






NOTE:
 1. RE-USE EXISTING CIRCUIT MINOR PARKING LOT CIRCUIT. COORDINATE W/MR. CARLOS OCHA 972.386.6611 TO SHUT DOWN EXISTING PARKING LOT CIRCUIT AND TO SCHEDULE PROPOSED WORK.

-  'SA' TYPICAL
-  'SB' TYPICAL
-  'SC' TYPICAL
-  'SAA' TYPICAL
- HA-XX DENOTES CIRCUIT NUMBER
-  PULLBOX. REFER TO DRAWING 5-2, DETAIL 2

1 ROADWAY LIGHTING - PART 'C-D'
 SCALE: 1" = 10'-0"

REVISION
 ⚠ ELECTRICAL VOLTAGE CHANGES -- OCTOBER 24, 2007

CEE CAMPOS ENGINEERING, Inc.
 CONSULTING ENGINEERS
 7100 Granddave Avenue
 Dallas, Texas 75247
 (214) 466-4311
 (214) 361-4334 (FAX)



GRAPHIC SCALE:
 1" = 10'-0"
 0 5' 10' 20' 30' 40'

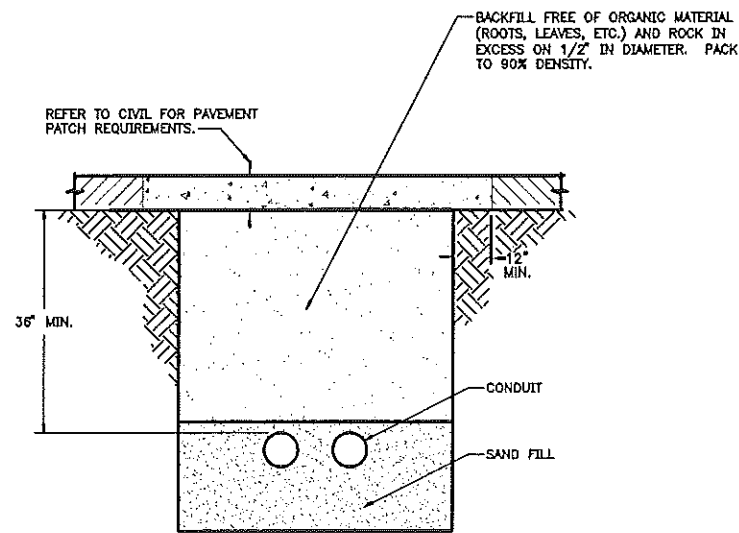
TOWN OF ADDISON, TEXAS

**ADDISON ROAD IMPROVEMENTS
 BELT LINE ROAD TO ARAPAHO ROAD PHASE I
 ADDISON ROAD LANDSCAPE/LIGHTING**

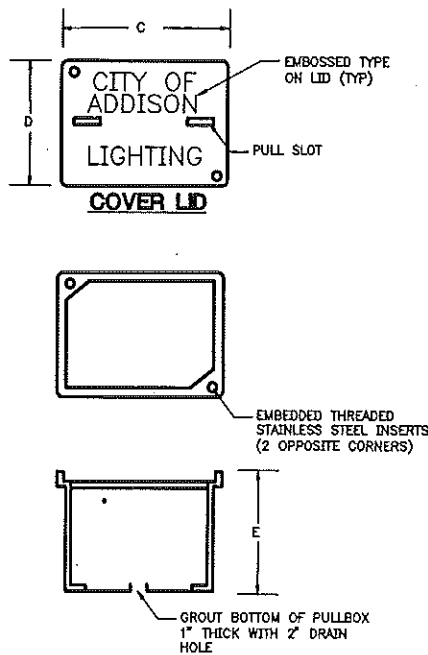
BIRKHOFF, HENDRICKS & CONWAY L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

DESIGNED BY: JAC PROJECT: 2007-102 SHEET NO. E-4 (66)
 DRAWN BY: JAC DATE: OCTOBER 24, 2007 OF SHEETS

USER: PAK... JCASTRO...
 DATE: 24 OCT 2007... 12:50 PM



1 DIRECT BURIED CONDUIT
E-5 SCALE: NONE

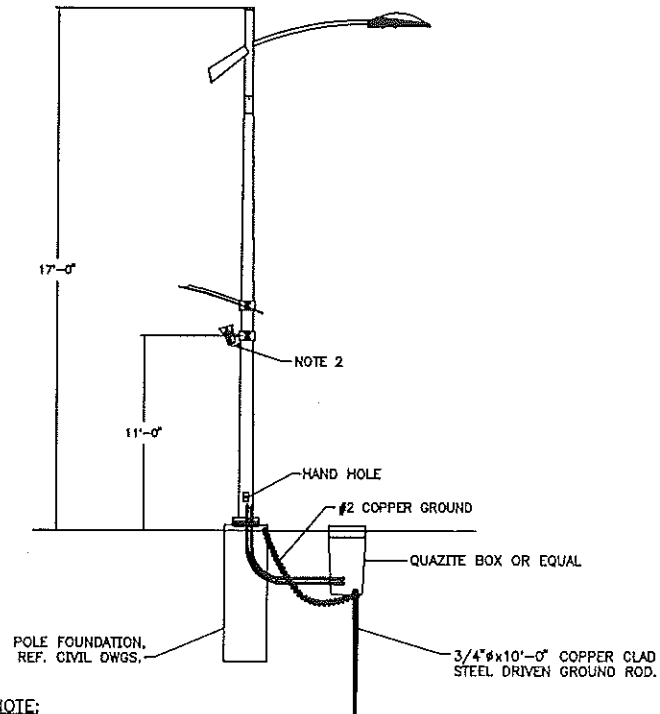


COVERS			
PULLBOX TYPE	DIMENSIONS (INCHES)		
	A	B	THK.
A	23"	13 3/4"	2"

BOXES			
PULLBOX TYPE	DIMENSIONS (INCHES)		
	C	D	E
A	23"	13 3/4"	18"

NOTES:

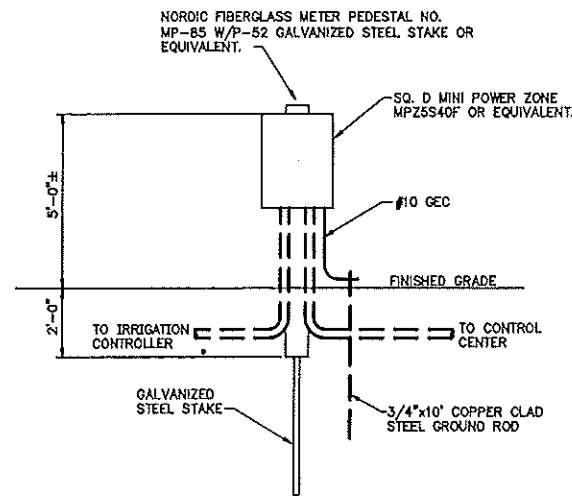
- SEE STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION.
- COVER LETTERING SHALL BE 1" LETTERS CAST-IN PLACE WITH THE LID. THE COVERS OR LIDS SHALL BE MARKED "CITY OF ALLEN LIGHTING" WITH CLEAN, EVEN STROKE LETTERING.
- ALL DIMENSIONS ARE NOMINAL.



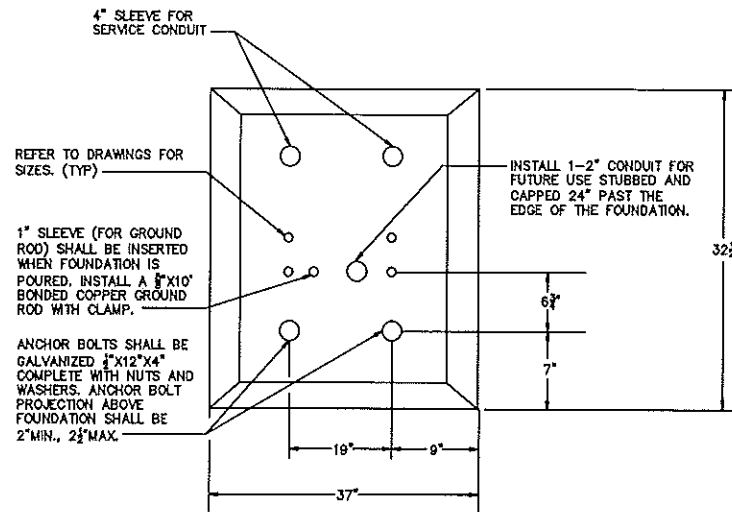
NOTE:

- FIXTURE & REFLECTOR SHALL BE CAPABLE OF ORIENTATION TOWARDS THE ROADWAY OR 180° FROM THE ROADWAY.

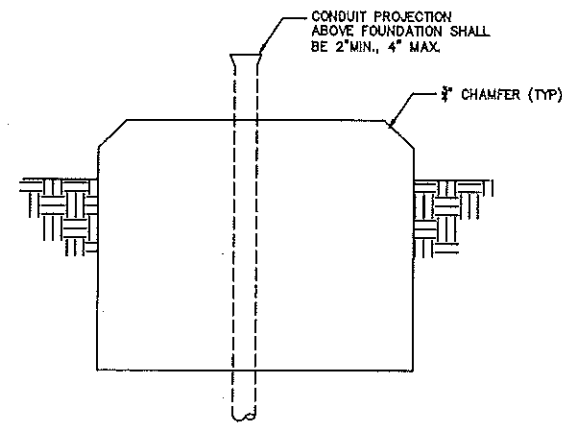
3 ROADWAY/PEDISTRIAN FIXTURE 'SAA'
E-5 SCALE: NONE



4 IRRIGATION SERVICE
E-5 SCALE: NONE



5 CONTROL CENTER FOUNDATION DETAIL
E-5 SCALE: NONE



TOWN OF ADDISON, TEXAS

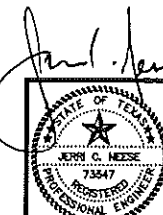
**ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD LANDSCAPE/LIGHTING**

BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: **JAC** PROJECT: **2002 102** SHEET NO. **E-5 (06)**
DRAWN BY: **JAC** DATE: **OCTOBER 24, 2007** OF **06** SHEETS

REVISION
ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007

CEI CAMPOS ENGINEERING, Inc.
CONSULTING ENGINEERS
7000 Greenville Avenue
Dallas, Texas 75231
Tel: 972-967-7000
Fax: 972-967-7000



USER: JAC, PROJECT: 2002 102, SHEET: E-5, DATE: 10/24/07, TIME: 12:25 PM

LIGHTING FIXTURE SCHEDULE					FIXTURE DATA					
TYPE	MANUFACTURER	VOLTS	CATALOG NO.	LAMPS	DESCRIPTION	LAMP/FOOT	BALLAST/FOOT	VAL/FOOT	NO. FIX	TOTAL KVA
GA	LUMECO-SCHREDER	277	HSK400M-BT28-SCTX-LTS684A	14S40040R 14P70FLUMED	ROADWAY/PEDESTRIAN FIXTURE NOTE 1,5 & 6	2	2	500	17	9.86
EB	LUMECO-SCHREDER	277	FOCAL-70MHTM-NARROW-SCTX-LTS684A	14P70FLUMED	PEDESTRIAN FIXTURE NOTE 2,5 & 6	1	1	95	32	3.04
SC	LUMECO-SCHREDER	—	HSK400M-BT28-SCTX-RDS-1A-FS2H-S	14S40040R	PARKING LOT FIXTURE 400W MH, TYPE II DIST	1	1	450	2	0.92
SAA	LUMECO-SCHREDER	277	HSK400M-BT28-SCTX-LTS684A	14S40040R 14P70FLUMED	ROADWAY/PEDESTRIAN FIXTURE NOTE 4,5 & 6	2	2	500	3	1.74

- NOTES:
- POLE SHALL BE ATR-31-1-14XAS-14.5-SCTXLTS684A
 - POLE SHALL BE LTS684A-13-SCTX3300-12
 - POLE SHALL BE HS-ATR205-RDS-1A
 - SHAAR TO 'S4' EXCEPT 27 HAZARD HEIGHT POLE
 - QUANTITIES INDICATED ARE FOR CALCULATION ONLY, CONTRACTOR SHALL REVIEW DRAWINGS FOR TAKE-OFF QUANTITIES.
 - ALL LIGHT FIXTURES SHALL BE INDIVIDUALLY FUSED.

BUDGET	DESCRIPTION	ACTUAL
N/A	TOTAL INTERIOR LIGHTING KV	0.00
0	TOTAL HEATED SQ. FT.	NA
N/A	INTERIOR VA. PER SQ. FT.	NA
N/A	EXTERIOR LIGHTING KVA:	NA
N/A	EXTERIOR EQ. FT.	NA
N/A	TOTAL LIGHTING KVA:	12.90

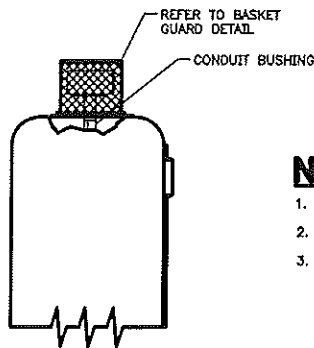
FEEDER PER DRAWINGS														PANEL "HA"		LOCATED IN FRONT OF OUTBACK STEAK HOUSE	
CT	LOAD	DESCRIPTION	C	EGC	N	W	CB	LOAD	LOAD	CB	W	N	EGC	C	DESCRIPTION	LOAD	CT
1	3288	NORTHWEST FIXTURES	*	*	*	*	20	6345			20	*	*	*	(FUTURE) FIXTURES	3030	2
3	3860	SOUTHWEST FIXTURES	*	*	*	*	20	5935			20	*	*	*	EAST FIXTURES	2284	4
5	0	SPARE	--	--	--	--	20	0			20	--	--	--	SPARE	0	8
7	0	SPARE	--	--	--	--	20	0			20	--	--	--	SPARE	0	8
9	0	SPACE	--	--	--	--	0	0			0	--	--	--	SPACE	0	10
11	0	SPACE	--	--	--	--	0	0			0	--	--	--	SPACE	0	12

400Y/230 V	W	3	PHASE	4	WIRE	PEDESTAL MOUNTED
100	A	BUS	--	MLO	X	NEMA 3R
60	A	MCB	X	ISO GROUND BAR	--	MINIMUM 10,000 AIC

NOTES:
* REFER TO DRAWINGS FOR WIRING AND CONDUIT SIZES.

PANEL TOTALS:	KVA	AMPS
PHASE A:	6.3	13.2
PHASE B:	5.9	12.4
TOTAL:	12.3	25.6

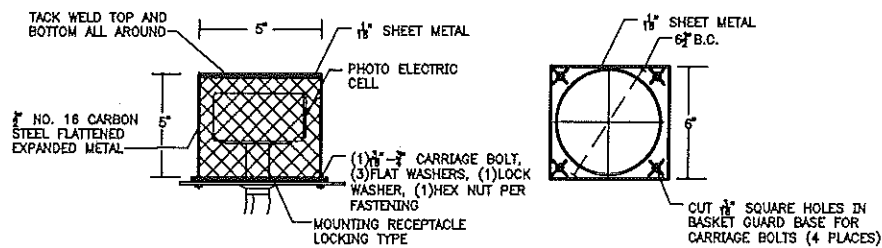
DEMAND LOAD CALCS:	CONTINUOUS KVA:	X	1.25	=	15.4
	RECEPTACLE KVA:	X	1.00	=	0.0
	KITCHEN EQUIPMENT LOADS (NONE):	X	1.00	=	0.0
	OTHER LOADS:	X	1.00	=	0.0
	TOTAL DV KVA:			=	15.4
	TOTAL DV AMPERES:			=	32.0



NOTES

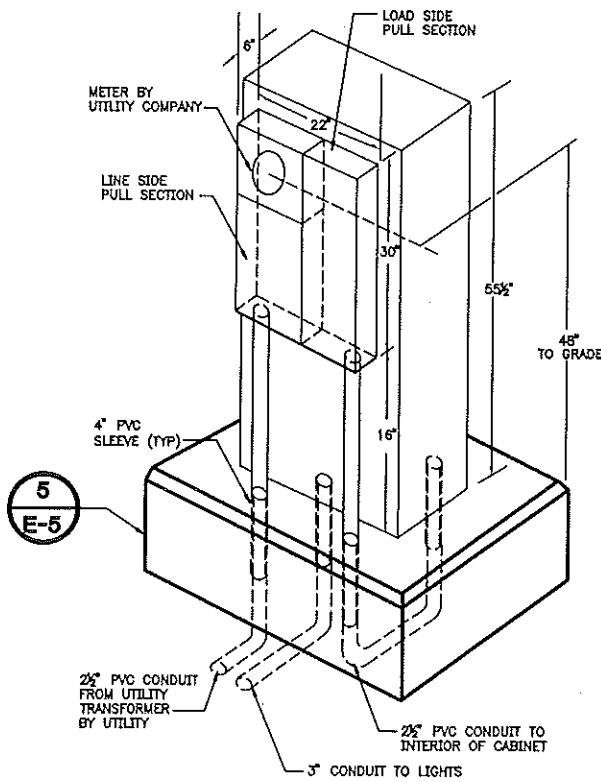
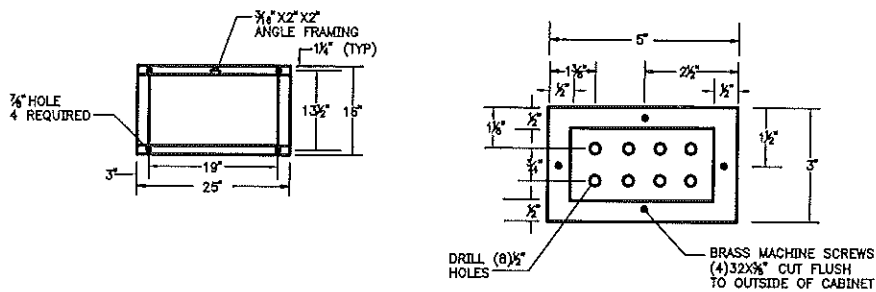
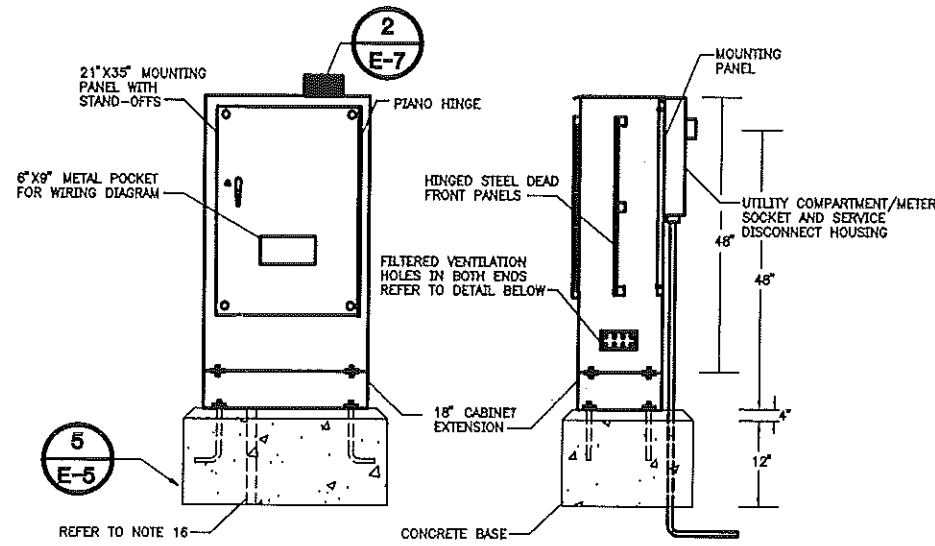
- ORIENT PHOTO ELECTRIC CELL TO FACE NORTH.
- ALL CONDUIT CONNECTIONS SHALL BE WATERTIGHT.
- REFER TO PHOTO ELECTRIC CELL SPECIFICATIONS.

MOUNTING DETAIL



BASKET GUARD DETAIL

2 PHOTO ELECTRIC CELL MOUNTING DETAIL
SCALE: NONE



1 CONTROL CENTER SERVICE ENCLOSURE
SCALE: NONE

REVISION
1 ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007

CEI CAMPOS ENGINEERING, Inc.
CONSULTING ENGINEERS
2102 Reynolds Avenue
Dallas, Texas 75201
CE Project #770140
214 894-8211
214 261-8288 (TX)

STATE OF TEXAS
JERRY O. NEISE
73547
REGISTERED PROFESSIONAL ENGINEER

NOTES

- INSTALL FREE STANDING AND SELF-SUPPORTING CONTROL CENTER CABINET, PER THE DRAWINGS, NEMA 3R CONSTRUCTION. USE ALUMINUM ALLOY, THICKNESS 0.125", FOR CABINET HOUSING AND DOORS.
- USE HELIARC WELDING METHOD FOR ALL EXTERNAL AND INTERNAL CONTINUOUS WELDS. MAKE WELDS FREE OF CRACKS, BLOW HOLES AND OTHER IRREGULARITIES. MAKE INSIDE AND OUTSIDE EDGES OF CABINET FREE OF BURRS AND PROVIDE SMOOTH, UNIFORM AND NATURAL ALUMINUM FINISH.
- MAKE FULL HEIGHT DOORS WHICH USE STAINLESS HINGES AND HAVE DOOR STOPS AND LOCKS.
- USE TAMPER-PROOF CABINETS SO AS TO PREVENT INSERTION OR WIRES OR OBJECTS INSIDE THE CABINET BY UNAUTHORIZED PERSONS.
- PROVIDE BOLT-ON CIRCUIT BREAKERS.
- PROVIDE A SLOPED SURFACE ON THE TOP OF THE CABINET SO AS TO PREVENT WATER ACCUMULATION.
- PROVIDE DOUBLE FLANGED DOOR OPENINGS ON ALL (4) FOUR SIDES TO INCREASE STRENGTH AROUND THE OPENINGS AND ALSO TO KEEP AWAY ANY LIQUID OR DIRT FROM ENTERING THE ENCLOSURE WHEN THE DOOR IS OPENED.
- USE DOOR RESTRAINTS TO PREVENT DOOR MOVEMENT WHEN OPENED IN WINDY CONDITIONS.
- FURNISH GASKETING FOR DOORS WHICH SATISFY PHYSICAL PROPERTIES AS FOUND IN UL 508 TABLE 21.1. MAKE WEATHER-TIGHT SEALS BETWEEN THE CABINET AND THE DOOR.
- USE 1/4-20 300 SERIES STAINLESS STEEL BOLTS AND 300 SERIES STAINLESS STEEL NY-LOCK NUTS FOR BOLTING HINGES TO THE CABINET AND THE DOOR.
- FURNISH HINGES MADE OF 075-14 GAUGES 300 SERIES STAINLESS STEEL. WELD THE TOP AND BOTTOM OF THE HINGE PIN TO RENDER IT TAMPER PROOF.
- FURNISH GASKETING FOR BOLT HOLES WHICH MEET OR EXCEED THE REQUIREMENT OF A NEMA 3R RATING.
- REFER TO SPECIFICATIONS FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.
- THE DOOR SHALL BE RAINTIGHT AND DUSTPROOF.
- INSTALL 5/8" DIA. BY 10' COPPER CLAD GROUND ROD WITH CLAMP.
- IN UNPAVED AREAS A RAISED PCC PAD 36" X 4" X WIDTH OF FOUNDATION, SHALL BE PLACED IN FRONT OF THE CABINET. PAD SHALL BE SET 2" BELOW THE FOUNDATION ELEVATION. SLOPE PAD AWAY FROM CABINET.
- USE AN APPROVED SILICON SEALER RTV TYPE GREY IN COLOR OR CLEAR, BETWEEN CABINET AND FOUNDATION.
- UTILITY COMPANY SHALL PROVIDE AND INSTALL THE TRANSFORMER, TRANSFORMER PAD, CONDUIT, AND WIRING TO METER. THE UTILITY WILL PROVIDE THE METER BASE TO BE INSTALLED BY CONTRACTOR.
- COORDINATE THE CONTROL CENTER LOCATIONS AND EQUIPMENT SPACING WITH THE UTILITY COMPANY, PROVIDE A SHOP DRAWING WITH DIMENSIONS FOR EACH UTILITY SERVICE LOCATION. SHOW THE PROPOSED UTILITY EQUIPMENT AND CONTROL CENTER LOCATIONS. SUBMIT TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO INSTALLING EQUIPMENT.

