

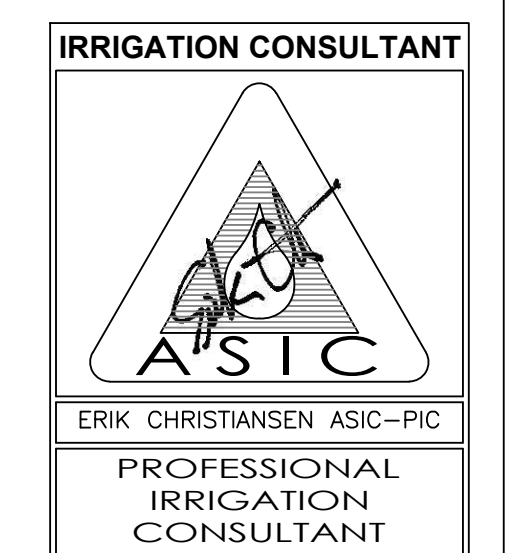
# BRIGHTON DALE LINKS - RED PINE

<u>SHEET</u>	<u>DESCRIPTION</u>
LI-0	COVER
LI-1	IMPACT COVERAGE PLAN
LI-2	HYDRAULIC PIPING PLAN
LI-3	ELECTRICAL SCHEMATIC PLAN
LI-4	SITE IRRIGATION PLAN
LI-5	IRRIGATION DETAILS



**NOTE:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW OF THE ABOVE AND ANY OTHER PLANS THAT PERTAIN TO THE COORDINATION OF THE IRRIGATION CONSTRUCTION, WHETHER THEY BE NOTED OR NOT.
2. IRRIGATION PLANS AND SPECIFICATIONS ARE DIAGRAMMATIC IN NATURE AND ARE NOT A LIST OF INSTRUCTIONS FOR CONSTRUCTION, BUT RATHER TO ILLUSTRATE A DESIGN INTENT. THEREFORE ANY AND ALL CHANGES, CONFLICTS, DISCREPANCIES, OMISSIONS, AND QUESTIONS SHOULD BE BROUGHT TO THE ATTENTION OF THE SAID IRRIGATION CONSULTANT DURING THE BIDDING AND CONSTRUCTION PERIOD IN WRITING.



**LEGEND**

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
●	Toro INF54-538-2 1-1/2" ACME inlet turf sprinkler, full circle, pressure regulation at 80psi, Spike Guard Solenoid	45
⊙	Toro INF54-538-2 1-1/2" ACME inlet turf sprinkler, full circle, pressure regulation at 80psi, Spike Guard Solenoid	271
○	Toro INF55-548-2 1-1/2" ACME inlet turf sprinkler, part-circle and full circle in one, pressure regulation at 80psi, Spike Guard Solenoid	49
○	Toro INF55-578-2 1-1/2" ACME inlet turf sprinkler, part-circle and full circle in one, pressure regulation at 80psi, Spike Guard Solenoid	5
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
■	Toro 474-00 One-Piece, 1" Single Lug Quick Coupler Valve with Standard Metal Cover.	26
⊗	RT/RW Isolation Valve (3" Laterals)	34
⊗	RT/RW Isolation Valve - Line Sized (Mains)	24
Ⓐ	Bernrad C30 Air/Vacuum Relief Valve (5) To Be Field Located By Irrigation Consultant	5
Ⓧ	Drain/Fill Valve	3
Ⓧ	Toro G4-XXPR4 Toro G4 DSMAC Controller w/ plastic green cabinet, radio control, surge terminal block, switches, and premium surge - See plan for station counts.	9
Ⓧ	Toro T107-SP-XXXX Wireless/Solar Weather Station - Actual Location By Owner	1
Ⓧ	Toro LX-04-5-21 Toro Lynx Central Control Software w/ premium computer, (5) years NSN support, (2) Apple iPads w/ LifeProof Cases - Actual Location By Owner	1
Ⓧ	Pump Station	1
—	Irrigation Lateral Line: PVC Class 200 SDR21	25,466 L.F.
—	Irrigation Mainline: PVC Class 200 SDR21	13,320 L.F.
—	120vac Power Wire Pair W/ Grn (Tray Cable) - As Per Local Codes	
—	Irrigation Zone Limits	

Note: All Quantities Are For Reference Only. Contractor Responsible For Actual Bid Counts.

