

# CAD Standards Manual

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## SECTION 1 - INTRODUCTION

This document is intended to outline the Santa Clarita Valley Water Agency's (SCV Water) procedures to create a standard format for all Projects as applicable. The CAD (Computer Aided Drafting) Standards Manual will address topics such as tools, techniques, standards, and procedures, which will aid the user in the efficient production of Plans. The standards set forth herein are to be used on all SCVWA projects.

The CAD Standards Manual and the associated electronic files are to be used in the generation of electronic plans. The AutoCAD drawings shall be set up in a consistent manner to allow for easy editing, reviewing, and plotting of drawings.

A PDF version of this manual can be found at the following SCVWA website:

[CAD Standards Manual – \(Placeholder for website link, Dolores to provide\)](#)

## SECTION 2 - FOLDER STRUCTURE (INTERNAL USE ONLY)

### Overview

At as-built survey and record drawing completion save your project files into the project folders located at the following link:

[CAD to GIS Data Conversion](#)

## SECTION 3 - FILE NAMING

### Job Number Anatomy

SCVWA Projects are assigned a unique job number by Finance and initiated by the Project Manager. Typically, Design and Inspection SOW's will use the same job number.

### Projects Naming Convention

The CAD drawing name will be based on the following formula:

**Sheet # + Job# + Drawing Number + Drawing Description**

If needed, use a suffix to distinguish similar file types within the same folder.

#### **Example Sheet File Names:**

S01\_Job#\_G\_TTL.dwg

S02\_Job#\_C1\_SITE.dwg

S03\_Job#\_C2\_DTL.dwg

#### **Drawing Number**

The drawing number contains 2 characters. The first character shall describe in more detail the type of sheet as below. The Plant Plan Sheets shall be ordered as follows:

<b><u>Designation</u></b>	<b><u>Description</u></b>
<b>G</b>	<b>Title Sheet &amp; General Notes</b> - includes Abbreviations, Symbology, Construction Notes Master List
<b>A</b>	<b>Architectural</b>
<b>C</b>	<b>Civil Sheets (Civil Plan, Sections, Details)</b> - includes Demolition, Pipeline, Grading, Utility Piping, Tank Access Road, Site Plan, Erosion Control Plan
<b>M</b>	<b>Mechanical Sheets (Mechanical Plan, Sections, Details)</b> - includes Booster Pump Stations, Treatment Facilities, Turnouts, PRV's, Wells
<b>S</b>	<b>Structural (Structural Plan, Sections and Details)</b> - includes Tanks, Vaults, Water Basins
<b>E</b>	<b>Electrical Sheets (Electrical Plan, Details, Single Line Diagrams, etc...)</b>
<b>I</b>	<b>Instrumentation Sheets (P&amp;ID, Details, etc...)</b>
<b>L</b>	<b>Landscaping</b>
<b>TC</b>	<b>Traffic Control</b>

The second character will be the corresponding sheet number for each designation. This number will be reflected in the title block under "DRAWING NO.:" and will be denoted as T-1, C-1, C-2, M-1, M-2, etc...

**Drawing Description**

This section shall describe in more detail the contents of the sheet.

## Xref Naming Convention

External reference (Xref) files will be saved in the **Xref** folder. The SCVWA Standard Border **must be referenced** into the project plans (overlaid). The project base map can be referenced into the project plans at the discretion of the Project Engineer and is dependent on the complexity of the project. Base maps contain right-of-way information, utility lines, topographic information and the proposed design. Refer to **SECTION 5 - EXTERNAL REFERENCE FILES** of this manual for additional information on external reference files. The Xref file names are to begin with an "X" to identify that it is a reference file. To maintain overall simplicity and functionality, the Xref CAD drawing files are to be named using the following convention:

**Formula: X + Prefix + File Type**

### Prefix

<u>Name</u>	<u>Description</u>
EX	Existing
PR	Proposed

### File Type

<u>Name</u>	<u>Description</u>
Border	Border
Base	Base Map
Topo	Topographic Data

### **Example Xref File Names:**

X-TTLBLK.dwg (This will always be the border name)

X-EX-Base.dwg

X-PR-Base.dwg

X-EX-Topo.dwg

X-PR-Topo.dwg



## SECTION 4 - DRAWING SETUP

### Template

The SCVWA Standard Drawing Template is located in:

[SCVWA CAD Standards Manual/AutoCAD Template](#)

**ALWAYS BEGIN A NEW DRAWING FILE WITH THE SCVWA TEMPLATE FILE**

The SCVWA Template stores attributes, layers and styles. **Never begin** by using outside consultants drawing files. Begin with the template drawing file and copy any consultant information into the SCVWA Template.

**Do not** start a new project by either copying old project files or by employing the "save as" command. This can and will populate a new project with errors or problems. Always begin a new drawing file with the SCVWA Template.

### Drawing Setup

Each sheet for a Project will be a separate drawing named as outlined in **SECTION 3 - FILE NAMING**.

### Border

The SCVWA Standard Border shall be used on **all** projects. The border AutoCAD file will be copied into the **Xref** subfolder to begin the project. All borders shall be set up as follows:

- Xref to paper space at 1:1 at 0,0,0 insertion point.
- Do not scale border by a drawing factor.
- The border size for Projects is 22" x 34".

Examples of the SCVWA Standard Border. The names and location of the standard borders are:

- **X-TTLBLK**
- **X-PLBLK**

Location for SCVWA Consultants & Internal Staff

[SCVWA CAD Standards Manual/Title & Plan Block \(for SCVWA Consultants and Internal Use Only\)](#)

Location for Developer Designer

[SCVWA CAD Standards Manual/Title Block \(for Developer Designer Use Only\)](#)