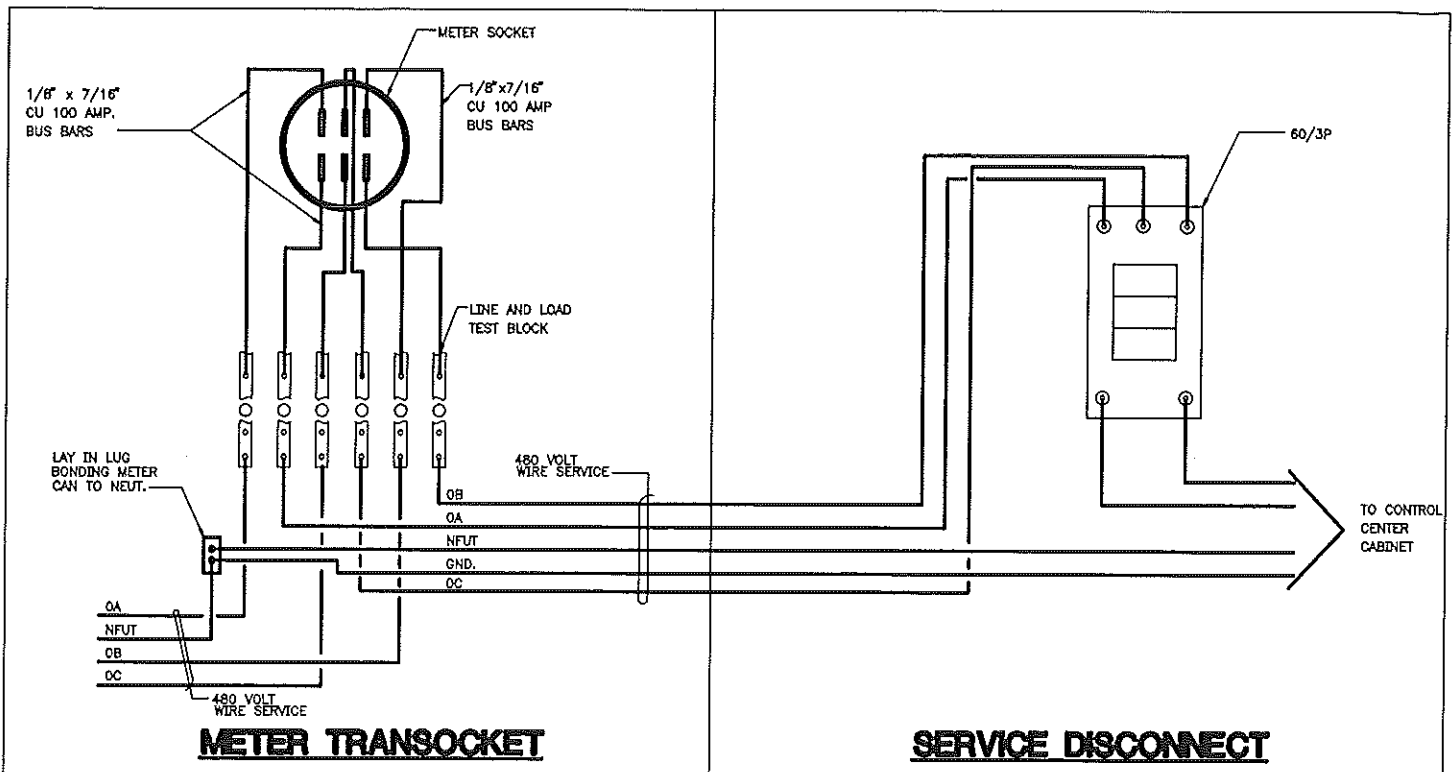


TOWN OF ADDISON, TEXAS

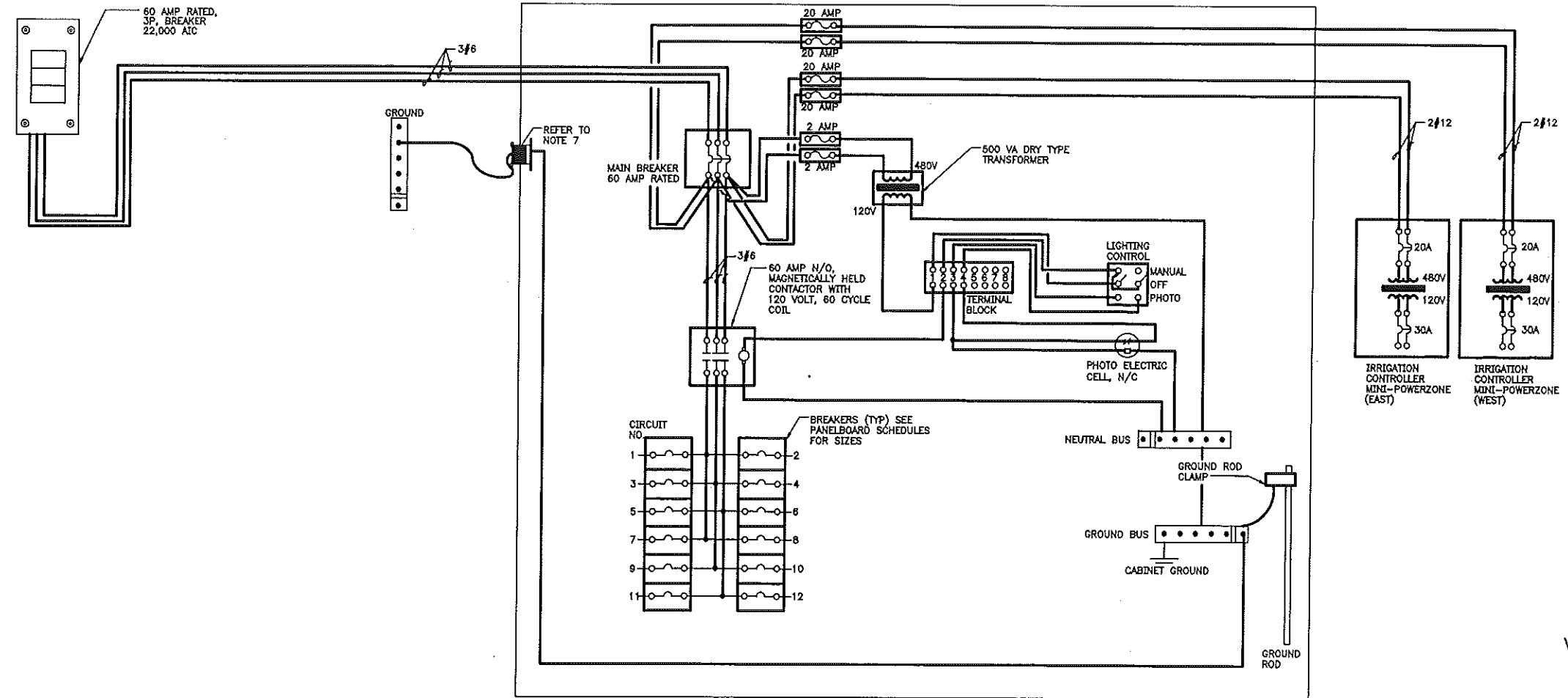
**ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD LANDSCAPE/LIGHTING**
BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: JAC
PROJECT: 2002 102
DRAWN BY: JAC
DATE: OCTOBER 24, 2007
SHEET NO. E-7 (68)
OF SHEETS

USER: JAC
DRAWING: 2002 102
FILE NAME: L75151049 ADDISON ROAD DRAWINGS E7-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000



- NOTES**
1. ALL SERVICE CONDUCTORS AND SWITCHES SHALL BE 60 AMP CAPACITY.
 2. ALL COMPONENTS ON 480 VOLT CIRCUIT SHALL BE RATED FOR 600 VOLT OPERATION. PHOTO ELECTRIC CONTROL EQUIPMENT SHALL BE U.L. LISTED AND RATED FOR 120 VAC OPERATION. ALL OTHER COMPONENTS SHALL BE RATED FOR 250 VOLT OPERATION.
 3. TYPICAL COMPONENT INSTALLATIONS ARE SHOWN, LEAVE SPACE FOR FUTURE INSTALLATIONS.
 4. ALL COMPONENTS SHALL BE INTERIOR MOUNTED.
 5. ALL LIVE ELECTRICAL COMPONENTS SHALL BE PROTECTED BY A DEAD-FRONT PANEL.
 6. ROUTE BARE COPPER SOLID GROUND CONTINUOUS FROM SERVICE GROUND BUS, THROUGH GROUND BUSHING, THROUGH LOAD CENTER GROUND BUS, TO GROUND ROD CLAMP.
 7. 2\"/>



1 CONTROL CENTER WIRING DIAGRAM
 E-8 SCALE: NONE

REVISION
 ⚠ ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007

CEI CAMPOS ENGINEERING, Inc.
 CONSULTING ENGINEERS
 1120 Grandview Avenue
 Dallas, Texas 75241
 CEI Project #21142.00
 (214) 884-2211
 (214) 381-2200 (FAX)



GRAPHIC SCALE:
 1" = 10'-0"

0 5' 10' 20' 30' 40'

TOWN OF ADDISON, TEXAS

ADDISON ROAD IMPROVEMENTS
 BELT LINE ROAD TO ARAPAH0 ROAD PHASE I
 ADDISON ROAD LANDSCAPE/LIGHTING

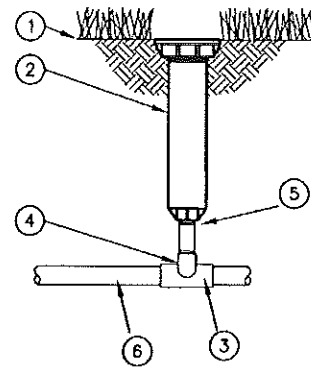
BIRKHOFF, HENDRICKS & CONWAY L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

DESIGNED BY: JCN PROJECT: 2007 102 SHEET NO. E-8 (60)
 DRAWN BY: JAC. DATE: OCTOBER 24, 2007 OF SHEETS

2302 77

USER: PW-ADDISON-CAUTRO
 FILE: C:\P\1015\1015-ADDISON-ROAD\DRAWING\REV...
 TIME: 24 OCT 2007 - 12:49PM

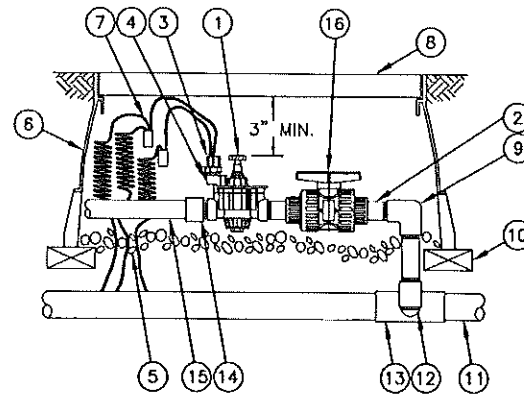
RAIN BIRD 1800 SERIES



- 1 FINISH GRADE/TOP 1/2" ABOVE TOP OF MULCH
- 2 POP-UP SPRAY SPRINKLER: RAIN BIRD 1800
- 3 PVC SCH 40 FITTING
- 4 PVC SCH 40 ELL
- 5 6" GREEN NIPPLES CUT TO FIT.
- 6 PVC LATERAL PIPE

INSTALLATION DETAIL
NO SCALE

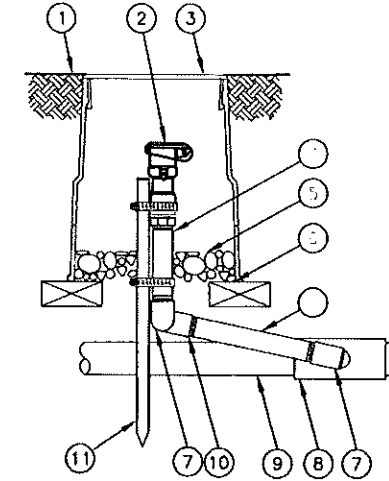
REMOTE CONTROL VALVE WEATHERMATIC 11000CR SERIES



- 1 Weathermatic 11000 FCR SERIES REMOTE CONTROL VALVE
- 2 INSTALL THREADED MALE ADAPTER WITH TELFON TAPE/TYP.
- 3 SOLENOID
- 4 MANUAL BLEED LEVER
- 5 4.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 6 AMETEK RECTANGULAR PLASTIC BOX
- 7 EXPANSION COIL & WATERPROOF CONNECTOR
- 8 FINISH GRADE/TOP 1/2" ABOVE TOP OF MULCH
- 9 PVC SCH. 40 ELBOW
- 10 BRICK (1 OF 4)
- 11 SCH. 40 MAINLINE PIPE
- 12 PVC SCH. 40 ELL
- 13 PVC SCH. 40 TEE OR ELL
- 14 PVC SCH. 40 MALE ADAPTER
- 15 PVC LATERAL PIPE
- 16 PVC BALL VALVE

INSTALLATION DETAIL
NO SCALE

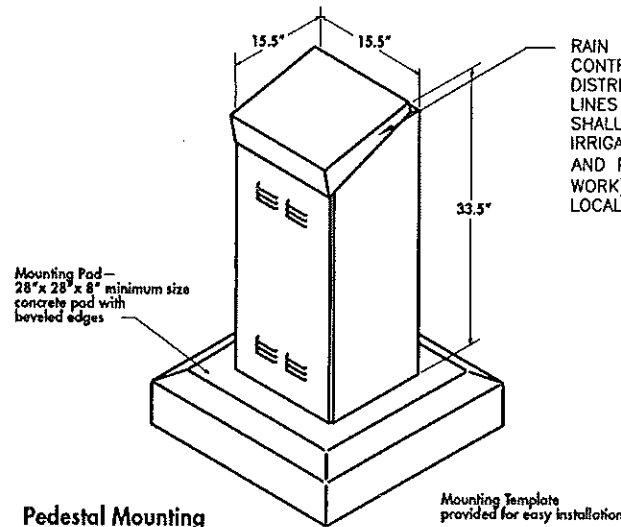
QUICK COUPLER VALVE BUCKNER V075



- 1 FINISH GRADE/TOP 1/2" ABOVE TOP OF MULCH
- 2 QUICK-COUPLING VALVE: BUCKNER V075
- 3 10" ROUND PLASTIC AMETEK VALVE BOX.
- 4 PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- 5 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 6 BRICK (1 OF 2)
- 7 PVC SCH 40 STREET ELL
- 8 PVC SCH 40 TEE OR ELL
- 9 PVC MAINLINE PIPE
- 10 PVC SCH 40 ELL
- 11 1/2" Dia X 18" STEEL REBAR WITH STAINLESS STEEL WORM SCREW CLAMP.

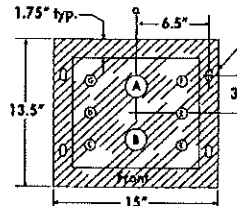
INSTALLATION DETAIL
NO SCALE

EVOLUTION DX2 STAINLESS STEEL PEDESTAL CABINET INSTALLATION



RAIN MASTER EVOLUTION DX-2 CONTROLLER-ELECTRICAL POWER DISTRIBUTION AND PHONE SERVICE LINES TO THE IRRIGATION CONTROLLERS SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. THE ELECTRICAL AND PHONE LINES (AND ALL RELATED WORK) SHALL BE INSTALLED PER ALL LOCAL, STATE AND NATIONAL CODES.

Pedestal Mounting

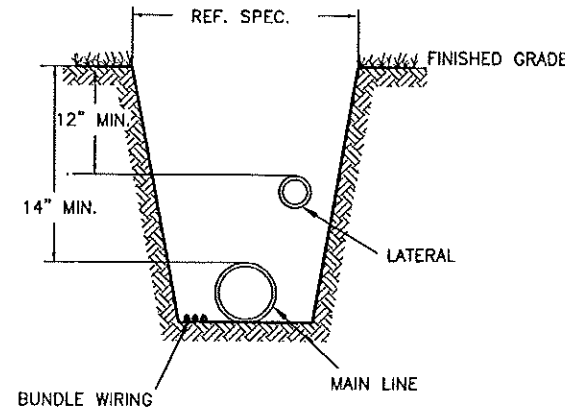


Bolt Holes - stainless steel hardware standard with enclosure

Item	Description
A, B	2" conduit - station wiring
C	1" conduit - communication
D	AC power conduit
E	1" conduit - sensor wiring
F	External antenna
G	Grounding rod

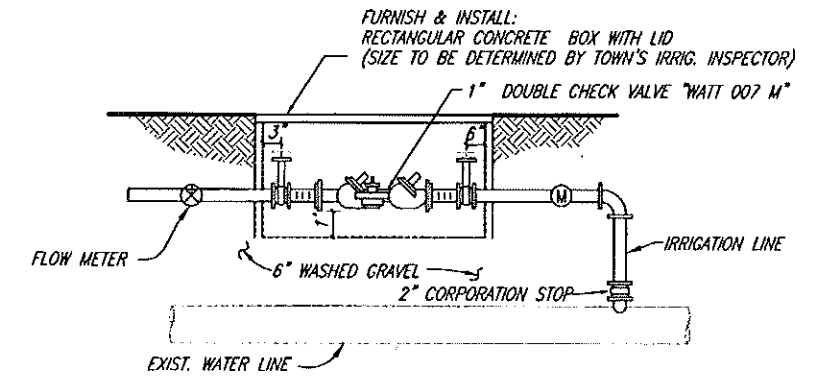
Bolt and Conduit Template

INSTALLATION DETAIL
NO SCALE



TRENCHING DETAIL
NO SCALE

DOUBLE CHECK VALVE ASSEMBLY



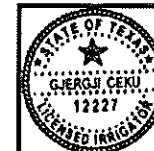
INSTALLATION DETAIL
NO SCALE

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TOWN OF ADDISON, TEXAS

ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD IRRIGATION NOTES & DETAILS

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas



DESIGNED BY: G.C. PROJECT: 2002 102 SHEET NO. 61
DRAWN BY: B.H. & C. DATE: APRIL 2007 OF SHEETS

REVISIONS: 5/2/07 - CCEKU
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PLOT SCALE: 1/2
PLOT STYLE: 11x17.ctb
PLOTTED BY: CCEKU ON 12/6/2007

Town of Addison Irrigation Specifications

Revised 04/22/04

These revised specifications supersede any and all others. However, any discrepancies between the approved construction plans and those of the Town **MUST** be brought to the attention of the Town's designated representative for a final determination. The contractor will present the Town's representative an as-built plan at the final walk-through, along with three Buckner V075 quick coupling keys with hose-end swivels.

1. All work is to be accomplished by or directly supervised at all times by an on-site Irrigator licensed by the State of Texas.

2. The contractor shall verify the water pressure before the installation begins. If the static pressure is different than that of the design pressure, contact the designer and Town's representative immediately so changes can be made. Send a fax to the Parks Dept. at 972-450-2834 with the current dated and timed static pressure reading. Design head to head with no single head coverage. Use appropriate size nozzles for a given landscape area so as not to spray onto or over paved surfaces or structures. Do not exceed manufacturer's recommendations.

3. The Irrigation installer is responsible for resetting head and/or box height due to settling and after turf, groundcover, shrubs, trees, and mulch is added to the landscape areas. The Irrigation contractor must supply a workmanship warranty for (1) year from date of acceptance.

4. Plans are diagrammatic and field adjustments are often necessary. For this reason, prior to trenching, valve locations and head layout with flags needs to be done and approved by the Town's Irrigation Inspector. Not doing so may result in the relocation of heads and/or valves at the Irrigation contractor's expense.

5. **Water Taps:** Water taps will be 2" in size. All parts must conform to the Town of Addison Water Department specifications and are the responsibility of the Irrigation contractor to provide. Inspection of taps by the Water Department Representative **must** occur. Excavation and tap permits are required. Contact the Town of Addison Water Department at (972) 450-2871.

6. **Water Meters:** Only Master or Hersey meters with two (2) brass flanges are acceptable. Meter lay lengths must be in accordance with the Town of Addison Water Department's specifications, housed in appropriate size (to be determined by the Town's Irrigation Inspector) concrete box with lid. New stainless steel bolts and nuts must be used in the installation along with new neoprene gaskets. The box should be level with the final grade using concrete pavers to support and prevent sinking. Backfill inside the box, 3" below meter base with at least 6" of fine (1/2") pea gravel. Connection to main must be approved and inspected by the Town's Water Department Inspector and all tap materials are to be purchased at the expense of the contractor and must comply with the Town of Addison's specifications.

7. **Backflow Devices:** Only Watts 007 H series inline check valve assemblies with the stainless steel ball valve handles and nuts are to be used. Irrigation contractor shall provide and install brass plugs for the test cocks. Connect to the flange using teflon taped copper nipple of sufficient length to center the DCA within its housing.

8. **Rotors -** Only Hunter I-20 Series are permitted, unless noted otherwise. Install 1/4" above finished grade.

14. **Risers:** Use Sch 80 PVC with Weathermatic LXS Series shrub head adapters with a 1/2"x6" green poly cut-off nipple screwed into the threaded fitting in the ground and a threaded coupling between the two. The Irrigation Inspector reserves the right to determine placement of risers versus pop-ups.

15. **Wiring:** All wires will be 14 gauge UF. Station wires will be red. Common wires will be white. Master valve wire will be blue. Anytime the wiring changes direction, such as at an elbow or a tee, allow a loop of at least 12 inches alongside the fitting at that location. Only continuous wire runs are permissible. Wires should follow the main line where possible and lay along a single side not crossing over lateral lines. Wire is to be placed under mainline with 2" of dirt between wire and pipe.

