS REQUIRED FOR TESTING. DIP PIPING SYSTEM SHALL BE TESTED AT 150 PSI FOR HYDROSTATIC AND LEAK TESTS. PW AND WW PIPING SYSTEMS SHALL BE CONDUCTED CLASS 3 HYDROSTATIC AND LEAK TESTS. PW PIPING SYSTEM SHALL BE DISINFECTED PER BASIC PIPELINE SPECIFICATION.
  - EXPOSED PIPING SHALL NOT LEAK. ALL LEAKS SHALL BE REPAIRED IN A MANNER ACCEPTABLE TO THE OWNER.
  - DUCTILE IRON (DI) FITTINGS SHALL BE CLASS 250 (FLANGED) OR CLASS 350 (MECHANICAL JOINT) AND SHALL CONFORM TO AWWA C110 AND C111.
  - BURIED VALVES SHALL BE INSTALLED PER STANDARD DRAWING W111. UNLESS OTHERWISE SPECIFIED, VALVE BOXES SHALL BE DESIGNATED "SEWER".
  - UPON COMPLETION OF ALL PAINTING AND COATING, ALL EXPOSED PIPING SHALL BE LABELED WITH PIPE DESIGNATION (AS SELECTED BY OWNER) AND DIRECTION ARROWS AS SPECIFIED IN THE BASIC COATING AND PAINTING SPECIFICATION FOR WATER AND WASTEWATER FACILITIES.
  - UNLESS OTHERWISE SPECIFIED, ALL BURIED PIPING SHALL BE INSTALLED WITH 30" MINIMUM COVER.
- ELECTRICAL NOTES**
- CONTRACTOR TO INSTALL CONDUIT AND ELECTRICAL EQUIPMENT IN LOCATION THAT WILL CAUSE MINIMAL INTERFERENCE WITH THE MAINTENANCE AND REMOVAL OF MECHANICAL EQUIPMENT. CONDUITS AND FLEX CONNECTIONS ARE SHOWN SCHEMATICALLY. CONTRACTOR SHALL RUN CONDUIT IN NEAT MANNER AND TOGETHER WITH PARALLEL RUNS, AND SUPPORT WITH UNISTRUT OR EQUAL. CONTRACTOR SHALL SUBMIT PLAN SHOWING EXACT LOCATION PROPOSED FOR CONDUIT FOR OWNER'S REVIEW AND APPROVAL PRIOR TO INSTALLATION.
  - GROUNDING SHALL BE AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE, LATEST EDITION.
  - CONDUCTORS 250 MCM OR SMALLER SHALL BE STRANDED COPPER WITH 75 DEGREE C THWN OR THHN INSULATION. MIN 90% UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS. CONDUCTORS LARGER THAN 250 MCM SHALL BE STRANDED COPPER WITH 75 DEGREE C XHHW INSULATION.
  - DEVICE BOXES SHALL BE CROUSE-HINDS CO. CONDUIT CAST DEVICE BOXES SINGLE OR MULTIGANG AS REQUIRED. W/TH MOUNTING BOXES SHALL BE FURNISHED WITH MOUNTING LUGS. COVERS SHALL BE STAINLESS STEEL SUITED FOR RESPECTIVE USE. BOXES SHALL BE WATERPROOF TYPE WHERE LOCATED OUT-OF-DOORS.
  - JUNCTION BOXES SHALL BE CROUSE-HINDS CO. TYPE WAB CAST BOX DRILLED AND TAPPED OR WITH FIBER INSULATED BOXES. TYPE RB CAST BOX WITH CONDUIT HUB PLATES. SUITABLE FOR CONDUITS REQUIRED. SIZE SHALL BE MIN 4" X 4" X 3" OR LARGER IF SPECIFIED. BOXES SHALL BE SUPPORTED BY CONDUITS THROUGH FLOOR SLAB PROVIDED WITH FEET FOR WALL MOUNTING OR MOUNTING WITH UNISTRUT SUPPORTS. BOXES SHALL BE WATERPROOF WHERE LOCATED OUT-OF-DOORS.
  - ALL BOXES SHALL BE ADEQUATELY SIZED FOR REQUIRED CIRCUITRY. MOUNTING TO WALLS SHALL BE PROVIDED BY EXPANSION ANCHORS. MOUNTING TO HANDRAIL SHALL BE PROVIDED BY MOUNTING GALVANIZED STEEL PLATE TO HANDRAIL AND BOX TO PLATE.
  - APPLETON COMPANY BOXES ARE AN ACCEPTABLE ALTERNATIVE TO CROUSE-HINDS COMPANY.
  - NAMEPLATES SHALL BE PROVIDED IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS. THEY SHALL BE LAMINATED PLASTIC WITH 1/8" (MIN) WHITE LETTERING ON BLACK BACKGROUND AND THEY SHALL BE FASTENED WITH STAINLESS STEEL DRIVE SCREWS OR ESCUTCHEON PINS. NAMEPLATES SHALL BE PROVIDED FOR ALL STATIONS, MCC SECTIONS AND ELECTRICAL EQUIPMENT.

- UNDERGROUND CONDUIT AND CONDUIT CAST IN CONCRETE SHALL BE MINIMUM 3/4" DIA. RIGID SCH. 40 STEEL HDG AND DOUBLE WRAPPED. UNLESS NOTED OTHERWISE, BURIED CONDUIT SHALL BE INSTALLED WITH A MINIMUM OF 24" COVER.
  - EXPOSED CONDUITS OUT OF DOORS SHALL BE MINIMUM 3/4" DIA. RIGID SCH. 40 STEEL HDG AND MOUNTED WITH UNISTRUT SUPPORTS OR CONDUIT CLAMPS AT 8'-0" MAXIMUM SPACING UNLESS OTHERWISE SHOWN. PROVIDE 3/8" LAG SCREWS FOR SUPPORTS OR CLAMPS ATTACHED TO CONCRETE. PROVIDE 1/2" DIA. UNISTRUT SUPPORTS OR CLAMPS ATTACHED TO CONCRETE (SLEEVE ANCHORS FOR MASONRY BLOCK).
  - EXPOSED CONDUITS INDOORS SHALL BE MINIMUM 3/4" DIA. RIGID SCH. 40 STEEL HDG AND MOUNTED WITH UNISTRUT SUPPORTS OR CONDUIT CLAMPS AT 8'-0" MAXIMUM SPACING UNLESS OTHERWISE SHOWN.
  - SPARE CONDUITS SHALL UNLESS SPECIFIED AS FLUSH, EXTEND MINIMUM 2 INCHES ABOVE SLAB AND ALL SHALL BE PROVIDED WITH THREADED CAPS OR PLUGS AND PULL CHORD.
  - CONTRACTOR SHALL USE STAINLESS STEEL EXPANSION ANCHORS FOR MOUNTING ELECTRICAL EQUIPMENT. NO TYPE OF EXPANSIVE ANCHOR WILL BE PERMITTED.
  - CONNECTION FROM JUNCTION BOX OR CONDUIT TO MOTOR OR EQUIPMENT TERMINAL BOX SHALL BE WITH FLEXIBLE CONDUIT. ALL FLEXIBLE CONDUIT SHALL BE LIQUID-TIGHT AND SHALL HAVE AN INTERLOCKED FLEXIBLE GALVANIZED STEEL CORE WITH PERMANENTLY BONDED CONTINUOUS EXTERIOR GRAY POLYVINYL CHLORIDE JACKET. EXTERIOR FLEXIBLE CONDUIT SHALL BE UV PROTECTED.
  - CONTRACTOR SHALL SUBMIT ELECTRICAL SHOP DRAWINGS INCLUDING COMPLETE CONTROL DIAGRAMS AND COMPLETE INTERCONNECT DIAGRAMS WITH APPROPRIATE TERMINAL NUMBERING. COMPLETE AS BUILT DRAWINGS SHALL BE SUBMITTED AFTER CONSTRUCTION IS COMPLETE.
  - OPERATION DESCRIPTION IS SPECIFIED TO DESCRIBE DESIRED OPERATION AND CONTROL OF EQUIPMENT. CONTRACTOR SHALL PROVIDE ALL CONTROL EQUIPMENT NECESSARY FOR COMPLETE OPERATION OF ALL EQUIPMENT AS SPECIFIED.
  - MCC ELEVATIONS SHOW APPROXIMATE SPACE REQUIREMENTS FOR EQUIPMENT LAYOUT. SHALL INCLUDE ELEVATION VIEW OF MCC. EXTERIOR CONTROL PANELS SHALL BE ANSI 48 LIGHT GRAY MAIN CONTROL PANEL AND VFD PANEL. INTERIORS AND MOUNTING PANS SHALL BE WHITE.
  - AFTER INSTALLATION IS COMPLETE THE CONTRACTOR SHALL CHECK ALL CONTROLS BY SIMULATING ALL OPERATING CONDITIONS WITH THE OWNER PRESENT. SUBSEQUENT START-UP OF FACILITIES SHALL BE PERFORMED BY THE CONTRACTOR AND SHALL INCLUDE OPERATION OF ALL EQUIPMENT IN ALL MODES OF CONTROL INCLUDING START/STOP CONTRACTOR TO SIMULATE VARIOUS LEVELS.
  - CONTROL RELAYS SHALL BE RATED 120 VOLTS A.C. WITH MINIMUM 10 AMP CONTACTS UNLESS OTHERWISE SHOWN. ALL CONTROL RELAYS AND RELAY TIMERS SHALL BE DIN RAIL MOUNTED, WITH INSTANTANEOUS REVERSIBLE CONTACTS, 8 OR 11 PIN BASE TYPE ONLY.
  - CONTRACTOR SHALL NUMBER LABEL ALL CONDUCTORS AND CONDUITS AND PROVIDE COMPLETE AS BUILT DRAWINGS TO THE OWNER.
  - LIFT STATION SHALL REMAIN FULLY OPERATIONAL AT ALL TIMES OR BE BYPASSED. REMOVAL OF PORTIONS OF EXISTING MCC AND AUTOCHON VARIABLE SPEED DRIVE AND CONTROL PANELS IS REQUIRED. CONTRACTOR IS REFERRED TO SEQUENCE OF WORK AND SHALL SUBMIT A DETAILED WORK SCHEDULE ACCEPTABLE TO THE OWNER PRIOR TO COMMENCING WORK.
  - PROVIDE 3C #18 SHIELDED BELDEN CABLE FOR ALL 4 TO 20 MA SIGNALS.
- FINISH & PROTECTIVE COATING SCHEDULE**
- | ITEM (1)   | COATING (2)   |
|--|---|
| FERROUS METAL WITHIN HYDRAULIC STRUCTURES                        | COAT PER SERVICE CONDITION C  |
| EXPOSED FERROUS METAL PIPING, VALVES, FITTINGS AND APPURTENANCES | WIRE BRUSH CLEAN AND COAT PER SERVICE CONDITION A (APPLY INTERMEDIATE AND FINISH COATS)   |
| EXISTING   | WIRE BRUSH CLEAN AND COAT PER SERVICE CONDITION A (APPLY INTERMEDIATE AND FINISH COATS)   |
| PROPOSED   | COAT PER SERVICE CONDITION A SHOP SANDBLAST AND SHOP PRIME COAT APPLY INTERMEDIATE AND FINISH COATS IN FIELD  |
| PUMPS AND MOTORS   | EXISTING: WIRE BRUSH CLEAN AND COAT PER SYSTEM A (APPLY INTERMEDIATE AND FINISH COATS)<br>PROPOSED: FACTORY COATING, CLEAN AND APPLY INTERMEDIATE AND FINISH COATS PER SYSTEM A   |
| LIFT STATION   | EXIST. CEILING OF BLOCK BLDG (UPPER LVL): CLEAN AND PATCH PRIME AND FINISH COAT PER SERVICE CONDITION N<br>BLOCK BLDG EXIST. EXTERIOR WOOD & FACIA: CLEAN, WIRE BRUSH, SCRAPE AND PATCH PRIME AND FINISH COAT PER SERVICE CONDITION N |
| MISCELLANEOUS FERROUS METAL (INTERIOR OR EXTERIOR)               | COAT PER SERVICE CONDITION A  |
| STAINLESS STEEL GIP AND HDG                                      | NO COATING REQUIRED.  |
| ALUMINUM   | NO COATING, EXCEPT WHERE AGAINST CONCRETE. COAT AREA PER SECTION 2.20 (2)   |
| ELECTRICAL EQUIPMENT ENCLOSURE                                   | FACTORY COATING, BAKED ENAMEL (MATCH EXISTING COLORS). TOUCH UP WHERE DAMAGED   |
| ELECTRICAL DEVICE BOXES  | FACTORY COATING, ZINC ELECTROPLATE AND ALUMINUM LACQUER OR HDG  |
| EXPOSED ELECTRICAL CONDUIT EMT OR HDG                            | NO COATING REQUIRED. (DOUBLE WRAP REQUIRED ON HDG WHERE BELOW GRADE)  |
| PIPE OR CONDUIT SUPPORTS   | HOT DIPPED GALVANIZED   |
| EXPOSED PVC PIPING   | COAT PER SERVICE CONDITION D  |
- NOTES**
- WHERE ITEM NOT SPECIFICALLY INCLUDED IN TABLE, REFER TO GENERAL REQUIREMENTS OF BASIC COATING AND PAINTING SPECIFICATION FOR WATER AND WASTEWATER FACILITIES.
  - UNLESS NOTED OTHERWISE, SURFACE PREPARATION AND COATING PER BASIC COATING AND PAINTING SPECIFICATION FOR WATER AND WASTEWATER FACILITIES. ALL COLORS SELECTED BY OWNER.

DWG. NO.: 2853, FILE NO.: 587-28, UPDATE BY: GKB, PROJ. ENG.: MPT, PLOT DATE: 12/8/95, PLOT TIME: 12:28, PLOT SCALE: 1:1

RUBIDOUX COMMUNITY SERVICES DISTRICT  
APPROVED BY *M. E. Munson*  
DISTRICT ENGINEER  
DATE 5-8-96

SYM	REVISIONS	DATE	BY



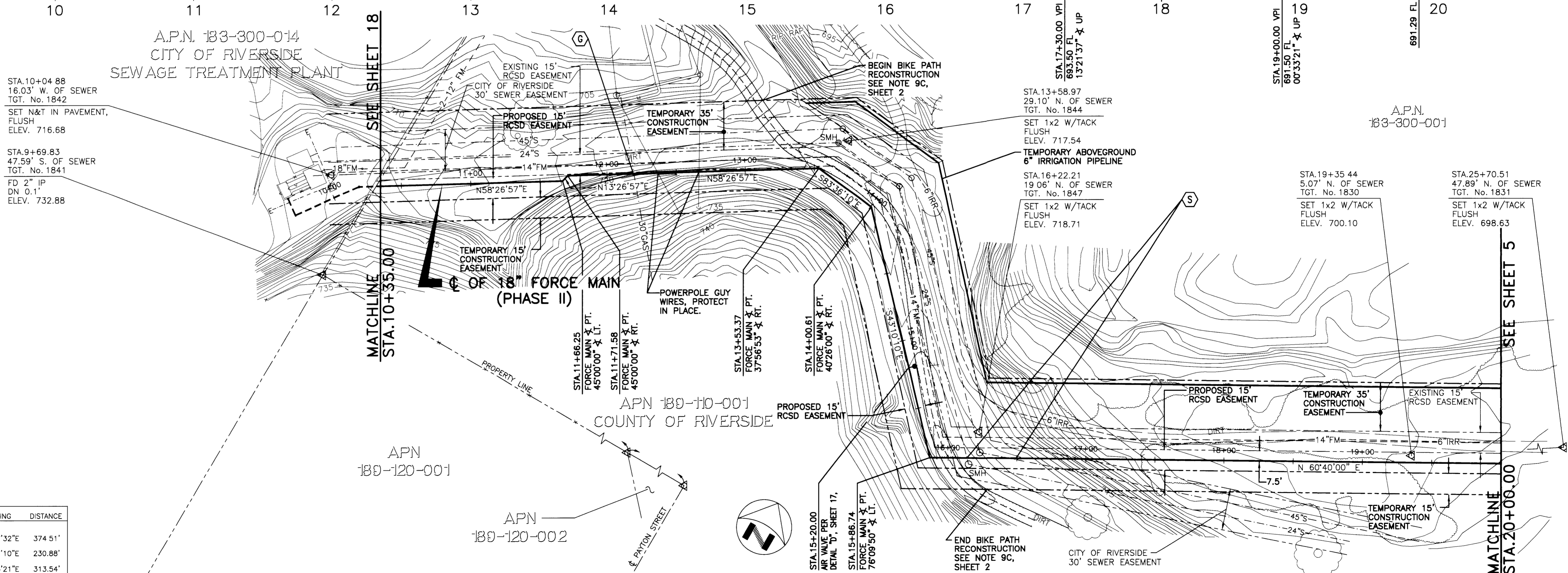
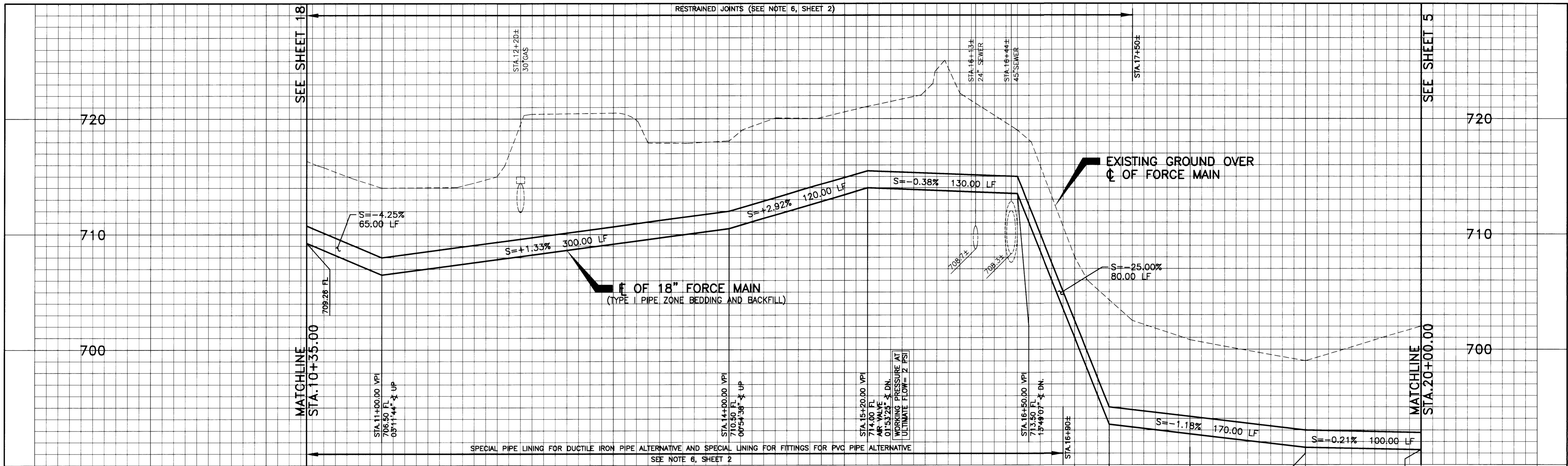
**KRIEGER & STEWART** INCORPORATED  
3602 University Ave., Riverside, CA 92501 • 909-684-6900  
APPROVED BY *Philip E. Stewart*  
REGISTERED ENGINEER No. C37263 DATE 4/3/96

SCALE	NA
FIELD BK.	156/97-109 152/83-101
DESIGN	PES
DRAWN	TMW
CHECKED	JCR

**RUBIDOUX COMMUNITY SERVICES DISTRICT**  
REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
SUPPLEMENTAL CONSTRUCTION NOTES  
FOR LIFT STATION, HEADWORKS, MONITORING STATION, AND RIO ROAD STRUCTURE

SHEET **3**  
OF 26 SHEETS  
R.C.S.D. PLAN NO.

DWG. NO.: 2854 FILE NO.: 587-28 UPDATE BY: JKV\_PROJ. ENG. DATE: 5/06/98 PLOT TIME: 1:30 PM PLOT SCALE: 1"=40'



STA.10+04.88  
16.03' W. OF SEWER  
TGT. No. 1842  
SET N&T IN PAVEMENT,  
FLUSH  
ELEV. 716.68

STA.9+69.83  
47.59' S. OF SEWER  
TGT. No. 1841  
FD 2" IP  
DN 0.1'  
ELEV. 732.88

STA.13+58.97  
29.10' N. OF SEWER  
TGT. No. 1844  
SET 1x2 W/TACK  
FLUSH  
ELEV. 717.54

STA.16+22.21  
19.06' N. OF SEWER  
TGT. No. 1847  
SET 1x2 W/TACK  
FLUSH  
ELEV. 718.71

STA.19+35.44  
5.07' N. OF SEWER  
TGT. No. 1830  
SET 1x2 W/TACK  
FLUSH  
ELEV. 700.10

STA.25+70.51  
47.89' N. OF SEWER  
TGT. No. 1831  
SET 1x2 W/TACK  
FLUSH  
ELEV. 698.63

**SURVEY CONTROL**

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
1842	4263.14	40895.09	716.68		
1844	4470.98	41206.64	717.54	N56°17'32"E	374.51'
1847	4335.66	41393.71	718.71	S54°07'10"E	230.88'
1830	4476.92	41673.63	700.10	N63°13'21"E	313.54'
1831	4825.36	42206.30	698.63	N56°48'35"E	636.51'

RUBIDOUX COMMUNITY SERVICES DISTRICT

APPROVED BY *[Signature]*  
DISTRICT ENGINEER

DATE 5-8-96

SYM	REVISIONS	DATE	BY



**KRIEGER & STEWART** INCORPORATED

3602 University Ave • Riverside, CA 92501 • 909-684-6900

APPROVED BY *[Signature]*  
REGISTERED ENGINEER No. 44226 DATE 5/19/96

SCALE  
HORIZ. 1"=40' VERT. 1"=4'  
FIELD BK. 156/97-109  
152/83-101

DESIGN V GK  
DRAWN T MW  
CHECKED MPT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**

REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION

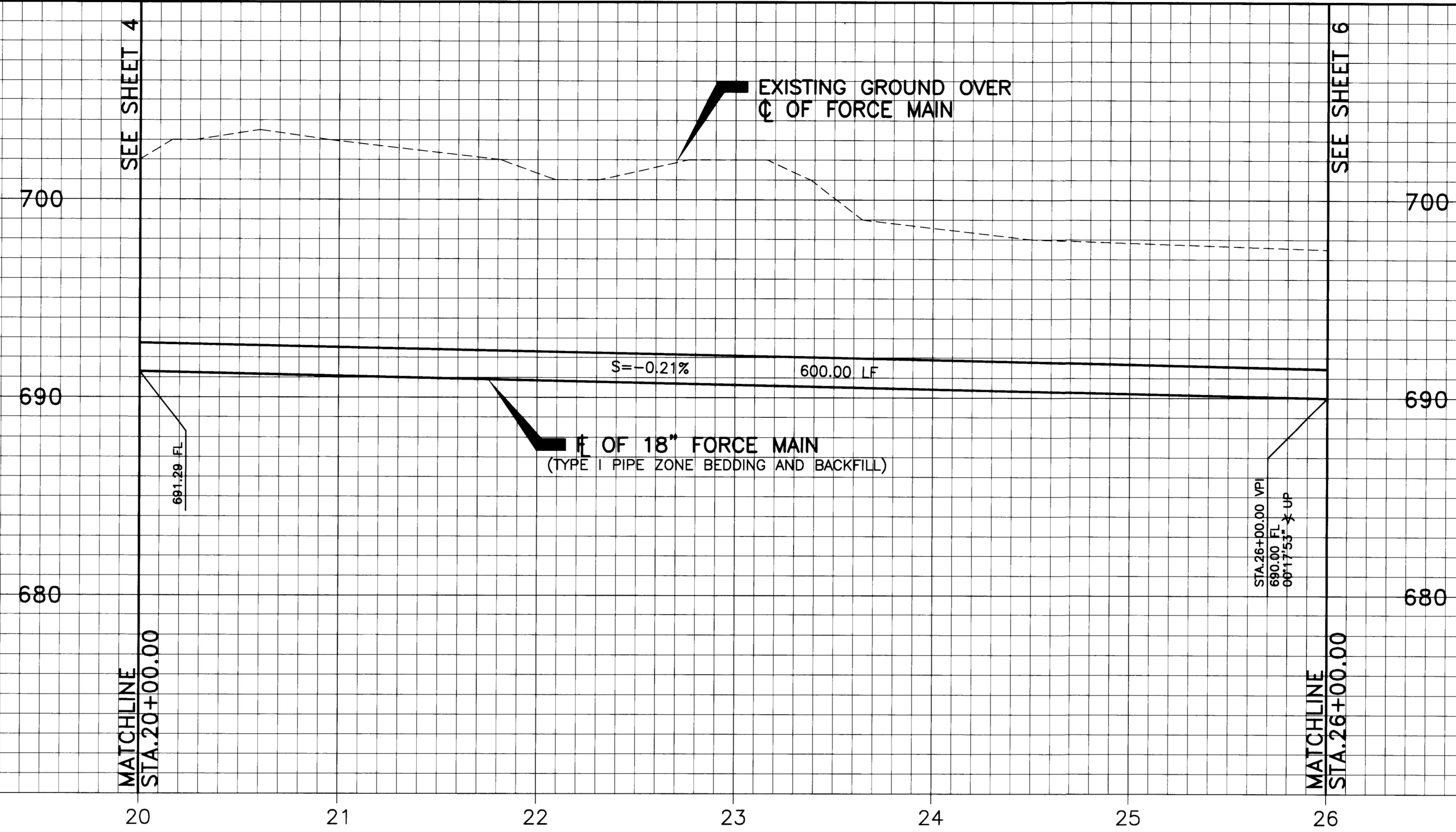
**FORCE MAIN**

STA.10+35.00 TO STA.20+00.00

SHEET **4** OF 26 SHEETS

R.C.S.D. PLAN No.

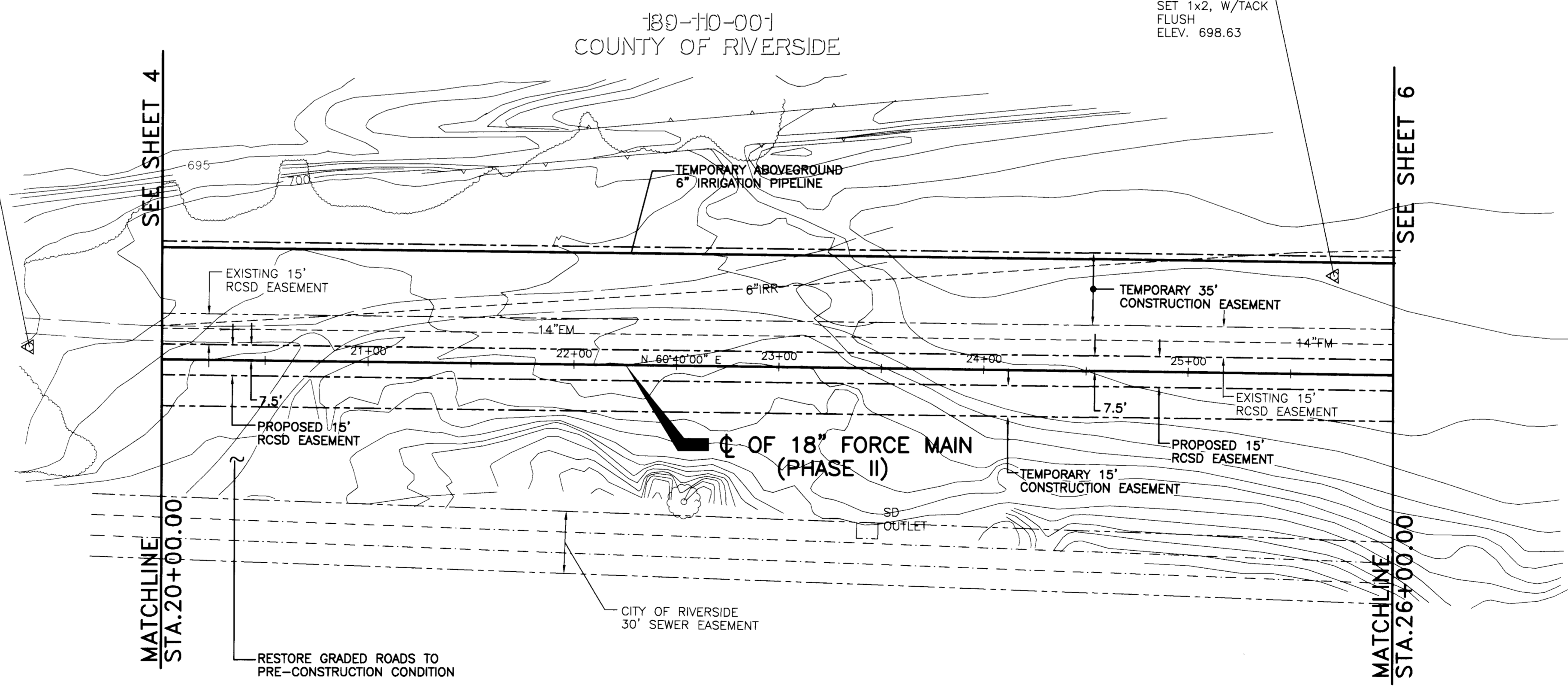
DWG. NO.: 2855 FILE NO.: 587-28 UPDATE BY: JKV PROJ. ENG.: MPT PLOT DATE: 4/30/96 PLOT TIME: 11:10 AM PLOT SCALE: 1"=40'



STA. 19+35.44  
5.07' N. OF SEWER  
TGT. No. 1830  
SET 1x2, W/TACK  
FLUSH  
ELEV. 700.10

STA. 25+70.51  
47.89' N. OF SEWER  
TGT. No. 1831  
SET 1x2, W/TACK  
FLUSH  
ELEV. 698.63

STA. 33+03.21  
87.12' N. OF SEWER  
TGT. No. 1834  
SET 1x2, W/TACK  
FLUSH  
ELEV. 723.88



SURVEY CONTROL

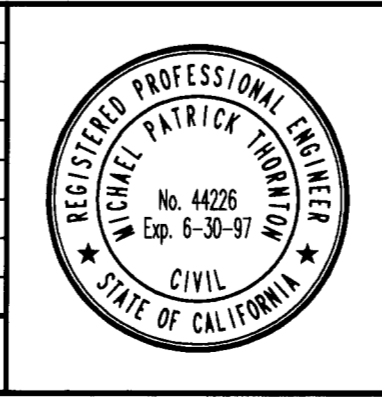
TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
1830	4476.92	41673.63	700.10	N56°48'35"E	636.51'
1831	4825.36	42206.30	698.63	N66°09'08"E	747.30'
1834	5127.50	42889.80	723.88		

RUBIDOUX COMMUNITY SERVICES DISTRICT

APPROVED BY *M. S. Munson*  
DISTRICT ENGINEER

DATE 5-8-96

SYM	REVISIONS	DATE	BY



**KRIEGER & STEWART** INCORPORATED

3602 University Ave • Riverside, CA. 92501 • 909-684-6900

APPROVED BY *Michael P. Stewart*  
REGISTERED ENGINEER No. 44226 DATE 5/7/96

SCALE  
HORIZ. 1"=40' VERT. 1"=4'  
FIELD BK. 156/97-109  
152/83-101

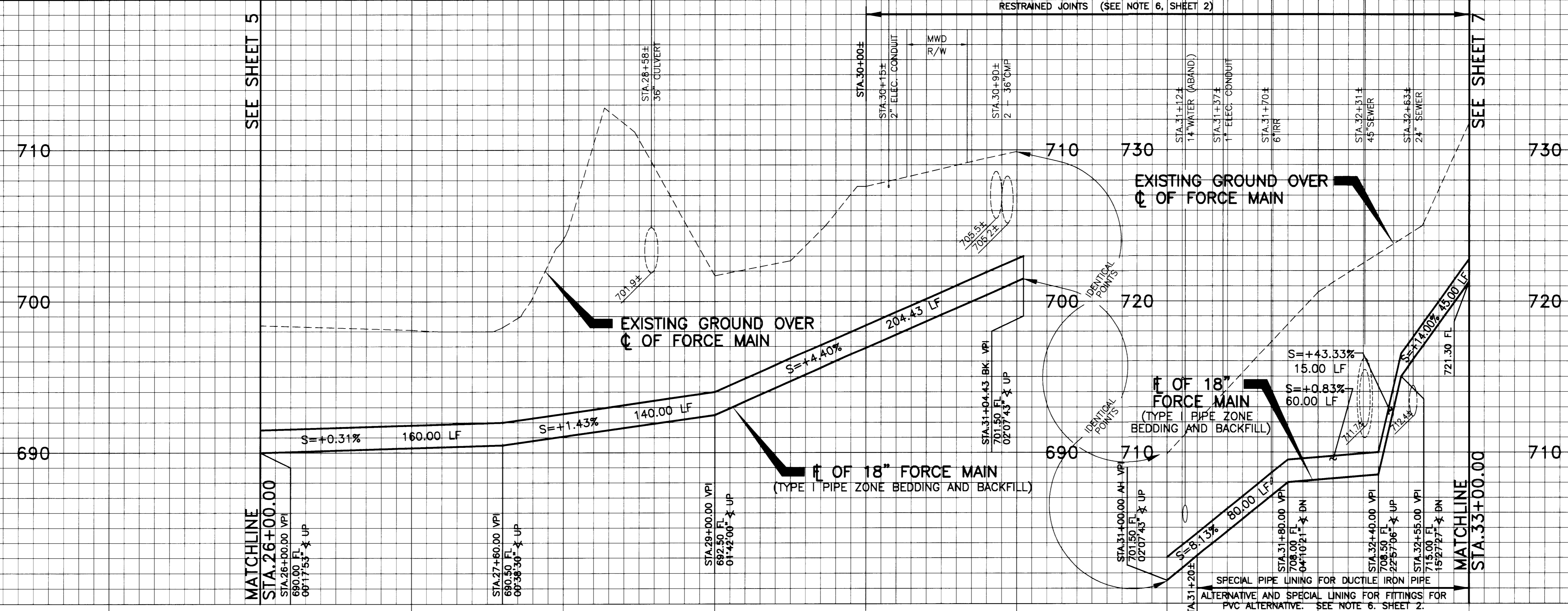
DESIGN VGK  
DRAWN TMW  
CHECKED MPT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**

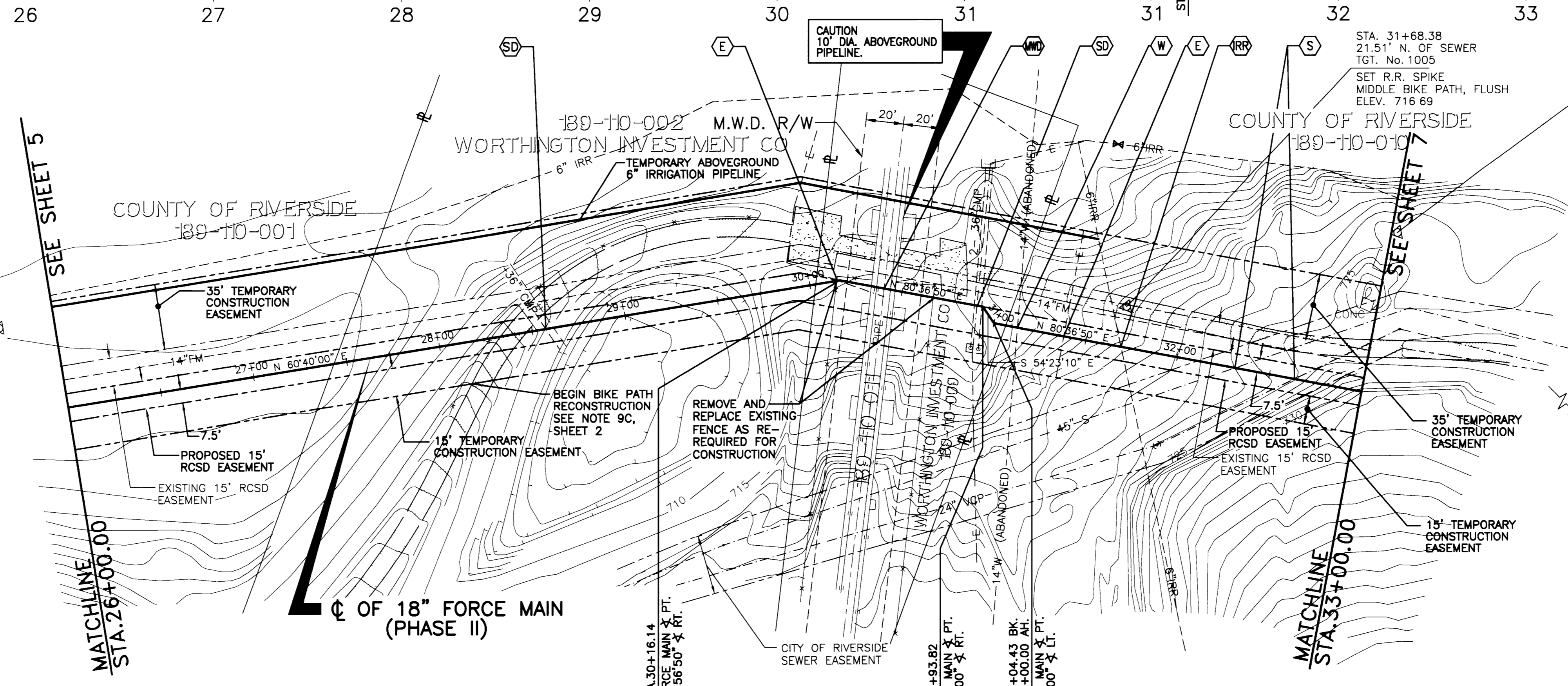
REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
FORCE MAIN  
STA.20+00.00 TO STA.26+00.00

SHEET  
**5**  
OF 26 SHEETS  
R.C.S.D. PLAN No.

DWG. NO.: 2856 FILE NO.: 587-28 UPDATE BY: JKV PROJ. ENG. MPT PLOT DATE: 4/30/96 PLOT TIME: 10:25 AM PLOT SCALE: 1"=40'



STA. 25+70.51  
47.89' N. OF SEWER  
TGT. No. 1831  
SET 1x2,  
FLUSH  
ELEV. 698.63



STA. 33+03.21  
87.12' N. OF SEWER  
TGT. No. 1834  
SET 1x2, W/TACK  
FLUSH  
ELEV. 723.88

STA. 39+82.31  
48.08' S. OF SEWER  
TGT. No. 1839  
SET RR SPIKE  
FLUSH  
ELEV. 723.30

NOTE: ANY EXCAVATION WITHIN TWO FEET OF M.W.D. PIERS SHALL BE PERFORMED WITHOUT EQUIPMENT.

