

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84295	2010	43	194

GENERAL IRRIGATION NOTES

GENERAL

- IRRIGATION SYSTEM SHALL BE INSTALLED TO CITY OF WICHITA, PARK DEPARTMENT IRRIGATION SPECIFICATIONS. SPECIFICATIONS HEREIN SHALL BE CONSIDERED ADDENDUMS TO CITY SPECIFICATIONS. CITY SPECIFICATIONS TAKE PRECEDENCE OVER ADDENDUMS UNLESS WRITTEN APPROVAL IS PROVIDED BY CITY REPRESENTATIVE STATING OTHERWISE.
- THE DESIRED WATER COVERAGE OF THE IRRIGATION SYSTEM IS SHOWN ON THE DRAWINGS. THE IRRIGATION PLAN IS A SCHEMATIC DRAWING TO REPRESENT DESIRED WATER COVERAGE. FIELD ADJUSTMENTS MAY BE NECESSARY TO AVOID UNFORESEEN OBSTACLES. THE CONTRACTOR IS TO INSTALL EQUIPMENT NECESSARY TO PROVIDE A COMPLETE, FUNCTIONAL SYSTEM THAT IS IN COMPLIANCE WITH THE PLANS, SPECIFICATIONS, APPLICABLE CODES, AND REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL LAYOUT OF EQUIPMENT AND LINES. CHANGES TO THE DESIGN MUST BE APPROVED BY THE LANDSCAPE ARCHITECT.
- PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR SHALL CONTACT THE OFFICE OF THE OWNER AND THE ARCHITECT FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
- LANDSCAPE CONTRACTOR SHALL PROVIDE LABOR, MATERIALS AND SERVICE NECESSARY TO FURNISH AND INSTALL MATERIALS AS SPECIFIED HEREIN AND AS SHOWN ON THE PLANS.
- NO MATERIAL SUBSTITUTIONS SHALL BE MADE WITHOUT LANDSCAPE ARCHITECT'S WRITTEN APPROVAL. ALTERNATE MATERIALS OF SIMILAR SIZE AND CHARACTER MAY BE CONSIDERED IF SPECIFIED MATERIALS CANNOT BE OBTAINED. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REVISE THE IRRIGATION PLANS AS DEEMED NECESSARY.
- QUANTITIES OF MATERIALS SHOWN ON THE IRRIGATION PLAN TAKE PRECEDENCE OVER QUANTITIES SHOWN ON THE IRRIGATION MATERIAL SCHEDULE. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES ON THE IRRIGATION PLAN.
- REPORT DISCREPANCIES IN THE IRRIGATION PLAN TO THE LANDSCAPE ARCHITECT, PRIOR TO PURCHASING MATERIALS OR STARTING CONSTRUCTION.
- REVIEW THE LANDSCAPE SPECIFICATION SECTION LOCATED IN THE PROJECT MANUAL FOR ADDITIONAL PROJECT INSTRUCTIONS AND RESPONSIBILITIES.
- IRRIGATION CONTRACTOR IS RESPONSIBLE FOR DAMAGES TO THE BUILDING, WALKS, DRIVES, ELECTRICAL SYSTEMS, & UNDERGROUND UTILITIES CAUSED BY LEAKS IN PIPING SYSTEM INSTALLED OR HAVING BEEN INSTALLED. REPAIR, AT IRRIGATION CONTRACTOR EXPENSE, ALL DAMAGES SO CAUSED. REPAIR WORK SHALL BE DONE AS DIRECTED BY THE OWNERS REPRESENTATIVE.
- SUBMIT ALL PRODUCT INFORMATION AND SHOP DRAWINGS PER REQUIREMENTS SPECIFIED IN THE DRAWINGS AND SPECIFICATIONS FOR REVIEW AND APPROVAL.
- PRESSURE AT POINT OF CONNECTION IS UNKNOWN. IRRIGATION CONTRACTOR SHALL VERIFY PRESSURE OF THE IRRIGATION SYSTEM BEFORE BEGINNING WORK.
- IRRIGATION MAINLINE AND LATERAL LINES LOCATIONS ARE UNKNOWN. IRRIGATION CONTRACTOR SHALL VERIFY LINE LOCATION BEFORE DEMOLITION WORK BEGINS AND TEMPORARILY MODIFY LINES TO KEEP UNAFFECTED ZONES OPERATIONAL DURING CONSTRUCTION. AFTER COMPLETION OF CONSTRUCTION IRRIGATION CONTRACTOR SHALL INSTALL PERMANENT IRRIGATION MAINLINES AND LATERAL LINES AS NEEDED.
- EACH DRIP ZONE OF THE IRRIGATION SYSTEM IS DESIGNED WITH A MAXIMUM OF 20± GALLONS PER MINUTE. EACH SPRAY ZONE OF THE IRRIGATION SYSTEM IS DESIGNED WITH A MAXIMUM OF 30± GALLONS PER MINUTE. IRRIGATION CONTRACTOR WILL VERIFY STATIC PRESSURE AND VOLUME OF IRRIGATION WATER SUPPLY PRIOR TO BEGINNING CONSTRUCTION. USE PRESSURE REGULATING VALVES AS NECESSARY TO ASSURE PROPER PERFORMANCE.