**GENERAL NOTES**

- ALL WORK AND MATERIALS SHALL BE APPROVED BY SCVWA AND SHALL BE IN ACCORDANCE WITH THE MOST CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) "GREENBOOK", LATEST EDITION SCVWA STANDARD SPECIFICATIONS, STANDARD DRAWINGS, WATER ORDINANCE, RULES AND REGULATIONS, AND AWWA STANDARDS, AS WELL AS THOSE SPECIFIED IN CALIFORNIA HEALTH LAWS RELATED TO RECYCLED WATER, (CALIFORNIA HEALTH AND SAFETY CODE, WATER CODE, TITLES 22 AND 17 OF THE CALIFORNIA CODE OF REGULATIONS), THE LOS ANGELES COUNTY CODE (LACC), TITLE 28 - PLUMBING, APPENDIX J, THE STATE OF CALIFORNIA POLICY FOR WATER QUALITY CONTROL FOR RECYCLED WATER. THE CONTRACTOR SHALL ALWAYS HAVE A SET OF SCVWA STANDARD SPECIFICATIONS AND APPROVED PLANS ON THE JOB SITE.
- UNLESS OTHERWISE INDICATED ON THE PLANS OR SCVWA, PIPE STORAGE, HANDLING, LAYING AND JOINTING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA M41 (DIP) AND THE PIPE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS, WHICH SHALL BE SUBMITTED WITH THE PIPE MATERIAL SUBMITTAL. CONTRACTOR SHALL ONLY USE THE PROPER MEANS, METHODS, AND TOOLS FOR PROPER PIPE INSTALLATION.
- PRIOR TO PROJECT ACCEPTANCE, ALL PROPERTY GRANT DEED(S) AND EASEMENT DEED(S) SHALL BE CONVEYED TO SCVWA AND RECORDED BY THE COUNTY OF LOS ANGELES.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE A PERSON TRAINED AND IDENTIFIED AS A COMPETENT PERSON IN CAL-OSHA'S EXCAVATION STANDARD ON-SITE DURING ALL EXCAVATION AND CONSTRUCTION ACTIVITIES.
- IT IS THE OWNER'S AND/OR DEVELOPER'S RESPONSIBILITY TO DETERMINE THAT THE REQUIRED FIRE FLOW IS AVAILABLE.
- ALL IMPROVEMENTS ARE AT THE EXPENSE OF OTHERS AND SUBJECT TO SCVWA APPROVAL.
- PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL CALL DIGALERT (811) TO LOCATE EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR POTHOLES AND SURVEYING ALL CONNECTION POINTS AND CROSSINGS PRIOR TO SHOP DRAWING SUBMITTAL AND THE START OF CONSTRUCTION AT NO ADDITIONAL COST TO SCVWA. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ALL THE NECESSARY PERMITS BEFORE ANY WORK BEGINS.
- THE CONTRACTOR SHALL APPLY FOR INSPECTION IN WRITING FROM SCVWA (661) 297-1600 AT LEAST 5 SCVWA WORKING DAYS BEFORE STARTING WORK ON THIS PROJECT. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR INSPECTION EACH DAY, AT LEAST 24 HOURS IN ADVANCE.
- DISINFECTION: CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO ASSURE SANITARY INSTALLATION OF ALL FACILITIES. CONTRACTOR SHALL ENDEAVOR TO KEEP ALL DIRT, RODENTS, INSECTS, ETC. AWAY FROM SURFACES TO BE EXPOSED TO DOMESTIC WATER. TEST PLATES SHALL BE INSTALLED BEFORE PRESSURE TESTING AND DISINFECTION. ISOLATION VALVES SHALL BE KEPT CLOSED AT ALL TIMES UNTIL SATISFACTORY COMPLETION OF PRESSURE TEST, DISINFECTING, FLUSHING AND BACTERIOLOGICAL TEST. CONTRACTOR SHALL NOTIFY SCVWA IN WRITING 5 SCVWA WORKING DAYS IN ADVANCE OF ANY DESIRED: PROJECT TESTING, INCLUDING FLUSHING, PRESSURE TESTING, DISINFECTION TESTING, AND BACTERIOLOGICAL SAMPLING OF NEW WATER MAINS; OR OPERATION OF ISOLATION VALVES. VALVES SHALL BE OPERATED ONLY BY SCVWA PERSONNEL. DEVELOPER/CONTRACTOR SHALL COMPLY WITH AWWA STANDARDS FOR FLUSHING, PRESSURE TESTING, AND DISINFECTION. BACTERIOLOGICAL TEST SAMPLING SHALL BE SCHEDULED ONLY ON MONDAY THROUGH THURSDAY. STATIC PRESSURE FOR THE PROPOSED PIPELINE IS XXX PSI. HYDROSTATIC TEST PRESSURE SHALL BE XXX (150 PSI MIN.) PSI.
- THE CONTRACTOR SHALL SUBMIT A PROJECT TESTING PLAN TO SCVWA FOR REVIEW AND APPROVAL PRIOR TO THE START OF CONSTRUCTION, INCLUDING: PRESSURE TESTING PLAN, FLUSHING PLAN, AND DISINFECTION PLAN. THESE PLANS SHALL COMPLY WITH AWWA C 651 STANDARDS.
- CONTRACTOR SHALL NOTIFY SCVWA A MINIMUM OF FIVE (5) SCVWA WORKING DAYS PRIOR TO INTERRUPTION OF WATER SERVICE.
- DEVELOPERS/CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF APPLICABLE AGENCIES.
- DEVELOPERS/CONTRACTOR SHALL APPLY FOR INSTALLATION OF A TEMPORARY CONSTRUCTION WATER METER AND SHALL COMPLY WITH SCVWA SPECIFICATIONS REGARDING CONSTRUCTION OF TEMPORARY WATER SERVICE.
- WHERE FIRE HYDRANTS ARE INSTALLED OR UPGRADED, THE CONTRACTOR SHALL INSTALL REFLECTORIZED, RAISED PAVEMENT MARKERS (STIMSONITE HYDRANT SPOTTER), ALSO CALLED "BLUE DOTS", A TWO-PART EPOXY ADHESIVE SHALL BE USED TO INSTALL THE MARKERS. ONE MARKER SHALL BE INSTALLED OPPOSITE EACH FIRE HYDRANT, APPROXIMATELY 6 INCHES OFFSET FROM STREET CENTERLINE ON THE HYDRANT SIDE OF THE STREET.
- POTABLE AND RECYCLED WATER METER LINES SHALL BE INSTALLED PERPENDICULAR TO WATER MAINS OR PROPERTY LINES AND SHALL NOT TO BE LOCATED IN DRIVEWAYS AND/OR CUSTOMER'S WALKWAYS OR HARDSCAPE. POTABLE WATER METER LINES SHALL HAVE A MINIMUM PARALLEL DISTANCE OF 5-FOOT AND 1-FOOT VERTICALLY CLEARANCE FROM ANY RECYCLED AND SEWER LATERAL.
- DEVELOPER/OWNER SHALL BE RESPONSIBLE TO PROVIDE SURVEY STAKES TO CORRECTLY LOCATE THE WATER FACILITIES. SURVEY STAKES SHALL PROVIDE GRADE AND ALIGNMENT FOR USE BY THE CONTRACTOR TO CONSTRUCT THE FACILITIES. SURVEY CUT SHEETS MUST BE PROVIDED TO SCVWA.
- FITTINGS SUBJECT TO THRUST SHALL BE INSTALLED WITH CONCRETE THRUST BLOCK RESTRAINTS POURED AGAINST UNDISTURBED SOIL OF TRENCH WALL. SIZES OF THRUST BLOCKS SHALL BE PER SCVWA STANDARDS.
- THE CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING SEWER, STORM DRAIN, GAS, AND ELECTRICAL SUBSTRUCTURES INCLUDING LATERAL CONNECTIONS. ALL DAMAGES SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CERTIFIED COMPACTION TEST RESULTS AT A MINIMUM OF 100 L.F. INTERVALS FOR THE TRENCH BACKFILL. TEST SHALL BE CONDUCTED FOR SUBBASE AND AT GRADE IN ACCORDANCE WITH SCVWA STANDARD SPECIFICATIONS AND SECTION 211 OF SSPWC. THE AGENCY RESERVES THE RIGHT TO REQUIRE ADDITIONAL TEST AS DETERMINED BY THE PROJECT ENGINEER OR INSPECTOR.
- BARRICADES IN ACCORDANCE WITH SCVWA STANDARD SHALL BE INSTALLED AT FIRE HYDRANT AND OTHER FACILITIES NOT LOCATED BEHIND STANDARD CURB FACE, OR AS REQUIRE BY THE AGENCY INSPECTOR.
- ALL MATERIAL USED AND ALL WORK TO BE PERFORMED SHALL BE IN ACCORDANCE WITH AWWA AND NSF 61 STANDARDS.
- MINIMUM REQUIRED COVER IS 36" FOR ALL POTABLE AND RECYCLED WATER MAINS AND SERVICES UNLESS OTHERWISE DIRECTED BY THE AGENCY. WHEN NO POTABLE WATER MAIN IS PRESENT OR PLANNED IN THE SAME STREET OR EASEMENT, RECYCLED WATER MAINS MAY BE INSTALLED AT THE MINIMUM COVER OF (36") IF A POTABLE WATER MAIN IS PRESENT OR PLANNED IN THE SAME STREET OR EASEMENT. THE MINIMUM COVER FOR RECYCLED WATER MAINS SHALL BE 48". MAXIMUM DEPTH FOR WATER MAINS IS 60" UNLESS OTHERWISE DIRECTED BY THE AGENCY. INSTALLATION MUST COMPLY WITH REGULATIONS FOR PIPELINE SEPARATION REQUIREMENTS (DDW TITLE 22).
- "W" SHALL BE IMPRINTED ON CURB FACE AT EACH POTABLE WATER SERVICE LATERAL (METER) LOCATION. "RW" SHALL BE IMPRINTED ON CURB FACE AT EACH RECYCLED WATER SERVICE LATERAL (METER) LOCATION.
- WHERE FEASIBLE, FIRE HYDRANT RUNS, AND SERVICES SHALL BE STRAIGHT FROM VALVE TO HYDRANT BURY. ALL HYDRANT RUNS SHALL HAVE FULLY RESTRAINED MECHANICAL JOINTS, OR AS REQUIRED BY THE AGENCY INSPECTOR.
- CONTRACTOR SHALL WARRANTY ALL WORK FOR 24 MONTHS AFTER DATE OF ACCEPTANCE AND NOTICE OF COMPLETION BY THE AGENCY'S GENERAL MANAGER, CHIEF ENGINEER OR DESIGNEE.
- NO-OX-ID OR BITUMASTIC PROTECTIVE COATING SHALL BE APPLIED TO ALL FITTINGS, NUTS, AND BOLTS.
- ALL PIPE, FITTING, AND VALVE JOINTS SHALL BE RESTRAINED WITHIN THE DESIGNATED RESTRAINT LENGTHS INDICATED ON THE DRAWINGS. IF BENDS, VALVES OR OTHER FITTINGS NOT SHOWN ON THE PLANS ARE PROPOSED TO BE INCORPORATED DURING CONSTRUCTION, CONSULT WITH THE ENGINEER FOR PROPER RESTRAINT DISTANCES.