**DESIGN NOTES**

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2. FLOW RATES THROUGH HDPE PIPING NOT TO EXCEED MANUFACTURER'S RECOMMENDATIONS.
3. PIPING AS SHOWN IS DIAGRAMMATIC IN NATURE. ALL PIPING TO BE LOCATED WITHIN OWNER'S PROPERTY LINES.
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5. IRRIGATION PLANS SHALL HAVE PRECEDENCE OVER IRRIGATION SPECIFICATIONS. ANY DISCREPANCIES BETWEEN THESE TWO DOCUMENTS MUST BE BROUGHT TO THE ATTENTION OF THE IRRIGATION CONSULTANT BEFORE INSTALLATION.
6. IT IS THE INTENT TO KEEP IRRIGATION WATER OFF OF ALL BUILDINGS, SIDEWALKS AND PARKING AREAS. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FIELD TUNE EACH SPRINKLER AS TO KEEPING IRRIGATION ADJUSTED TO GRASSES AND SEEDS AREAS ONLY. IT WILL ALSO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO SUPPLY THE OWNER WITH AN OPERATING SCHEDULE THAT WORKS WITH EXISTING PLANS AND ANY FIELD ADJUSTMENTS.
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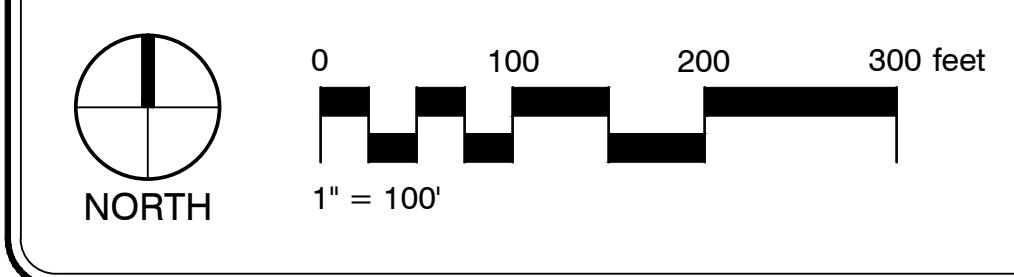
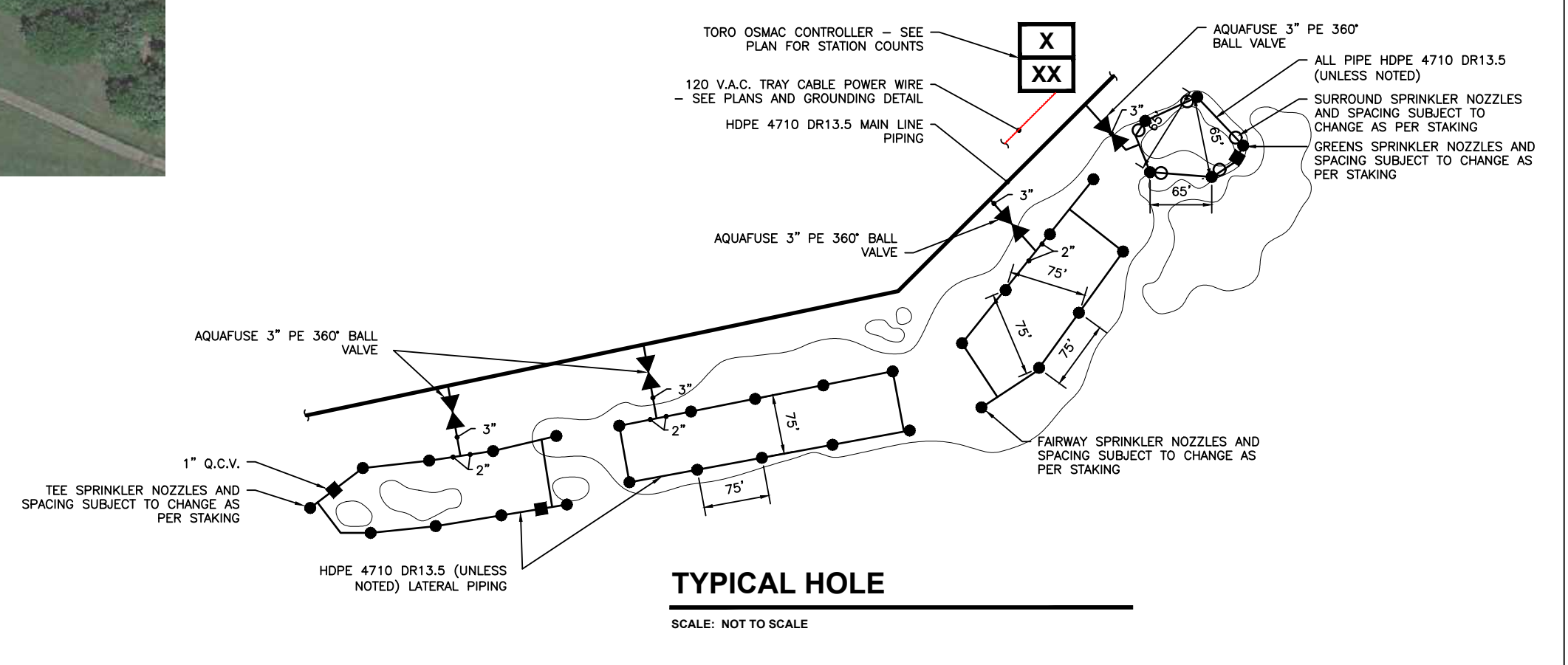
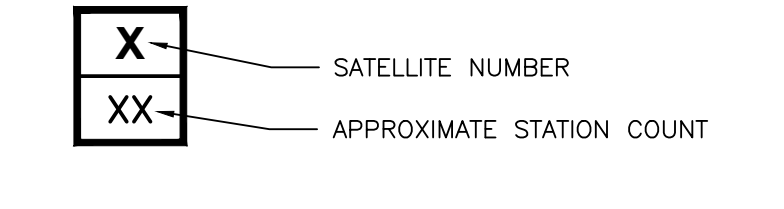
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2. ALL PIPE SHALL BE CARRIED IN SEPARATE TRENCH.

**ELECTRICAL NOTES:**

1. ALL 120 V.A.C. POWER SPLICES AT FIELD SATELLITES.
2. ALL POWER WIRE TAPS AND CONNECTIONS SHALL CONFORM TO ALL LOCAL AND STATE CODES AND PERFORMED BY LICENSED ELECTRICIAN.
3. 24" LOOP OF WIRE LOCATED BELOW EACH HEAD.
4. ALL 24 V.A.C. SECONDARY WIRING SHALL BE (RED) #14 HOT AND (WHITE) #12 COMMON. (ONE HOT WIRE PER HEAD)
5. ALL WIRE SHALL HAVE ENOUGH SLACK AS TO ACCOMMODATE FOR EXPANSION AND/OR CONTRACTION.
6. ALL WIRE TO BE UL APPROVED FOR DIRECT BURIAL.
7. ALL 120 V.A.C. PRIMARY, AND 24 V.A.C. SECONDARY POWER TO BE INSTALLED AS PER STATE AND LOCAL CODES, SEED AS PER PLAN WITH GROUND WIRE, MEETING N.E.C. REQUIREMENTS.
8. ONE SPARE HOT (#14) WIRE TO EACH GREEN AND TEE COMPLEX AND MARKED AS SPARE (BLUE IN COLOR).