16. **Wire Connectors:** Use only DBY connectors for all field wire splices other than at the valves themselves. Allow at least 36 inches of pigtailed wire at each splice. Use King-Dog-Step tan colored connectors for all valve splices. All valve box splices are to be housed in standard (large) Ametek rectangular plastic valve boxes. All field splices are to be in 10 inch round Ametek plastic valve boxes or standard, large rectangular Ametek plastic valve boxes at the discretion of the Town's representative. Number of splices is determining factor for choice of box size.

17. **Backfilling:** Prior to any backfilling of trenches, an inspection by the Town's Irrigation representative must take place and any necessary changes implemented; otherwise manual excavation to enable proper inspection will be necessary. Use clean and approved topsoil to backfill all pipe to depth. All heads and boxes are to be backfilled to grade with clean topsoil. No rocks greater than 1 inch are allowed. Compact trenches to alleviate settling. Minimal depth of coverage is 12 inches.

18. Valve sequencing must be performed by the contractor and in an order approved by the Town Irrigation Inspector. At least 12 inches of extra station wiring within the bottom of the pedestal is necessary for each zone and must be of neat and orderly appearance.

19. Any deficiencies in coverage noted by the Town's Irrigation Inspector will be rectified at the cost of the contractor.

20. **Controller:** A Town Irrigation representative will determine the type of controller to be used. All controllers shall have a concrete pad of 36"x36"x6". Pad will be set at 3" above final grade. Install the controller after the concrete pad is completely cured (two days). Use only appropriately sized stainless steel bolts, washers and nuts to secure the controller to the concrete pad. All wiring is to enter the pedestal via appropriately sized PVC green elbows extending at least 1" thru and 6" out from under the pad. Control/master valve wiring, flow meter wiring and 120-V service wiring are to be separated with each having its own access elbow. An additional spare 1/2" sweep elbow for phone service is to be installed as well. All national and local codes must be followed during the installation.

A. **A/C controller -** Only Irritol MC Plus controllers will be acceptable. Both Mini-click rain and freeze sensors will be installed and placed where they can operate properly. All non-Rain Master controllers must be permanently wired for quick attachment to a Rain Master remote control unit.

The device will be housed in an appropriate size, (to be determined by the Town's Irrigation Inspector) rectangular concrete box with lid using concrete pavers for proper stability and use extensions to adjust height. The Irrigation contractor shall be responsible for the DCA testing in accordance with State of Texas law, using a Licensed Backflow Assembly Tester registered with the Town of Addison Water Department.

9. **Sleeves:** All paving must have Town approved sleeve sizes and quantities present. It is the responsibility of the Irrigation contractor to notify the Town's Irrigation Inspector of any area where sleeves should be present but are not and provide such materials at his cost. Any paving installed without sleeves will necessitate a bore and subsequent materials at the Irrigation contractor's expense. All sleeves 2" and smaller will be Schedule 40 PVC with size and location noted on the plan. Larger sizes will be Class 200. All piping underneath paving, including sidewalks, must be sleeved. All sleeves are to be belled end PVC pipe. A minimum length of 12 inches of sleeve material must extend beyond the pavement.

9. **Glue and Primer:** Use Turfbite brand glue on laterals and IPS Grey Heavy Body on main lines and a good quality purple primer on all. Avoid excessive use and wipe excess glue off of all joints and fittings with a clean rag.

10. **Pipe:** All main line pipe 2 inches and smaller is to be Schedule 40 belled PVC; larger sizes are to be Class 200 belled PVC with a minimum depth of 14" and a maximum depth of 16". Put not more than two (2) pipes in any one trench and separate the main line from the lateral line with at least two (2) inches of cover. Class 200 belled PVC lateral piping is to be used with a minimum depth of 12" and a maximum depth of 14".

11. **Fittings:** No crosses are permitted. Separate tees, 45's, elbows and other fittings by at least 12 inches. Reduction tees are preferred over use of single reducer bushings. Multiple reducer bushings will not be accepted. Only Spears and/or Lasco fittings are permitted. Allow 18 inches outside of sleeve before the first fitting. No 45 degree elbows on 1 inch and larger pipe are allowed.

12. **Valves:**
A. **Master Valves:** Every point of connection to the water supply system shall have a Weathermatic 11000 FCR series valve as the Master Valve, housed in a standard (large) Ametek rectangular plastic valve box with 4 to 6 inches of small (1/2") pea gravel placed underneath the valve in such a manner as to prevent soil infiltration into the box. Use concrete pavers or bricks placed under edges of valve box for stability. Note: Valve box must not rest on pipe. Blue wire shall be used as the station wire for the Master Valve.
B. **Station Valves:** Only Weathermatic 11000 FCR series valves are permitted. A Ball Valve will be installed before every station or zone valve. They are to be located within a standard (large) Ametek rectangular plastic valve boxes with 4 to 6 inches of (1/2") pea gravel placed underneath the valve in such a manner as to prevent soil infiltration into the box. The pea gravel should be 2 inches from the bottom of the valve body. A minimum of 3" inches of valve box must extend below bottom of valve. If necessary use valve box extensions.

C. **Ball Valves:** Female threaded plastic Spears or Lasco ball valves with positive T-handle cut off must be installed on every 200 feet of mainline for

isolation purposes. A ball valve is also required to be installed before every station valve. Use 10" Ametek valve box with a minimum of 3" extending below bottom of valve and fill to bottom of valve with 1/2" pea gravel. Use bricks or concrete pavers under box for stability.

D. **Quick Coupler Valves:** Use only Buckner V075 single lug 3/4" quick coupling valves with a metal top. They are to be connected to a threaded fitting. Teflon tape and appropriate length of gray schedule 80 nipples and schedule 40 fittings are to be used for the swing joint. Secure to 18 inch by 1/2 inch steel rebar with a stainless steel worm screw clamp. House QCV in a 10 inch round plastic Ametek valve box. Install Spears ball valve prior to each QCV. Bricks or pavers need to be installed under edges of valve boxes for stability. Backfill bottom of box with 1/2" pea gravel half way up body of valve.

E. **Flowmeters:** Purchase from a Rain Master supplier and install appropriately sized Data Industrial flowmeter. Follow all installation instructions as approved by Rain Master. The Irrigation contractor must also purchase from Rain Master and install shielded Rain Master EV-Cab-Sen flow meter cable and install within continuous 3/4" or larger gray PVC conduit with 6 inch or larger J-boxes placed every 200 feet or where 360 degrees of fittings are installed; only sweep fittings are permitted. Only a continuous run of cable is allowed; no splices will be allowed except at the point of connection to the flow meter. Connections at the flow meter must first be soldered and then water proofed within a 3-M DBY connector. Note: certain Rain Master requirements must also be met regarding installation order and distances of separation between DCA, flow meter, master valve and the first fitting. It is the responsibility of the Irrigation contractor to adhere to these requirements. At final walk through, proper operation of the flow meter at the Rain Master controller must be demonstrated by the Irrigation contractor.

13. **Heads:** All heads will be installed using polyethylene green nipples (1/2"x6" for rotors and 3/4"x6" for pop-ups) screwed into threaded fittings unless noted otherwise. No swing joints on 4" pop-ups or rotors will be allowed.
A. **Pop-ups -** Only Rainbird 1800 series are permitted. Install 1/4 inch above the finished grade.
a. **4 inch pop-ups:** turf, tree bubblers within turf areas (use Hunter PCN 10 bubbler nozzles on spray heads).
b. **6 inch pop-ups** with no side inlet: very low ground cover (less than 6 inches at mature height).
c. **12 inch pop-ups** with side inlet: Ground cover and low growing shrubs. The ground cover and shrubs should not be more than 12" at maturity. The Town Inspector reserves the right to determine if and when side inlets installed using funny pipe versus the bottom inlet will be allowed. When authorized, use Hardie Blue Line Pipe with Toro barb fittings.
d. Use 1/2" Sch 80 risers with schrubb adapter and Hunter PCN 10 bubbler nozzles for all tree wells with tree grates. Risers shall be a minimum of 2" below bottom of tree grates with nozzle 2" above mulch.

B. **Battery and/or Solar Operated Controllers -** Only LEIT controllers will be acceptable. Install rain or freeze sensors on these controllers with SKIT8821-4 installation kit. Install on galvanized thick wall poles and set controller panel to height above finished grade to be determined by Town's representative.

C. **Rain Master:** Only an approved size Rain Master Evolution DX-2 controller with a stainless steel pedestal and heavy duty transient protection is permitted. The controller must include all necessary hardware to ensure reliable communication and operation with the Town's central control located at 16801 Westgrove. Installation must include the following Rain Master hardware, purchased only from a Rain Master supplier: DX-03 sensor board, DX-PH phone communication option, Data Industrial flow meter (same size as the mainline), and shielded EV-CAB-SEN flow meter cable. It is the Irrigation contractor's responsibility to entail the cost of and work in conjunction with South Western Bell Telephone to establish a dedicated phone service and install an interface within the pedestal at each controller location via direct burial cable within 1" PVC conduit. The entire installation must conform to Rain Master specifications and be approved by the Town's Irrigation Inspector prior to and be inspected during installation. Such specifications will include grounding and pad configurations and distances of separation from water meter to DCA to master valve to flow meter and the first fitting. A functional Mini-click freeze and rain sensor with a Hunter bypass switch must be installed in an approved location and by an approved method. For part numbers and pricing of any Rain Master equipment, contact Mark Stricker of John Deere Landscapes at 972-881-0205. For technical questions, call John DuBose of RainMaster at 214-632-2289.

21. Communication is the key. If you are unsure, CALL Ron Lee, the Operations Manager of the Addison Parks Department at (972) 450-2863.

NOTE. -The irrigation system has been designed to operate with minimum static water pressure of 50 p.s.i., and total demand of 26 gpm. Notify Town's representative if any discrepancy arises.

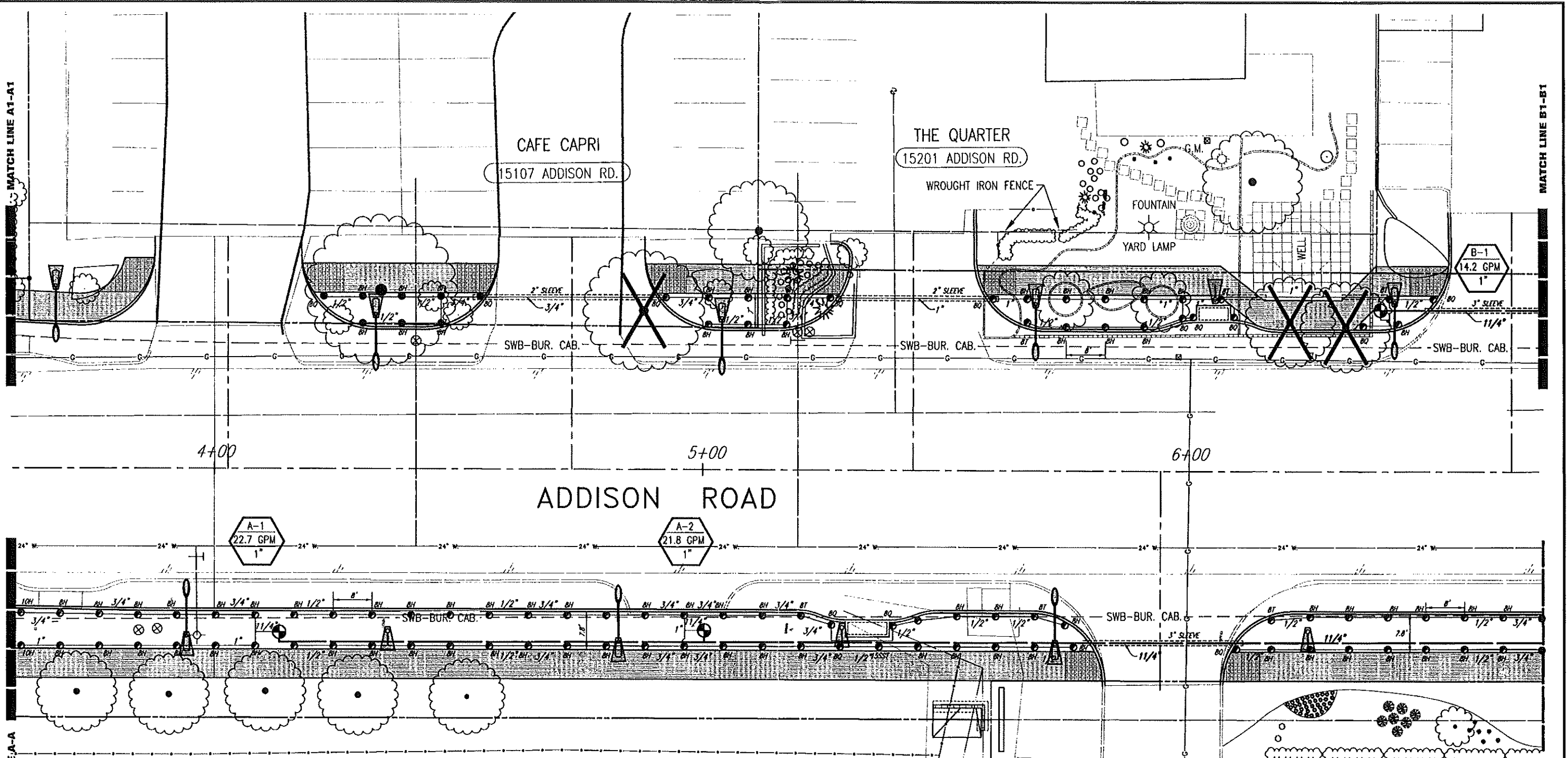
-Contractor shall verify nozzle sizes in field for MPR and head to head coverage. Contractor to minimize overspray. No overspray onto pavement shall be accepted.

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TOWN OF ADDISON, TEXAS			
ADDISON ROAD IMPROVEMENTS BELT LINE ROAD TO ARAPAHO ROAD PHASE I ADDISON ROAD IRRIGATION NOTES & DETAILS			
BIRKHOFF, HENDRICKS & CONWAY, L.L.P. CONSULTING ENGINEERS Dallas, Texas			
DESIGNED BY:	G.C.	PROJECT:	2002 102
DRAWN BY:	B.H. & C.	DATE:	APRIL 2007
			SHEET NO. 62 OF 68 SHEETS

PLOTTED BY: GCDU ON 12/6/2007
 PLOT STYLE: 11x17D.ctb
 PLOT SCALE: 1:20
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 REVISION: 5/2/07 - GCDU



NOTE:

- PRIVATE OWNER SHALL BE RESPONSIBLE FOR RESTORING 100% COVERAGE AND AUTO-OPERATION. PRIVATE PROPERTY SPRINKLERS SHALL BE FIELD LOCATED, CAPPED FOR CONSTRUCTION, REPAIRED TO MAKE OPERATIONAL. ALSO NOTE CONTRACTOR SHALL RUN PRIVATE SYSTEMS IN THE PRESENCE OF OWNER TO VERIFY CONDITIONAL OF SYSTEM BEFORE CONSTRUCTION ACTIVITIES. EXISTING PLANT MATERIAL TO REMAIN. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER AND MAINTAINING EXISTING LANDSCAPE IRRIGATION.
- ALL NEW PROPOSED REMOTE CONTROL VALVES TO BE LOCATED AWAY FROM STREET, CLOSE TO SIDEWALK.
- LOCATION OF IRRIGATION WATER SERVICE, VALVING AND CONTROLLER TO BE LOCATED IN THE FIELD BY THE TOWN OF ADDISON.
- IRRIGATION CONTRACTOR TO RUN ELECTRICAL CONDUIT AND CONDUCTORS BETWEEN ELECTRICAL SERVICE PANEL AND SEPARATE CONTROLLER 20 AMP. CIRCUIT FOR EACH CONTROLLER IS SHOWN IN THE ELECTRICAL PLANS.
- USE APPROPRIATE NOZZLES TO CONFINE WATER TO LANDSCAPED AREAS.

4901 BELT LINE ROAD

LEGEND

- PVC CLASS 200 PLASTIC PIPE (LATERAL LINE)
- PVC SCHEDULE 40 PLASTIC PIPE (MAIN LINE)
- RAIN BIRD 1804 POP-UP SPRAY HEAD
- RAIN BIRD 1806 POP-UP SPRAY HEAD
- RAIN BIRD 1812 POP-UP SPRAY HEAD
- CONTROLLER
- DOUBLE CHECK VALVE ASSEMBLY (DCA)
- WATER METER
- ELECTRIC REMOTE- CONTROL VALVE
- NUMBER OF STATIONS
- TOTAL GALLONS PER MINUTE
-

PROP. STREET LIGHT

PROP. PEDESTRIAN LIGHT

RAIN BIRD NOZZLE SERIES MPR
OPTIMUM PRESSURE 30 PSI.

NOZZLE	RADIUS(FT)	FLOW(GPM)	PRECIP.(in/h)
BH	8	0.52	1.58
BT	8	0.35	1.58
BO	8	0.26	1.58
10H	10	0.79	1.52
12H	12	1.30	1.74
15H	15	1.85	1.58
15Q	15	0.92	1.58
15CST	4X30	1.21	1.58
15EST	4X15	0.81	

NOTE:
USE VAN Series NOZZLES WATERING ODD-SHAPED AREAS. SEE SHEET No. 61 & 62, FOR IRRIGATION DETAILS AND NOTES

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TOWN OF ADDISON, TEXAS

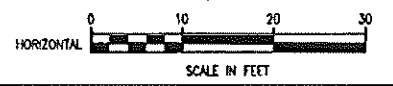
ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD IRRIGATION

BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: G.C.
DRAWN BY: B.H.&C.

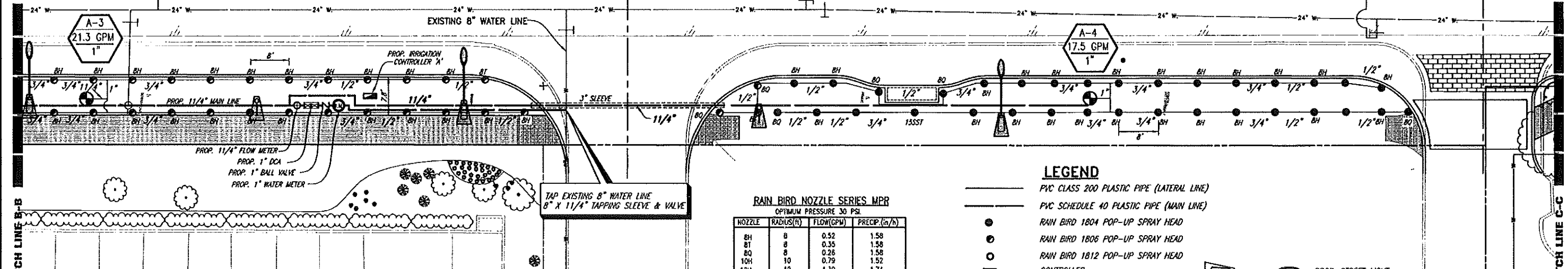
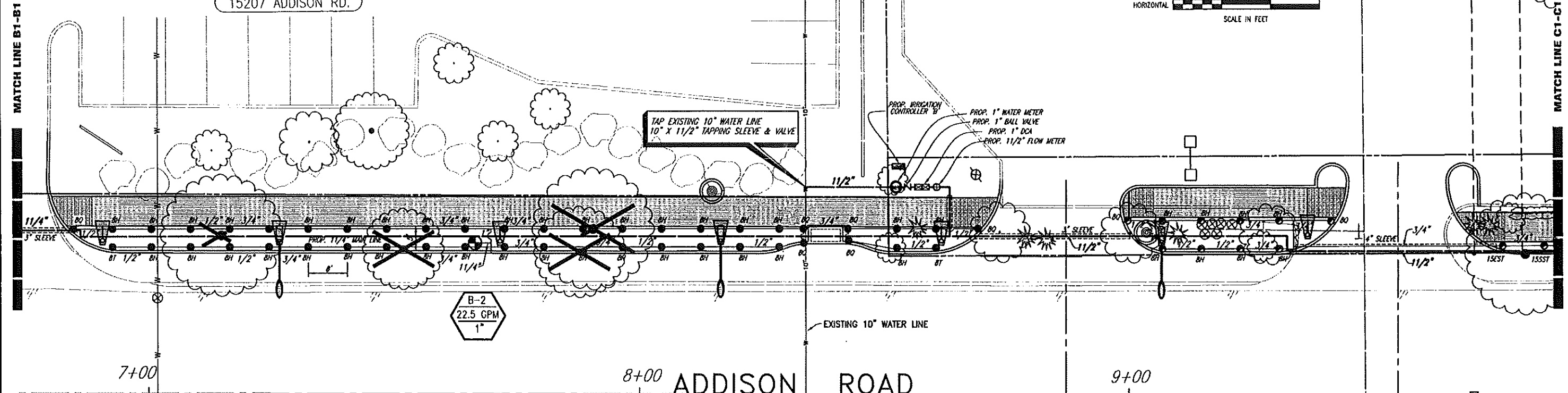
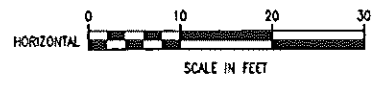
PROJECT: 2002_102
DATE: APRIL 2007

SHEET NO. 58
OF 68 SHEETS



REVISION: 5/2/07 - GCEU
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 PLOT SCALE: 1:20
 PLOT STYLE: 111170.ctb
 PLOTTED BY: GCEU ON 12/6/2007

SAMBUCA
15207 ADDISON RD.



NOTE: 1. PRIVATE OWNER SHALL BE RESPONSIBLE FOR RESTORING 100% COVERAGE AND AUTO-OPERATION. PRIVATE PROPERTY SPRINKLERS SHALL BE FIELD LOCATED, CAPPED FOR CONSTRUCTION, REPAIRED TO MAKE OPERATIONAL. ALSO NOTE CONTRACTOR SHALL RUN PRIVATE SYSTEMS IN THE PRESENCE OF OWNER TO VERIFY CONDITIONAL OF SYSTEM BEFORE CONSTRUCTION ACTIVITIES. EXISTING PLANT MATERIAL TO REMAIN. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER AND MAINTAINING EXISTING LANDSCAPE IRRIGATION.
 2. ALL NEW PROPOSED REMOTE CONTROL VALVES TO BE LOCATED AWAY FROM STREET, CLOSE TO SIDEWALK.
 3. LOCATION OF IRRIGATION WATER SERVICE, VALVING AND CONTROLLER TO BE LOCATED IN THE FIELD BY THE TOWN OF ADDISON.
 4. IRRIGATION CONTRACTOR TO RUN ELECTRICAL CONDUIT AND CONDUCTORS BETWEEN ELECTRICAL SERVICE PANEL AND SEPARATE CONTROLLER 20 AMP. CIRCUIT FOR EACH CONTROLLER IS SHOWN IN THE ELECTRICAL PLANS.
 5. USE APPROPRIATE NOZZLES TO CONFINE WATER TO LANDSCAPED AREAS.

