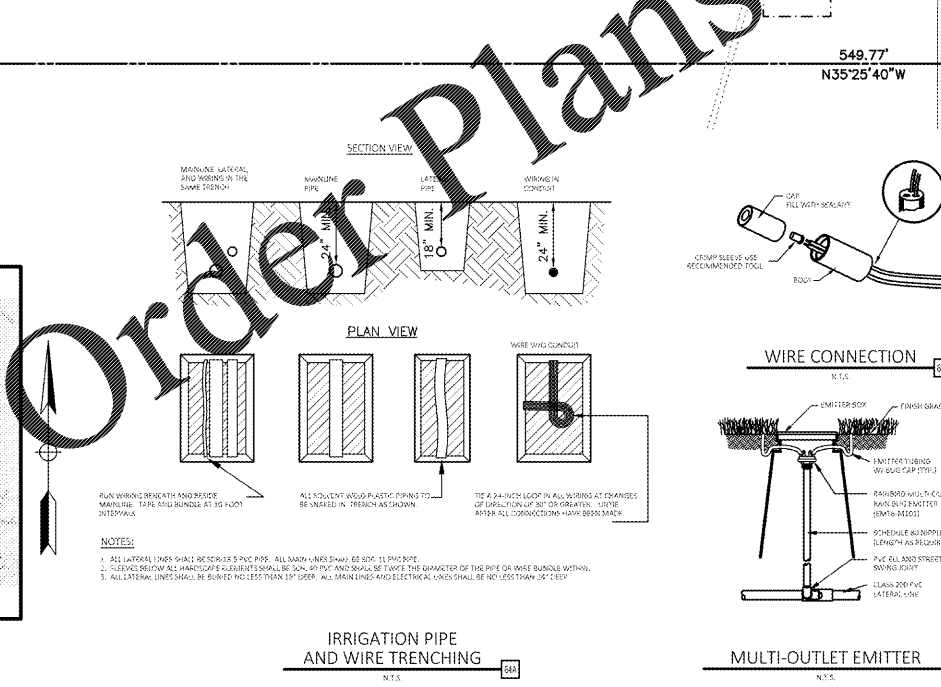


Vicinity Map
Not to Scale



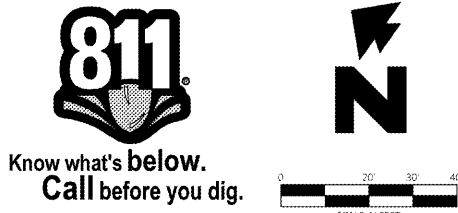
IRRIGATION PIPE AND WIRE TRENCHING
N.T.S.

WIRE CONNECTION
N.T.S.

MULTI-OUTLET EMITTER
N.T.S.

