

STATE	KDOT PROJECT NUMBER	YEAR	SHEET NUMBER	TOTAL SHEETS
KANSAS	54-87 K-8258-01	2007	325	556
			LS-20	

F.M. Size	Upstream Length	Downstream Length
1"	10"	5"
1.25"	12.5"	6.25"
1.5"	15"	7.5"
2"	20"	10"
3"	30"	15"

Irrigation Schedule

ITEM	QUANTITY	
	(Metric)	(English)
Pipes & Sleeves		
Main Lines — 76mm (3") Class 200 PVC	2,279 LM	7,479 LF
Main Lines — 102mm (4") Class 200 PVC	1,113 LM	3,650 LF
Lateral Lines — Class 200 PVC	10,235 LM	33,580 LF
Main Line Sleeving — 51mm (2") Schedule 40 PVC	29 LM	94 LF
Main Line Sleeving — 102mm (4") Schedule 40 PVC	338 LM	1,107 LF
Main Line Sleeving — 152mm (6") Schedule 40 PVC	326 LM	1,070 LF

Irrigation Equipment		
Calsense Controller E2000e-8-GPRS-RRE-SSE-R (8-Station)	2	units
Calsense Controller E2000e-12-GPRS-RRE-SSE-R (12-Station)	2	units
Calsense Controller E2000e-24-GPRS-RRE-SSE-R (24-Station)	1	unit
Calsense Controller E2000e-24-GPRS-RRE-RB-SSE-R (24-Station)	1	unit
Rain Bucket — Calsense R-1	1	unit
Calsense Radio Remote Transmitter RRE-TRAN	1	unit
2" Water Meter	12	units
Blowout Port / Winterization Assembly	6	units
Master Valve	6	units
PVC Flow Meter — FM-3	6	units
Backflow Preventer — Febco 880-V 3" RPZ	6	units
Backflow Preventer Enclosure — Hotbox LB3000	6	units
Backflow Preventer Enclosure Pad	6	units
Thrust Blocks	41	units

Valves & Valve Vaults		
Point of Connection		
2" brass check valves	12	units
3" shutoff valve	6	units
3" Isolation Valve — Nebco	7	units
4" Isolation Valve — Nebco	4	units
Main Line Manual Drain — 1" Nebco Gate Valve	16	units
1" Electric Control Valve — Rain Bird 100/PEB	36	units
1-1/2" Electric Control Valve — Rain Bird 150/PEB	42	units
2" Electric Control Valve — Rain Bird 200/PEB	14	units
PVC Ball Valve — Spears	92	units
Quick-Coupling Valve — Rain Bird 44RC	74	units
Quick Coupler Key — Rain Bird 44	6	units

Spray Heads and Nozzles

(Rain Bird 1804 and 1806 PRS Series; SAM's as needed)

4" Pop-up / 8 Series VAN	2	units
4" Pop-up / 12 Series VAN	1	unit
6" Pop-up / U8 Series (F, H, T, and Q)	1,189	units
6" Pop-up / U10 Series (F, H, T, and Q)	531	units
6" Pop-up / U12 Series (F, TT, H, T, and Q)	401	units
6" Pop-up / U15 Series (F, TQ, TT, H, T, and Q)	271	units
6" Rotary / R13-18TT	1	unit
6" Rotary / R13-18H	143	units
6" Rotary / R13-18T	10	units
6" Rotary / R13-18Q	14	units
6" Rotary / R17-24F	20	units
6" Rotary / R17-24TQ	1	unit
6" Rotary / R17-24H	67	units
6" Rotary / R17-24T	14	units
6" Rotary / R17-24Q	10	units