- IRRIGATION CONTROLLER, VALVES, AND DRIP LINE SHALL BE HUNTER OR APPROVED MANUFACTURER. IRRIGATION SPARYS SHALL BE RAIN BIRD OR APPROVED MANUFACTURER.
- THIS IRRIGATION SYSTEM IS DESIGNED TO USE THE FOLLOWING WATERING EQUIPMENT:
 - RAIN BIRD 1800 SERIES SPRAY HEADS
 - HUNTER PLD-10-12 DRIP LINE
- INSTALL IRRIGATION MAINLINE 18" MINIMUM BELOW FINISH GRADE AND 24" UNDER PAVEMENTS. ALL MAINLINES TO BE CLASS 200 PVC. ALL LATERAL LINES TO BE SIZES AS REQUIRED TO MAINTAIN ADEQUATE PRESSURE BASED UPON STANDARD FLOW/PIPE SIZING. LATERAL LINES SHALL BE POLY PIPE AND JOINED USING CITY APPROVED TECHNIQS. LATERALS SHALL BE INSTALLED A MINIMUM OF 12" BELOW GRADE.
- PROVIDE PVC SLEEVES FOR IRRIGATION PIPES AND WIRING THAT CROSSES UNDER WALKS, STREETS, AND CONCRETE PADS. COMBINE PIPING WHENEVER POSSIBLE TO REDUCE QUANTITY OF SLEEVING MATERIALS. PVC SLEEVE SHALL BE AT LEAST TWICE THE SIZE OF INTERIOR PIPE AND AT LEAST TWO INCHES IN DIAMETER. COORDINATE SLEEVE INSTALLATION INTO/UNDER LANDSCAPE BEDS, UNDER SIDEWALKS, AND UNDER ROADS WITH GENERAL CONTRACTOR.
- ELECTRICAL CONTROL AND GROUND WIRE TO BE USED FOR CONNECTING REMOTE CONTROL VALVES TO THE AUTOMATIC CONTROLLER SHALL BE 14AWG MINIMUM.
 - CONTROL WIRE SHALL BE ONE COLOR AND GROUND WIRES SHALL BE ANOTHER COLOR.
 - UNUSED WIRES BURIED IN THE GROUND FOR FUTURE USE SHALL BE A THIRD COLOR.
 - WIRE CONNECTORS IN THE FIELD SHALL BE MADE USING APPROVED WIRE CONNECTORS UTILIZING A SEALING CEMENT TO INSURE A WATERPROOF CONNECTION.
- WHEN INSTALLING IRRIGATION PIPE ALONG WALKS OR IN PLANTER BEDS, PLACE PIPE AS CLOSE TO WALKS AS POSSIBLE TO ALLOW FOR PLANTING TREES, SHRUBS, AND GROUND COVER. COMBINE MAINLINE, LATERAL LINES, AND CONTROL WIRING INTO SAME TRENCH WHERE POSSIBLE.
- ADJUST ALL IRRIGATION EQUIPMENT SO SIDEWALKS, PAVING AND BUILDING REMAIN DRY OF DIRECT SPRAY OR EXCESS WATER RUN-OFF.
- IRRIGATION CONTRACTOR TO USE EXTREME CAUTION WHEN INSTALLING IRRIGATION EQUIPMENT AND LINES WITHIN UTILITY EASEMENTS. UTILITIES MUST BE LOCATED IN THE FIELD PRIOR TO ANY EXCAVATION OCCURRING. UTILITY LOCATION MUST INCLUDE BURY DEPTHS. ADJUST IRRIGATION DESIGN AS NECESSARY TO AVOID CONFLICTS WITH ANY UTILITY LINES.
- CONTRACTOR SHALL LOCATE UTILITIES BEFORE COMMENCING WORK. LOCATE EXACT UTILITY LOCATIONS BY CONTACTING LOCAL UTILITY LOCATION SERVICE. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE TO UTILITIES RESULTING FROM IRRIGATION INSTALLATION OPERATIONS. ANY UTILITIES SHOWN ON PLAN ARE FOR REFERENCE ONLY AND MAY OR MAY NOT DEPICT THE ACTUAL LOCATION OF SERVICES.
- REMOVE ALL RUBBISH, EQUIPMENT AND MATERIAL AND LEAVE THE AREA IN A NEAT, CLEAN CONDITION EACH DAY. MAINTAIN PAVED AREAS UTILIZED FOR HAULING EQUIPMENT AND MATERIALS BY OTHER TRADES IN A CLEAN AND UNOBSTRUCTED CONDITION AT ALL TIMES.
- REMOVE SOIL OR DIRT THAT ACCUMULATED DURING OR AS A RESULT OF INSTALLATION OPERATIONS EACH DAY.
- DRIP IRRIGATION:
 - DRIP IRRIGATION ZONE VALVE ASSEMBLIES SHALL USE THE FOLLOWING PRE ASSEMBLED DRIP IRRIGATION ZONE KIT: HUNTER ICZ-10140
- DRIP EMITTER TUBING: HUNTER PLD-10-12
- USE THE FOLLOWING GUIDELINES WHEN INSTALLING DRIP SYSTEM:
 - DRIPPER FLOW: 1.0 GPH
 - DRIPPER SPACING: 12" O.C.
 - ROW SPACING: 12" O.C.
 - BURIAL DEPTH: 4"