GENERAL IRRIGATION NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE PROJECT SPECIFICATIONS PRIOR TO BIDDING. THE PROJECT SPECIFICATIONS ARE A PART OF THESE PLANS AND SHALL BE CONSULTED BY THE IRRIGATION CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING WORK AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND ON THE PLANS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OR LICENSED IRRIGATOR OF ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS PRIOR TO BEGINNING OR CONTINUING WORK.
- THE CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT OR LICENSED IRRIGATOR.
- ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
- CONTRACTOR IS TO VERIFY ACTUAL AVAILABLE WATER PRESSURE BEFORE BEGINNING INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OR LICENSED IRRIGATOR IF AVAILABLE WATER PRESSURE EXCEEDS 5 PSI HIGHER OR LOWER THAN THE DESIGN WATER PRESSURE OF 65 PSI.
- IRRIGATION SYSTEMS CONNECTED TO POTABLE WATER SUPPLY, SHALL HAVE A BACKFLOW PREVENTER INSTALLED PER LOCAL REQUIREMENTS.
- ANY EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
- SUPPLY LINE AND METER TO BE PROVIDED BY GENERAL CONTRACTOR. BACKFLOW PREVENTER TO BE PROVIDED BY IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR'S POINT OF CONNECTION TO BEGIN AFTER THE IRRIGATION WATER METER.
- IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNERS REPRESENTATIVE.
- IRRIGATION CONTRACTOR IS RESPONSIBLE FOR INSTALLING MANUAL DRAIN VALVES AT LOWEST POSSIBLE ELEVATION ON IRRIGATION MAIN SO AS TO PROVIDE POSITIVE DRAINAGE OF IRRIGATION MAIN DURING WINTER MONTHS, OR PROVIDE BLOWOUT ASSEMBLY.
- ALL LATERAL LINES SHALL BE EQUIPPED WITH AUTOMATIC DRAIN VALVES AT LOW POINTS.
- IRRIGATION CONTRACTOR SHALL COORDINATE CONTROLLER LOCATION WITH GENERAL CONTRACTOR. GENERAL CONTRACTOR SHALL PROVIDE 12" ELECTRICAL CONDUITS FOR IRRIGATION CONTRACTOR'S POWER/DATA CONNECTION TO CONTROLLER. SEE ARCHITECTURAL ELECTRICAL PLAN FOR CONTROLLER CONNECTION TO THE IRRIGATION CONTRACTOR OR SHALL COORDINATE WITH GENERAL CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS TO BE USED ON AS BEING EXACT OR CORRECT. THE CONTRACTOR MUST CHECK APPROPRIATE RECORDS AND UTILITIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUIRE FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- ALL BELOW GRADE LOW VOLTAGE WIRING CONNECTIONS SHALL BE INSTALLED PER THE CONNECTION DETAIL.
- DO NOT INSTALL IRRIGATION AT PYLON OR SIGN MOUNTING LOCATIONS IF SIGN HAS BEEN INSTALLED.
- LOCATION FOR IRRIGATION SYSTEM AS SHOWN FOR DRAWING PURPOSES ONLY. UNSLEEVED PIPES MAY BE SHOWN IN PAVEMENT AREAS FOR CLARITY. INSTALL THESE PIPES IN ADJACENT LANDSCAPE AREAS WHERE NECESSARY. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATION IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF PROPOSED IRRIGATION SYSTEM. ALL PROPOSED IRRIGATION PIPES AND EQUIPMENT SHALL BE INSTALLED WITHIN THE BOUNDARIES OF THE PROJECT SITE. CONTRACTOR SHALL NOT EXCAVATE OR ARCHITECT OR LICENSED IRRIGATOR IF THE DESIGN AS SHOWN IS NOT FEASIBLE.
- EMITTER CENTER POINT OF PIPING TO FINISHED GRADE SHALL BE AS PER DETAIL 64A.
- IRRIGATION CONTRACTOR SHALL COORDINATE IRRIGATION INSTALLATION WITH PLANTING PLAN AND SITE CONDITION. PROVIDE COMPLETE COVERAGE WITH MINIMUM OVERSPRAY. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER.
- VALVE BOXES SHALL BE INSTALLED FLUSH WITH GRADE, SUPPORTED BY BRICKS IF NEEDED, WITH 3" OF CLEAN PEA GRAVEL LOCATED BELOW THE VALVE.
- ALL MAIN LINE PIPING, NON-PRESSURE PIPING AND CONTROL WIRE SLEEVING SHALL BE INSTALLED IN SEPARATE SLEEVES. ALL LATERAL LINE PIPING UNDER PAVING SHALL BE PVC SCHEDULE 40 AND SHALL BE INSTALLED PRIOR TO ANY HARDSCAPE MATERIAL. IRRIGATION CONTRACTOR TO PROVIDE SLEEVES BETWEEN 12" AND 18" BELOW GRADE AT ALL DRIVE ENTRANCES AND SIDEWALKS. MAINLINE SLEEVES SHALL BE A MINIMUM OF TWICE (2X) THE DIAMETER OF THE PIPE TO BE SLEEVED. CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES.
- IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF FENCES, RETAINING WALLS, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY HIS WORK. HE SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS THROUGH WALLS, UNDER ROADWAYS AND PAVING AND TIMING, ETC. REFER TO CIVIL ENGINEERING PLANS FOR GRADING, METHODS OF DRAINAGE, IRRIGATION METERS, AND BACKFLOW PREVENTION DEVICE LOCATION.
- ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED, SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS, DETAILS AND SPECIFICATIONS. ACCEPTABLE MANUFACTURERS INCLUDE RAINBIRD, HUNTER, TORO, OR NETAFIM.
- ANY DRIP SYSTEM PIPING IN PLANTING BEDS IS DIAGNOSTIC. CONTRACTOR CAN ROUTE PIPING IN A FLEXIBLE MANNER AVOIDING OBJECTS SUCH AS LIGHT POLES, TRANSFORMER PADS, EQUIPMENT, WALLS, SUBSURFACE ROCK, TREE TRUNKS, ETC., AS LONG AS ALL PLANT MATERIAL RECEIVES THE PROPER NUMBER OF EMITTERS PER SCHEDULE AND THE VINYL DISTRIBUTION TUBING DOES NOT EXCEED THE MAXIMUM DESIGN LENGTHS PER MANUFACTURER'S RECOMMENDATIONS.
- UNLESS OTHERWISE REQUIRED, BACKFLOW PREVENTION DEVICES LESS THAN 2" SHALL BE PLACED IN A WIRE MESH BASKET ENCLOSURE AND PAINTED TO MATCH THE PRIMARY BUILDING COLORS. SEE CIVIL PLANS FOR LOCATION.
- ALL JOINTS AND BENDS 2" OR LARGER SHALL HAVE CONCRETE THRUST BLOCKING. THRUST BLOCKING SHALL BE A MINIMUM OF 1 CUBIC FOOT OF CONCRETE. PIPE SHALL NOT BE ENCASED IN CONCRETE. SEE DETAIL 51C FOR THRUST BLOCKING.
- CONTRACTOR WILL PROVIDE OWNER WITH A COMPLETE AND REPRODUCIBLE DRAWING OR IRRIGATION SYSTEM LAYOUT AS IT WAS INSTALLED. DRAWINGS SHOULD INCLUDE, BUT NOT BE LIMITED TO, LOCATIONS OF ZONES VALVES, MAIN, LATERAL AND DISTRIBUTION LINES, SLEEVES, WATER METER, BACKFLOW PREVENTION DEVICE, SENSORS AND CONTROLLER.
- ALL LATERAL LINE SIZING SHALL REFER TO PIPE SCHEDULE ON THIS PLAN.



