

**GENERAL NOTES**

- THE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL BE EXPECTED TO MAKE THOSE MODIFICATIONS NECESSARY IN THE FIELD TO REACT TO ACTUAL FIELD CONDITIONS, WITHOUT DEPARTURE FROM THE DESIGN CONCEPTS OR INTENT.
- ALL WORK SHALL CONFORM TO ANY AND ALL APPLICABLE REGULATIONS AND CODES FOR THE LOCATION OF THE WORK. THE INSTALLER SHALL OBTAIN ANY NECESSARY LOCATES, PERMITS AND INSPECTIONS.
- ALL WORK SHALL BE CLOSELY COORDINATED WITH THAT OF OTHER TRADES, IN ORDER TO AVOID CONFLICTS. REFER TO LANDSCAPE AND UTILITIES PLANS WHEN TRENCHING TO AVOID TREES, SHRUBS AND UNDER GROUND UTILITIES.
- ALL MATERIAL AND LABOR REQUIRED TO PROVIDE A COMPLETE, OPERATIONAL AND FULLY GUARANTEED SYSTEM SHALL BE CONSIDERED PART OF THE WORK, WHETHER OR NOT THEY ARE SPECIFICALLY INDICATED IN THE DOCUMENTS.
- THE CONTRACTOR SHALL PREPARE AN AS-BUILT DRAWING ON A REPRODUCIBLE PAPER (SEPIA OR MYLAR SHOWING ALL IRRIGATION INSTALLATION, A MYLAR OR SEPIA OF THE ORIGINAL PLAN MAYBE OBTAINED FROM THE LANDSCAPE ARCHITECT FOR A FEE. THE DRAWING SHALL LOCATE ALL MAINLINE AND VALVES BY SHOWING EXACT MEASUREMENTS FROM HARD SURFACES. PLEASE SHOW WIRE DIRECTION.
- ALL HEADS SHALL BE OF THE PROPER TYPE FOR THE AREAS WHERE LOCATED, AND SHALL BE INSTALLED PLUMB AND WITH THE PROPER HEIGHT. ALL HEADS AND OTHER EQUIPMENT SHALL BE INSTALLED WITH ADEQUATE AND UNIFORM CLEARANCE FROM ALL HARD-SCAPING, TO MINIMIZE WATER OVER SPRAY ON IMPERVIOUS AREAS.
- THE WATER SUPPLY FOR THIS SYSTEM SHALL BE A PROPOSED 6" MAIN AND 1" METER.
- HIGH VOLTAGE POWER SUPPLY TO THE IRRIGATION CONTROLLER SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING THE CONTROLLER AND THE LOW VOLTAGE WIRES.
- ALL CONTROL WIRING SHALL BE INSTALLED UNDER MAINLINE, IF NOT POSSIBLE THEN ELEC. CONDUIT SHALL BE USED FOR WIRE PROTECTION USING PULL BOXES 150' O.C. WIRES SHALL BE TAPED EVERY 20' L.F. WITH ADEQUATE SLACK AND SURGE EXPANSION LOOPS AND SHALL BE SPLICED ONLY IN VALVE BOXES, USING SNAP TITE CONNECTORS. THE CONTROL WIRE SHALL BE UF-14 PVC JACKETED, SINGLE CONDUCTOR CABLE, USING RED FOR "HOT" AND WHITE FOR VALVE COMMON. (SEE PLAN FOR SPARE WIRES.)
- ALL PIPING AND WIRE PASSING UNDER PAVED AREAS SHALL BE SLEEVED WITH SCH-40 PVC PIPE, SIZED A MINIMUM OF TWO NOMINAL SIZES LARGER THAN CONTAINED PIPE.
- ANY PIPING SHOWN OUTSIDE THE PROPERTY LINE OR RUNNING OUTSIDE A LANDSCAPE AREA IS SHOWN THERE FOR CLARITY ONLY. ALL LINES SHALL BE INSTALLED ON THE PROPERTY AND INSIDE THE LANDSCAPE AREAS.
- THE INSTALLER SHALL BE EXPECTED TO BE FAMILIAR WITH AND FOLLOW THE INSTRUCTIONS CONTAINED HEREIN, ON THE DRAWINGS, IN THE CONSTRUCTION DETAILS, AND IN THE WRITTEN SPECIFICATIONS, SHOULD A CONFLICT BE DISCOVERED WITHIN THE DOCUMENTS, HE SHALL IMMEDIATELY NOTIFY THE PROJECT MANAGER AND REQUEST CLARIFICATION.
- THE INSTALLER SHALL PROVIDE THE PROPERTY OWNER WITH AN IRRIGATION MAINTENANCE CHECKLIST & SEASONAL WATERING GUIDELINES.
- THE IRRIGATION SYSTEM SHALL BE MAINTAINED AND MANAGED TO ENSURE WATER EFFICIENCY AND PREVENT WASTEFUL PRACTICES. THIS SHALL INCLUDE, BUT NOT LIMITED TO, RESETING THE AUTOMATIC CONTROLLER ACCORDING TO THE SEASON, FLUSHING THE FILTERS, TESTING THE RAIN SENSOR DEVICES, MONITORING, ADJUSTING & REPAIRING THE IRRIGATION EQUIPMENT SUCH THAT THE EFFICIENCY OF THE SYSTEM IS MAINTAINED.
- IN THE EVENT THAT A WELL IS USED AS THE WATER SOURCE THE IRR. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WATER SAMPLES FROM THE WELL. AT THE IRR. CONTRACTORS EXPENSE, HE SHALL HAVE A CERTIFIED LAB ANALYZE THE WATER QUALITY. THE IRR. CONTRACTOR SHALL REPORT TO THE LANDSCAPE ARCHITECT OR OWNER'S PROJECT MANAGER, ANY POTENTIAL ISSUES THAT MAY AFFECT THE HEALTH OF THE PLANT MATERIAL OR POTENTIAL STAINING TO SIDEWALKS AND BUILDINGS. REPORTING SHALL OCCUR BEFORE THE SYSTEM IS IN OPERATION. FAILURE TO REPORT SHALL PLACE LIABILITY ON THE IRR. CONTRACTOR.