SURVEY CONTROL					
TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
1831	4825.36	42206.30	698.63	N68°59'59"E	601.11'
1005	5040.78	42767.48	716.69	N54°39'54"E	149.94'
1834	5127.50	42889.80	723.88	S64°26'24"E	693.81'
1839	4828.15	43515.71	723.30		

RUBIDOUX COMMUNITY SERVICES DISTRICT  
APPROVED BY *[Signature]*  
DISTRICT ENGINEER  
DATE 5-8-96

SYM	REVISIONS	DATE	BY



**KRIEGER & STEWART** INCORPORATED  
3602 University Ave • Riverside, CA. 92501 • 909-684-6900  
APPROVED BY *[Signature]*  
REGISTERED ENGINEER No. 44226 DATE 5/7/96

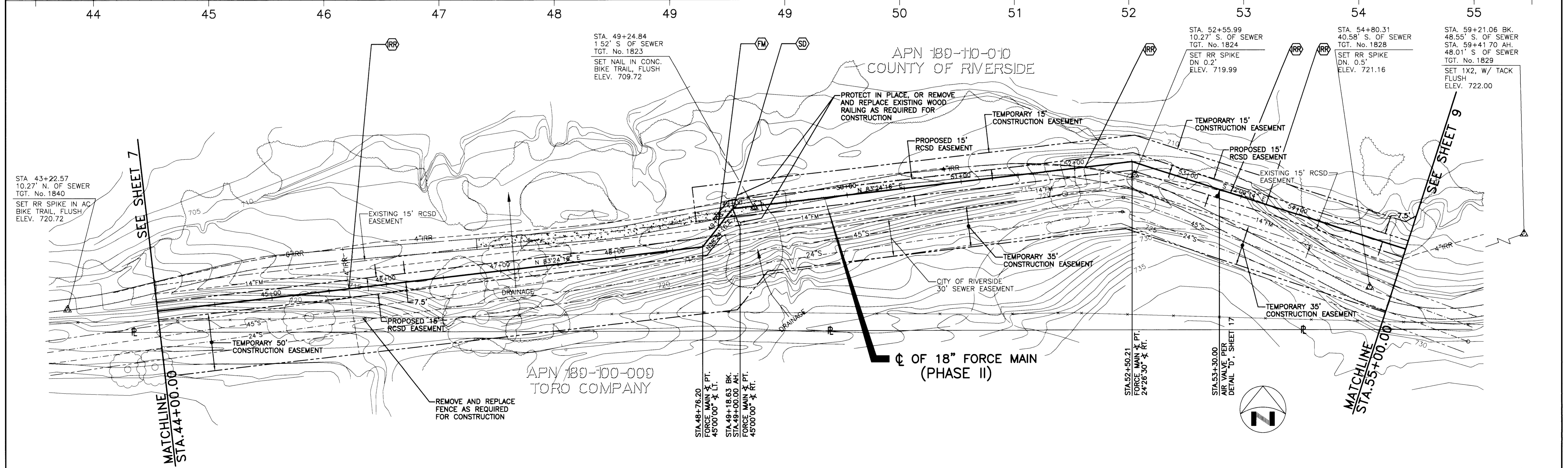
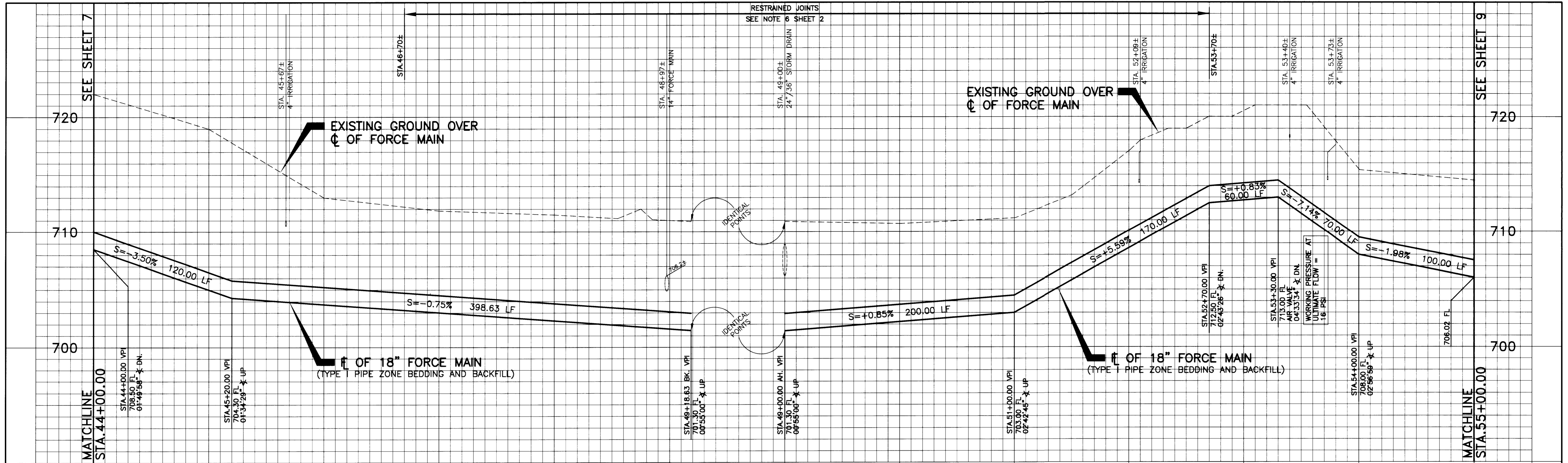
SCALE  
HORIZ. 1"=40' VERT. 1"=4'  
FIELD BK. 156/97-109  
156/83-101  
DESIGN VGK  
DRAWN TMW  
CHECKED MPT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**  
REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
**FORCE MAIN**  
STA.26+00.00 TO STA.31+04.43  
STA.31+00.00 TO STA.33+00.00

SHEET  
**6**  
OF 26 SHEETS  
R.C.S.D. PLAN No.



DWG NO.: 2858 FILE NO.: 587-28 UPDATE BY: JKV PROJ. ENC.: MPT PLOT DATE: 5/06/96 PLOT TIME: 2:15 PM



**SURVEY CONTROL**

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
1840	4861.06	43860.45	720.72	N81°40'20"E	602.54'
1823	4948.33	44456.64	709.72	N85°09'57"E	332.73'
1824	4976.37	44788.19	719.99	S64°27'30"E	226.36'
1828	4878.78	44992.43	721.16	N71°03'50"E	454.03'
1829	5026.11	45421.89	722.00		

RUBIDOUX COMMUNITY SERVICES DISTRICT  
 APPROVED BY: *[Signature]*  
 DISTRICT ENGINEER  
 DATE: 5-8-96



**KRIEGER & STEWART** INCORPORATED  
 3602 University Ave. • Riverside, CA. 92501 • 909-684-6900  
 APPROVED BY: *[Signature]*  
 REGISTERED ENGINEER No. 44226 DATE 5/1/96

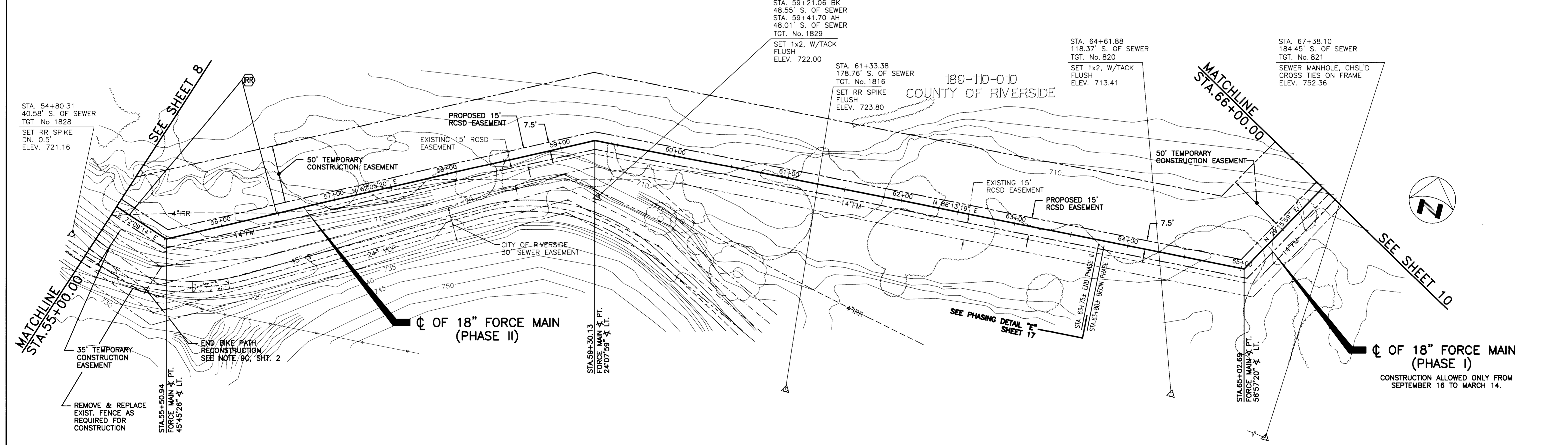
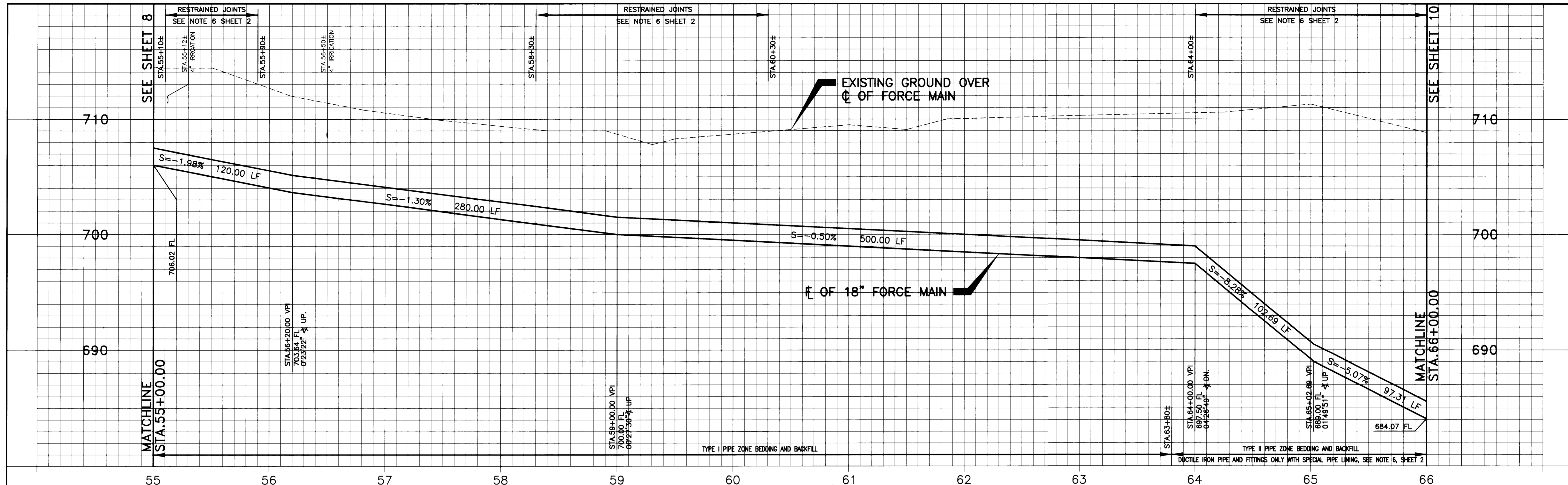
SCALE:  
 HORIZ. 1"=40'  
 VERT. 1"=4'  
 FIELD BK. 156/97-109  
 152/83-101  
 DESIGN: V GK  
 DRAWN: T MW  
 CHECKED: M PT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**  
 REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
**FORCE MAIN**  
 STA. 44+00.00 TO STA. 49+18.63 BK.  
 STA. 49+00.00 AH. TO STA. 55+00.00

SHEET  
**8**  
 OF 26 SHEETS  
 R.C.S.D. PLAN No.



DWG. NO. 2859 FILE NO. 587-28 UPDATE BY: JKV PROJ. ENG. MPT PLOT DATE: 5/08/96 PLOT TIME: 3:15 PM



SURVEY CONTROL

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
1828	4878.78	44992.43	721.16	N71°03'50"E	454.03'
1829	5026.11	45421.89	722.00	S59°28'50"E	232.03'
1816	4908.28	45621.77	723.80	N75°48'20"E	334.00'
820	4990.18	45945.57	713.41	S80°19'32"E	284.02'
821	4942.45	46225.56	752.36		

RUBIDOUX COMMUNITY SERVICES DISTRICT

APPROVED BY *M.E. M...*  
DISTRICT ENGINEER

DATE 5-8-96



**KRIEGER & STEWART** INCORPORATED

3602 University Ave. • Riverside, CA. 92501 • 909-684-6900

APPROVED BY *M.H.P. STE...*  
REGISTERED ENGINEER No. 44226 DATE 5/7/96

SCALE  
HORIZ. 1"=40' VERT. 1"=4'  
FIELD BK. 156/87-109  
152/83-101

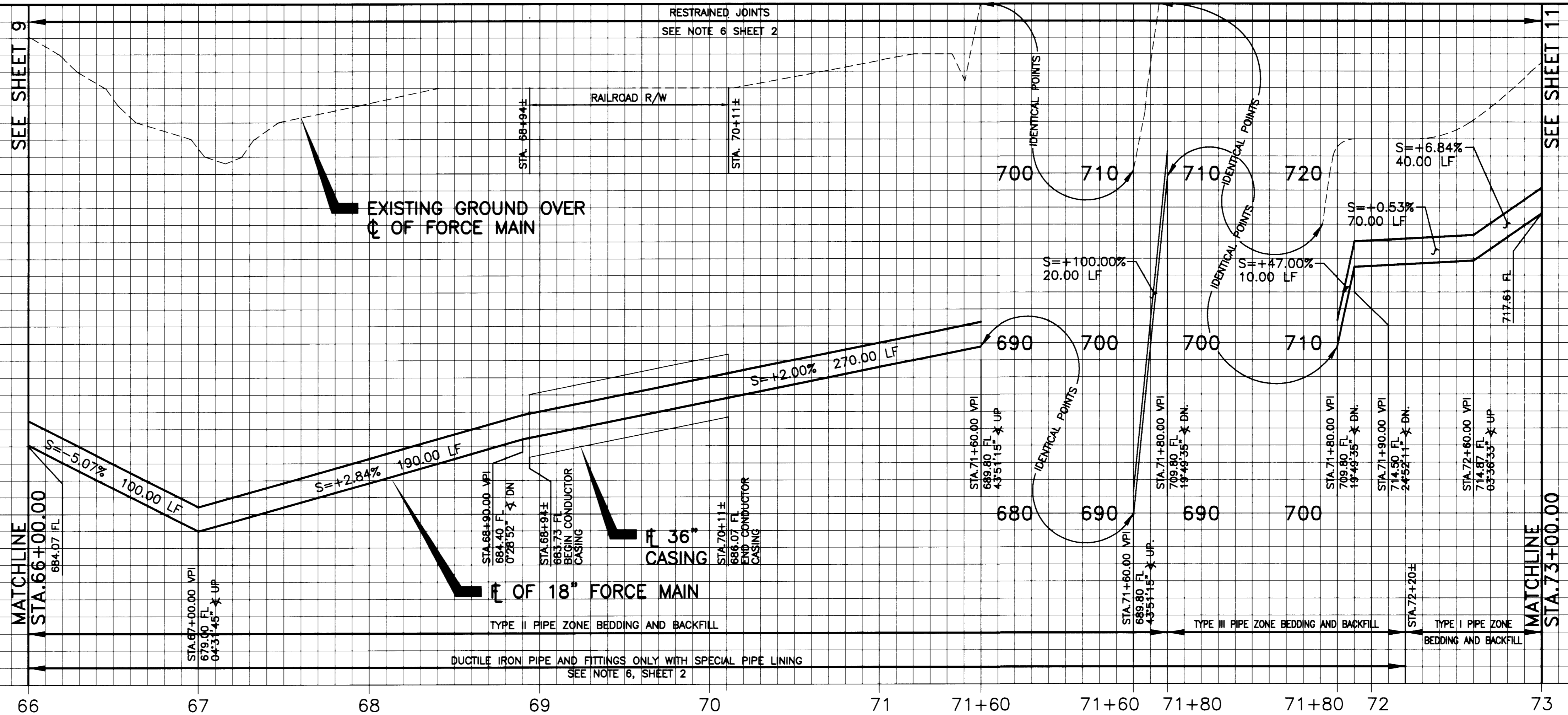
DESIGN V GK  
DRAWN TMW  
CHECKED MPT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**

REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
FORCE MAIN  
STA. 55+00.00 TO STA. 66+00.00

SHEET  
**9**  
OF 26 SHEETS  
R.C.S.D. PLAN No.

DWG. NO.: 28510 FILE NO.: 587-28 UPDATE BY: JWK PROJ. ENG.: MET PLOT DATE: 5/07/96 PLOT TIME: 9:30 AM



STA. 64+61.88  
 118.37' S. OF SEWER  
 TGT. No. 820  
 SET 1x2, W/TACK  
 FLUSH  
 ELEV. 713.41

STA. 67+38.10  
 184.45' S. OF SEWER  
 TGT. No. 821  
 CHSL. CROSS TIES ON  
 SEWER MANHOLE FRAME  
 ELEV. 752.36

117 LF OF 36" (9/16" MIN. WALL THICKNESS) CONDUCTOR CASING SHALL BE INSTALLED (OPEN TRENCH CONSTRUCTION) WITHIN LIMITS OF THE RAILROAD RIGHT-OF-WAY AND 18" D.I.P. WITH SPECIAL LINING SHALL BE PLACED INSIDE CASING, ALL IN ACCORDANCE WITH THE BASIC SEWER SPECIFICATIONS. CONDUCTOR CASING SHALL MEET ASTM/ASME A36 REQUIREMENTS.

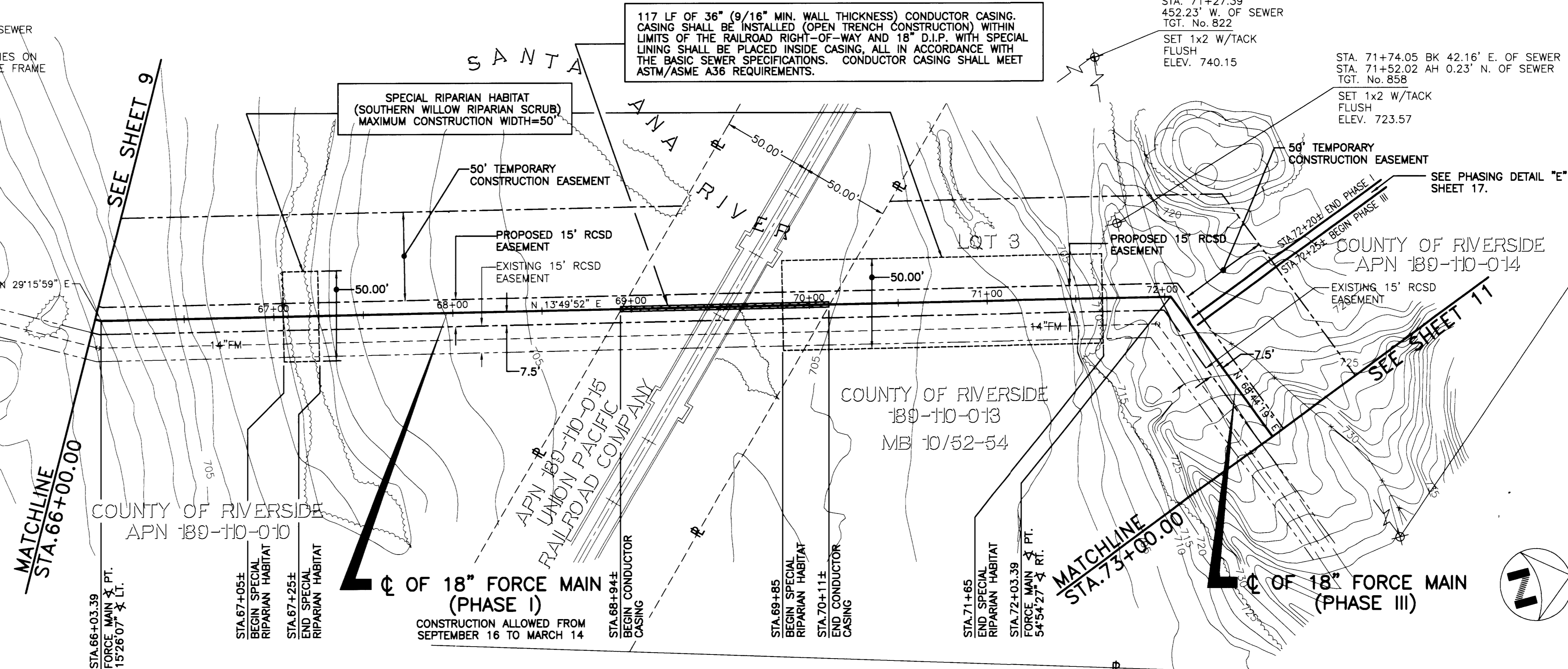
STA. 71+27.39  
 452.23' W. OF SEWER  
 TGT. No. 822  
 SET 1x2 W/TACK  
 FLUSH  
 ELEV. 740.15

STA. 71+74.05 BK 42.16' E. OF SEWER  
 STA. 71+52.02 AH 0.23' N. OF SEWER  
 TGT. No. 858  
 SET 1x2 W/TACK  
 FLUSH  
 ELEV. 723.57

STA. 75+99.31  
 15.06' S. OF SEWER  
 TGT. No. 814  
 AIR VALVE, CHSL'D  
 CROSS TIES ON FRAME  
 ELEV. 745.35

**SURVEY CONTROL**

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
820	4990.18	45945.57	713.41	S80°19'32"E	284.02'
821	4942.45	46225.56	752.36	N30°22'01"W	1012.16'
822	5815.75	45713.87	740.15	S82°39'34"E	412.72'
858	5763.02	46123.20	723.57	N62°58'36"E	461.96'
814	5972.91	46534.73	745.35		



RUBIDOUX COMMUNITY SERVICES DISTRICT  
 APPROVED BY *M.S. Merano*  
 DISTRICT ENGINEER  
 DATE 5-8-96

SYM	REVISIONS	DATE	BY

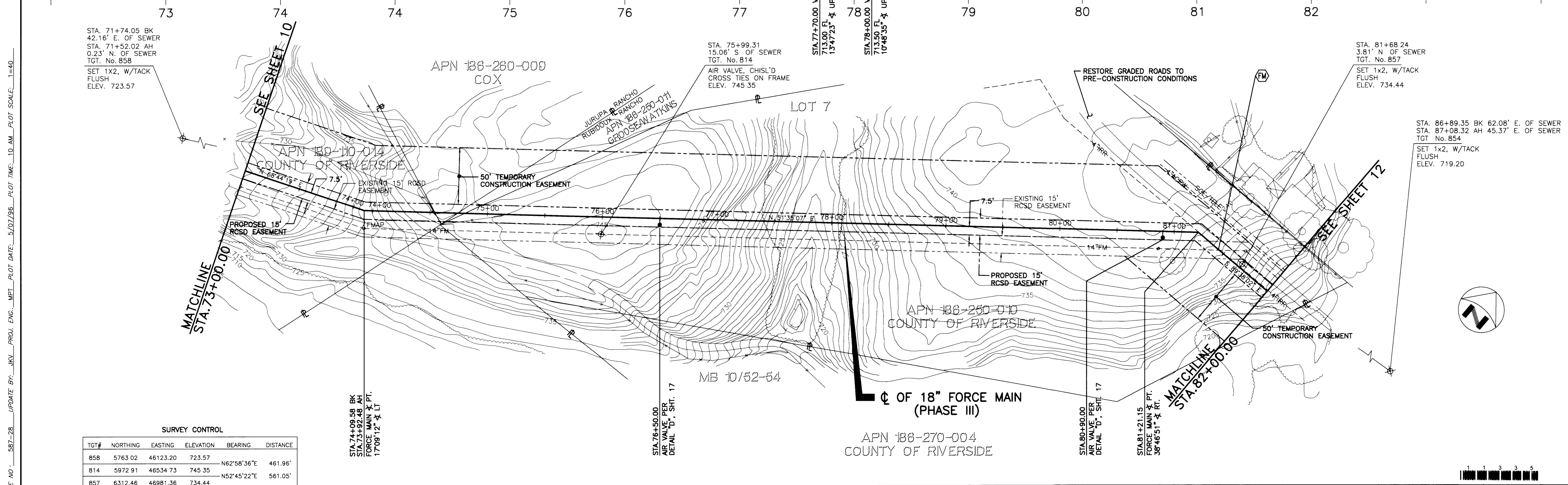
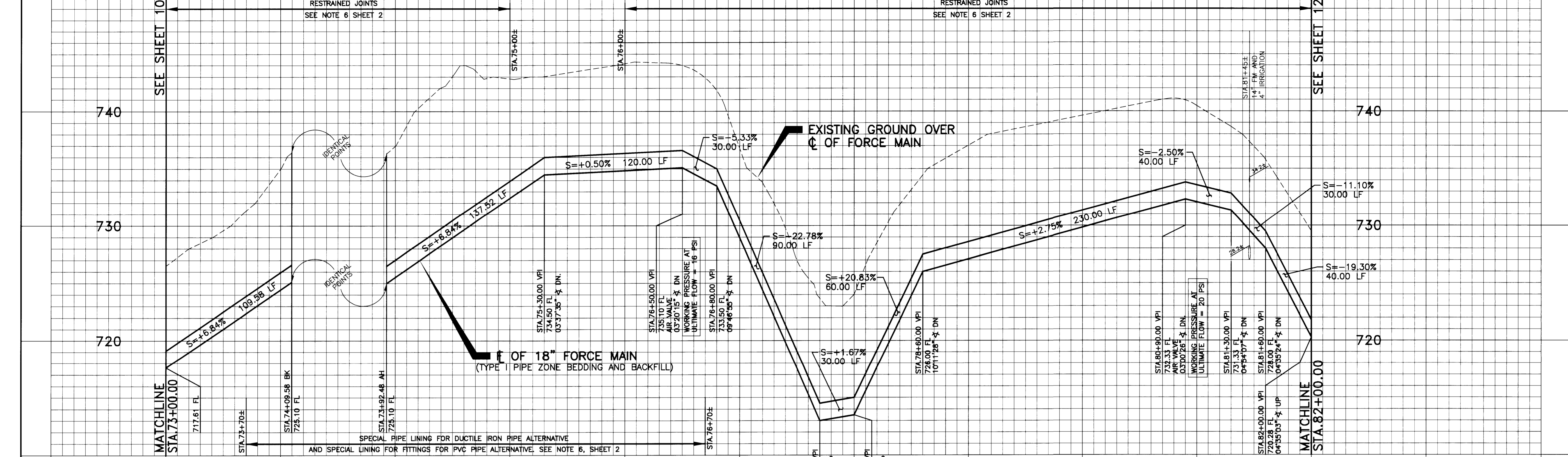


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 3602 University Ave • Riverside, CA 92501 • 909-684-6900  
 APPROVED BY *M.H.P. Jett*  
 REGISTERED ENGINEER No. 44226 DATE 5/7/96

SCALE  
 HORIZ. 1"=40' VERT. 1"=4'  
 FIELD BK. 156/97-109  
 152/83-101  
 DESIGN V GK  
 DRAWN T MW  
 CHECKED MPT

RUBIDOUX COMMUNITY SERVICES DISTRICT  
 REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
 FORCE MAIN  
 STA. 66+00.00 TO STA. 73+00.00

SHEET  
**10**  
 OF 26 SHEETS  
 R.C.S.D. PLAN NO.



**SURVEY CONTROL**

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
858	5763.02	46123.20	723.57	N62°58'36"E	461.96'
814	5972.91	46534.73	745.35	N52°45'22"E	561.05'
857	6312.46	46981.36	734.44	N85°57'57"E	541.67'
854	6350.57	47521.69	719.20		

DWG NO. 28S11 FILE NO. 587-28 UPDATE BY: JKV PROJ. ENG. MPT PILOT DATE: 5/07/96 PILOT TIME: 10 AM PILOT SCALE: 1"=40'

RUBIDOUX COMMUNITY SERVICES DISTRICT

APPROVED BY *Michael P. Stewart*  
DISTRICT ENGINEER

DATE 5-8-96

SYM	REVISIONS	DATE	BY



**KRIEGER & STEWART** INCORPORATED

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APPROVED BY *Michael P. Stewart*  
REGISTERED ENGINEER No. 44226 DATE 5/7/96

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

FIELD BK. 156/97-109  
152/83-101

DESIGN V GK

DRAWN T MW

CHECKED MPT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**

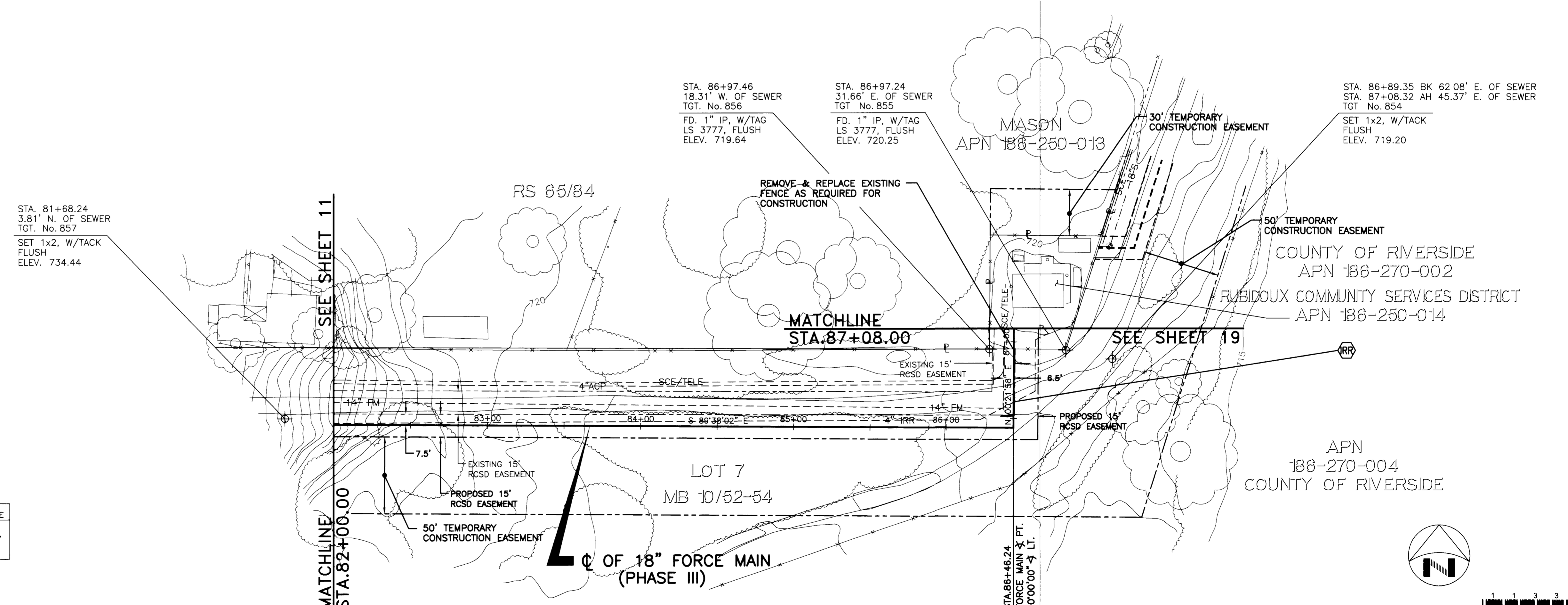
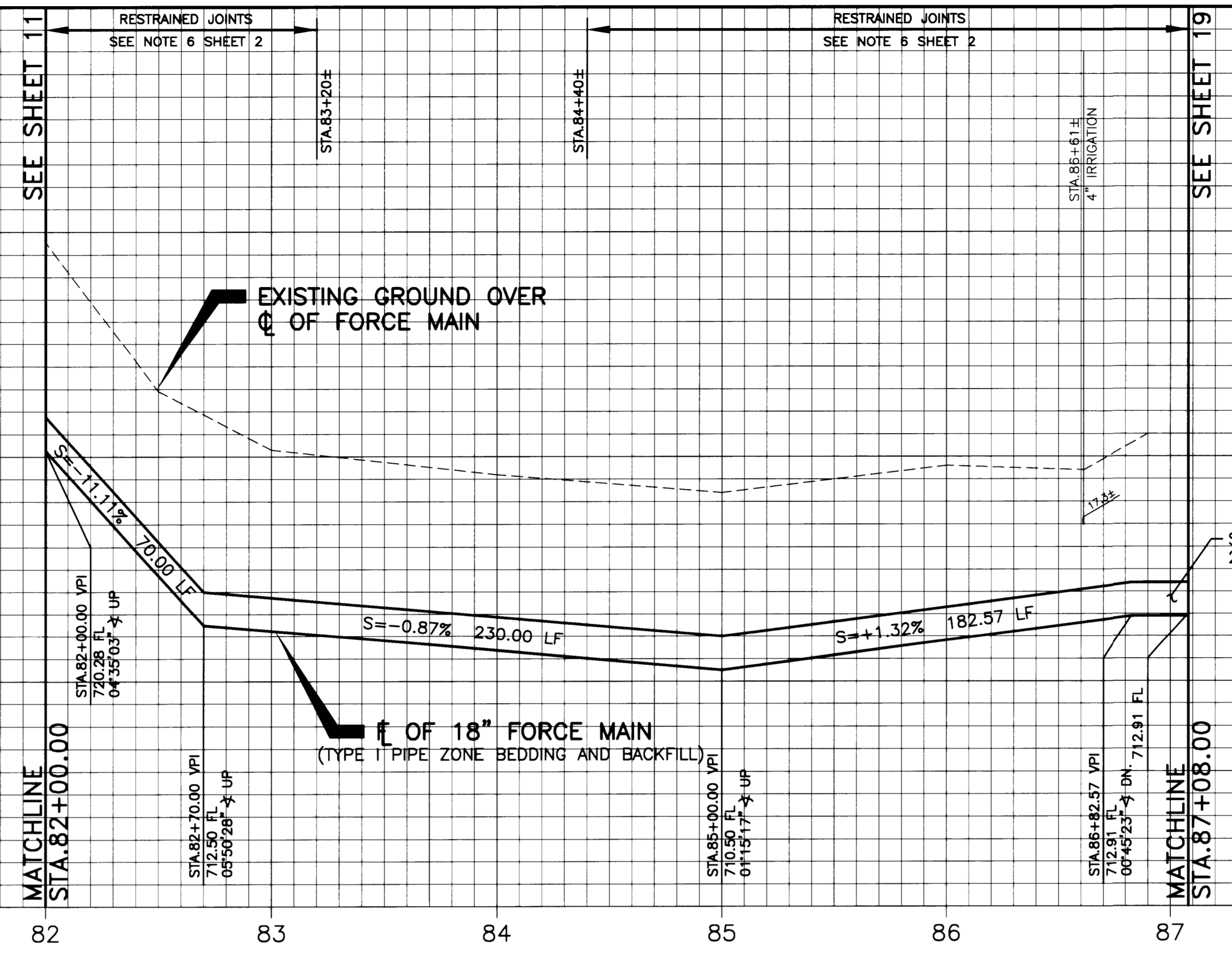
REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
FORCE MAIN

STA. 73+00.00 TO STA. 74+09.58 BK  
STA. 73+92.48 AH TO STA. 82+00.00

SHEET  
**11**  
OF 26 SHEETS

R.C.S.D. PLAN No.

DWG. NO. 28512 FILE NO. 587-28 UPDATE BY: JKV PROJ. ENG.: MPT PILOT DATE: 5/01/96 PILOT TIME: 3:30 PM PILOT SCALE: 1"=40'



**SURVEY CONTROL**

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
857	6312.46	46981.36	734.44	N85°57'57"E	541.67'
854	6350.57	47521.69	719.20		

RUBIDOUX COMMUNITY SERVICES DISTRICT

APPROVED BY: *[Signature]*  
DISTRICT ENGINEER

DATE: 5-9-96

SYM	REVISIONS	DATE	BY

**KRIEGER & STEWART** INCORPORATED

3602 University Ave • Riverside, CA 92501 • 909-684-6900

REGISTERED PROFESSIONAL ENGINEER  
No. 44226  
Exp. 6-30-97  
CIVIL  
STATE OF CALIFORNIA

APPROVED BY: *[Signature]*  
REGISTERED ENGINEER No. 44226 DATE 5/19/96

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

FIELD BK. 156/97-109  
152/83-101

DESIGN	VGK
DRAWN	TMW
CHECKED	MPT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**

**REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION**

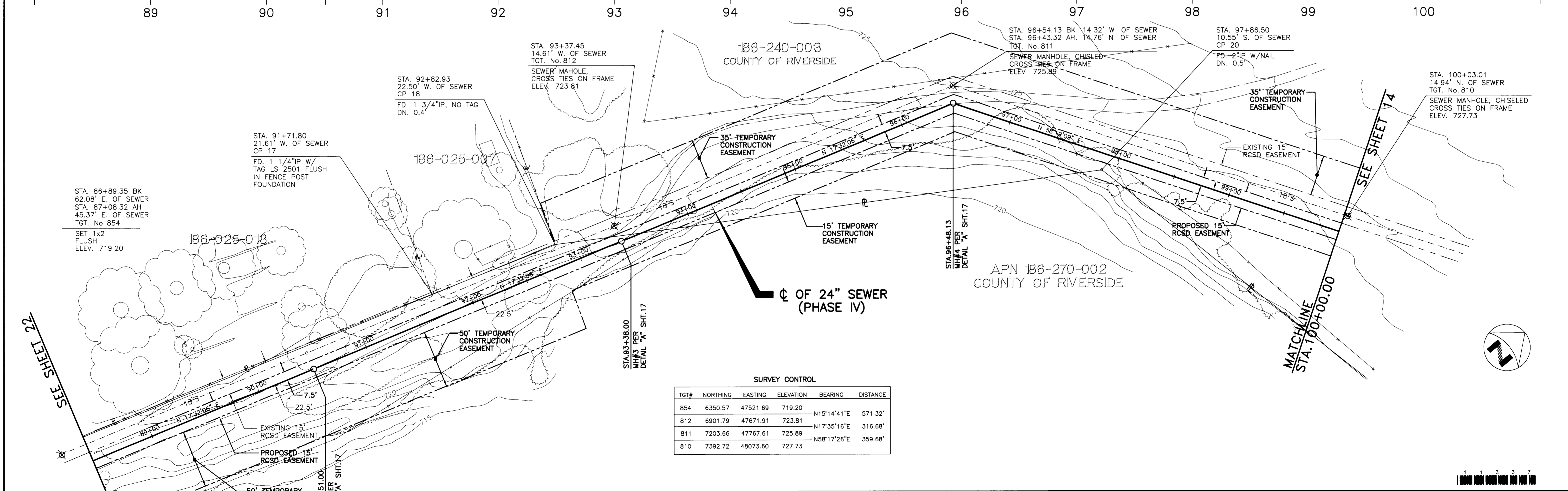
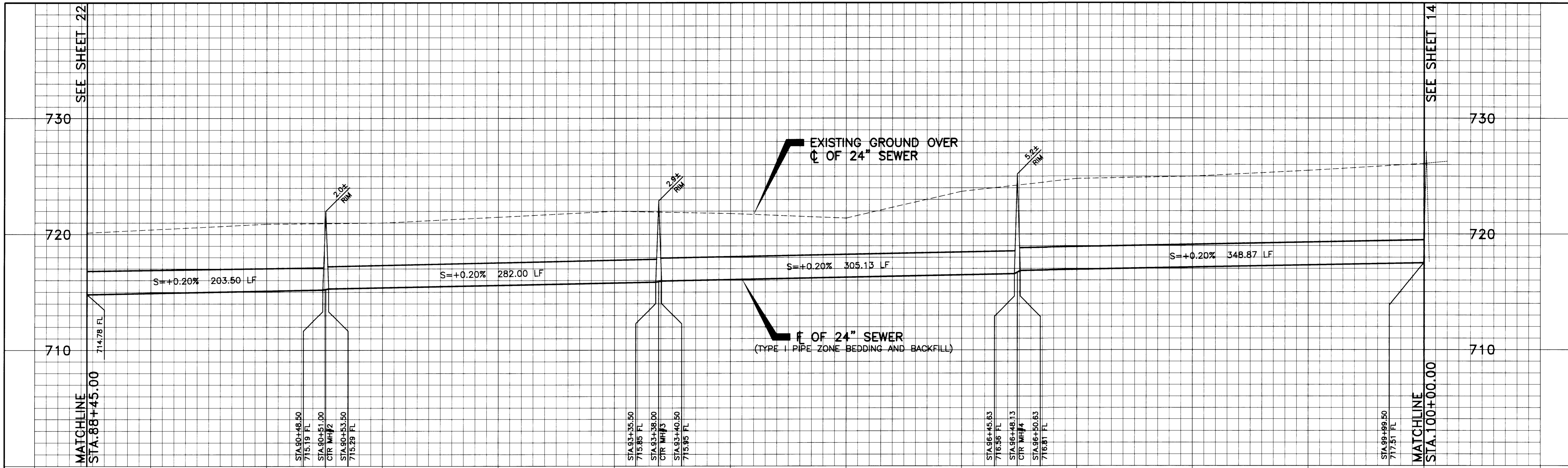
**FORCE MAIN**

**STA. 82+00.00 TO STA. 87+08.00**

SHEET  
**12**  
OF 26 SHEETS

R.C.S.D. PLAN No.