- DRIP IRRIGATION ZONES HAVE BEEN DESIGNED TO AN OPERATING PRESSURE OF 40psi. MAXIMUM LENGTH OF DRIP LINE RUN IS 423'. NO DRIP ZONES SHALL EXCEED THE MAXIMUM LENGTH. IRRIGATION CONTRACTOR SHALL ADJUST AND/OR ADD ZONES AS NECESSARY TO MEET THIS REQUIREMENT.
- DRIP IRRIGATION LINE SHALL BE INSTALLED ABOVE GRADE BUT BENEATH MULCH. DRIP DISTRIBUTION PIPE SHALL BE SECURED TO GRADE BY THE USE OF "U" SHAPED STAKES AT 12". THE SINGULAR EMITTERS STATED ABOVE MAY BE INSERTED INTO THESE LINES FOR SPOT IRRIGATION.
- LINE FLUSHING VALVES ARE TO BE LOCATED AT THE ENDS OF EACH RUN OF DRIP EMITTER TUBING. INSTALL IN 6" VALVE BOX WITH 1 CUBIC FOOT GRAVEL SUMP. CENTER FEED DRIP ZONE WHERE POSSIBLE.
- VALVE BOXES SHALL BE AS FALLOW, (OR APPROVED EQUIVALENT).
 - IN CONCRETE: CARSON INDUSTRIES MODEL #1730-24 BODIES W/ H1730-P1 LIDS. STAMP "IRRIGATION" INTO LIDS
 - IN PLANTERS: RAIN BIRD VB-7RND OR VB-10RND
RAIN BIRD VB-STD

CRITICAL ANALYSIS

Generated: 2009-12-30 11:01

P.O.C. NUMBER: 01
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1"
Flow Available: 20.24 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 75.00 psi
Pressure Available: 75.00 psi

DESIGN ANALYSIS
Critical Station Flow: 14.71 gpm
Flow Available at POC: 20.24 gpm
Residual Flow Available: 5.53 gpm

Critical Station: 11
Pressure Req. at Critical Station: 48.44 psi
Loss for Fittings: 0.21 psi
Loss for Main Line: 2.06 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 3.88 psi
Loss for Master Valve: 3.00 psi
Critical Station Pressure at POC: 54.59 psi
Pressure Available: 75.00 psi
Residual Pressure Available: 20.41 psi

P.O.C. NUMBER: 02
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1"
Flow Available: 20.24 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 75.00 psi
Pressure Available: 75.00 psi

DESIGN ANALYSIS
Critical Station Flow: 12.78 gpm
Flow Available at POC: 20.24 gpm
Residual Flow Available: 7.46 gpm

Critical Station: 2
Pressure Req. at Critical Station: 44.40 psi
Loss for Fittings: 0.37 psi
Loss for Main Line: 3.69 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 3.85 psi
Loss for Master Valve: 3.00 psi
Critical Station Pressure at POC: 52.31 psi
Pressure Available: 75.00 psi
Residual Pressure Available: 22.69 psi

