IRRIGATION SYSTEM DESIGN APPROACH

THE EXISTING IRRIGATION SYSTEM WILL BE MODIFIED TO PROVIDE NEW MAINLINE ROUTING AND AUTOMATED IRRIGATION FOR THE PROPOSED PRE PLACED CRYPT AND IN GROUND CREMAIN BURIAL SECTIONS. NEW MAINLINE PIPE, LATERAL PIPE AND SPRINKLERS WILL BE INSTALLED TO IRRIGATE THE NEW AREAS. NEW EQUIPMENT WILL MATCH THE EXISTING.

THE POINTS–OF–CONNECTION ARE THE EXISTING IRRIGATION MAINLINE PIPE.

NEW CONTROLLERS AND REPLACEMENT OF THE EXISTING CALSENSE ET2000e CENTRAL CONTROL SYSTEM WILL BE ADDED. SPARE STATIONS FROM CONTROLLER B WILL BE USED FOR THE PROPOSED BURIAL AREA SOUTH OF THE MAINTENANCE BUILDING. (1)

ALL NEW IRRIGATION EQUIPMENT MUST MATCH EXISTING EQUIPMENT.

EXISTING LANDSCAPE BEDS WILL BE RENOVATED TO REMOVE THE EXISTING ROTOR SPRINKLER IRRIGATION AND REPLACE IT WITH BUBBLERS TO IMPROVE WATER USE EFFICIENCY. IN AREAS WHERE PLANTING IS TOO DENSE FOR BUBBLER IRRIGATION THE EXISTING SPRAY SPRINKLERS WILL REMAIN.

SPRINKLERS AND VALVES REMOVED WILL NOT BE REUSED BUT WILL BE SALVAGED AND TURNED OVER TO THE RE/COR.

GENERAL NOTES

1. THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF 90 PSI. CONTRACTOR TO VERIFY EXISTING PUMP OPERATION AND PRESSURE AT EACH POINT–OF–CONNECTION, REPORT ANY DISCREPANCIES TO RE/COR PRIOR TO CONSTRUCTION.
2. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION. CONFIRM EXACT LIMITS OF IRRIGATED AREA AND ALL EXISTING AND FUTURE HARDSCAPE AND BURIAL AREAS PRIOR TO CONSTRUCTION.
3. COORDINATE UTILITY LOCATES (CALL BEFORE YOU DIG) OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND CONDITIONS BEFORE EXCAVATING.
4. DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING, OR IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED. BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE RE/COR.
5. THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:
   A. IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY.
   B. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, ARCHITECTURAL FEATURES, STORM DRAINS, AND SIGNS.
   C. INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.
6. SELECT NOZZLES FOR ROTARY SPRINKLERS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE IF SITE CONDITIONS ARE NOT AS SHOWN. CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE AND MINIMIZE OVERSPRAY.
7. WITH REGARD TO PIPE SIZING, THE FOLLOWING SHOULD BE NOTED:

   IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN TWO IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.

9. CONTRACTOR IS RESPONSIBLE FOR FINAL VALVE BOX AND SPRINKLER ELEVATION IN RELATION TO THE SURROUNDING FINAL GRADE.
10. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING IRRIGATION EQUIPMENT. ANY EXISTING IRRIGATION EQUIPMENT INCLUDING VALVES, WIRES, PIPES AND FITTINGS THAT ARE DISTURBED DURING CONSTRUCTION WILL BE REPLACED AT THE CONTRACTORS EXPENSE WITH MATCHING EQUIPMENT. PRIOR TO CONSTRUCTION LOCATE THE EXISTING IRRIGATION EQUIPMENT AND PIPE IN THE CONSTRUCTION AREA AND MARK EXISTING PIPE AND EQUIPMENT LOCATIONS USING MARKING SPRAY PAINT FOR PIPE AND WIRE STAKE FLAGS FOR VALVE BOXES WITH THE RE/COR.
11. DO NOT INSTALL ANY ROTOR OR SPRAY SPRINKLERS WITHIN 8–FEET OF TREE TRUNKS.