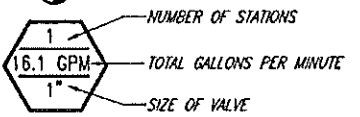
RAIN BIRD NOZZLE SERIES MPR
OPTIMUM PRESSURE 30 PSI

NOZZLE	RADIUS (ft)	FLOW (GPM)	PRECIP. (in/h)
BH	8	0.52	1.58
BT	8	0.35	1.58
BO	8	0.26	1.58
10H	10	0.79	1.52
12H	12	1.30	1.74
15H	15	1.85	1.58
15O	15	0.92	1.58
15CST	4X30	1.21	
15EST	4X15	0.61	

NOTE: USE VAN Series NOZZLES WATERING ODD-SHAPED AREAS. SEE SHEET No. 61 & 62, FOR IRRIGATION DETAILS AND NOTES

BIDJAAR BOUTIQUE HOTELS, LTD.
15200 ADDISON RD., SUITE

- LEGEND**
- PVC CLASS 200 PLASTIC PIPE (LATERAL LINE)
 - PVC SCHEDULE 40 PLASTIC PIPE (MAIN LINE)
 - RAIN BIRD 1804 POP-UP SPRAY HEAD
 - RAIN BIRD 1806 POP-UP SPRAY HEAD
 - RAIN BIRD 1812 POP-UP SPRAY HEAD
 - CONTROLLER
 - DOUBLE CHECK VALVE ASSEMBLY (DCA)
 - WATER METER
 - ELECTRIC REMOTE-CONTROL VALVE
 - PROP. STREET LIGHT
 - PROP. PEDESTRIAN LIGHT



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TOWN OF ADDISON, TEXAS
ADDISON ROAD IMPROVEMENTS
 BELT LINE ROAD TO ARAPAHO ROAD PHASE I
 ADDISON ROAD IRRIGATION



BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: G.C.
DRAWN BY: B.H.&C.

PROJECT: 2002 102
DATE: APRIL 2007

SHEET NO. 59
OF 68 SHEETS

PLOTTED BY: GCEKU ON 12/16/2007

PLOT STYLE: 11x17D.ctb

PLOT SCALE: 1:20

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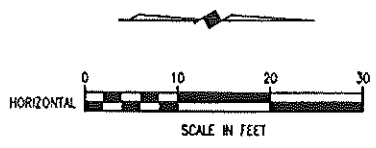
REVISED: 5/2/07 - GCEKU

MATCH LINE C1-C1

MATCH LINE C-C

MATCH LINE D1-D1

MATCH LINE D-D



NOTE: 1. PRIVATE OWNER SHALL BE RESPONSIBLE FOR RESTORING 100% COVERAGE AND AUTO-OPERATION. PRIVATE PROPERTY SPRINKLERS SHALL BE FIELD LOCATED, CAPPED FOR CONSTRUCTION, REPAIRED TO MAKE OPERATIONAL. ALSO NOTE CONTRACTOR SHALL RUN PRIVATE SYSTEMS IN THE PRESENCE OF OWNER TO VERIFY CONDITIONAL OF SYSTEM BEFORE CONSTRUCTION ACTIVITIES. EXISTING PLANT MATERIAL TO REMAIN. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER AND MAINTAINING EXISTING LANDSCAPE IRRIGATION.

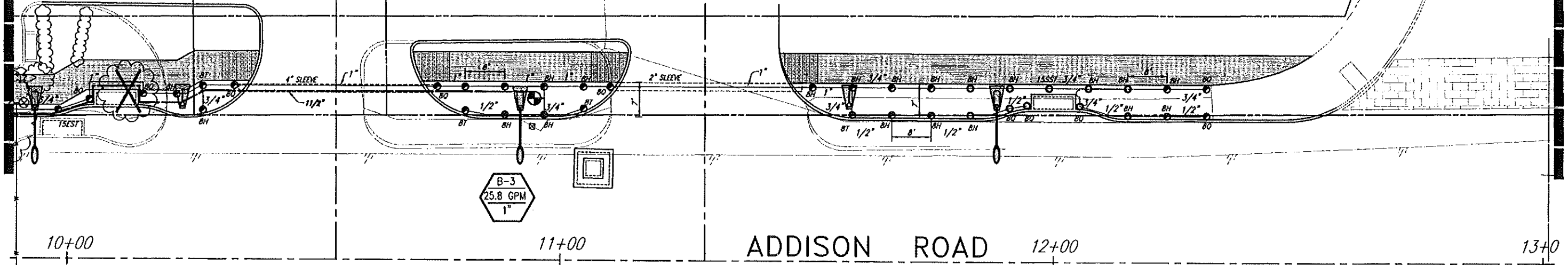
2. ALL NEW PROPOSED REMOTE CONTROL VALVES TO BE LOCATED AWAY FROM STREET, CLOSE TO SIDEWALK.

3. LOCATION OF IRRIGATION WATER SERVICE, VALVING AND CONTROLLER TO BE LOCATED IN THE FIELD BY THE TOWN OF ADDISON.

4. IRRIGATION CONTRACTOR TO RUN ELECTRICAL CONDUIT AND CONDUCTORS BETWEEN ELECTRICAL SERVICE PANEL AND SEPARATE CONTROLLER 20 AMP. CIRCUIT FOR EACH CONTROLLER IS SHOWN IN THE ELECTRICAL PLANS.

5. USE APPROPRIATE NOZZLES TO CONFINE WATER TO LANDSCAPED AREAS.

EXISTING PLANT MATERIAL TO REMAIN CONTRACTOR TO COORDINATE WITH PROPERTY OWNER ON MAINTAINING EXISTING LANDSCAPE IRRIGATION.



ADDISON ROAD

MINOL CENTRE
15280 ADDISON RD.

LEGEND

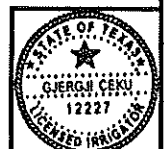
- PVC CLASS 200 PLASTIC PIPE (LATERAL LINE)
- PVC SCHEDULE 40 PLASTIC PIPE (MAIN LINE)
- RAIN BIRD 1804 POP-UP SPRAY HEAD
- RAIN BIRD 1806 POP-UP SPRAY HEAD
- RAIN BIRD 1812 POP-UP SPRAY HEAD
- CONTROLLER
- DOUBLE CHECK VALVE ASSEMBLY (DCA)
- WATER METER
- ELECTRIC REMOTE- CONTROL VALVE
- NUMBER OF STATIONS
- TOTAL GALLONS PER MINUTE
- SIZE OF VALVE
- PROP. STREET LIGHT
- PROP. PEDESTRIAN LIGHT

RAIN BIRD NOZZLE SERIES MPR
OPTIMUM PRESSURE 30 PSI

NOZZLE	RADIUS(ft)	FLOW(GPM)	PRECIP.(in/h)
BH	8	0.52	1.58
BT	8	0.35	1.58
BQ	8	0.28	1.58
10H	10	0.79	1.52
12H	12	1.30	1.74
15H	15	1.85	1.58
15Q	15	0.92	1.58
15CST	4X30	1.21	
15EST	4X15	0.61	

NOTE: USE VAN Series NOZZLES WATERING ODD-SHAPED AREAS. SEE SHEET No. 61 & 62, FOR IRRIGATION DETAILS AND NOTES

These plans and related specifications were prepared for construction of this specific project only. Reuse of these documents is not permitted without written authorization of Birkhoff, Hendricks, & Conway, L.L.P.



TOWN OF ADDISON, TEXAS
ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD IRRIGATION

BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: G.C. PROJECT: 2002 102 SHEET NO. 60
DRAWN BY: B.H.&C. DATE: APRIL 2007 OF 68 SHEETS

PLOTTED BY: CCECU ON 12/16/2007

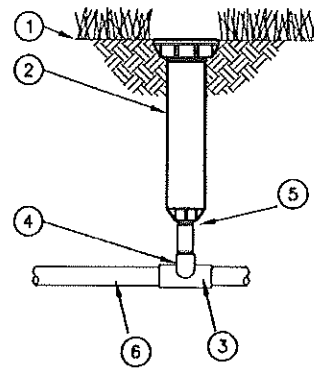
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PLOT SCALE: 1:2

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REVISED: 9/2/07 - CCECU

RAIN BIRD 1800 SERIES

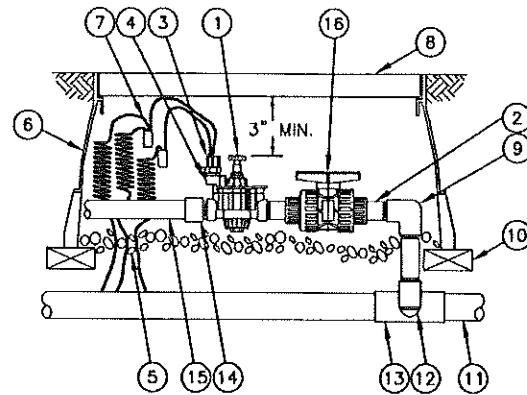


- ① FINISH GRADE/TOP 1/2" ABOVE TOP OF MULCH
- ② POP-UP SPRAY SPRINKLER: RAIN BIRD 1800
- ③ PVC SCH 40 FITTING
- ④ PVC SCH 40 ELL
- ⑤ 6" GREEN NIPPLES CUT TO FIT.
- ⑥ PVC LATERAL PIPE

INSTALLATION DETAIL

NO SCALE

REMOTE CONTROL VALVE WEATHERMATIC 1100QCR SERIES

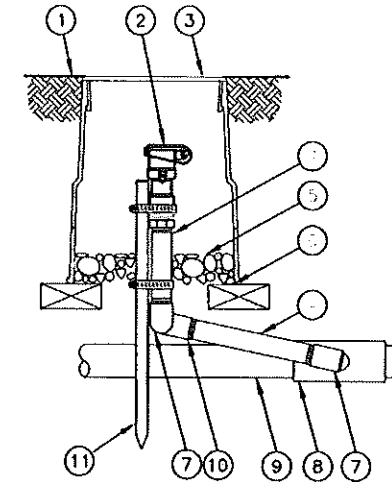


- ① Weathermatic 11000 FCR SERIES REMOTE CONTROL VALVE
- ② INSTALL THREADED MALE ADAPTER WITH TELFON TAPE/TYP.
- ③ SOLENOID
- ④ MANUAL BLEED LEVER
- ⑤ 4.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- ⑥ AMETEK RECTANGULAR PLASTIC BOX
- ⑦ EXPANSION COIL & WATERPROOF CONNECTOR
- ⑧ FINISH GRADE/TOP 1/2" ABOVE TOP OF MULCH
- ⑨ PVC SCH. 40 ELBOW
- ⑩ BRICK (1 OF 4)
- ⑪ SCH. 40 MAINLINE PIPE
- ⑫ PVC SCH. 40 ELL
- ⑬ PVC SCH. 40 TEE OR ELL
- ⑭ PVC SCH. 40 MALE ADAPTER
- ⑮ PVC LATERAL PIPE
- ⑯ PVC BALL VALVE

INSTALLATION DETAIL

NO SCALE

QUICK COUPLER VALVE BUCKNER V075

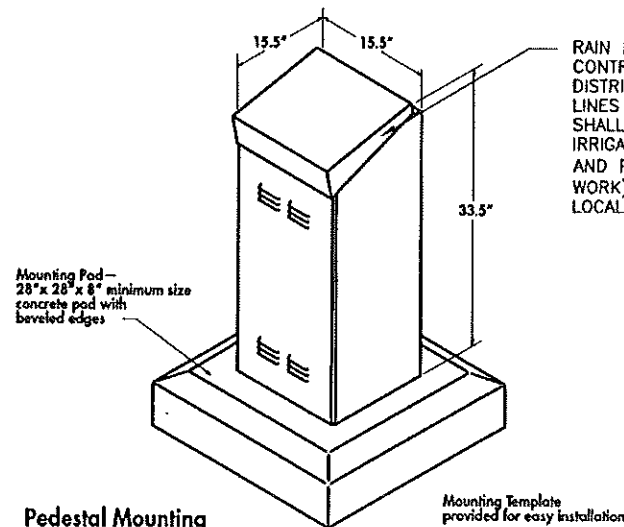


- ① FINISH GRADE/TOP 1/2" ABOVE TOP OF MULCH
- ② QUICK-COUPLING VALVE: BUCKNER V075
- ③ 10" ROUND PLASTIC AMETEK VALVE BOX.
- ④ PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- ⑤ 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- ⑥ BRICK (1 OF 2)
- ⑦ PVC SCH 40 STREET ELL
- ⑧ PVC SCH 40 TEE OR ELL
- ⑨ PVC MAINLINE PIPE
- ⑩ PVC SCH 40 ELL
- ⑪ 1/2" Dia X 18" STEEL REBAR WITH STAINLESS STEEL WORM SCREW CLAMP.

INSTALLATION DETAIL

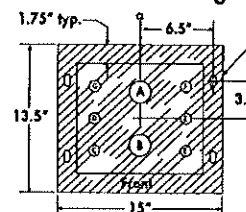
NO SCALE

EVOLUTION DX2 STAINLESS STEEL PEDESTAL CABINET INSTALLATION



RAIN MASTER EVOLUTION DX-2 CONTROLLER-ELECTRICAL POWER DISTRIBUTION AND PHONE SERVICE LINES TO THE IRRIGATION CONTROLLERS SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. THE ELECTRICAL AND PHONE LINES (AND ALL RELATED WORK) SHALL BE INSTALLED PER ALL LOCAL, STATE AND NATIONAL CODES.

Pedestal Mounting



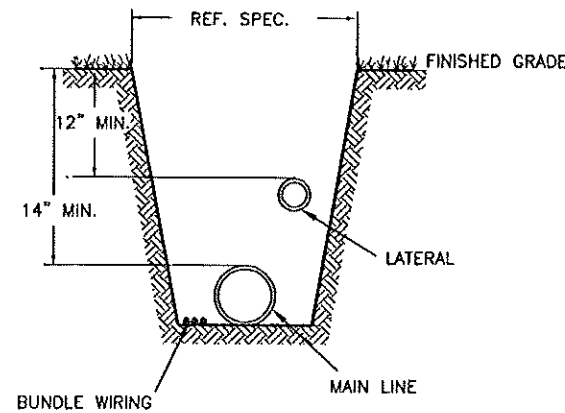
Bolt Holes - stainless steel hardware standard with enclosure

Item	Description
A, B	2" conduit - station wiring
C	1" conduit - communication
D	AC power conduit
E	1" conduit - sensor wiring
F	External antenna
G	Grounding rod

Bolt and Conduit Template

INSTALLATION DETAIL

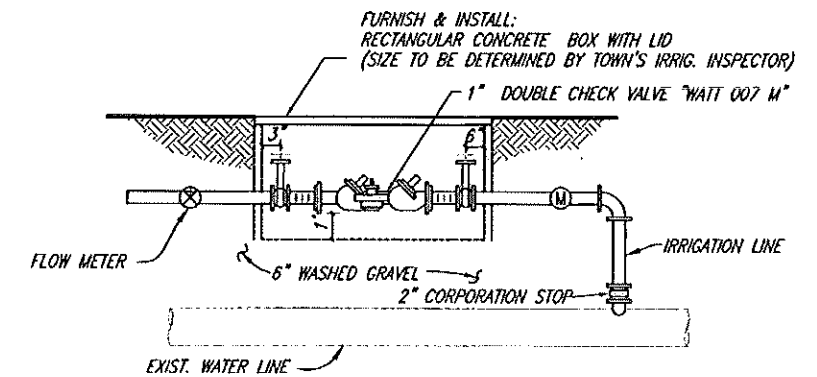
NO SCALE



TRENCHING DETAIL

NO SCALE

DOUBLE CHECK VALVE ASSEMBLY



INSTALLATION DETAIL

NO SCALE

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TOWN OF ADDISON, TEXAS

ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD IRRIGATION NOTES & DETAILS

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas



DESIGNED BY: G.C. PROJECT: 2002 102 SHEET NO. 61
DRAWN BY: B.H. & C. DATE: APRIL 2007 or SHEETS

Town of Addison Irrigation Specifications

Revised 04/22/04

These revised specifications supersede any and all others. However, any discrepancies between the approved construction plans and those of the Town MUST be brought to the attention of the Town's designated representative for a final determination. The contractor will present the Town's representative an as-built plan at the final walk-through, along with three Buckner V075 quick coupling keys with hose-end swivels.

- 1. All work is to be accomplished by or directly supervised at all times by an on-site Irrigator licensed by the State of Texas.
- 2. The contractor shall verify the water pressure before the installation begins. If the static pressure is different than that of the design pressure, contact the designer and Town's representative immediately so changes can be made. Send a fax to the Parks Dept. at 972-450-2834 with the current dated and timed static pressure reading. Design head to head with no single head coverage. Use appropriate size nozzles for a given landscape area so as not to spray onto or over paved surfaces or structures. Do not exceed manufacturer's recommendations.
- 3. The irrigation installer is responsible for resetting head and/or box height due to settling and after turf, groundcover, shrubs, trees, and mulch is added to the landscape areas. The irrigation contractor must supply a workmanship warranty for (1) year from date of acceptance.
- 4. Plans are diagrammatic and field adjustments are often necessary. For this reason, prior to trenching, valve locations and head layout with flags needs to be done and approved by the Town's irrigation inspector. Not doing so may result in the relocation of heads and/or valves at the irrigation contractor's expense.
- 5. **Water Taps:** Water taps will be 2" in size. All parts must conform to the Town of Addison Water Department specifications and are the responsibility of the irrigation contractor to provide. Inspection of taps by the Water Department Representative must occur. Excavation and tap permits are required. Contact the Town of Addison Water Department at (972) 450-2871.
- 6. **Water Meters:** Only Master or Hersey meters with two (2) brass flanges are acceptable. Meter lay lengths must be in accordance with the Town of Addison Water Department's specifications, housed in appropriate size (to be determined by the Town's irrigation inspector) concrete box with lid. New stainless steel bolts and nuts must be used in the installation along with new neoprene gaskets. The box should be level with the final grade using concrete pavers to support and prevent sinking. Backfill inside the box, 3" below meter base with at least 6" of fine (1/2") pea gravel. Connection to main must be approved and inspected by the Town's Water Department Inspector and all tap materials are to be purchased at the expense of the contractor and must comply with the Town of Addison's specifications.
- 7. **Backflow Devices:** Only Watts 007 M series inline check valve assemblies with the stainless steel ball valve handles and nuts are to be used. Irrigation contractor shall provide and install brass plugs for the test cocks. Connect to the flange using teflon taped copper nipple of sufficient length to center the DCA within its housing.

B. Rotors - Only Hunter I-20 Series are permitted, unless noted otherwise. Install 1/2" above finished grade.

- 14. **Risers:** Use Sch 80 PVC with Weathermatic LXS Series shrub head adapters with a 1/2"x6" green poly cut-off nipple screwed into the threaded fitting in the ground and a threaded coupling between the two. The irrigation inspector reserves the right to determine placement of risers versus pop-ups.
- 15. **Wiring:** All wires will be 14 gauge UF. Station wires will be red. Common wires will be white. Master valve wires will be blue. Anytime the wiring changes direction, such as at an elbow or a tee, allow a loop of at least 12 inches alongside the fitting at that location. Only continuous wire runs are permissible. Wire should follow the main line where possible and lay along a single side not crossing over lateral lines. Wire is to be placed under mainline with 2" of dirt between wire and pipe.
- 16. **Wire Connectors:** Use only DRY connectors for all field wire splices other than at the valves themselves. Allow at least 36 inches of pigtailed wire at each splice. Use King-Dom Elap tan colored connectors for all valve splices. All valve box splices are to be housed in standard (large) Ametek rectangular plastic valve boxes. All field splices are to be in 10 inch round Ametek plastic valve boxes or standard, large rectangular Ametek plastic valve boxes at the discretion of the Town's representative. Number of splices is determining factor for choice of box size.
- 17. **Backfilling:** Prior to any backfilling of trenches, an inspection by the Town's irrigation representative must take place and any necessary changes implemented; otherwise manual excavation to enable proper inspection will be necessary. Use clean and approved topsoil to backfill all pipe to depth. All heads and boxes are to be backfilled to grade with clean topsoil. No rocks greater than 1 inch are allowed. Compact trenches to alleviate settling. Minimal depth of coverage is 12 inches.
- 18. Valve sequencing must be performed by the contractor and in an order approved by the Town Irrigation Inspector. At least 12 inches of extra station wiring within the bottom of the pedestal is necessary for each zone and must be of neat and orderly appearance.
- 19. Any deficiencies in coverage noted by the Town's irrigation inspector will be rectified at the cost of the contractor.
- 20. **Controllers:** A Town irrigation representative will determine the type of controller to be used. All controllers shall have a concrete pad of 36"x36"x6". Pad will be set at 3" above final grade. Install the controller after the concrete pad is completely cured (two days). Use only appropriately sized stainless steel bolts, washers and nuts to secure the controller to the concrete pad. All wiring is to enter the pedestal via appropriately sized PVC green elbows extending at least 1" thru and 6" out from under the pad. Control/master valve wiring, flow meter wiring and 120-V service wiring are to be separated with each having its own access elbow. An additional spare 1/2" sweep elbow for phone service is to be installed as well. All national and local codes must be followed during the installation.

A. A/C controller - Only Irritrol MC Plus controllers will be acceptable. Both Hi-Click rain and freeze sensors will be installed and placed where they can operate properly. All non-Rain Master controllers must be permanently wired for quick attachment to a Rain Master remote control unit.

The device will be housed in an appropriate size, (to be determined by the Town's Irrigation Inspector) rectangular concrete box with lid using concrete pavers for proper stability and use extensions to adjust height. The irrigation contractor shall be responsible for the DCA testing in accordance with State of Texas law, using a Licensed Backflow Assembly Tester registered with the Town of Addison Water Department.

8. Sleeves: All paving must have Town approved sleeve sizes and quantities present. It is the responsibility of the irrigation contractor to notify the Town's Irrigation Inspector of any area where sleeves should be present but are not and provide such materials at his cost. Any paving installed without sleeves will necessitate a bore and subsequent materials at the irrigation contractor's expense. All sleeves 2" and smaller will be Schedule 40 PVC with size and location noted on the plan. Larger sizes will be Class 200. All piping underneath paving, including sidewalks, must be sleeved. All sleeves are to be balled end PVC pipe. A minimum length of 12 inches of sleeve material must extend beyond the pavement.

9. Glue and Primer: Use Turfite brand glue on laterals and IPS Grey Heavy Body on main lines and a good quality purple primer on all. Avoid excessive use and wipe excess glue off of all joints and fittings with a clean rag.

10. Pipe: All main line pipe 2 inches and smaller is to be Schedule 40 balled PVC; larger sizes are to be Class 200 balled PVC with a minimum depth of 14" and a maximum depth of 16". Put not more than two (2) pipes in any one trench and separate the main line from the lateral line with at least two (2) inches of cover. Class 200 balled PVC lateral piping is to be used with a minimum depth of 12" and a maximum depth of 14".

11. Fittings: No crosses are permitted. Separate tees, 45's, elbows and other fittings by at least 12 inches. Reduction tees are preferred over use of single reducer bushings. Multiple reducer bushings will not be accepted. Only Spears and/or Lasco fittings are permitted. Allow 18 inches outside of sleeve before the first fitting. No 45 degree elbows on 1 inch and larger pipe are allowed.

