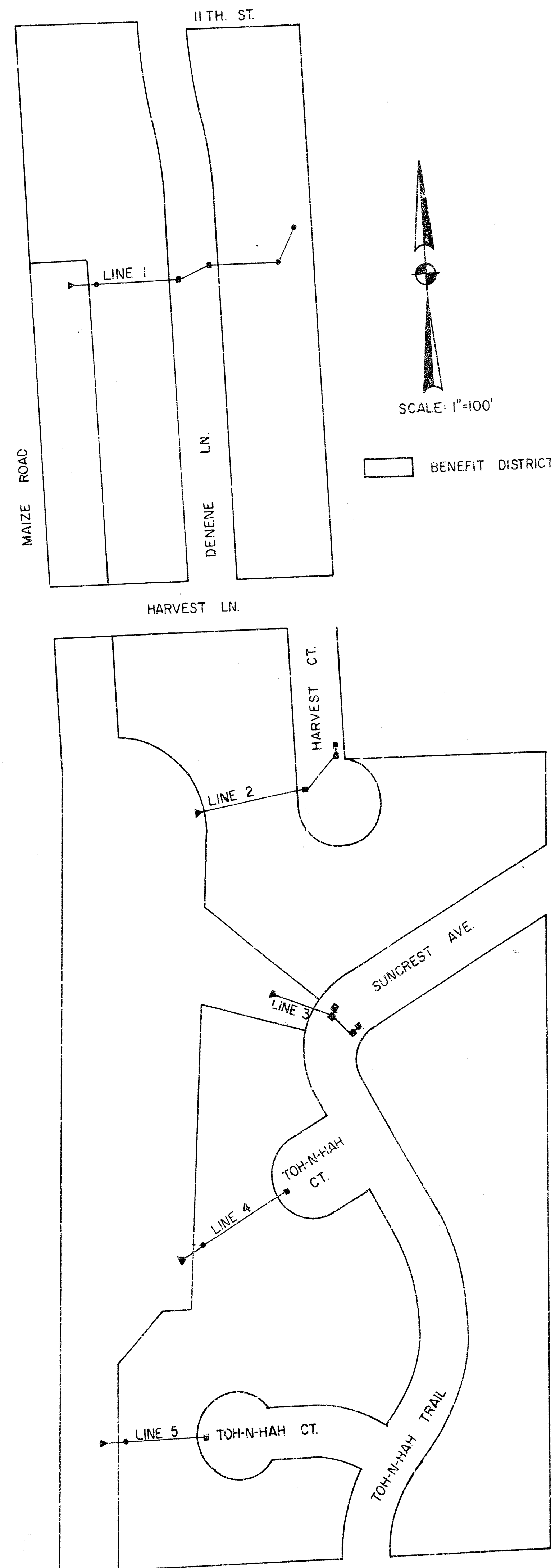


STORM WATER SEWER NO. 146

PART I

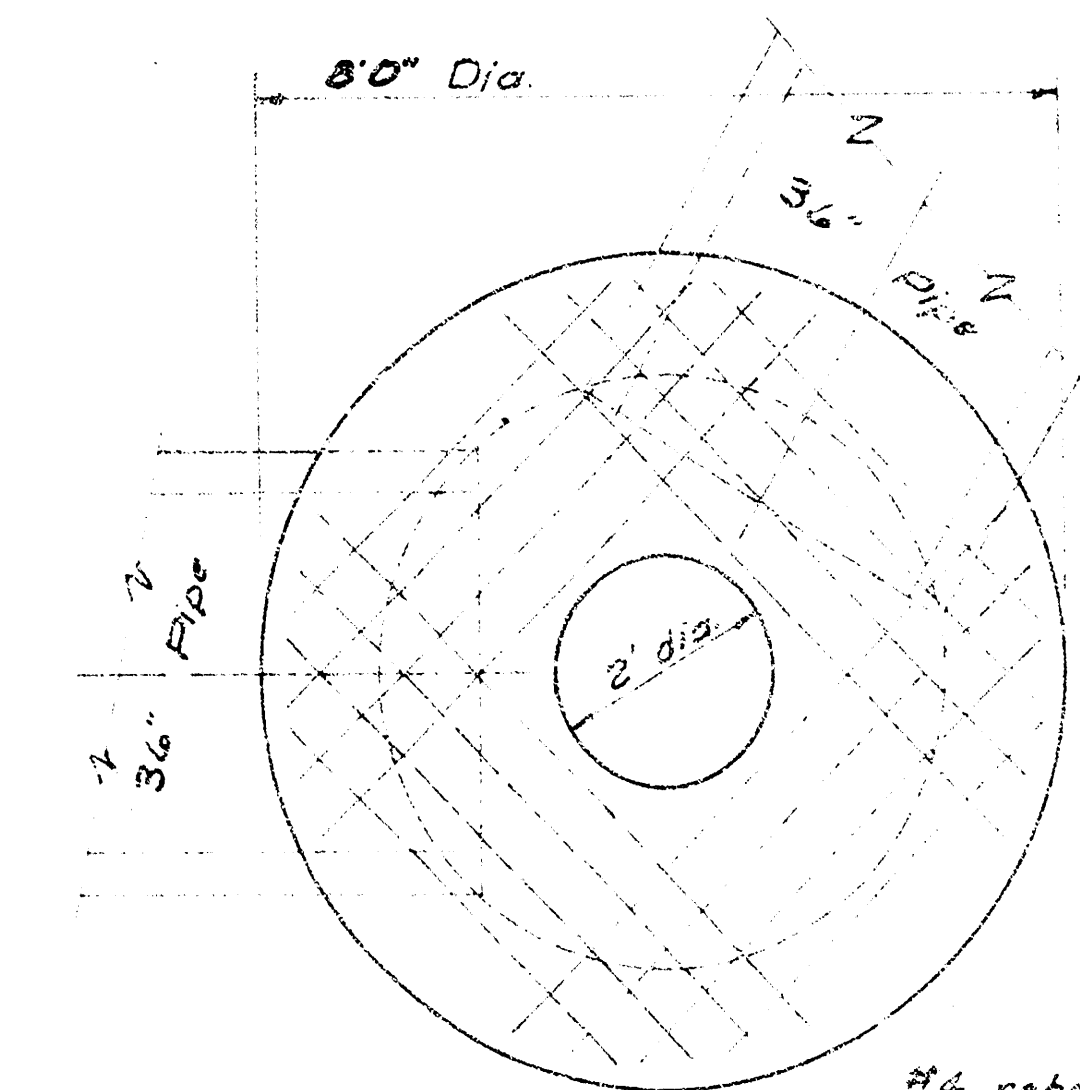
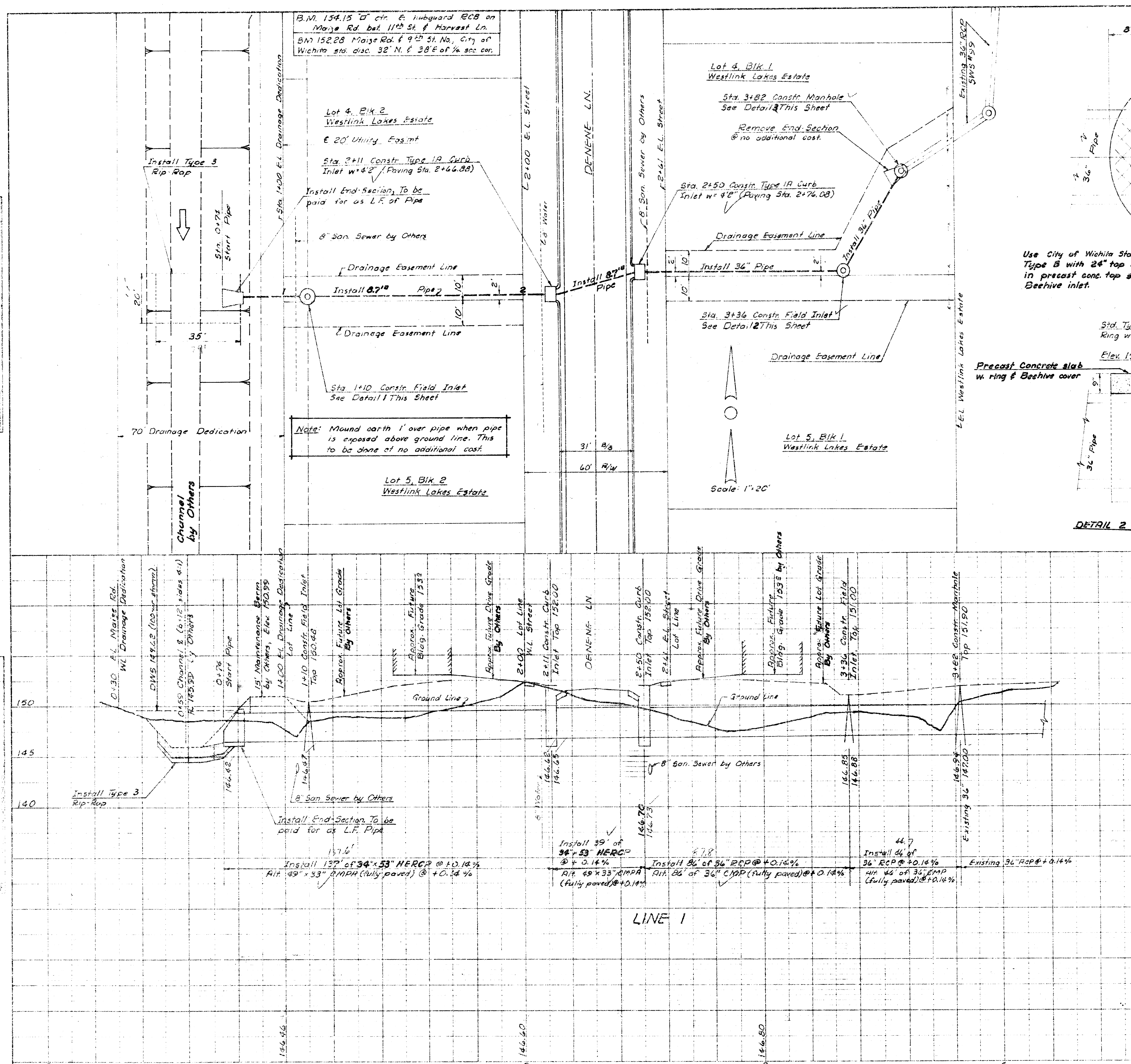
- GENERAL NOTES
1. FOR ADDITIONAL LAYOUT INFORMATION, SEE WESTLINK LAKES ESTATE PLAT AND THE STREET PAVING PLANS.
 2. LOCATE CURB INLETS TO CORRESPOND WITH BACK OF CURBS AS SHOWN ON STREET PAVING PLANS.
 3. FIELD ENGINEER SHALL TAKE TIES ON IRONS WHICH MAY BE DISTURBED DURING CONSTRUCTION. SUCH ALTERED IRONS SHALL BE REPLACED TO ORIGINAL LOCATION BY FIELD ENGINEER.
 4. THE RIP-RAP SHALL BE TYPE 3. THE TYPE 3 RIP-RAP SHALL BE 12" RIP-RAP ON 6" SAND AND GRAVEL BEDDING. THE ROCK FOR RIP-RAP AND GRAVEL PROTECTION SHALL BE HARD, DENSE, DURABLE AND SHALL BE REASONABLY WELL GRADED. THE SIZE RANGE OF ROCK USED FOR RIP-RAP SHALL HAVE A MAXIMUM SIZE OF ONE CUBIC FOOT AND A MINIMUM SIZE OF 15 INCH. THE 6 INCH SAND AND GRAVEL BEDDING SHALL BE A CONTINUOUS LAYER OF SAND AND GRAVEL OR SAND AND CRUSHED ROCK, REASONABLY WELL GRADED.
 5. END SECTIONS AT PIPE OUTFALL SHALL BE CONSTRUCTED TO ALIGN WITH THE SLOPE OF BANK IN ORDER THAT END SECTION PROTRUSION IS MINIMUM. WHERE SUCH PROTRUSION CANNOT BE AVOIDED, FILL AROUND THE END SECTIONS AT APPROXIMATELY 3:1 SIDE SLOPED SO END SECTION APPEARS ENTIRELY RECESSED.