**PROGRAMMING NOTES:**

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**LEGEND**

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⊗	RT/RW Isolation Valve - Line Sized (Mains)	24
Ⓐ	Bernrad C30 Air/Vacuum Relief Valve (5) To Be Field Located By Irrigation Consultant	5
Ⓧ	Drain/Fill Valve	3
XX	Toro G4-XXPR4 Toro G4 OSMAC Controller w/ plastic green cabinet, radio control, surge terminal block, switches, and premium surge - See plan for station counts.	9
W	Toro T107-SP-XXXX Wireless/Solar Weather Station - Actual Location By Owner	1
CC	Toro LX-04-5-21 Toro Lynx Central Control Software w/ premium computer, (5) years NSN support, (2) Apple iPads w/ LifeProof Cases - Actual Location By Owner	1
P	Pump Station	1
—	Irrigation Lateral Line: PVC Class 200 SDR21	25,466 I.F.
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—	120vac Power Wire Pair W/ Grn (Tray Cable) - As Per Local Codes	
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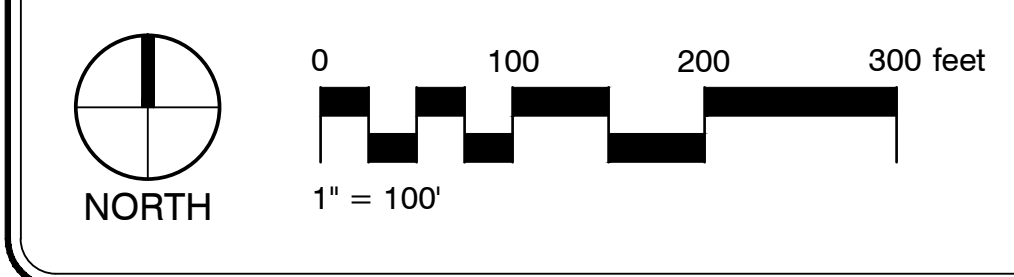