**GENERAL NOTES (CONTINUED):**

- LOCATING WIRE ON ALL PIPING AND CONDUIT. TRACER WIRE SHALL BE COLOR CODED IN ACCORDANCE WITH UTILITY BEING INSTALLED (I.E., BLUE FOR POTABLE WATER, PURPLE FOR RECYCLED WATER, RED FOR ELECTRICAL CONDUIT, ETC.). COPPER TRACER WIRE SHALL BE PLACED CONTINUOUSLY CENTERED JUST ABOVE THE TOP CENTER OF THE PIPE FOR THE PURPOSE OF PROVIDING A CONTINUOUS SIGNAL PATH FOR ELECTRONIC PIPE LOCATIONS USED TO DETERMINE THE PIPE ALIGNMENT AFTER INSTALLATION. THE WIRE SHALL BE ELECTRONICALLY CONTINUOUS THROUGHOUT THE ENTIRE PIPE SYSTEM INCLUDING ADJACENT SERVICE LINE ASSEMBLIES. THE COPPER WIRE SHALL BE NO. 12 GAUGE SOLID STRAND WITH HMWPE INSULATION. THE WIRE SHALL BE BROUGHT TO THE SURFACE AT VALVE LOCATIONS AND SHALL BE ACCESSIBLE BY REMOVING THE VALVE CAN COVER. THE WIRE SHALL BE BROUGHT TO THE SURFACE PER THE AGENCY'S STANDARD DRAWINGS. THE WIRE SHALL ALSO BE TAPED OR SECURED IN PLACE BY MEANS OF A PLASTIC ADHESIVE TAPE OR ZIP TIES, PLACED AT 1-FOOT INTERVALS. ALL SPLICED CONNECTIONS SHALL BE MADE USING A WIRE NUT, GREASE CAP, 3M (DBR/Y6) OR EQUAL. CONTRACTOR SHALL PERFORM ELECTRICAL CONTINUITY TEST AND PROVIDE THE AGENCY WITH THE RESULTS THEREOF.
- ALL FITTINGS MUST BE C-110 CAST DUCTILE IF DEPTH EXCEEDS 60" OR IF DEPTH IS LESS THAN 36", OTHERWISE USE C-153. ALL FITTINGS SHALL BE DOUBLE CEMENT MORTAR LINED, PER AWWA C104, ASPHALTIC LINING IS NOT ACCEPTABLE.
- ALL PIPES, FITTINGS, AND FIXTURES CONVEYING WATER SHALL BE "LEAD FREE" AS DEFINED BY AB 1953.
- PIPE CONNECTIONS MADE BETWEEN DISSIMILAR METALS REQUIRE INSULATOR GASKETS AND BOLT KITS.
- S.C.E. FACILITIES SHOWN ON THIS PLAN (IF APPLICABLE) ARE FOR BIDDING AND INFORMATIONAL PURPOSES ONLY. REFER TO S.C.E. DRAWINGS FOR S.C.E. FACILITIES CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND INSTALL.
- ALL RUBBER MATERIAL THAT WILL COME INTO CONTACT WITH WATER, INCLUDING BUT NOT LIMITED TO GASKETS MUST BE E.P.D.M. (OR COMPATIBLE WITH CHLORAMINES).
- ENCASE ALL FERROUS POTABLE AND RECYCLED WATER PIPE, VALVES AND FITTINGS WITH ONE LAYER OF 8-MIL POLYETHYLENE ENCASMENT (V-BIO TYPE). POLYETHYLENE FILM SHALL BE MANUFACTURED OF VIRGIN POLYETHYLENE MATERIAL CONFORMING TO THE MATERIAL REQUIREMENTS OF THE LATEST REVISION OF ANSI/AWWA C105/A21.5. ALL FERROUS RECYCLED WATER PIPE SHALL BE ENCASED IN SECOND LAYER OF 8-MIL POLYETHYLENE ENCASMENT, WHICH SHALL BE PURPLE IN COLOR AND SHALL BE IMPRINTED WITH "WARNING: RECYCLED WATER DO NOT DRINK" AND SHALL MEET OR EXCEED ANSI/AWWA C105/A21.5.
- TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT STATE OF CALIFORNIA MANUAL OF TRAFFIC CONTROLS, OR PER LOCAL JURISDICTION REQUIREMENTS.
- CONTRACTOR AND ITS SUBCONTRACTORS SHALL ALWAYS MAINTAIN ACCESS TO PRIVATE PROPERTY.
- ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE LATEST SAFETY AND HEALTH REGULATIONS OF CAL-OSHA AND THE U.S. DEPARTMENT OF LABOR, AND WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS".
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO THE EXISTING UTILITIES AND RELATED EQUIPMENT, STRUCTURES, IMPROVEMENTS, AS A RESULT OF ITS OPERATIONS AND WILL BE REQUIRED TO REPAIR OR REPLACE SAME TO THE SATISFACTION OF AND AS DIRECTED BY THE ENGINEER AND/OR SCVWA.
- ALL UTILITIES AND OTHER STRUCTURES ALONG THE WATER LINES MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. ONCE THESE UTILITIES AND STRUCTURES HAVE BEEN EXPOSED BY THE CONTRACTOR, THE CONTRACTOR SHALL TAKE MEASUREMENTS AND VERIFY THEIR LOCATION WITH SCVWA'S REPRESENTATIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING FACILITIES, WHETHER OR NOT THEIR EXISTENCE OR APPROXIMATE LOCATIONS ARE SHOWN ON THESE PLANS, FROM DAMAGE DURING CONSTRUCTION. ALL UTILITY CROSSINGS SHALL BE POTHOLED (100' AHEAD) PRIOR TO ANY TYPE OF INSTALLATION IN ORDER TO ADJUST ALIGNMENT IF NEEDED.
- UNLESS OTHERWISE NOTED ON THE PLANS, ALL DI PIPE AND FITTINGS SHALL BE PRESSURE CLASS 350. UNLESS OTHERWISE NOTED ON THE PLANS.
- MINIMUM HORIZONTAL AND VERTICAL SEPARATION OF PROPOSED WATER PIPELINE FROM EXISTING FACILITIES SHALL BE IN ACCORDANCE WITH SECTION 64572, TITLE 22, CALIFORNIA CODE OF REGULATIONS (CCR) FOR SEPARATION REQUIREMENTS OR SCVWA REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ANY WAIVERS TO THE SEPARATION REQUIREMENTS SHALL BE APPROVED BY THE DIVISION OF DRINKING WATER (DDW) PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH SECTION 645551.100, TITLE 22, CCR.
- PRIOR TO PERFORMING ANY INTERCONNECTION WORK, THE CONTRACTOR SHALL SUBMIT A WORKING SCHEDULE AND WORK PROCEDURE PLAN TO SCVWA'S ENGINEER/INSPECTOR. THE CONTRACTOR SHALL NOT PERFORM ANY INTERCONNECTION WORK UNTIL PERMISSION FOR THIS SCHEDULE AND PLAN HAS BEEN APPROVED BY SCVWA'S ENGINEER/INSPECTOR.
- CONTRACTOR SHALL RESTORE ALL PAINTED STREET MARKINGS IN KIND IF DISTURBED.
- UPON COMPLETION OF THE PROJECT AND PRIOR TO RETENTION PAYMENT, CONTRACTOR SHALL PROVIDE SCVWA WITH PLANS (PRINTS AND DIGITAL FORMAT) OF ALL "AS-BUILT" CONDITIONS INCLUDING THE STATIONING OF SERVICE LATERAL CONNECTIONS AND PAD ELEVATIONS AS A CONDITION OF FINAL APPROVAL. A SET OF PLANS SHALL BE "REDLINED" SHOWING ALL DEVIATIONS FROM THE ORIGINAL PLANS, QUANTITIES AND TYPES OF ALL MATERIALS, ALIGNMENT AND DEPTH OF PIPELINES AND DIMENSIONS TO ALL FITTINGS. IN ADDITION, THE CONTRACTOR SHALL PROVIDE ELECTRONIC GLOBAL POSITIONING SYSTEM (GPS) DATA POINTS FOR THE PIPELINE AT ALL JOINTS AND AT ALL FITTINGS, VALVES, AIR VALVES, HYDRANTS, BLOWOFFS AND OTHER APPURTENANCES IN ACCORDANCE WITH SCVWA STANDARDS FOR DATA COLLECTION. HORIZONTAL DATA SHALL BE PROVIDED IN NAD 83, CALIFORNIA ZONE 5, AND VERTICAL DATUM SHALL BE NAVD 88.
- ANY SURVEY MONUMENTS DESTROYED BECAUSE OF CONSTRUCTION ACTIVITIES SHALL BE RESTORED IN KIND BY A LICENSED LAND SURVEYOR AND THE APPROPRIATE CORNER RECORD MUST BE FILED WITH THE COUNTY OF LOS ANGELES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTE ANY MONUMENTS DESTROYED DURING CONSTRUCTION ACTIVITIES.
- FOR ANY NEW FACILITY CONSTRUCTED (I.E., TANK(S), PUMP STATION(S), WATER MAINS, ETC.) THE DEVELOPER MUST PROVIDE SCVWA WITH A RECORD OF SURVEY AND PROPER MONUMENTS MUST BE SET, AT PROPERTY CORNERS, AND ALL EASEMENTS MUST BE STAKED BY A LICENSED LAND SURVEYOR.
- AT THE END OF DAY CONSTRUCTION, THE CONTRACTOR SHALL COVER THE END OF LINE "WATER PIPELINE" AND ANY WATER APPURTENANCES WITH PLASTIC WRAP AND TAPE AND THE CONTRACTOR SHALL TAKE ANY OTHER MEASURE NECESSARY TO PROTECT THE INTEGRITY, HEALTH AND SAFETY OF THE "WATER PIPELINE" BEING WORKED ON.
- ALL WATER SYSTEM INSTALLATION MUST BE PERFORMED BY A CONTRACTOR POSSESSING A VALID CLASS "A" STATE OF CALIFORNIA CONTRACTOR'S LICENSE.
- ALL WATER SERVICE CONNECTIONS (DOMESTIC, FIRE & IRRIGATION) MUST HAVE APPROPRIATE BACKFLOW PROTECTION DETERMINED BY AN SCVWA INSPECTOR. BACKFLOW ASSEMBLIES MUST BE INSPECTED PRIOR TO INSTALLATION AND AFTER INSTALLATION, NO EXEMPTIONS. ALL BACKFLOWS ASSEMBLIES SHALL BE TESTED BY A LOS ANGELES COUNTY CERTIFIED BACKFLOW TESTER BEFORE SERVICE CAN BE TURNED ON. CONTACT SCVWA'S CHRIS SAENZ (INSPECTOR) AT 661-705-7261 FOR ADDITIONAL INFORMATION AND COORDINATION ON BACKFLOWS.
- ENCASEMENTS SHALL BE ONE SACK SLURRY PER LATEST "GREENBOOK" STANDARD, UNLESS OTHERWISE DIRECTED TO USE 2500 PSI CONCRETE PER AGENCY'S REPRESENTATIVE.
- STATIONING IS BASED ON WATER PIPELINE CENTERLINE AND NOT STREET CENTERLINE.