CITY OF WICHITA, KANSAS
 R. W. LINN, CITY ENGINEER
 PROJECT NO. 468-76-245-80649-000-000-001
 DATE: 2.6.14
for 010 16-2

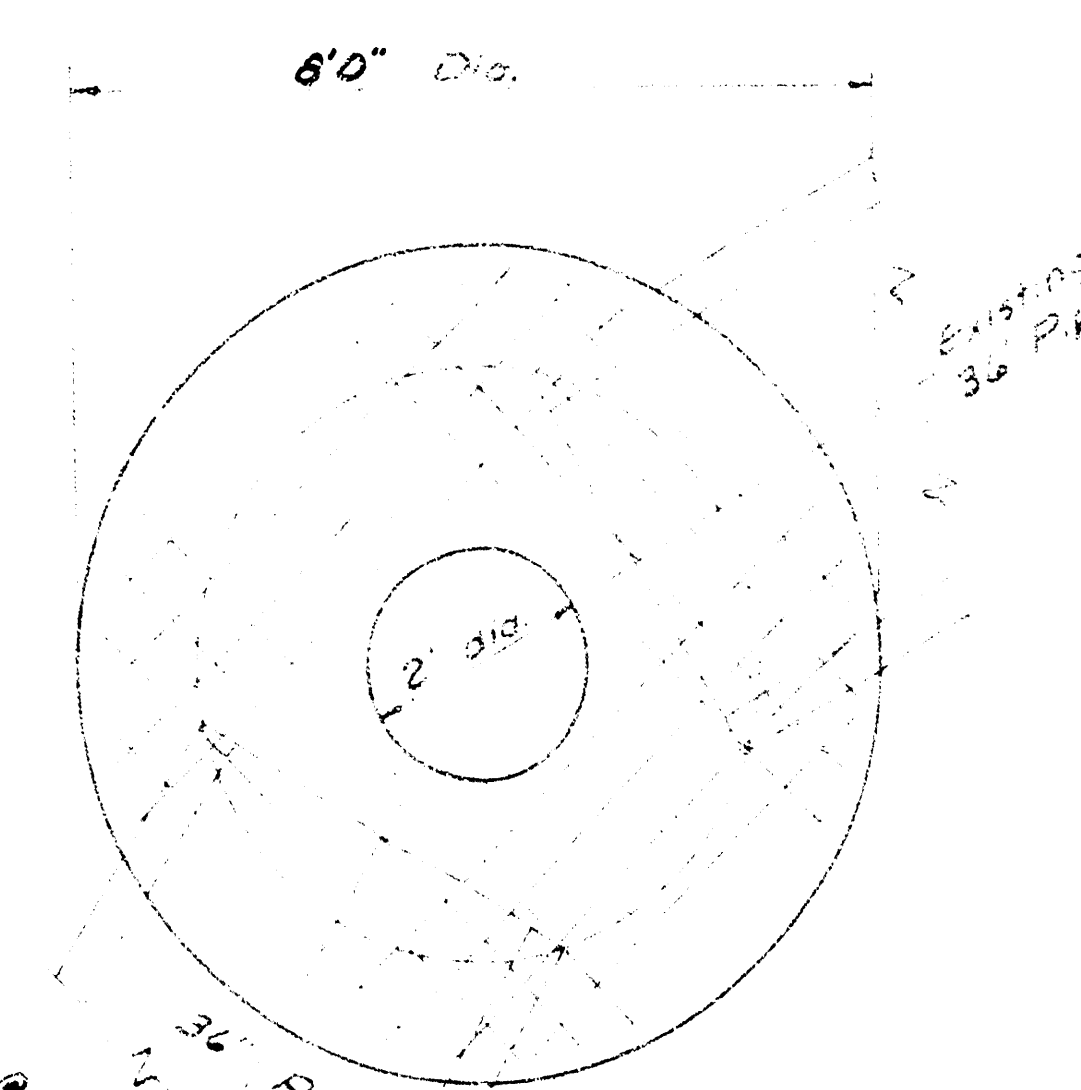
PLAN
 SCALE: D.I.A. 3/8"
 NOTEBOOK 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 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

PROFILE
 SCALE: V. 1" = 10'
 HORIZ. 1" = 20'