**SPRAY HEAD LEGEND AND NOZZLE CHART**

Symbol	MFR	DESCRIPTION	Nozzle Type	Radius ft.	PSI	Flow GPM
●	RAIN BIRD	1806-PRS-F.C. (6" POP-UP SPRAY) Installed Using 1" x 12" PVC Flex Pipe.	15F 12F 8F	15' 12' 8'	30 30 30	3.70 2.80 1.80
○	RAIN BIRD	1806-PRS-H (6" POP-UP SPRAY) Installed Using 1" x 12" PVC Flex Pipe.	15H 12H 8H	15' 12' 8'	30 30 30	1.42 1.22 0.82
⊙	RAIN BIRD	1806-PRS-Q (6" POP-UP SPRAY) Installed Using 1" x 12" PVC Flex Pipe.	15Q 12Q 8Q	15' 12' 8'	30 30 30	1.42 1.22 0.82
⊕	RAIN BIRD	1806-PRS-VAN (6" POP-UP SPRAY) Installed Using 1" x 12" PVC Flex Pipe.	15VAN 12VAN 8VAN	15' 12' 8'	30 30 30	1.42 1.22 0.82
—	RAIN BIRD	1806-PRS-STRIPS (6" POP-UP SPRAY) Installed Using 1" x 12" PVC Flex Pipe.	15CS 12CS 8CS	4" x 15" 4" x 12" 4" x 8"	30 30 30	0.49 0.39 0.21
⊙	RAIN BIRD	1300-AF (6" POP-UP SPRAY) Installed Using 1" x 12" PVC Flex Pipe.	15AF 12AF 8AF	15' 12' 8'	30 30 30	1.7 1.2 0.8

**PIPE, VALVE AND EQUIPMENT**

Symbol	MFR	DESCRIPTION
⊗	RAIN BIRD	PESB Series electric remote-control valve & a line size PVC ball valve installed in a Rain Bird VB-STD-L valve box. (refer to valve ID on plan for size).
⊕	MATCO	Line size brass gate valve installed in Rain Bird VB-10RND valve box.
⊙	HUNTER	CC-800-PL 8-Station Base Unit Controller with Plastic Cabinet. Installed per Manufacturer specifications at this approximate location.
⊕	EXISTING	1" Water Meter as specified by the project engineer and approved by City. Refer to plans by ECDLP.
—	APPROVED	PVC SCH. 40 IPS Plastic Pipe "Mainline". Location shown on plan is approximate and shall be field located with owners rep. approval.
—	APPROVED	PVC SCH. 40 IPS Plastic Pipe "Lateral line". Location shown on plan is approximate and shall be field located.
—	APPROVED	PVC SCH. 40 IPS Plastic Pipe "Sleeve". Size shall be twice the dia. of the required inner pipe.
—	NETAFIM	TLCV-9-12 in-line pressure compensating drip tubing and accessories installed in 18" rows per manufacturer written specifications.
—	NETAFIM	PVC SCH. 40 IPS Plastic Pipe supply header to Netafim drip tubing connection.
△	NETAFIM	#1TL5LOV Shut Off Valve located in a valve box with a gravel sump install per manufacturer written specifications.
*	APPROVED	Install one spare control wire from the irrigation controller to the nearest valve box located in this area.
⊙	RAIN BIRD	XCZ-150-COM Series electric remote-control drip zone control kit installed in Rain Bird VB-JMB-L valve box. For drip zones under 20 gpm install Rain Bird Drip Zone Control Kit # XCZ-100-B-COM per the Manufacturer specifications.