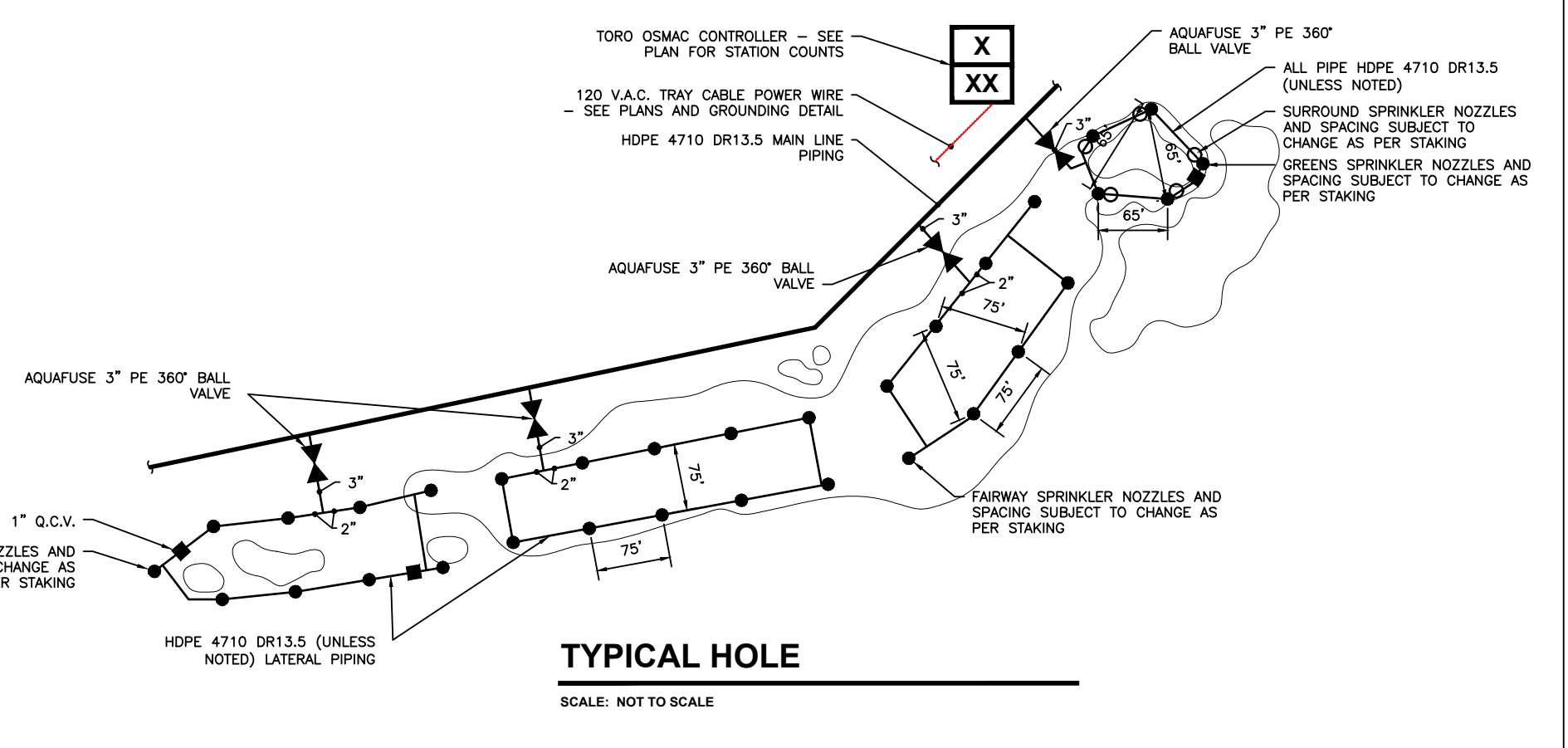
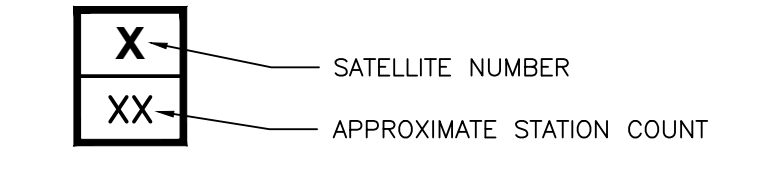
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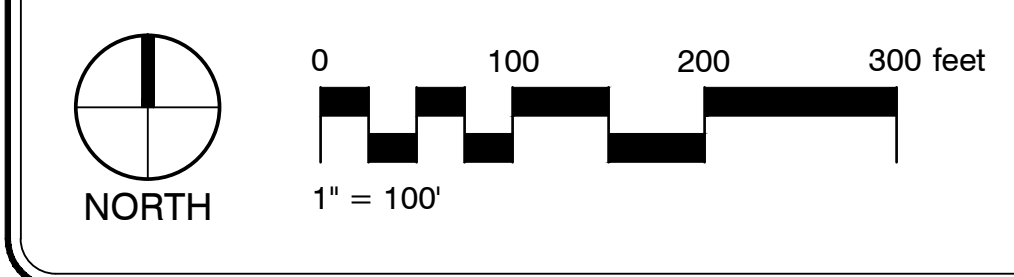
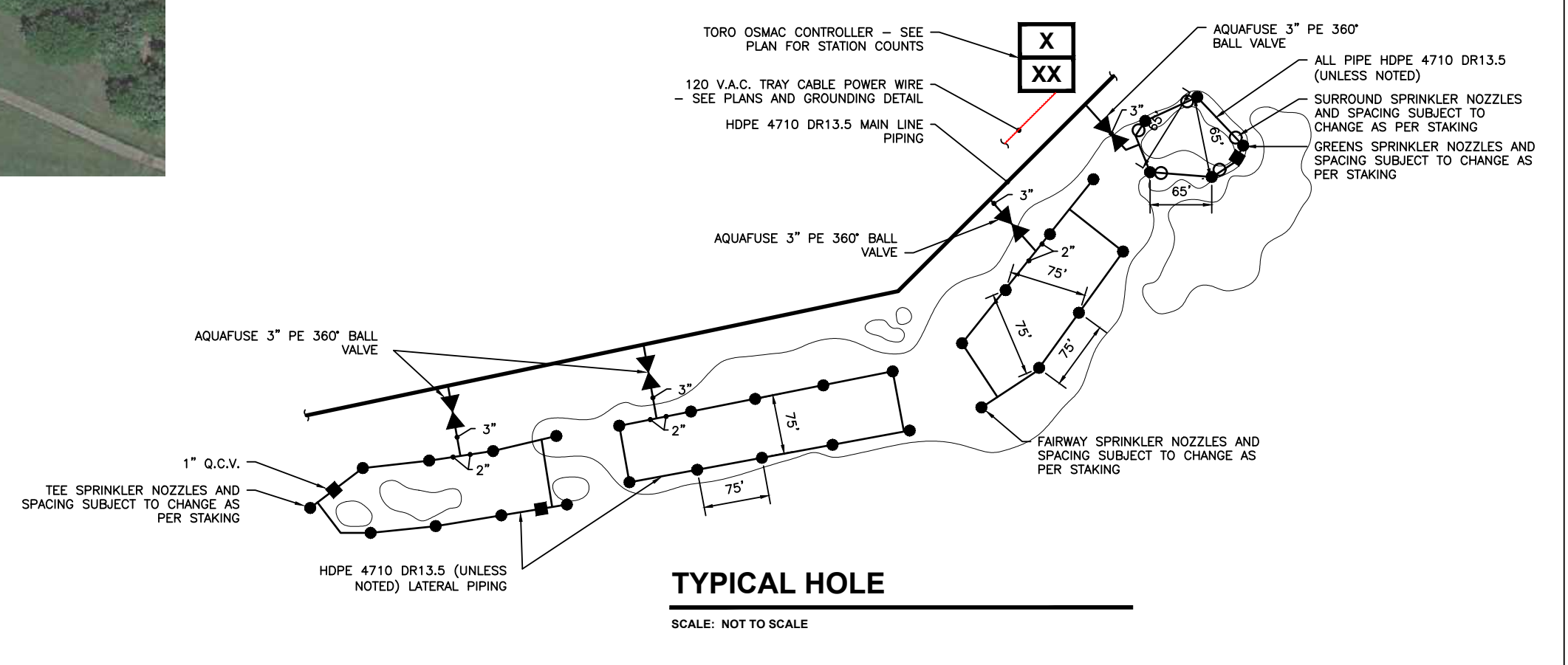
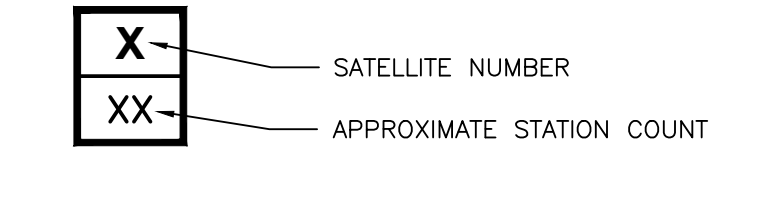
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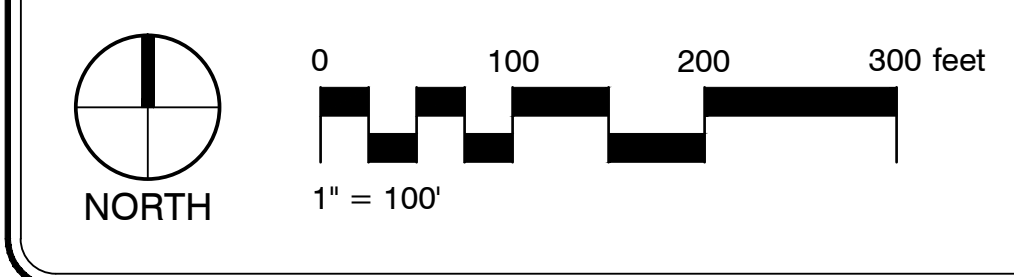