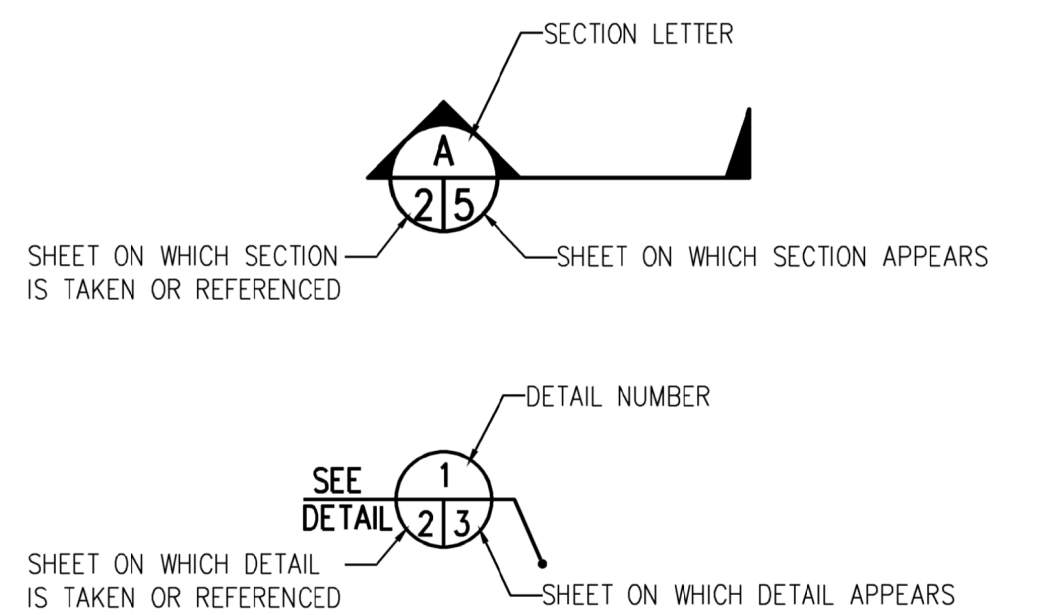
**ABBREVIATIONS**

<p>                 ABAN ABANDONED                  A.C. OR AC ASPHALT-CEMENT                  A.C.P. OR ACP ASBESTOS-CEMENT PIPE                  APPD. EQ. APPROVED EQUAL                  APWA AMERICAN PUBLIC WORKS ASSOCIATION                  AWC AMERICAN WIRE GAUGE                  AWWA AMERICAN WATER WORKS ASSOCIATION                  BCR BEGINNING OF CURB RETURN                  BC OR BOC BEGINNING OF CURVE                  BDRY. BOUNDARY                  B.FLY. BUTTERFLY                  BLDG. BUILDING                  B.V. OR BV BUTTERFLY VALVE                  C&amp;G CURB &amp; CUTTER                  C.A.B. CRUSHED AGGREGATE BASE                  C.I. OR CI CAST IRON                  C.I.P. OR CIP CAST IRON PIPE                  CL CLASS                  CL OR CL. CENTER LINE                  C.L.F. OR CLF CHAIN LINK FENCE                  CLR. CLEARANCE                  C.M.C. OR CMC CEMENT MORTAR COATED                  C.M.L. OR CML CEMENT MORTAR LINED                  C.M.L. &amp; C CEMENT MORTAR LINED &amp; COATED                  C.M.L. &amp; P CEMENT MORTAR LINED &amp; PAINTED                  C.M.L. &amp; W CEMENT MORTAR LINED &amp; WRAPPED                  C.M.P. CORRUGATED METAL PIPE                  CONC. CONCRETE                  COND. CONDUIT                  CONST. CONSTRUCT OR CONSTRUCTION                  CPLG. COUPLING                  C.Y. CUBIC YARD                  D, DIA. OR Ø DIAMETER                  DEPT. DEPARTMENT                  D.I. OR DI DUCTILE IRON                  D.I.P. OR DIP DUCTILE IRON PIPE                  DIST. DISTANCE                  DPH. DEPARTMENT OF PUBLIC HEALTH                  DPW DEPARTMENT OF PUBLIC WORKS                  DR. DRIVE                  DWG. DRAWING                  E. EAST                  E/O EAST OF                  EA. EACH                  EL. OR ELEV. ELEVATION                  ELEC. ELECTRIC OR ELECTRICAL                  EMH ELECTRICAL MANHOLE                  EC OR EOC END OF CURVE                  E.P. OR EP EDGE OF PAVEMENT                  EPDM ETHYLENE PROPYLENE DIENE MONOMER                  EXIST. OR EX. EXISTING                  FE FLANGED END                  FF FINISHED FLOOR                  FLG. FLANGE                  FS FINISHED SURFACE                  FT. FOOT OR FEET                  GA GAGE OR GAUGE                  GAL. GALLON                  GALV. GALVANIZED                  G.B. OR GB GRADE BREAK                  G.M. OR GM GAS METER                  G.V. OR GV GATE VALVE                  HORIZ. HORIZONTAL                  HP. HIGH POINT                  H.P. HORSE POWER                  HWY. HIGHWAY                  I.D. INSIDE DIAMETER                  IN. INCH                  INST. INSTALL                  INT. INTERIOR                  INV. INVERT                  I.P.S. IRON PIPE SIZE                  LAT. LATERAL                  LF. LINEAR FEET                  LG. LARGE                  LL. LOT LINE                  LN. LANE                  MAX. MAXIMUM                  M.H. MANHOLE                  MIN. MINIMUM                  M.J. OR MJ MECHANICAL JOINT                  M.W.D. METROPOLITAN WATER DISTRICT                  N. NORTH                  N/O NORTH OF                  NO. OR # NUMBER                  N.T.S. NOT TO SCALE                  O.A.E. OR APPROVED EQUAL                  O.C. ON CENTER                  O.D. OUTSIDE DIAMETER                  PE PLAIN END                  P.L. OR PL PROPERTY LINE                  P.O. PUSH ON                  P.P. OR PP POWER POLE                  PRC POINT ON REVERSE CURVE                  PROP. PROPOSED                  P.S.I. POUNDS PER SQUARE INCH                  P.V.C. POLYVINYL CHLORIDE                  PWMT. PAVEMENT                  PVT. PRIVATE                  R. OR RAD. RADIUS                  RB RADIAL BEARING                  R.C.B. OR RCB REINFORCED CONCRETE BOX                  R.C.P. OR RCP REINFORCED CONCRETE PIPE                  RD. ROAD                  REV. REVISION                  R.R. RAILROAD                  R/W RIGHT OF WAY                  R.W.G.V. RESILIENT WEDGE GATE VALVE                  RY. RAILWAY                  S. SOUTH                  SCVWA SANTA CLARITA VALLEY                  WATER AGENCY                  S.D. STORM DRAIN                  SDM. STORM DRAIN MANHOLE                  SHT. SHEET                  SMH SEWER MANHOLE                  S.O. CAL. SOUTHERN CALIFORNIA                  S/O SOUTH OF                  SPEC'S SPECIFICATIONS                  SQ. SQUARE                  S.S. OR SS STAINLESS STEEL                  ST. STREET                  STA. STATION                  STD. STANDARD                  STL. STEEL                  SWRCB STATE WATER RESOURCES CONTROL BOARD                  T.C. OR TC TOP OF CURB                  T.F. OR TF TOP OF FOOTING                  T.G. OR TG TOP OF GRATE                  T.M.H. OR TMH TELEPHONE MANHOLE                  TOP TOP OF PIPE                  TRANS. TRANSITION                  T.W. OR TW TOP OF WALL                  TYP. TYPICAL                  V.C.P. OR VCP VITRIFIED CLAY PIPE                  VERT. VERTICAL                  W. WEST                  W/ WITH                  W/O WEST OF                  W.L. WATER LINE                  W.M. OR WM WATER METER                  WT. WEIGHT                  W.V. OR WV WATER VALVE             </p>
--