DWG. NO.: 28513 FILE NO.: 587-28 UPDATE BY: JKV PROJ. ENG. MPT\_PLOT DATE: 5/07/96 PLOT TIME: 10 AM PLOT SCALE: 1"=40'



SURVEY CONTROL

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
854	6350.57	47521.69	719.20	N15°14'41"E	571.32'
812	6901.79	47671.91	723.81	N17°35'16"E	316.68'
811	7203.66	47767.61	725.89	N58°17'26"E	359.68'
810	7392.72	48073.60	727.73		

RUBIDOUX COMMUNITY SERVICES DISTRICT

APPROVED BY *M.C. Meadows*  
DISTRICT ENGINEER

DATE 5-8-96

SYM	REVISIONS	DATE	BY



**KRIEGER & STEWART** INCORPORATED

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APPROVED BY *M. P. [Signature]*  
REGISTERED ENGINEER No. 44226 DATE 5/7/96

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

FIELD BK: 156/97-109  
152/83-101

DESIGN	VGK
DRAWN	TMW
CHECKED	MPT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**

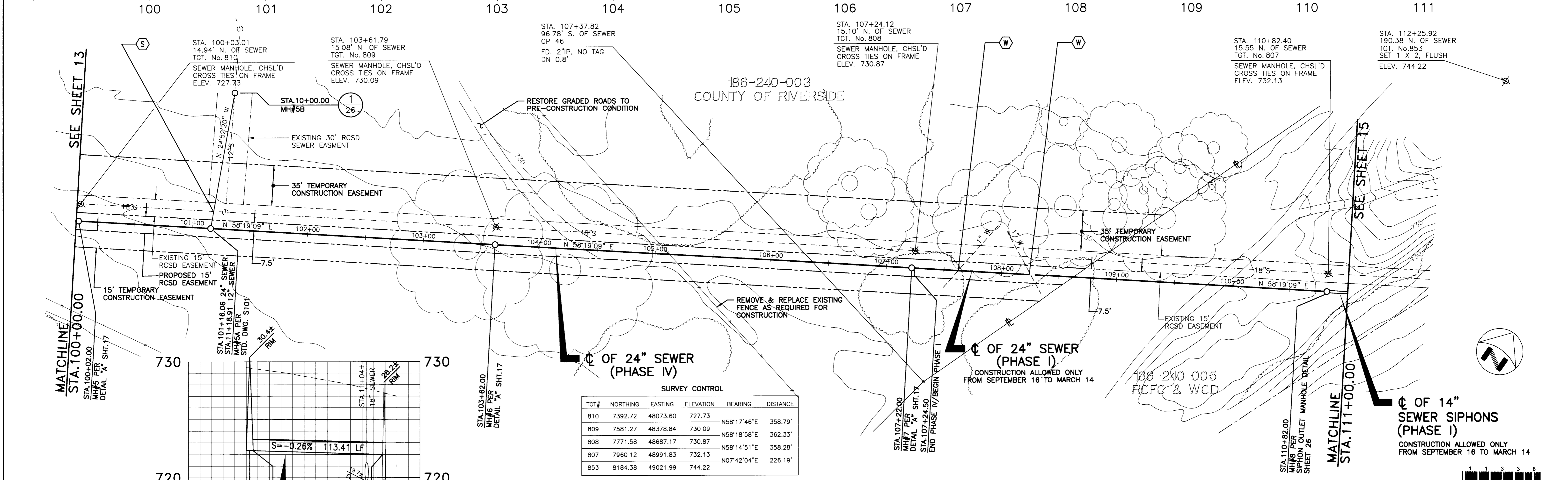
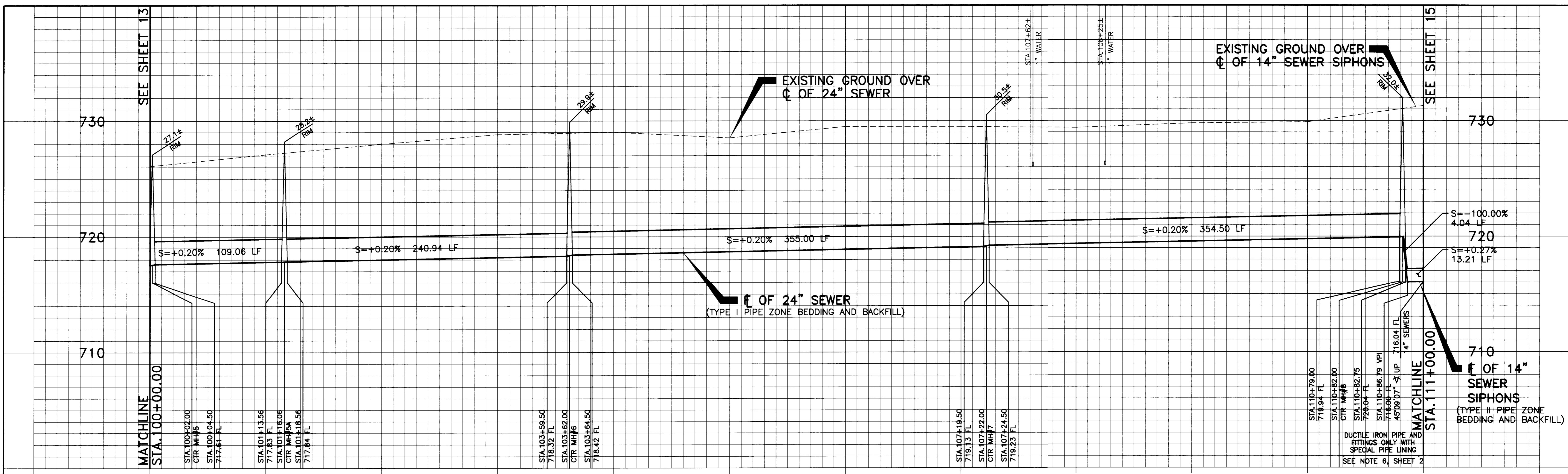
REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
GRAVITY SEWER

STA. 88+45.00 TO STA. 100+00.00

SHEET  
**13**  
OF 26 SHEETS

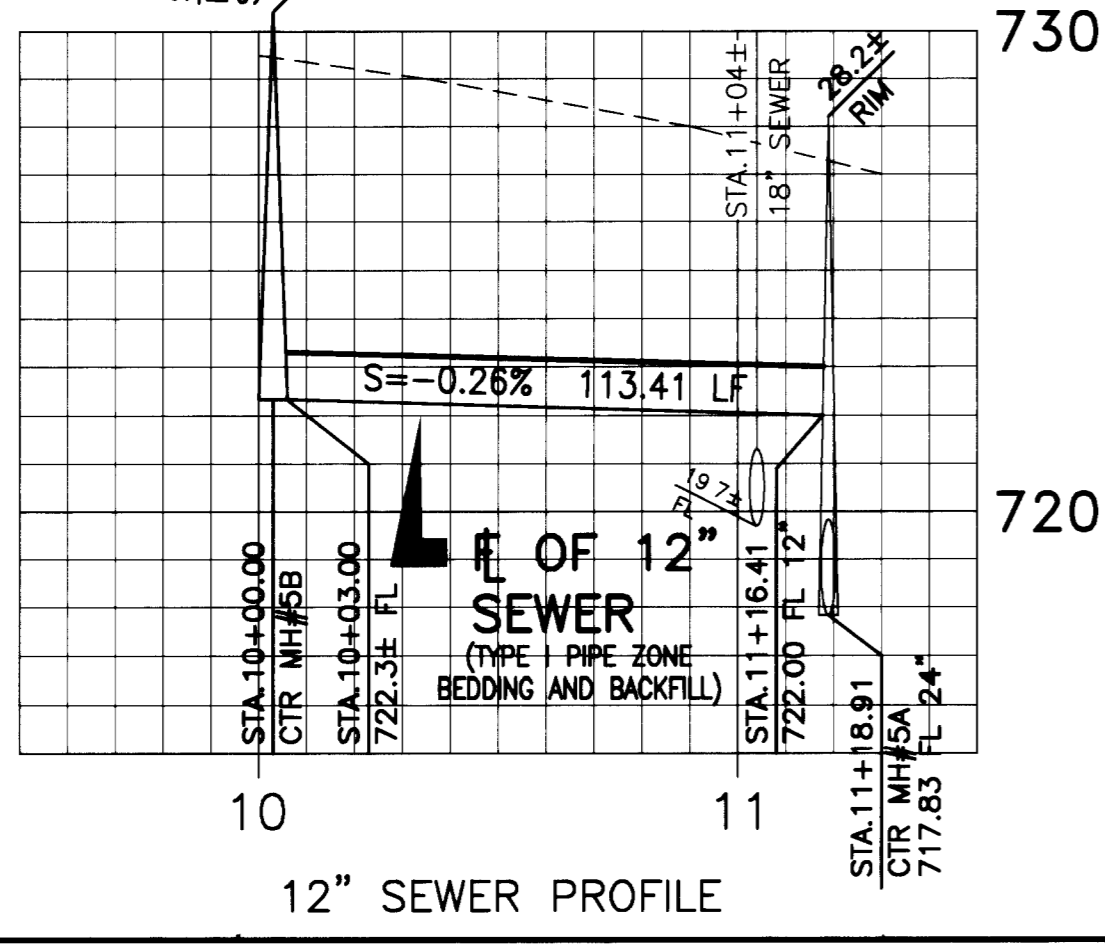
R.C.S.D. PLAN No.

DWG. NO.: 28514 FILE NO.: 587-28 UPDATE BY: JKV PROJ. ENG. MPT PLOT DATE: 5/07/96 PLOT TIME: 10:30 AM PLOT SCALE: 1"=40'



SURVEY CONTROL

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
810	7392.72	48073.60	727.73	N58°17'46"E	358.79'
809	7581.27	48378.84	730.09	N58°18'58"E	362.33'
808	7771.58	48687.17	730.87	N58°14'51"E	358.28'
807	7960.12	48991.83	732.13	N07°42'04"E	226.19'
853	8184.38	49021.99	744.22		



RUBIDOUX COMMUNITY SERVICES DISTRICT  
 APPROVED BY: *[Signature]*  
 DISTRICT ENGINEER  
 DATE: 5-8-96

SYM	REVISIONS	DATE	BY



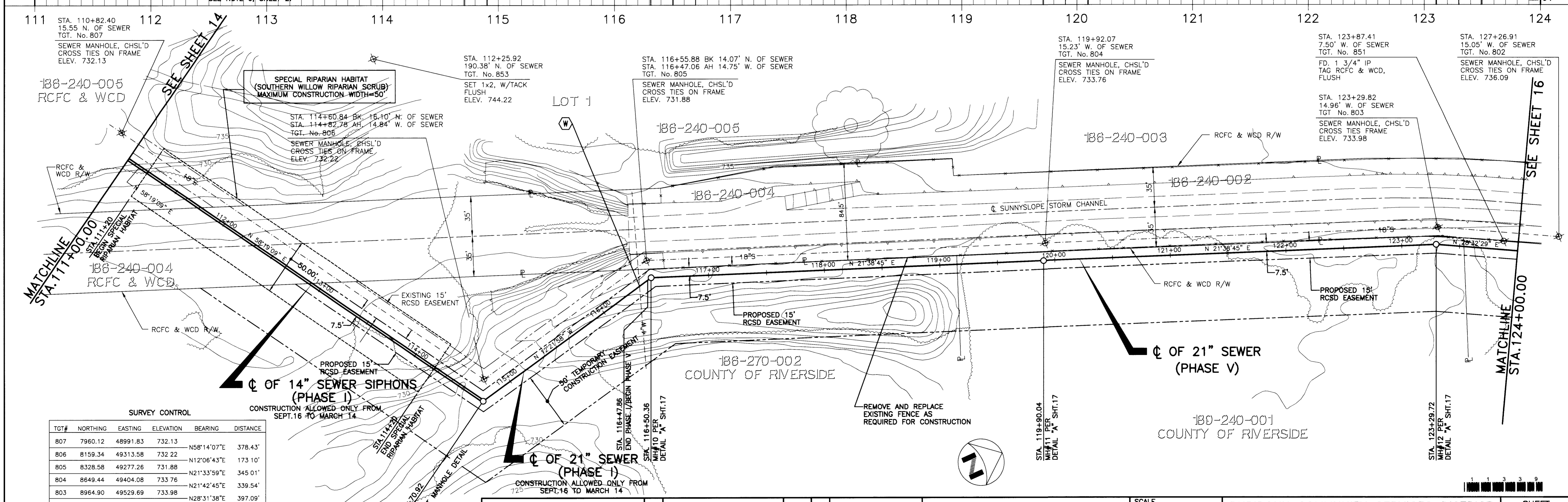
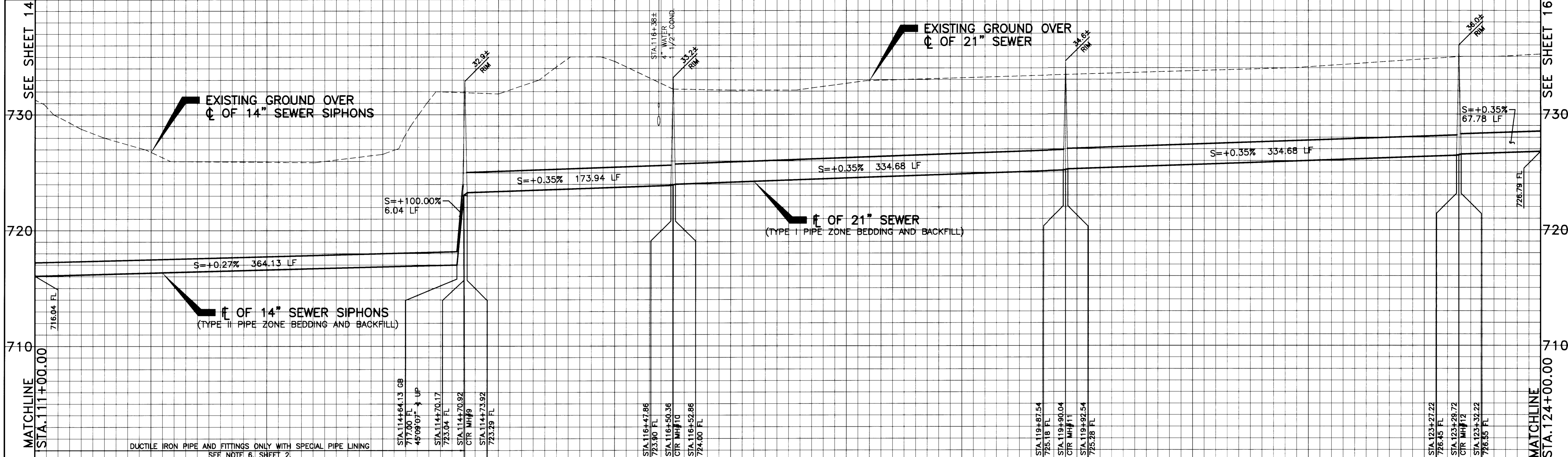
**KRIEGER & STEWART** INCORPORATED  
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 APPROVED BY: *[Signature]*  
 REGISTERED ENGINEER No. 44226 DATE 5/1/96

SCALE  
 HORIZ. 1"=40' VERT. 1"=4'  
 FIELD BK. 156/97-109  
 152/83-101  
 DESIGN: V GK  
 DRAWN: T MW  
 CHECKED: M PT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**  
 REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
 GRAVITY SEWER  
 STA.100+00.00 TO STA.111+00.00

SHEET  
**14**  
 OF 26 SHEETS  
 R.C.S.D. PLAN No.

DWG NO. 28515 FILE NO. 587-28 UPDATE BY: JKV PROJ. ENG. MPT\_PLOT DATE: 5/07/96 PLOT TIME: 10:45 AM PLOT SCALE: 1"=40'



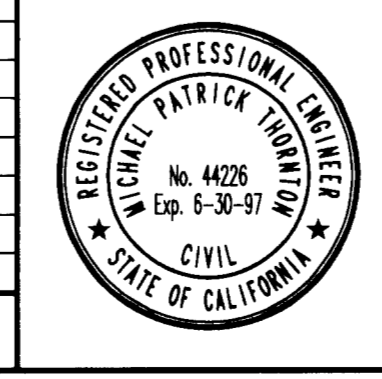
**SURVEY CONTROL**

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
807	7960.12	48991.83	732.13	N58°14'07"E	378.43'
806	8159.34	49313.58	732.22	N12°06'43"E	173.10'
805	8328.58	49277.26	731.88	N21°33'59"E	345.01'
804	8649.44	49404.08	733.76	N21°42'45"E	339.54'
803	8964.90	49529.69	733.98	N28°31'38"E	397.09'
802	9313.78	49719.34	736.09		

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
807	7960.12	48991.83	732.13	N07°42'04"E	226.19'
853	8184.38	49021.99	744.22	N60°30'19"E	293.11'
805	8328.58	49277.26	731.88		

RUBIDOUX COMMUNITY SERVICES DISTRICT  
 APPROVED BY *M. J. M...*  
 DISTRICT ENGINEER  
 DATE 5-8-96



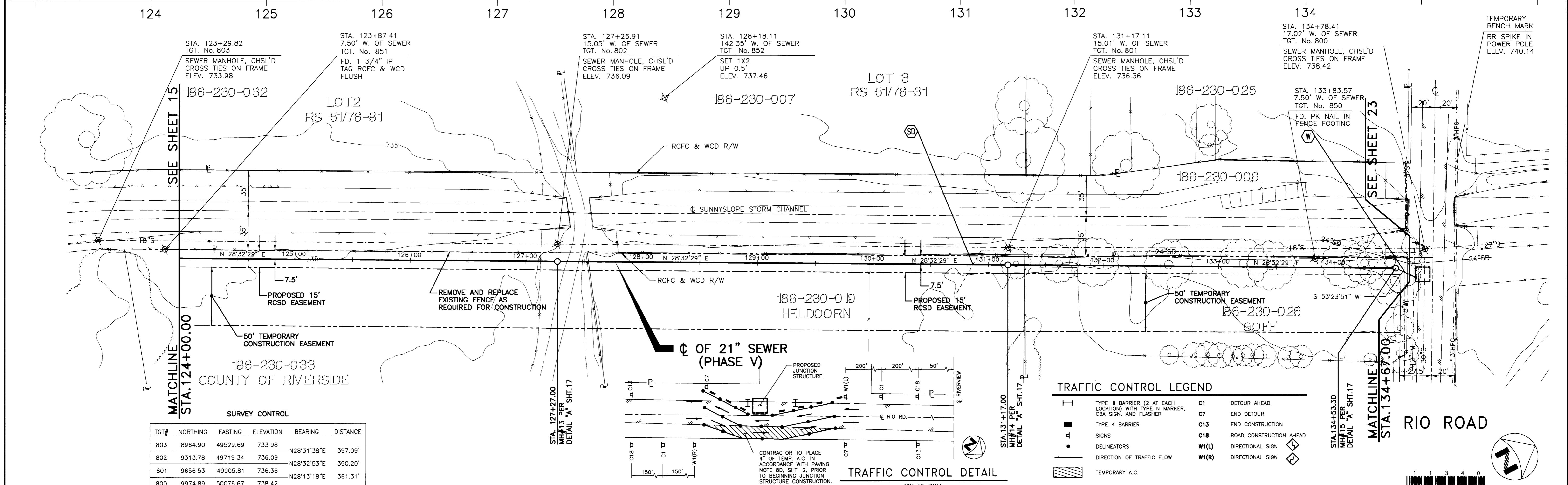
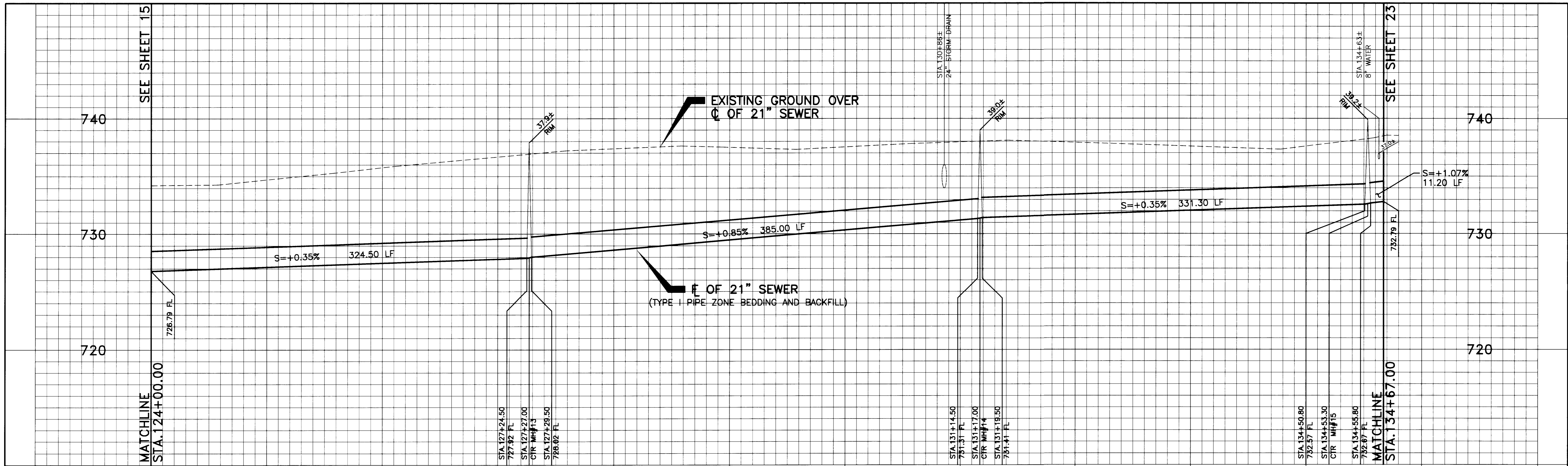
**KRIEGER & STEWART** INCORPORATED  
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 APPROVED BY *M. J. M...*  
 REGISTERED ENGINEER No. 44226 DATE 5/7/96

SCALE  
 HORIZ. 1"=40' VERT. 1"=4'  
 FIELD BK. 156/97-109  
 152/83-101  
 DESIGN VGK  
 DRAWN TMW  
 CHECKED MPT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**  
 REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
 GRAVITY SEWER  
 STA. 111+00.00 TO STA. 124+00.00

SHEET  
**15**  
 OF 26 SHEETS  
 R.C.S.D. PLAN No.

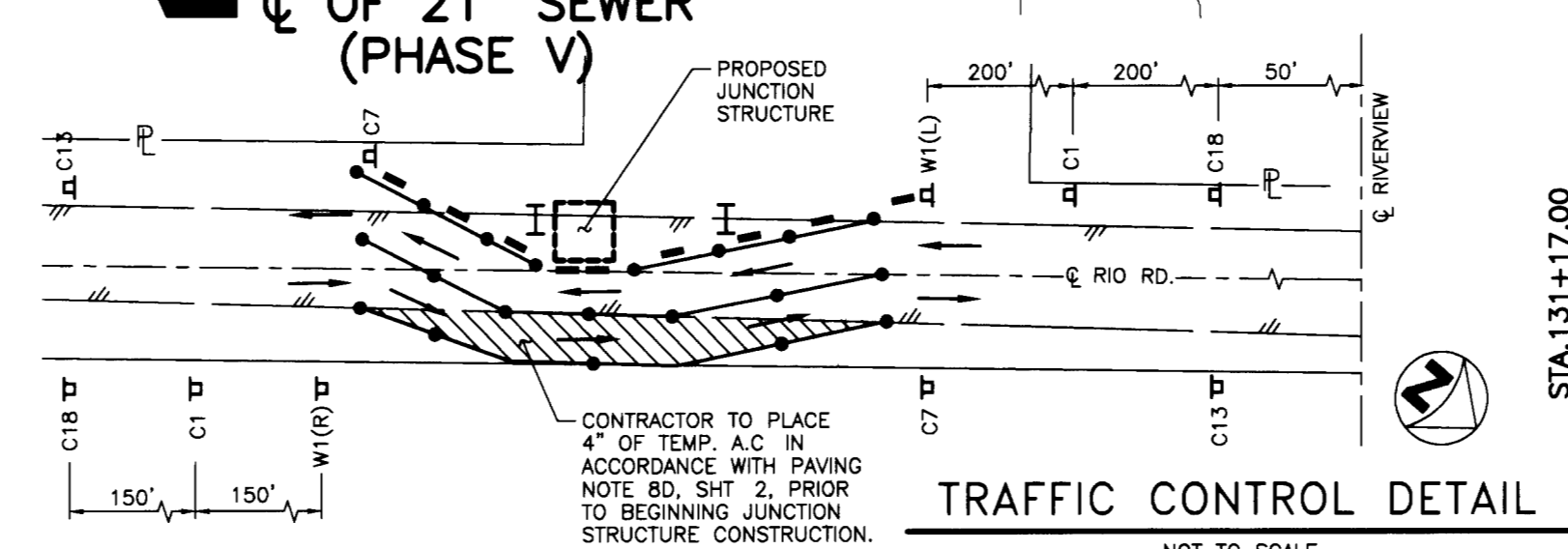
DWG NO.: 28516 FILE NO.: 587-28 UPDATE BY: JKV PROL. ENG.: MPT PLOT DATE: 5/07/96 PLOT TIME: 11 AM PLOT SCALE: 1"=40'



**SURVEY CONTROL**

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
803	8964.90	49529.69	733.98	N28°31'38"E	397.09'
802	9313.78	49719.34	736.09	N28°32'53"E	390.20'
801	9656.53	49905.81	736.36	N28°13'18"E	361.31'
800	9974.89	50076.67	738.42		

TGT#	NORTHING	EASTING	ELEVATION	BEARING	DISTANCE
851	9011.93	49563.76	-	N11°09'25"E	451.32'
852	9454.71	49651.09	737.46	N41°57'15"E	581.31'
850	9887.02	50039.72	-		



**TRAFFIC CONTROL LEGEND**

	TYPE III BARRIER (2 AT EACH LOCATION) WITH TYPE N MARKER, C3A SIGN, AND FLASHER		DETOUR AHEAD
	TYPE K BARRIER		END DETOUR
	SIGNS		END CONSTRUCTION
	DELINEATORS		ROAD CONSTRUCTION AHEAD
	DIRECTION OF TRAFFIC FLOW		DIRECTIONAL SIGN
	TEMPORARY A.C.		DIRECTIONAL SIGN

RUBIDOUX COMMUNITY SERVICES DISTRICT  
 APPROVED BY *[Signature]*  
 DISTRICT ENGINEER  
 DATE 5-8-96



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 APPROVED BY *[Signature]*  
 REGISTERED ENGINEER No. 44226 DATE 5/7/96

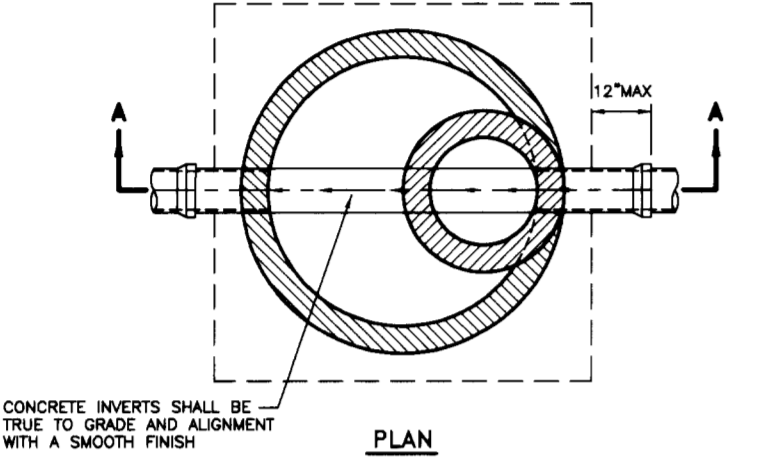
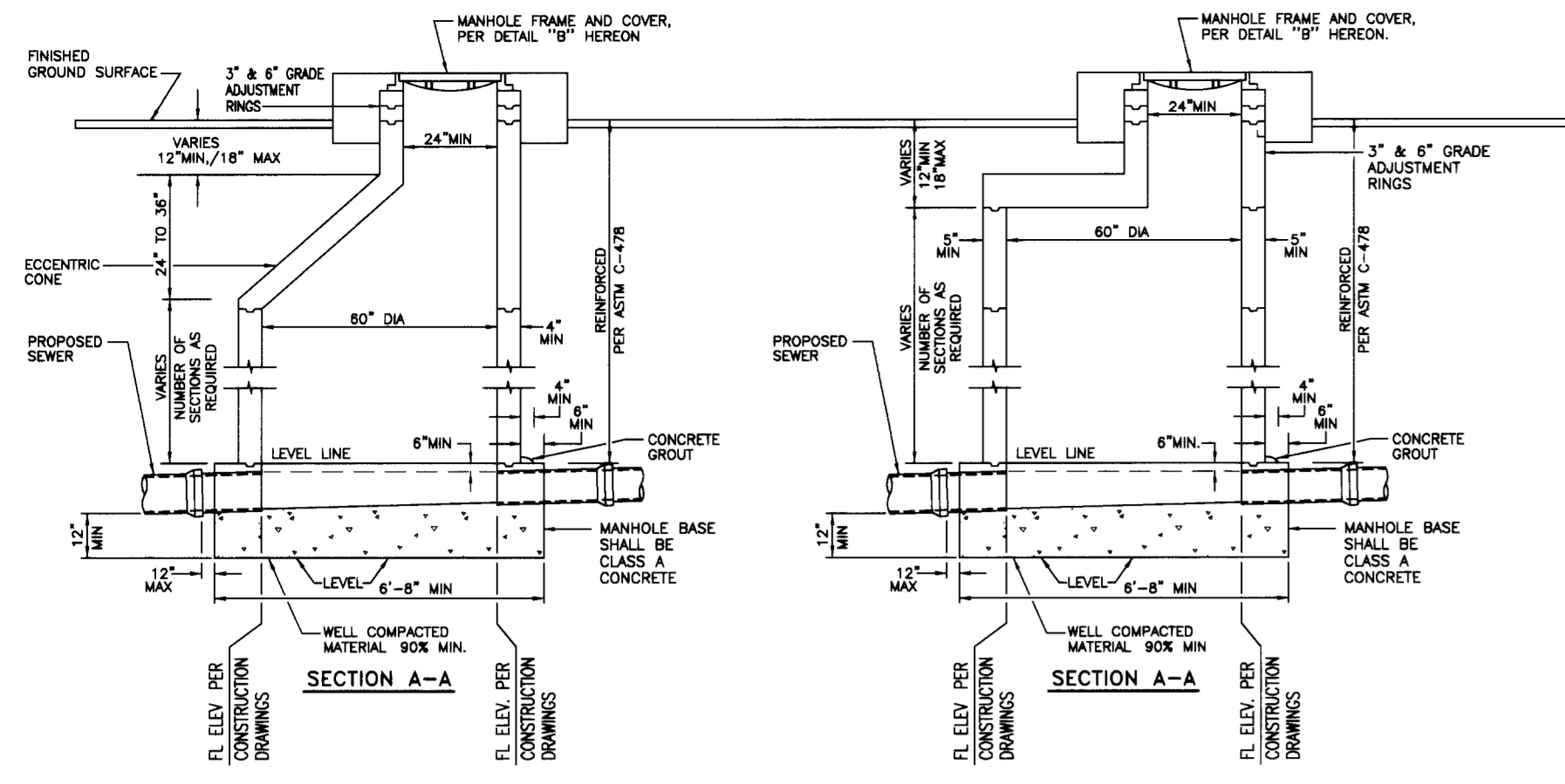
SCALE  
 HORIZ. 1"=40' VERT. 1"=4'  
 FIELD BK. 156/97-109  
 152/83-101  
 DESIGN VGG  
 DRAWN TMW  
 CHECKED MPT

**RUBIDOUX COMMUNITY SERVICES DISTRICT**  
 REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
 GRAVITY SEWER  
 STA. 124+00.00 TO STA. 134+67.00

SHEET  
**16**  
 OF 26 SHEETS  
 R.C.S.D. PLAN NO.

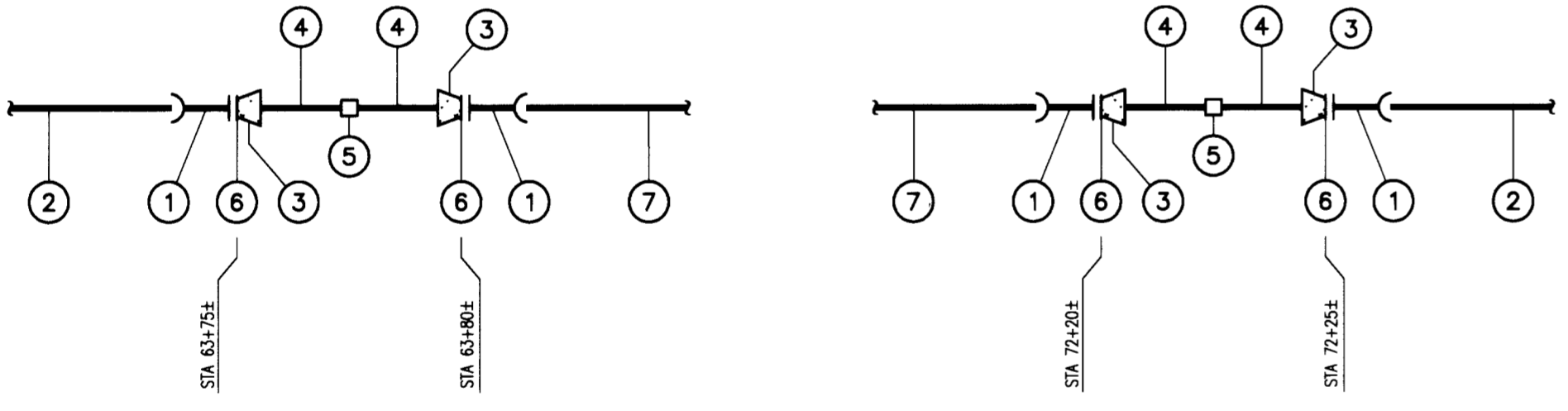


DWG NO. 28517 FILE NO. 587-28 UPDATE BY: MKV PROJ. ENG.: MPT PILOT DATE: 5/07/96 PILOT TIME: 4 PM PILOT SCALE: 1"=1'



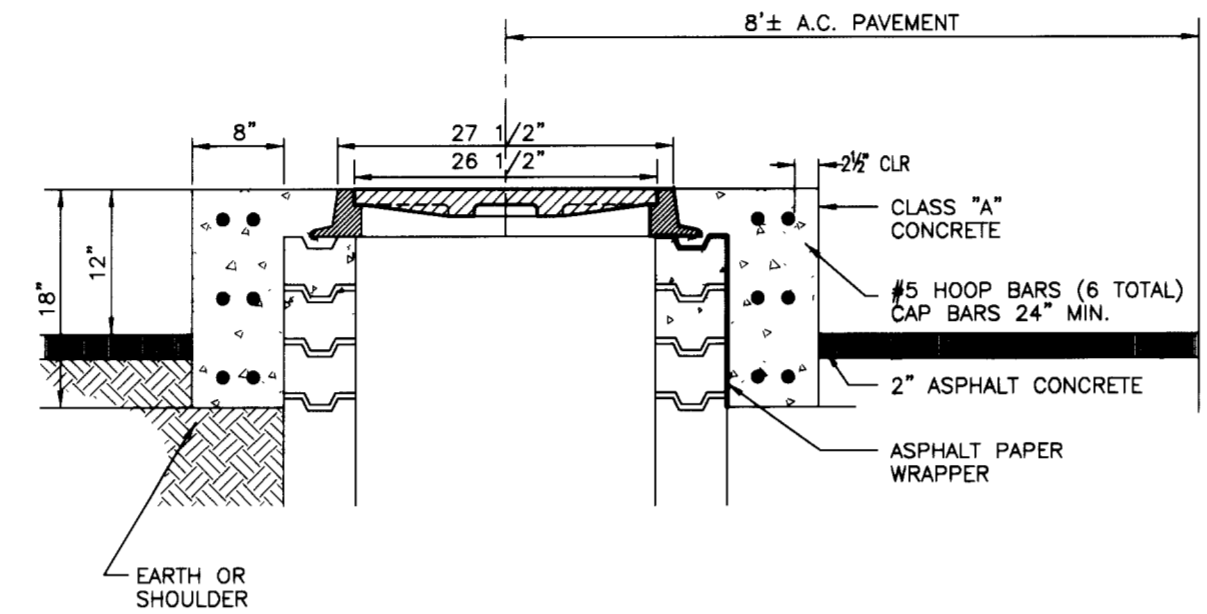
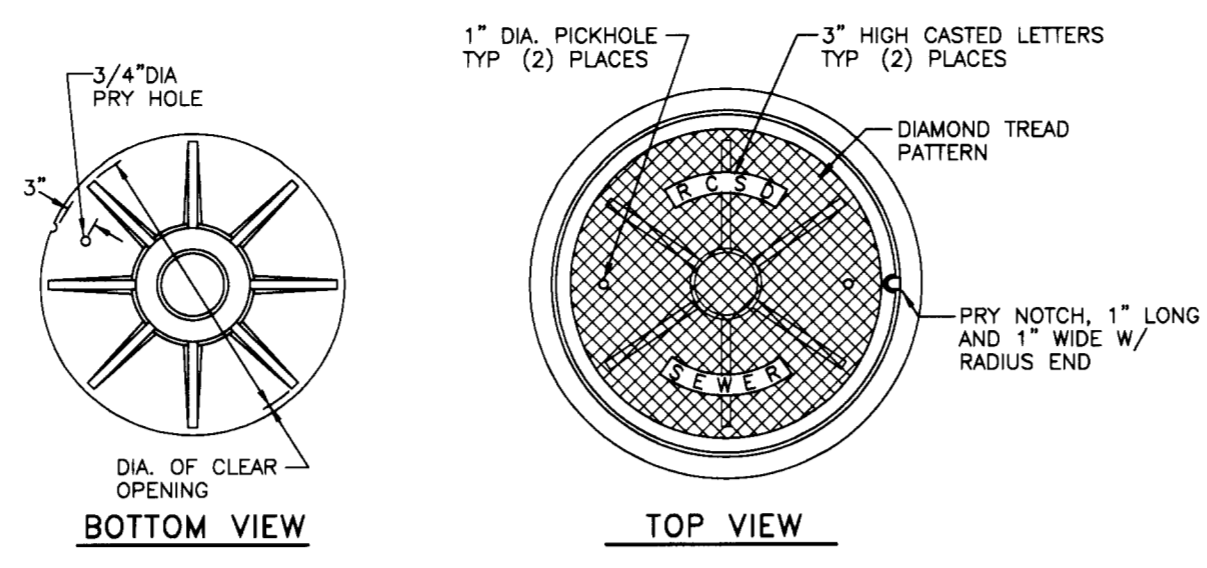
- NOTES**
- MANHOLE STEPS SHALL NOT BE INCLUDED
  - ALL MANHOLE SECTIONS SHALL BE JOINED WITH 3/8" THICK CEMENT MORTAR NEARLY STRUCK AND POINTED
  - MANHOLE OPENING SHALL BE ON UPSTREAM SIDE OF MANHOLES
  - 24" DIA OPENING UNLESS OTHERWISE NOTED
  - MANHOLE DEPTHS (TOP OF MANHOLE FRAME AND COVER TO TOP OF PIPE DIMENSIONS) OF 8 FEET OR GREATER SHALL BE MANHOLES WITH ECCENTRIC CONE TOPS. MANHOLE DEPTHS LESS THAN 8 FEET SHALL BE FLAT TOP MANHOLES

**DETAIL "A"**  
**MANHOLE**  
N.T.S.



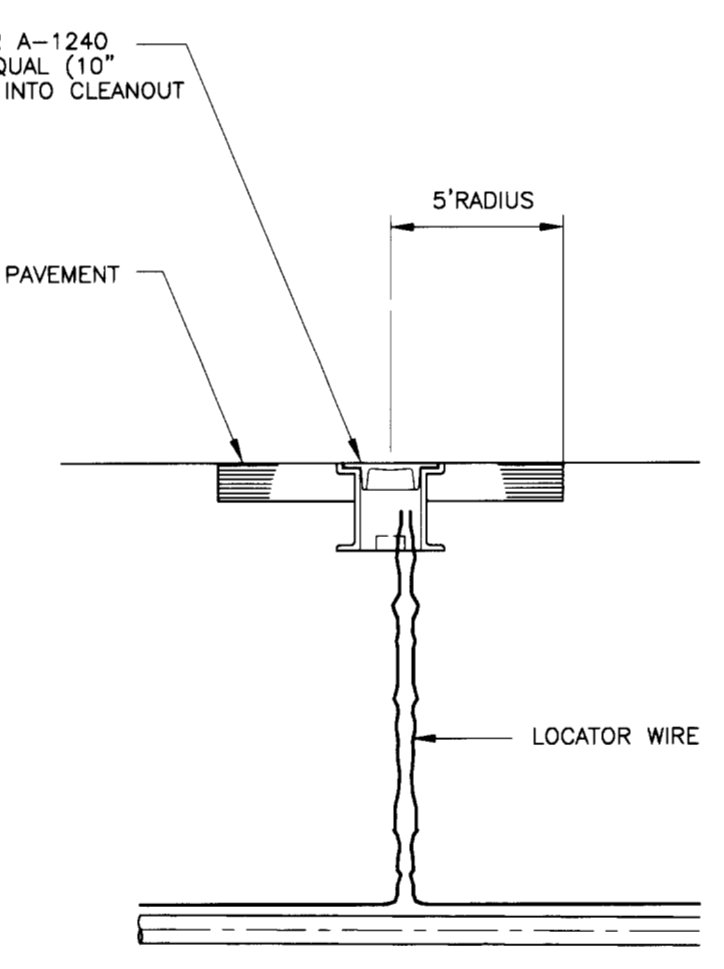
- FLANGED BY RING TITE DUCTILE IRON ADAPTER
- 18" DUCTILE IRON OR POLYVINYL CHLORIDE FORCE MAIN
- TEMPORARY THRUST PROTECTION PER STANDARD DRAWING S-106 FOR FORCEMAIN TESTING
- FLANGED BY PLAIN END DUCTILE IRON SPOOL
- MEGALUG RESTRAINED JOINT CLOSURE SLEEVE
- 18" BLIND FLANGE FOR FORCEMAIN TESTING
- 18" DUCTILE IRON FORCE MAIN WITH SPECIAL PIPE LINING (SEE NOTE 6, SHEET 2)

**DETAIL "E"**  
**CONNECTION PHASING**  
N.T.S.



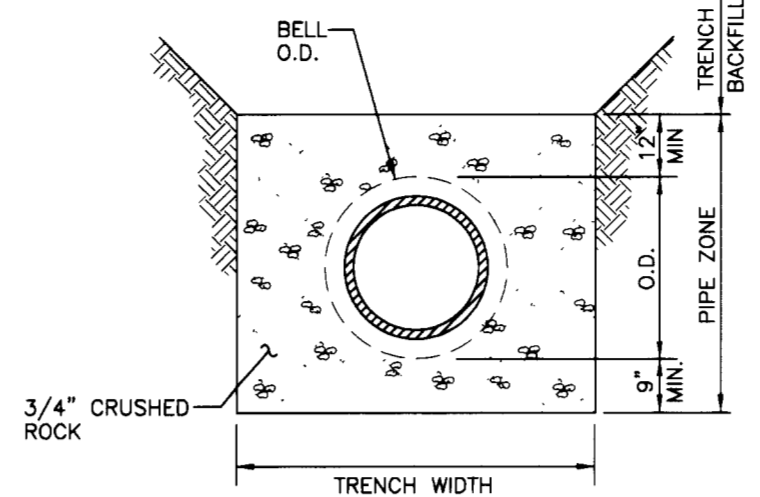
**DETAIL "B"**  
**MANHOLE COVER**  
N.T.S.