FLAG NOTES

1. EXCAVATE AND EXPOSE THE EXISTING MAINLINE PIPE AT THE APPROXIMATE LOCATION SHOWN. CONNECT TO THE EXISTING MAINLINE PIPE USING DUCTILE IRON TEE AND REPAIR COUPLINGS. INSTALL JOINT RESTRAINTS, BACKFILL HOLES, AND COMPACT TO MATCH EXISTING CONDITIONS. PRIOR TO CONSTRUCTION PROVIDE RE/COR WITH SHOP DRAWING OF POINT OF CONNECTION.
2. CONNECT TO EXISTING CAPPED LATERAL AT APPROXIMATE LOCATION INDICATED. USE SOLVENT WELDPVC SCH 40 FITTINGS. INSTALL NEW SPRINKLERS AS SHOWN. BACKFILL AND COMPACT TO MATCH EXISTING CONDITIONS.
3. INSTALL TWO WIRE CABLE GROUNDING ROD AND ASSOCIATED GROUNDING EQUIPMENT ADJACENT TO INDICATED REMOTE CONTROL VALVE ASSEMBLY EVERY 8 SPRINKLERS AND 300–FEET AND AT ALL DEAD ENDS PER MANUFACTURER'S GUIDELINES.
4. IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE OF THE PLANTING AREA FOR CLARITY ONLY. INSTALL ALL IRRIGATION COMPONENTS IN LANDSCAPED AREA AND NOT IN GRAVE SITES OR HARDSCAPE.
5. INSTALL NEW IRRIGATION CONTROLLER AT LOCATION IDENTIFIED ON PLANS, COORDINATE 120 VAC POWER FROM ADJACENT TRANSFORMER TO CONTROLLER. INSTALL CONTROL WIRE AND COMMUNICATION WIRE SPLICES AT PREVIOUS CONTROLLER LOCATION IN NEW STANDARD SIZE VALVE BOX AND LABEL LID WITH CONTROLLER NUMBER.
6. INSTALL MAINLINE 8–FEET FROM BACK OF CURB ALONG ROADWAYS, COORDINATE WITH TREE INSTALLATION.
7. INSTALL MAINLINE 4–FEET FROM EDGE OF PLANTER AREAS AS INDICATED.
8. COORDINATE SLEEVE INSTALLATION WITH LANDSCAPE UNDERDRAINS. SEE LANDSCAPE SHEETS.
9. IF ALTERNATE IS NOT ACCEPTED, INSTALL INDICATED BUBBLER VALVE AND ROUTE 1–INCH PIPE TO FEED THE BUBBLERS ON THIS ZONE OUTSIDE THE ALTERNATE BOUNDARY.
10. INSTALL SOIL MOISTURE SENSOR PER MANUFACTURERS WRITTEN INSTRUCTIONS AND PER THE DETAILS. LOCATE SOIL MOISTURE SENSOR EQUIDISTANT FROM ADJACENT SPRINKLERS IN IRRIGATION AISLE.
11. TRANSITION FROM EXISTING HARDWIRE COMMUNICATIONS BETWEEN CONTROLLRS AND CENTRAL CONTROL TO RADIO COMMUNICATION AND CLOUD BASED CENTRAL CONTROL. UPGRADE CENTRAL CONTROL COMPUTER AND PURCHASE 5 YEAR DATA PLAN THROUGH CALSENSE. PROVIDE RADIO SURVEY PRIOR TO INSTALLING NEW CONTROLLERS TO ENSURE THE RADIO COMMUNICATION WILL WORK WITH ALL OF THE NEW IRRIGATION CONTROLLERS AND EXISTING CONTROLLERS. UP GRADE COMMUNICATION CARD AND REPLACE EXISTING e2000 CALSENSE CONTROLLERS. PROVIDE AND INSTALL MODEM IN LEAD CONTROLLER WITH 5 YEAR PRE PAID DATA PLAN FOR COMMUNICATION WITH THE CLOUD. (1)