**LEGEND**

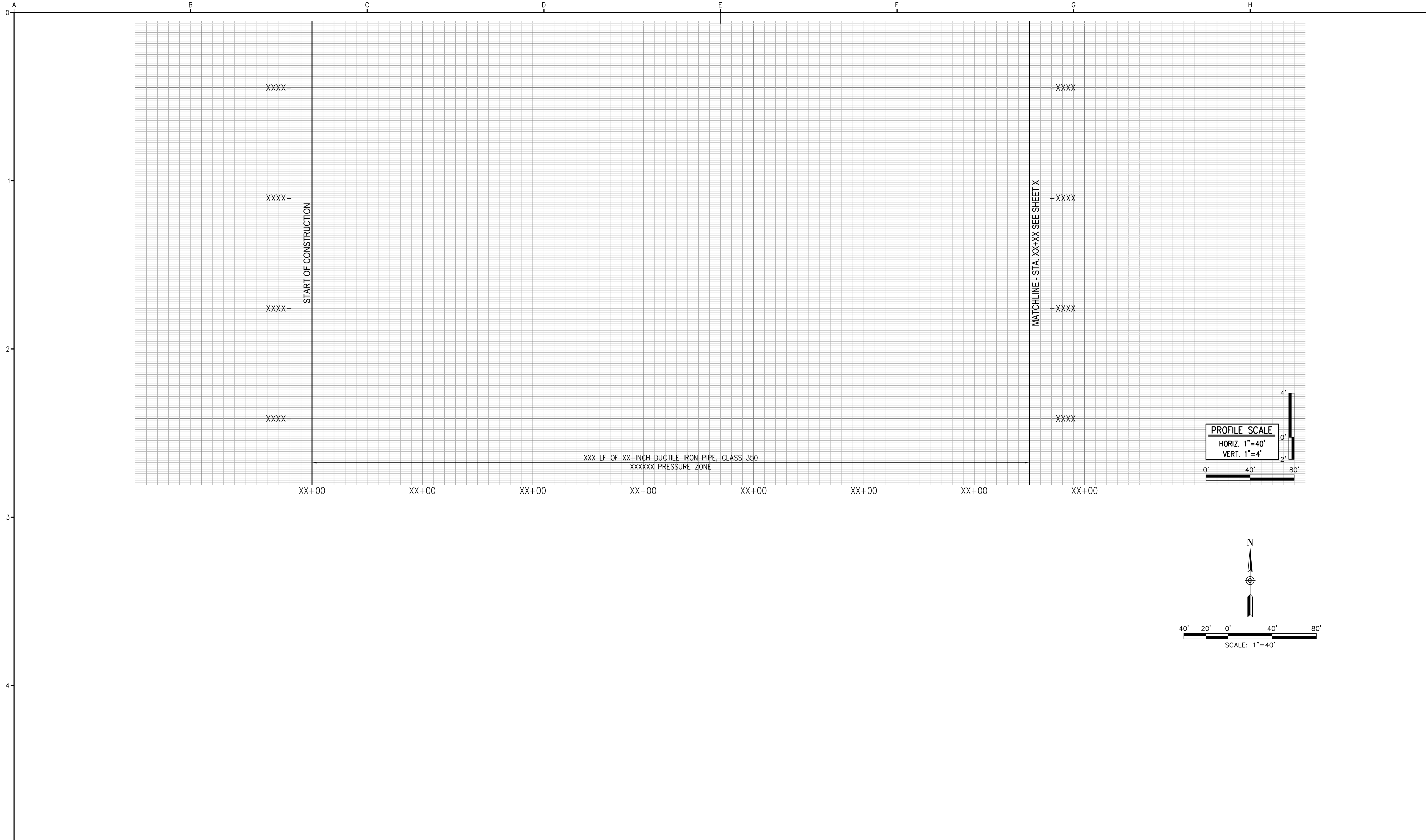
<p>                 TSBI OR EXIST. TRAFFIC SIGNAL BOX                  EXIST. STREET LIGHT                  EXIST. ELECTRICAL MANHOLE                  EXIST. STORM DRAIN MANHOLE                  EXIST. SEWER MANHOLE                  EXIST. TELEPHONE MANHOLE                  EXIST. MANHOLE                  EXIST. FIRE HYDRANT                  EXIST. STEEL POST                  EXIST. DRAINAGE GRATE                  EXIST. STREET SIGNS                  AERIAL TARGETS                  EXIST. ROCKS                  EXIST. POWER POLE                  EXIST. BUSH                  EXIST. BRUSH                  EXIST. TREES                  EXIST. TREES                  EXIST. TREES                  EXIST. TREES             </p>	<p>                 EXIST. EDGE OF PAVEMENT                  EXIST. CURB AND GUTTER                  EXIST. BLOCK WALL                  EXIST. CONTOURS                  EXIST. CHAIN LINK FENCE                  2:1 SLOPE                  ASPHALT CONCRETE                  AREA OF CONSTRUCTION                  GATE VALVE / TAPPING VALVE                  COUPLING                  POST BARRICADE                  APPROXIMATE LENGTH OF PIPE                  OVER CALL OUT FOR CROSSING EXISTING UTILITIES                  UNDER CALL OUT FOR CROSSING EXISTING UTILITIES             </p>
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**SECTION OR DETAIL IDENTIFICATION**



CONTRACTOR TO SUBMIT FLUSHING, CHLORINATION, AND TEST PLATE LOCATION PLAN (PER AWWA STANDARDS) FOR APPROVAL PRIOR TO START OF CONSTRUCTION

	<b>REVISIONS</b>				DESIGNED BY:	XXX		<b>PROJECT NAME</b>		DATE:	MONTH YEAR
	NO.	DESCRIPTION	DATE	BY	DRAWN BY:	XXX		<b>DRAWING/SHEET NAME</b>		PROJECT NO.:	XXXXX
					CHECKED BY:	XXX				DRAWING NO.:	G-2
								SHEET NO.:	X OF XX		