12. Valves:
A. Master Valves: Every point of connection to the water supply system shall have a Weathermatic 11000 FCR series valve as the Master Valve, housed in a standard (large) Ametek rectangular plastic valve box with 4 to 6 inches of small (1/2") pea gravel placed underneath the valve in such a manner as to prevent soil infiltration into the box. Use concrete pavers or bricks placed under edges of valve box for stability. Note: Valve box must not rest on pipe. Blue wire shall be used as the station wire for the Master Valve.
B. Station Valves: Only Weathermatic 11000 FCR series valves are permitted. A Ball Valve will be installed before every station or zone valve. They are to be located within a standard (large) Ametek rectangular plastic valve boxes with 4 to 6 inches of (1/2") pea gravel placed underneath the valve in such a manner as to prevent soil infiltration into the box. The pea gravel should be 2 inches from the bottom of the valve body. A minimum of 3" inches of valve box must extend below bottom of valve. If necessary use valve box extensions.
C. Ball Valves: Female threaded plastic Spears or Lasco ball valves with positive T-handle cut off must be installed on every 200 feet of mainline for

B. Battery and/or Solar Operated Controllers - Only LEIT controllers will be acceptable. Install rain or freeze sensors on these controllers with SKIT8211-4 installation kit. Install on galvanized thick wall poles and set controller panel to height above finished grade to be determined by Town's representative.

C. Rain Master: Only an approved size Rain Master Evolution DX-2 controller with a stainless steel pedestal and heavy duty transient protection is permitted. The controller must include all necessary hardware to ensure reliable communication and operation with the Town's central control located at 16801 Westgrove. Installation must include the following Rain Master hardware, purchased only from a Rain Master supplier: DX-03 sensor board, DX-PH phone communication option, Data Industrial flow meter (same size as the mainline), and shielded EV-CAB-SEN flow meter cable. It is the irrigation contractor's responsibility to entail the cost of and work in conjunction with South Western Bell Telephone to establish a dedicated phone service and install an interface within the pedestal at each controller location via direct burial cable within 1" PVC conduit. The entire installation must conform to Rain Master specifications and be approved by the Town's irrigation inspector prior to and be inspected during installation. Such specifications will include grounding and pad configurations and distances of separation from water meter to DCA to master valve to flow meter and the first fitting. A functional Hi-Click freeze and rain sensor with a Hunter bypass switch must be installed in an approved location and by an approved method. For part numbers and pricing of any Rain Master equipment, contact Mark Stricker of John Deere Landscapes at 972-881-0205. For technical questions, call John DuBose of RainMaster at 214-632-2289.

21. Communication is the key. If you are unsure, CALL Ron Lee, the Operations Manager of the Addison Parks Department at (972) 450-2863.

isolation purposes. A ball valve is also required to be installed before every station valve. Use 10" Ametek valve box with a minimum of 3" extending below bottom of valve and fill to bottom of valve with 1/2" pea gravel. Use bricks or concrete pavers under box for stability.

D. Quick Coupler Valves: Use only Buckner V075 single lug 1/2" quick coupling valves with a metal top. They are to be connected to a threaded fitting. Teflon tape and appropriate length of gray schedule 80 nipples and schedule 40 fittings are to be used for the swing joint. Secure to 1/8 inch by 1/2 inch steel rebar with a stainless steel worm screw clamp. House QCV in a 10 inch round plastic Ametek valve box. Install Spears ball valve prior to each QCV. Bricks or pavers need to be installed under edges of valve boxes for stability. Backfill bottom of box with 1/2" pea gravel half way up body of valve.

E. Flowmeters: Purchase from a Rain Master supplier and install appropriately sized Data Industrial flowmeter. Follow all installation instructions as approved by Rain Master. The irrigation contractor must also purchase from Rain Master and install shielded Rain Master EV-Cab-Sen flow meter cable and install within continuous 1/2" or larger gray PVC conduit with 6 inch or larger J-boxes placed every 200 feet or where 360 degrees of fittings are installed; only sweep fittings are permitted. Only a continuous run of cable is allowed; no splices will be allowed except at the point of connection to the flow meter. Connections at the flow meter must first be soldered and then water proofed within a 3-M DBY connector. Note: certain Rain Master requirements must also be met regarding installation order and distances of separation between DCA, flow meter, master valve and the first fitting. It is the responsibility of the irrigation contractor to adhere to these requirements. At final walk through, proper operation of the flow meter at the Rain Master controller must be demonstrated by the irrigation contractor.

13. Heads: All heads will be installed using polyethylene green nipples (1/2"x6" for rotors and 1/2"x6" for pop-ups) screwed into threaded fittings unless noted otherwise. No swing joints on 4" pop-ups or rotors will be allowed.

A. Pop-ups - Only Rainbird 1800 series are permitted. Install 1/2 inch above the finished grade.

- a. 4 inch pop-ups: turf, tree bubblers within turf areas (use Hunter PCH 10 bubbler nozzles on spray heads).
- b. 6 inch pop-ups with no side inlet: very low ground cover (less than 6 inches at mature height).
- c. 12 inch pop-ups with side inlet: Ground cover and low growing shrubs. The ground cover and shrubs should not be more than 12" at maturity. The Town Inspector reserves the right to determine if and when side inlets installed using funny pipe versus the bottom inlet will be allowed. When authorized, use Hardie Blue Line Pipe with Toro barb fittings.
- d. Use 1/2" Sch 80 risers with schrubb adapter and Hunter PCH 10 bubbler nozzles for all tree wells with tree grates. Risers shall be a minimum of 2" below bottom of tree grates with nozzle 2" above mulch.

NOTE. -The irrigation system has been designed to operate with minimum static water pressure of 50 p.s.i. and total demand of 26 gpm. Notify Town's representative if any discrepancy arises.

-Contractor shall verify nozzle sizes in field for MPR and head to head coverage. Contractor to minimize overspray. No overspray onto pavement shall be accepted.

These plans and related specifications were prepared for construction of this specific project only. Reuse of these documents is not permitted without written authorization of Birkhoff, Hendricks, & Conway, L.L.P.

TOWN OF ADDISON, TEXAS
ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD IRRIGATION NOTES & DETAILS



BIRKHOFF, HENDRICKS & CONWAY, L.L.P. CONSULTING ENGINEERS Dallas, Texas		DESIGNED BY: G.C.	PROJECT: 2002 102	SHEET NO. 62
		DRAWN BY: B.H. & C.	DATE: APRIL 2007	OF 68 SHEETS

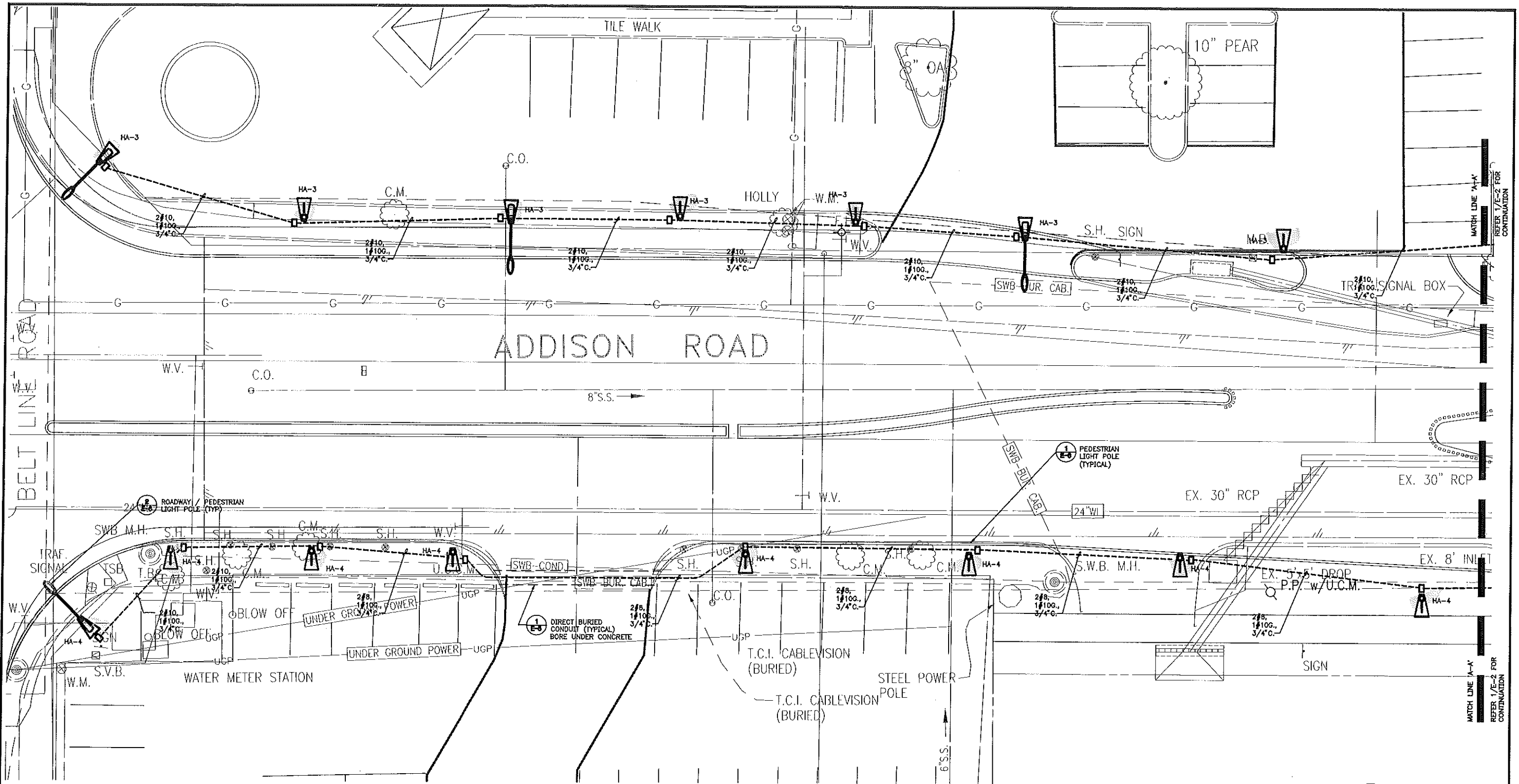
PLOTTED BY: CCEKU ON 12/6/2007

PLOT STYLE: 11x17.ctb




PLOT SCALE: 1:2

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REMOVED: 5/2/07 - CCEKU



1 ROADWAY LIGHTING - PART 'A'
SCALE: 1" = 10'-0"

-  'SA' TYPICAL
-  'SB' TYPICAL
- HA-XX DENOTES CIRCUIT NUMBER
-  PULLBOX. REFER TO DRAWING 5-2, DETAIL 2



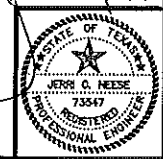
TOWN OF ADDISON, TEXAS

ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD LANDSCAPE/LIGHTING
BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: JGN PROJECT: 2002 102 SHEET NO. E-1 (63)
DRAWN BY: JAC DATE: OCTOBER 24, 2007 OF SHEETS

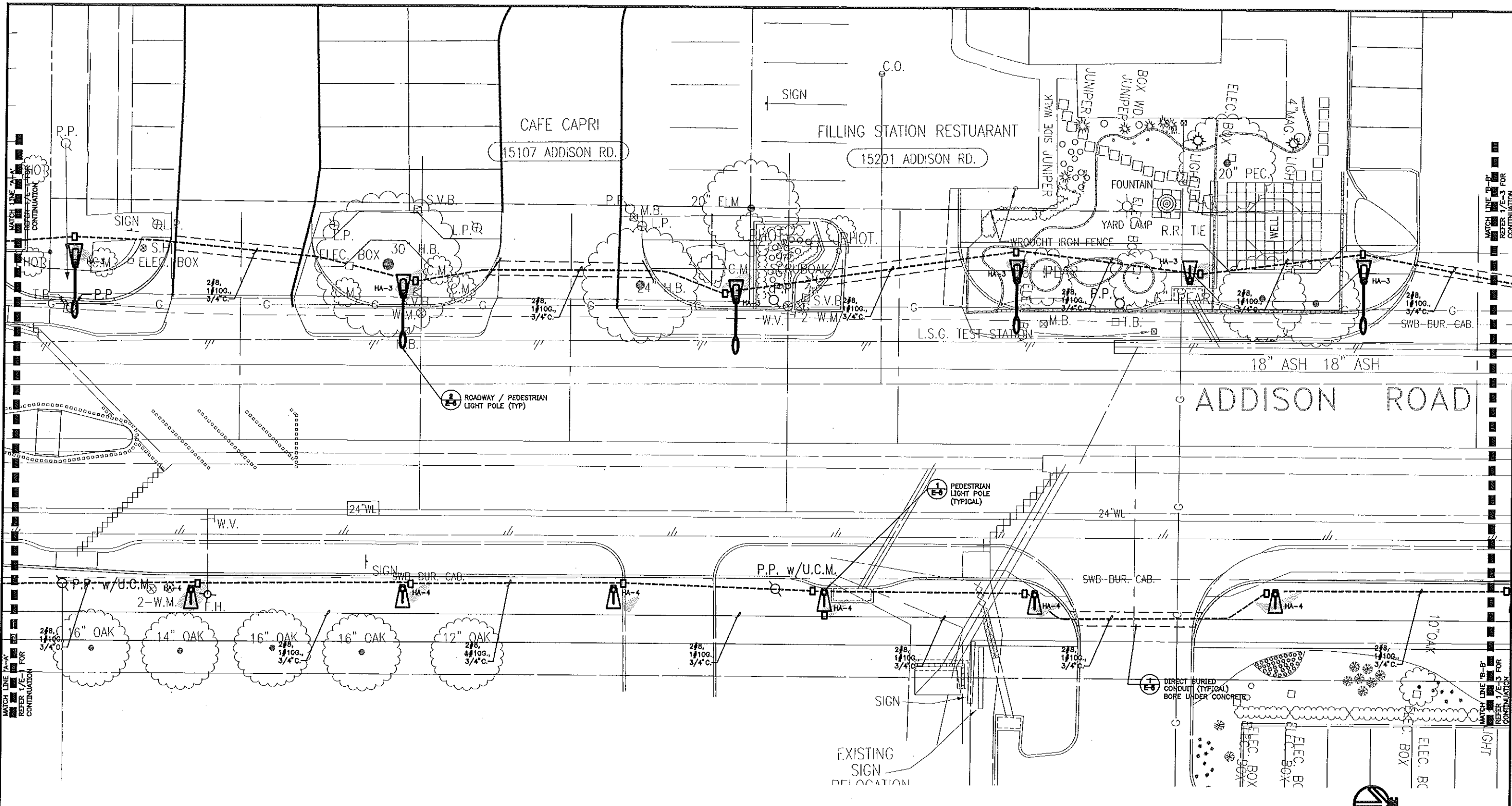
REVISION
1 ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007

CEI CAMPOS ENGINEERING, Inc.
CONSULTING ENGINEERS
7420 Greenville Avenue
Dallas, Texas 75231
Tel: 972-991-2211
Fax: 972-991-2212







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USER: JGN; PLOT: 10/24/07 10:58:10 AM; PLOT DIR: C:\Users\jgn\AppData\Local\Temp; PLOT FILE: E-1.dwg; PLOT SCALE: 1"=10'-0"; PLOT SHEET: 1 OF 1; PLOT TIME: 24 OCT 2007 - 12:58PM



1 ROADWAY LIGHTING - PART 'B-C'
SCALE: 1" = 10'-0"

-  'SA' TYPICAL
-  'SB' TYPICAL
- HA-XX DENOTES CIRCUIT NUMBER
-  PULLBOX. REFER TO DRAWING 5-2, DETAIL 2

REVISION
 ELECTRICAL VOLTAGE CHANGES -- OCTOBER 24, 2007

CBE CAMPOS ENGINEERING, Inc.
 CONSULTING ENGINEERS
 7420 Granddale Avenue
 Dallas, Texas 75231
 Tel: (214) 991-8250
 Fax: (214) 991-8250



TOWN OF ADDISON, TEXAS

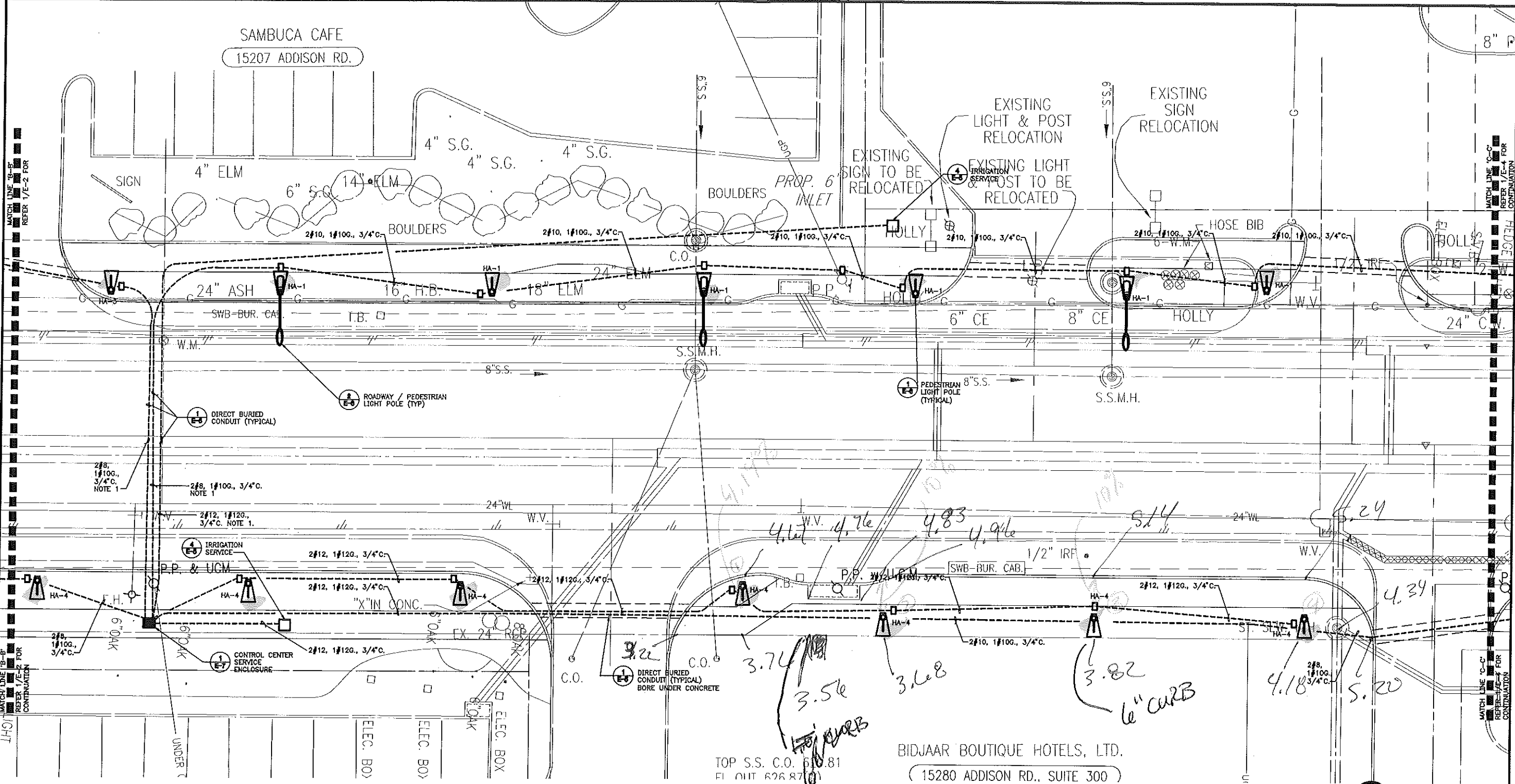
**ADDISON ROAD IMPROVEMENTS
 BELT LINE ROAD TO ARAPAHO ROAD PHASE I
 ADDISON ROAD LANDSCAPE/LIGHTING**

BIRKHOFF, HENDRICKS & CONWAY L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

DESIGNED BY: J.C.N. PROJECT: 2007 108 SHEET NO. E-2 (84)
 DRAWN BY: J.A.C. DATE: OCTOBER 24, 2007 OF SHEETS

USER: JACASTRO/CASTRO
 PLOT: C:\PROJECTS\2007\108\ADDISON ROAD\ADDISON ROAD.dwg
 TIME: 24 OCT 2007 - 12:49PM

SAMBUCA CAFE
15207 ADDISON RD.