VALVE SCHEDULE

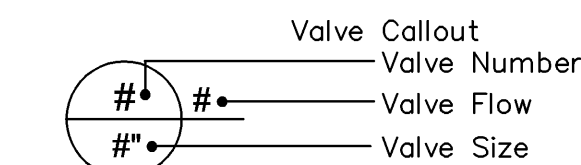
NUMBER	MODEL	SIZE	TYPE	PSI	PSI @ POC	GPM	PRECIP
1	Hunter ICZ-10140	1"	Drip	41.35		11.45	1.68 in/h
2	Hunter ICZ-10140	1"	Drip	41.40		12.78	1.68 in/h
3	Hunter PGV-100MM	1"	Turf Spray	32.92	42.46	14.71	1.82 in/h
4	Hunter PGV-100MM	1"	Turf Spray	32.75	41.57	12.75	2.02 in/h
5	Hunter ICZ-10140	1"	Drip	41.05	47.27	6.34	1.68 in/h
6	Hunter ICZ-10140	1"	Drip	41.59	48.34	9.78	1.68 in/h
7	Hunter ICZ-10140	1"	Drip	40.72	47.68	12.62	1.68 in/h
8	Hunter ICZ-10140	1"	Drip	40.74	46.85	4.45	1.68 in/h
9	Hunter ICZ-10140	1"	Drip	40.26	46.29	4.04	1.68 in/h
10	Hunter ICZ-10140	1"	Drip	40.68	49.49	12.51	1.68 in/h
11	Hunter ICZ-10140	1"	Drip	45.45	54.59	13.42	1.68 in/h

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	Rain Bird 1806-SAM-PRS 5 Series MPR Turf Spray 6" popup with check valve and pressure regulator.	2	30
	Rain Bird 1806-SAM-PRS 8 Series MPR Turf Spray 6" popup with check valve and pressure regulator.	22	30
	Rain Bird 1806-SAM-PRS 10 Series MPR Turf Spray 6" popup with check valve and pressure regulator.	2	30
	Rain Bird 1806-SAM-PRS 12 Series MPR Turf Spray 6" popup with check valve and pressure regulator.	3	30
	Rain Bird 1806-SAM-PRS 15 Series MPR Turf Spray 6" popup with check valve and pressure regulator.	6	30
	Rain Bird 1806-SAM-PRS ADJ Turf Spray 6" popup with check valve and pressure regulator.	3	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter ICZ-10140 Institutional Drip Control Zone Kit, 1" ICV control zone valve with 1" HY100 Wye filter (150 mesh) and 40psi high-flow regulator.	9
	Rain Bird AR Valve Kit 1" Air Relief Valve kit with 6" drip valve box.	7
	Area to Receive Dripline Hunter PLD-10-12 (12) Dripline with 1.0 GPH emitters, non-draining, pressure compensating, at 12" O.C., and row spacing at 12" O.C., off-set emitters for triangular spacing.	4,974 s.f.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter PGV-100MM Electric Remote Control Valve, 1" plastic globe valve, male x male thread.	2
	Hunter ICV 1" Electric Remote Control Valve, 220 psi rated plastic globe valve.	1
	Hunter ICV 1" Electric Remote Control Valve, 220 psi rated plastic globe valve.	1
	Hunter ICC-800-PL Modular Controller, 8 stations, outdoor model, with plastic cabinet.	1
	Hunter ICC-800-PL Modular Controller, 8 stations, outdoor model, with plastic cabinet.	1
	Hunter MINI-CLIK Rain Sensor, mount as noted	2
	Wilkins 720A 1" Pressure Vacuum Breaker	1
	Wilkins 720A 1" Pressure Vacuum Breaker	1
	Irrigation Lateral Line: Blu-Lock and PVC Class 200 Only lateral transition pipe sizes 1 1/2" and above are indicated on the plan, with all others being 1" in size.	2,993 l.f.
	Irrigation Mainline: PVC Schedule 40	1,593 l.f.
	Pipe Sleeve: PVC Schedule 40 Typical pipe sleeve for irrigation pipe. Pipe sleeve size shall allow for irrigation piping and their related couplings to easily slide through sleeving material. Extend sleeves 18 inches beyond edges of paving or construction.	2,059 l.f.



LAW/KINGDON, INC.
ARCHITECTS, ENGINEERS, PLANNERS & LANDSCAPE ARCHITECTS

CITY OF WICHITA
21ST STREET NORTH & BROADWAY AVENUE INTERSECTION

IRRIGATION DETAILS

WICHITA, KANSAS

DATE: _____
BY: _____
REVISIONS: _____
PROJECT NO.: 472-84295

DESIGNED: J.A.B./W.A.W	DRAWN: W.A.W
CHECKED: J.A.B	DATE: 01-11-2010

DATE	
BY	
REFERENCES NOTED	
REFERENCES CHECKED	