**ZONE CHART**

ZONE #	TYPE	GPM
1	SPRAY	50
2	SPRAY	38
3	SPRAY	42
4	SPRAY	32
5	SPRAY	32
6	SPRAY	41
7	SPRAY	37
8	BUBBLER	38

**IRRIGATION SYSTEM DESIGN CRITERIA**

**WATER SOURCE**

- WATER MUST BE DELIVERED TO THE SITE AT SUFFICIENT PRESSURE AND FLOW TO PROVIDE MAXIMUM PERFORMANCE AS SHOWN BELOW:  
 PRESSURE REQUIREMENT: - 60 PSI WORKING PRESSURE AT FIELD LOCATION AND ELEVATION  
 - 30 PSI AT BASE OF SPRINKLER HEAD

**FLOW REQUIREMENTS**

- 50 GPM MAXIMUM FLOW RATE

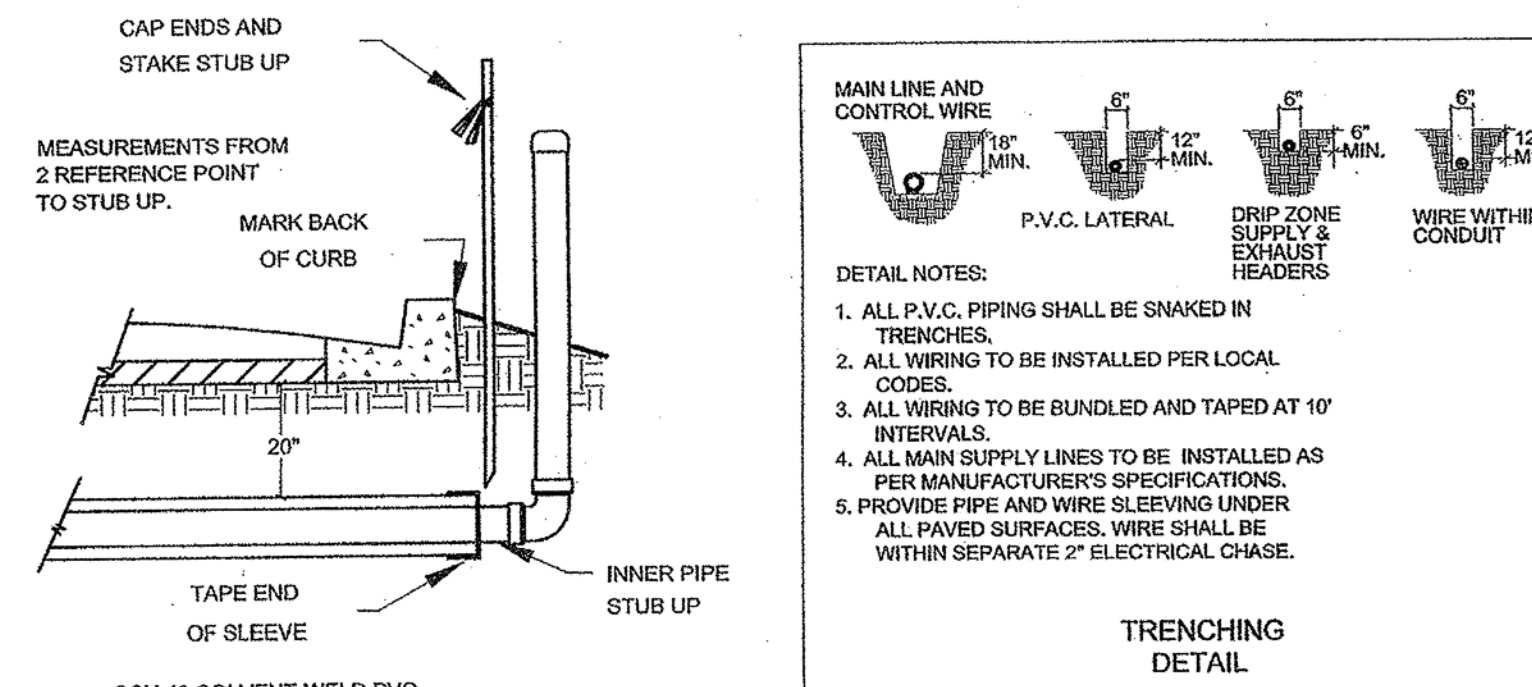
DIFFERENCES IN AVAILABLE FLOW AND OR PRESSURE WILL REQUIRE DESIGN CHANGES.