**NOTE**  
MANHOLE COVER SHALL BE ALHAMBRA FOUNDRY CO. TYPE A-1254 FOR 24" DIA., A-1251 FOR 36" DIA. WITH DIAMOND TREAD OR APPROVED EQUAL COVER SHALL BE BOLTED TO FRAME (HEX HEAD) IN 4 PLACES. PICKHOLES SHALL BE AS SHOWN WITH NO LIFTING POCKET

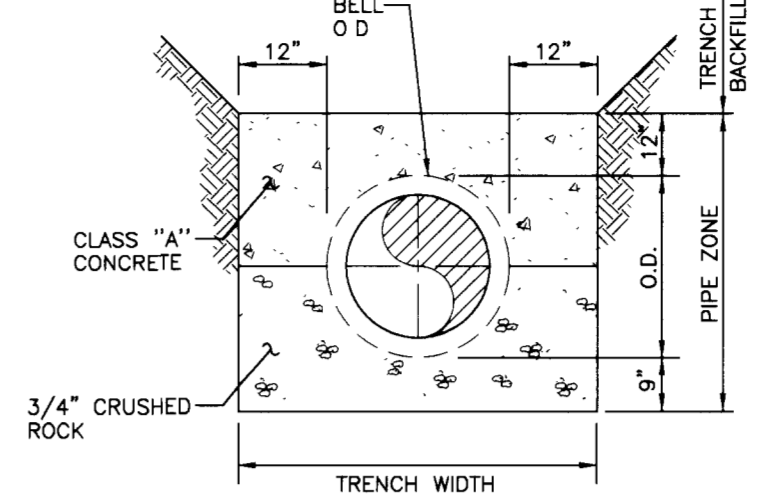


**NOTES:**  
1. LOCATOR WIRE ACCESS STATION. INSTALL VALVE CAN PER STD DWG W111. PIPE LOCATOR WIRE(S) SHALL BE BROUGHT UP INTO VALVE CAN FROM PIPELINE. INCLUDE 1' OF SLACK WITH LOCATOR WIRE. INSTALL 5' RADIUS ASPHALT CONCRETE PAVEMENT AROUND VALVE CAN.

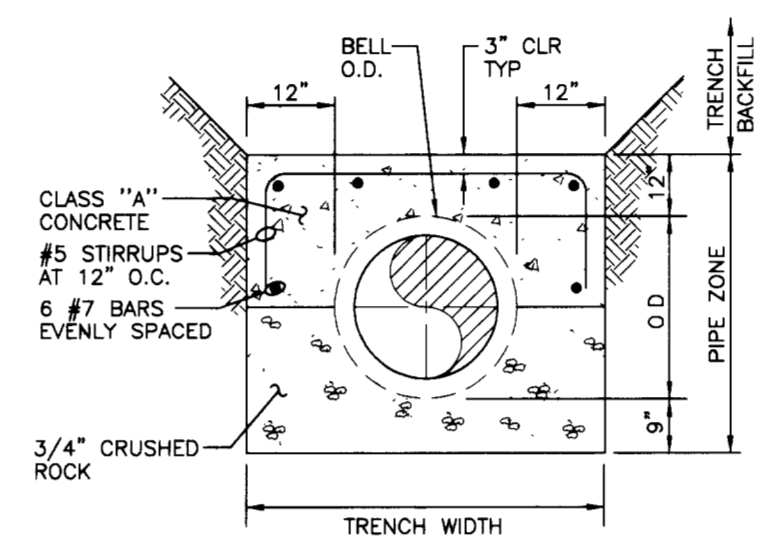
**DETAIL "F"**  
**LOCATOR WIRE ACCESS STATION**  
N.T.S.



**TYPE I**



**TYPE II**

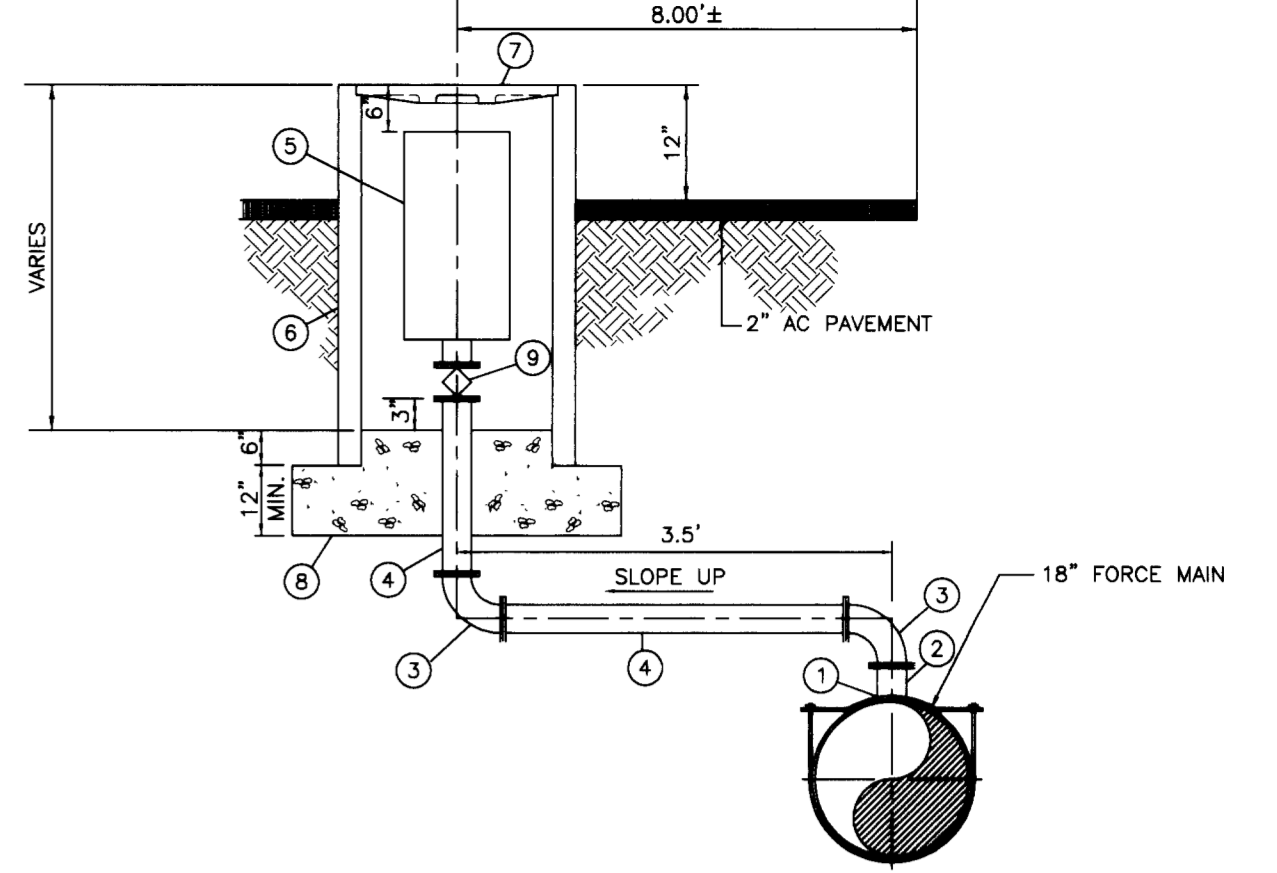


**TYPE III**

3/4" CRUSHED ROCK SHALL BE PER STANDARD SPECIFICATIONS, SECTION 300 WITH THE FOLLOWING GRADATIONS:

SIEVE	% PASSING
1"	100%
3/4"	90-100%
1/2"	20-55%
3/8"	0-15%
No 4	0-5%

**DETAIL "C"**  
**PIPE ZONE BACKFILL AND BEDDING FOR GRAVITY SEWER AND FORCE MAIN**  
N.T.S.

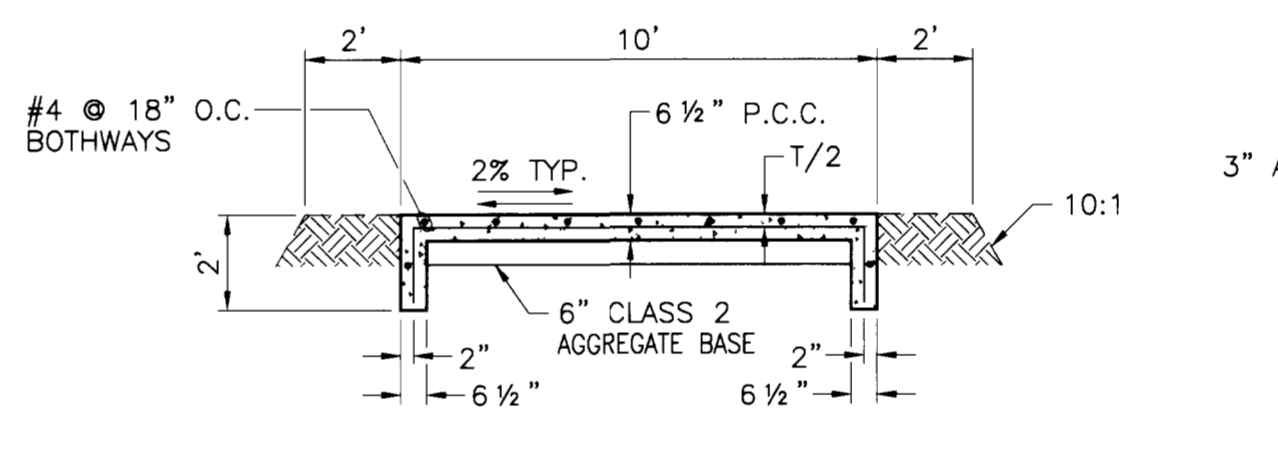


- 3" S S TAPPING SADDLE, SMITH-BLAIR 664-665 OR APPROVED EQUAL
- 3" CLASS 350 DIP FLANGED BY THREADED END SPOOL (LENGTH AS REQ'D)
- 3" DIP FIXED 90° ELL
- 3" CLASS 350 DIP FLANGED END SPOOL (LENGTH AS REQ'D)
- 3" COMBINATION AIR/VACUUM VALVE. SEAT HARNESS SHALL BE SELECTED FOR THE ACTUAL OPERATING PRESSURE OF THE SYSTEM, AS SHOWN ON THE FORCE MAIN CONSTRUCTION DRAWINGS.
- 36" DIA. CONCRETE STORM DRAIN PIPE. (DEPTH VARIES)
- 36" DIA. DUCTILE IRON MANHOLE FRAME AND COVER PER DETAIL "B", HEREON.
- 3/4" CRUSHED ROCK PER DETAIL "C", HEREON.
- 3" LEVER OPERATED, NON LUBRICATED FLANGED PLUG VALVE

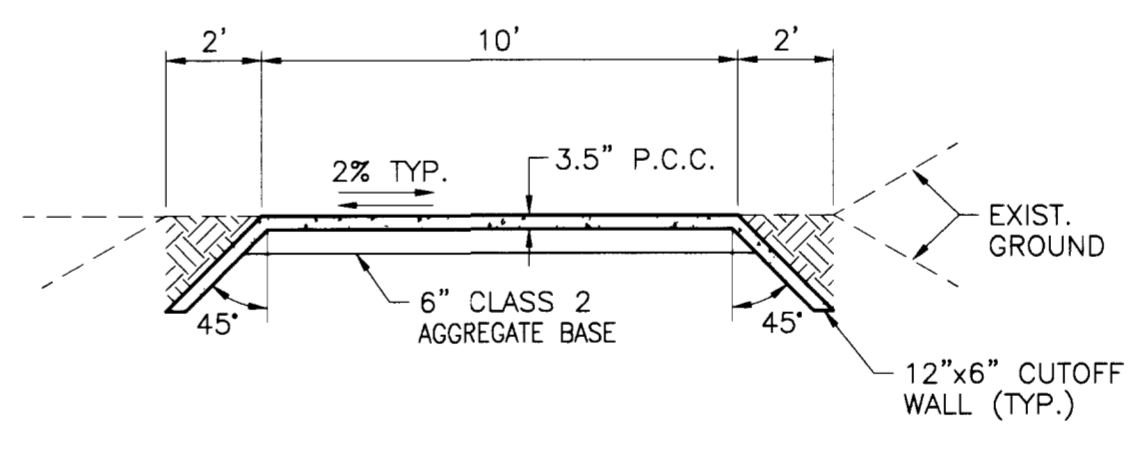
**NOTE**  
1. BOLTS SHALL BE STANDARD HEX HEAD MACHINE PER ASTM A325, GRADE "B". HEX NUTS SHALL BE COLD-PRESS SEMI-FINISH STEEL PER ASTM A-194, GRADE "2H". BURIED THREADS SHALL BE LUBRICATED WITH GRAPHITE AND OIL. AFTER INSTALLATION, BOLTS SHALL BE FIELD COATED WITH AN APPROVED BITUMASTIC.

2. ALL AIR VALVE PIPE AND FITTINGS SHALL BE LINED WITH SPECIAL PIPE LINING. SEE NOTE 6, SHEET 2

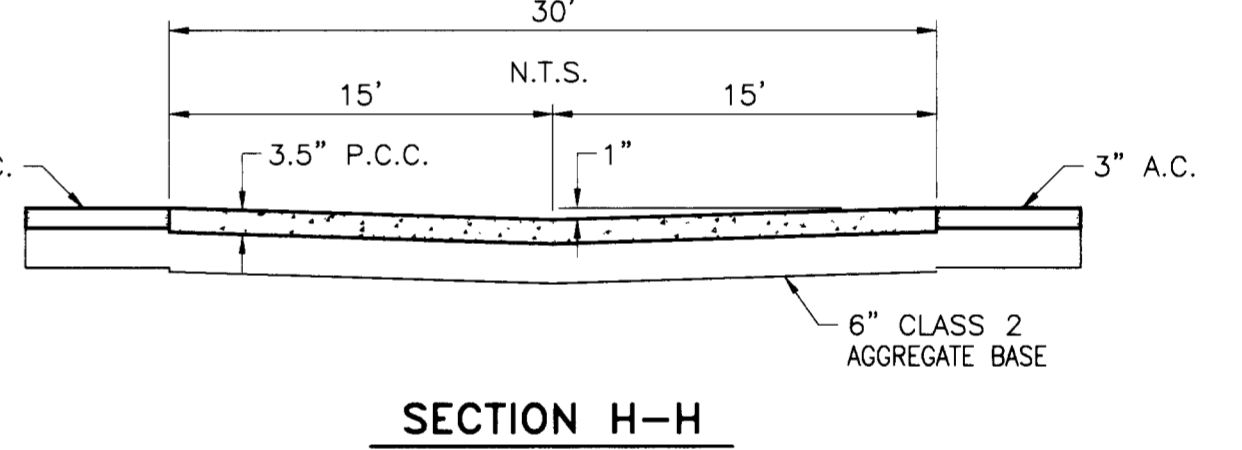
**DETAIL "D"**  
**4" AIR VALVE INSTALLATION**



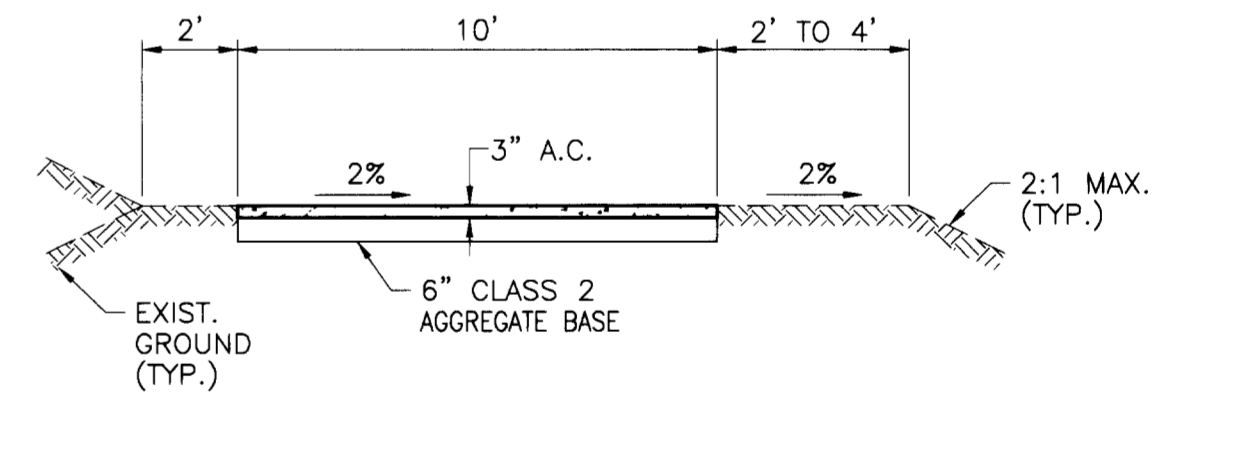
**SECTION F-F**  
N.T.S.



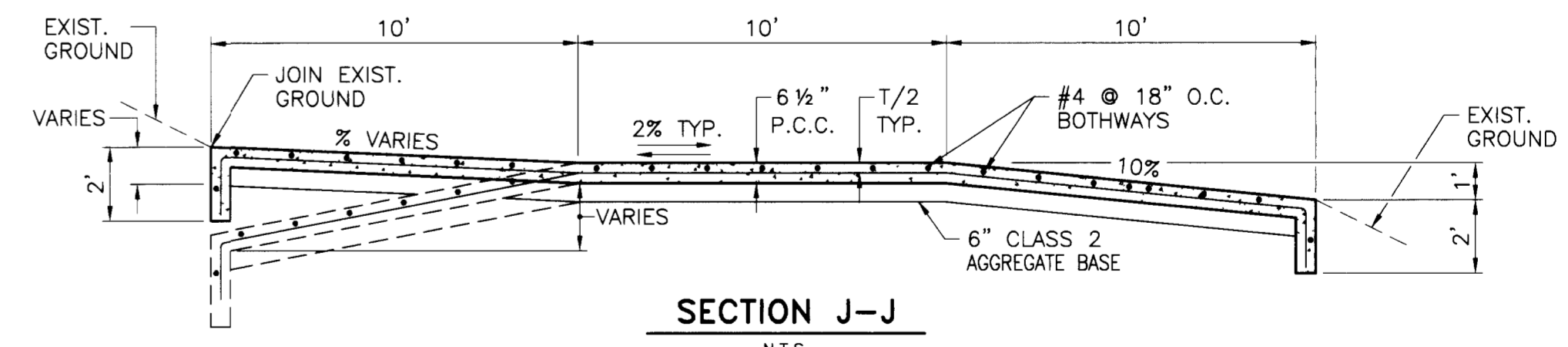
**SECTION G-G**  
CONCRETE PAVEMENT  
N.T.S.



**SECTION H-H**  
P.C.C. SWALE  
N.T.S.



**SECTION I-I**  
N.T.S.



**SECTION J-J**  
N.T.S.

**BIKE TRAIL TYPICAL SECTIONS**

RUBIDOUX COMMUNITY SERVICES DISTRICT

APPROVED BY *M. E. M...*  
DISTRICT ENGINEER

DATE 5-8-96

SYM	REVISIONS	DATE	BY



**KRIEGER & STEWART** INCORPORATED

3602 University Ave • Riverside, CA 92501 • 909-684-6900

APPROVED BY *Michael J. Stewart*  
REGISTERED ENGINEER No. 44226 DATE 5/1/96

SCALE	AS NOTED
FIELD BK.	156/97-108 152/83-101
DESIGN	VGK
DRAWN	TMW
CHECKED	MPT

RUBIDOUX COMMUNITY SERVICES DISTRICT

REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION

FORCE MAIN/SEWER/BIKE TRAIL DETAILS

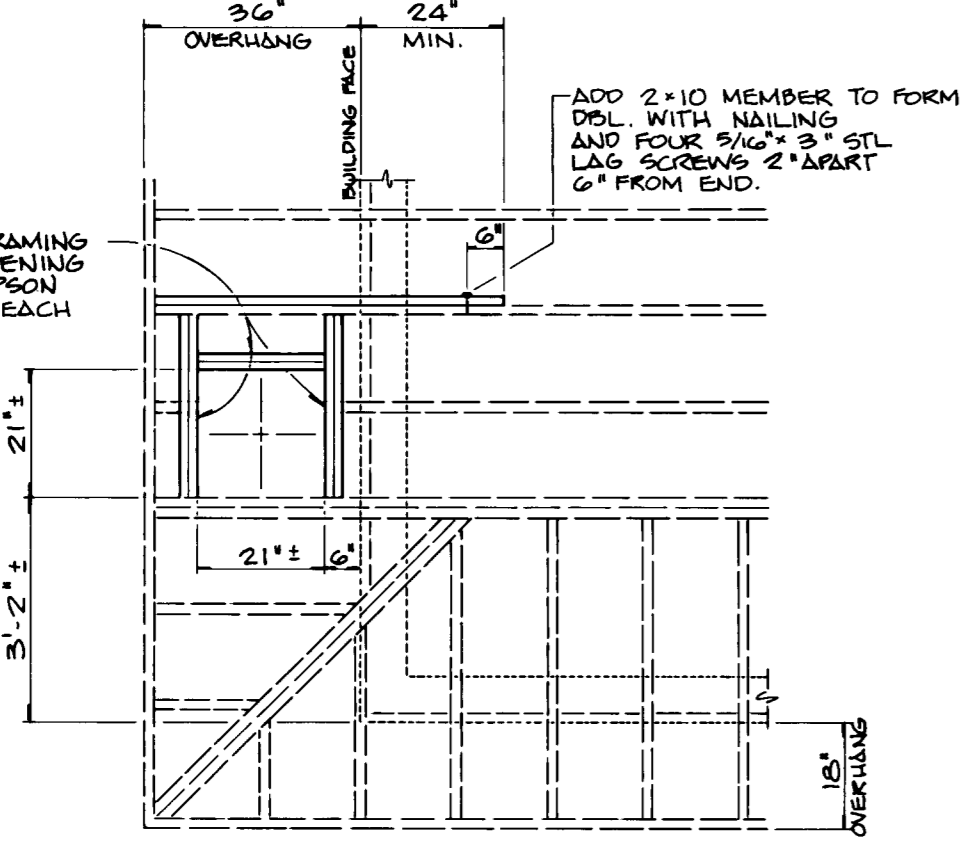
SHEET  
**17**  
OF 26 SHEETS  
R.C.S.D. PLAN NO.





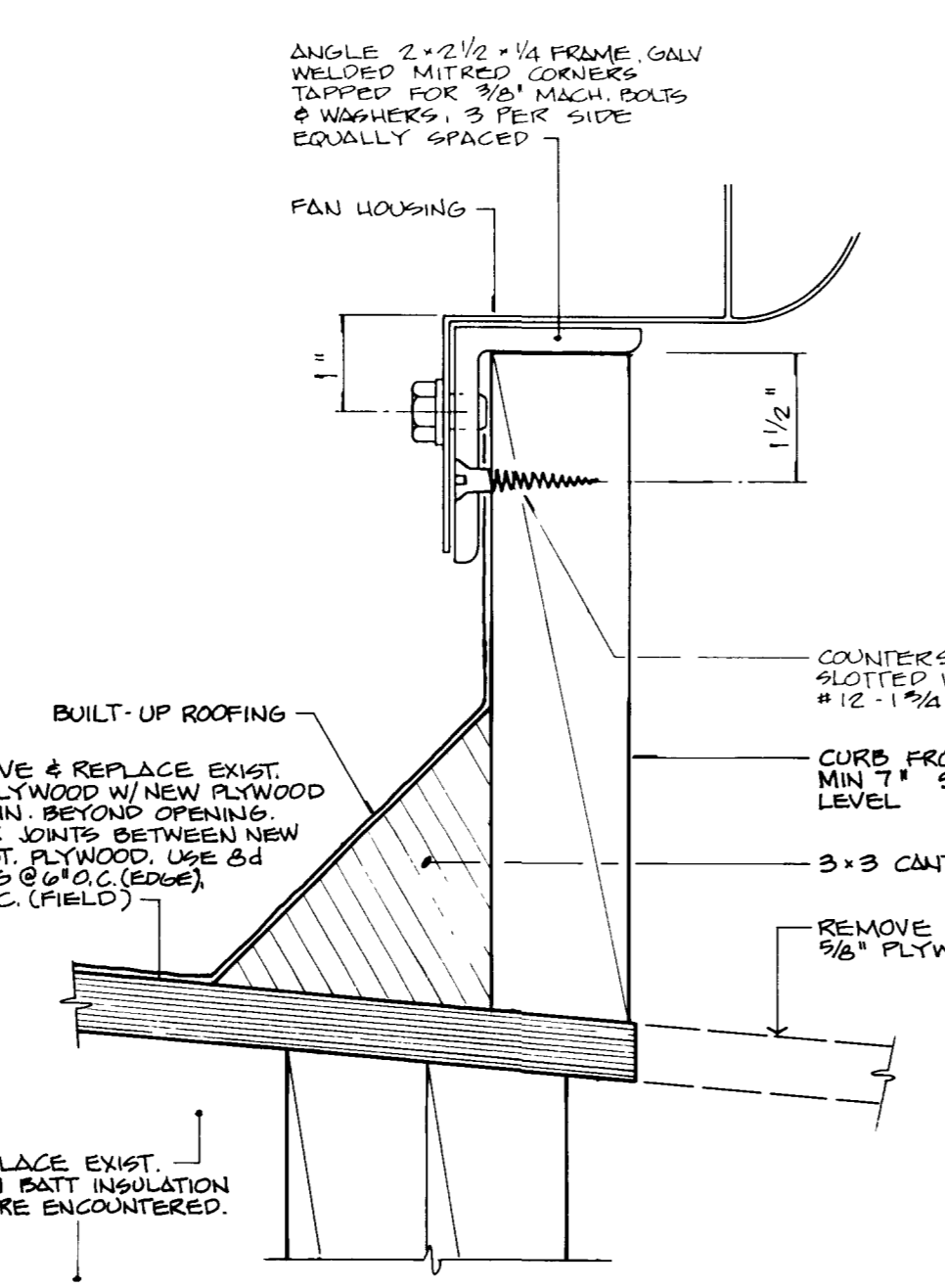


ADDITIONAL DBL 2x10 FRAMING FOR 21" SQ DUCT/FAN OPENING IN ROOF USING A 55 SIMPSON CONNECTORS (2 MIN. AT EACH CONNECTION)

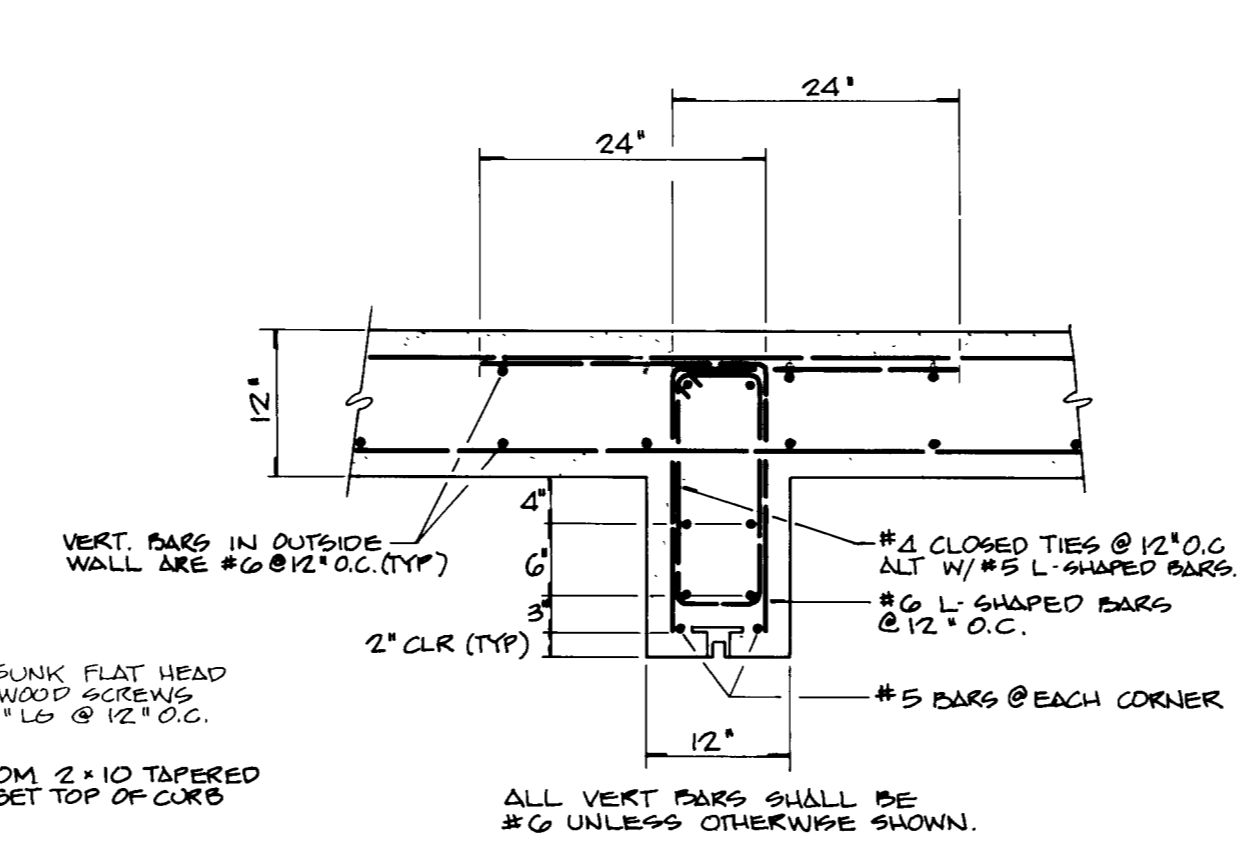


EXISTING WASTEWATER LIFT STATION ROOF PLAN, MODIFY SOUTH EAST CORNER OF ROOF FOR INSTALLING EXHAUST FAN AND DUCTING

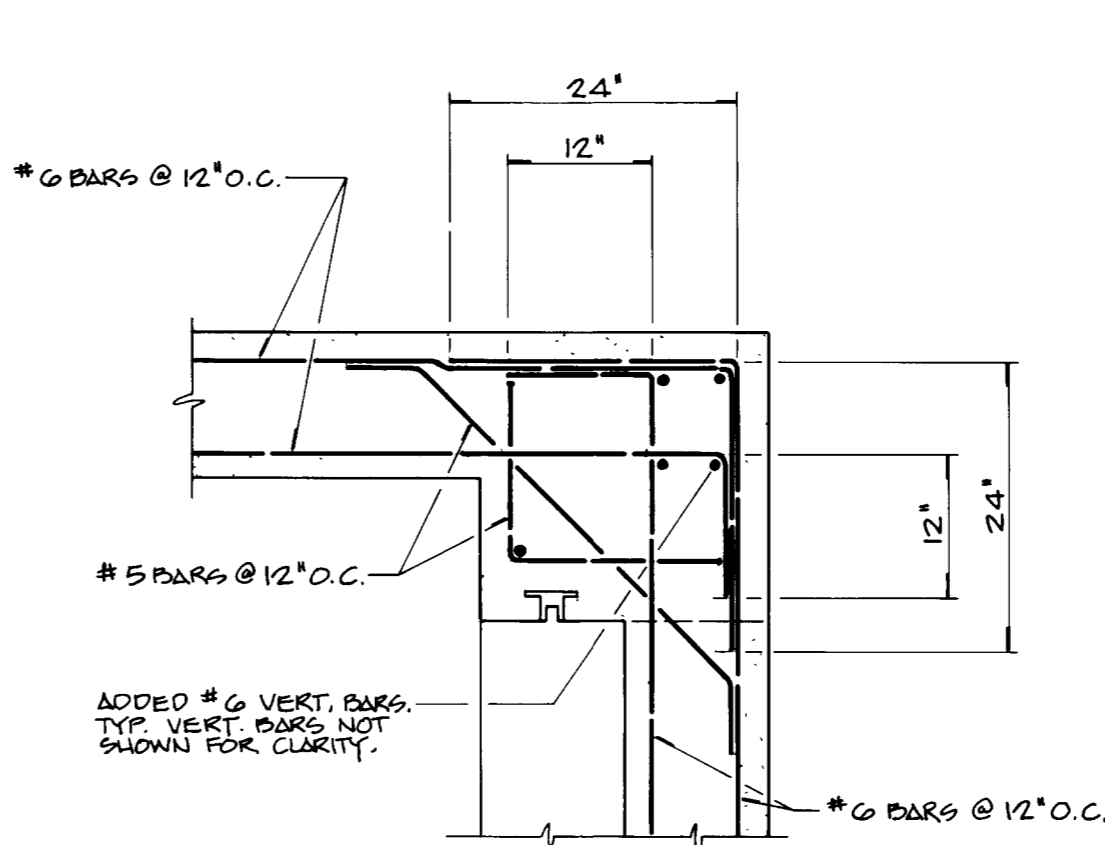
**ROOF FRAMING DETAIL**  
SCALE: 3/8" = 1'-0"



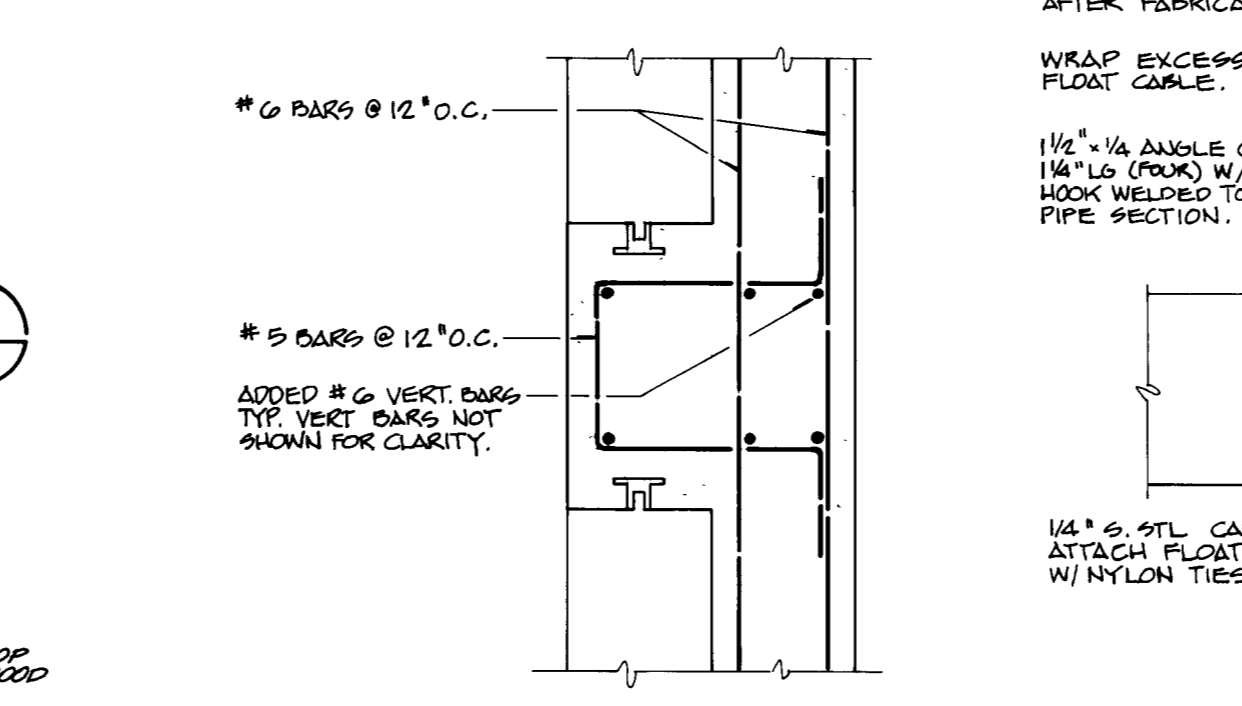
**DETAIL 1**  
SCALE: 1/2" = 1'-0"