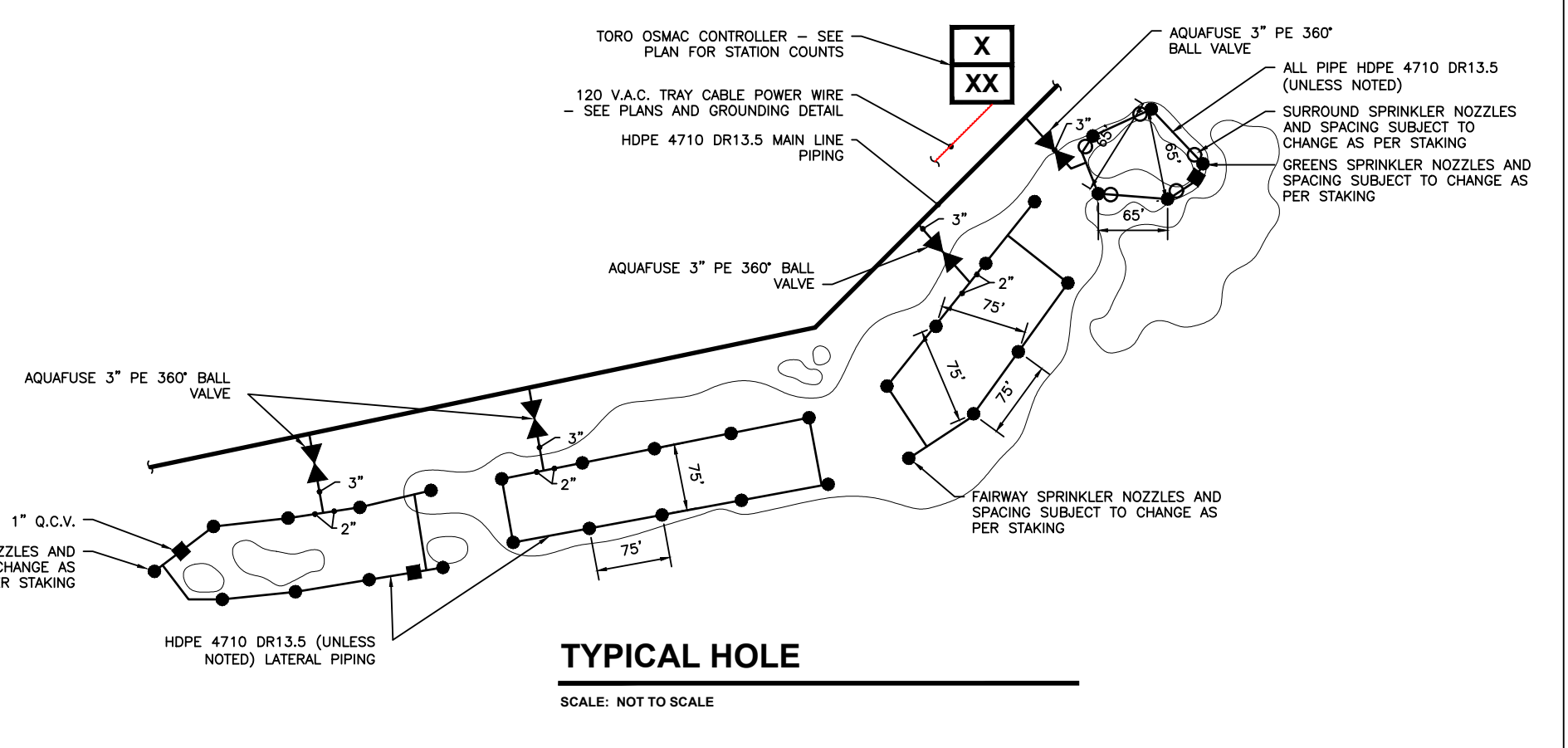
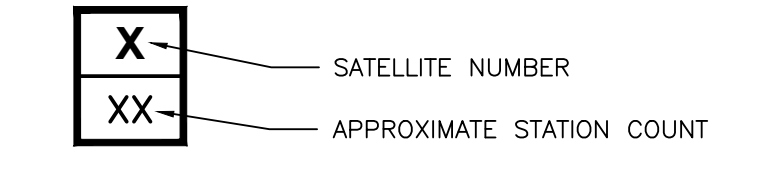
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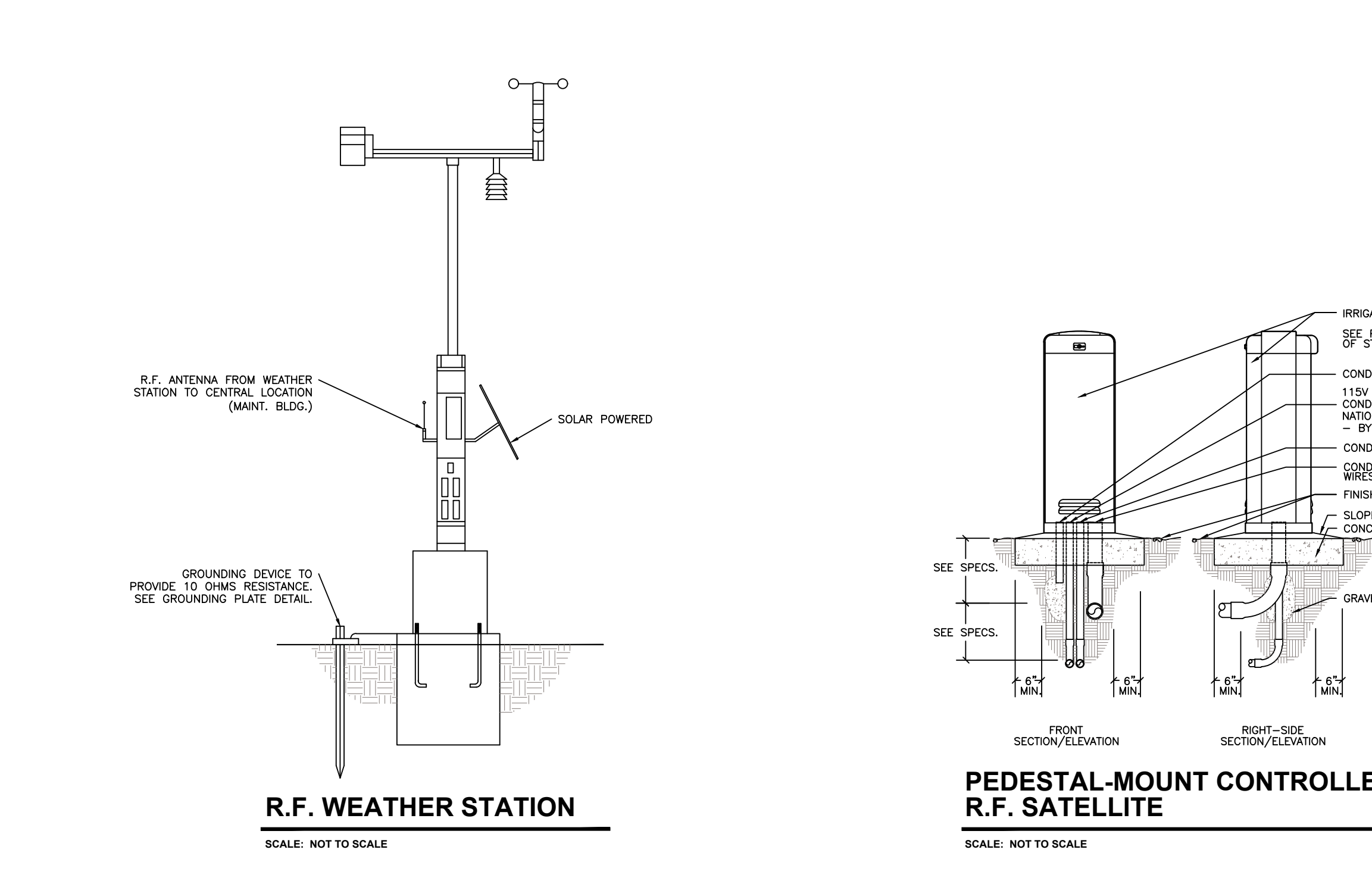
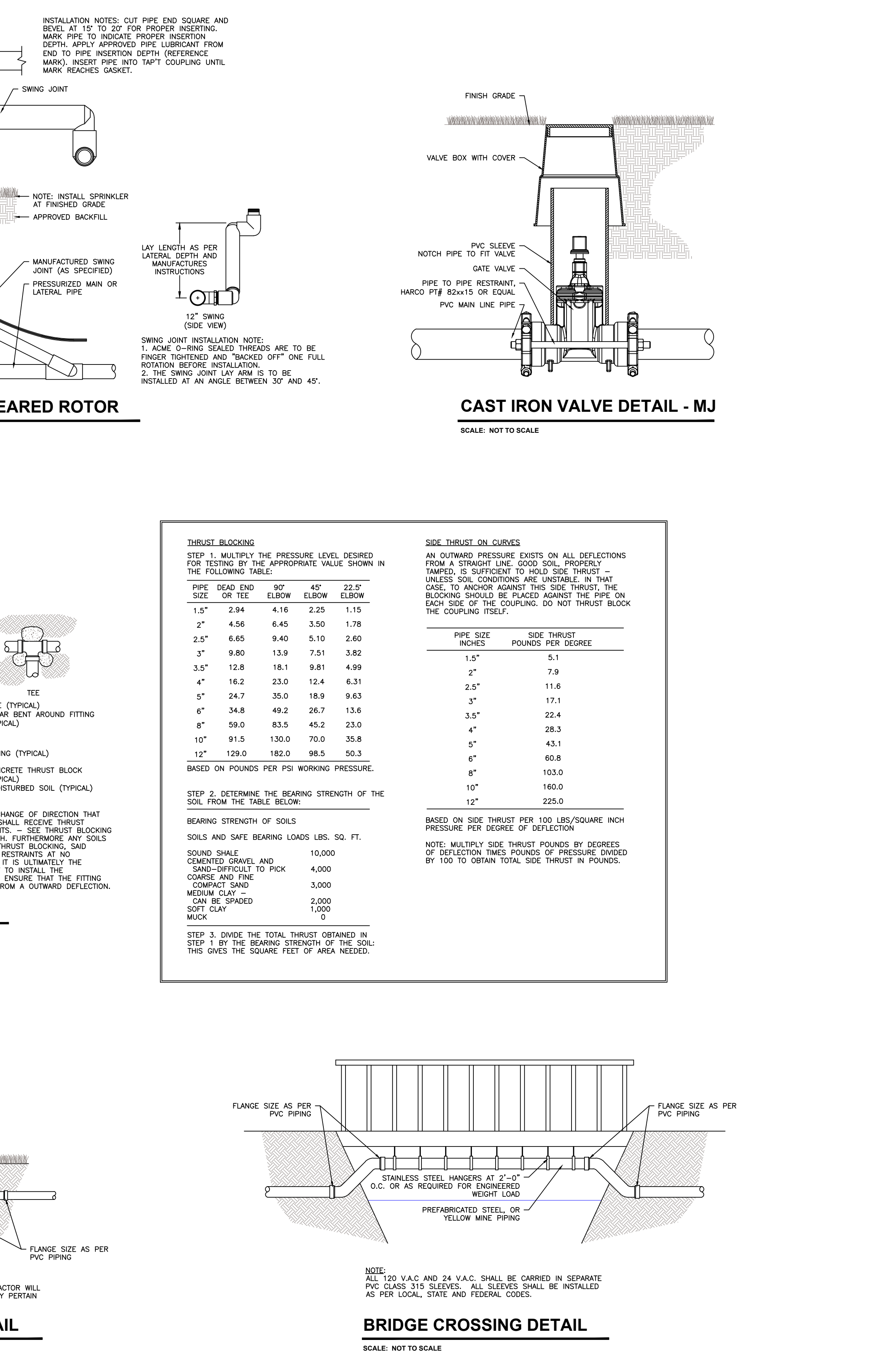
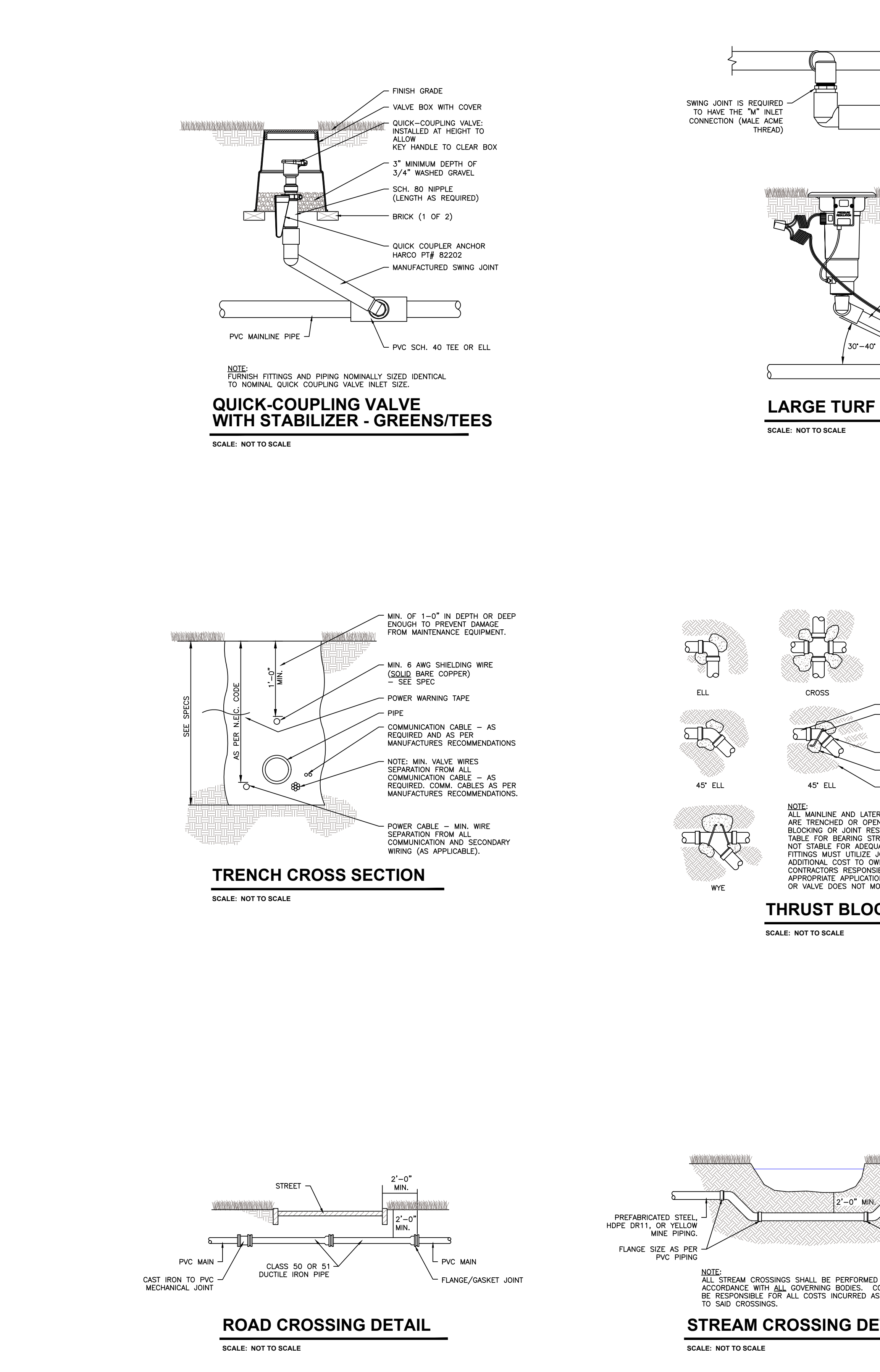
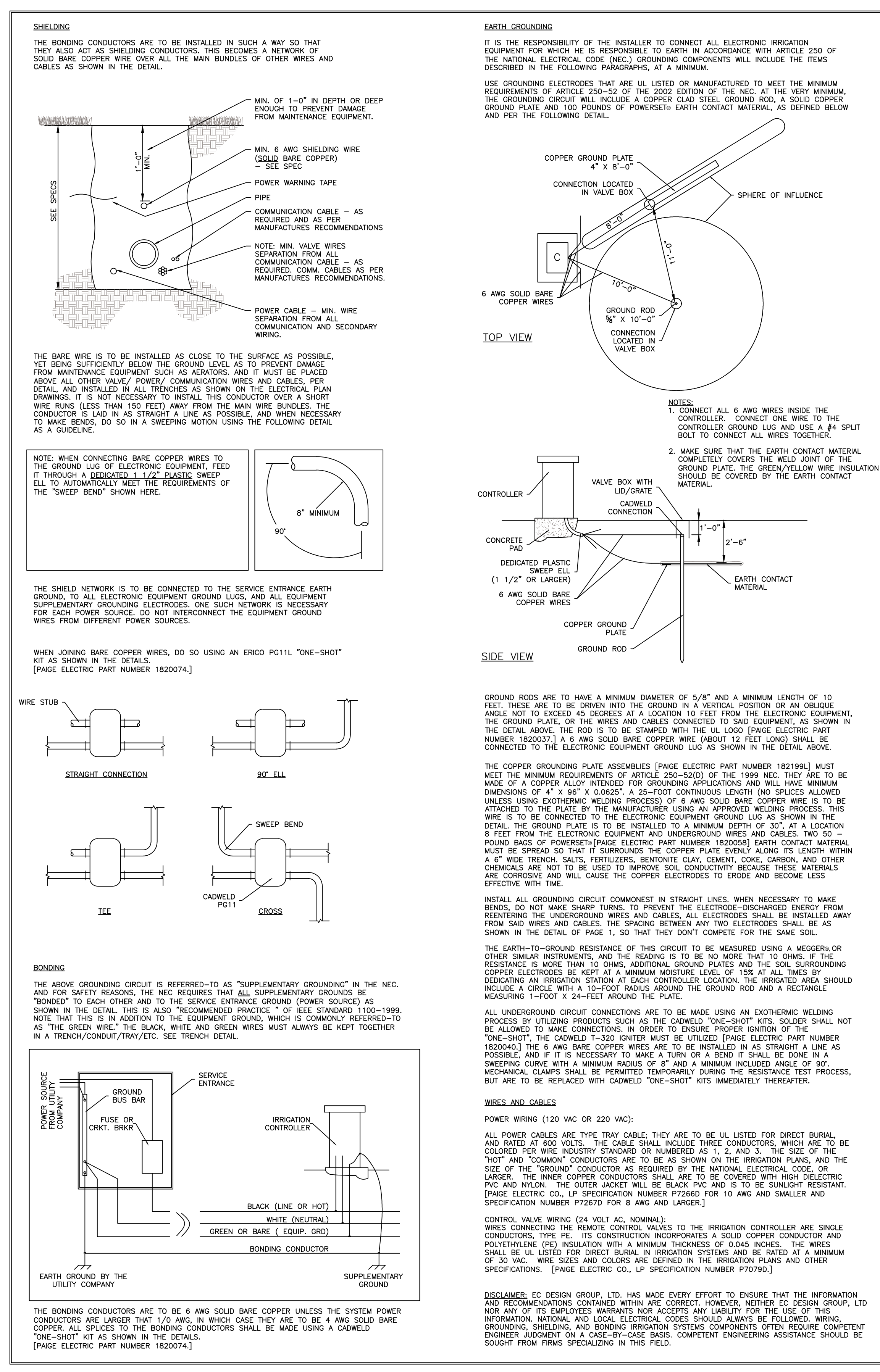
**ELECTRICAL NOTES:**