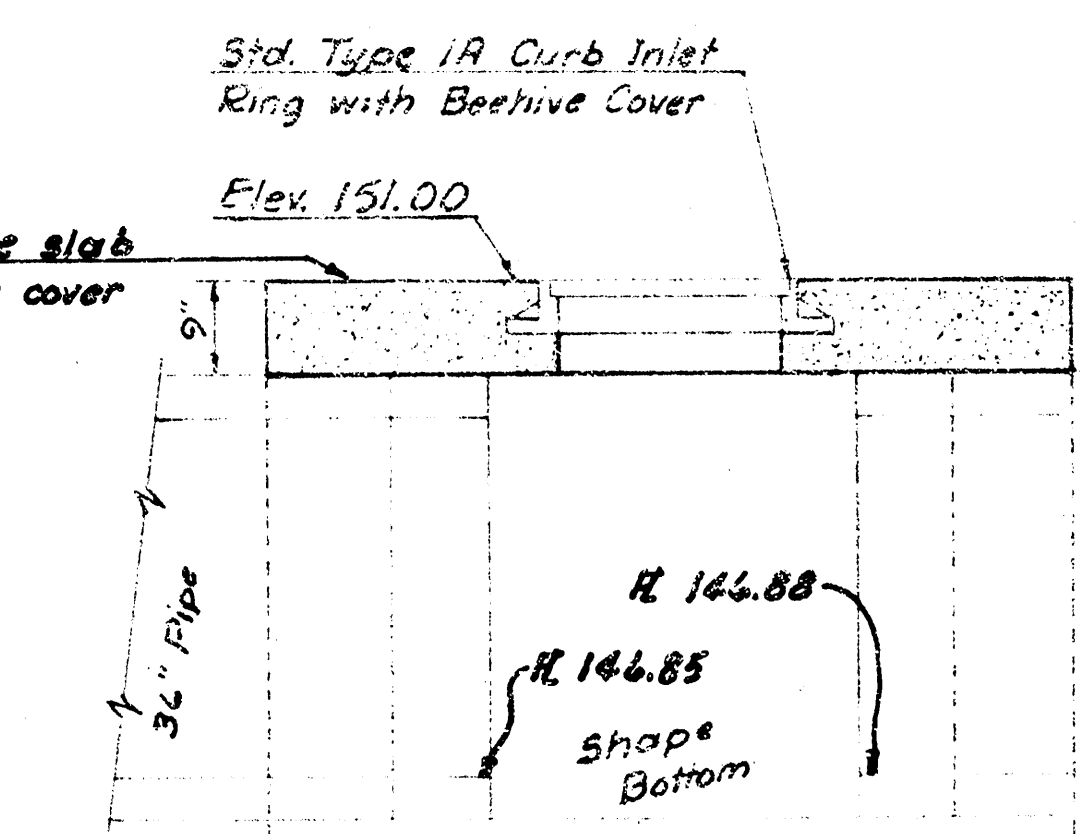


Use City of Wichita Standard Manhole Type B with 24\"/>

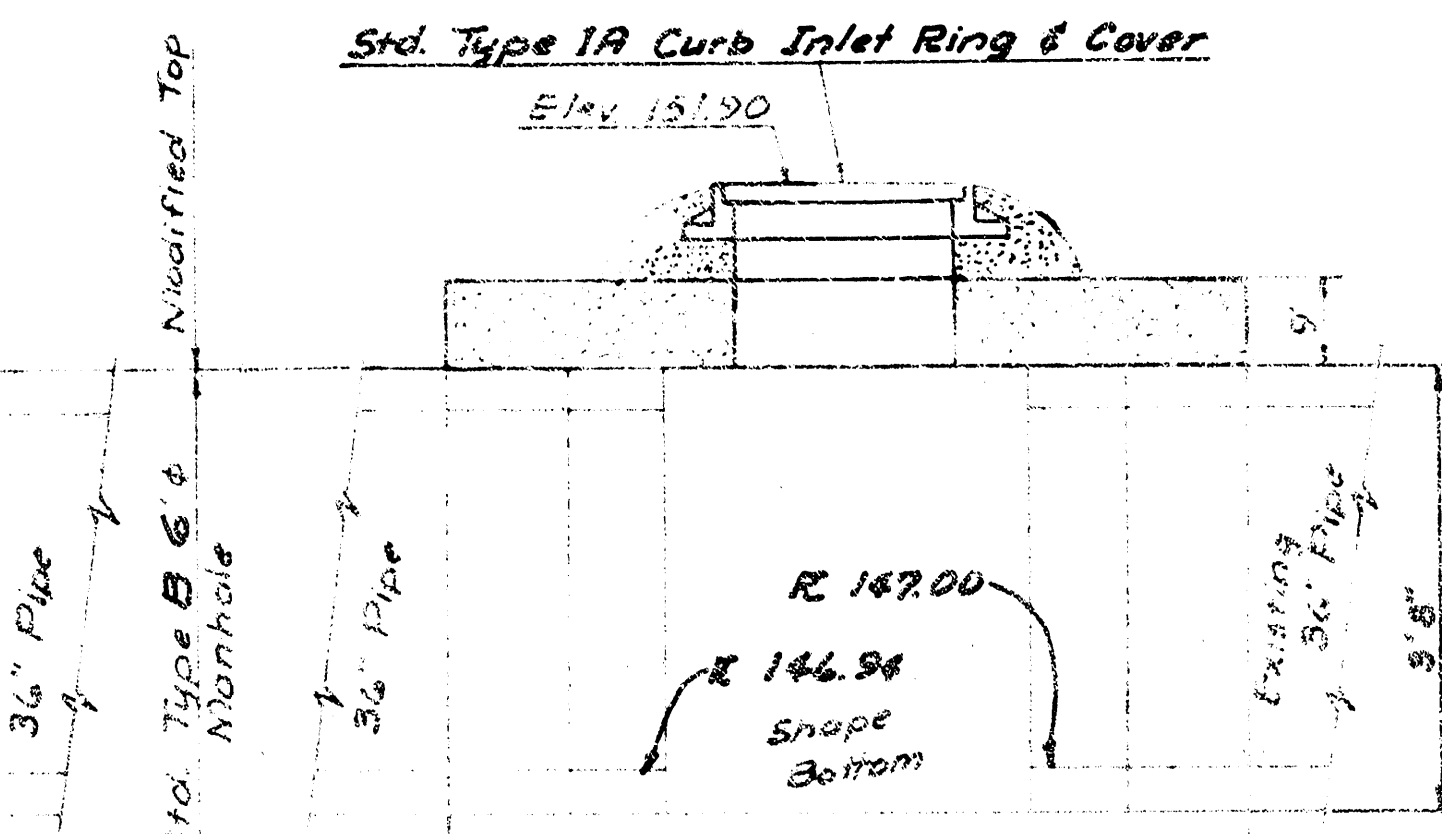
TOP SLAB PLAN



TOP SLAB PLAN



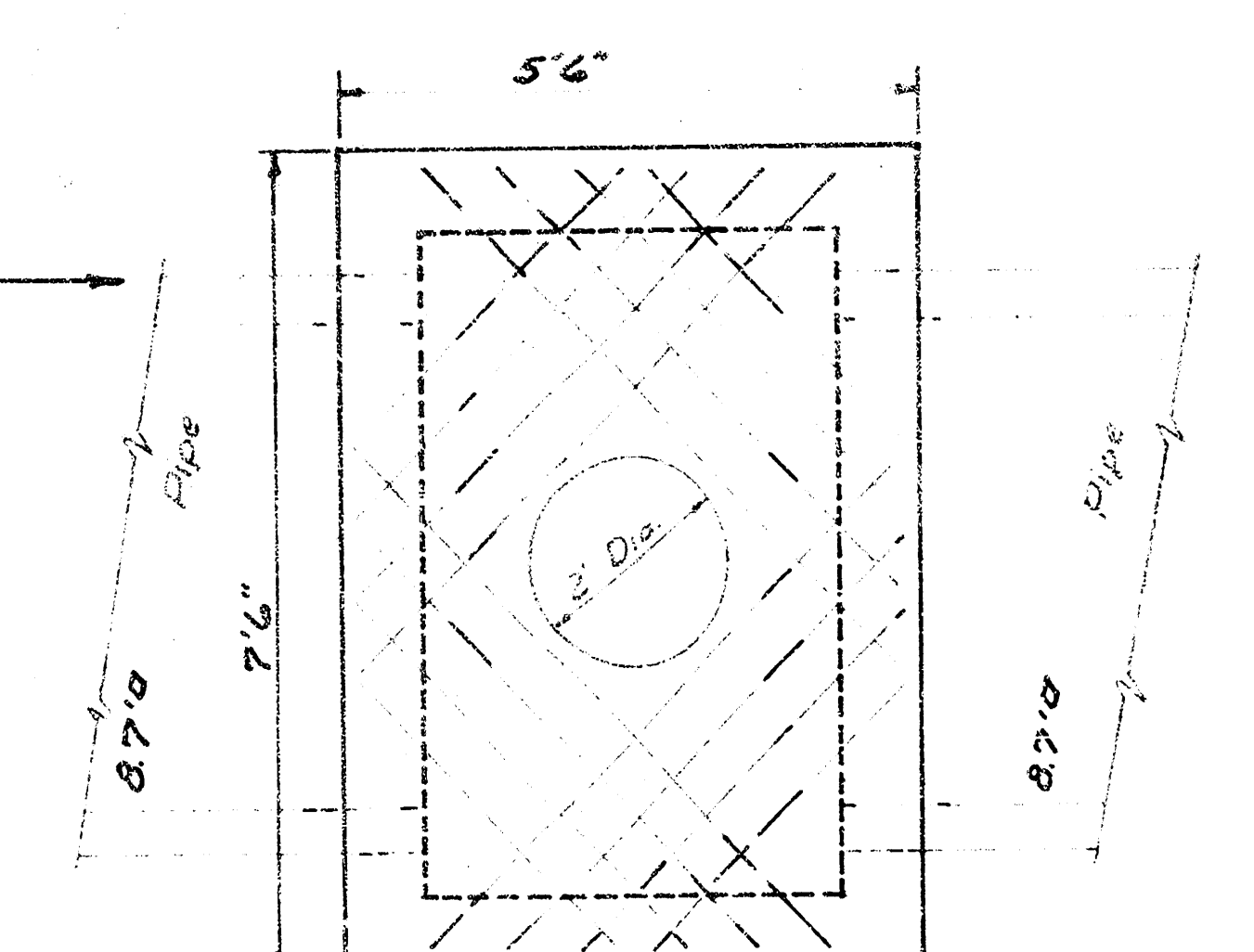
SECTION DETAIL 2 FIELD INLET @ 3+36 Scale: 1/2\"/>



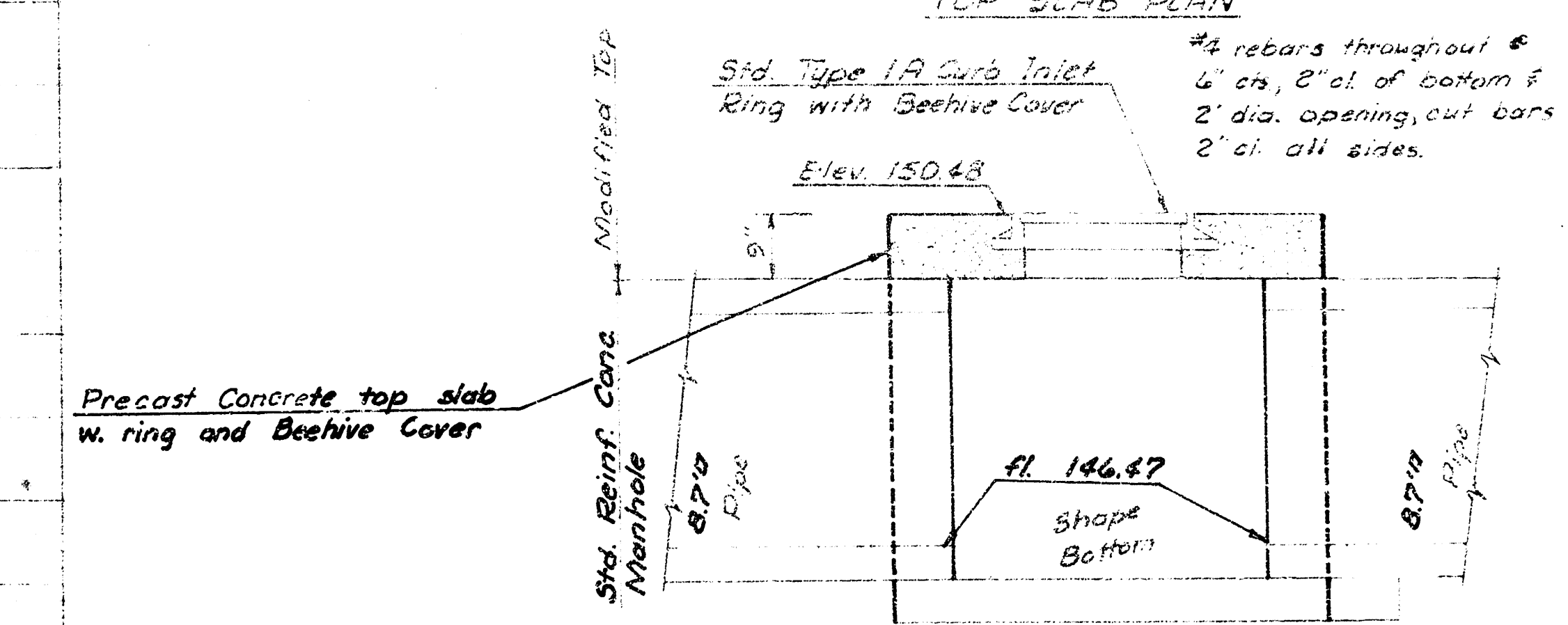
SECTION DETAIL 3 MANHOLE @ 3+82 Scale: 1/2\"/>

NOTE: Beehive cover to be 1500-R-2500-R Beehive frame or approved equal.

Use City of Wichita Standard Reinforced Concrete Manhole Box with precast conc. Top Slab Type 1A Curb Inlet ring and Beehive Cover.



TOP SLAB PLAN



SECTION DETAIL 1 FIELD INLET @ 1+10 Scale: 1/2\"/>

BM (See BM's for Line 1 and Line 3)

Lot 1

Lot 2

LOT 3, Blk. 3
WESTLINK LAKES ESTATE

LOT 4, Blk. 3
WESTLINK LAKES ESTATE

Approximate Proposed Shore Line
of Lake 1 by Others

Type 3 Rip-Rap

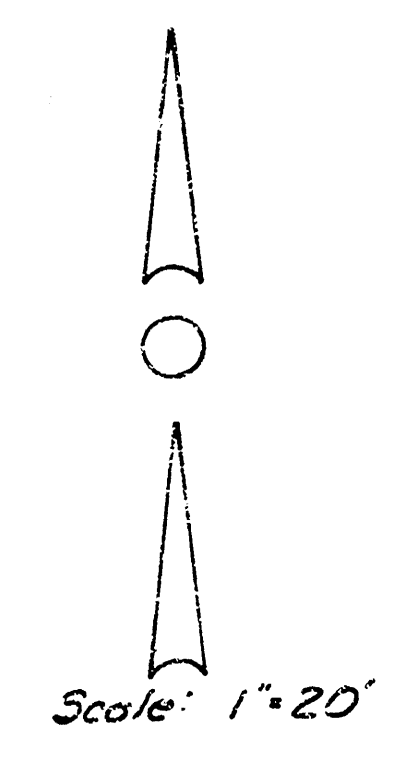
Install 18" Pipe
& 20' Drainage Easement

N.W. Cor. Lot 4
2.00' Rt. Sta. 1+00.00

Iron 19.6' Rt. Sta. 2+16.9
Street Paving Sta. 0+00

Install End Section To
be paid for as L.F. Pipe
& 20' Utility Easement

NOTE: All Curb Inlet this sheet are Std. Type 1A Curb Inlet w=4'2"



EL. MAIZE RD

Reserve "A"