NOTE

1. COORDINATE CROSSING WITH TXU. TXU WILL PROVIDE TRENCH.



'SA' TYPICAL



'SB' TYPICAL

HA-XX

DENOTES CIRCUIT NUMBER

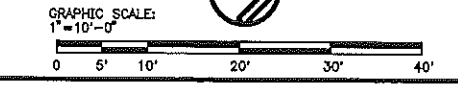


PULLBOX. REFER TO DRAWING 5-2, DETAIL 2

1 ROADWAY LIGHTING - PART 'B-C'
SCALE: 1" = 10'-0"

REVISION

△ ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007



TOWN OF ADDISON, TEXAS

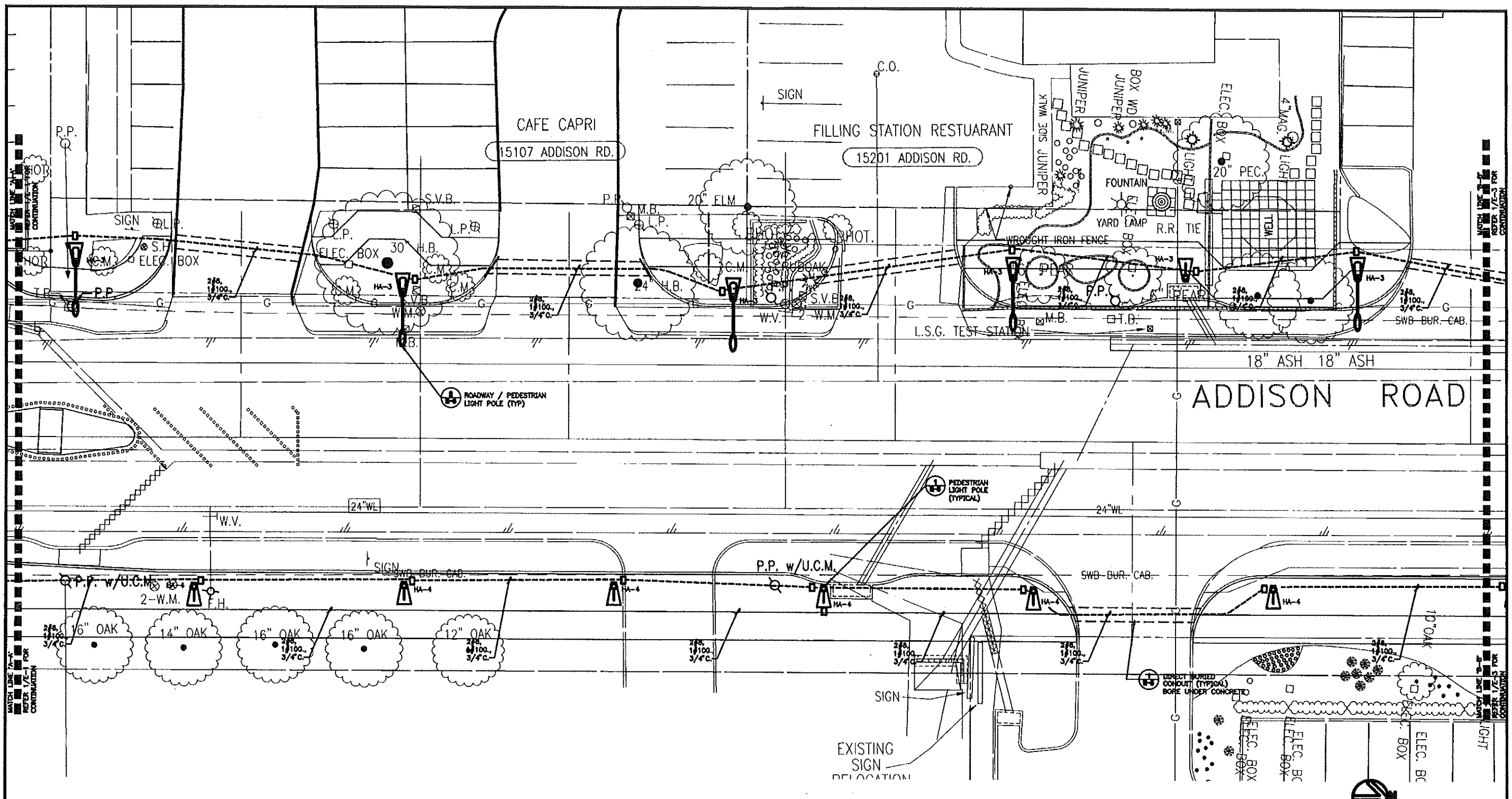
**ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD LANDSCAPE/LIGHTING**

BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas




DESIGNED BY: JCH	PROJECT: 2002 192	SHEET NO. OF
DRAWN BY: JAC	DATE: OCTOBER 24, 2007	E-3 (65)

USER: P:\AUTOCAD\JCH\ADDISON ROAD IMPROVEMENTS\ADDISON ROAD IMPROVEMENTS - JCH.dwg
 FILE NAME: L:\7010\ADDISON ROAD IMPROVEMENTS - JCH.dwg
 XREFS:
 TIME: 24 OCT 2007 - 12:59PM

Handwritten signature and date: 10/24/07



1 ROADWAY LIGHTING - PART B-C
SCALE: 1" = 10'-0"

-  'SA' TYPICAL
-  'SB' TYPICAL
- HA-XX DENOTES CIRCUIT NUMBER
-  PULLBOX. REFER TO DRAWING 5-2, DETAIL 2




TOWN OF ADDISON, TEXAS

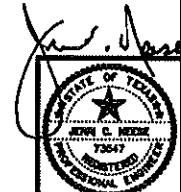
ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD LANDSCAPE/LIGHTING

BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

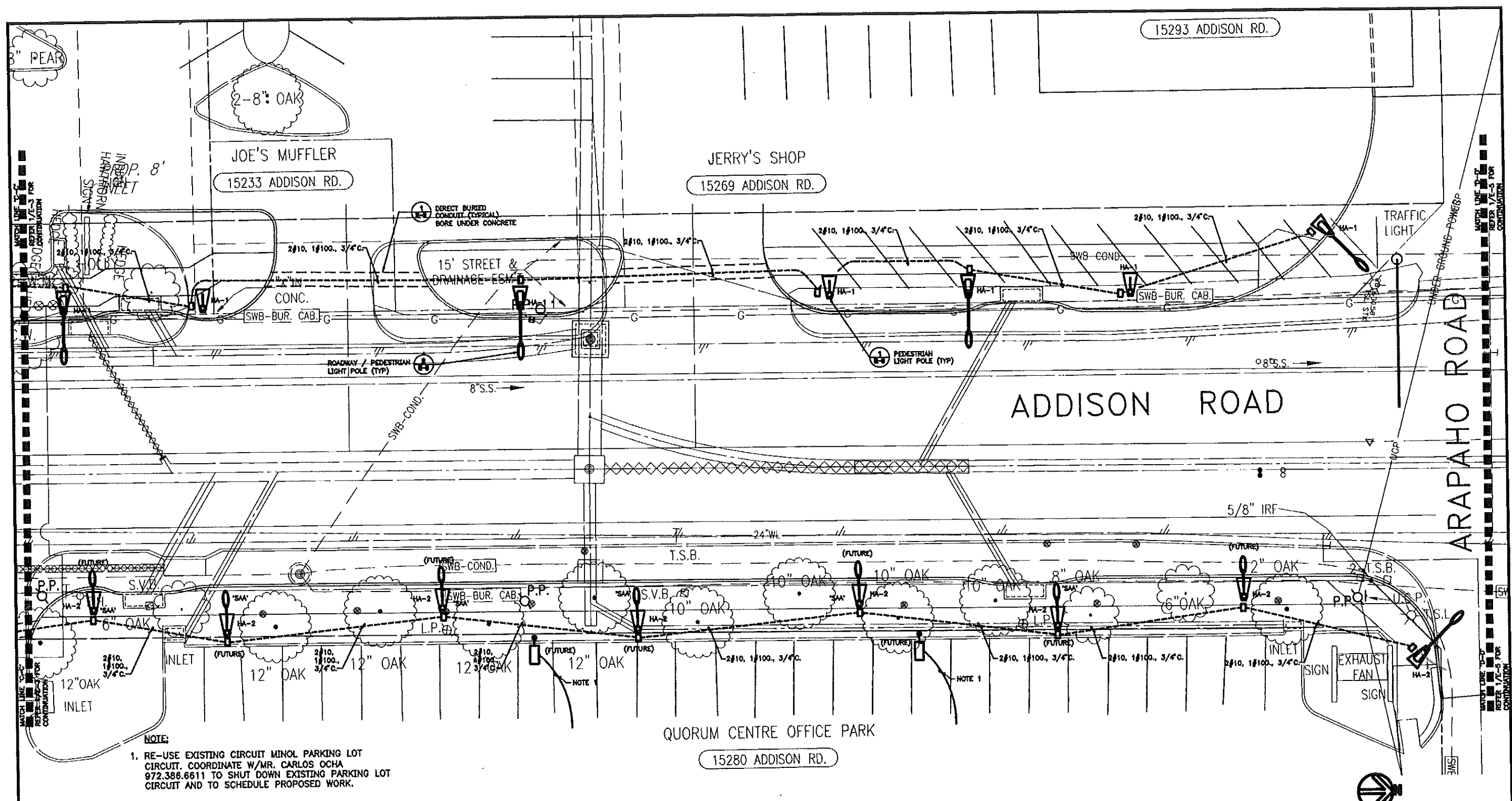
DESIGNED BY: J.A.B. PROJECT: 00000000
DRAWN BY: J.A.B. DATE: OCTOBER 24, 2007 SHEET NO. E-2 (64) OF 6 SHEETS

TOWN OF ADDISON, TEXAS
 PROJECT: 00000000
 DATE: 24 OCT 2007 10:58 AM






REVISION
 ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007



J.A.B.



NOTE:
 1. RE-USE EXISTING CIRCUIT MINOR PARKING LOT CIRCUIT. COORDINATE W/MR. CARLOS OCHA 972.386.6611 TO SHUT DOWN EXISTING PARKING LOT CIRCUIT AND TO SCHEDULE PROPOSED WORK.

-  'SA' TYPICAL
-  'SB' TYPICAL
-  'SC' TYPICAL
-  'SAA' TYPICAL
- HA-XX DENOTES CIRCUIT NUMBER
-  PULLBOX. REFER TO DRAWING 5-2, DETAIL 2

1 ROADWAY LIGHTING - PART 'C-D'
 SCALE: 1"=10'-0"

REVISION
 ⚠ ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007



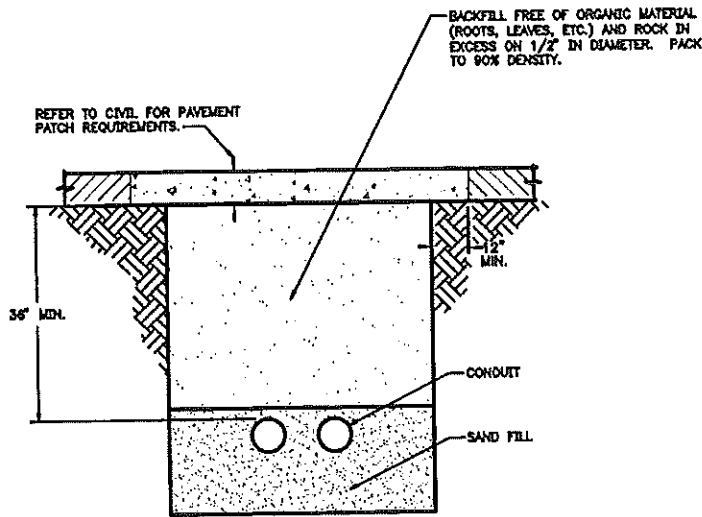
TOWN OF ADDISON, TEXAS

ADDISON ROAD IMPROVEMENTS
 BELT LINE ROAD TO ARAPAHO ROAD PHASE I
 ADDISON ROAD LANDSCAPE/LIGHTING

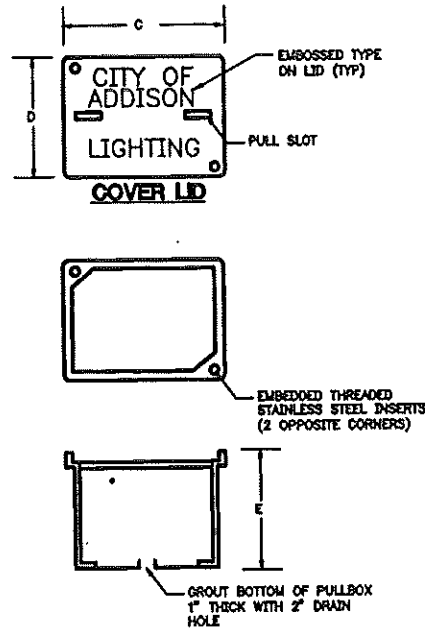
BIRKHOFF, HENDRICKS & CONWAY L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

DESIGNED BY: JEM
 DRAWN BY: JAB
 PROJECT: BELT LINE ROAD IMPROVEMENTS
 DATE: OCTOBER 24, 2007
 SHEET NO. E-4 (06) OF 06 SHEETS

EXISTING AND PROPOSED LIGHTING
 FILE NAME: L:\TOWN OF ADDISON ROAD\ADDISON ROAD\PHASE I\ADDISON ROAD LANDSCAPE\LAYOUT.DWG
 DATE: 24 OCT 2007 10:58:44 AM



1 DIRECT BURIED CONDUIT
E-5 SCALE: NONE

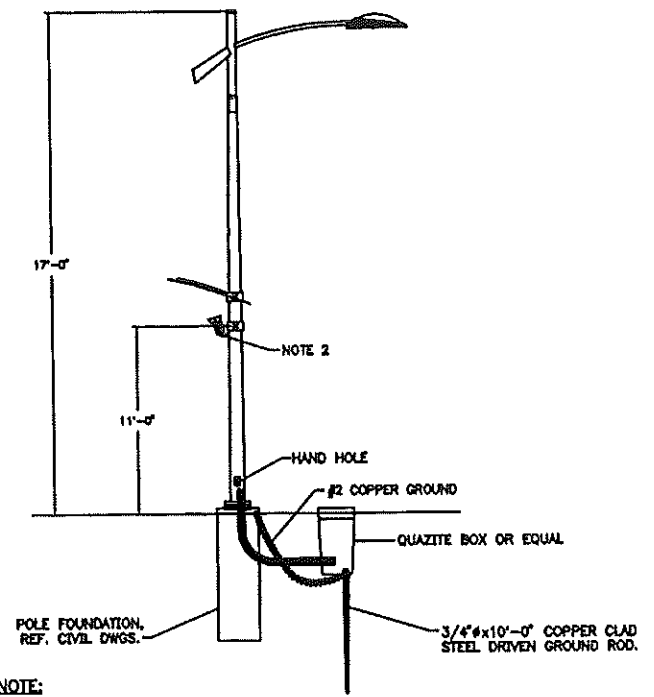


COVERS			
PULLBOX TYPE	DIMENSIONS (INCHES)		
	A	B	THK.
A	23 3/4"	13 3/4"	2"

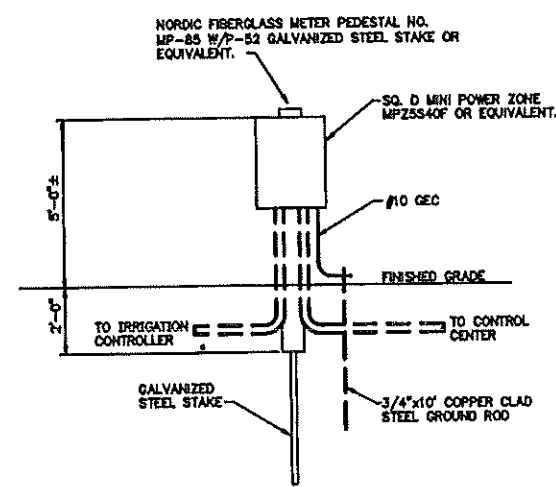
BOXES			
PULLBOX TYPE	DIMENSIONS (INCHES)		
	C	D	E
A	23 3/4"	13 3/4"	18"

- NOTES:**
- SEE STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION.
 - COVER LETTERING SHALL BE 1" LETTERS CAST-IN PLACE WITH THE LID. THE COVERS OR LIDS SHALL BE MARKED "CITY OF ALLEN LIGHTING" WITH CLEAN, EVEN STROKE LETTERING.
 - ALL DIMENSIONS ARE NOMINAL.

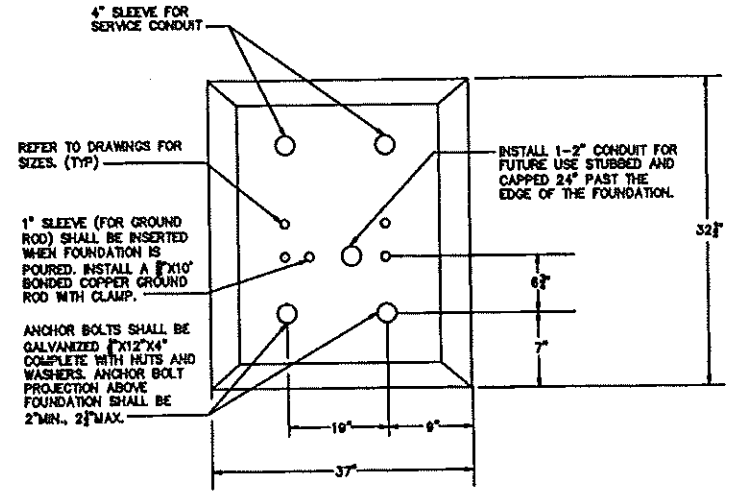
2 PULLBOX DETAIL
E-5 SCALE: NONE



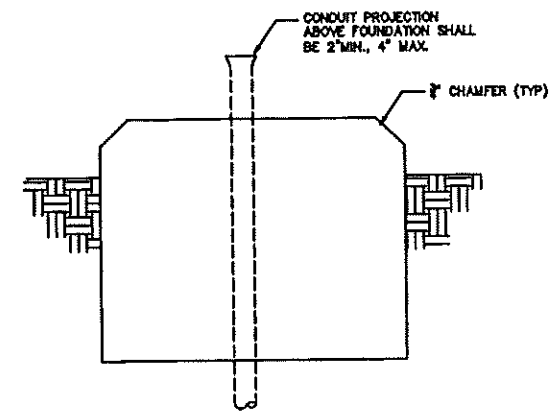
3 ROADWAY/PEDISTRIAN FIXTURE 'SAA'
E-5 SCALE: NONE



4 IRRIGATION SERVICE
E-5 SCALE: NONE



5 CONTROL CENTER FOUNDATION DETAIL
E-5 SCALE: NONE



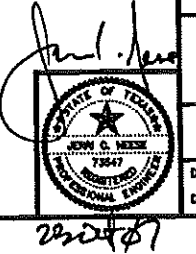
TOWN OF ADDISON, TEXAS

ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD LANDSCAPE/LIGHTING

BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.A.B. PROJECT: 2007-010
DRAWN BY: J.A.B. DATE: OCTOBER 24, 2007

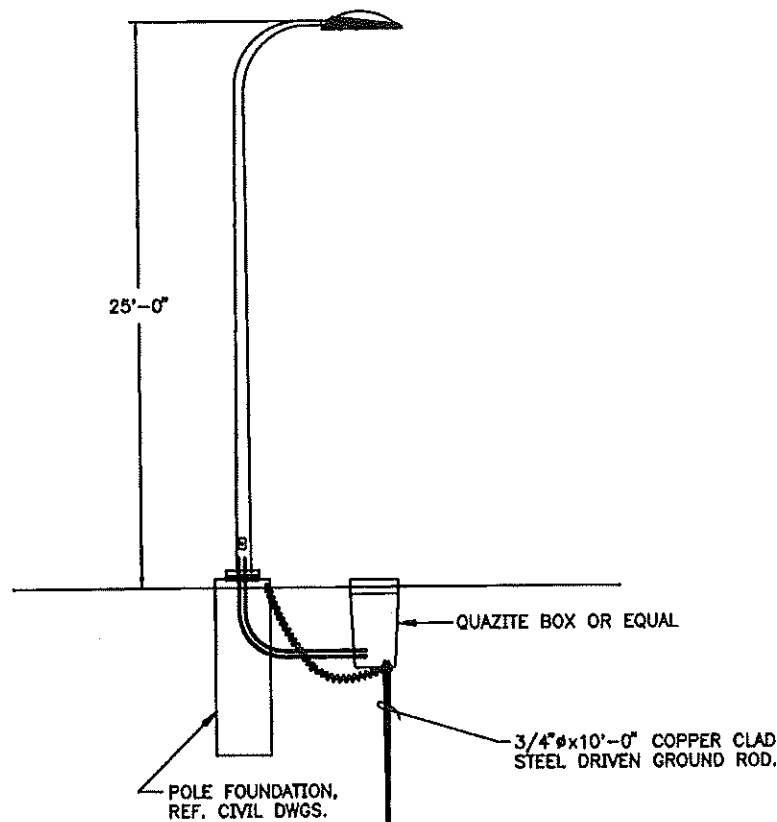
SHEET NO. E-5 (00) OF 02



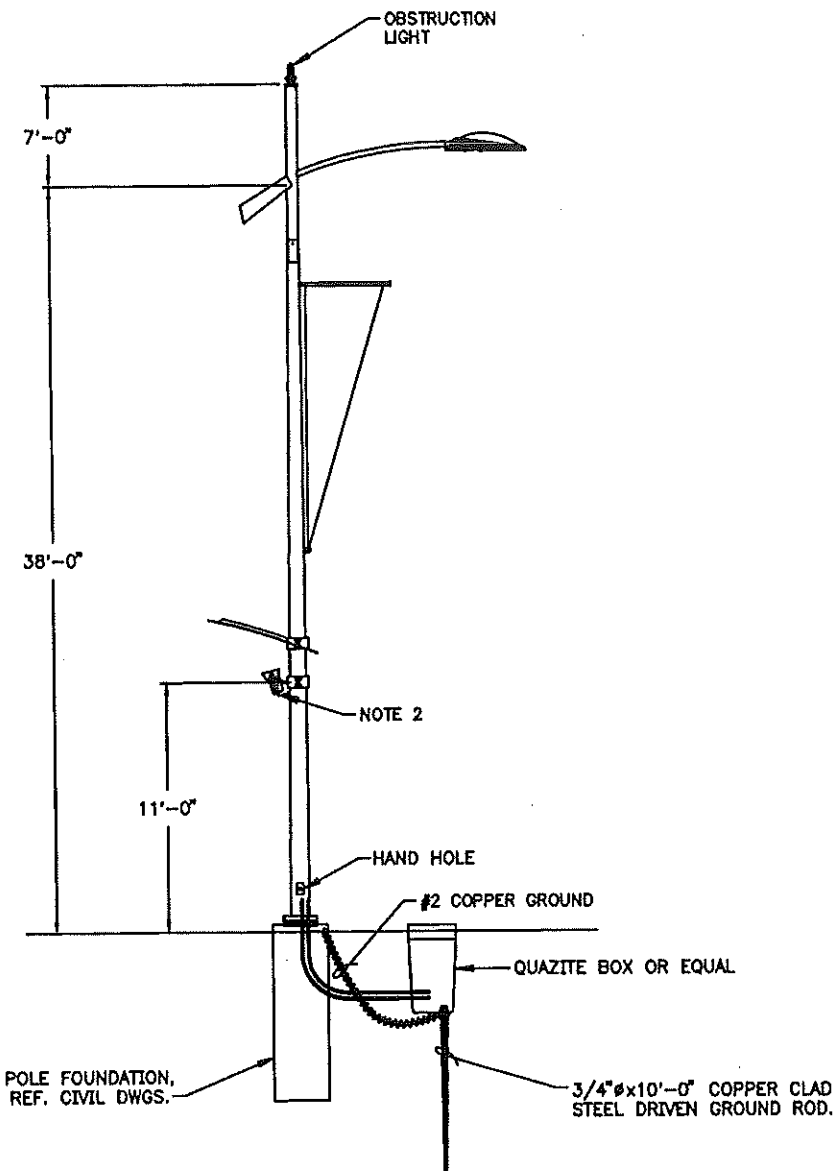
CALPOS ENGINEERING, INC.
CONSULTING ENGINEERS
1200 West Loop South, Suite 200
Houston, Texas 77027
(713) 865-1111

REVISION
ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007

EXISTING CONDITIONS INDICATED BY DASHED LINES
 DATE: 24 OCT 2007 10:52AM

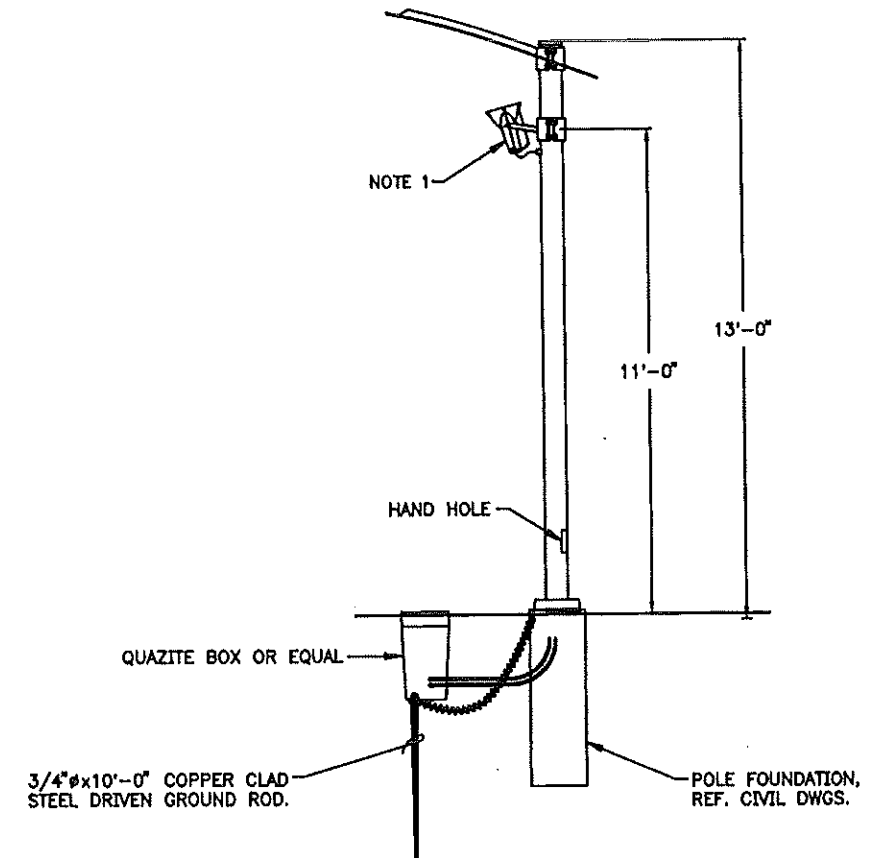


1
E-6 **PARKING LOT FIXTURE 'SC'**
SCALE: NONE



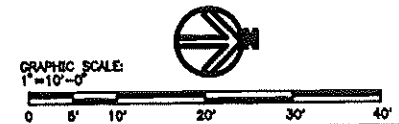
NOTES: 1. PROVIDE 277V/1Ø PRIMARY/120V SECONDARY, XFMR 1KVA TO SERVE OBSTRUCTION LIGHT.
2. FIXTURE & REFLECTOR SHALL BE CAPABLE OF ORIENTATION TOWARDS THE ROADWAY OR 180° FROM THE ROADWAY.