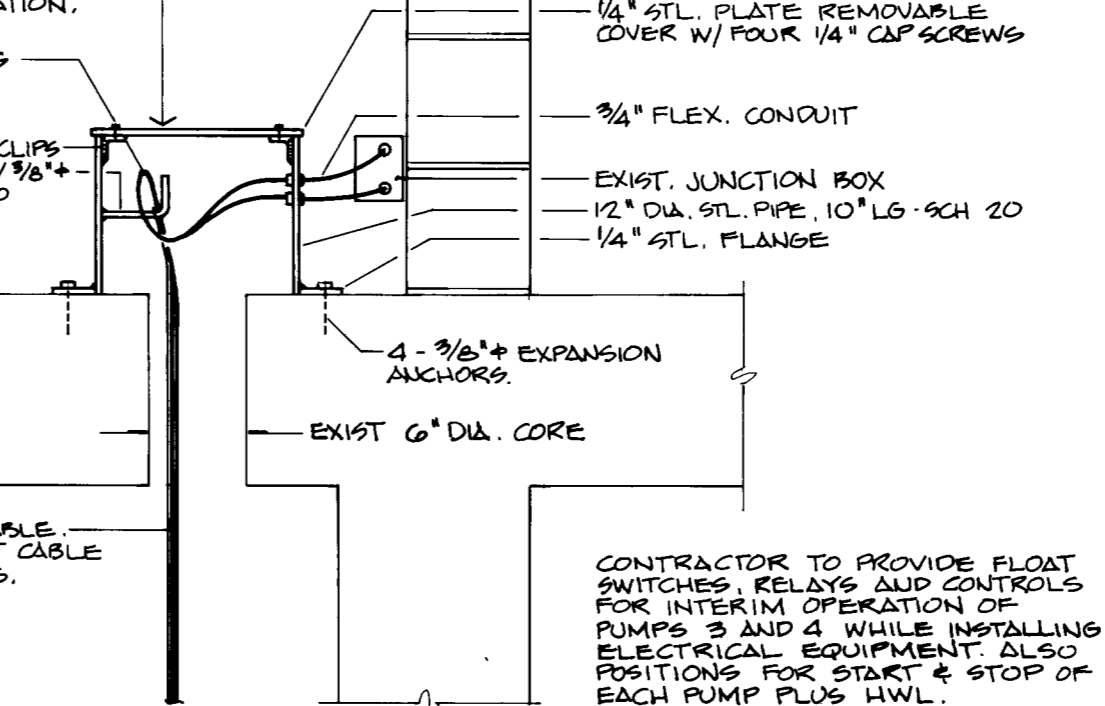
**DETAIL 2**  
SCALE: 3/4" = 1'-0"



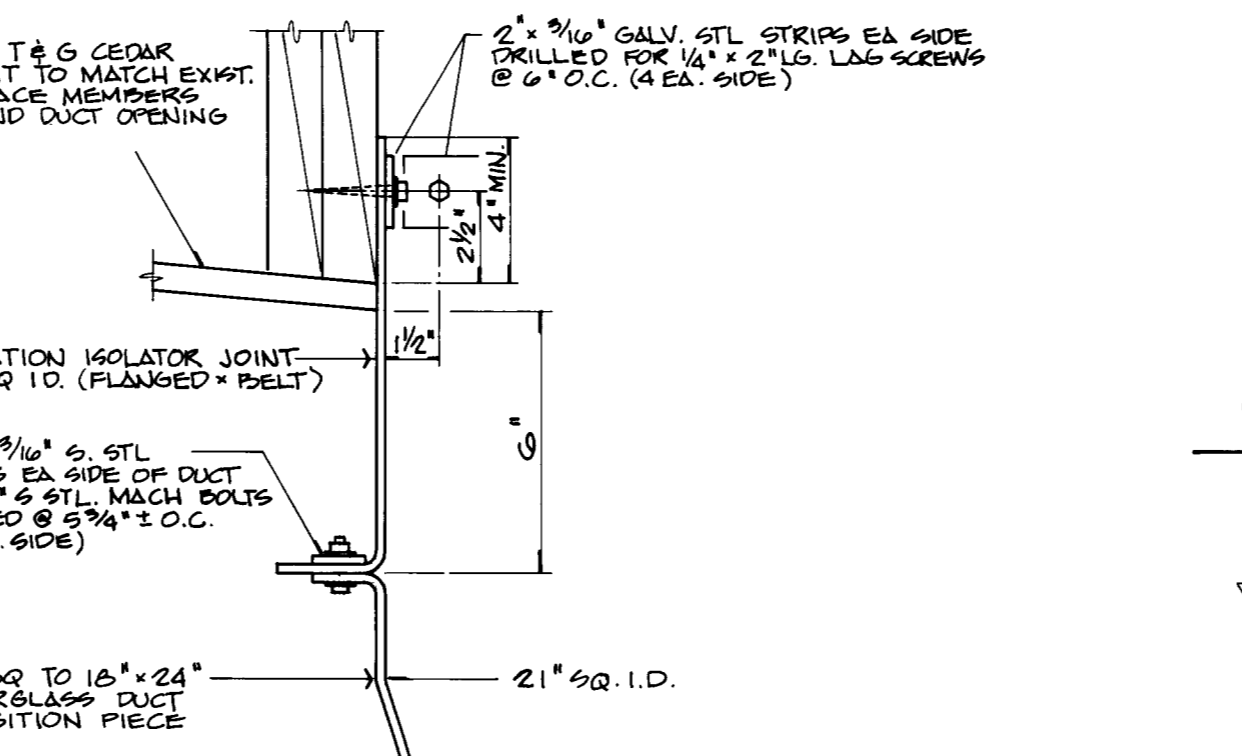
**DETAIL 3**  
SCALE: 3/4" = 1'-0"



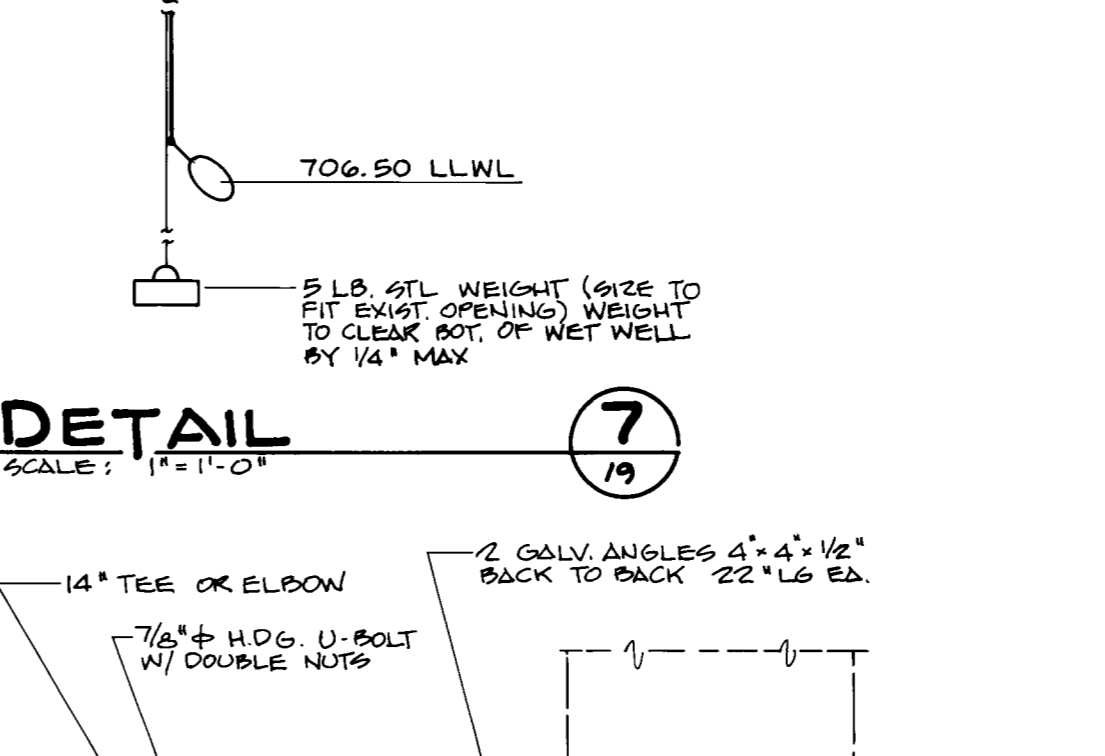
**DETAIL 4**  
SCALE: 3/4" = 1'-0"



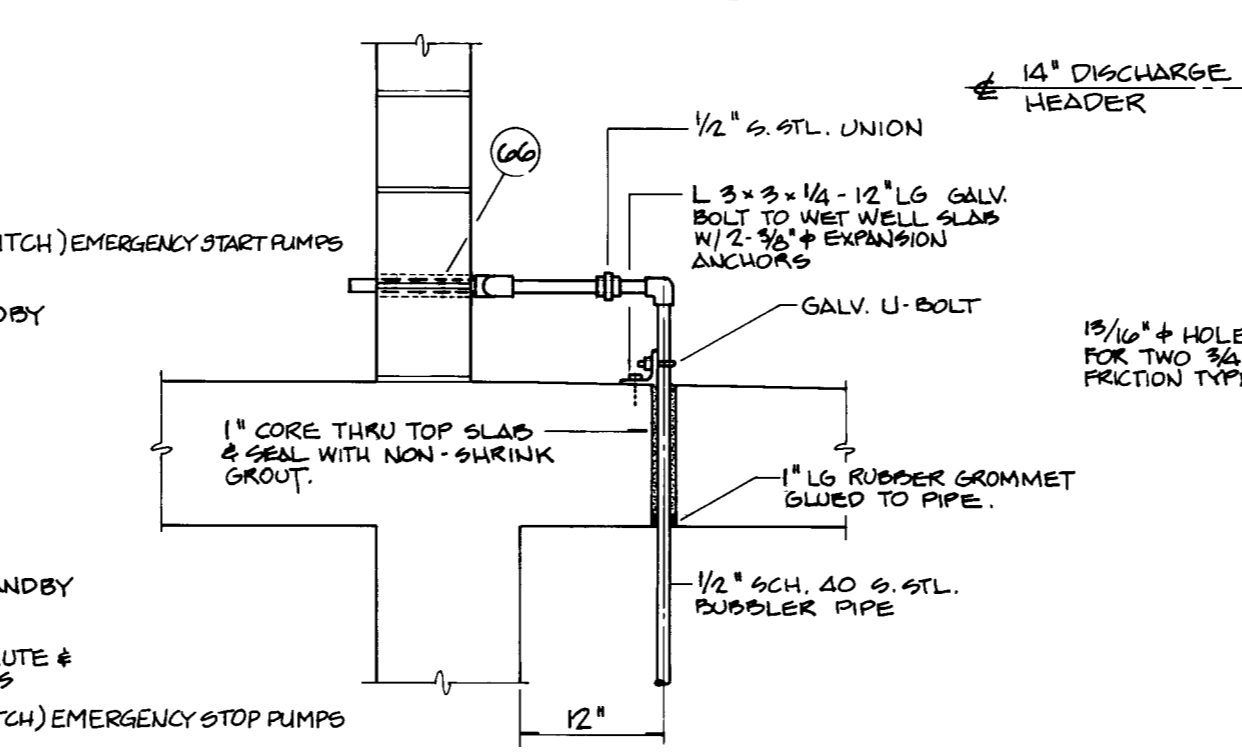
**DETAIL 5**  
SCALE: 1" = 1'-0"



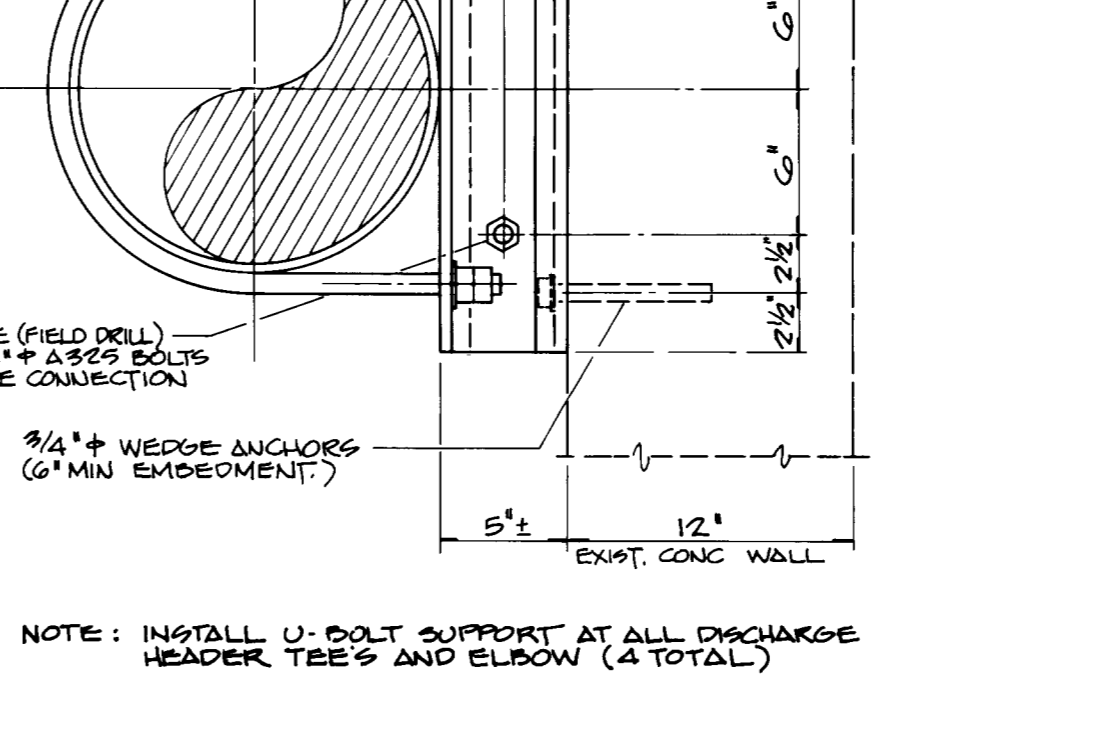
**DETAIL 6**  
SCALE: 3/8" = 1'-0"



**DETAIL 7**  
SCALE: 1" = 1'-0"

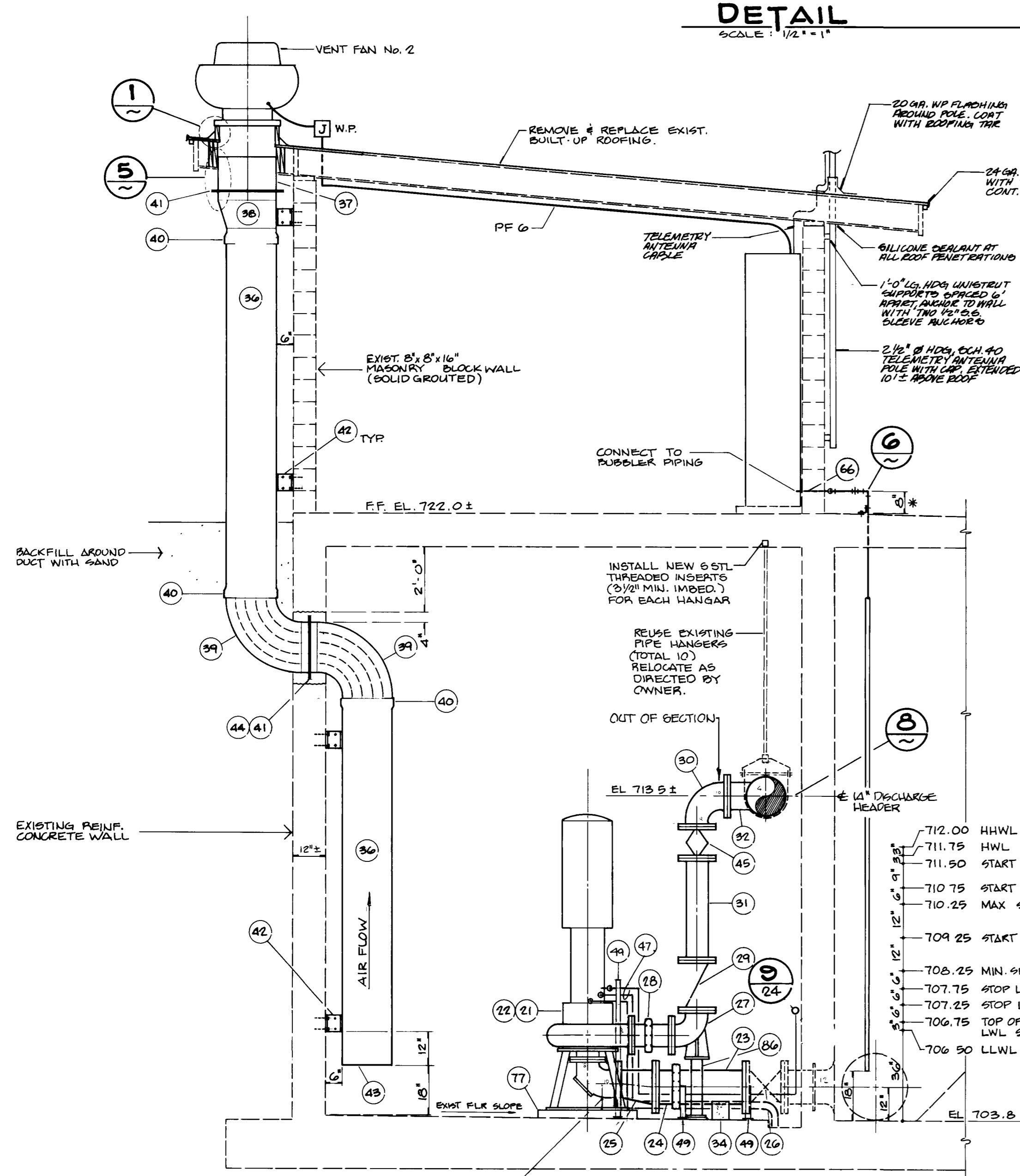


**DETAIL 8**  
SCALE: 3/4" = 1'-0"



**DETAIL 9**  
SCALE: 1/2" = 1'-0"

45. 8" FLANGED GEAR OPERATED, NON-LUBRICATED PLUG VALVE GEAR OPERATOR HANDWHEEL SHALL BE PROVIDED WITH A BABBITT ADJUSTABLE SPROCKET CHAINWHEEL SPROCKET RIM AND CHAIN GUIDE SHALL BE CAST IRON. CHAIN SHALL BE GALVANIZED, LENGTH AS REQUIRED.
46. EXISTING 1-1/2" WW, CONNECT PROPOSED 1" WW FOR PUMP SEAL WATER SUPPLY (REFERENCE DETAILS 8 AND 9 ON SHEET 24).
47. 3/4" SEAL WATER TUBING TO PUMP MECHANICAL SEAL, AND 1/2" SEAL WATER AND 1/2" VOLUTE DRAIN TUBING TO GUTTER (TYP. PUMPS 1, 2, AND 3). TUBING AND FITTINGS SHALL BE TYPE 316 STAINLESS STEEL.
48. 1" FLANGED 45° ELBOW, DI.
49. HDG UNISTRUT POST SUPPORT WITH POST BASE, ATTACH SEAL WATER AND DRAIN. PLACE POST BASE ON 3/4" GROUT PAD AND ATTACH TO CONCRETE SLAB WITH 4-3/8" DIAMETER STAINLESS STEEL WEDGE ANCHORS.
50. RAISE EXISTING FLOAT SWITCH AND WALL SUPPORTS TO ACTIVATE AT 36" ABOVE TOP OF SUMP. FLOAT SWITCH ACTIVATES SHUNT TRIP OF EXISTING MAIN CIRCUIT BREAKER.
51. PROVIDE FLOAT SWITCH SUSPENDED FROM CABLE SET TO TRIP AT HWL IN DRY WELL AT TOP OF SUMP. SET JUNCTION BOX 48" ABOVE FLOOR. PROVIDE ALARM TO TELEMETRY.
52. 1" C WITH METER CABLE FROM METER TO SIGNAL CONVERTER.
53. PF TO PUMP, PROVIDE NEW FLEX FROM TWO EXISTING 1-1/4" CONDUITS. REPAIR EXISTING CONDUIT SUPPORT (TYP. PF 1 & 2 FOR PUMPS 1 & 2).
54. PFS, PROVIDE 1" AND 1-1/4" HDG CONDUITS, SUPPORT SIMILAR TO EXISTING CONDUITS. CONNECT TO MOTOR WITH FLEX CONDUITS.
55. MOTOR TERMINAL BOX, LOCATE FOR EASE OF CONNECTION (TYP).
56. FUTURE A, TOTAL 3 SUSPENDED FROM CEILING 123" ABOVE FLOOR (MATCH HEIGHT OF EXISTING), CONNECT TO EXISTING LIGHT JUNCTION BOX.
57. EXISTING 8" LONG LIGHTING FIXTURE TO REMAIN.
58. PROVIDE THERMOSTAT (72" ABOVE FIN. FLOOR) FOR VENT FAN NO. 2 (LABEL WITH NAMEPLATE).
59. DRY WELL LIGHT SWITCH, REMOVE EXISTING SWITCH AND INSTALL TWO POLE SWITCH AND RECONNECT LIGHT CIRCUIT AND CONNECT FOR OPERATION OF VENT FAN NO. 2 FOR SIMULTANEOUS OPERATION WITH LIGHTS.
60. PROVIDE THERMOSTAT (72" ABOVE FIN. FLOOR) FOR EXISTING VENT FAN NO. 1 (LABEL WITH NAMEPLATE).
61. REMOVE EXISTING 8" LONG FIXTURE IN CONTROL ROOM (TOTAL 3) AND PATCH CEILING.
62. FUTURE A (TOTAL 7) MOUNTED ON CONTROL ROOM CEILING. CONNECT TO EXISTING LIGHTING CIRCUIT. FIXTURES SHALL BE MOUNTED TO UNISTRUT ANCHORED TO ROOF RAFTERS WITH 1/4" LAG SCREWS.
63. FUTURE B (TOTAL 1) MOUNT AT 7'-0" ABOVE LANDING. CONNECT TO CONTROL ROOM LIGHTING CIRCUIT.
64. EXISTING 10" X 18" DUCT FOR EXISTING VENT FAN NO. 1. CUT 12" X 18" H OPENING INTO DUCT AT 7'-0" ABOVE FIN. FLOOR. INSTALL 1/4" HDG WIRE MESH SCREEN.
65. PF 4, VENT FAN NO. 2 TO MCC.
66. CORE WALL FOR 1/2" BUBBLER PIPING, SEAL WITH SILICONE CAULK. ANNULAR SPACE SHALL NOT EXCEED 1/4".
67. EXISTING CORE THROUGH WET WELL FOR EXISTING FLOAT SWITCHES. PROVIDE NEW FLOAT SWITCHES FOR HWL AND LLWL. ALSO PROVIDE FLOAT SWITCHES FOR INTERIM OPERATION.
68. PROVIDE #12, 1912 GRD IN EXISTING CONDUIT. CONNECT TO FLOAT SWITCHES AT EXISTING JUNCTION BOX. REMOVE EXISTING CONDUCTOR.
69. PUMP EMERGENCY STOP BUXTON. MOMENTARY CONTACT WITH LOCK-OUT (PROVIDE PIN) TO OPEN PUMP CONTROL CIRCUIT (TYP. 4). LABEL WITH NAMEPLATE ENGRAVED "EMERGENCY STOP PUMP NO. 1", ETC.
70. EXISTING METER AND MAIN SERVICE PANEL.
71. EXISTING CONCRETE SLAB (18" TO 16" THICK) HAS SETTLED AND PANEL IS 2" TO 4" ABOVE SLAB.
72. REMOVE SLAB AROUND EXISTING PANEL, SCARIFY 1/2" DEEP AROUND PANEL, AND OUT FROM EXISTING SLAB 3'-0", RECOMPACT TO 80% RELATIVE COMPACTION AND CONSTRUCT NEW CONCRETE PAD. PROTECT METER AND MAIN PANEL IN PLACE.
73. CONCRETE SLAB PLACED AROUND AND OVER EXISTING SLAB, TO HEIGHT OF BOTTOM OF PANEL. JUST PRIOR TO CONCRETE PLACEMENT, COAT EXISTING SLAB WITH CONCRETE BONDING AGENT (THORO ACRYL 85). CONCRETE SLAB SHALL BE REINFORCED WITH CONTINUOUS #5 BARS AT 12" O.C. (8 MINIMUM).
74. DRILL INTO EXISTING CONCRETE (6" DEPTH) AND EPOXY #6 DOWEL 18" LONG APPROXIMATELY 12" BELOW TOP OF WET WELL WHERE SHOWN.
75. 3/4" C WITH #812, 1912 GRD FROM MCP TO SOLENOID VALVES FOR SEAL WATER.
76. 3/4" C WITH #812, 1912 GRD FROM MCP TO PUMP EMERGENCY STOP STATIONS.
77. REMOVE EXISTING CONCRETE PUMP BASE AND ANCHOR BOLTS TO TOP OF EXISTING FLOOR SLAB. CHISEL CONCRETE FLOOR SLAB BENEATH NEW PUMP BASE TO 1/4" MINIMUM AMPLITUDE. AFTER NEW PUMP BASE HAS BEEN ANCHORED, INSTALL NON-SHRINK GROUT PAD BENEATH THE PUMP BASE. GROUT PAD SHALL BE CONTINUOUS, EXTEND 1-1/2" BEYOND PERIMETER OF PUMP BASE, AND BE PROVIDED WITH A 5/8" CHAMFER ALL AROUND. NON-SHRINK GROUT SHALL BE MASTERFLOW 658 GROUT AS MANUFACTURED BY MASTER BUILDERS, INC. FOR GROUT PADS THICKER THAN 2". GROUT SHALL BE EXTENDED WITH 36" DRY AGGREGATE, FURNISHED BY THE MANUFACTURER. APPLY MANUFACTURER RECOMMENDED ADHESIVE TO EXISTING CONCRETE SURFACES JUST PRIOR TO GROUT PLACEMENT. INSTALL GROUT IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.
78. CORE THROUGH WALL FOR FLOAT SWITCH CABLES FOR INTERIM OPERATION OF PUMPS 3 AND 4. REMOVE AND PATCH HOLE WITH NON-SHRINK GROUT WHEN INTERIM OPERATION IS COMPLETE.
79. CORE WALL FOR PFS (TWO PLACES), SEAL WITH SILICONE CAULK. ANNULAR SPACE SHALL NOT EXCEED 1/4".
80. ISOLATION TRANSFORMER, MOUNT TO WET WELL CONC. ROOF WITH 4-3/4" WEDGE ANCHORS (8" MINIMUM EMBEDMENT). CLEARANCE AND CONDUIT ACCESS TO BE VERIFIED BY MANUFACTURER.
81. PFS TRANSFORMER TO MCC AND VFDS.
82. 8" CLASS 53 DIP FLANGED BY GROOVED END SPOOLS (LENGTH AS REQUIRED) AND 8" GROOVED COUPLING, VICTAULIC STYLE 31. SPOOL LENGTHS SHALL BE EQUAL.
83. 6" X 8" FLANGED INCREASING 90° BASE ELBOW, DI.
84. EXISTING WALL MOUNTED SUPPORT. RELOCATE SUPPORT TO LOCATION SHOWN. LENGTHEN OR SHORTEN SUPPORT AS REQUIRED TO ACCOMMODATE NEW PUMP DISCHARGE LOCATION.
85. DISTANCE BETWEEN CENTERLINE OF EXISTING PUMP SUCTION AND CENTERLINE OF NEW PUMP DISCHARGE VARIES ACCORDING TO PUMP MANUFACTURER. MODIFY OR REPLACE EXISTING 1 1/2" HEADER SPOOLS AS REQUIRED TO ACCOMMODATE NEW PUMP DIMENSIONS. TYPICAL FOR PUMPS 1, 2, AND 3.
86. 3" DIAMETER SUPPORT PIPE (SCH. 40), FULLY WELDED TO 6" X 8" X 1/2" STEEL BASE PLATE AND 4" X 4" X 1/2" STEEL TOP PLATE. STEEL BASE PLATE SHALL BE PLACED ON A GROUT LEVELING PAD (3/4" MINIMUM) AND ANCHORED TO CONCRETE SLAB WITH 4-1/2" WEDGE ANCHORS (8" MINIMUM EMBEDMENT).
87. POT HOLE AND LOCATE EXISTING SUMP PUMP DRAIN. TELEPHONE AND ELECTRICAL SERVICE AND INSTALL 4" PVC AIR VENT TO CLEAR. SLOPE PIPE TO WET WELL SPLITTER.
88. SHEAR RING THRUST BLOCK PER STANDARD DRAWING PLACED OVER FLANGED CONNECTION.
89. 18" CLASS 53 FLANGED BY PLAIN END SPOOL, LENGTH AS REQUIRED (2'-8" MIN).
90. EXISTING 3" I.D. MANHOLE WITH 3" DIAMETER COVER AND 3" COMBINATION AIR AND VACUUM VALVES DUAL TYPE. REMOVE EXISTING AIR VALVES, MANHOLE AND COVER AND REPLACE WITH ABOVE GRADE SINGLE BODY SEWAGE COMBINATION AIR VALVE (MINIMUM 2" SIZE WITH 3" INLET AND 3" OUTLET COMPLETE WITH SHUT OFF VALVES AND FLUSH HOSES). CONNECT OUTLET WITH 4" PIPING TO EXISTING WET WELL.
91. EXISTING PRECAST CONCRETE PULL BOX FOR TELEPHONE SERVICE.
92. APPROXIMATE LOCATION OF 1-1/2" CONDUIT WITH CONTROL WIRING TO EXISTING ABOVE GRADE CL-VALVE SOLENOID. RELOCATE AS NECESSARY. PULL NEW CONDUCTORS AS NECESSARY TO AVOID SPLICING.
93. CORE DRILL THROUGH EXISTING CONCRETE WALL, INSTALL PVC PIPE AND LINK-SEAL LINK-SEAL SHALL BE FOR CORROSION SERVICE WITH EPDM RUBBER AND STAINLESS STEEL BOLTS AND NUTS, AS MANUFACTURED BY THUNDERLINE CORP., OR EQUAL.



**SECTION**  
SCALE: 3/8" = 1'-0"

RUBIDOUX COMMUNITY SERVICES DISTRICT			
APPROVED BY <i>W. E. Stewart</i> DISTRICT ENGINEER			
DATE 5-2-96			
SYM	REVISIONS	DATE	BY

**KRIEGER & STEWART** INCORPORATED  
3602 University Ave. Riverside, CA 92501 909-884-6900

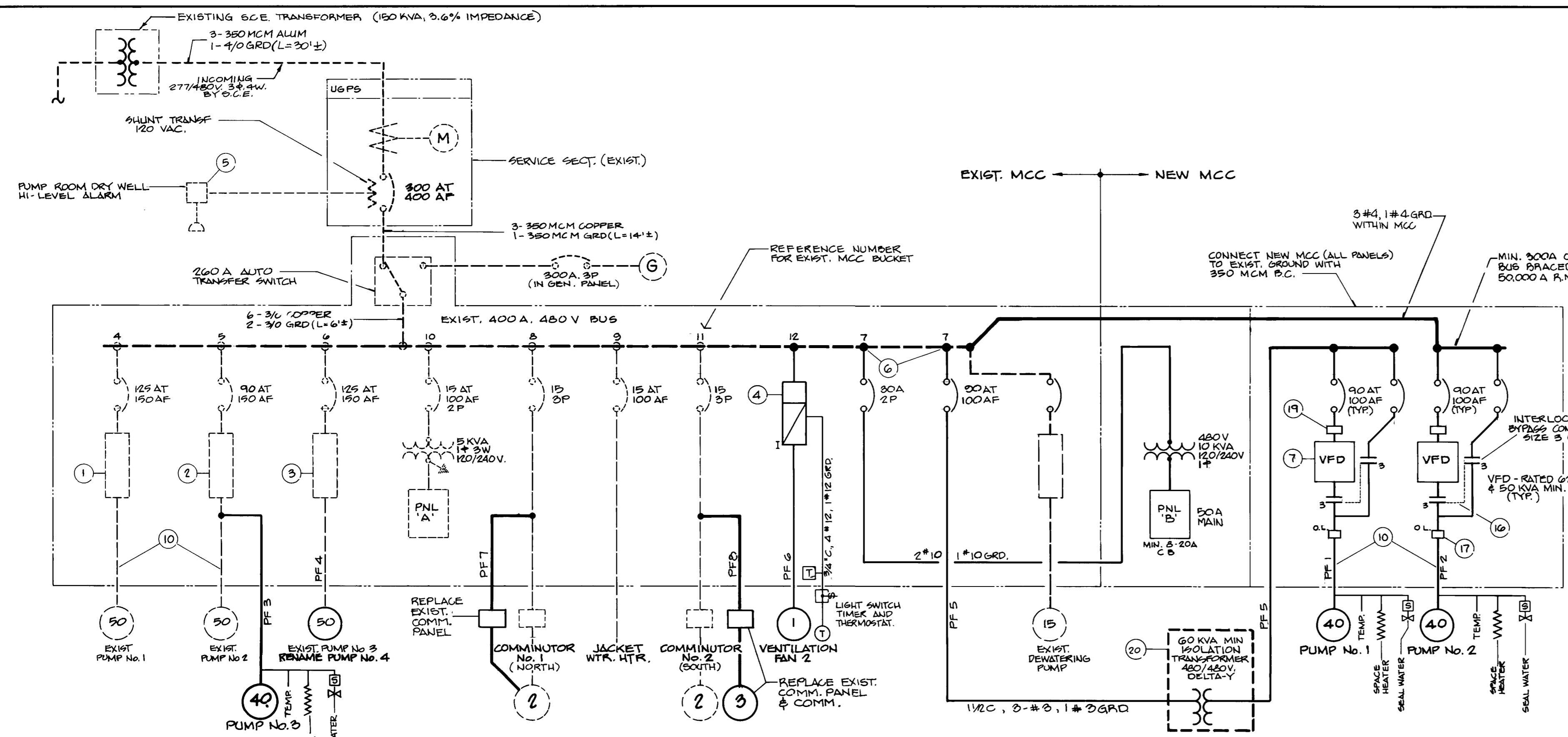
APPROVED BY *W. E. Stewart*  
REGISTERED ENGINEER No. C37263 DATE 4/3/96

SCALE	AS SHOWN
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DRAWN	CLA
CHECKED	JCR

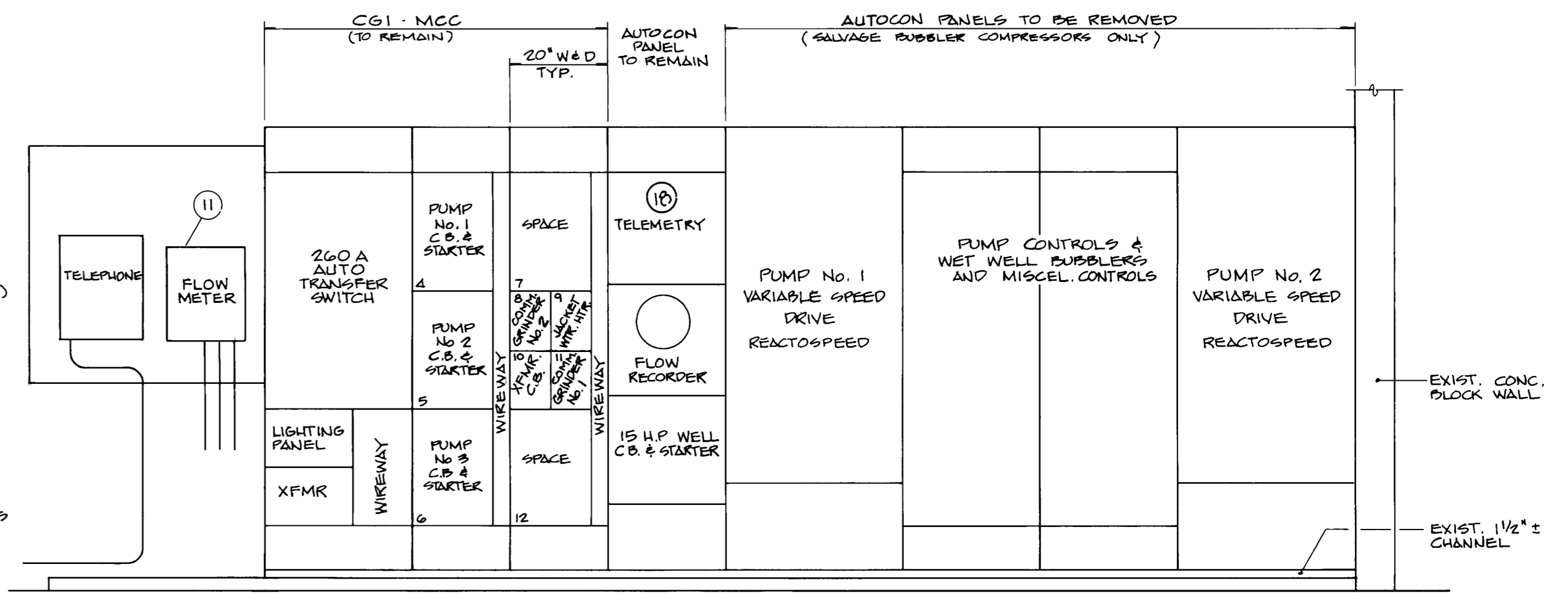
**RUBIDOUX COMMUNITY SERVICES DISTRICT**  
REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION

**LIFT STATION MODIFICATIONS**  
**SECTIONS AND DETAILS**

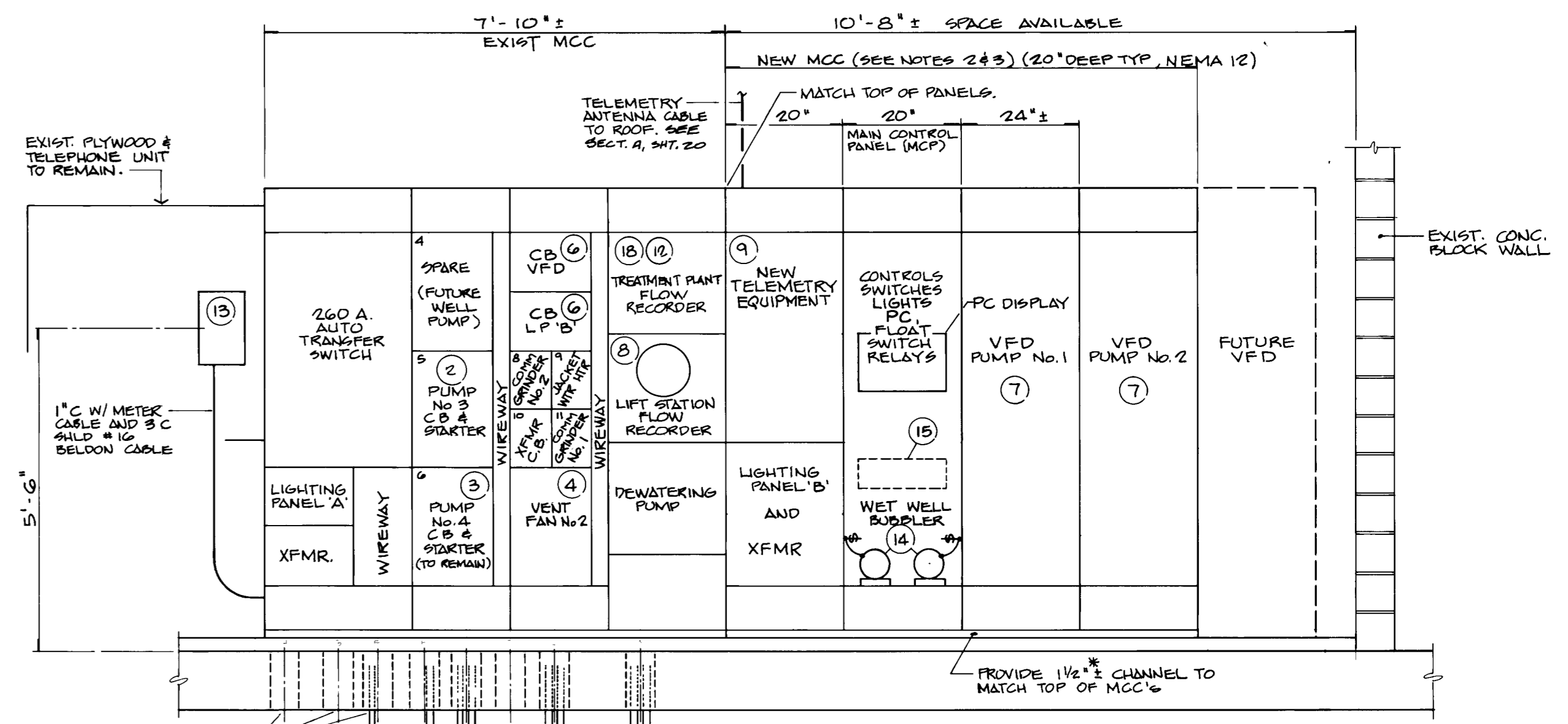
SHEET **20**  
OF 26 SHEETS  
R.C.S.D. PLAN No.