**HEAD LAYOUT**

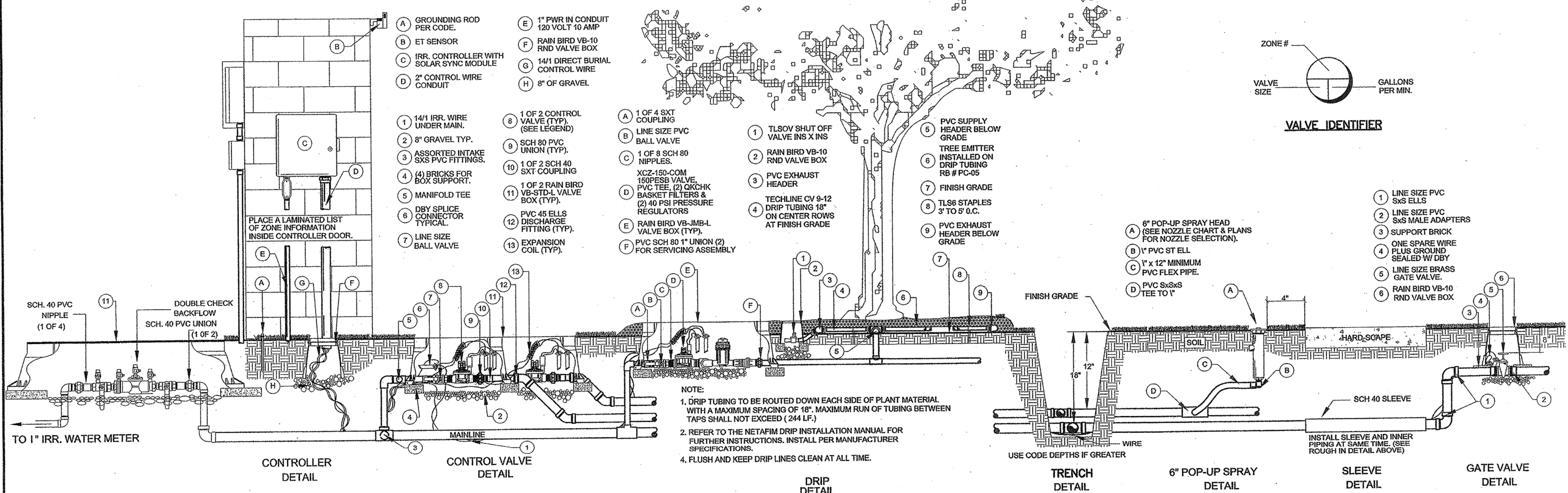
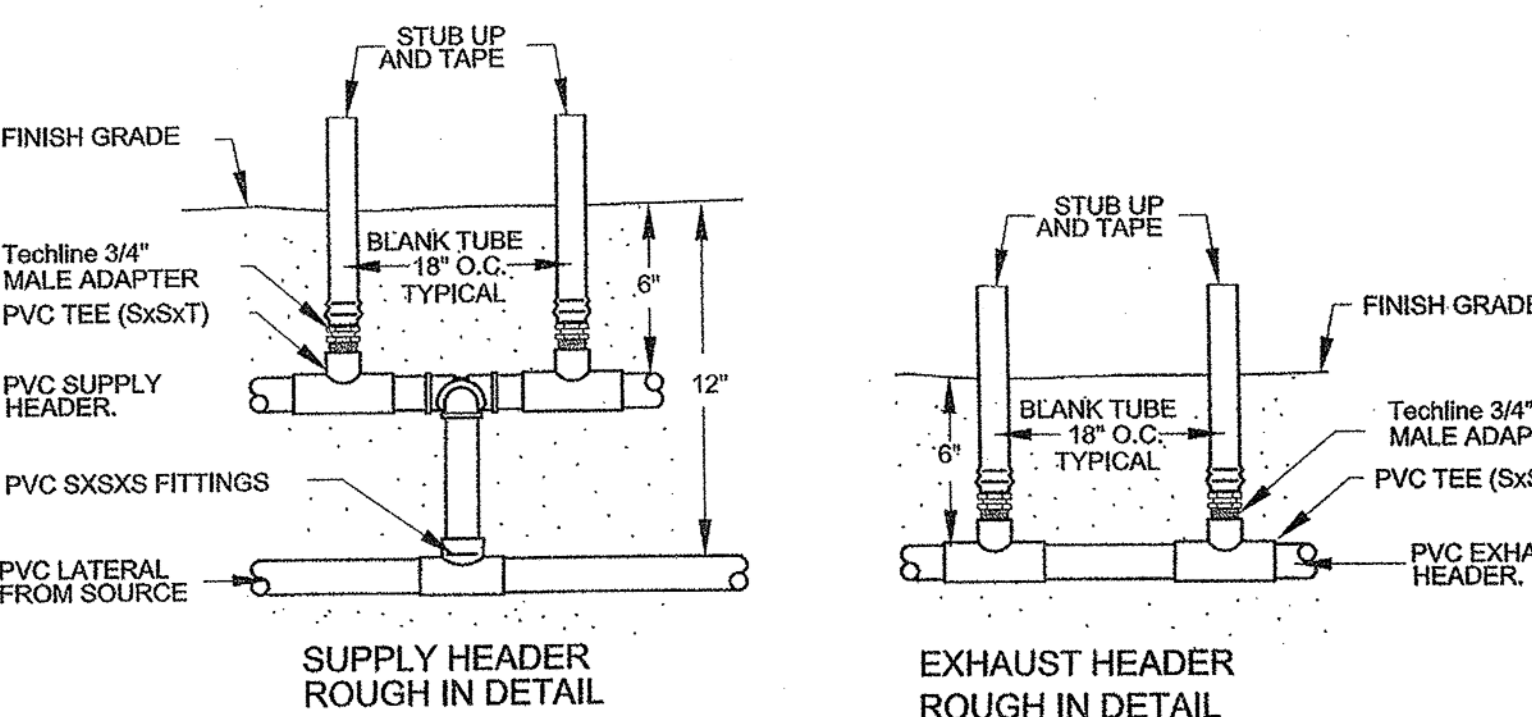
- HEAD LAYOUT AND SPACING IS BASED ON 100% COVERAGE WITH AN EVEN PRECIPITATION RATE. ALL HEADS OF EACH ROW ARE SPACED EQUALLY ACROSS AREA. NOZZLE SELECTION BASED ON MINIMUM AMOUNT OF COVER SPRAY ON HARD-SCAPE. SPRAY ZONES SHRUBS AND TURF SHALL BE SEPARATE AS WELL AS ROTORS.
- HEAD AND LATERAL SPACING WILL VARY WITH DIMENSIONS OF AREA. ADJUSTED SPACING MIGHT BE NECESSARY TO AVOID OVER SPRAY ON ANY HARD-SCAPE. ALL SPRINKLERS AND NOZZLES SHOULD BE SELECTED BASED ON SPRINKLER PERFORMANCE, SPACING, AND ARC OF COVERAGE, AND ACCORDING TO FIELD DIMENSIONS.