DEMOLITION FLAG NOTES

(D1) POT HOLE AND LOCATE THE EXISTING PVC MAINLINE PIPE AT THE APPROXIMATE LOCATIONS INDICATED. EXCAVATE AND EXPOSE THE EXISTING MAINLINE PIPE. PROVIDE AND INSTALL DUCTILE IRON ELBOW OUTLET AND RESTRAIN WITH JOINT RESTRAINTS. BACKFILL HOLES AND COMPACT TO 95% SPD. COIL EXISTING CONTROL WIRE IN 3–FOOT COIL AND INSTALL IN STANDARD VALVE BOX.

(D2) EXCAVATE AND EXPOSE EXISTING LATERAL PIPE AT APPROXIMATE LOCATION INDICATED. CUT LATERAL PIPE AND CAP USING A PVC SCH 40 SOLVENT WELD CAP. BACKFILL HOLES AND COMPACT TO MATCH EXISTING CONDITIONS. MARK LOCATION WITH 6–INCH ROUND VALVE BOX.

(D3) EXCAVATE AND EXPOSE EXISTING SPRINKLER ASSEMBLIES AT APPROXIMATE LOCATION SHOWN. REMOVE SPRINKLER ASSEMBLY AND TURN OVER TO CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE. IF SPRINKLER IS WITHIN THE SPRINKLER DEMOLITION BOUNDARY, PIPE IS TO BE ABANDONED IN PLACE. BACKFILL HOLES AND COMPACT TO EXISTING CONDITIONS.

(D4) VERIFY OPERATION OF ALL REMOTE CONTROL VALVES AND SPRINKLERS IN THIS AREA PRIOR TO DEMOLITION OR CONSTRUCTION. EXCAVATE AND EXPOSE EXISTING SPRINKLERS, REMOTE CONTROL VALVE ASSEMBLIES, AND VALVE BOXES AND CONTROLLERS WITHIN DEMOLITION BOUNDARY INDICATED. REMOVE ASSEMBLIES AND TURN OVER TO CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE. CAP PVC RISER ON SUPPLY SIDE OF REMOTE CONTROL VALVE WITH PVC SCH 40 CAP. ABANDON LATERAL PIPE IN PLACE. VERIFY WHICH IRRIGATION CONTROLLER OPERATES THE REMOTE CONTROL VALVES AND PROTECT WIRING FOR FUTURE USE. REPAIR ANY EXISTING IRRIGATION SYSTEM COMPONENT DAMAGED BY THE NEW CONSTRUCTION.

LEGEND

- MAINLINE PIPE
  *TYPE: PVC CL 200
  *SIZE: PER PLANS
- COMMUNICATION CABLE, PAIGE ELECTRIC P7171D, IN 2–INCH CL200 VPC CONDUIT, PULL BOXES EVERY 200'
- SLEEVING
  *TYPE: PVC CL 200
- LATERAL PIPE TO SPRINKLERS
  *TYPE: SCH 40 PVC
  *SIZE: 3/4–INCH UNLESS OTHERWISE INDICATED BUBBLER LATERALS
  *SIZE: 1–INCH UNLESS OTHERWISE INDICATED FOR SPRINKLER LATERALS
- POINT–OF–CONNECTION (P.O.C.)
- BLOW–OFF ASSEMBLY
  *REFER TO DETAILS
- ISOLATION GATE VALVE ASSEMBLY
  *MODEL: REFER TO SPECIFICATIONS
  *SIZE OF GATE VALVE TO MATCH NOMINAL MAINLINE SIZE
- REMOTE CONTROL VALVE ASSEMBLY
  *MODEL: RAIN BIRD PESB PRS–D
  *SIZE AS SHOWN
- QUICK COUPLING VALVE ASSEMBLY
  *MODEL: RAIN BIRD 44NP
- AIR VACUUM RELIEF VALVE ASSEMBLY
  *MODEL: REFER TO SPECIFICATIONS
- G TWO WIRE PATH GROUNDING AND SURGE PROTECTION
- D TWO WIRE PATH DECODER CABLE FUSE DEVICE
- S SOIL MOISTURE SENSOR
- BUBBLER ON POPUP SPRAY SPRINKLER RAIN BIRD 1402 1800–SAM–PRS FLOW 0.5 GPM
- R ROOT WELL ASSEMBLY
- POP–UP ROTOR SPRINKLER HUNTER I–25–06–SS @ 70 PSI
  *NUMBER WITHIN IS NOZZLE