Drainage Easement

Constr. Curb Inlet Top 152.70
Street Paving Sta. 0+64.77

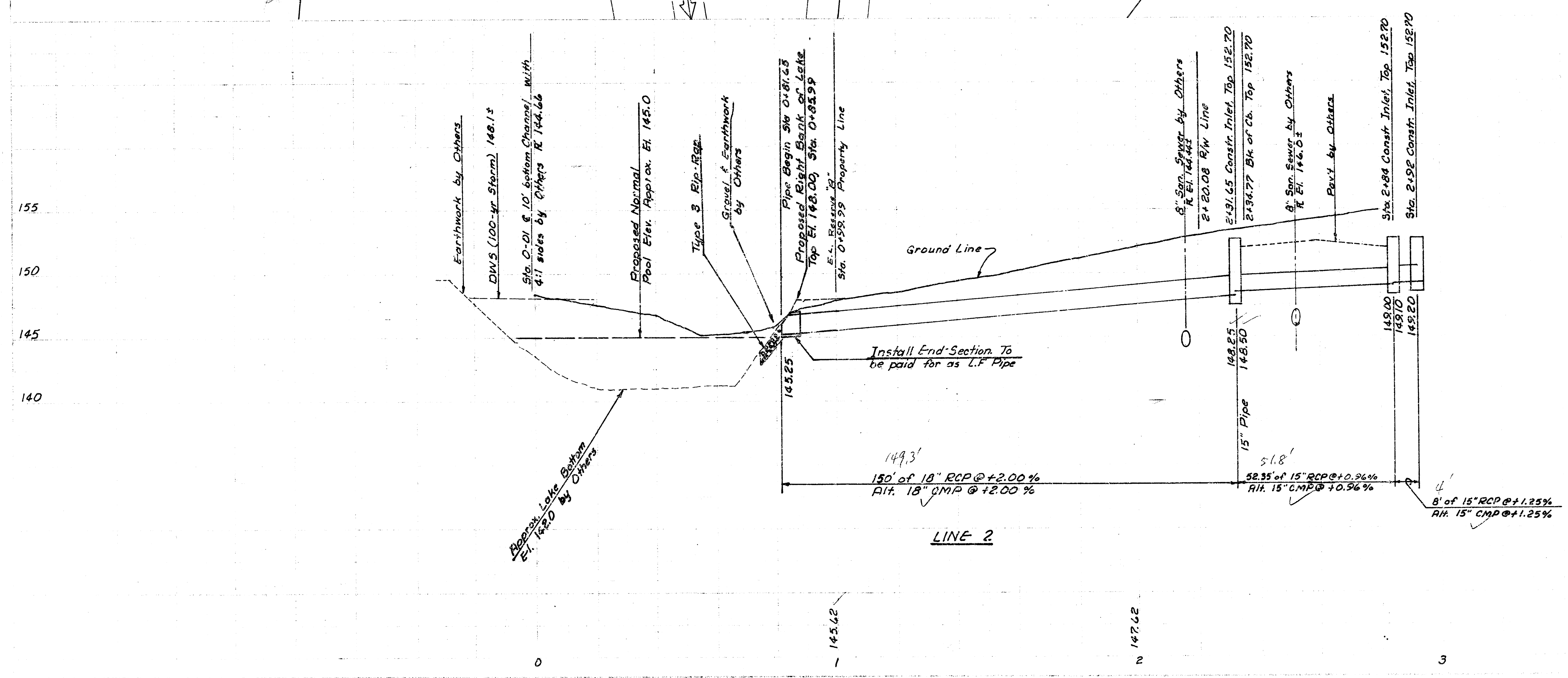
Install 8" of 15" Pipe
USFL 149.20; DSFL 148.10

Constr. Curb Inlet Top 152.70
Street Paving Sta. 0+56.77

Iron, Street Paving Sta. 0+48.99

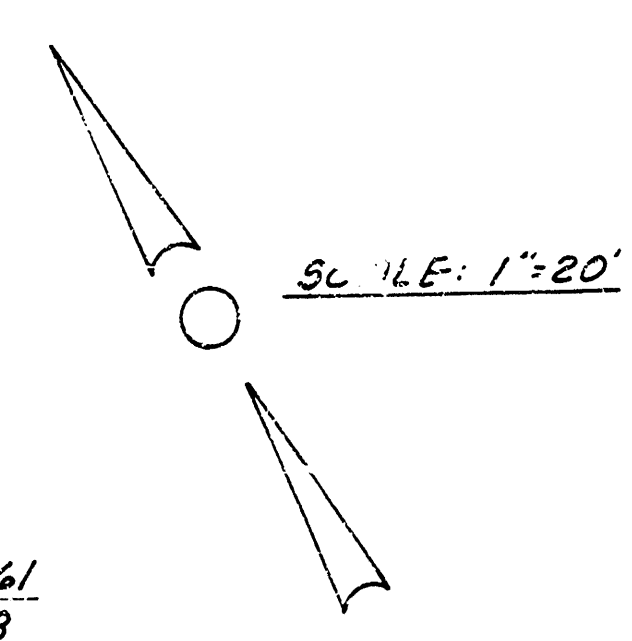
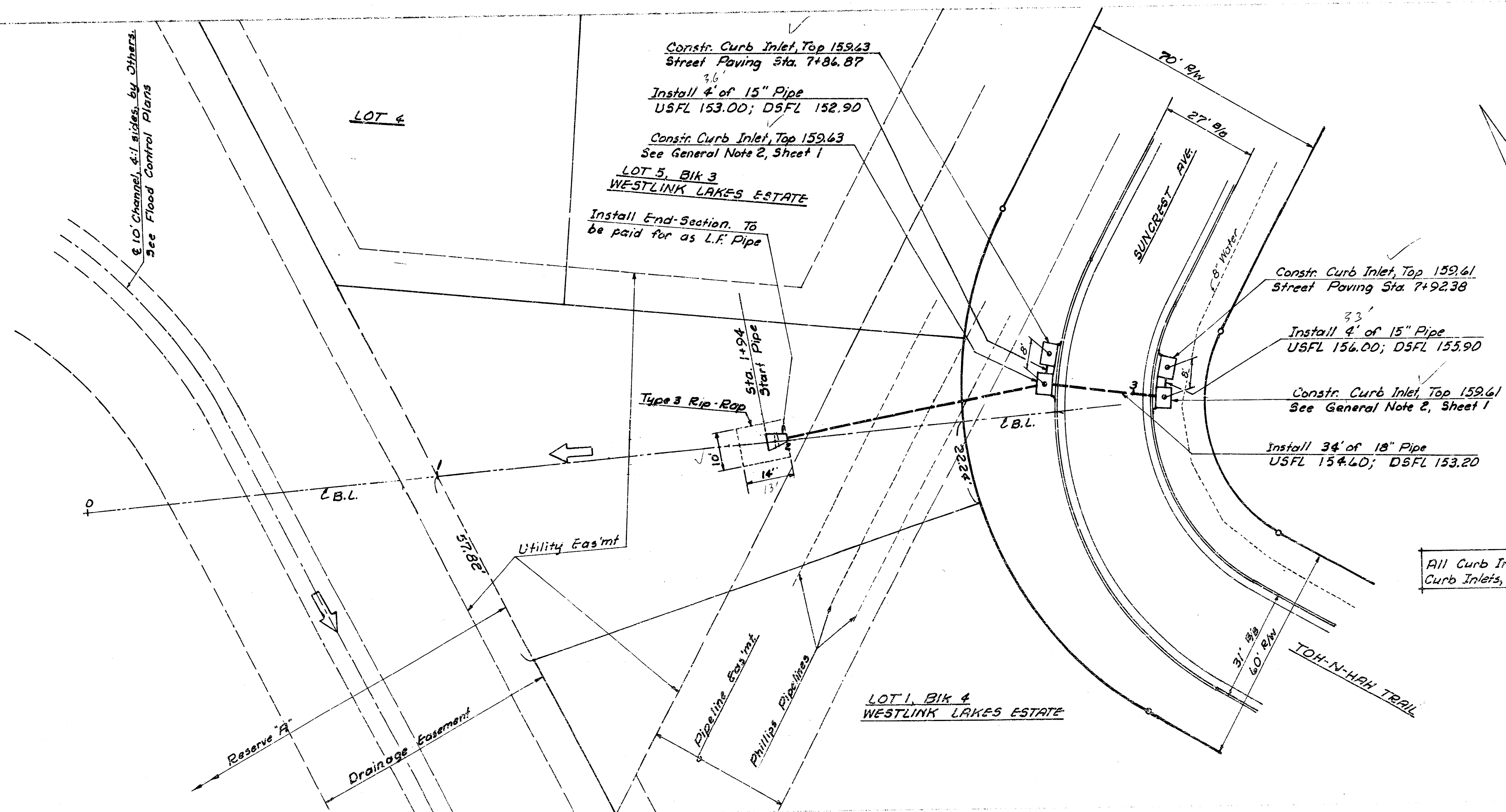
Install 52.35' of 15" Pipe
USFL 149.00; DSFL 148.50