**PIPE SIZES**

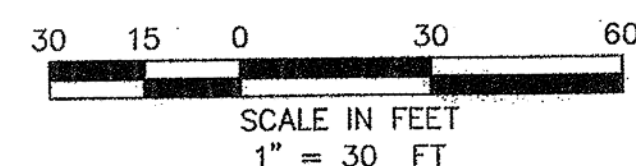
- LATERAL PIPES SHALL BE SIZED SO THAT THE WATER VELOCITY DOES NOT EXCEED 5 FT PER SECOND.  
 EXAMPLE: 1" 10 GPM, 1" 15 GPM, 1" 26 GPM, 1" 36 GPM, 2" 50 GPM, 2" 80 GPM, 3" 120 GPM, 4" 200 GPM.



**ROUGH IN SLEEVING DETAIL**



**MASTER INSTALLATION DETAIL**



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REVISIONS:	
DRAWN: JJK	DATE: 05-05-09
CHECKED: JJK	DATE: 05-05-09
PROJECT NO.: 9016	
DWG FILE NAME: Irrigation Plan.dwg	

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF CONSTRUCTION. THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JARRETT S. KEST, RLA REGISTRATION # 2482



**RECORD DRAWINGS**  
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY DISCREPANCIES WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
 ENGINEERING CONCEPTS & DESIGN, L.P.  
 TODD WINTERS, P.E. 12-11-12 DATE

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**IRRIGATION DETAILS**  
**LOTS 4&5 BLK A, (PROP LOT 4R)**  
**PRESBYTERIAN HOSPITAL ADDN.**  
 CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

SHEET  
IR.1.1