**SINGLE LINE DIAGRAM**



**EXISTING MCC ELEVATION**



**PROPOSED MCC ELEVATION**

**EQUIPMENT AND MATERIALS DESCRIPTION AND NOTES (SHEET 21)**

- DISCONNECT AND REMOVE CONDUCTORS TO EXISTING PUMP NO. 1 EXISTING C.B. AND STARTER TO REMAIN AS SPARE (FUTURE WELL PUMP)
- USE EXISTING C.B. AND STARTER FOR NEW CONSTANT SPEED PUMP NO. 3. ADJUST C.B. TRIP AND INSTALL NEW HEATERS FOR MOTOR FURNISHING. REMOVE EXISTING CONTROL TRANS AND CONNECT TO NEW MCP FOR START/STOP CONTROL (USE EXISTING PANEL DOOR SWITCH). PUMP CONTROL TO BE CONNECTED TO TEMPORARY FLOAT CONTROL FOR INTERIM OPERATION DURING CONSTRUCTION.
- EXISTING PUMP NO. 3 TO BE RELABELED PUMP NO. 4. TO REMAIN IN SERVICE THROUGH CONSTRUCTION AND START UP OF NEW PUMPS. TO BE LOCKED OUT OF OPERATION AFTER PUMPS 1, 2 AND 3 ARE IN OPERATION. REMOVE EXISTING CONTROL TRANS AND CONNECT TO MCP FOR CONTROL (USE EXISTING PANEL DOOR SWITCH). PUMP CONTROL TO BE CONNECTED TO TEMPORARY FLOAT CONTROL FOR INTERIM OPERATION DURING CONSTRUCTION. STARTER CONTACTORS TO BE REPLACED AND AUXILIARY CONTACTS TO BE REPLACED AND RECONNECTED.
- PROVIDE SLIDE IN BUCKET WITH SIZE I COMBINATION STARTER IN EXISTING SPACE FOR VENTILATION FAN NO. 2. CONNECT TO MCP CONTROLS.
- RAISE EXISTING DRY WELL HVL ALARM TO 3RD ABOVE FLOOR.
- PROVIDE C.B. FOR VFD'S AND NEW LP MOUNT IN EXISTING SPACE. REPLACE SPACE DOOR WITH TWO DOORS. C.B. TO BE FURNISHED WITH EXTERIOR OPERATORS.
- VARIABLE FREQUENCY DRIVE (VFD) WITH BYPASS CONTACTORS, AND CONTROLS, TYP. PUMPS 1 AND 2.
- EXISTING ISCO MODEL 2410, 0 TO 100% RANGE 7 DAY CIRCULAR CHART RECORDER. CONNECT TO NEW MAG METER SIGNAL. EXISTING RECORDER SHALL BE SERVICED AND RECALIBRATED TO READ 0 TO 60 MG/D AND PROVIDED WITH 100 CIRCULAR CHARTS.
- RADIO TELEMETRY EQUIPMENT TO RECEIVE FLOW SIGNAL FROM MAG METER AT CITY OF RIVERSIDE TREATMENT PLANT AND PROVIDE SIGNAL TO FLOW RECORDER AND TO PROVIDE TELEMETRY SIGNAL TO DISTRICT OFFICE.
- TWO EXISTING 1-1/4" CONDUITS TO EACH, PUMPS 1 AND 2. TO REMAIN. REMOVE EXISTING CONDUCTORS AND USE CONDUIT FOR NEW PUMP CONDUCTORS PF1 AND PF2.
- REMOVE EXISTING ISCO FLOW METER EQUIPMENT INCLUDING CONDUIT AND CONDUCTORS. INSTALL FLOAT SWITCH INTERIM OPERATION CONTROLS FOR CONTROL OF EXISTING PUMP NO. 3 (NEW DESIGNATION 84) AND NEW PUMP NO. 3 (BOTH CONSTANT SPEED TYPE). REMOVE WHEN NEW PUMP BUBBLER SYSTEM IS COMPLETE.
- PROVIDE CIRCULAR CHART RECORDER FLUSH MOUNT IN EXISTING MCC DOOR FOR RECORDING FLOW AT THE CITY OF RIVERSIDE WASTEWATER TREATMENT PLANT.
- SIGNAL CONVERTER FOR MAGNETIC FLOW METER WITH INDICATOR/TOTALIZER, CONNECT TO SIGNAL ISOLATOR AND PROVIDE FLOW SIGNALS TO RECORDER AND TELEMETRY.
- BUBBLER COMPRESSOR, VIBRATION ISOLATED AND MOUNTED IN MCP WITH ON-OFF POWER SWITCH (TOTAL 2). COMPRESSOR NO. 1 SHALL BE NEW. COMPRESSOR NO. 2 SHALL BE OBTAINED FROM EXISTING AUTOCON PANEL. REMAINING AUTOCON PANEL COMPRESSOR SHALL BE SALVAGED FOR OWNER. BUBBLER TUBING, VALVES AND APPURTENANCES SHALL BE SUPPORTED WITHIN PANEL. SEE SYSTEM SCHEMATIC HEREON.
- PROVIDE INTRINSICALLY SAFE RELAYS FOR FLOAT SWITCHES.
- INTERLOCK BYPASS CONTACTS FOR OPERATION IN EITHER VFD MODE OR BYPASS MODE TYPICAL FOR EACH VFD.
- PROVIDE TOSHIBA 2E RELAY FOR OVERLOAD PROTECTION.
- EXISTING TONE TYPE TELEMETRY EQUIPMENT CONNECTED TO LEASED PHONE LINE TO REMAIN IN SERVICE UNTIL NEW RADIO TELEMETRY EQUIPMENT IS OPERATIONAL. CONTRACTOR TO CONNECT EXISTING ALARM CONDITIONS TO NEW TELEMETRY EQUIPMENT. REMOVE AND INSTALL NEW RECORDER WHEN NEW TELEMETRY EQUIPMENT IS COMPLETE.
- PROVIDE LINE REACTORS, TYP. PUMPS 1 AND 2 TO REDUCE HARMONICS SEE SPECIFICATIONS.
- DRIVE ISOLATION TRANSFORMER TO BE FURNISHED FOR PUMP NO. 1 VFD TO REDUCE HARMONICS.

**LIGHTING PANEL B SCHEDULE**

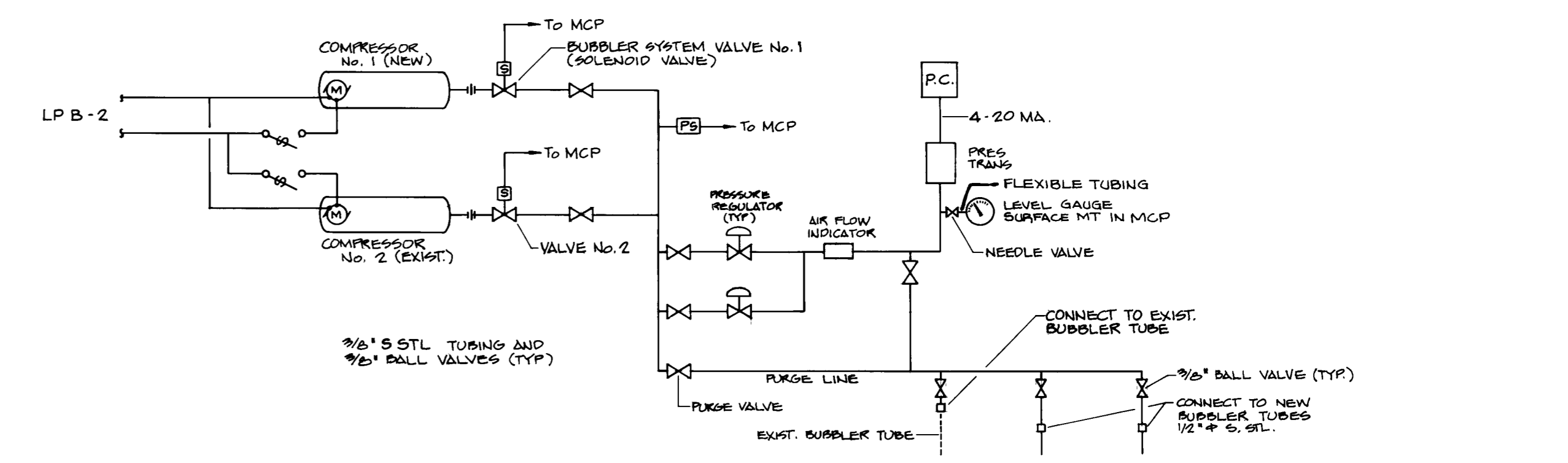
CIRCUIT NO.	DESCRIPTION	AMPS
1	MCP CONTROLS	10
2	COMPRESSOR NOS. 1 AND 2 (1/8 HP EACH)	9
3	VFD NOS. 1 AND 2 (120V POWER)	10
4	SPACE HEATER PUMPS NOS. 1, 2 AND 3 (300 WATTS EACH)	3
5	TELEMETRY	5
6,7,8	SPARE	37A

**ELECTRICAL SYMBOLS LEGEND/ABBREVIATIONS**

- CONDUIT (MIN. 3/4") WITH #12 CONDUCTORS, NUMBER INDICATED EXCLUDING REQUIRED GROUND WIRE.
- CONDUIT, RUN CONCEALED UNDERGROUND OR EXPOSED IF WITHIN EXISTING BUILDING, UNLESS NOTED OTHERWISE.
- GROUND
- THERMAL MAGNETIC CIRCUIT BREAKER.
- FULL VOLTAGE NON-REVERSING MOTOR STARTER, SIZE 0 MINIMUM WITH AUXILIARY CONTACTS AS REQUIRED FOR CONTROL. E - DENOTES EXISTING.
- RAIN TIGHT, DUST TIGHT JUNCTION BOX, CROUSE HINDS TYPE WAS MINIMUM 4" X 4" X 3" DRILLED AND TAPPED OR WITH FIELD INSTALLED SLP HOLES. PROVIDE FEET WHERE NECESSARY FOR MOUNTING TO WALL. ALTERNATE CROUSE HINDS TYPE RB WITH CONDUIT HUB PLATES AS REQUIRED (MIN. 4-1/2" X 4-1/2" X 4"). PROVIDE LARGER SIZE WHERE SPECIFIED OR REQUIRED FOR SPLICING.
- JUNCTION BOX, CROUSE HINDS CAST CONDULET DEVICE BOX SURFACE MOUNTED AND WATERPROOF OUT OF DOORS.
- COOLING TYPE LINE VOLTAGE THERMOSTAT, 120V WITH CONTACTS RATED MIN. 7 AMP AND 2" DIFFERENTIAL, DAYTON HEAVY DUTY WITH ON-OFF SWITCH.
- FLOURESCENT FIXTURE WITH 2-40W TUBES LITHONIA STANDARD INDUSTRIAL 4+ FEET LONG MODEL L240, OR EQUAL.
- FLOURESCENT FIXTURE WITH 1-40W TUBE LITHONIA SIDE MOUNT 4 FEET LONG MODEL SM40, OR EQUAL.

**POWER FEED SCHEDULE**

POWER FEED (PF)	DESCRIPTION/REMARKS	CONDUIT SIZE	CONDUCTORS
PF-1	PUMP NO. 1, REMOVE EXISTING CONDUCTORS AND INSTALL NEW	EXIST. 1-1/4" EXIST. 1-1/4"	3#4, 1#4 GRD #12, #12 GRD
PF-2	PUMP NO. 2, REMOVE EXISTING CONDUCTORS AND INSTALL NEW	EXIST. 1-1/4" EXIST. 1-1/4"	3#4, 1#4 GRD #12, #12 GRD
PF-3	PUMP NO. 3, CONNECT TO EXISTING MCC, C.B., AND STARTER	1-1/4" 1"	3#4, 1#4 GRD #12, #12 GRD
PF-4	PUMP NO. 4 (EXISTING NO. 3), CONDUIT AND CONDUCTORS TO REMAIN	EXIST. 1-1/4"	3#4, 1#4 GRD
PF-5	TO ISOLATION TRANSFORMER AND VFD'S FOR PUMPS NO. 1 AND 2	1-1/2"	3#3, 1#3 GRD
PF-6	VENT FAN NO. 2	3/4"	3#10, 1#10 GRD
PF-7	COMMUNICATOR NO. 1 (NORTH) (REPLACE PORTION OF EXISTING CONDUIT)	1"	3#12, 1#12 GRD, 2#12
PF-8	COMMUNICATOR NO. 2 (SOUTH)	1"	3#12, 1#12 GRD, 2#12



**BUBBLER SYSTEM SCHEMATIC**

RUBIDOUX COMMUNITY SERVICES DISTRICT  
 APPROVED BY *M. E. Mum*  
 DISTRICT ENGINEER  
 DATE 5-8-96

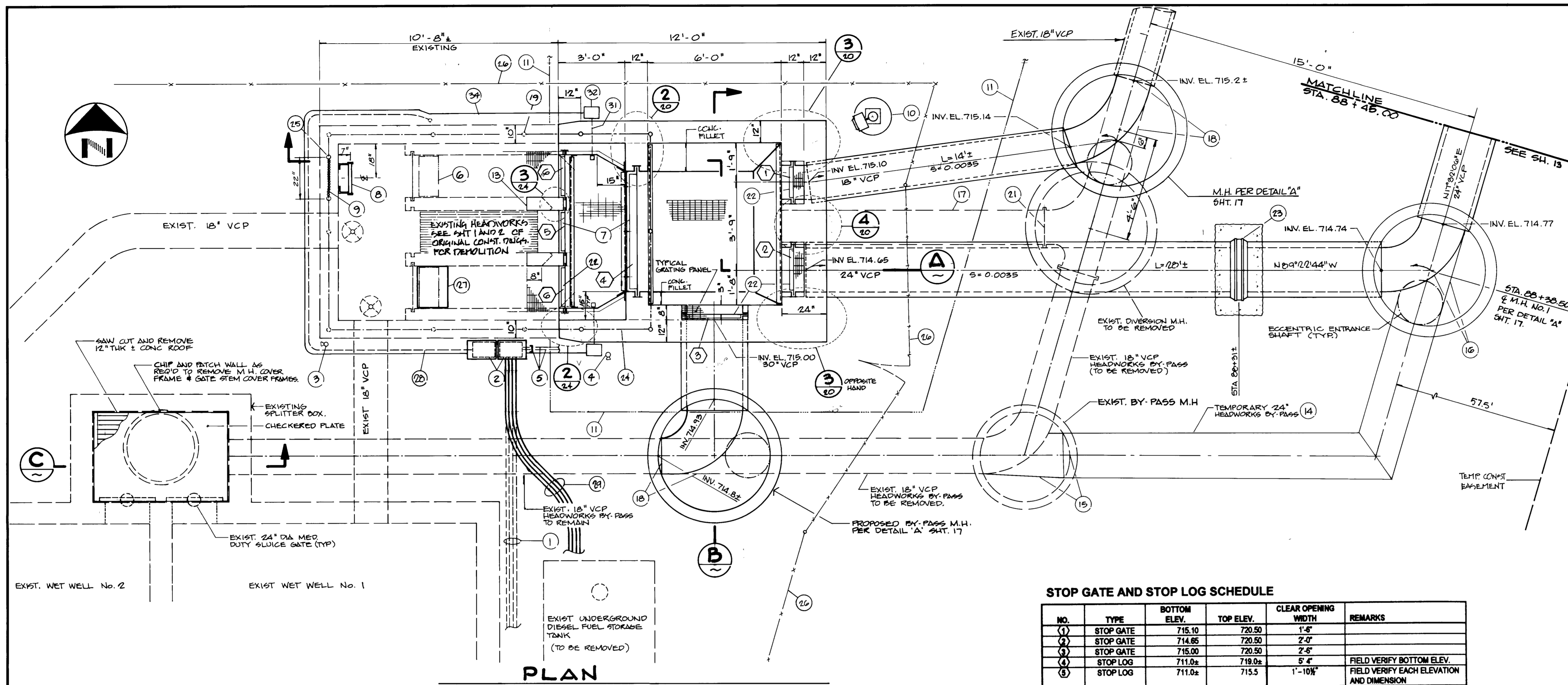
SYM	REVISIONS	DATE	BY



**KRIEGER & STEWART** INCORPORATED  
 3602 University Ave Riverside, CA 92501 909-684-6900  
 APPROVED BY *M. E. Mum*  
 REGISTERED ENGINEER No. 037263 DATE 4/3/96

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FIELD BOOK	
DESIGN	PES
DRAWN	CLA
CHECKED	JCR

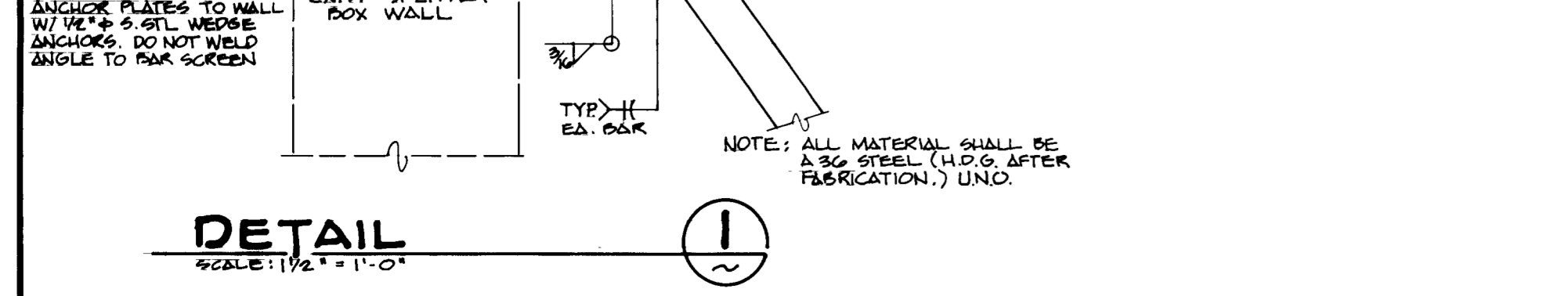
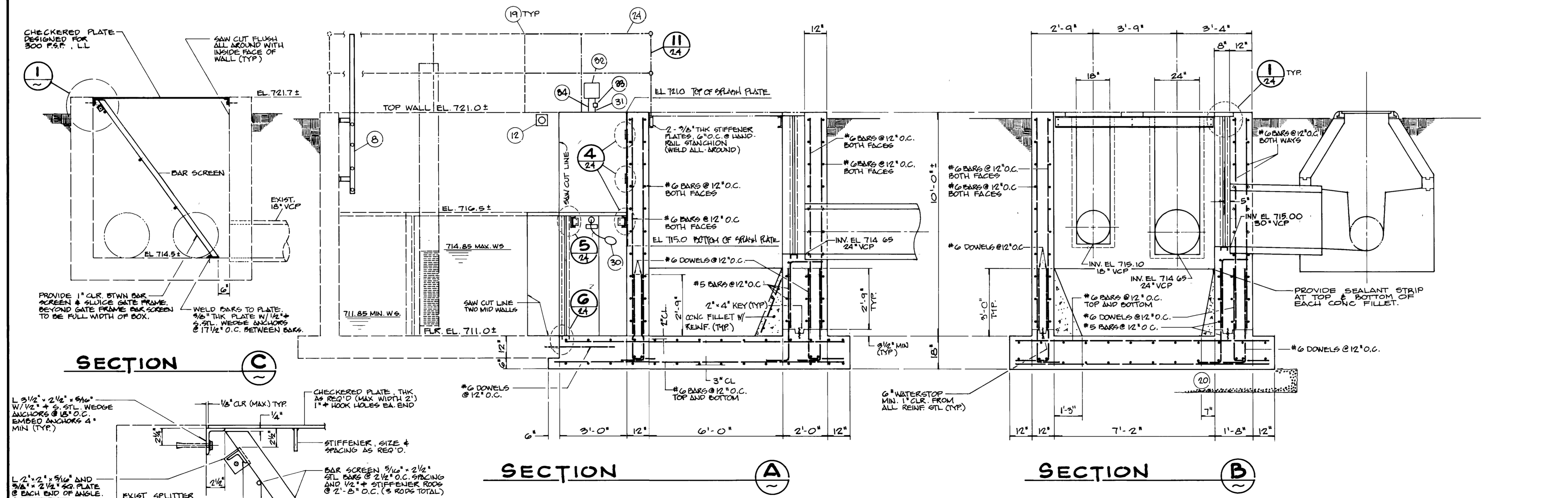
**RUBIDOUX COMMUNITY SERVICES DISTRICT**  
 REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
**ELECTRICAL SINGLE LINE DIAGRAM AND MCC ELEVATIONS**  
 SHEET **21**  
 OF 26 SHEETS  
 R.C.S.D. PLAN No.



**STOP GATE AND STOP LOG SCHEDULE**

NO.	TYPE	BOTTOM ELEV.	TOP ELEV.	CLEAR OPENING WIDTH	REMARKS
1	STOP GATE	715.10	720.50	1'-8"	
2	STOP GATE	714.65	720.50	2'-0"	
3	STOP GATE	715.00	720.50	2'-5"	
4	STOP LOG	711.0±	719.0±	5'-4"	FIELD VERIFY BOTTOM ELEV.
5	STOP LOG	711.0±	715.5	1'-10 1/2"	FIELD VERIFY EACH ELEVATION AND DIMENSION
6	STOP GATE	711.0±	716.15	1'-10 1/2"	FIELD VERIFY EACH ELEVATION AND DIMENSION

NOTE: STOP GATE AND STOP LOG FRAMES SHALL BE FULL HEIGHT, AS SHOWN ON THE DRAWINGS.



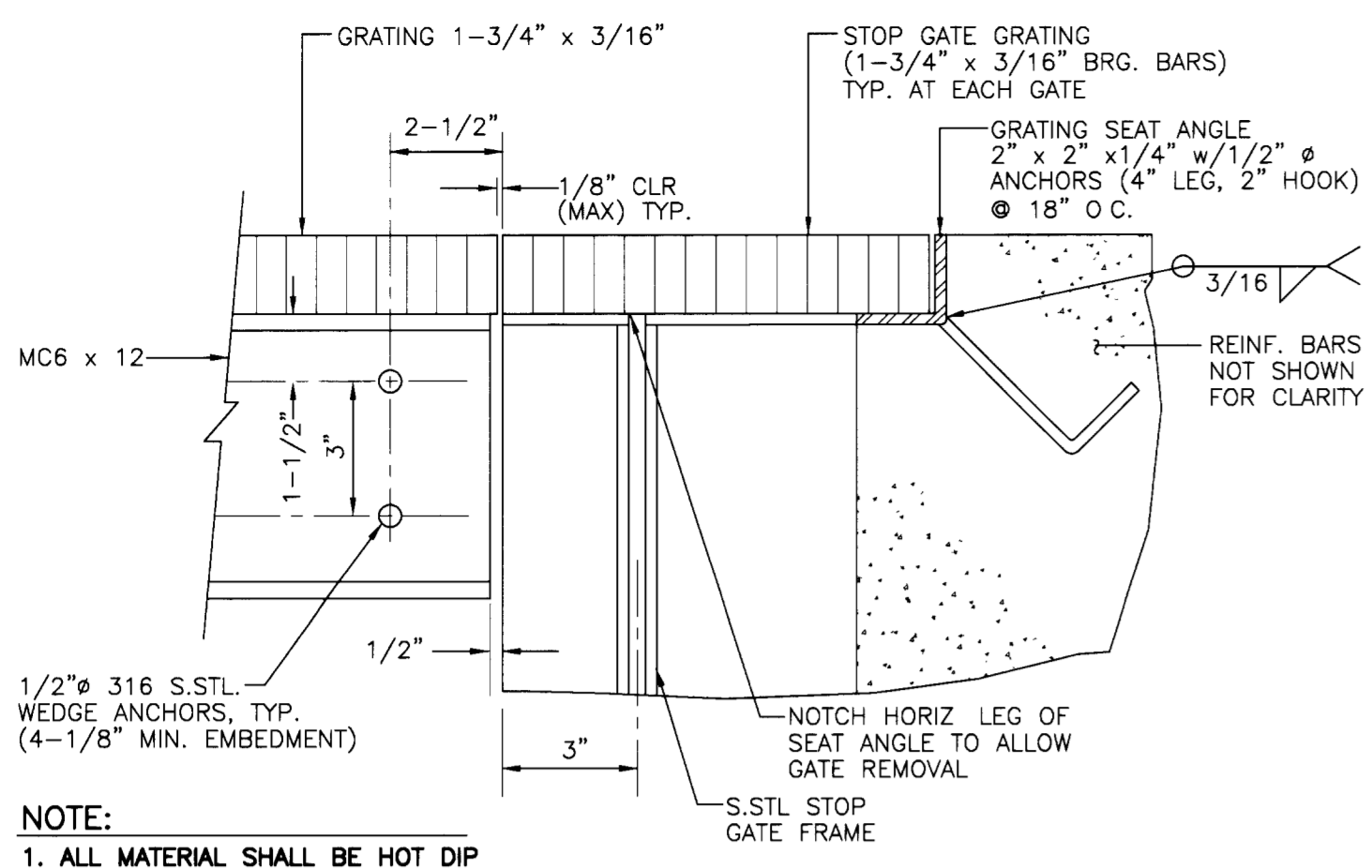
**EQUIPMENT AND MATERIALS DESCRIPTION AND NOTES (SHEET 21)**

- FOUR EXISTING 1" CONDUITS WITH CONDUCTORS FOR EXISTING COMMUNITORS, LIGHTING AND PARSHALL FLUME FLOW METER REFER TO SITE PLAN SHEET 25 FOR PORTION TO BE REMOVED AND REPLACED TO PERMIT BELOW GRADE DIESEL TANK REMOVAL REMOVE EXISTING CONDUCTORS.
- EXISTING COMMUNICATOR (MUFFIN MONSTER) CONTROL PANELS AND JUNCTION BOXES, JUNCTION BOXES TO REMAIN AND EXISTING CONTROL PANELS TO BE REMOVED (SALVAGED FOR DISTRICT), AND NEW CONTROL PANELS (COMPLETE WITH SWITCHGEAR) SHALL BE INSTALLED AND CONNECTED TO COMMUNITORS 1 AND 2. ANCHOR PANELS TO HDG UNISTRUT SUPPORTED FROM EXISTING HANDRAIL.
- EXISTING 3/4" HOSE BIBBS, PROTECT IN-PLACE.
- EXISTING 3/4" HOSE BIBBS TEMPORARILY REMOVE INTERFERING PORTIONS OF HOSE BIBBS AND SUPPLY PIPING. CAP SUPPLY LINE AT POINT OF DISCONNECTION. REINSTALL HOSE BIBBS AND SUPPLY PIPING UPON COMPLETION OF HEADWORKS CONSTRUCTION. REINSTALLED PIPING SHALL BE FLUSHED AND DISINFECTED BEFORE RECONNECTION.
- DISCONNECT AND REMOVE CONDUCTORS FROM EXISTING 3/4" CONDUITS, CUT AND CAP AND REMOVE INTERFERING PORTIONS UPON COMPLETION OF HEADWORKS CONSTRUCTION, REMOVE CAP FROM ONE CONDUIT AND EXTEND CONDUIT TO RELOCATED LIGHT STANDARD. INSTALL NEW WIRING (2-12' BETWEEN EXISTING JUNCTION BOX AND LIGHT AND CONNECT TO LIGHTING CIRCUIT CONDUCTORS.
- EXISTING MUFFIN MONSTER RAW SEWAGE GRINDER (COMMUNITOR) TO REMAIN.
- STOP LOGS AND FRAME.
- FULLY WELDED HOT DIPPED GALVANIZED STEEL LADDER, 18" WIDE, 2" X 56" STRINGER, 3/4" DIAMETER RUNGS AT 12" O.C., BOTTOM RUNG 12" FROM TOP OF GRATING. WIDER STRINGERS AT TOP TO 24" AND EXTEND 36" ABOVE TOP OF WALL. ATTACH LADDER TO WALL 2-1/2" X 1-1/2" X 18" LONG PLATE BENT IN CENTER, AND WELDED TO STRINGER AND BOLTED TO WALL WITH TWO 1/2" DIAMETER EXPANSION ANCHORS EACH SIDE. WALL ATTACHMENTS SHALL BE LOCATED 8" FROM THE TOP OF WALL AND 18" FROM TOP OF GRATING.
- GALVANIZED 5/16" CHAIN WITH SWIVEL EYE BOLT SNAP AT EACH RAIL LOCATION. ATTACH TO EYE BOLTS IN HANDRAIL POSTS.
- RELOCATE EXISTING LIGHT STANDARD. REMOVE EXISTING LIGHT STANDARD FOUNDATION AND PLACE NEW CONCRETE FOUNDATION UPON COMPLETION OF HEADWORKS CONSTRUCTION. FOUNDATION SHALL BE 20" DIAMETER X 5'-0" DEEP WITH 6-#6 VERTICAL BARS AND #3 HOOP TIES AT 8" O.C. EXTEND TOP OF FOUNDATION 3" ABOVE GRADE WITH 1" CHAMFER ALL AROUND. CAST-IN-PLACE STAINLESS STEEL ANCHOR BOLTS EMBEDDED 12" MINIMUM DIAMETER TO MATCH EXISTING ANCHOR BOLTS. LIGHT STANDARD CONDUIT RISER SHALL BE CAST IN THE CENTER OF THE FOUNDATION.
- SHORING SYSTEM REQUIRED TO PROTECT EXISTING VCP SEWER AND MANHOLES SHALL EXTEND TO GROUND SURFACE. SHORING SYSTEM SHALL BE SELF SUPPORTING (I.E. NO CABLES OR LATERAL BRACING) AND SHALL RETAIN SOIL VERTICALLY TO THE BOTTOM OF THE HEADWORKS EXCAVATION.
- TEMPORARY BRACE BETWEEN EXISTING WALLS. BRACE SHALL BE CONSTRUCTED OF 2" STD. WT. STEEL PIPE AND SHALL BE ANCHORED TO INSIDE FACE OF EXISTING WALLS BY 1/2" THICK SURFACE MOUNTED PLATE. BRACE SHALL BE INSTALLED PRIOR TO HEADWORKS EXCAVATION AND REMAIN IN PLACE THROUGHOUT HEADWORKS CONSTRUCTION.
- SAW CUT AND REMOVE ENDS OF EXISTING INTERIOR CHANNEL WALLS. CHIP FACE OF REMAINING CONCRETE TO 1/4" MINIMUM AMPLITUDE. EXTEND CHANNEL WALLS AS SHOWN.
- TEMPORARY 24" HEADWORKS BYPASS PIPING. PIPE MATERIAL PER CONTRACTOR. INSTALL PIPING AT A CONSTANT SLOPE FROM INVERT OF MANHOLE NO. 1 TO INVERT OF EXISTING BYPASS MANHOLE.
- REMOVE PORTION OF EXISTING MANHOLE BASE AND SHAFT AS REQUIRED TO CONNECT TEMPORARY PIPING AND TO PROVIDE SMOOTH CHANNEL. PATCH MANHOLE BASE AND SHAFT WITH MORTAR.
- CONSTRUCT CHANNEL TO PROVIDE A SMOOTH TRANSITION BETWEEN THE PROPOSED 24" VCP INLET AND OUTLET AND 24" TEMPORARY BYPASS OUTLET. SANDBAG 24" VCP OUTLET DURING HEADWORKS BYPASSING. UPON REMOVAL OF 24" TEMPORARY BYPASS OUTLET, FILL OUTLET CHANNEL AND MANHOLE BASE WITH CONCRETE TO PROVIDE A SMOOTH TRANSITION BETWEEN THE PROPOSED 24" VCP INLET AND OUTLET.
- EXISTING 18" VCP TO BE REMOVED DURING HEADWORKS CONSTRUCTION.
- SAW CUT AND REMOVE EXISTING 18" VCP PRIOR TO PLACING MANHOLE BASE. CONSTRUCT CHANNEL AS SHOWN.
- WELD 1-1/2" SCHEDULE 40 PIPE RAILING (HDG) TO EXISTING POST. WELDS SHALL BE GROUND SMOOTH AND COATED WITH GALVANIZE REPAIR COATING.
- 12" THICK LAYER OF CLASS 2 BASE COMPACTED TO 95% RELATIVE COMPACTION. SUBGRADE BENEATH BASE SHALL BE SCARIFIED (12" DEPTH) AND RECOMPACTED TO 90%.
- EXISTING DIVERSION M.H. STOP GATE.
- STOP GATE AND FRAME.
- CERAMWELDED COUPLING AS MANUFACTURED BY JOINTS INC. COUPLING SHALL BE FITTED WITH 3/4" WIDE STAINLESS STEEL BANDS. INSTALLED COUPLING SHALL BE ENCASED IN CONCRETE, EXTENDING 8" BEYOND COUPLING IN ALL DIRECTIONS.
- 1-1/2" SCHEDULE 40 PIPE RAILING (HDG) WITH EMBEDDED POSTS PER STANDARD DETAIL SHEET 24.
- CUT AND REMOVE EXISTING HANDRAIL FOR LADDER ACCESS AND INSTALL 1-1/2" SCHEDULE 40 POST WITH FOUR BOLT BASE PLATE AND STAINLESS STEEL EXPANSION ANCHORS. WELD POST TO EXISTING HANDRAIL. WELDS SHALL BE GROUND SMOOTH AND COATED WITH GALVANIZE REPAIR COATING.
- EXISTING CHAIN LINK FENCE AND 18" WIDE DOUBLE GATE. REMOVE AS REQUIRED FOR CONSTRUCTION AND REPLACE WHEN COMPLETE WITH NEW FENCING AND GATE.
- REMOVE EXISTING RAW SEWAGE COMMUNITOR AND INSTALL NEW COMMUNITOR PER SPECIFICATIONS. EXISTING COMMUNITOR TO BE SALVAGED FOR DISTRICT. CONNECT POWER FEED FROM NEW CONTROL PANEL WITH 3/4" FLEXIBLE CONDUIT AND 3/12, 1#12 GRD.
- EXISTING 3/4" C AND CONDUCTORS TO REMAIN (PROTECT IN PLACE), POWER FEED TO NORTH COMMUNITOR (PF-7).
- FOUR 1" C CONNECT TO EXISTING 1" CONDUIT AT JUNCTION BOX. INSTALL NEW CONDUCTORS FOR POWER FEED AND ALARM SIGNALS TO NEW COMMUNITOR CONTROL PANELS AND FOR LIGHTING AND RECEPTACLES AS FOLLOWS:  
PF-7: 1-1" C 3#12, 1#12 GRD (POWER) AND 3#12 (COMMUNITOR FAIL). CONNECT COMMUNITOR NO. 1 PANEL, EXISTING MCC BUCKET AND NEW TELEMETRY EQUIPMENT.  
PF-8: 1-1" C 3#12, 1#12 GRD (POWER) AND 3#12 (COMMUNITOR FAIL). CONNECT COMMUNITOR NO. 2 PANEL, EXISTING MCC BUCKET AND NEW TELEMETRY EQUIPMENT.  
1-1" C 4#12, 1#12 GRD FOR EXTERIOR LIGHT AND RECEPTACLE  
1-1" C (SPARE CONDUIT ONLY).
- FOR EACH COMMUNITOR PROVIDE A HIGH WATER LEVEL (COMMUNITOR START) FLOAT SWITCH INSTALLED AT ELEVATION 715.00'. PROVIDE ADDITIONAL CABLE TO ALLOW 1'-0" ADJUSTMENT UP AND DOWN. ATTACH CABLE TO SIDE CHANNEL WITH FIBERGLASS REINFORCED VINYLESTER UNISTRUT.
- 1" C WITH CABLE FROM FLOAT SWITCH. PROVIDE 1" CGK CROUSE-HINDS WP CABLE FITTING AT OUTLET TO CHANNEL. TYPICAL FOR EACH FLOAT SWITCH.
- FOR EACH FLOAT SWITCH PROVIDE A 6" X 6" NEMA 4X JUNCTION BOX CONSTRUCTED OF NON-METALLIC CORROSION RESISTANT MATERIALS. COIL EXCESS FLOAT SWITCH CABLE INSIDE JUNCTION BOX.
- 3/4" EYE CROUSE-HINDS SEAL FITTING. TYPICAL FOR EACH JUNCTION BOX.
- 3/4" C, 3#12, 1#12 GRD FROM JUNCTION BOX TO COMMUNITOR CONTROL PANEL FOR HWL FLOAT SWITCH. TYPICAL FOR EACH COMMUNITOR.