2
E-6 **ROADWAY/PEDESTRIAN FIXTURE 'SA'**
SCALE: NONE



1
E-6 **PEDESTRIAN FIXTURE 'SB'**
SCALE: NONE

NOTES: 1. FIXTURE & REFLECTOR SHALL BE CAPABLE OF ORIENTATION TOWARDS THE ROADWAY OR 180° FROM THE ROADWAY.



TOWN OF ADDISON, TEXAS		
ADDISON ROAD IMPROVEMENTS BELT LINE ROAD TO ARAPAHO ROAD PHASE I ADDISON ROAD LANDSCAPE/LIGHTING		
BIRKHOFF, HENDRICKS & CONWAY L.L.P. CONSULTING ENGINEERS Dallas, Texas		
DESIGNED BY: JAS	PROJECT: 2007-001	SHEET NO. E-6 (87)
DRAWN BY: JAS	DATE: OCTOBER 24, 2007	OF 87 SHEETS

REVISION
⚠ ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007



23047

LIGHTING FIXTURE SCHEDULE						FIXTURE DATA				
TYPE	MANUFACTURER	VOLTS	CATALOG NO.	LAMPS	DESCRIPTION	LAMP/FIX	BALLAST	V.A.FIX	NO. FIX	TOTAL KVA
BA	LUMECO-SCHNEIDER	277	HSE400A-8T28-3CT4-1TS84A	14S400A/8 14MP70P/UMED	ROADWAY/PEDESTRIAN FIXTURE NOTE 1 & 8	2	2	800	17	8.88
BB	LUMECO-SCHNEIDER	277	FOCAL-70A18-8A/80W-3CT4-1TS84A	14P70P/UMED	PEDESTRIAN FIXTURE NOTE 2 & 8	1	1	95	22	3.04
BC	LUMECO-SCHNEIDER	—	HSE400A-8T28-3CT4-1TS84A	14S400A/8	PARKING LOT FIXTURE 400W/4L TYPE B DIST	1	1	400	2	0.82
BAA	LUMECO-SCHNEIDER	277	HSE400A-8T28-3CT4-1TS84A	14S400A/8 14MP70P/UMED	ROADWAY/PEDESTRIAN FIXTURE NOTE 4, 8 & 9	2	2	800	3	1.74

BUDGET	DESCRIPTION	ACTUAL
NA	TOTAL INTERIOR LIGHTING KVA	8.92
0	TOTAL HEATED SQ FT.	0
NA	INTERIOR VA PER SQ FT.	NA
NA	EXTERIOR LIGHTING KVA	NA
NA	EXTERIOR SQ FT.	NA
NA	TOTAL LIGHTING KVA	13.90

FEEDER PER DRAWINGS

PANEL "HA" LOCATED IN FRONT OF OUTBACK STEAK HOUSE

CT	LOAD	DESCRIPTION	C	EGC	N	W	CB	LOAD	LOAD	CB	W	N	EGC	C	DESCRIPTION	LOAD	CT
1	3200	NORTHWEST FIXTURES	*	*	*	*	20	8345	20	*	*	*	*	*	(FUTURE) FIXTURES	3080	2
3	3400	SOUTHWEST FIXTURES	*	*	*	*	20	5900	20	*	*	*	*	*	EAST FIXTURES	2280	4
6	0	SPARE	—	—	—	—	20	0	20	—	—	—	—	SPARE	0	8	
7	0	SPARE	—	—	—	—	20	0	20	—	—	—	—	SPARE	0	8	
8	0	SPARE	—	—	—	—	20	0	20	—	—	—	—	SPARE	0	10	
11	0	SPARE	—	—	—	—	20	0	20	—	—	—	—	SPARE	0	12	

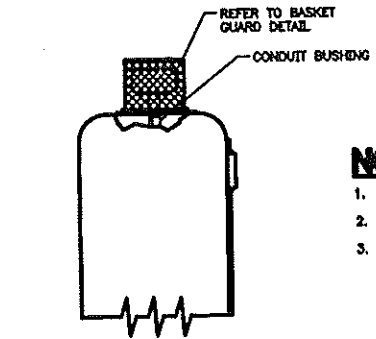
480V/277 V 3 PHASE 4 WIRE PEDESTAL MOUNTED
100 A BUS M.L.O. NEMA 3R
60 A X MCB — ISO GROUND BAR MINIMUM 10,000 AIC

NOTES: REFER TO DRAWINGS FOR WIRING AND CONDUIT SIZES.

PANEL TOTALS	KVA	AMPS
PHASE A:	8.5	13.2
PHASE B:	8.8	12.4
TOTAL:	12.3	25.6

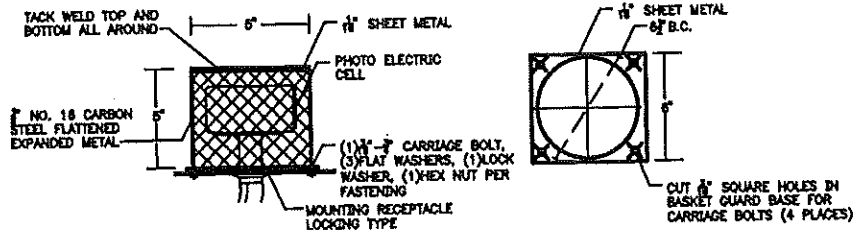
DEMAND LOAD CALC:

CONTINUOUS KVA:	X	1.25	=	15.4
RECEPTACLE KVA:	X	1.00	=	0.0
KITCHEN EQUIPMENT LOADS (NONE):	X	1.00	=	0.0
OTHER LOADS:	X	1.00	=	0.0
TOTAL DRY KVA:			=	15.4
TOTAL DV AMPERES:			=	32.0



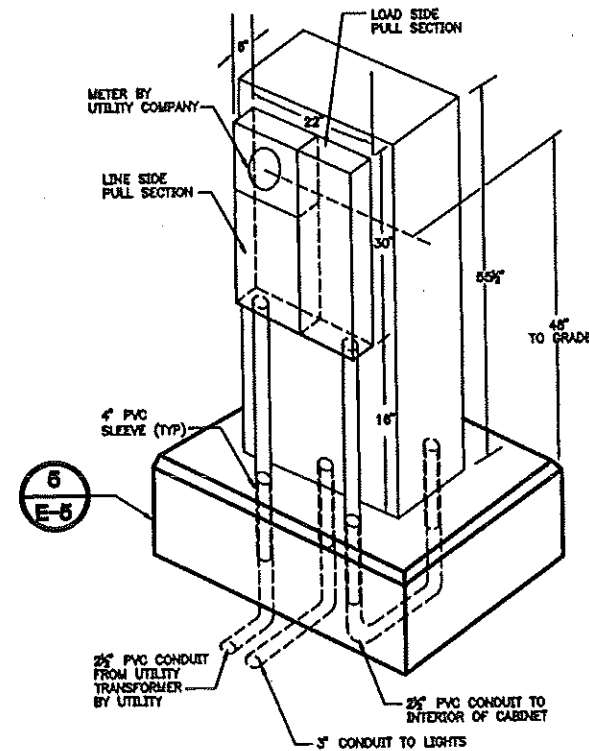
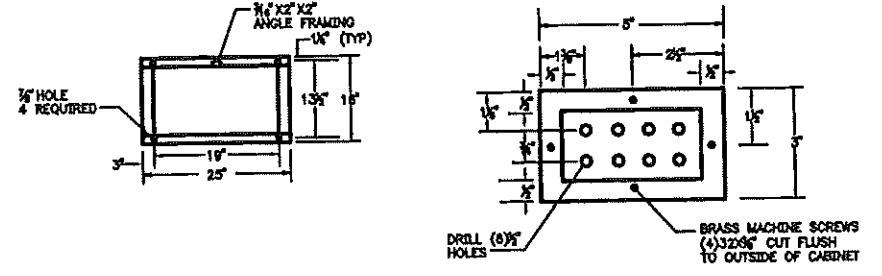
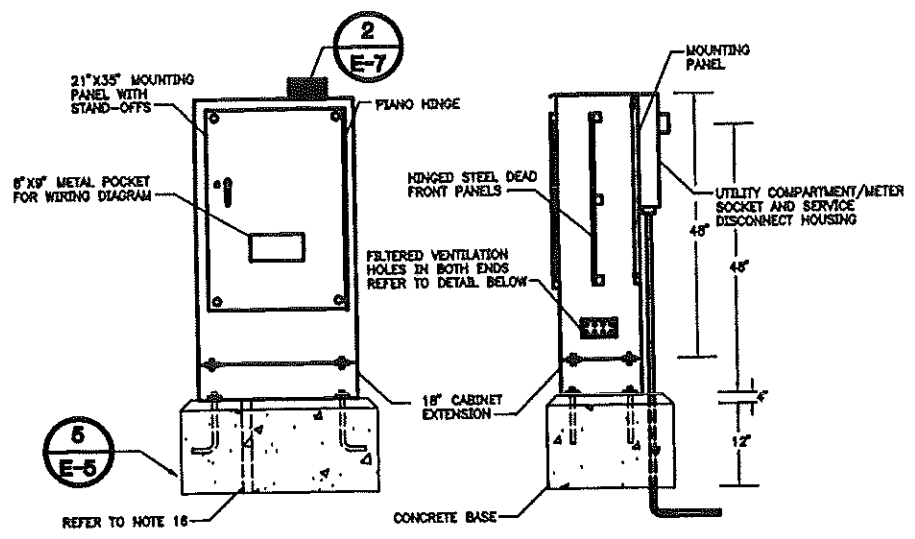
MOUNTING DETAIL

- NOTES**
- ORIENT PHOTO ELECTRIC CELL TO FACE NORTH.
 - ALL CONDUIT CONNECTIONS SHALL BE WATERTIGHT.
 - REFER TO PHOTO ELECTRIC CELL SPECIFICATIONS.



BASKET GUARD DETAIL

2 PHOTO ELECTRIC CELL MOUNTING DETAIL
SCALE: NONE



1 CONTROL CENTER SERVICE ENCLOSURE
SCALE: NONE

NOTES

- INSTALL FREE STANDING AND SELF-SUPPORTING CONTROL CENTER CABINET, PER THE DRAWINGS, NEMA 3R CONSTRUCTION. USE ALUMINUM ALLOY, THICKNESS 0.125", FOR CABINET HOUSING AND DOORS.
- USE HELIARC WELDING METHOD FOR ALL EXTERNAL AND INTERNAL CONTINUOUS WELDS. MAKE WELDS FREE OF CRACKS, BLOW HOLES AND OTHER IRREGULARITIES. MAKE INSIDE AND OUTSIDE EDGES OF CABINET FREE OF BURRS AND PROVIDE SMOOTH, UNIFORM AND NATURAL ALUMINUM FINISH.
- MAKE FULL HEIGHT DOORS WHICH USE STAINLESS HINGES AND HAVE DOOR STOPS AND LOCKS.
- USE TAMPER-PROOF CABINETS SO AS TO PREVENT INSERTION OF WIRES OR OBJECTS INSIDE THE CABINET BY UNAUTHORIZED PERSONS.
- PROVIDE BOLT-ON CIRCUIT BREAKERS.
- PROVIDE A SLOPED SURFACE ON THE TOP OF THE CABINET SO AS TO PREVENT WATER ACCUMULATION.
- PROVIDE DOUBLE FLANGED DOOR OPENINGS ON ALL (4) FOUR SIDES TO INCREASE STRENGTH AROUND THE OPENINGS AND ALSO TO KEEP AWAY ANY LIQUID OR DIRT FROM ENTERING THE ENCLOSURE WHEN THE DOOR IS OPENED.
- USE DOOR RESTRAINTS TO PREVENT DOOR MOVEMENT WHEN OPENED IN WINDY CONDITIONS.
- FURNISH GASKETING FOR DOORS WHICH SATISFY PHYSICAL PROPERTIES AS FOUND IN UL 508 TABLE 21.1. MAKE WEATHER-TIGHT SEALS BETWEEN THE CABINET AND THE DOOR.
- USE 1/4"-20 300 SERIES STAINLESS STEEL BOLTS AND 300 SERIES STAINLESS STEEL NY-LOCK NUTS FOR BOLTING HINGES TO THE CABINET AND THE DOOR.
- FURNISH HINGES MADE OF 075-14 GAUGES 300 SERIES STAINLESS STEEL. WELD THE TOP AND BOTTOM OF THE HINGE PIN TO RENDER IT TAMPER PROOF.
- FURNISH GASKETING FOR BOLT HOLES WHICH MEET OR EXCEED THE REQUIREMENT OF A NEMA 3R RATING.
- REFER TO SPECIFICATIONS FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.
- THE DOOR SHALL BE RAINTIGHT AND DUSTPROOF.
- INSTALL 8/8" DIA. BY 10' COPPER CLAD GROUND ROD WITH CLAMP.
- IN UNPAVED AREAS A RAISED PCC PAD 36" X 4' WIDTH OF FOUNDATION SHALL BE PLACED IN FRONT OF THE CABINET. PAD SHALL BE SET 2" BELOW THE FOUNDATION ELEVATION. SLOPE PAD AWAY FROM CABINET.
- USE AN APPROVED SILICON SEALER RTV TYPE GREY IN COLOR OR CLEAR BETWEEN CABINET AND FOUNDATION.
- UTILITY COMPANY SHALL PROVIDE AND INSTALL THE TRANSFORMER, TRANSFORMER PAD, CONDUIT, AND WIRING TO METER. THE UTILITY WILL PROVIDE THE METER BASE TO BE INSTALLED BY CONTRACTOR.
- COORDINATE THE CONTROL CENTER LOCATIONS AND EQUIPMENT SPACING WITH THE UTILITY COMPANY. PROVIDE A SHOP DRAWING WITH DIMENSIONS FOR EACH UTILITY SERVICE LOCATION. SHOW THE PROPOSED UTILITY EQUIPMENT AND CONTROL CENTER LOCATIONS. SUBMIT TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO INSTALLING EQUIPMENT.



TOWN OF ADDISON, TEXAS

ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
ADDISON ROAD LANDSCAPE/LIGHTING

BIRKHOFF, HENDRICKS & CONWAY L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: JAA
DRAWN BY: JAA
PROJECT: BELT LINE
DATE: OCTOBER 24, 2007
SHEET NO. E-7 (80)
OF 8 SHEETS

BIRKHOFF, HENDRICKS & CONWAY L.L.P. 1500 WEST WILSON AVENUE, SUITE 200, DALLAS, TEXAS 75207-1500
 PHONE: (214) 343-8800 FAX: (214) 343-8801
 WWW.BHCENR.COM

JOHN C. MEADE
 STATE OF TEXAS
 NO. 73547
 MECHANICAL

CMPOS
 CONSULTING ENGINEERS
 214 343-8800
 214 343-8801

REVISION
 ELECTRICAL VOLTAGE CHANGES - OCTOBER 24, 2007

2900087

NOTE: 1. PRIVATE OWNER SHALL BE RESPONSIBLE FOR RESTORING 100% COVERAGE AND AUTO-OPERATION.
 PRIVATE PROPERTY SPRINKLERS SHALL BE FIELD LOCATED, CAPPED FOR CONSTRUCTION, REPAIRED TO MAKE OPERATIONAL, ALSO NOTE CONTRACTOR SHALL RUN PRIVATE SYSTEMS IN THE PRESENCE OF OWNER TO VERIFY CONDITION OF SYSTEM BEFORE CONSTRUCTION ACTIVITIES.
 EXISTING PLANT MATERIAL TO REMAIN, CONTRACTOR TO COORDINATE WITH PROPERTY OWNER AND MAINTAINING EXISTING LANDSCAPE IRRIGATION.
 2. ALL NEW PROPOSED REMOTE CONTROL VALVES TO BE LOCATED AWAY FROM STREET, CLOSE TO SIDEWALK.
 3. LOCATION OF IRRIGATION WATER SERVICE, VALVING AND CONTROLLER TO BE LOCATED IN THE FIELD BY THE TOWN OF ADDISON.
 4. IRRIGATION CONDUCTOR TO RUN ELECTRICAL CONDUIT AND CONDUCTORS BETWEEN ELECTRICAL SERVICE PANEL AND SEPARATE CONTROLLER 20 AMP. CIRCUIT FOR EACH CONTROLLER IS SHOWN IN THE ELECTRICAL PLANS.
 5. USE APPROPRIATE HOZZLES TO COMBINE WATER TO LANDSCAPED AREAS.

NOTE:
 USE VAN SPRAY NOZZLES WATERING OOD-SHAPED AREAS
 SEE SHEET NO. 61 & 62, FOR IRRIGATION DETAILS AND

NOZZLE	RADIUS (ft)	FLOW (GPM)	PRECIP (in/h)
8H	8	0.52	1.58
8Q	8	0.28	1.58
10H	10	0.78	1.52
12H	12	1.30	1.74
15H	15	1.85	1.58
15Q	15	0.92	1.58
15ST	15	1.21	1.58
19ST	19	0.81	1.58

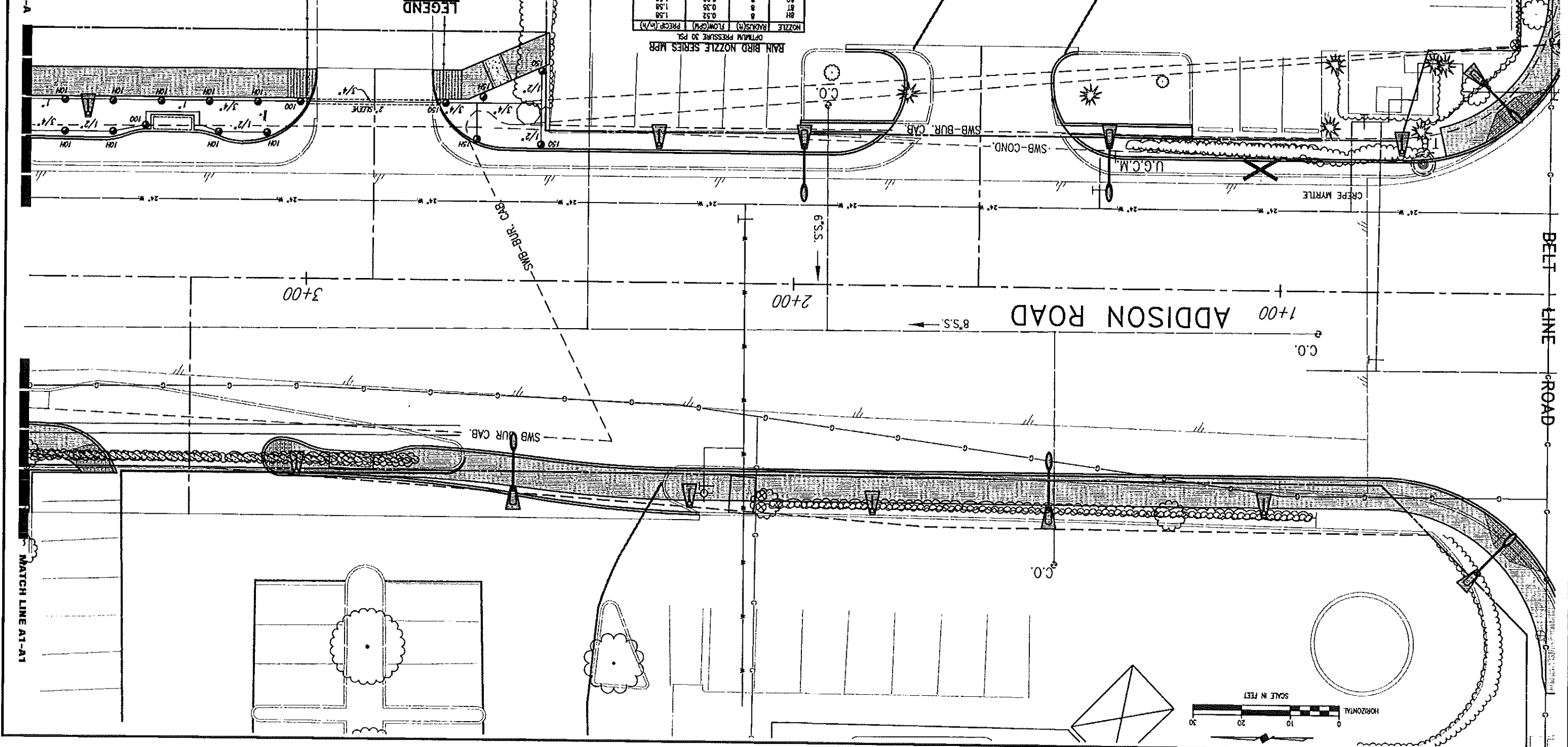
RAIN BIRD NOZZLE SERIES MPR
 OPTIMUM PRESSURE 30 PSI

TOWN OF ADDISON, TEXAS
ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARPAAHO ROAD PHASE I
 BIRKHOFF, HENDRICKS & CONWAY LLP,
 CONSULTING ENGINEERS
 12227
 STATE OF TEXAS
 PROFESSIONAL ENGINEERING
 12227