Sta. 2+31.65 Constr. Curb Inlet Top 152.70
Street Paving Sta. 0+21.55

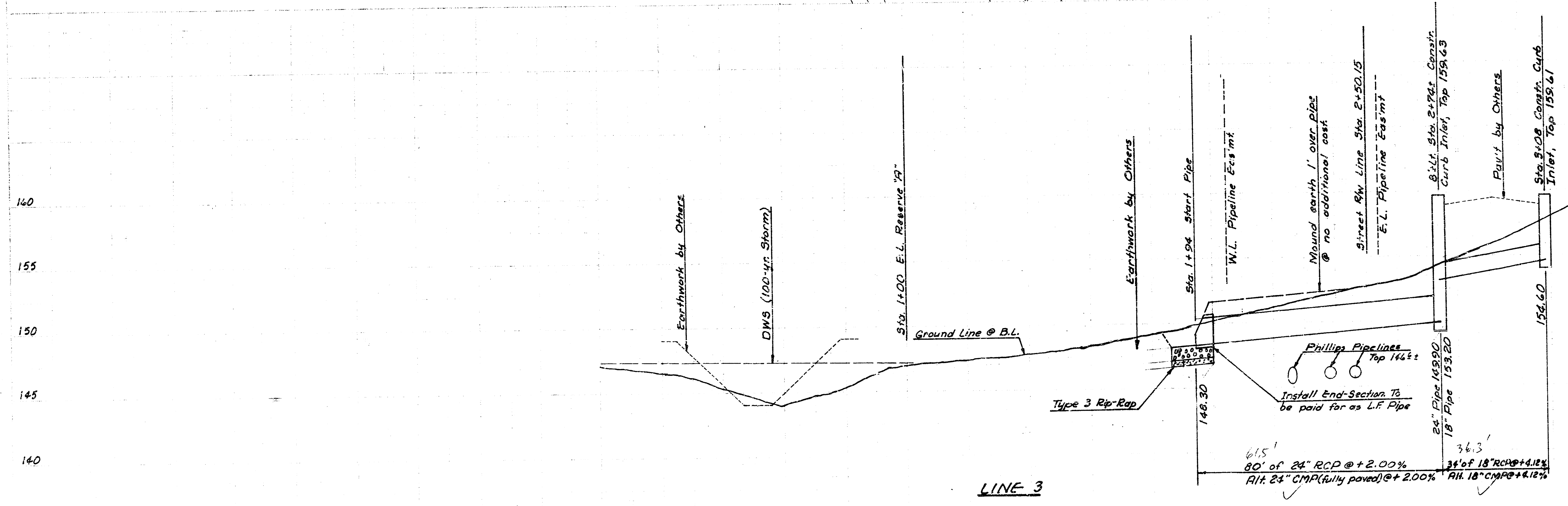


BM 171.19 NE Cor. Conc. Paved Hw. # 10119 Suncrest

PLAN
DLK: 356
WSK

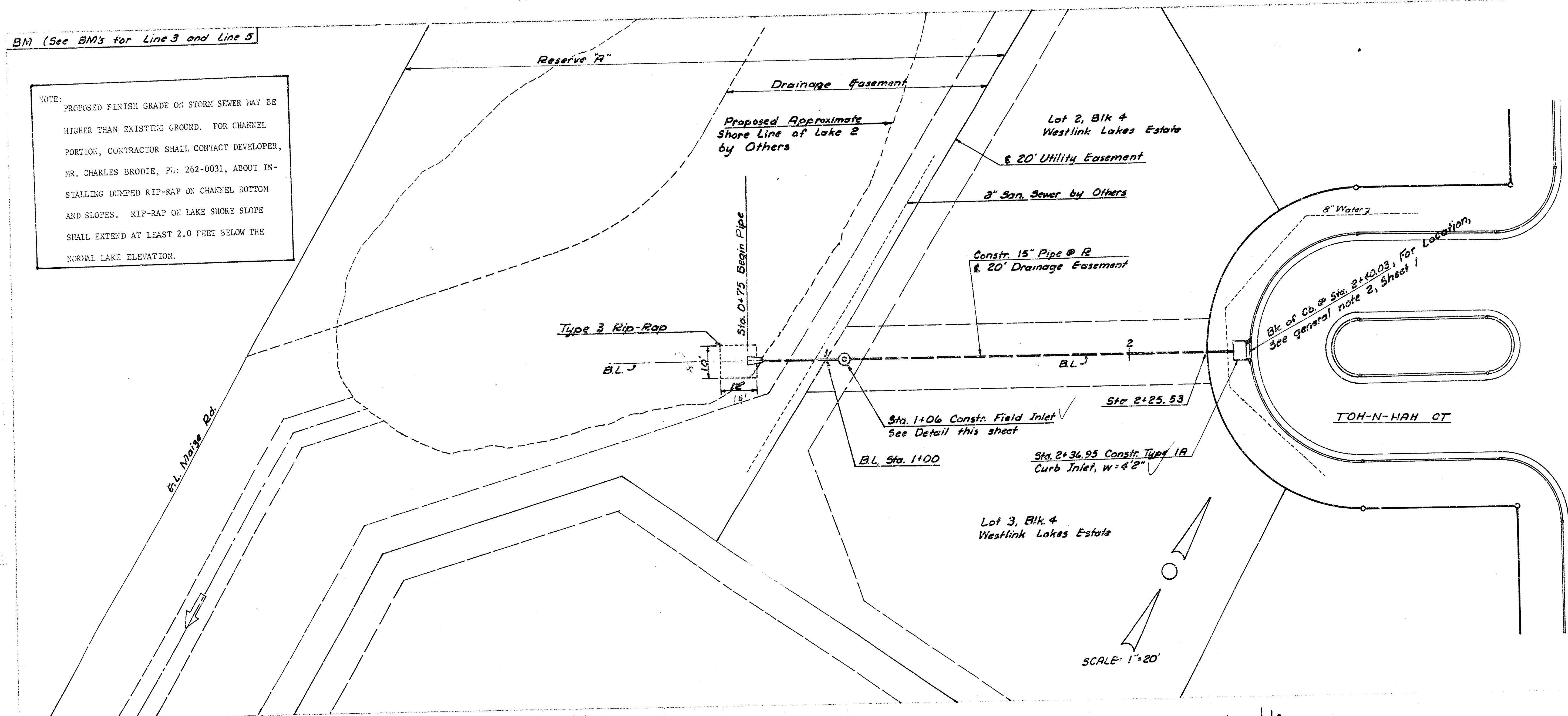


All Curb Inlets this sheet are Type 1A Curb Inlets, W=4'2"



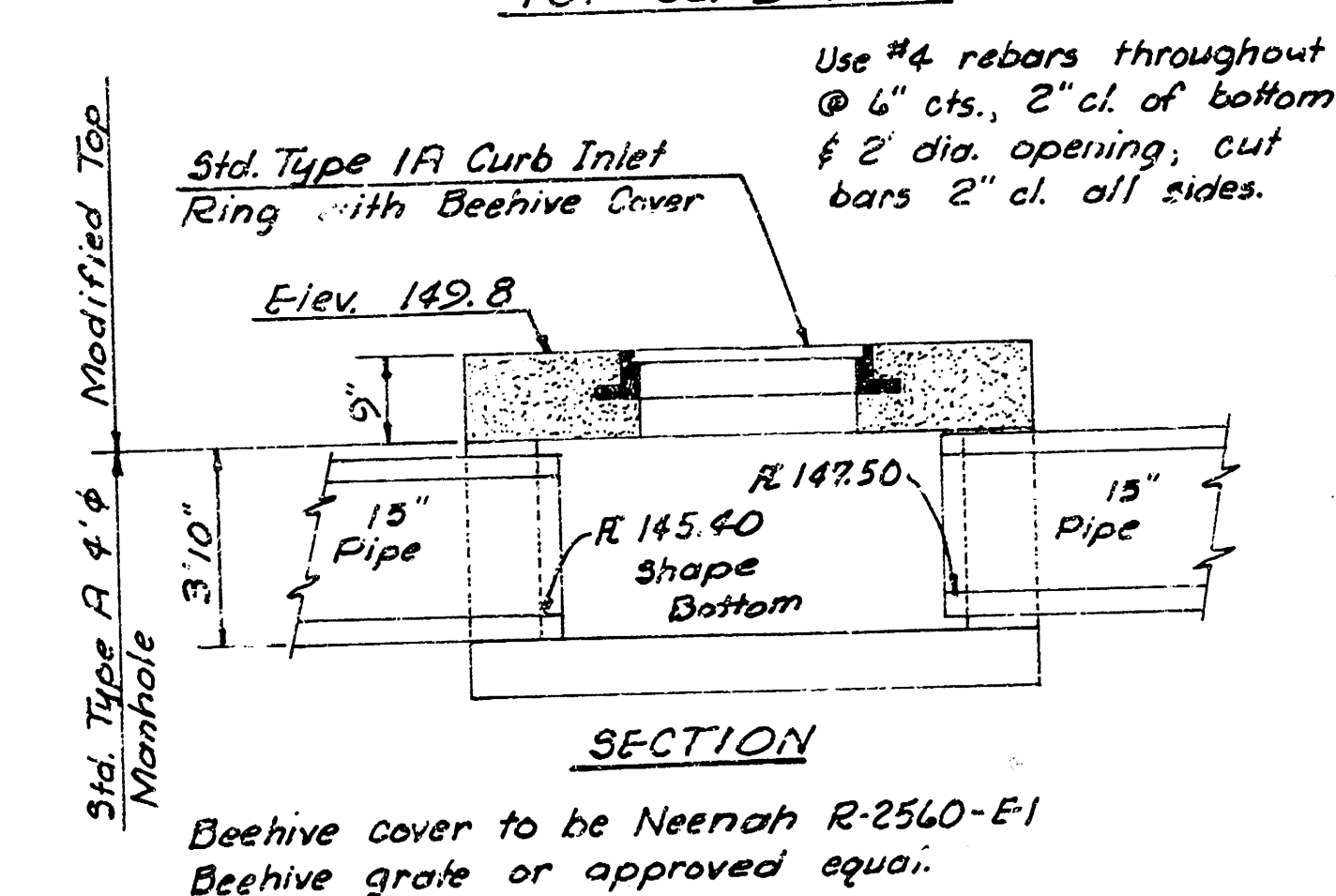
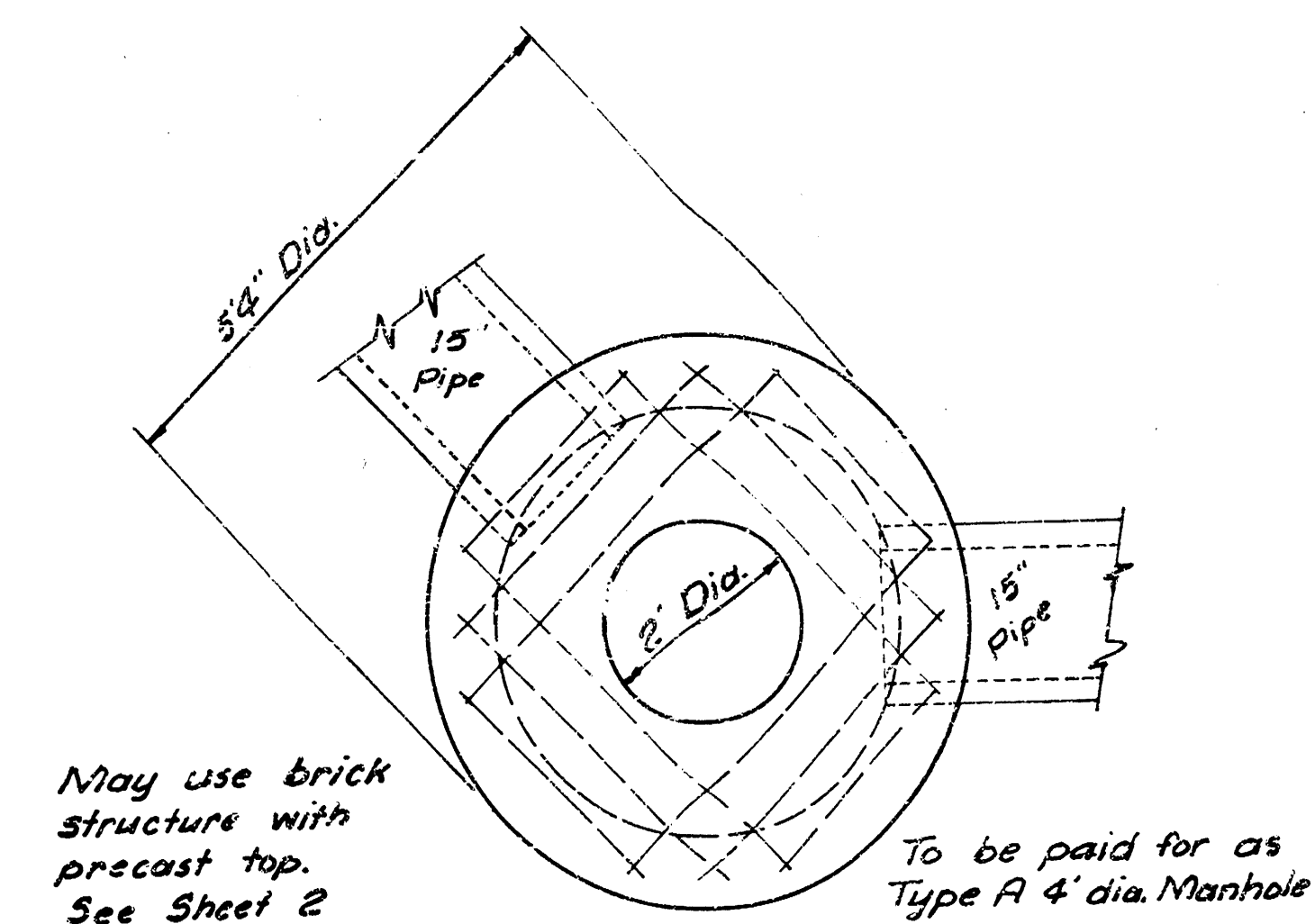
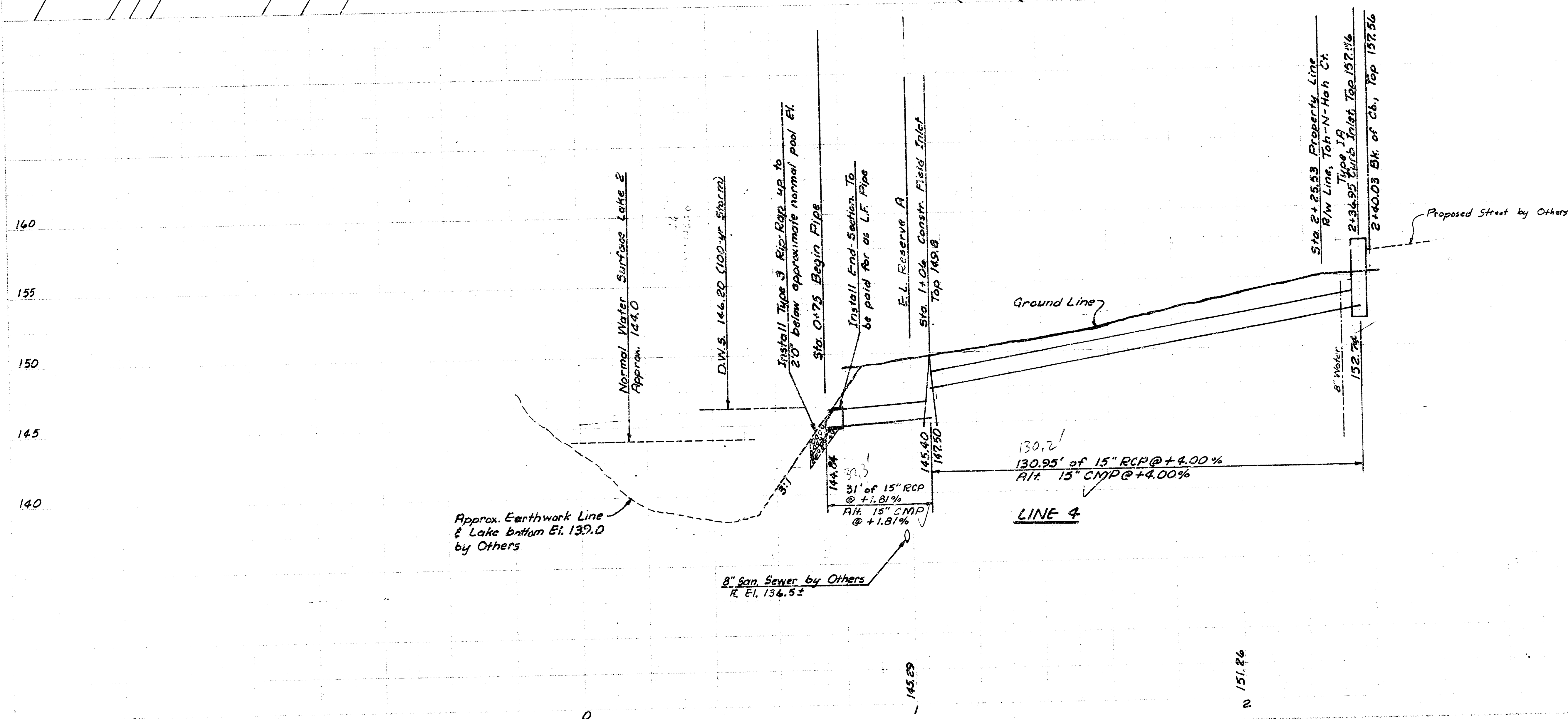
BH (See BM's for Line 3 and Line 5)