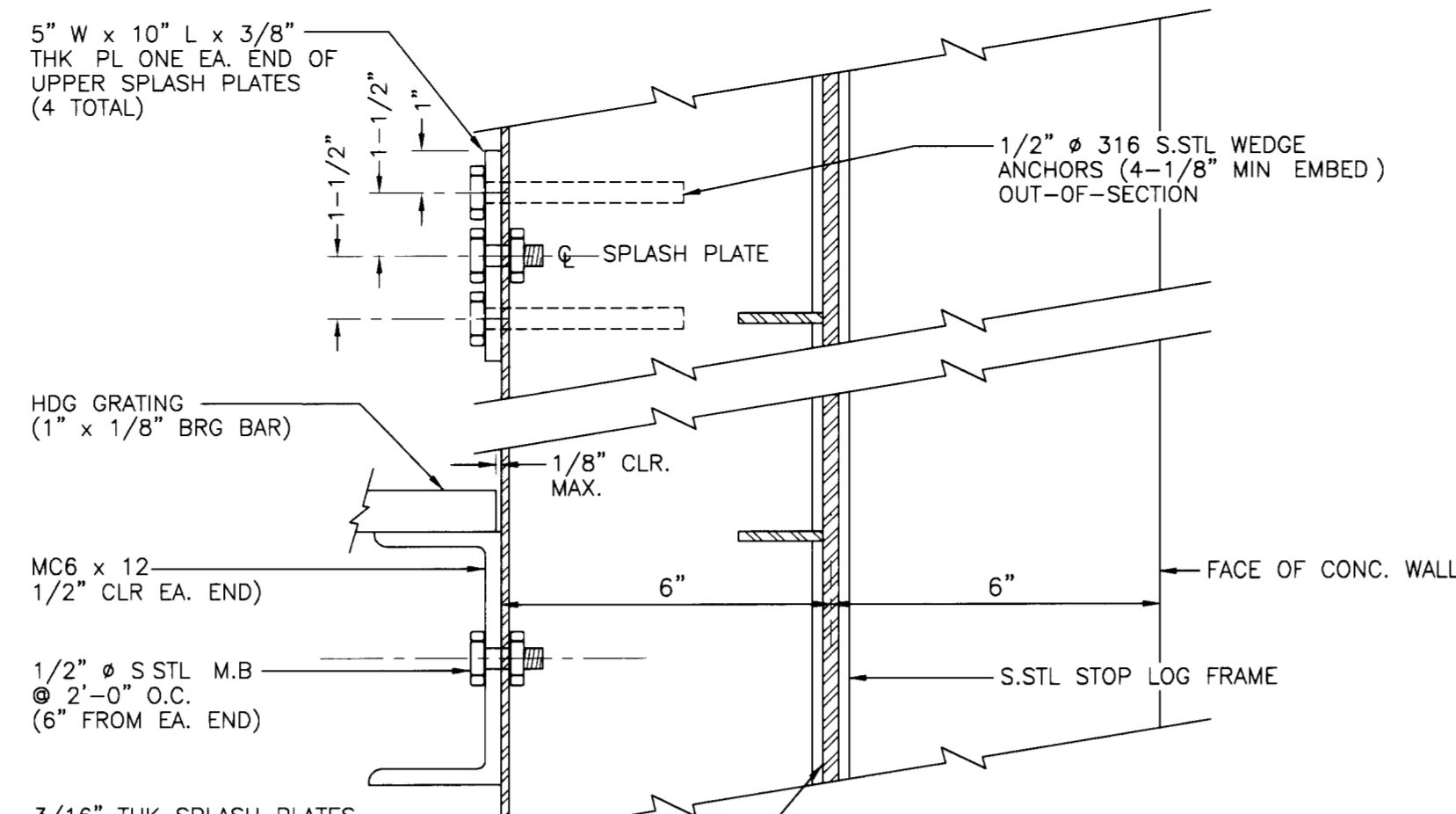
RUBIDOUX COMMUNITY SERVICES DISTRICT			<b>KRIEGER &amp; STEWART</b> INCORPORATED ENGINEERING CONSULTANTS 3602 University Av. • Riverside, CA 92501 • 714-684-6900 APPROVED BY: <i>Philip E. Stewart</i> REGISTERED ENGINEER No. 637263 DATE 1/3/96	SCALE 3/8" = 1'-0"	<b>RUBIDOUX COMMUNITY SERVICES DISTRICT</b> REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION LIFT STATION HEADWORKS MODIFICATIONS <b>PLAN AND SECTIONS</b>	SHEET 22
APPROVED BY: <i>[Signature]</i> DISTRICT ENGINEER	DATE 5-8-96			FIELD BOOK		DESIGN PES
SYM	REVISIONS	DATE	BY	CHECKED J.C.R.	R.C.S.D. PLAN No.	887-28



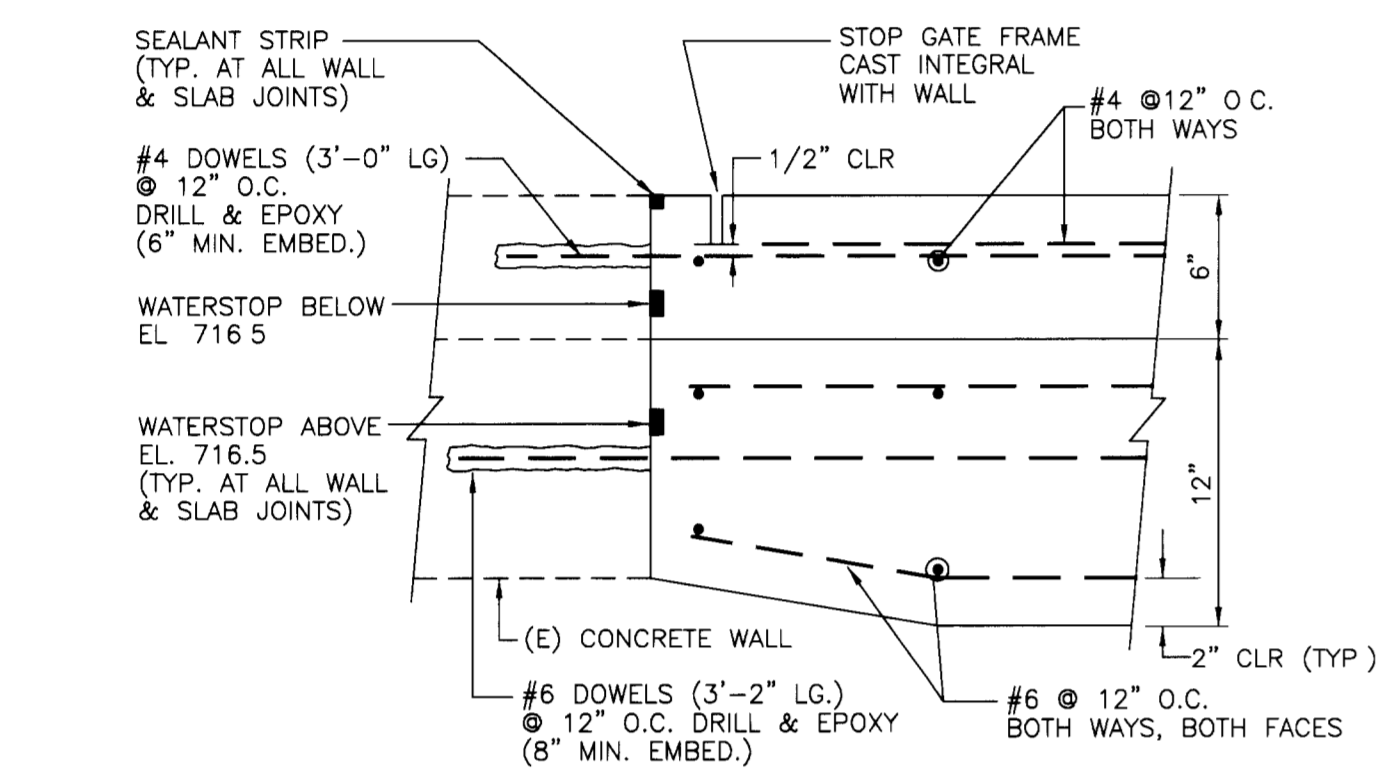
DWG. NO.: 28524 FILE NO.: 587-28 UPDATE BY: TWW PROJ. ENG.: MFT PLOT DATE: 4/2/96 PLOT TIME: 12PM PLOT SCALE: 3=1



**GRATING SUPPORT DETAIL 1**  
SCALE: 3"=1'-0"

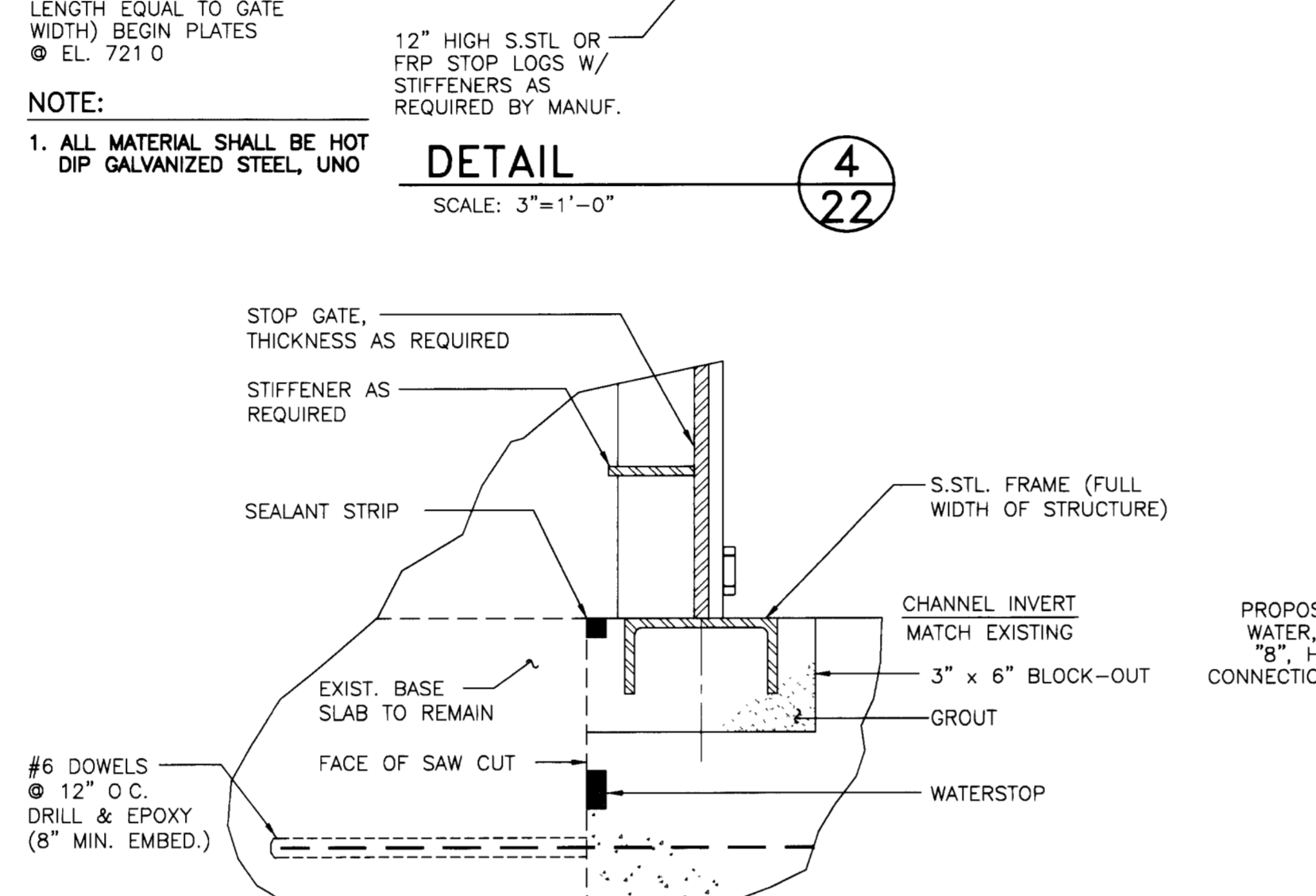


**DETAIL 4**  
SCALE: 3"=1'-0"

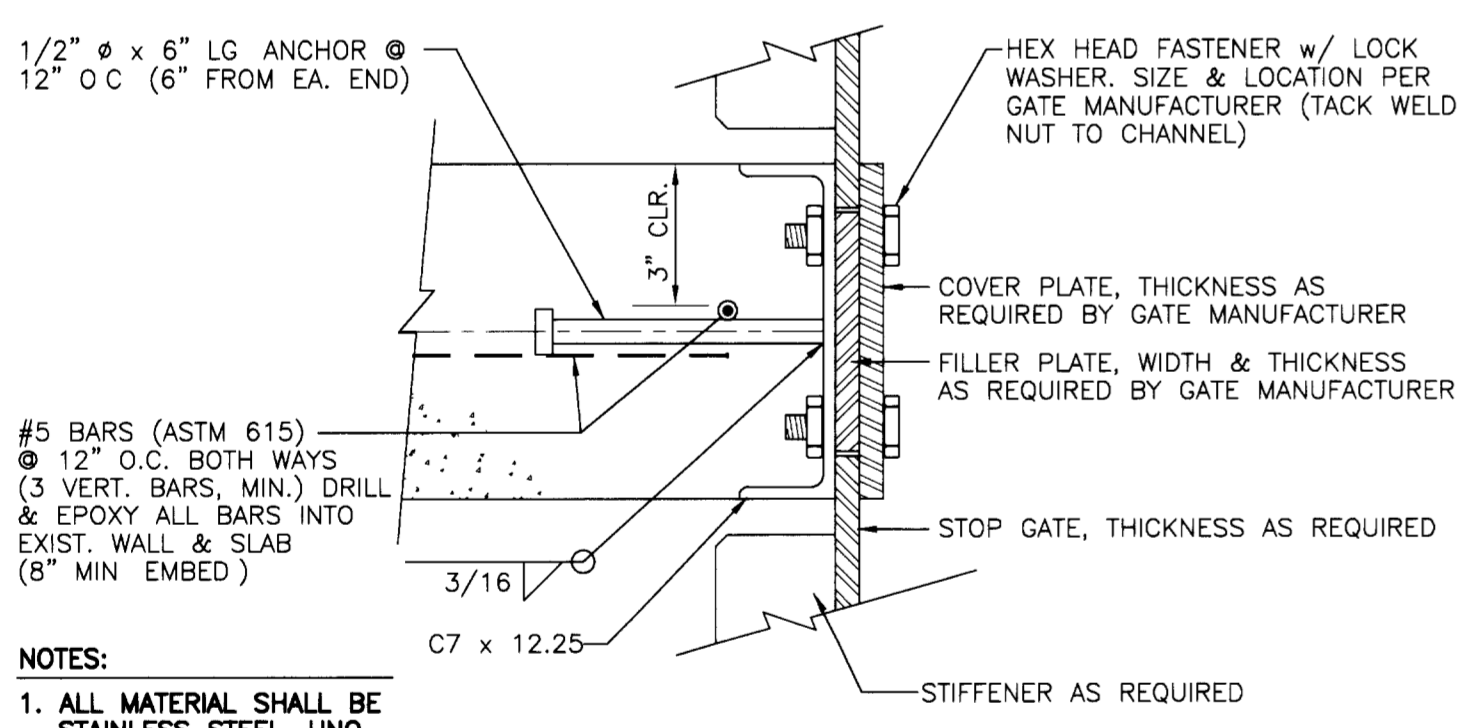


**DETAIL 2**  
SCALE: 1-1/2"=1'-0"

**NOTES:**  
1. WATERPROOF EXTERIOR OF WALL WITH VANDEX SUPER (EXIST. WALL - ONE FOOT BEYOND CONST. JOINT, NEW WALL - TWO FEET BEYOND STOP LOG OPENING).  
2. WATERPROOFING SHALL BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

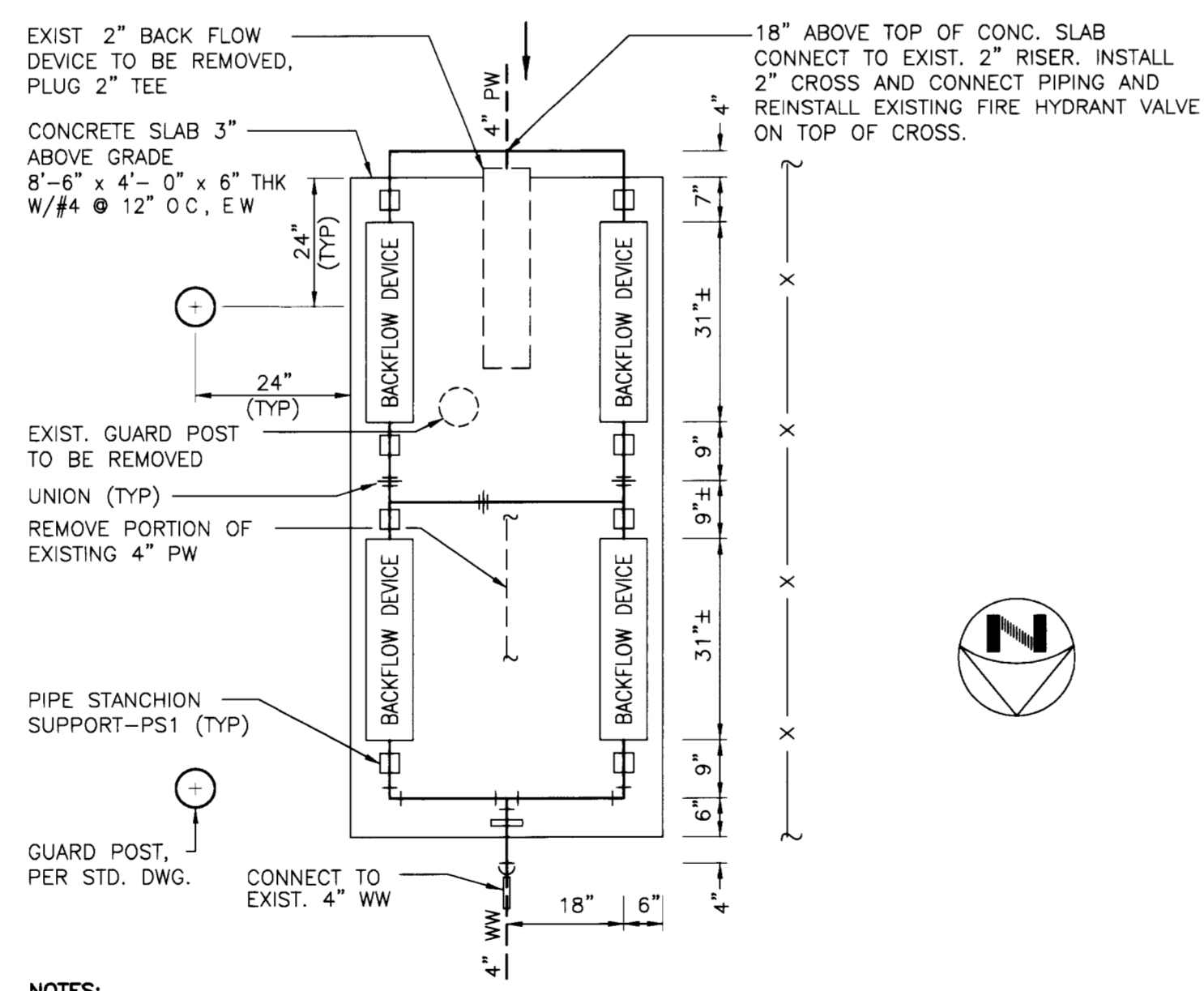


**DETAIL 6**  
SCALE: 3"=1'-0"



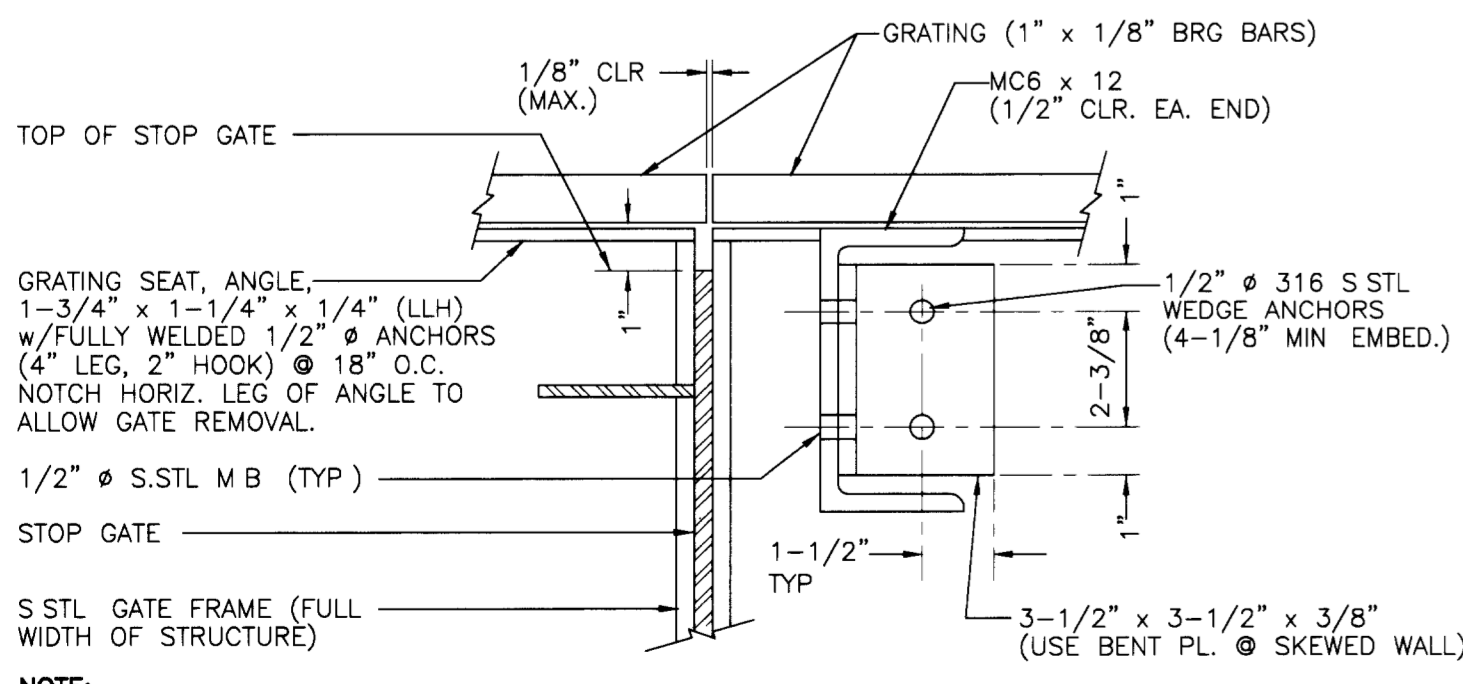
**DETAIL 3**  
SCALE: 3"=1'-0"

**NOTES:**  
1. ALL MATERIAL SHALL BE STAINLESS STEEL, UNO.  
2. UHMWPE GATE GUIDES NOT SHOWN FOR CLARITY.



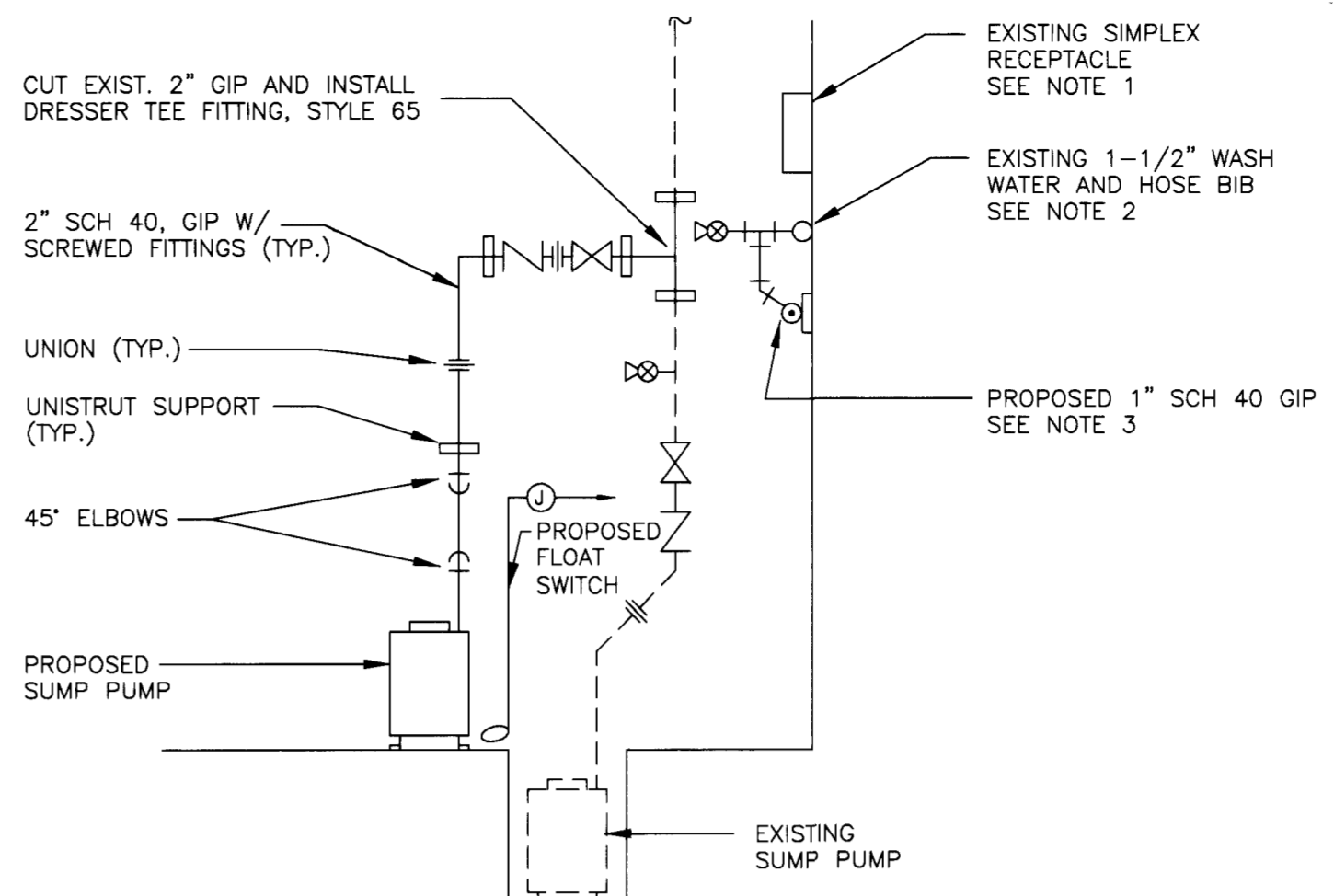
**DETAIL 7**  
SCALE: 3"=1'-0"

**NOTES:**  
1. BACKFLOW DEVICE SHALL BE WATTS SERIES 909 WITH BRONZE STRAINER & FULL PORT, RESILIENT SEATED BALL VALVE SHUT-OFFS. INSTALL DEVICE 18" CLEAR ABOVE TOP OF CONCRETE SLAB.  
2. NEW PIPING & BACKFLOW DEVICE SHALL BE PRESSURE TESTED & DISINFECTED PER DISTRICT REQUIREMENTS PRIOR TO CONNECTION TO EXIST. PIPING.  
3. PIPING TO BE 2" SCH. 40 GIP.



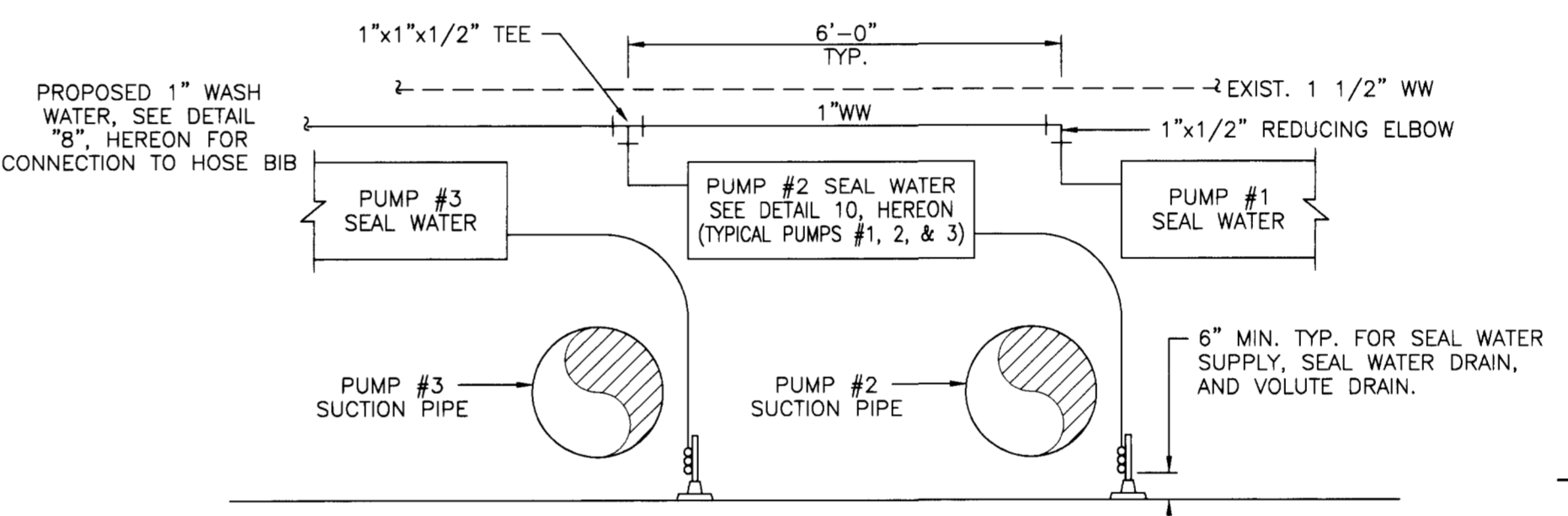
**DETAIL 5**  
SCALE: 3"=1'-0"

**NOTE:**  
1. ALL MATERIAL SHALL BE HOT DIP GALVANIZED STEEL, UNO.



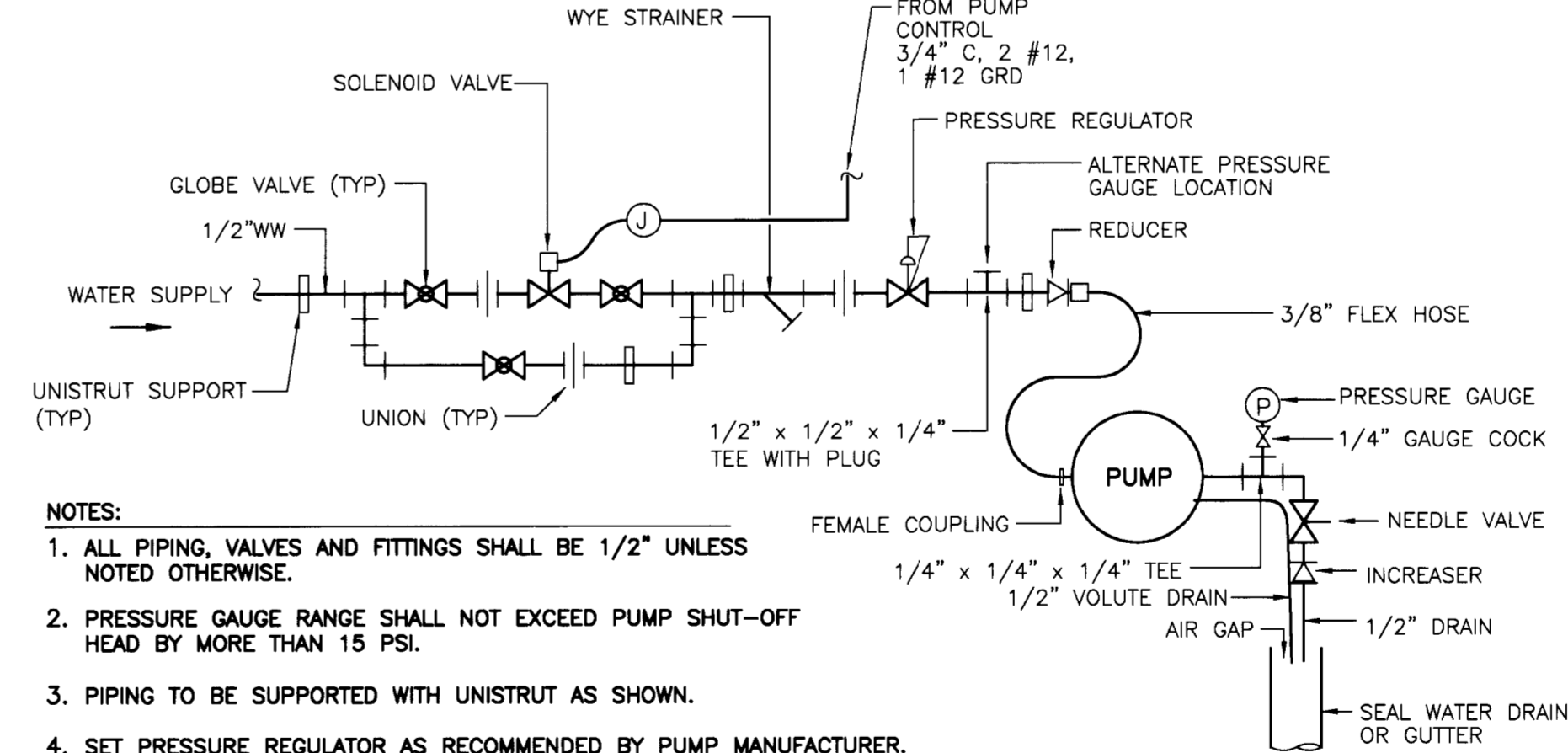
**NOTES:**  
1. EXISTING SIMPLEX RECEPTACLE, INSTALL NEW SIMPLEX RECEPTACLE FOR PROPOSED SUMP PUMP NEXT TO EXISTING AND CONNECT TO EXISTING CIRCUIT BREAKER.  
2. EXISTING 1-1/2" WASH WATER AND HOSE BIB, DISCONNECT HOSE BIB AND INSTALL 1-1/2" x 1-1/2" x 1" TEE AND ELBOWS AS SHOWN FOR WASH WATER PIPING. REINSTALL HOSE BIB.  
3. 1" SCH. 40 GIP FOR WASH WATER, MOUNT ON WALL WITH UNISTRUT AND RUN ALONG WALL FOR EACH PUMP SEAL WATER SYSTEM. ATTACH PUMP SEAL WATER SYSTEM TO WALL WITH UNISTRUT.  
4. SUMP PUMP, MOUNT NEXT TO EXISTING SUMP PUMP AND CONNECT DISCHARGE PIPING TO EXISTING PIPING. ATTACH POWER CORD TO DISCHARGE PIPING WITH NYLON TIES AND CONNECT TO NEW RECEPTACLE.

**DETAIL 8**  
SCALE: 3"=1'-0"



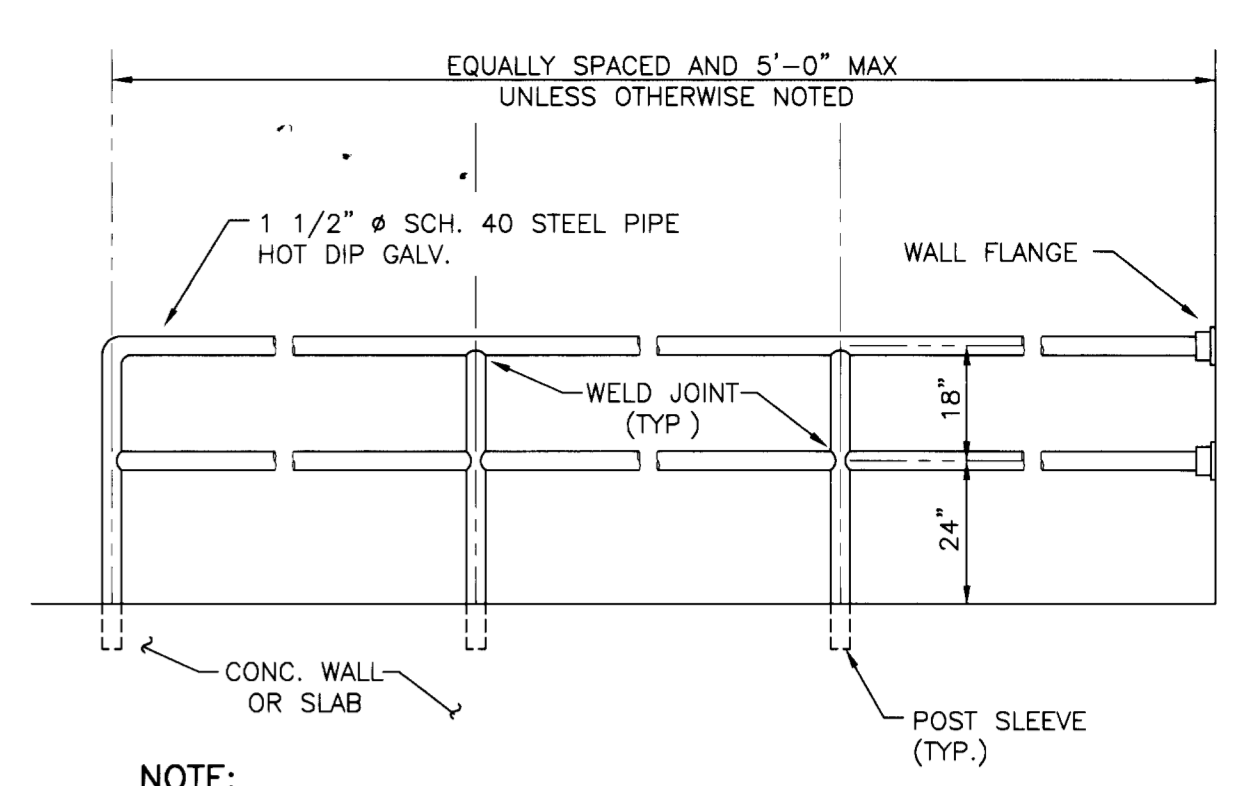
**NOTES:**  
1. INSTALL 1" WW PIPING AGAINST WALL WITH UNISTRUT SUPPORTS.  
2. INSTALL 1" TEE, GATE VALVE, AND PLUG FOR FUTURE SEAL WATER SYSTEM FOR PUMP #4.  
3. SEAL WATER COMPONENTS SHALL BE LOCATED TO ALLOW EASY ACCESS FOR MAINTENANCE.

**DETAIL 9**  
SCALE: 3"=1'-0"



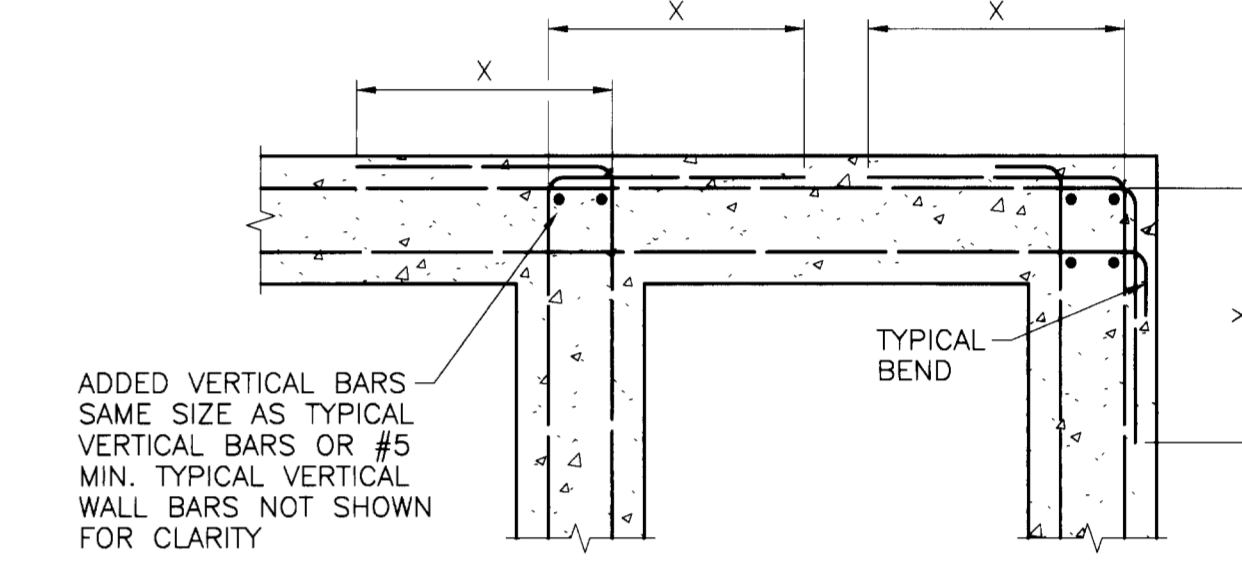
**NOTES:**  
1. ALL PIPING, VALVES AND FITTINGS SHALL BE 1/2" UNLESS NOTED OTHERWISE.  
2. PRESSURE GAUGE RANGE SHALL NOT EXCEED PUMP SHUT-OFF HEAD BY MORE THAN 15 PSI.  
3. PIPING TO BE SUPPORTED WITH UNISTRUT AS SHOWN.  
4. SET PRESSURE REGULATOR AS RECOMMENDED BY PUMP MANUFACTURER.

**PUMP SEAL WATER SYSTEM DETAIL 10**  
SCALE: 3"=1'-0"

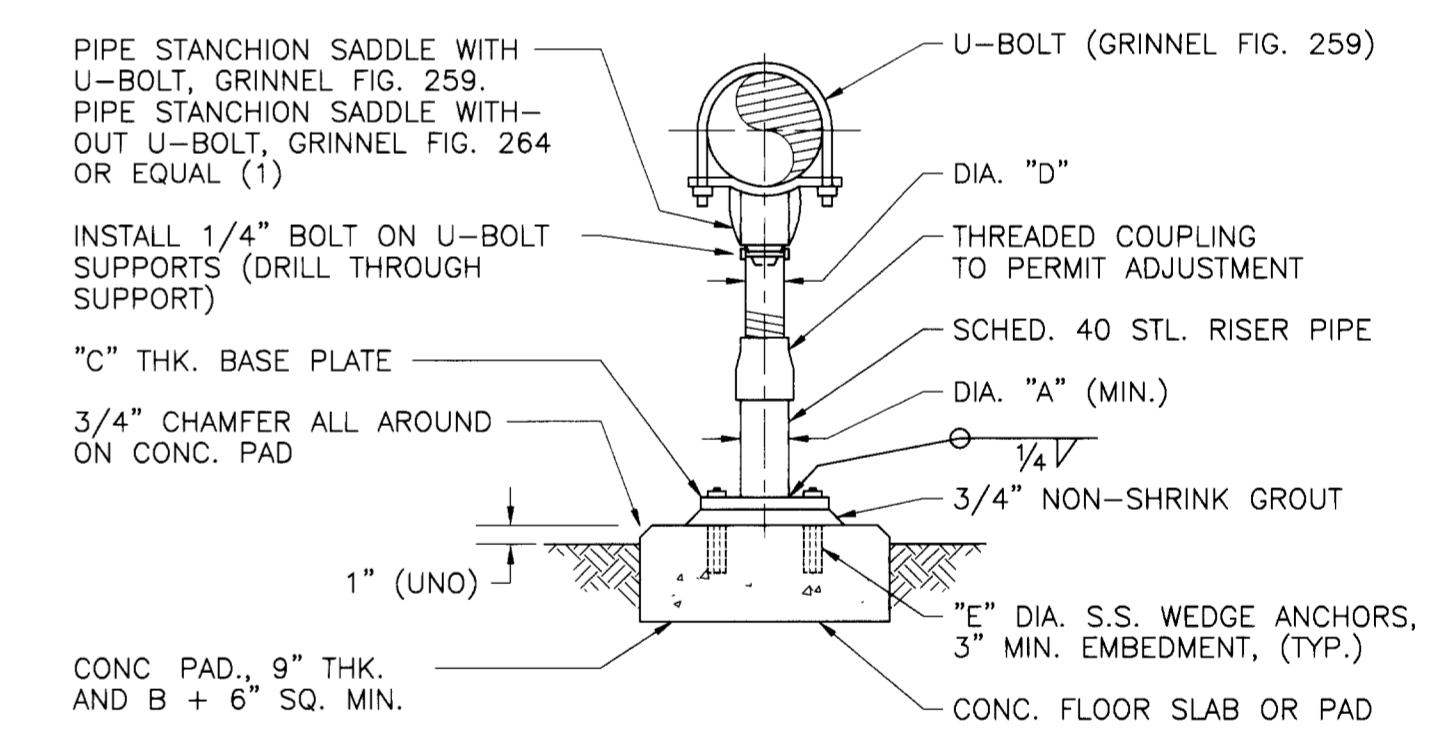


**NOTE:**  
1. POST SLEEVE SHALL BE 6" x 3" O.D. P.V.C., R & B WAGNER #34 SNC OR EQUAL. INSTALL NON-SHRINK GROUT IN ANNULAR SPACE.  
2. PROVIDE 6" x 3" O.D. CORED POST HOLE FOR LOCATIONS WITH EXISTING CONCRETE.