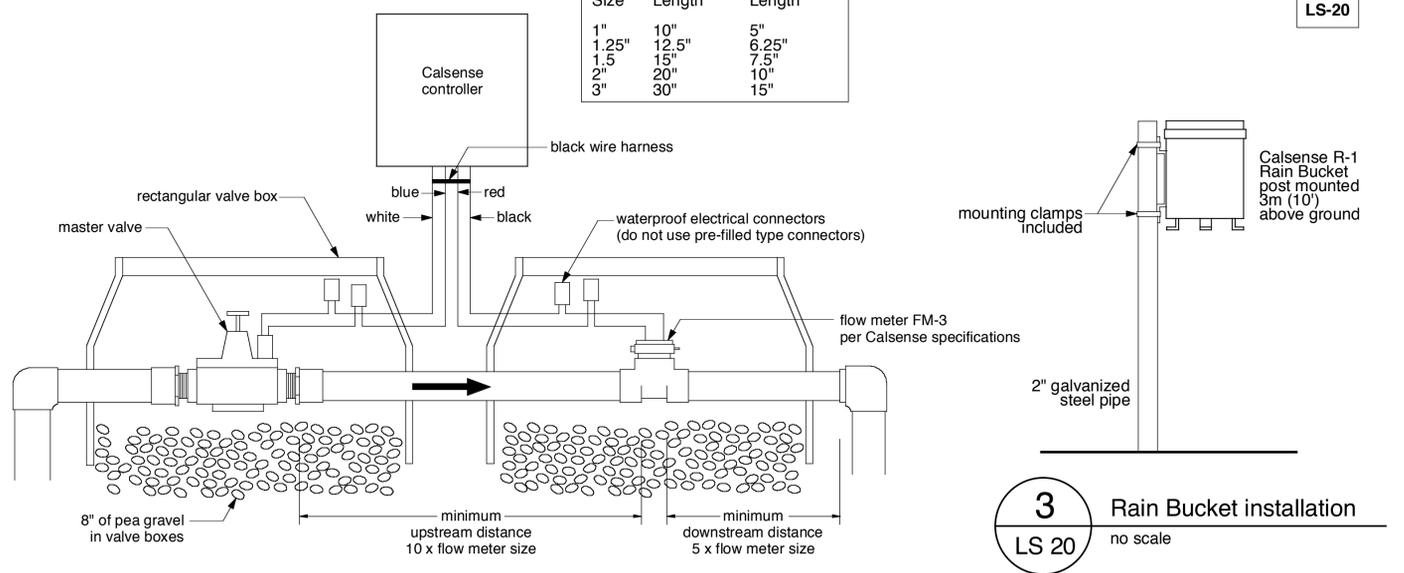
Rotor Heads		
6" Rain Bird Rotor / 5000-MPR-25	25	units
6" Rain Bird Rotor / 5000-MPR-30	18	units
6" Rain Bird Rotor / 5000-MPR-35	14	units

Notes:

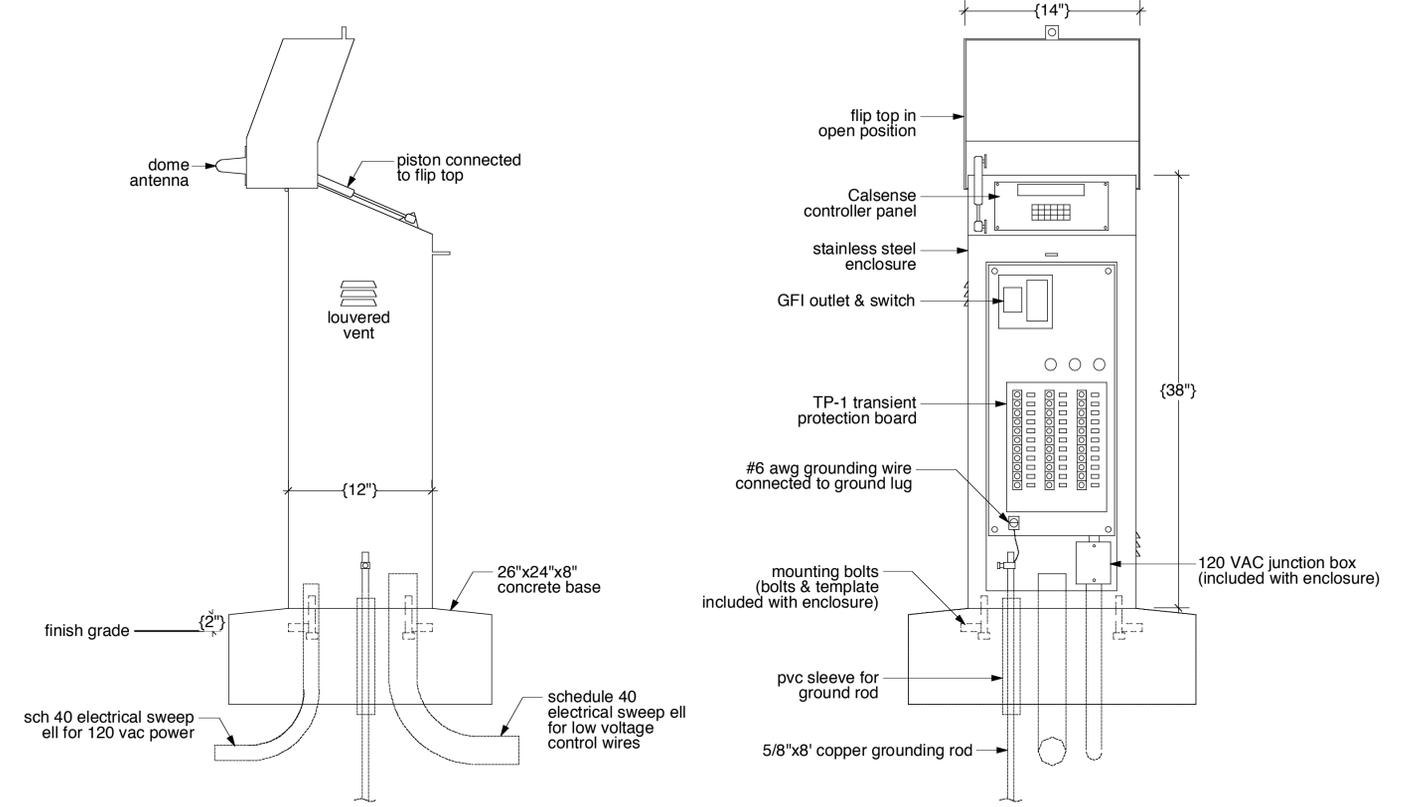
- In case of a discrepancy between the Irrigation Schedule and the Plan, the Plan shall govern.
- Quantities indicated on Schedules are provided for information only. Contractor shall perform his or her own quantity survey, and include all materials and incidental supplies required for a complete project, bid as a lump sum to the Owner.