FC	PC	NOZZLE	FLOW(GPM)	RADIUS(FEET)
D	▩	20	19.2	63

HUNTER MP ROTATOR @ 40 PSI ON RAIN BIRD 1806–SAM–P45 SPRAY BODY
NOZZLE: 1000 RADIUS: 14.0 FEET
FLOW (GPM): Q – 0.21 H – 0.42 F – 0.84

NOZZLE: 2000 RADIUS: 20.0 FEET
FLOW (GPM): Q – 0.43 H – 0.86 F – 1.48

NOZZLE: 3000 RADIUS: 30.0 FEET
FLOW (GPM): Q – 0.86 H – 2.12 F – 3.64

POP–UP SPRINKLER: RAIN BIRD MPR SERIES ON 1806–SAM–PRS @ 30 PSI
NOZZLE: 5' FLOW (GPM): Q–0.10 H–0.20 F–0.41
RADIUS: 8' FLOW (GPM): Q–0.26 H–0.52 F–1.05
RADIUS: 10' FLOW (GPM): Q–0.39 H–0.79 F–1.58
RADIUS: 12' FLOW (GPM): Q–0.65 H–1.30 F–2.60
RADIUS: 15' FLOW (GPM): Q–0.92 H–1.85 F–3.70

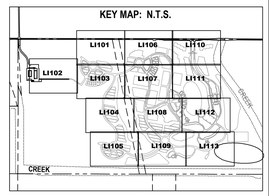
(1)
- (A) REPLACE IRRIGATION CONTROL UNIT: 40 STATION CAPACITY, 29 STATIONS USED
- (C) REPLACE IRRIGATION CONTROL UNIT: 40 STATION CAPACITY, 30 STATIONS USED
- (H) REPLACE IRRIGATION CONTROL UNIT: 40 STATION CAPACITY, 34 STATIONS USED
- (I) REPLACE IRRIGATION CONTROL UNIT: 40 STATION CAPACITY, 33 STATIONS USED
- (J) NEW IRRIGATION CONTROL UNIT: 128 STATION CAPACITY, 96 STATIONS USED
- (K) NEW IRRIGATION CONTROL UNIT: 128 STATION CAPACITY, 82 STATIONS USED

H11	INDICATES CONTROLLER STATION NUMBER
103	INDICATES LATERAL DISCHARGE IN GPM
2"	INDICATES REMOTE CONTROL VALVE SIZE IN INCHES

- EXISTING REMOTE CONTROL VALVE ASSEMBLY
- EXISTING MAINLINE PIPE
- EXISTING LATERAL PIPE TO SPRINKLERS
- EXISTING ROTOR SPRINKLERS
- EXISTING SPRAY SPRINKLERS
- DEMOLITION BOUNDARY

NOTE: ALL SHADED IRRIGATION COMPONENTS ARE EXISTING. PRIOR TO CONSTRUCTION A CLEAN SET OF RECORD DRAWINGS THAT THESE PLANS HAVE REFERENCED WILL BE AVAILABLE IN PDF FORMAT.
THESE DEMOLITION DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY THE VA. THE INFORMATION PROVIDED BY THE VA IS BELIEVED TO BE RELIABLE AND CORRECT. AQUA ENGINEERING IS NOT RESPONSIBLE FOR ITS ACCURACY.

KEY MAP: N.T.S.



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