REVISIONS			
NO.	DESCRIPTION	DATE	BY

DESIGNED BY:  
XXX  
DRAWN BY:  
XXX  
CHECKED BY:  
XXX



PROJECT NAME

---

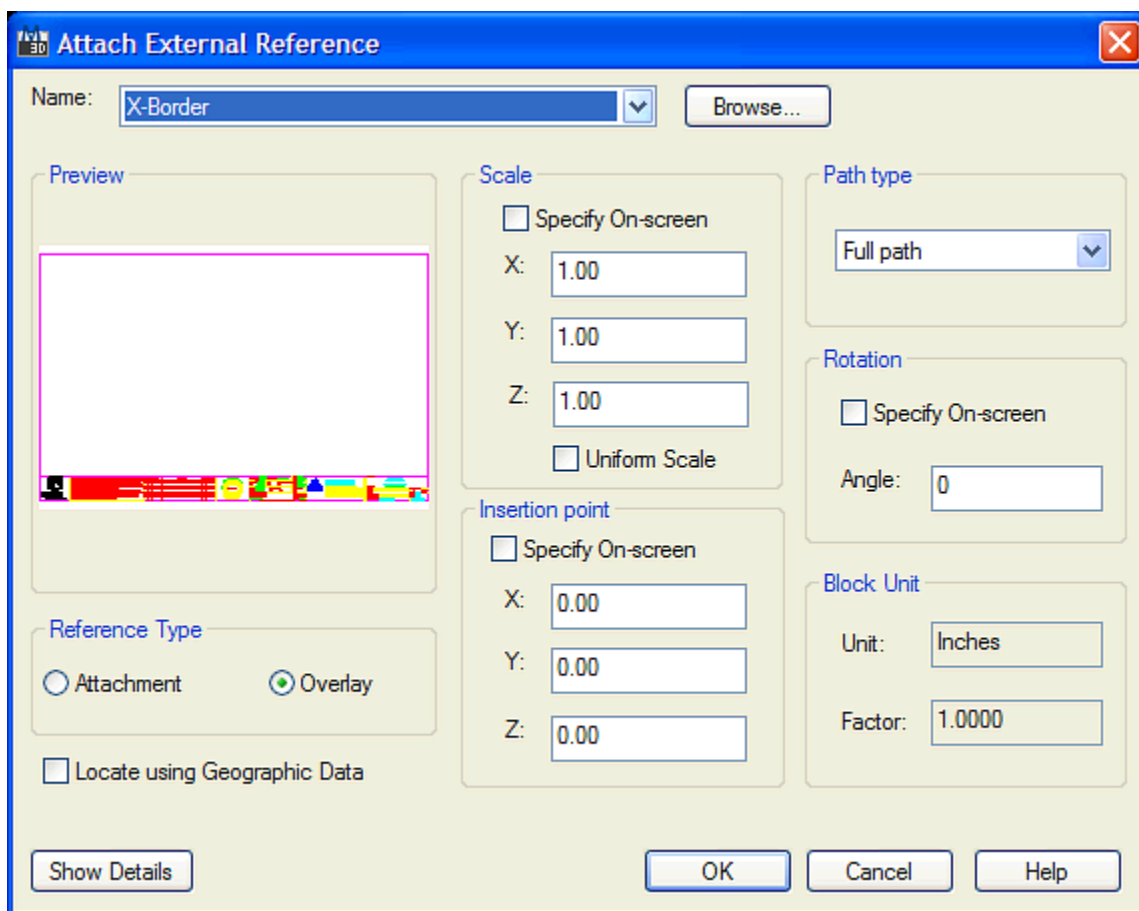
DRAWING/SHEET NAME

DATE:  
MONTH YEAR  
PROJECT NO.:  
XXXXX  
DRAWING NO.:  
X-X  
SHEET NO.:  
X OF XX

## SECTION 5 - EXTERNAL REFERENCE FILES

### General Guidelines

1. All sheet files are to have the SCVWA Standard Border x-referenced into **Paper Space** at 1:1 scale with the Origin at 0,0,0. **No Exceptions!** (Includes Title Sheets, Plan Sheets, Index Sheets, Exhibits, etc..).
2. Xrefs are to be attached using the **Overlay** option instead of the Attachment option. **Nested Xrefs are not allowed!**



3. All Xrefs are to be attached on its own layer. The layer name must be the same as the filename that is being attached.

- For example, the file X-TTLBLK.dwg is to be assigned to a layer called X-TTLBLK.

Attaching a file to its own layer allows the user to easily turn off the reference file by freezing the layer and lock that Xref by locking the layer. Once locked, it is impossible to accidentally move or delete that Xref.

- Most necessary layers are embedded in the SCVWA Template Drawing. Just select the corresponding layer to make active and attach. Additional layers can be created as necessary as outlined in **SECTION 6 - LAYERS & LINETYPES**.
4. Except for the border, all CAD Xrefs are to be attached in **Model Space**.
  5. All *Viewports* are to be created on a layer called VP. Once the viewport limits are set, LOCK the viewport by selecting the viewport and clicking the lock icon from the bottom ribbon in AutoCAD.
  6. Do not force elements to another color or linetype in a file to be referenced (any Xref file). This is because *Visretain* does not work on elements forced to another color or linetype except for dimensioning.
  7. Unload a reference file instead of detaching it when a file needs to be temporarily "turned off". This will maintain the visretain settings of the layers, colors and linetypes. Reload to turn on the Xref again.
  8. **Never** Xref a file that does not path from the **CAD** folder.

## SECTION 6 - LAYERS & LINETYPES

### General Layer Guidelines

SCVWA layer names are found in the SCVWA Template Drawing. The layer names are based on minimizing the length and description of layers. Most of the layers you'll need will be found in the SCVWA Template Drawing. If it is necessary to create additional layers, follow the guidelines shown below:

1. **Do not** create layers by color i.e. Red, White, Green.
2. **Do not** create layers by number; the only number layer should be **0**.
3. **Do not** create multiple layers for the same entities i.e. ROW and RW for right-of-way.
4. **Do not** combine different asset types into one layer. (i.e. Water Service Laterals on "PR-Water-Service" layer and Proposed Water Main on "PR-Water" layer.)
5. Layer names should be easily understood as to what data should reside on it.
6. Delete all unused layers that will not be used in your file by using the Purge command.

### General Linetype Guidelines



























The majority of the standard linetypes for SCVWA are directly from the default AutoCAD line type file ACAD.lin. Some of the linetypes in the SCVWA Template Drawing are **custom** linetypes for utilities generally used in SCVWA's project plans. If you need a linetype that is not located in the SCVWA Template Drawing, contact **Jimmy Moreno or Raymond Chan** to create the linetype.

### Ltscale (Linetype Scale)

Since SCVWA always utilizes 1:1 paper space for all plan sheets, the LTSCALE should be 1 when plotting. When plotting from model space, the LTSCALE should be equal to the plot scale to properly display the linetypes.

For very tight spaces, the linetype scale of individual lines can be forced as needed. The following example illustrates the standard linetypes developed by SCVWA.




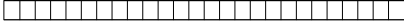


















## SCVWA LAYERS & LINETYPES

<u>DESCRIPTION</u>	<u>LAYER</u>	<u>LINETYPE</u>	<u>COLOR</u>	<u>APPEARANCE</u>
Empty Layer	0	Continuous	White	
Non Printable Layer	Defpoints	Continuous	11	
Viewport (set to not print)	VP	Continuous	Magenta	
Xref Titleblock	X-TTLBLK	Continuous	White	
Titleblock Border	BORDER	Continuous	Blue	
Title Block Text	TEXT-TB	Continuous	Yellow	
Xref Base Dwg	X-BASE	Continuous	White	
Xref Design Dwg	X-DESIGN	Continuous	White	
Delta Revisions	REV-#	Continuous	Green	
Attached Images	IMAGE	Continuous	Red	
Text in Paper Space	TEXT-PS	Continuous	Yellow	
Text in Model Space	TEXT-MS	Continuous	Yellow	
Construction Note Bubble	TEXT-PS or TEXT-MS Construction Note Bubbles can be in Paper Space or Model Space	Continuous	Green	
Proposed Water Main	PR-WATER	Continuous	130	
Proposed Fire Hydrants	PR-WATER-FH	Continuous	50	
Proposed Water Fittings	PR-WATER-FITTINGS	Continuous	50	
Proposed Water Service	PR-WATER-SERVICE	Continuous	50	
Detail	DETAIL	Continuous	Red	
City/County Boundary	BOUNDARY	PHANTOM2	Blue	
Right-of-Way	EX-RW	PHANTOM2	Green	
Lot Lines	EX-LOTLINE	Continuous	White	
Street Centerline	EX-ST CL	CENTER2	Red	
Curb	EX-CURB	DASHED1	Yellow	
Gutter	EX-GUTTER	DASHED2	Red	
Edge of Pavement	EX-EP	EDGEPAVE-EX	11	
Easement	EASEMENT	HIDDEN2	Red	