**TYP. HANDRAIL DETAIL 11**  
SCALE: 3"=1'-0"



**TYP. CONCRETE WALL REINFORCING DETAIL AT WALL INTERSECTIONS AND CORNERS 12**  
SCALE: 3"=1'-0"



TYPE	PIPE SIZE	A	B	C	D(2)	E
PS-1	2 1/2", 3", 3 1/2"	2 1/2"	9"	3/4"	1 1/2"	3/4"
OR	4", 6"	3"	10"	3/4"	2 1/2"	3/4"
PS-2	8", 10", 12"	3"	10"	1/2"	2 1/2"	1/2"
	14", 16"	4"	12"	5/8"	3"	1/2"
PS-2	18", 20"	6"	14"	3/4"	3 1/2"	1/2"
	24", 30", 36"	6"	14"	3/4"	4"	1/2"

BASE PLATE  
B-3"  
B-1/2"  
B/2  
B/2  
1 1/2" TYP.

**NOTES:**  
1. WHERE LOCATED UNDER FLANGE OR VALVE USE PS2 SUPPORT WITH SADDLE RADIUS TO MATCH FLANGE OR VALVE BODY.  
2. FOR PS1 U-BOLT SUPPORTS USE DIMENSION "A" IN LIEU OF "D".

**PS1 - PIPE STANCHION WITH U-BOLT  
PS2 - PIPE STANCHION WITHOUT U-BOLT**  
SCALE: 3"=1'-0"

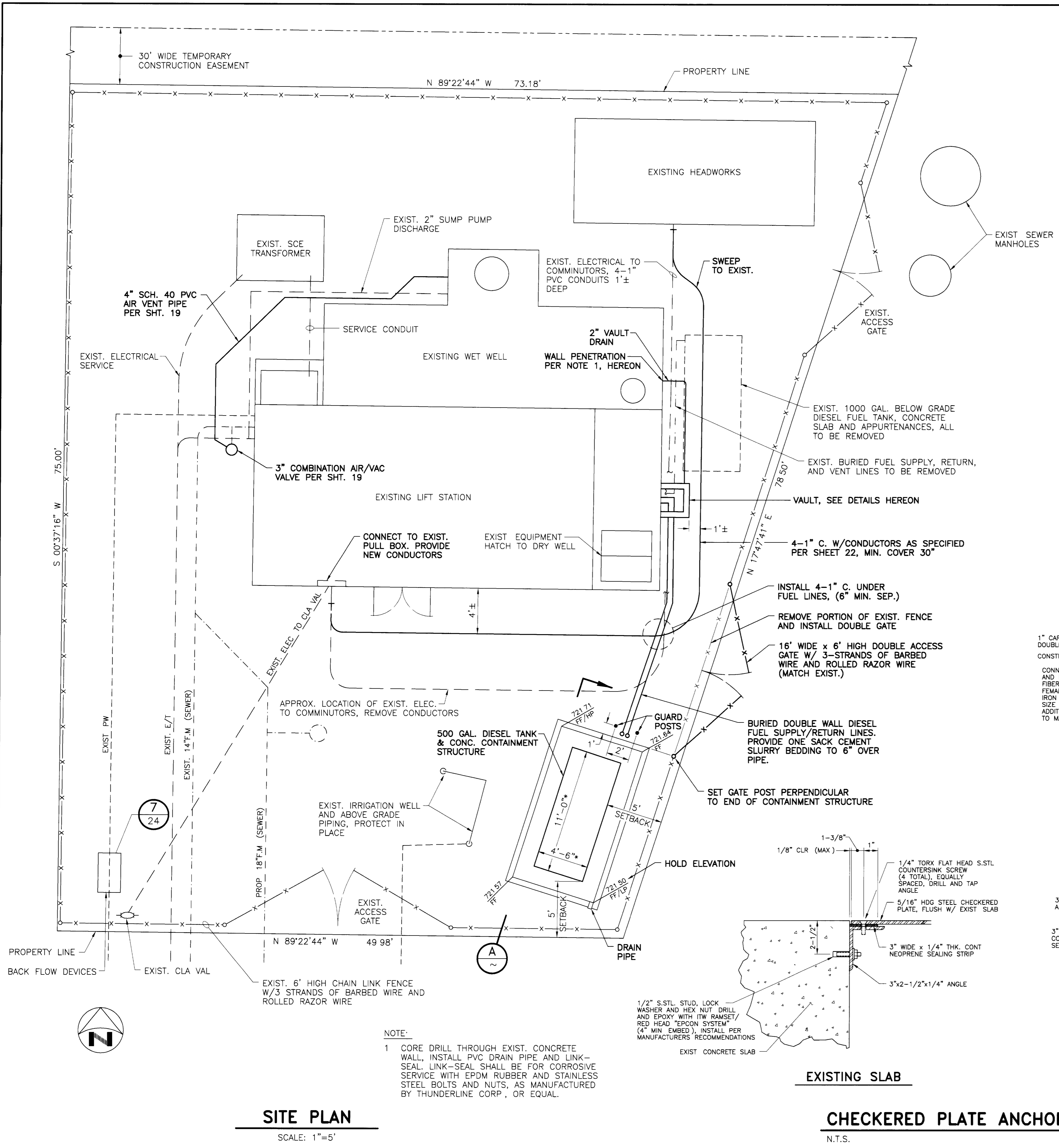
RUBIDOUX COMMUNITY SERVICES DISTRICT				
APPROVED BY <i>[Signature]</i> DISTRICT ENGINEER				
DATE 5-8-96				
SYM	REVISIONS	DATE	BY	

**KRIEGER & STEWART** INCORPORATED  
3602 University Ave • Riverside, CA 92501 • 909-684-6900  
APPROVED BY *[Signature]*  
REGISTERED ENGINEER No. C37263 DATE 4/3/98

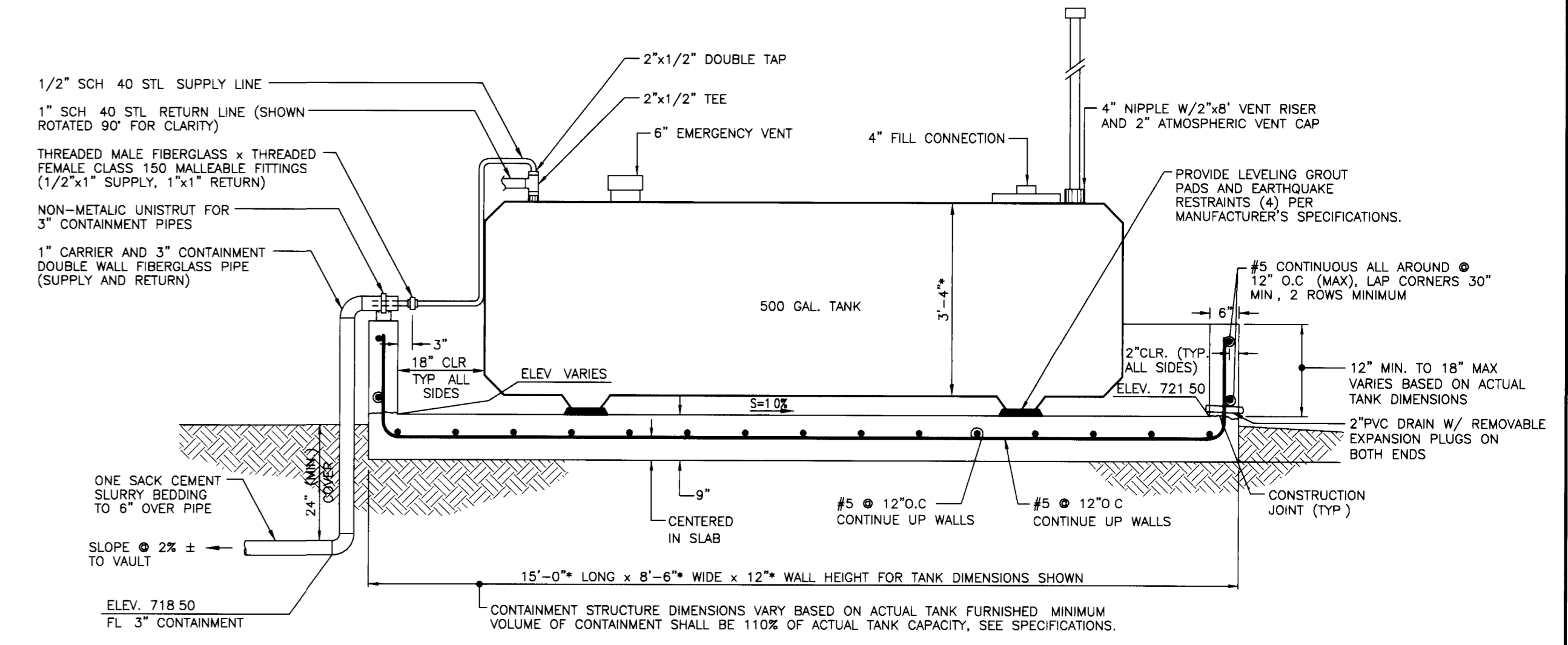
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FIELD BOOK	NA
DESIGN	PES
DRAWN	SR
CHECKED	JCR

RUBIDOUX COMMUNITY SERVICES DISTRICT  
REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
MISCELLANEOUS DETAILS  
SHEET 24 OF 26 SHEETS  
R.C.S.D. PLAN No.

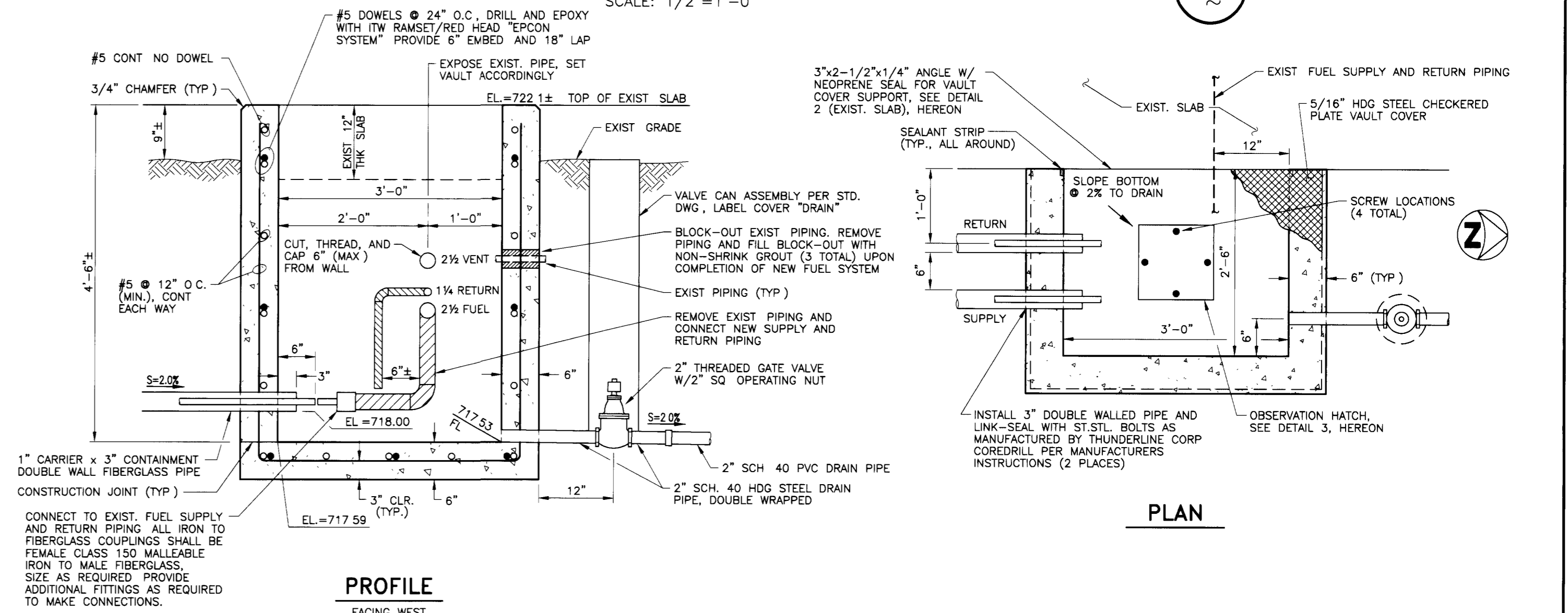




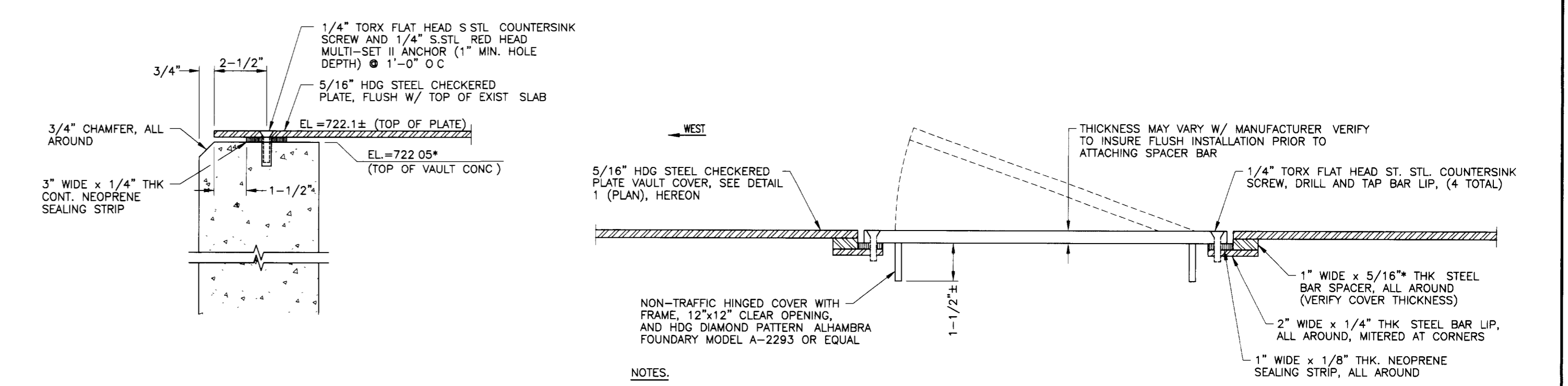
**SITE PLAN**  
SCALE: 1"=5'



**SECTION: 500 GAL. TANK**  
SCALE: 1/2"=1'-0"



**VAULT DETAILS**  
SCALE: 3/4"=1'-0"



**CHECKERED PLATE ANCHOR DETAIL**  
N.T.S.

**OBSERVATION HATCH DETAIL**  
SCALE: 3"=1'-0"

**NOTE:**  
1 CORE DRILL THROUGH EXIST. CONCRETE WALL. INSTALL PVC DRAIN PIPE AND LINK-SEAL. LINK-SEAL SHALL BE FOR CORROSIVE SERVICE WITH EPDM RUBBER AND STAINLESS STEEL BOLTS AND NUTS, AS MANUFACTURED BY THUNDERLINE CORP., OR EQUAL.

**NOTES:**  
1. INSTALL HATCH ASSEMBLY AT GEOMETRIC CENTER OF VAULT COVER AND TOP FLUSH WITH VAULT COVER WELD BAR SPACER AND BAR LIP TO COVER WITH 5/16" CONTINUOUS FILLET WELDS WELDER SHALL USE THE BACK-STEP OR OTHER APPROPRIATE TECHNIQUE TO AVOID DISTORTION.  
2. HDG COVER ASSEMBLY AFTER FABRICATION IS COMPLETE

RUBIDOUX COMMUNITY SERVICES DISTRICT



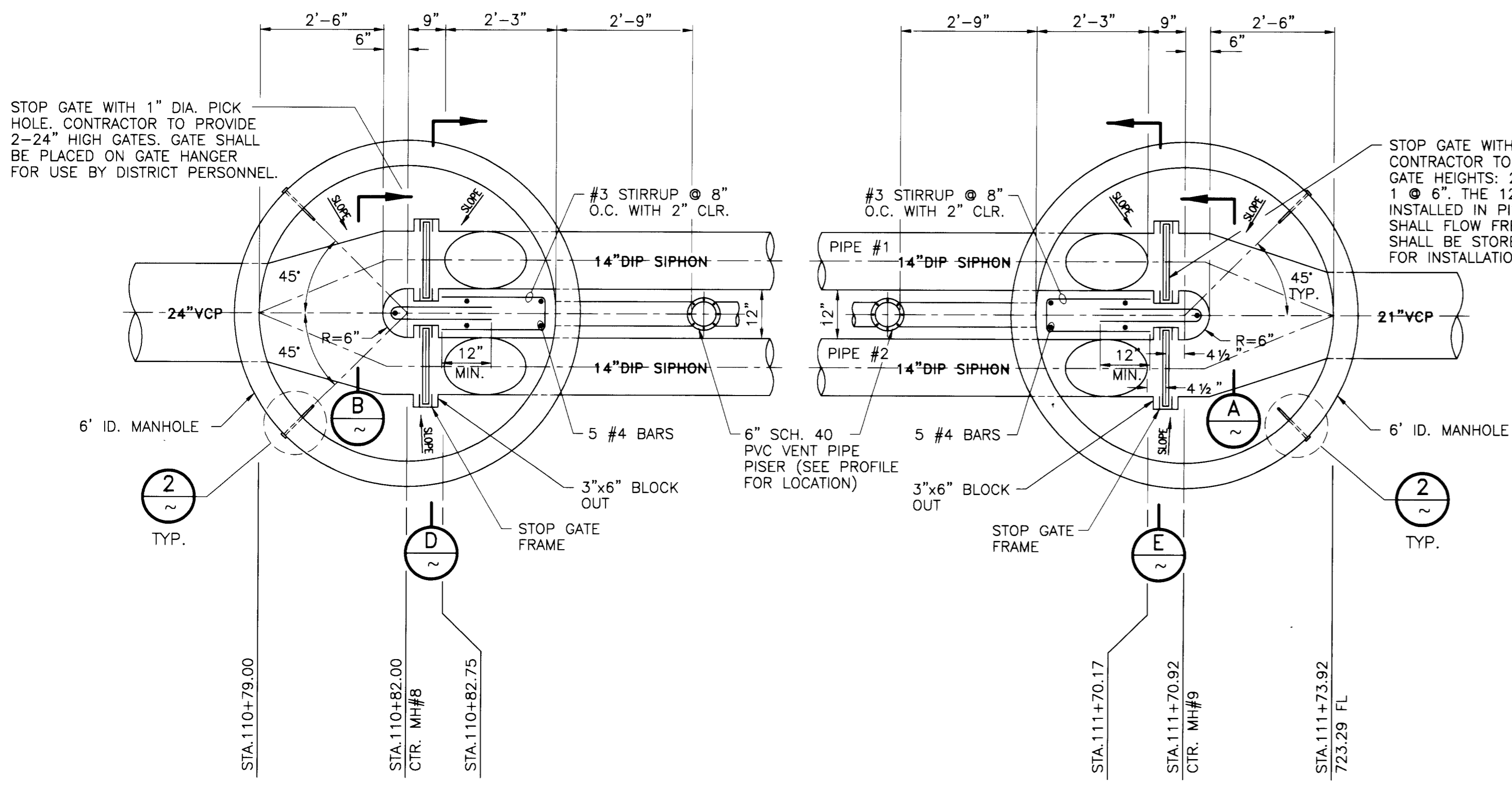
**KRIEGER & STEWART**  
INCORPORATED

SCALE	NA
FIELD BK.	156/97-109 152/83-101
DESIGN	ETL

RUBIDOUX COMMUNITY SERVICES DISTRICT  
REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION  
SITE PLAN

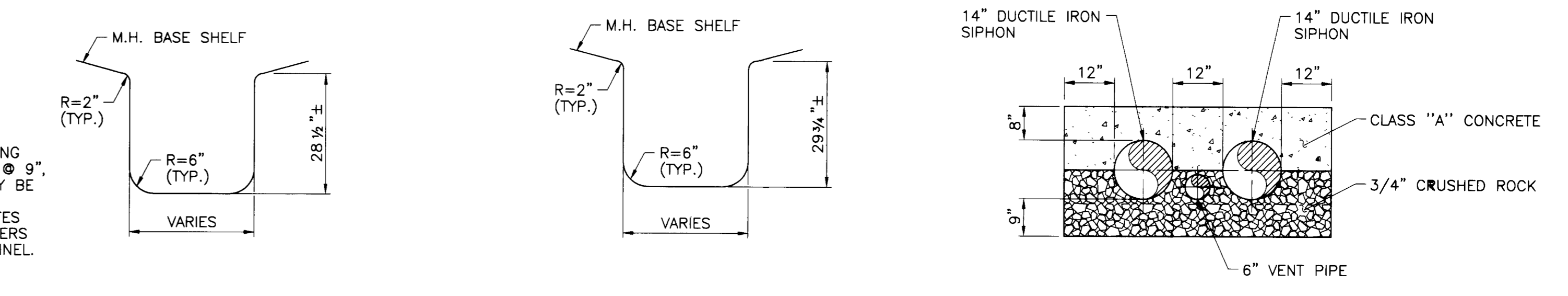
SHEET  
**25**

DWG. NO.: 28526 FILE NO.: 587-28 UPDATE BY: MKV PROJ. ENG.: MPT PLOT DATE: 5/07/96 PLOT TIME: 1:30 PM PLOT SCALE: 1/2"=1'-0"

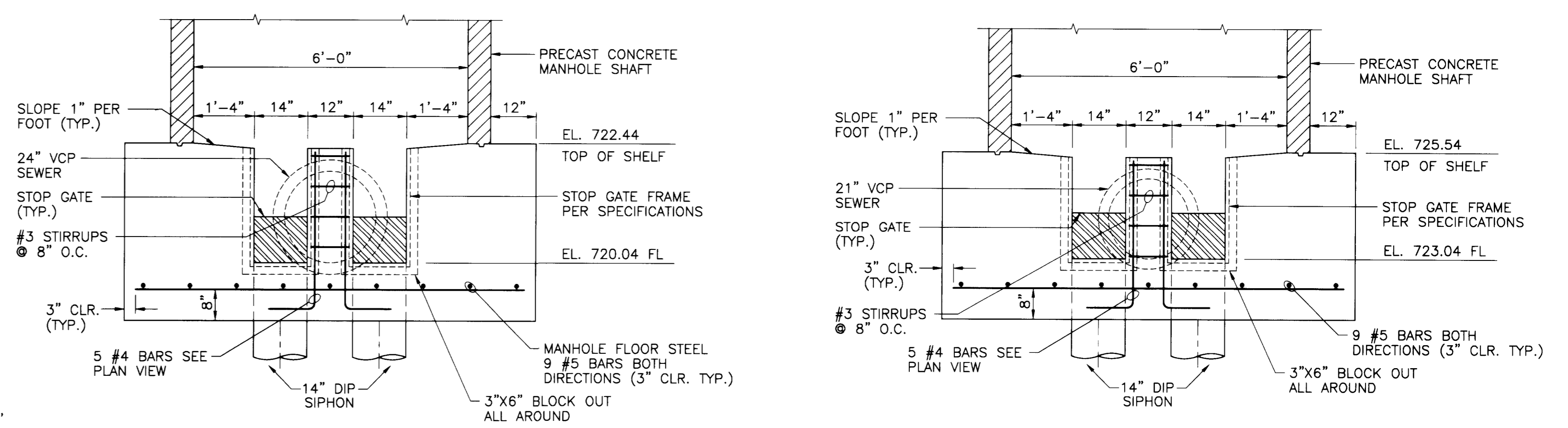


**SIPHON OUTLET MANHOLE DETAIL**

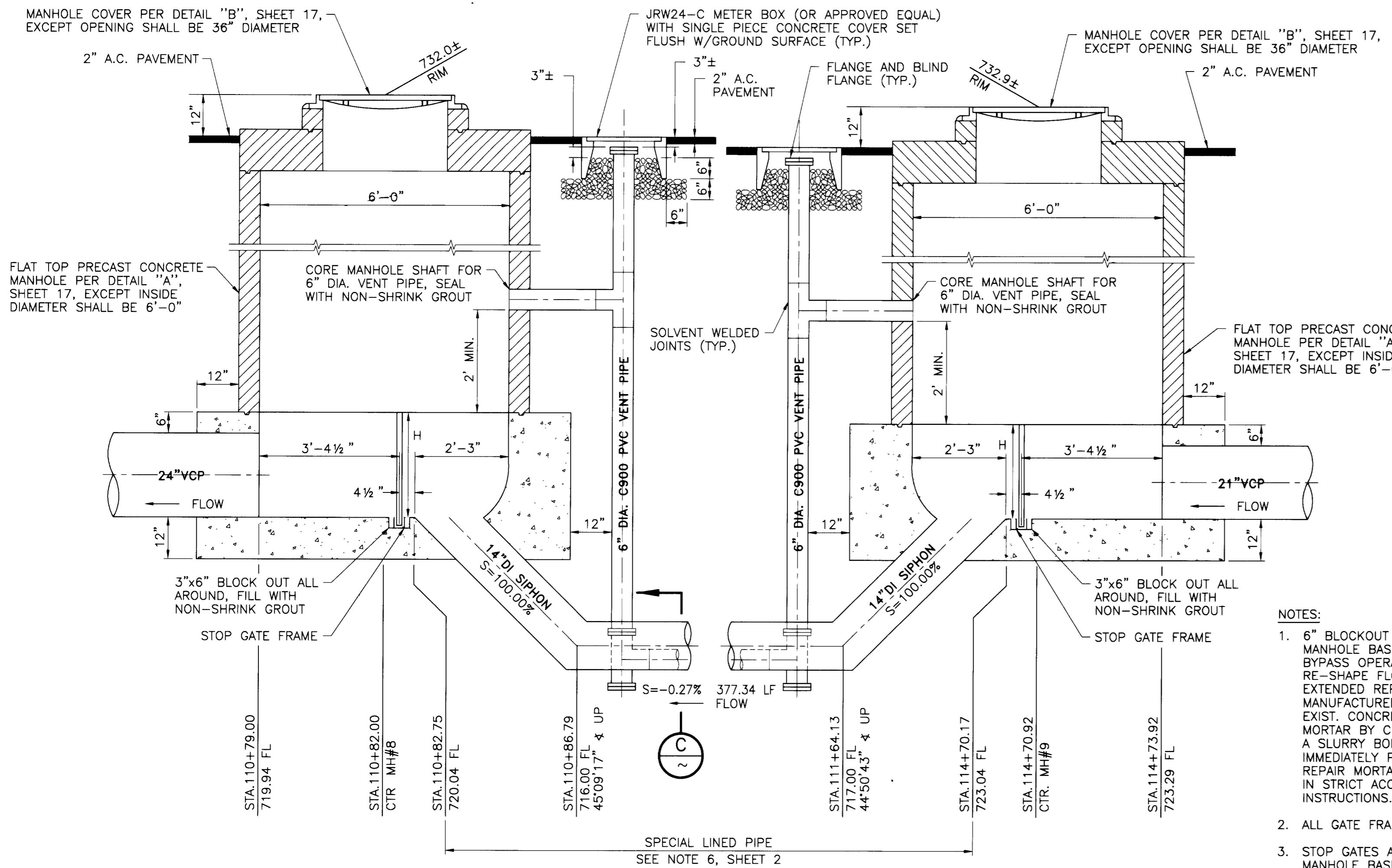
**SIPHON INLET MANHOLE DETAIL**



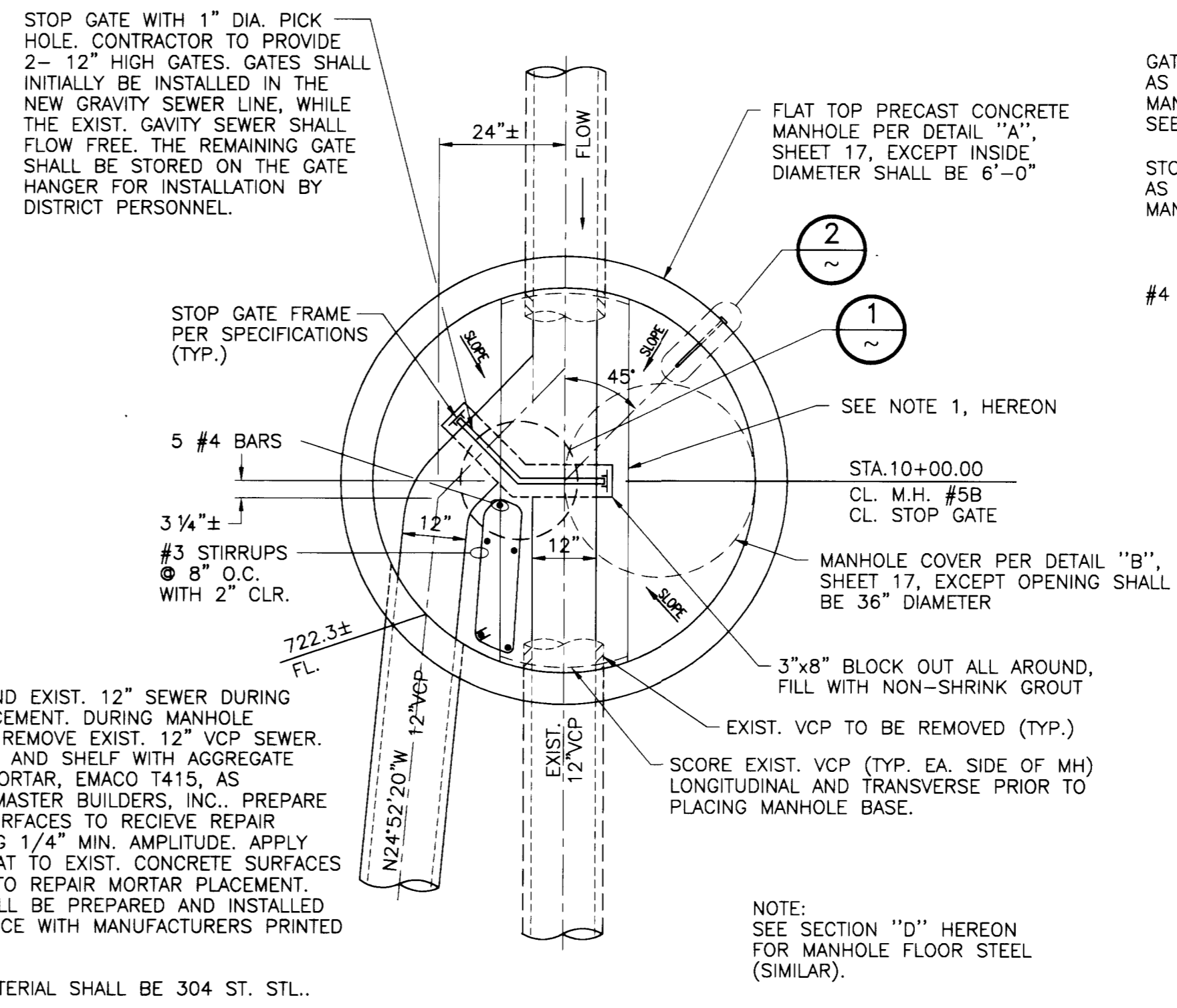
**SECTION A** SCALE: 1/2"=1'-0"  
**SECTION B** SCALE: 1/2"=1'-0"  
**SECTION C** SCALE: 1/2"=1'-0"



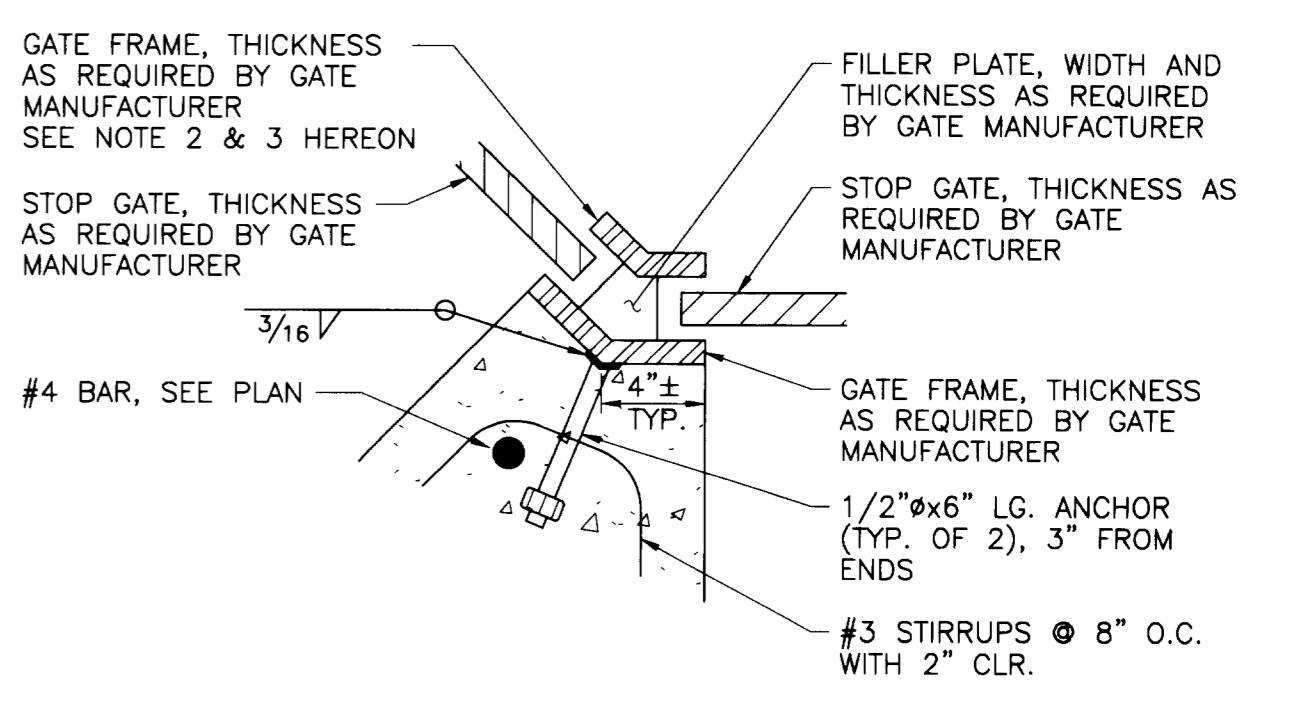
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**SECTION E** SCALE: 1/2"=1'-0"



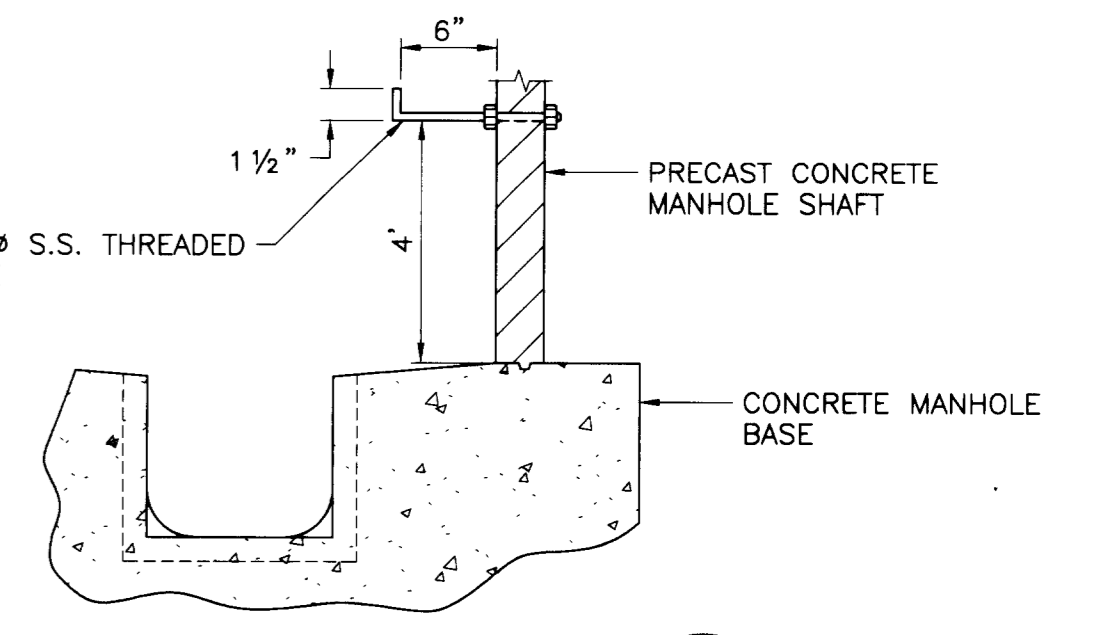
**SIPHON PROFILE DETAIL**  
 SCALE: 1/2"=1'-0"



**BYPASS MANHOLE DETAIL** 1  
 SCALE: 1/2"=1'-0"



**GATE FRAME DETAIL** 1  
 NOT TO SCALE



**GATE HANGER DETAIL** 2  
 NOT TO SCALE

- NOTES:**
- 6" BLOCKOUT AROUND EXIST. 12" SEWER DURING MANHOLE BASE PLACEMENT. DURING MANHOLE BYPASS OPERATION, REMOVE EXIST. 12" VCP SEWER. RE-SHAPE FLOWLINE AND SHELF WITH AGGREGATE EXTENDED REPAIR MORTAR, EMACO T415, AS MANUFACTURED BY MASTER BUILDERS, INC. PREPARE EXIST. CONCRETE SURFACES TO RECEIVE REPAIR MORTAR BY CHIPPING 1/4" MIN. AMPLITUDE. APPLY A SLURRY BOND COAT TO EXIST. CONCRETE SURFACES IMMEDIATELY PRIOR TO REPAIR MORTAR PLACEMENT. REPAIR MORTAR SHALL BE PREPARED AND INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS PRINTED INSTRUCTIONS.
  - ALL GATE FRAME MATERIAL SHALL BE 304 ST. STL.
  - STOP GATES AND FRAMES SHALL EXTEND TO TOP OF MANHOLE BASE SHELF.

RUBIDOUX COMMUNITY SERVICES DISTRICT

APPROVED BY *M. E. Mun*  
 DISTRICT ENGINEER

DATE *5-8-96*

SYM	REVISIONS	DATE	BY

**KRIEGER & STEWART** INCORPORATED

3602 University Ave • Riverside, CA. 92501 • 909-684-6900

APPROVED BY *Michael P. Jett*  
 REGISTERED ENGINEER No. 44226 DATE *5/7/96*

SCALE	NA
FIELD BK.	156/97-109 152/83-101
DESIGN	VGK
DRAWN	TMW
CHECKED	MPT

RUBIDOUX COMMUNITY SERVICES DISTRICT

REGIONAL WASTEWATER CONVEYANCE FACILITIES EXPANSION

**SIPHON AND CONNECTION DETAILS**

SHEET  
**26**  
 OF 26 SHEETS  
 R.C.S.D. PLAN No.