NOTE: PROPOSED FINISH GRADE ON STORM SEWER MAY BE HIGHER THAN EXISTING GROUND. FOR CHANNEL PORTION, CONTRACTOR SHALL CONTACT DEVELOPER, MR. CHARLES BRODIE, P.O. 262-0031, ABOUT INSTALLING DUMPED RIP-RAP ON CHANNEL BOTTOM AND SLOPES. RIP-RAP ON LAKE SHORE SLOPE SHALL EXTEND AT LEAST 2.0 FEET BELOW THE NORMAL LAKE ELEVATION.



SCALE: 1"=20'

SCALE: 1"=20'



FIELD INLET @ 1+04
Scale: 1/2"=10'

STORM WATER SEWER NO. 146

PART II

2-6'x4.5' R.C.B.C.

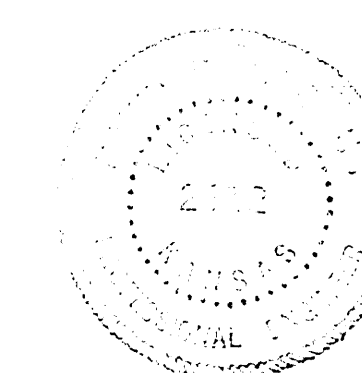
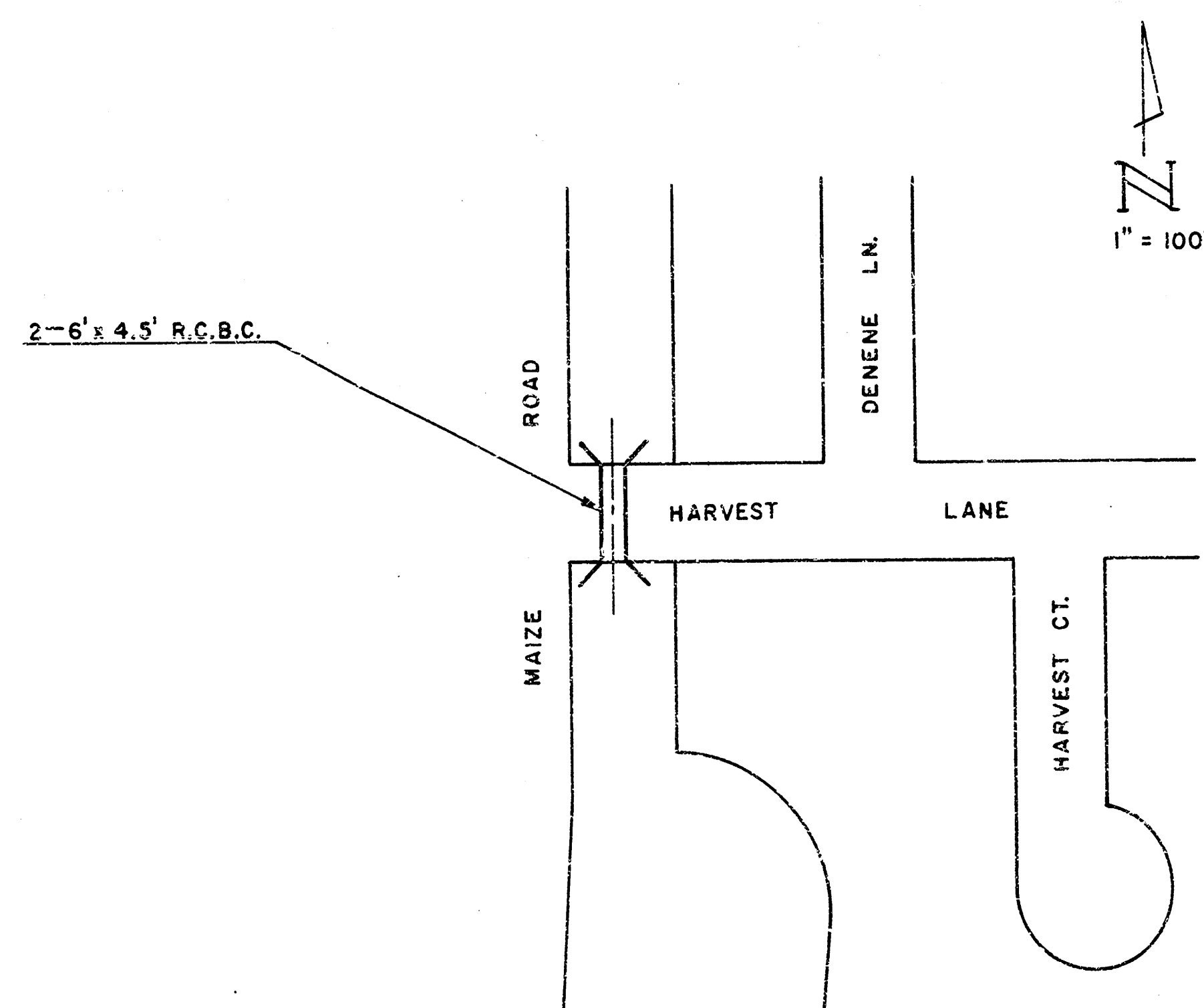
WESTLINK LAKES ESTATE
HARVEST LANE AT MAIZE RD.

CITY OF WICHITA, KANSAS

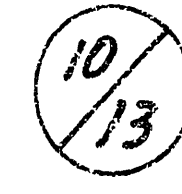
R.W. LINN CITY ENGINEER

PROJ. NO. 468 76 245 80649 000 000 001

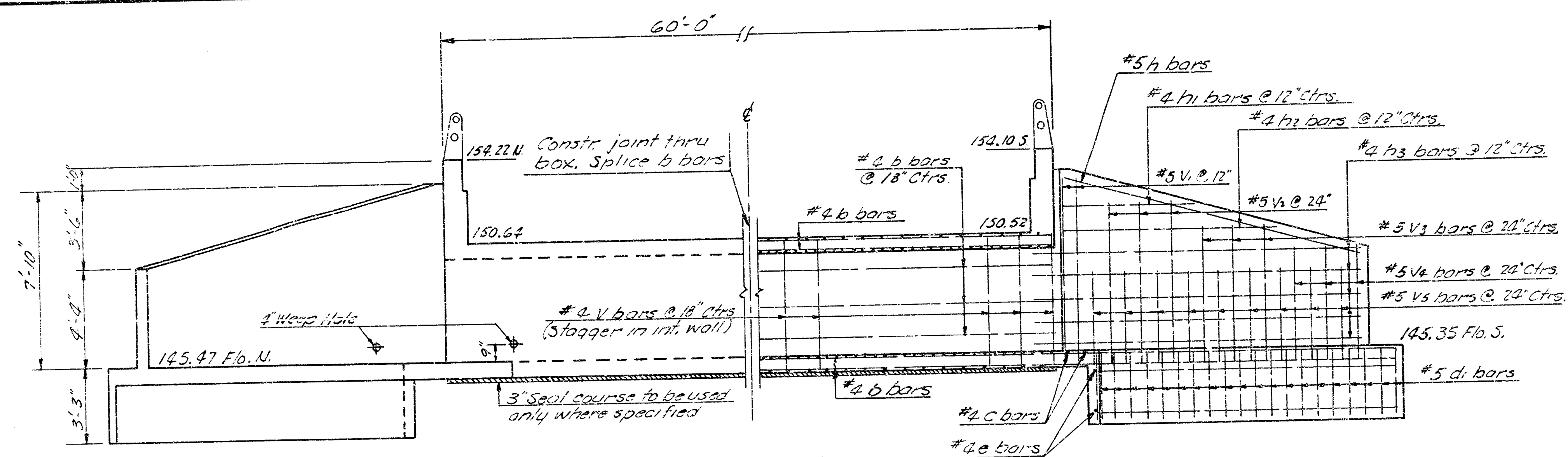
DATE:



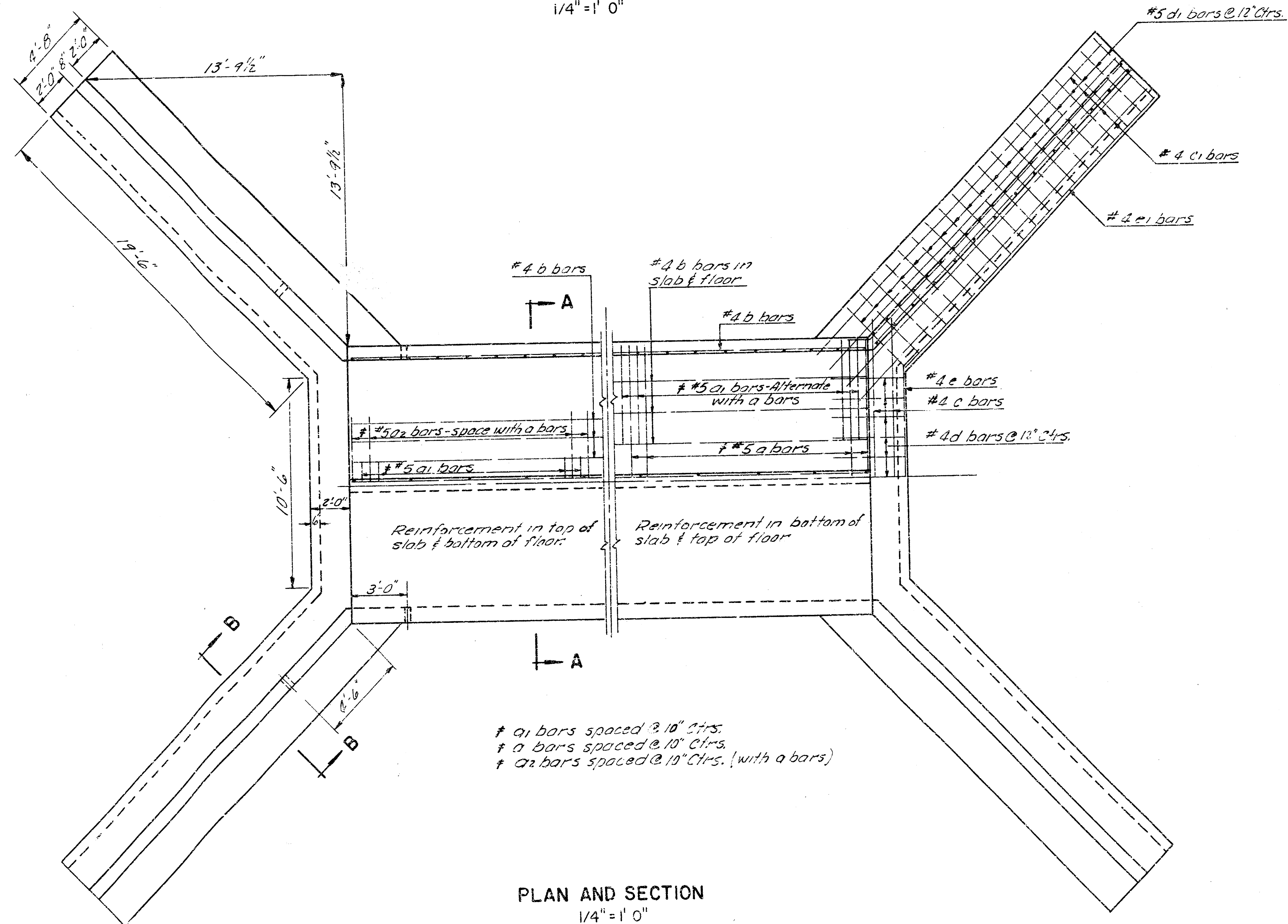
357
12
D.C.K.
J.F.G.
D.F.C.



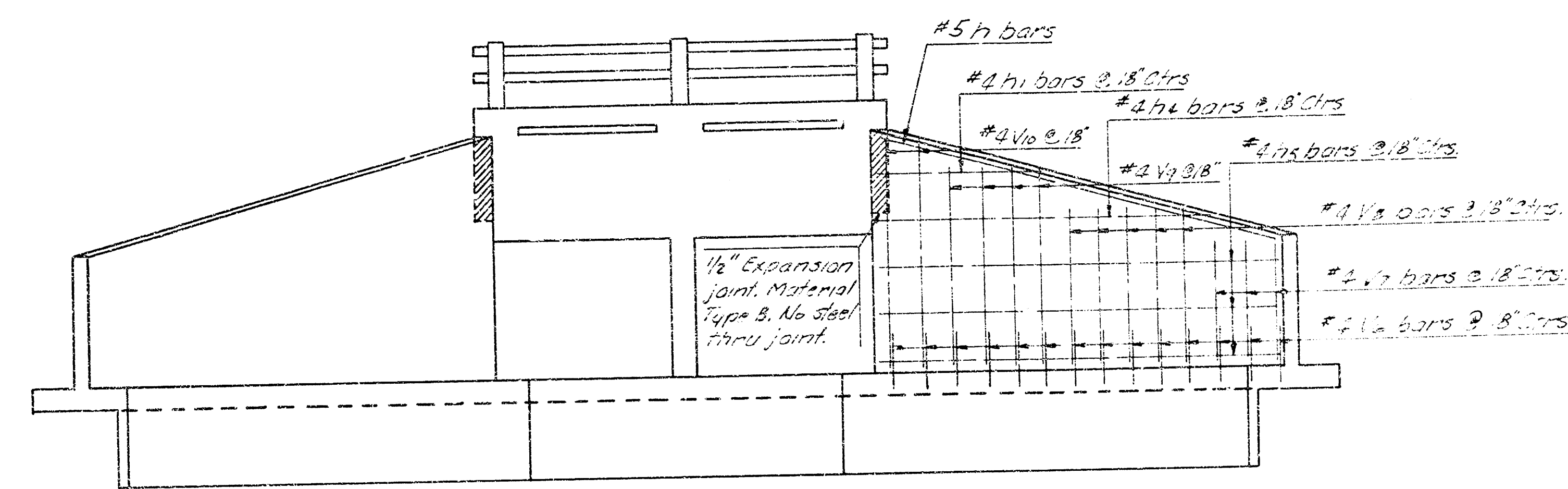
STORM WATER SEWER NO. 146
PART II
2'-6"x4.5' R.C.B.C.
WESTLINK LAKES ESTATE
HARVEST LANE AT MAIZE RD.
CITY OF WICHITA, KANSAS
R.W. LINN CITY ENGINEER
DATE
PROJ. NO. 468 76 245 80649 000 000 001



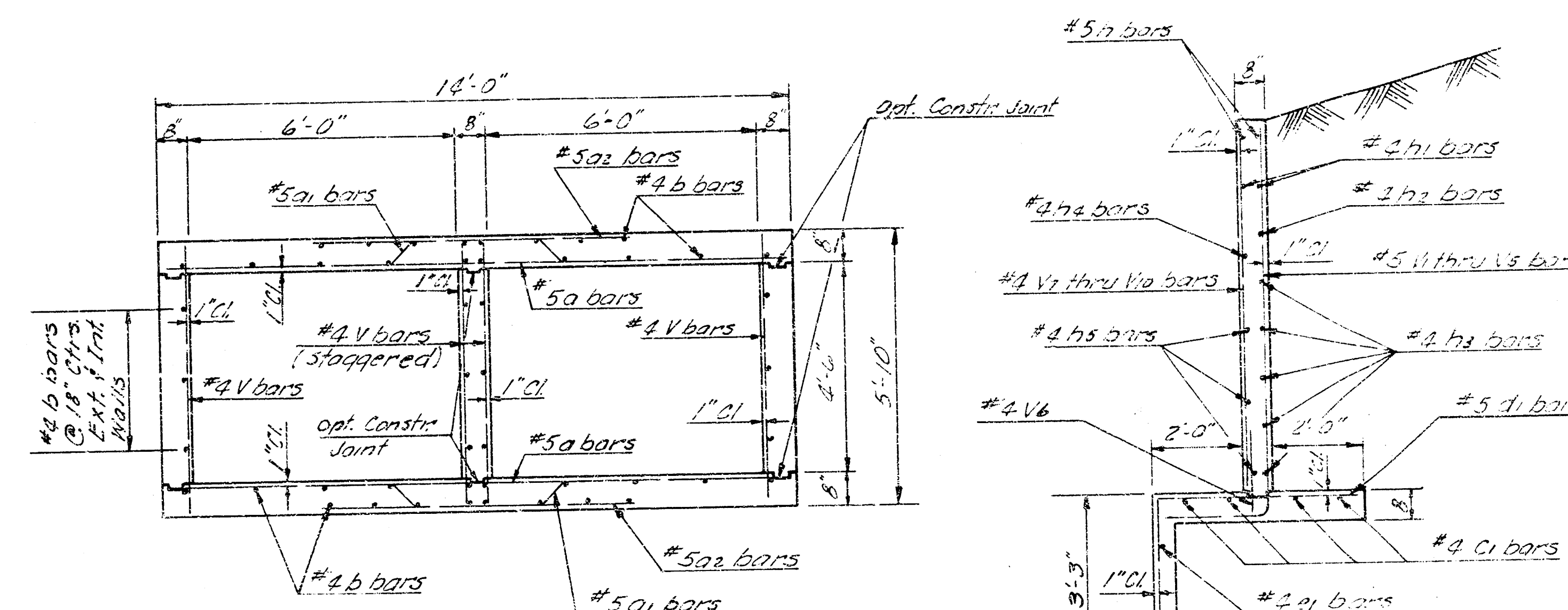
ELEVATION AND SECTION
1/4" = 1' 0"



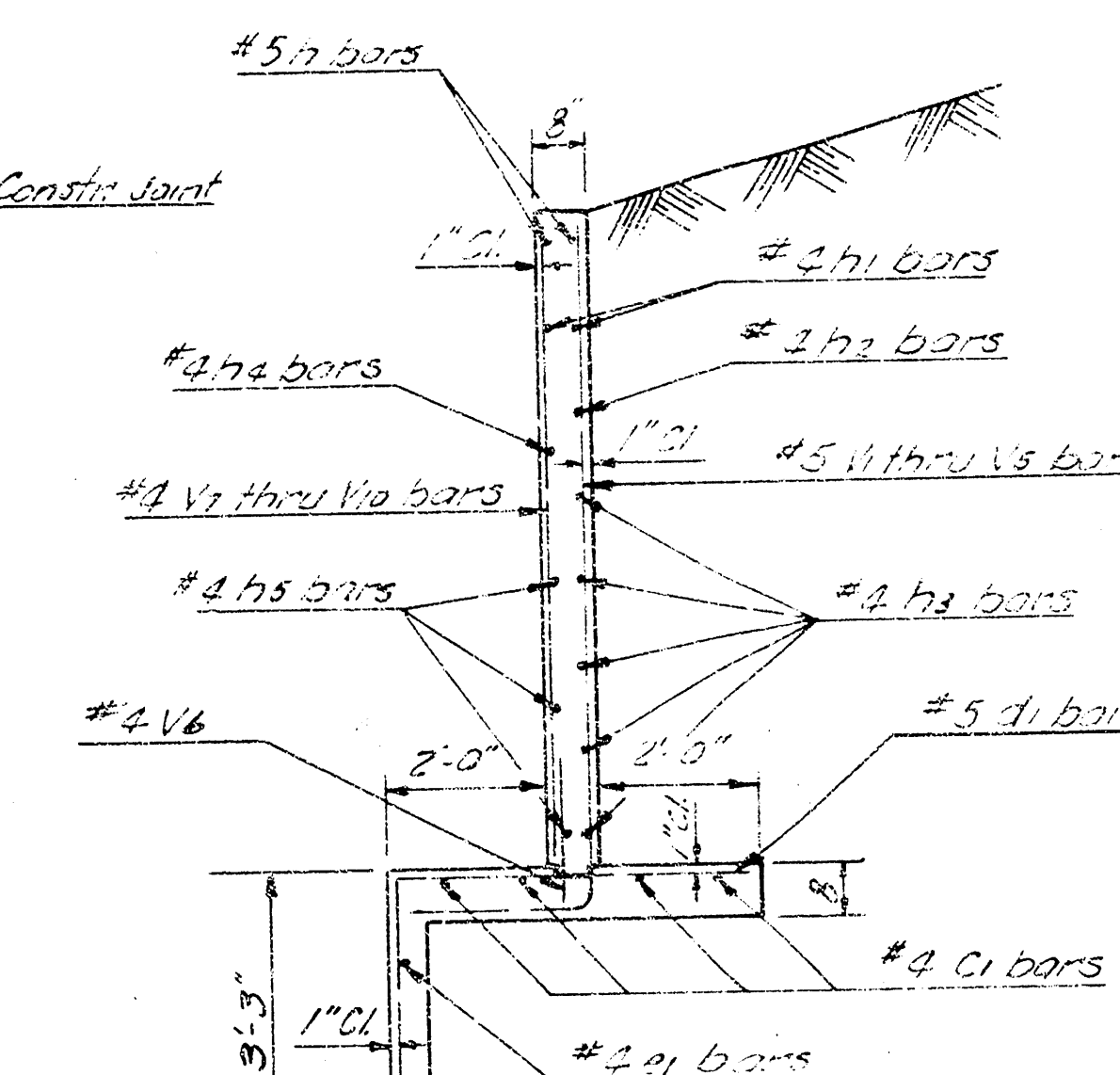
PLAN AND SECTION
1/4" = 1' 0"