EXISTING LEGEND

| | | | |
|-----|--------------------|-----|------------------------------------|
| --- | EAST OR ELECTRIC | --- | OVERHEAD TELEPHONE |
| --- | OVERHEAD | --- | OVERHEAD POWER |
| --- | SOUTH OR SEWER | --- | UNDERGROUND TELEPHONE |
| --- | TELEPHONE | --- | UNDERGROUND ELECTRIC AND TELEPHONE |
| --- | UNDERGROUND | --- | UNDERGROUND TELEPHONE |
| --- | WEST OR WATER | --- | UNDERGROUND TV |
| --- | PROPERTY LINE | --- | WATER |
| --- | RIGHT OF WAY LINE | --- | STORM DRAIN |
| --- | GAS | --- | TREE INFO |
| --- | OVERHEAD ELECTRIC | --- | 5" = DIAMETER OF TRUNK IN FEET |
| --- | OVERHEAD TELEPHONE | --- | 10" = HEIGHT OF TREE IN FEET |
| --- | | --- | 11" = CANOPY DIAMETER IN FEET |
| --- | | --- | 50.5" = ELEVATION AT BASE OF TREE |

- IRRIGATION NOTES**
- 31C THRUST BLOCKING (NOT SHOWN ON PLAN)
 - 61B SPRAY HEAD. SEE NOZZLE LIST FOR HEAD AND NOZZLE DESCRIPTION.
 - 61C CONTROLLER AND VALVES, RAINBIRD ESP-LX-6 STATIONS.
 - 61E RAIN SENSOR & FREEZE SENSOR.
 - 62C ELECTRIC VALVE AND BOX - PEB 100 (ZONE VALVE).
 - 62D MANUAL DRAIN VALVE (NOT SHOWN ON PLAN; INSTALL AT LOWEST POINT ON MAIN LINE).
 - 62D AUTOMATIC DRAIN VALVE (NOT SHOWN ON PLAN; INSTALL ON LOW AREAS AS NEEDED).
 - 63A 1" DRIP VALVE ASSEMBLY RAINBIRD KC2-100-B-COM.
 - 64B MAIN LINE SHOWN HERE FOR DRAWING PURPOSES ONLY. CONTRACTOR SHALL INSTALL MAIN LINE ETC. WITHIN PROPERTY.
 - 78A 1" IRRIGATION METER WITH 1.5" TYPE K COPPER SERVICE BY GENERAL CONTRACTOR. SEE CIVIL PLANS FOR EXACT LOCATION.
 - 78C CONDUIT FOR R.C.V. WIRES BY GENERAL CONTRACTOR, ROUTING TO CONTROL VALVES BY IRRIGATION CONTRACTOR. (NOT SHOWN ON PLAN; SEE NOTE D).
 - 78E MASTER CONTROL VALVE, RAINBIRD PEB-100 (1").
 - 78G 1" ISOLATION VALVE, KING BROS INDUSTRIES (OR EQUAL), SIZE COMMERCIAL GRADE, SCH 80 FULL PORT.
 - 79C BACK FLOW AND ENCLOSURE - 1" REDUCED BACKFLOW PREVENTER, PER STATE AND LOCAL CODES, WITH A LOCKABLE GAGE APPROVED BY OWNER.