\*PR Prefix for Proposed, EX Prefix for Existing



## SCVWA LAYERS & LINETYPES ( Continued )

<u>DESCRIPTION</u>	<u>LAYER</u>	<u>LINETYPE</u>	<u>COLOR</u>	<u>APPEARANCE</u>
Hatch	HATCH	Continuous	9	
Slope Lines	SLOPE	Continuous	Red	
Fence	EX-FENCE	FENCE-2-EX	8	
Block Wall	EX-WALL	DOT2 (PLINE) w/Global Width w/Continuous lines offset on each side	White	
Retaining Wall	EX-WALL	WALLS1 (PLINE) w/Global Width w/Continuous lines offset on each side	White	
Existing Cable/Television	EX-CATV	CATV-EX	8	
Existing Electric	EX-ELECTRIC	ELEC-EX	8	
Existing Fiber Optic	EX-FIBER	FIBER-OPTICS	8	
Existing Gas	EX-GAS	GAS-EX	8	
Existing Oil	EX-OIL	OIL-EX	8	
Existing Sewer	EX-SEWER	SEWER-EX	8	
Existing Sewer Manhole	EX-SMH	Continuous	8	
Existing Storm Drain	EX-STORM DRAIN	SD-EX	8	
Existing SD Manhole	EX-SDMH	Continuous	8	
Existing Street Light	EX-STREET LIGHT	Continuous	8	
Existing Telephone	EX-TELEPHONE	TEL-EX	8	
Existing Traffic Signal	EX-TRAFFIC SIGNAL	TRAF-SIGNAL-EX	8	
Existing Unknown Utility	EX-UNKNOWN	HIDDEN2	8	
Existing Water Main	EX-WATER	WATER-EX	8	
Existing Water Valve	EX-WATER-VALVE	Continuous	8	
Existing Water Meter Box	EX-WATER-METER	Continuous	8	
Existing Reclaimed Water	EX-WATER-RC	RCWTR-EX	8	

\*PR Prefix for Proposed, EX Prefix for Existing

## SECTION 7 - FONTS

SCVWA will only use 2 text fonts: ARIAL and ROMANS. The following are general guidelines for the use of fonts in paper space and model space.

### General Guidelines

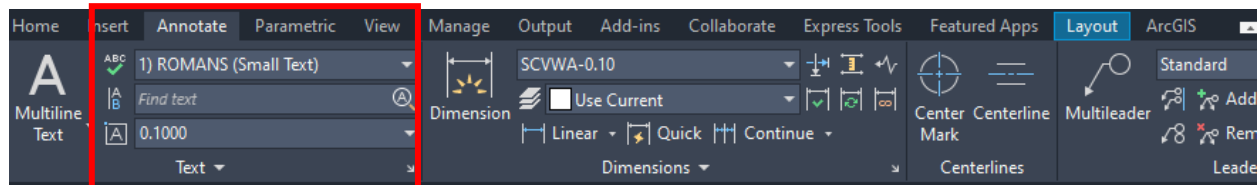
Callouts can be in model space or paper space, as long as it is consistent.

The following are general guidelines for the use of the two fonts:

1. Use Arial font for titles, street names, match lines & any place where a bold font is needed.
2. Use Romans font for general callouts and notes.

When plotted in 1:1 in paper space all text must:

1. Have a plotted size of 0.1 for normal size Romans text.
2. General Arial font should have a plotted size of 0.15.
3. Large Arial font for Main Street Names text should have a plotted size of 0.20.



## TEXT STYLES:

THERE SHOULD ONLY BE 3 TEXT SIZES USED IN A PLAN SET. TEXT SHALL BE AS FOLLOWS:

### MAIN STREET NAME



MAIN PROJECT STREET NAME &  
SHEET INDEX ONLY

style: ARIAL  
font: ARIAL  
height: 0.20  
width: 0.9  
oblique angle: 0

### ARIAL FONT (STREET NAMES)



HEADINGS, STREET NAMES, MATCHLINES, ETC. WILL BE:

style: ARIAL  
font: ARIAL  
height: 0.15  
width: 0.9  
oblique angle: 0

### ROMANS FOR SMALL TEXT



REGULAR TEXT WILL BE:

style: ROMANS  
font: ROMANS  
height: 0.10  
width: 0.9  
oblique angle: 0

## CONSISTENCY:

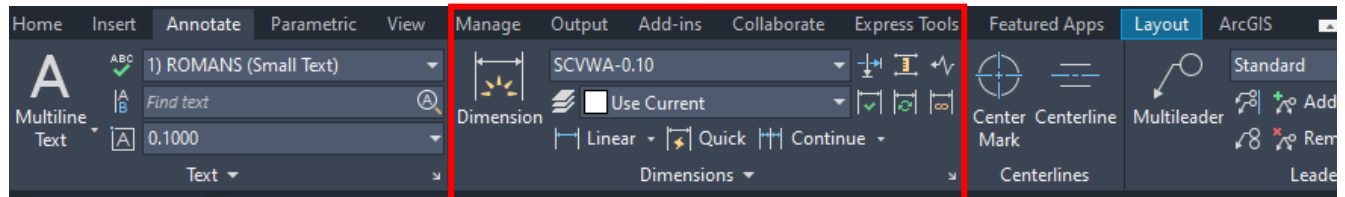
ALWAYS MAKE SURE WHEN CUTTING & PASTING DETAILS, SECTIONS, ETC. THAT ALL TEXT STYLES ARE CONSISTENT.

## SECTION 8 - DIMENSION STYLES

### General Guidelines

SCVWA Standard Dimension styles are embedded in the SCVWA Template Drawing (as long as you begin a project with a SCVWA Template). They can also be inserted directly through the AutoCAD Design Center.

1. All dimensions are to be placed on the **TEXT-MS** or **TEXT-PS** layer. Do not create a separate layer for dimensions.
2. **Do not edit an existing dimension style.** All dimensions already placed with that style will change if edited. If you need a dimension type that is not located in the SCVWA Template Drawing, contact **Jimmy Moreno or Raymond Chan** to create the dimension type.
3. Do not explode a dimension. With the Explode command, dimensions will explode to layer zero and will no longer be associative.
4. These dimension styles are based on the scale of the drawing (SCVWA-0.10 is 1-1 dimension style) and can be accessed through the AutoCAD Annotate Tab under the Dimension Panel.



## SECTION 9 - COLOR

























The color of an object determines how thick it will plot, it is very important that the proper color is used to maintain uniformity from plot to plot and project to project. For a detailed list of color/pen settings, see **SECTION 11 - PLOTTING**.

### General Guidelines

1. Colors 1 thru 6 represent the solid or black pens from thinnest (color 1) to thickest (color 6). Color 7 is thinner than Color 1.
2. Colors 250 through 255 represent the screened or grey pens from thickest (color 250) to thinnest (color 255).
3. Color 8 is used for existing utilities.
4. Please see SCVWA Pen Weights document for Standard Colors. Any deviation from the standard colors must be approved by **Jimmy Moreno or Raymond Chan** prior to their use.

**Note:** Deviations from the standard colors may require the creation of a special plotting pen table. See **SECTION 11 - PLOTTING** for details.

# SCVWA PEN WEIGHTS ( SCVWA.ctb )

<u>COLOR</u>	<u>LINE SAMPLE</u>	<u>LINE WEIGHT</u>	<u>SCREENING</u>
1 (RED)		0.010"	100
2 (YELLOW)		0.012"	100
3 (GREEN)		0.016"	100
4 (CYAN)		0.020"	100
5 (BLUE)		0.025"	100
6 (MAGENTA)		0.031"	100
7 (WHITE)		0.008"	100
8		DEFAULT	40
9		DEFAULT	25
10		DEFAULT	100
11		DEFAULT	100
30		DEFAULT	100
50*		0.012"	100
51		DEFAULT	100
90		DEFAULT	100
130**		0.020"	100
131		DEFAULT	100
170		DEFAULT	100
210		DEFAULT	100
250		DEFAULT	75
251		DEFAULT	75
252		DEFAULT	75
253		DEFAULT	75
254		DEFAULT	75
255		DEFAULT	1

## SOLID SCREENING



250



251



252



253



254

255

\*COLOR 50 IS YELLOW IN CAD, PRINTS BLUE. USED FOR WATER FITTINGS/APPURTENANCES

\*\*COLOR 130 IS CYAN IN CAD, PRINTS BLUE. USED FOR WATER MAIN LINES

## SECTION 10 - BLOCKS

### SCVWA Standard Blocks

SCVWA has standardized blocks routinely used during preparation of project plans. If a SCVWA Standard Block is available it must be used – **no exceptions**.

For additional assistance with blocks, contact **Jimmy Moreno or Raymond Chan**.

Blocks that are intended to be placed on a specific layer or on a variety of layers and **not** intended to be exploded, should be **created** on layer 0. Blocks created on layer zero will take on the linetype and color of the layer that it was placed on. This is beneficial because only one block need be created rather than a separate block for each possible layer use. Also, if a block is placed on an improper layer, the color may be different than what the user expected thus reminding the user that the block was placed on the wrong layer.