Irrigation System Notes:

- Design Pressure:** The irrigation system is designed based on the 66 psi reported at the six pairs of 2" water meters. Verify pressure and flow on site prior to construction and report any discrepancies.
- Utility Locates:** Coordinate utility locates of underground utilities prior to construction.
- System:** The fully automated sprinkler system will irrigate turf areas and shrub areas as shown on the plans. City water will be used for the irrigation supply.
- Water Meters:** Twelve 2" water meters will be tapped and installed by the Wichita Water Department, with the costs within the contract of the Contractor. The irrigation system begins at the water meter stubouts.
- Sleeving:** Main line and wiring sleeving shall be supplied and installed by the Contractor under the roadway contract. Install one 152 mm (6") sleeve for the main line and one 102 mm (4") sleeve for the wiring at each sleeve location, except where otherwise noted on the plans. Sleeving under the roadways shall be marked by vertical piping at the two ends of each sleeve, and shall be in place prior to the irrigation installation (see Detail 2 on sheet LS 21).
- Contractor Responsibility:** The Contractor is responsible for supplying and installing the following:
 - Main shutoff valves and winterization assemblies downstream from the meters.
 - Six 3" RPZ backflow preventers, enclosures, and pads.
 - Six Calsense combination master valve/flow sensors and isolation valves.
 - Six Calsense controllers and pads.
 Checkout and calibration of the controllers by a Calsense technician shall be under the contract of the Contractor.
- Water Flow Rate:** Contractor shall not exceed 5 feet per second flow rate through any pipe. At no time shall water flow exceed 140 gpm from any one controller.
- Electrical Power** from the pole to the electric meter shall be by Westar Energy. Power from the meter to the Calsense Controllers (six places) shall be by the Contractor. Licensed Electrical Contractor shall be paid by Irrigation Contractor. All services shall comply with all national and local electric codes.
- Electric Control Valves:** No more than two electric control valves and ball valves should be installed in a single vault. Provide at least 102mm (4") clearance between enclosure and valves.
- Ball Valves:** All electric control valves shall have a ball valve located immediately upstream from the control valve and enclosed in the same vault. Ball valve size will be the same as the electric valve.
- Manual Drain Valves:** All manual drain valves shall be installed in a closed vault with 305 mm (12") of gravel minimum for drainage. Total gravel volume to be 2 cu.ft. minimum.
- Nozzles:** Select nozzles with arcs which provide complete and adequate coverage, with minimum overspray for site conditions. Low angle sprays nozzles are to be used in narrow areas adjacent to the roadways.
- Check Valves (SAM's):** All sprinklers prone to low-head drainage shall have in-head check valves.
- Common Ground Wires and System Spare Wires** shall be #12 gauge wire throughout the system. Common ground wires shall be white, and system spare wires shall be blue. Control valve wires shall be #12 gauge, and red.
- Expansion Loops:** Provide a 0.9 m (3') expansion loop on all wires at any road crossing, tee, ell, or 45° ell.
- Extra Wires:** Install four #12 gauge wires from the controllers to the ends of the irrigation runs for use as spare wires in case of control wire failure. Coil 1.8 m (6') of wire in the valve vault, and route wire in such a manner that every control valve has four wires passing the valve location.
- Distance from Curbs:** Locate all main line and valves and other equipment at least 1.5 m (5') behind curbs. Locate controllers, backflow preventers and all above ground equipment of the control center a minimum of 3.7 m (12') behind curbs along Kellogg.
- Component Installation:** The drawings are diagrammatic, and the following should be noted:
 - Irrigation components may be shown outside the planting areas for clarity.
 - Avoid conflicts between the irrigation system, plantings, and architectural features. Install irrigation pipe and wiring in landscaped areas whenever possible.



1 Flow Meter Installation
LS 20 no scale



2 Calsense Controller Enclosure installation
LS 20 no scale

3 Rain Bucket installation
LS 20 no scale

CHECKED BY: DATE: 07/24/06
DWF: 10/04/06

Drawn by: DJF
File: 03001_kellogg/rock
Plotted: 10/06/06
SCALE: 1:500