1. ALL 120 V.A.C. POWER SPLICES AT FIELD SATELLITES.
2. ALL POWER WIRE TAPS AND CONNECTIONS SHALL CONFORM TO ALL LOCAL AND STATE CODES AND PERFORMED BY LICENSED ELECTRICIAN.
3. 24" LOOP OF WIRE LOCATED BELOW EACH HEAD.
4. ALL 24 V.A.C. SECONDARY WIRING SHALL BE (RED) #14 HOT AND (WHITE) #12 COMMON. (ONE HOT WIRE PER HEAD)
5. ALL WIRE SHALL HAVE ENOUGH SLACK AS TO ACCOMMODATE FOR EXPANSION AND/OR CONTRACTION.
6. ALL WIRE TO BE UL APPROVED FOR DIRECT BURIAL.
7. ALL 120 V.A.C. PRIMARY, AND 24 V.A.C. SECONDARY POWER TO BE INSTALLED AS PER STATE AND LOCAL CODES, SEED AS PER PLAN WITH GROUND WIRE, MEETING N.E.C. REQUIREMENTS.
8. ONE SPARE HOT (#14) WIRE TO EACH GREEN AND TEE COMPLEX AND MARKED AS SPACE (BLUE IN COLOR).

**PROGRAMMING NOTES:**

1. FIELD SATELLITES SHALL CARRY APPROPRIATE STATION CARDS FOR INDIVIDUAL HEAD CONTROL OF ALL SPRINKLERS.
2. ALL SPRINKLERS SHALL HAVE ONE WISE (HOT 24 V.A.C.) TO RESPECTIVE FIELD SATELLITE.
3. ALL SATELLITE LOCATIONS SHALL BE IN ACCORDANCE WITH RAIN FALL SURVEYS AND OUT OF 100 YEAR FLOOD PLAN.





**SHORTER THAN 20-FOOT DISTANCES**  
 WHEN THE DISTANCE BETWEEN A RESTRAINED FITTING TO THE NEXT JOINT IS LESS THAN 20 FEET, THE ABOVE RECOMMENDATIONS ARE NO LONGER VALID. ONE MUST REFER TO THE FOLLOWING TABLE THAT LISTS THE LENGTH (IN FEET) FOR EACH SOLVING FITTING WITHIN WHICH ALL JOINTS MUST BE RESTRAINED.

AS AN EXAMPLE, WHEREAS A 4" 90° REQUIRE ONLY ONE LB-SERIES RESTRAINT WHEN USING 20-FOOT PIPE, IT WOULD REQUIRE TWO LB-SERIES IF THE PIPE IS SPLICE INTO TWO 10-FOOT LENGTH SEGMENTS.

PIPE SIZE	BENDS	REDUCERS	DEAD END
1.5"	11	32	45
2"	1	2	6
2.5"	1	2	4
3"	2	3	5
4"	2	4	9
4.5"	3	5	11
5"	2	4	9
6"	3	6	13
8"	4	8	15
10"	5	10	18
12"	5	10	21

**ABOUT THE TABLE:**  
 FOR THE BRANCH USE DATA FOR 90 DEGREE BENDS. FOR THE MAIN USE DATA FOR 45 DEGREE BENDS. (E.G. 12x10, 10x8, 8x6).  
 1 STEP REDUCER REDUCTION OF ONE SIZE DOWN (E.G. 12x10, 10x8, 8x6).  
 2 STEP REDUCER REDUCTION OF TWO SIZES DOWN (E.G. 12x10, 10x8, 8x6).  
 BIND A LINE THAT IS CAPPED OFF, THE SEWER LINE OR PROTECTOR CONNECTS TO A LATERAL LINE (TYPICALLY) VERTICALLY MOUNTED.

**INSTALLING JOINT RESTRAINTS:**  
 BECAUSE LEMCO FITTINGS HAVE FOUR LUGS, THE EYE OF THE LB-SERIES CLAMP SLIPS OVER THE VERTICALLY LOCATED LUGS ALLOWING EASY ACCESS TO TIGHTEN THE BOLTS. COMPETITIVE FITTINGS WITH TWO HORIZONTAL LUGS REQUIRE BOLTS ACCESS TO THE BOLT/TIGHTENING RESULTING IN THE FITTING BEING TIGHTENED THROUGH THE PIPE. IN A NARROW TRENCH INSTALLING THE CLAMP BECOMES VERY DIFFICULT.

PIPE SIZE	NO. OF BOLTS	TORQUE FT-LBS.
2"	2	3/8 x 2.5" 20
2.5"	2	3/8 x 2.5" 20
3"	2	3/8 x 2.5" 20
4"	2	1/2 x 3" 48
4.5"	2	1/2 x 3.5" 48
5"	4	5/8 x 3.5" 98
6"	4	5/8 x 3.5" 98
8"	4	5/8 x 3.5" 98
10"	4	5/8 x 3.5" 98
12"	4	5/8 x 3.5" 98

**BOLTS/TIGHTENING:**  
 BECAUSE OF THE LARGE SURFACE AREA OF THE CLAMPS, THERE IS NO DANGER OF CRACKING OR DAMAGING THE PIPE. TIGHTEN THE BOLTS WITH STANDARD 12" (FOR 6" AND SMALLER CLAMPS), 18" FOR THE LARGER CLAMPS. DO NOT USE CHEATER BARS.