DESIGNED BY: G.C.
 DRAWN BY: B.H.A.C.
 DATE: APRIL 2007
 PROJECT: 2002 102
 SHEET NO. 57
 OF 68 SHEETS

LEGEND

- RAIN BIRD 1812 POP-UP SPRAY HEAD
- RAIN BIRD 1806 POP-UP SPRAY HEAD
- RAIN BIRD 1804 POP-UP SPRAY HEAD
- PVC SCHEDULE 40 PLASTIC PIPE (MAIN LINE)
- PVC CLASS 200 PLASTIC PIPE (LATERAL LINE)
- CONTROL VALVE
- DOUBLE CHECK VALVE ASSEMBLY (DCA)
- WATER METER
- ELECTRIC REMOTE-CONTROL VALVE
- NUMBER OF STATIONS
- TOTAL GALLONS PER MINUTE
- SIZE OF VALVE



MATCH LINE A-A

MATCH LINE A1-A1

TOWN OF ADDISON, TEXAS
ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO APAPHO ROAD PHASE I
 BIRKHOFF, HENDRICKS & CONWAY L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

DESIGNED BY: G.C.
 DRAWN BY: B.H.C.
 DATE: APRIL 2007
 PROJECT: 2002 102
 SHEET NO. 58 OF 63 SHEETS



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NOTES:
 USE VAN SERIES NOZZLES WATERING OOD-SHAPED ARCS
 SEE SHEET NO. B1 & B2 FOR IRRIGATION DETAILS AND

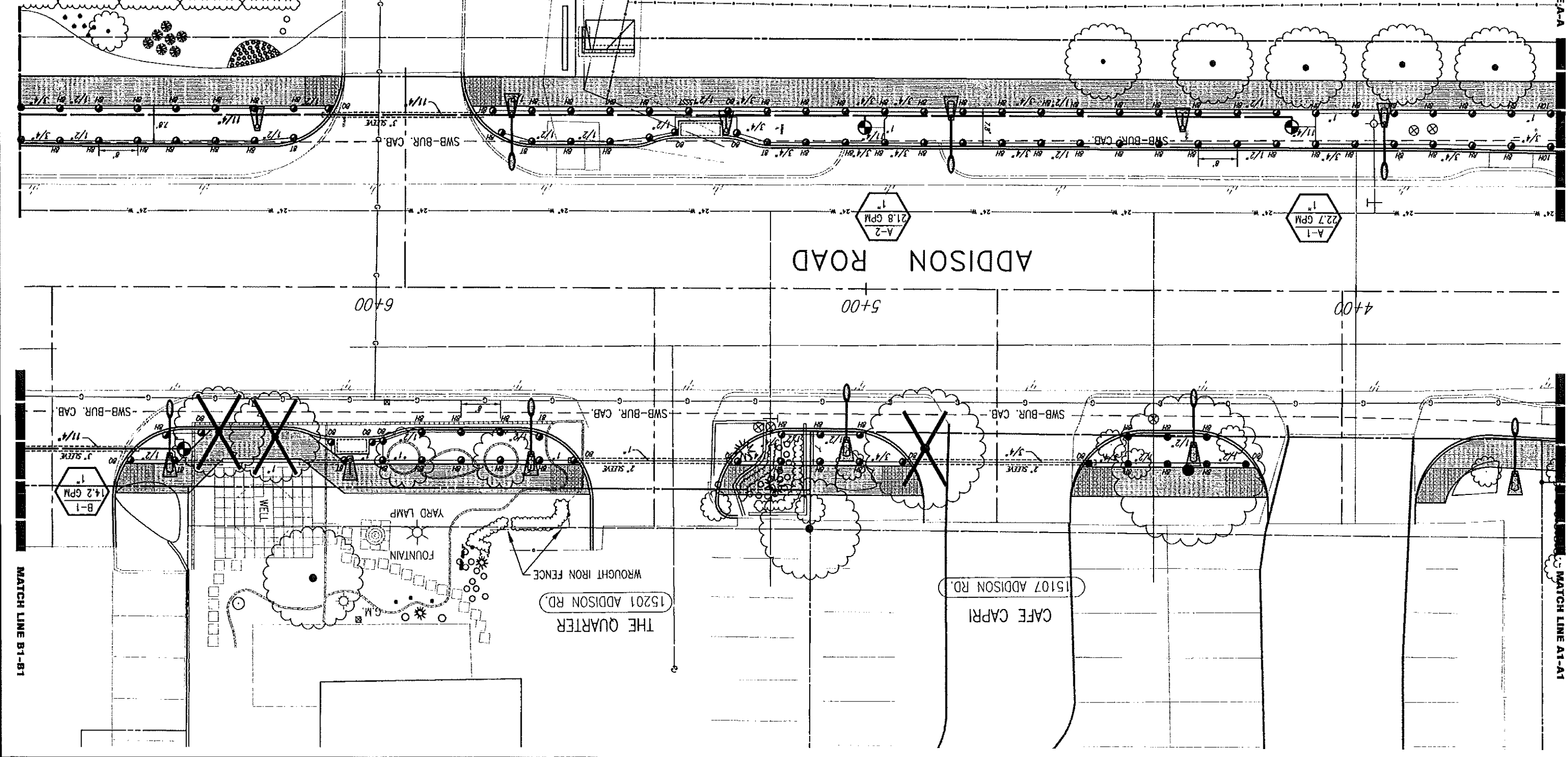
NOZZLE	RADIUS (ft)	FLOW (GPM)	PRECIP. (in/h)
B1	8	0.52	1.58
B2	8	0.52	1.58
B3	8	0.52	1.58
B4	8	0.52	1.58
B5	8	0.52	1.58
B6	8	0.52	1.58
B7	8	0.52	1.58
B8	8	0.52	1.58
B9	8	0.52	1.58
B10	8	0.52	1.58
B11	8	0.52	1.58
B12	8	0.52	1.58
B13	8	0.52	1.58
B14	8	0.52	1.58
B15	8	0.52	1.58
B16	8	0.52	1.58
B17	8	0.52	1.58
B18	8	0.52	1.58
B19	8	0.52	1.58
B20	8	0.52	1.58
B21	8	0.52	1.58
B22	8	0.52	1.58
B23	8	0.52	1.58
B24	8	0.52	1.58
B25	8	0.52	1.58
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B28	8	0.52	1.58
B29	8	0.52	1.58
B30	8	0.52	1.58
B31	8	0.52	1.58
B32	8	0.52	1.58
B33	8	0.52	1.58
B34	8	0.52	1.58
B35	8	0.52	1.58
B36	8	0.52	1.58
B37	8	0.52	1.58
B38	8	0.52	1.58
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B50	8	0.52	1.58
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B52	8	0.52	1.58
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B55	8	0.52	1.58
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B59	8	0.52	1.58
B60	8	0.52	1.58
B61	8	0.52	1.58
B62	8	0.52	1.58
B63	8	0.52	1.58
B64	8	0.52	1.58
B65	8	0.52	1.58
B66	8	0.52	1.58
B67	8	0.52	1.58
B68	8	0.52	1.58
B69	8	0.52	1.58
B70	8	0.52	1.58
B71	8	0.52	1.58
B72	8	0.52	1.58
B73	8	0.52	1.58
B74	8	0.52	1.58
B75	8	0.52	1.58
B76	8	0.52	1.58
B77	8	0.52	1.58
B78	8	0.52	1.58
B79	8	0.52	1.58
B80	8	0.52	1.58
B81	8	0.52	1.58
B82	8	0.52	1.58
B83	8	0.52	1.58
B84	8	0.52	1.58
B85	8	0.52	1.58
B86	8	0.52	1.58
B87	8	0.52	1.58
B88	8	0.52	1.58
B89	8	0.52	1.58
B90	8	0.52	1.58
B91	8	0.52	1.58
B92	8	0.52	1.58
B93	8	0.52	1.58
B94	8	0.52	1.58
B95	8	0.52	1.58
B96	8	0.52	1.58
B97	8	0.52	1.58
B98	8	0.52	1.58
B99	8	0.52	1.58
B100	8	0.52	1.58

LEGEND

- PVC CLASS 200 PLASTIC PIPE (LATERAL LINE)
- PVC SCHEDULE 40 PLASTIC PIPE (MAIN LINE)
- RAIN BIRD 1804 POP-UP SPRAY HEAD
- RAIN BIRD 1806 POP-UP SPRAY HEAD
- RAIN BIRD 1812 POP-UP SPRAY HEAD
- CONTROLLER
- DOUBLE CHECK VALVE ASSEMBLY (DCA)
- WATER METER
- ELECTRIC REMOTE-CONTROL VALVE
- NUMBER OF STATIONS
- TOTAL GALLONS PER MINUTE
- SIZE OF VALVE

NOTE:
 1. PRIVATE OWNER SHALL BE RESPONSIBLE FOR RESTORING 100% COVERAGE AND AUTO-OPERATION.
 PRIVATE PROPERTY SPRINKLERS SHALL BE FIELD LOCATED, CAPPED FOR CONSTRUCTION, REPAIRED TO MAKE OPERATIONAL, ALSO NOTE CONTRACTOR SHALL RUN PRIVATE SYSTEMS IN THE PRESENCE OF OWNER TO VERIFY CONDITIONAL OF SYSTEM BEFORE CONSTRUCTION ACTIVITIES.
 EXISTING PLANT MATERIAL TO REMAIN, CONTRACTOR TO COORDINATE WITH PROPERTY OWNER AND MAINTAINING EXISTING LANDSCAPE IRRIGATION. FROM STREET CLOSE TO SIDEWALK.
 2. ALL NEW PROPOSED REMOTE CONTROL VALVES TO BE LOCATED AWAY BETWEEN ELECTRICAL SERVICE PANEL AND SEPARATE CONTROLLER 20 AMP. CIRCUIT FOR EACH CONTROLLER IS SHOWN IN THE ELECTRICAL PLANS.
 3. LOCATION OF IRRIGATION WATER SERVICE, VALVES AND CONTROLLER TO BE LOCATED IN THE FIELD BY THE TOWN OF ADDISON.
 4. IRRIGATION CONTRACTOR TO RUN ELECTRICAL CONDUIT AND CONDUCTORS BETWEEN ELECTRICAL SERVICE PANEL AND SEPARATE CONTROLLER 20 AMP.
 5. USE APPROPRIATE NOZZLES TO CONTINUE WATER TO LANDSCAPED AREAS.

SCALE IN FEET
 HORIZONTAL
 0 10 20 30
 MATCH LINE B-B



MATCH LINE B1-B1

MATCH LINE A1-A1

TOWN OF ADDISON, TEXAS
ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
 BIRKHOFF, HENDRICKS & CONWAY L.L.P.
 CONSULTING ENGINEERS
 12227 STATE OF TEXAS
 PROJECT: 2002 102
 DATE: APRIL 2007
 SHEET NO. 59
 OF 88 SHEETS



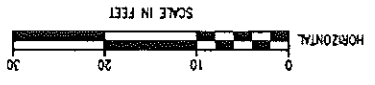
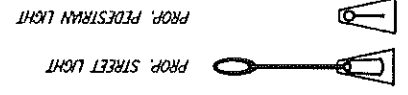
BIDJAR BOUTIQUE HOTELS, LTD.
 15200 ADDISON RD., SUITE

STEAK HOUSE
 ADDISON RD.

NOTES:
 USE VAN Series NOZZLES WATERING OOD-SHAPED AREAS
 SEE SHEET NO. 61 & 62, FOR IRRIGATION DETAILS AND

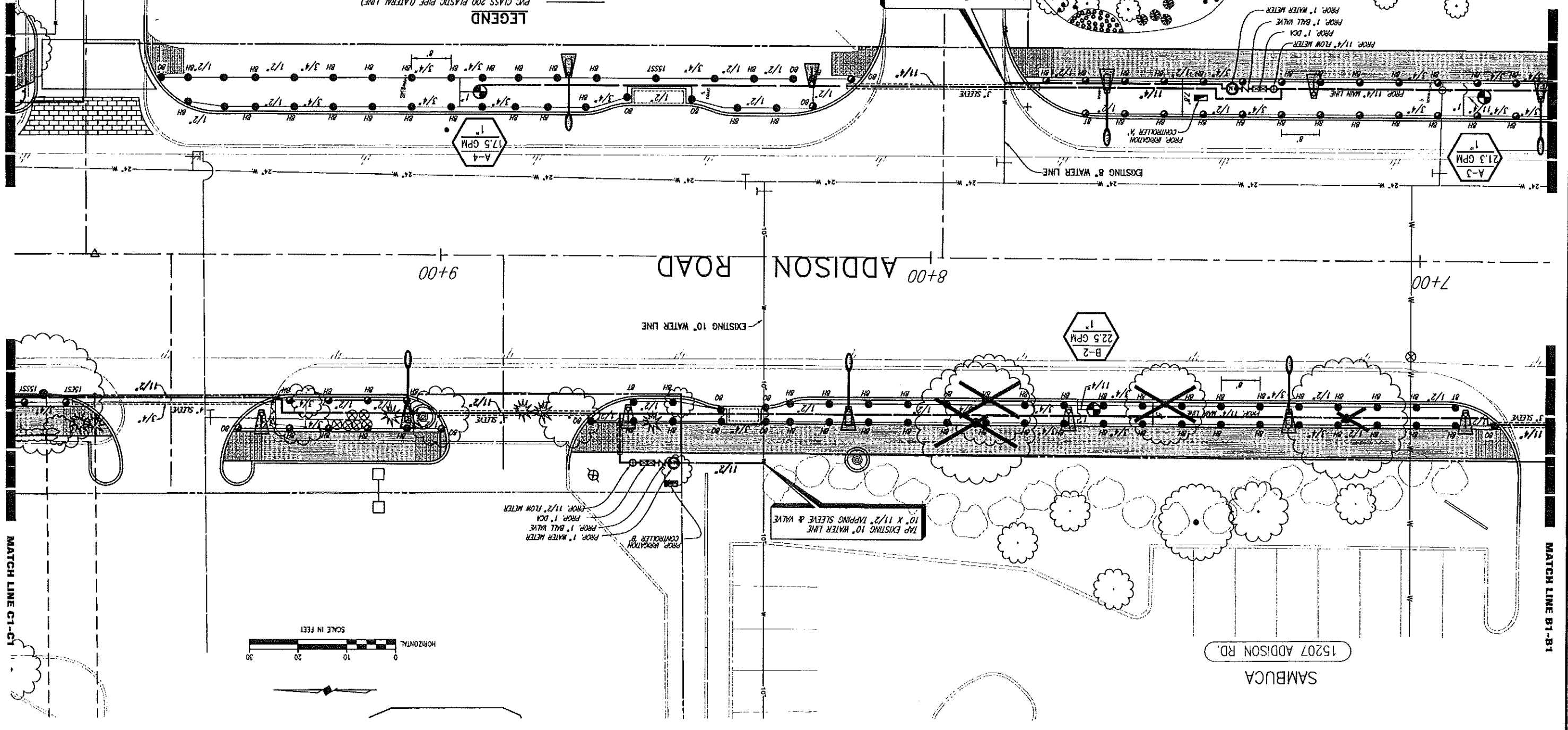
NOZZLE	RADIUS (ft)	FLOW (GPM)	PRECIP (in/h)
BH	8	0.52	1.58
BT	8	0.35	1.58
BQ	8	0.26	1.58
10H	10	0.79	1.52
10I	10	1.30	1.74
15H	15	1.85	1.58
15I	15	0.92	1.58
15J	15	1.21	1.58
15K	15	0.61	1.58

LEGEND
 PVC CLASS 200 PLASTIC PIPE (LATERAL LINE)
 PVC SCHEDULE 40 PLASTIC PIPE (MAIN LINE)
 RAIN BIRD 1804 POP-UP SPRAY HEAD
 RAIN BIRD 1806 POP-UP SPRAY HEAD
 RAIN BIRD 1812 POP-UP SPRAY HEAD
 CONTROLLER
 DOUBLE CHECK VALVE ASSEMBLY (DCV)
 WATER METER
 ELECTRIC REMOTE- CONTROL VALVE
 NUMBER OF STATIONS
 TOTAL GALLONS PER MINUTE
 SIZE OF VALVE



MATCH LINE C-C

MATCH LINE B-B



MATCH LINE C1-C1

MATCH LINE B1-B1

TOWN OF ADDISON, TEXAS
ADDISON ROAD IMPROVEMENTS
BELT LINE ROAD TO ARAPAHO ROAD PHASE I
 ADDISON ROAD IRRIGATION
 BIRKHOFF, HENDRICKS & CONWAY L.L.P.
 CONSULTING ENGINEERS
 12227
 STATE OF TEXAS
 PROFESSIONAL ENGINEER
 12227
 PROJECT: 2002 102
 DATE: APRIL 2007
 DESIGNED BY: G.C.
 DRAWN BY: B.H.C.
 SHEET NO. 60
 OF 69 SHEETS

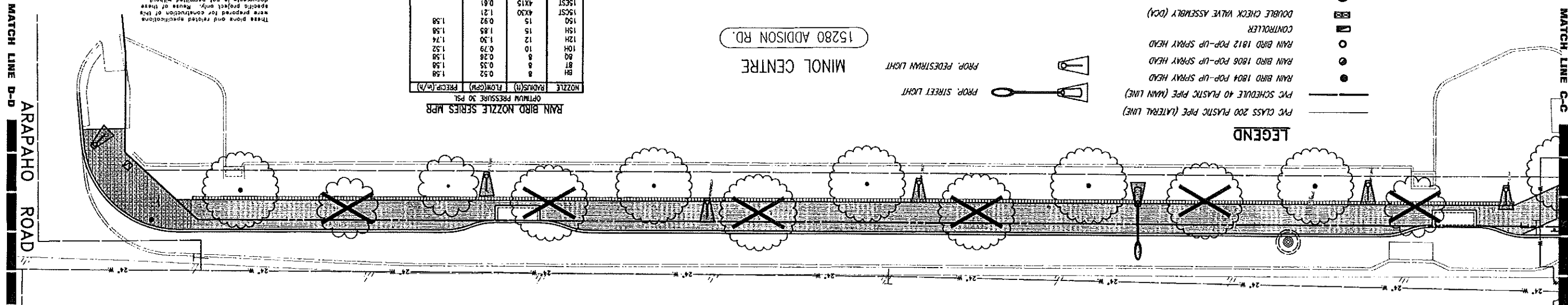


NOTE:
 USE VAN SERIES NOZZLES WATERING ODD-SHAPED AREAS.
 SEE SHEET No. 61 & 62, FOR IRRIGATION DETAILS AND NOTES.

NOZZLE	RADIUS (ft)	FLOW (GPM)	PRECIP. (in/h)
15CS1	8	0.52	1.58
15CS2	8	0.52	1.58
15S	8	0.52	1.58
15H	8	0.52	1.58
12H	10	0.79	1.52
10H	12	1.30	1.74
8Q	15	1.83	1.58
8	15	0.92	1.58
4X15	1.21	1.21	1.58

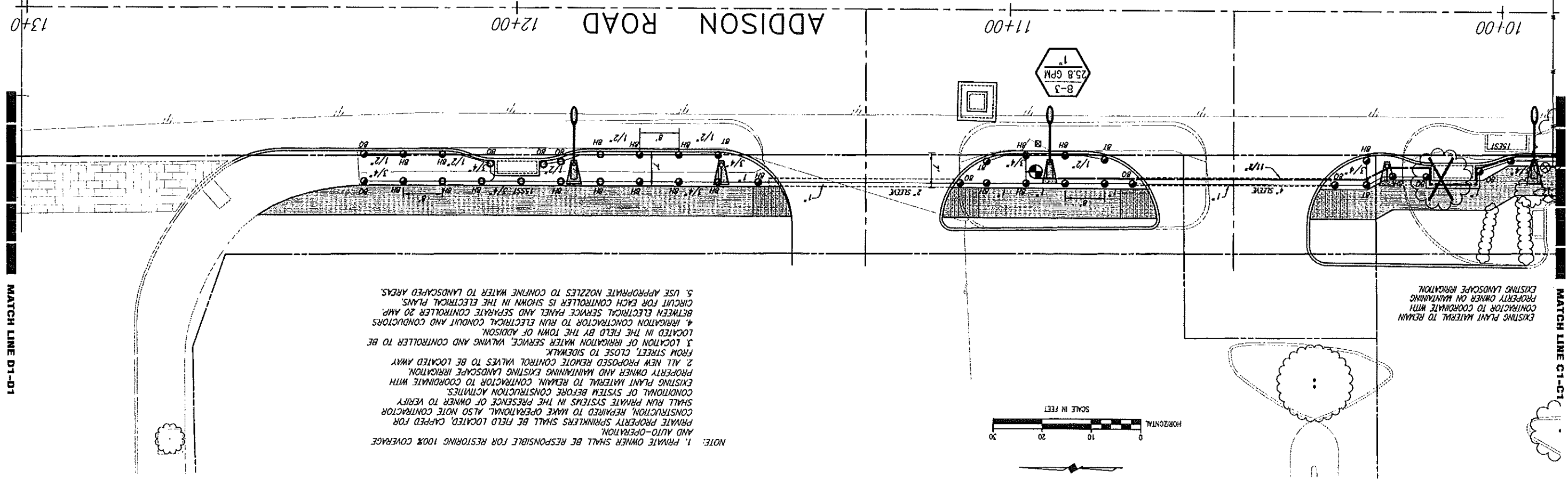
RAIN BIRD NOZZLE SERIES MFR
 OPTIMUM PRESSURE 30 PSI

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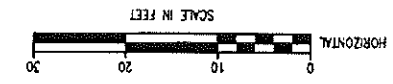


LEGEND

- PVC CLASS 200 PLASTIC PIPE (LATERAL LINE)
- PVC SCHEDULE 40 PLASTIC PIPE (MAIN LINE)
- RAIN BIRD 1804 POP-UP SPRAY HEAD
- RAIN BIRD 1806 POP-UP SPRAY HEAD
- RAIN BIRD 1812 POP-UP SPRAY HEAD
- CONTROLLER
- DOUBLE CHECK VALVE ASSEMBLY (DCA)
- WATER METER
- ELECTRIC REMOTE - CONTROL VALVE
- NUMBER OF STATIONS
- TOTAL GALLONS PER MINUTE
- SIZE OF VALVE



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 4. IRRIGATION CONTRACTOR TO RUN ELECTRICAL CONDUIT AND CONDUCTORS BETWEEN ELECTRICAL SERVICE PANEL AND SEPARATE CONTROLLER 20 AMP. CIRCUIT FOR EACH CONTROLLER IS SHOWN IN THE ELECTRICAL PLANS.
 5. USE APPROPRIATE NOZZLES TO CONFINED WATER TO LANDSCAPED AREAS.



EXISTING PLANT MATERIAL TO REMAIN
 CONTRACTOR TO COORDINATE WITH
 PROPERTY OWNER ON MAINTAINING
 EXISTING LANDSCAPE IRRIGATION.

ARAPAHO ROAD

13+00

12+00

11+00

10+00

MATCH LINE D-D

MATCH LINE C-C

MATCH LINE C1-C1

MATCH LINE D1-D1