IRRIGATION DETAILS

- 61A WIRE CONNECTION (NOT SHOWN ON PLAN. USE ON BELOW GRADE LOW VOLTAGE WIRING).
- 64A IRRIGATION PIPE AND WIRE TRENCHING (NOT SHOWN ON PLAN).
- 78F MULTI OUTLET EMITTER - XBT-20-6 (2.0 GPH), 12 GPH PER TREE.

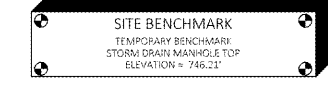
SPRINKLER NOZZLE LIST

| KEY | QTY. | DESCRIPTION |
|-----|------|----------------------|
| A | 43 | 1806-SAM-PRS-R-VAN14 |
| B | 11 | 1806-SAM-PRS-R-VAN18 |
| C | 37 | 1806-SAM-PRS-R-VAN24 |

IRRIGATION PIPE SCHEDULE

| PIPE SIZE | MAX. SAFE FLOW D.P.H. |
|-----------|-----------------------|
| 3/4" | 10 |
| 1" | 16 |
| 1 1/4" | 26 |
| 1 1/2" | 35 |
| 2" | 55 |
| 2 1/2" | 80 |
| 3" | 120 |

NOTE: IN SOME CASES, IRRIGATION PIPE SIZES SHOWN ON IRRIGATION PLANS ARE LARGER THAN THE SIZE SHOWN ON PIPE SCHEDULE DUE TO HYDRAULIC LOSSES. USE PIPE SIZES AS SHOWN ON IRRIGATION PLANS IF APPLICABLE.



SITE BENCHMARK
TEMPORARY BENCHMARK: STORM DRAIN MANHOLE TOP ELEVATION = 746.21'

NOTE: SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF PORCHES, RAMPS, VESTIBULE, SLOPED PAVING, TRUCK DOCKS, BUILDING UTILITY ENTRANCE LOCATIONS AND PRECISE BUILDING DIMENSIONS.

REVISIONS

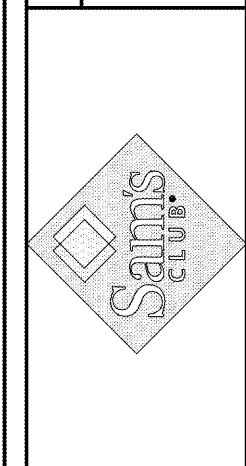
| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |
| | | |

Engineering Associates, Inc.
ENGINEERS - PLANNERS - SURVEYORS
LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS

SAMS CLUB FUEL STATION #663-502
IRRIGATION PLAN

7454 N Ingram Ave., Suite 107
Fresno, CA 93711
(559)442-3119
FAX: (559)442-3129

3012 LIBERTY HWY #6
ANDERSON SOUTH CAROLINA



| | |
|----------------|---------|
| INITIAL DESIGN | 8/29/19 |
| DATE | |
| JOB | JPD |
| DPOR | PM |
| JAP | DES |
| DRW | DRW |

JOB NO.: 31076
DWS NAME: 31076-LP

DATE: 9/10/19 11:28 AM
REV-0

SHEET NO.: C12

JOB # 31076 DRAWING 31076-LP LAYOUT LACT SAVED BY: HANDBOOK