**A block should be created so that its base scale is 1:1**. This should simplify block placement by eliminating the need for a user to determine the original scale factor. For example, if a block was created for a 40 scale drawing but the user did not know the original scale, the user must first determine its original scale usually by trial and error. Then, if the user wants to place that block into a 1:1 file, the user would have to calculate the scale factor as 1/40. But, if a block created at a 1:1 scale is to be placed into a 40 scale drawing, a 20 scale drawing and into 1:1 paper space the scales would be 40, 20, and 1 respectively. Having the same BASE scale for all blocks simplifies their placement.

## SECTION 11 - PLOTTING

### Plot Drivers

There are many devices available for plotting/printing at SCVWA. The list below briefly outlines the purpose for each named device.

#### Plot Device

#### Description

#### Digital

DWF ePlot	Use to create .DWF File
DWF eView	Use to create .DWF File
DWG To PDF	Use to create .PDF File
Publish to Web JPG	Use to create .JPG File
Publish to Web PNG	Use to create .PNG File

#### Half Size (11"x17")

RIO-Print\Summit-ENG-Lobby Canon C5255	Black & White / Color Printing
RIO-Print\Summit-ENG-Room Canon C9270	Black & White / Color Printing

#### Full Size (22"x34")

RIO-print\Summit-Plotter Oce ColorWave 50	Black & White / Color Printing
RIO-Print\Summit-CS-Plotter HP Pagemwide XL 5100	Black & White / Color Printing



## SECTION 12 - CONSTRUCTION NOTES

### General Guidelines

A Construction Note Master List (Master List) has been developed for use in the preparation of **Project Plans**. The Master List is comprised of standard construction notes that provide the flexibility to include the standard sizes of Ductile Iron (D.I.) Pipe, PVC Pipe, "main size" fittings and facilities commonly used in SCVWA Projects.

**Note:** Each Plan Sheet will list only the construction notes located on that particular sheet. Therefore, in the majority of cases, the Construction Notes will differ sheet by sheet.

## STANDARD CONSTRUCTION NOTE TEMPLATE:

- INSTALL \_\_\_" DI PIPE, CL350.
- INSTALL \_\_\_" PVC PIPE, C900, CL235, DR18.
- INSTALL \_\_\_" x \_\_\_" DI CROSS, \_\_\_x\_\_\_, WITH THRUST BLOCK.
- INSTALL \_\_\_" x \_\_\_" DI TEE, \_\_\_x\_\_\_, WITH THRUST BLOCK.
- INSTALL \_\_\_" BFV, \_\_\_x\_\_\_, WITH VALVE CAN AND ASSEMBLY.
- INSTALL \_\_\_" RWGV, \_\_\_x\_\_\_, WITH VALVE CAN AND ASSEMBLY.
- INSTALL \_\_\_" - 90° DI BEND, \_\_\_x\_\_\_.
- INSTALL \_\_\_" - 45° DI BEND, \_\_\_x\_\_\_.
- INSTALL \_\_\_" - 22.5° DI BEND, \_\_\_x\_\_\_.
- INSTALL \_\_\_" - 11.25° DI BEND, \_\_\_x\_\_\_.
- INSTALL \_\_\_" x 6" FIRE HYDRANT ASSEMBLY, SHUT-OFF VALVE LOCATION SHALL CONFORM TO LACFD REG. #8.
- INSTALL \_\_\_" FExMJ ADAPTER.
- INSTALL \_\_\_" MJ SLEEVE, LONG BARREL, TRANSITION COUPLING.
- INSTALL \_\_\_" x \_\_\_" DI REDUCER, \_\_\_x\_\_\_.
- INSTALL \_\_\_" x \_\_\_" TAPPING SLEEVE.
- INSTALL \_\_\_" END CAP, WITH THRUST BLOCK.
- INSTALL ( 4 " OR 6 ") BLOW-OFF ASSEMBLY.
- INSTALL 2" BLOW-OFF ASSEMBLY.
- INSTALL 2" BLOW-OFF ASSEMBLY & SHEAR SPOOL WITH AIR RELEASE VALVE ASSEMBLY.
- INSTALL ( 1 " OR 2 ") AIR AND VACUUM RELEASE VALVE ASSEMBLY.
- INSTALL \_\_\_" WATER SERVICE ASSEMBLY, DUAL ASSEMBLY.
- INSTALL \_\_\_" WATER SERVICE ASSEMBLY.
- INSTALL \_\_\_" IRRIGATION WATER SERVICE ASSEMBLY.
- INSTALL \_\_\_" RECYCLED WATER SERVICE ASSEMBLY.
- INSTALL 1" SAMPLE STATION.
- REMOVE AND DISPOSE EXISTING \_\_\_" (DI OR PVC OR ETC.) WATERLINE, APPROXIMATELY \_\_\_ LF±.
- ABANDON EXISTING \_\_\_" (DI OR PVC OR ETC.) WATERLINE IN PLACE, APPROXIMATELY \_\_\_ LF±.

## EXAMPLE

- ① INSTALL 12" DI PIPE, CL350.
- ② INSTALL 8" PVC PIPE, C900, CL235, DR18.
- ③ INSTALL 12" x 8" DI CROSS, FExFE, WITH THRUST BLOCK.
- ④ INSTALL 8" x 8" DI TEE, FExMJ, WITH THRUST BLOCK.
- ⑤ INSTALL 12" BFV, MJxMJ, WITH VALVE CAN AND ASSEMBLY.
- ⑥ INSTALL 8" RWGV, FExFE, WITH VALVE CAN AND ASSEMBLY.
- ⑦ INSTALL 12" - 90° DI BEND, MJxMJ.
- ⑧ INSTALL 12" - 45° DI BEND, FExFE.
- ⑨ INSTALL 12" - 11.25° DI BEND, MJxMJ.
- ⑩ INSTALL 8" - 22.5° DI BEND, FExMJ.
- ⑪ INSTALL 8" - 22.5° DI BEND, PExPE.
- ⑫ INSTALL 8" - 11.25° DI BEND, FExMJ.
- ⑬ INSTALL 8" x 6" FIRE HYDRANT ASSEMBLY PER STD. DWG. 103, SHUT-OFF VALVE LOCATION SHALL CONFORM TO LACFD REG. #8.
- ⑭ INSTALL 8" FExMJ ADAPTER.
- ⑮ INSTALL 12" MJ SLEEVE, LONG BARREL, TRANSITION COUPLING.
- ⑯ INSTALL 12" x 8" DI REDUCER, FExFE.
- ⑰ INSTALL 12" x 8" DI REDUCER, MJxMJ.
- ⑱ INSTALL 12" x 4" TAPPING SLEEVE.
- ⑲ INSTALL 8" END CAP, WITH THRUST BLOCK.
- ⑳ INSTALL 6" BLOW-OFF ASSEMBLY.
- ㉑ INSTALL 2" BLOW-OFF ASSEMBLY.
- ㉒ INSTALL 2" BLOW-OFF ASSEMBLY & SHEAR SPOOL WITH AIR RELEASE VALVE ASSEMBLY.
- ㉓ INSTALL 1" AIR AND VACUUM RELEASE VALVE ASSEMBLY.
- ㉔ INSTALL 2" WATER SERVICE ASSEMBLY, DUAL ASSEMBLY.
- ㉕ INSTALL 2" WATER SERVICE ASSEMBLY.
- ㉖ INSTALL 1" IRRIGATION WATER SERVICE ASSEMBLY.
- ㉗ INSTALL 1" RECYCLED WATER SERVICE ASSEMBLY.
- ㉘ INSTALL 1" SAMPLE STATION.
- Ⓐ REMOVE AND DISPOSE EXISTING 12" ACP WATERLINE, APPROXIMATELY 100 LF±.
- Ⓑ ABANDON EXISTING 6" PVC WATERLINE IN PLACE, APPROXIMATELY 50 LF±.

## Construction Note Ordering Guidelines

The following ordering guidelines are in order of priority:

- 1) Construction notes to be ordered by section as follows:
  - a. Pipeline
  - b. Cross
  - c. Tees
  - d. Valves
  - e. Bends
  - f. Fire Hydrants
  - g. Adapters
  - h. Couplings
  - i. Reducers
  - j. Tapping Sleeves
  - k. Pipe End
  - l. Blow-Offs
  - m. Air-vacs
  - n. Water Services
  - o. Irrigation Services
  - p. Sampling Stations
  - q. Other
  - r. Removal Notes
- 2) Construction notes within each section to be ordered from largest to smallest sizes.
- 3) Construction notes for bends to be ordered from largest to smallest degrees.
- 4) Construction notes for all sections with fittings to be ordered in alphabetical order by fitting type. For example:
  - FExFE
  - FExMJ
  - MJxMJ