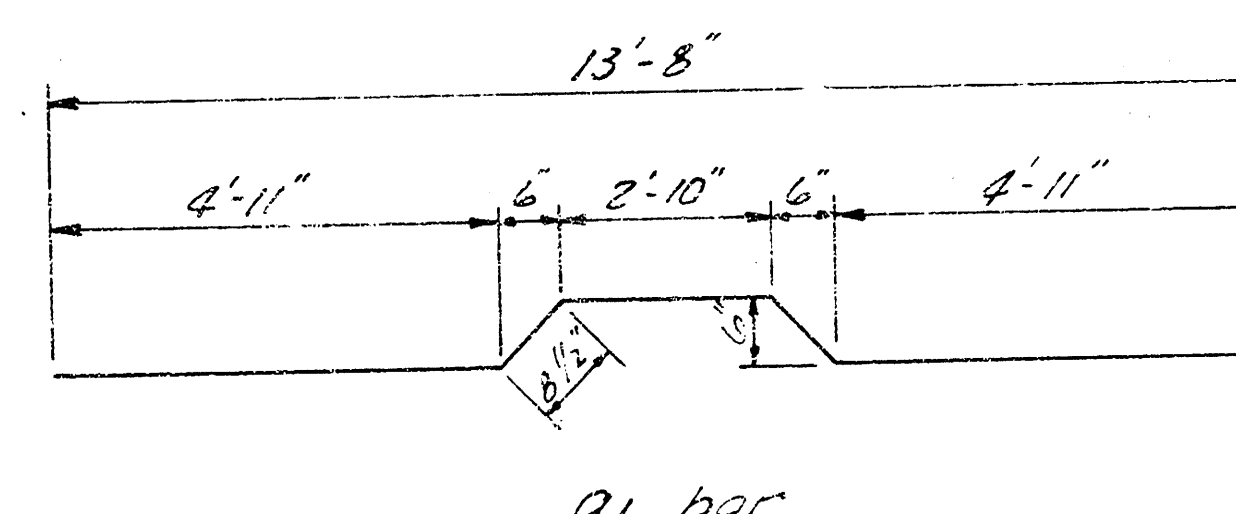
ELEVATION AND SECTION
1/4" = 1' 0"



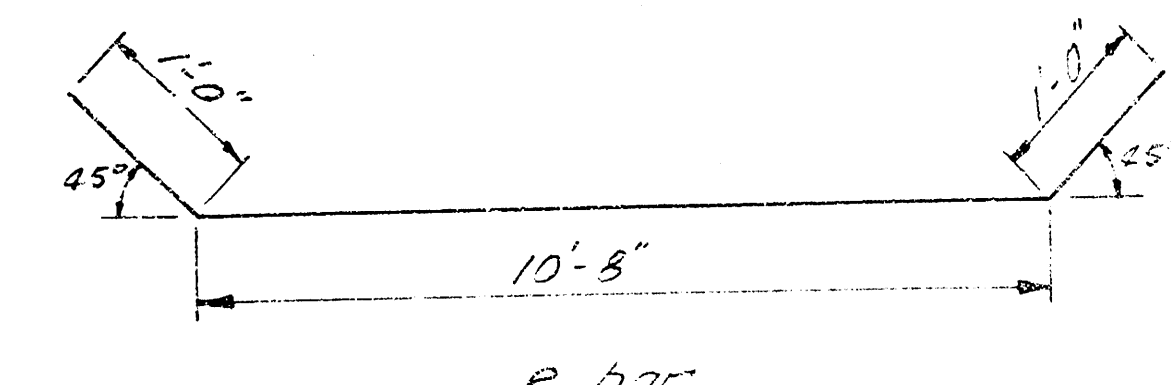
SECTION A-A
3/8" = 1' 0"



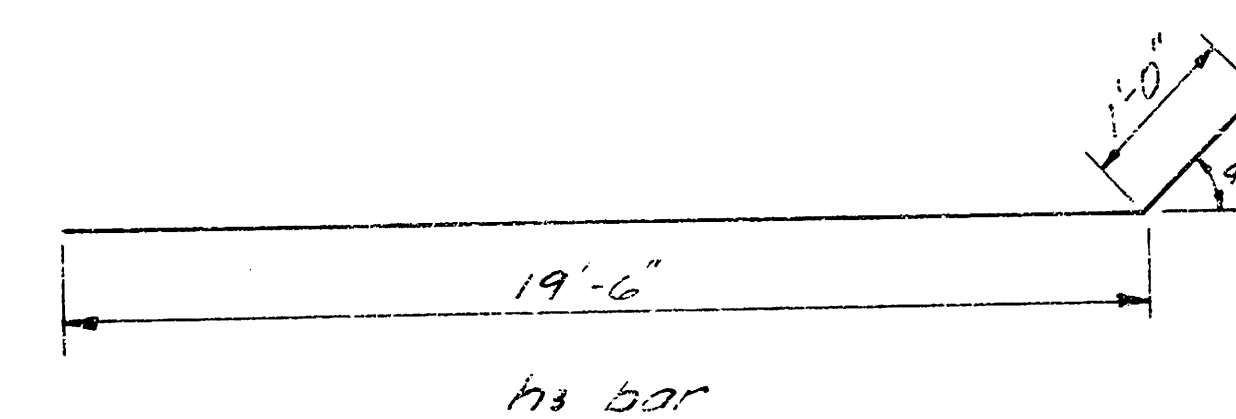
SECTION B-B
3/8" = 1' 0"



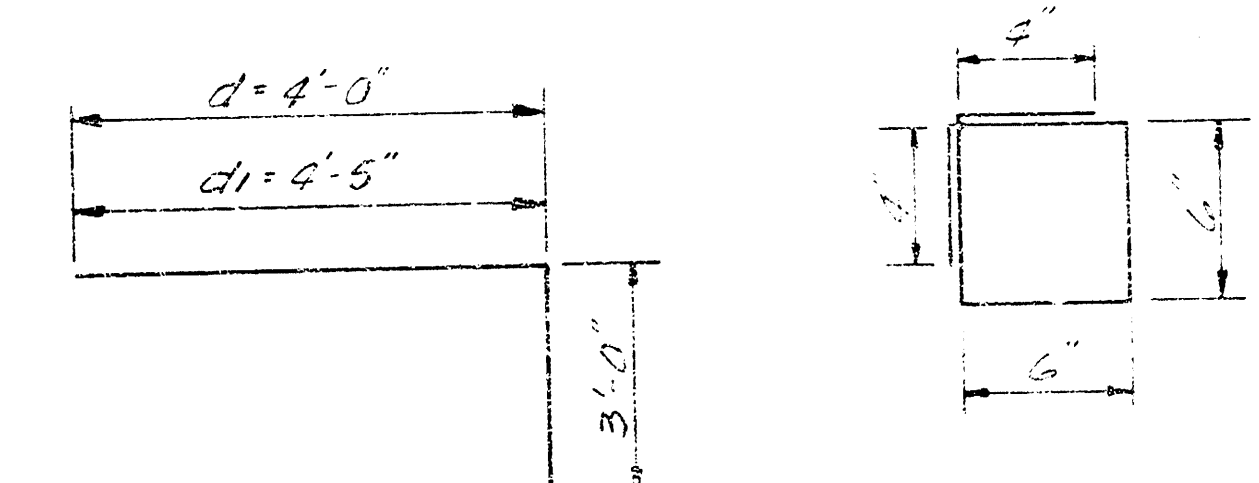
a1 bar



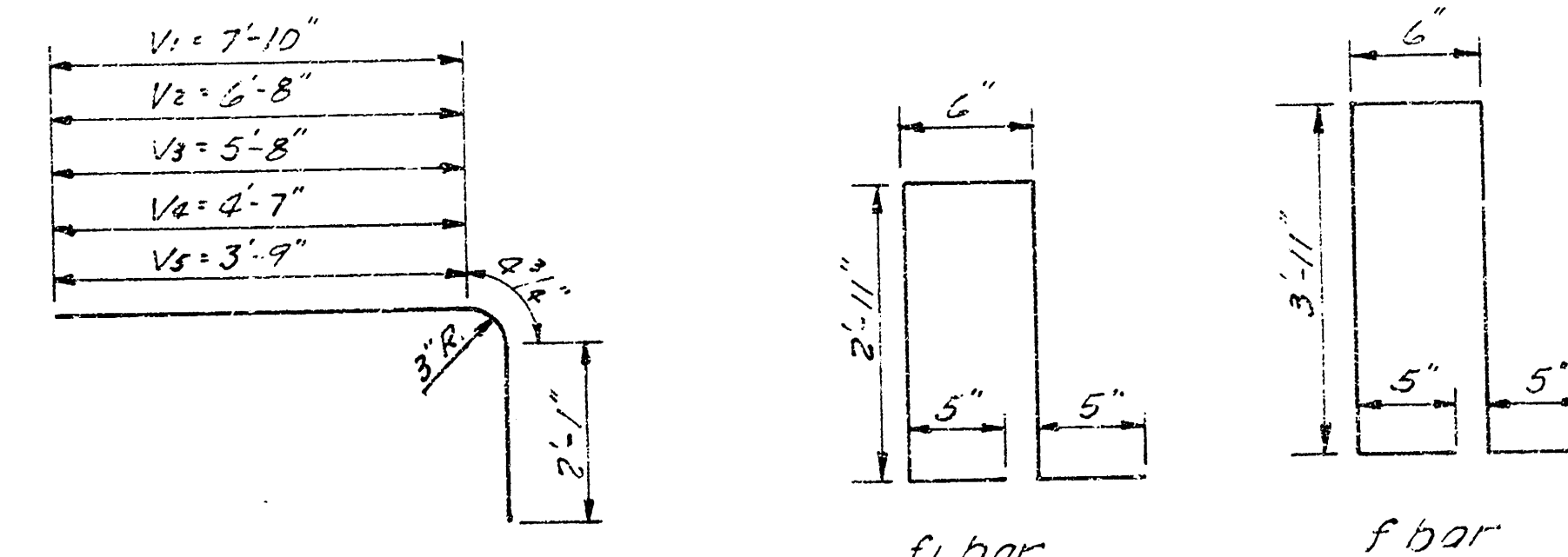
e bar



h3 bar



d & d1 bar



f1 bar

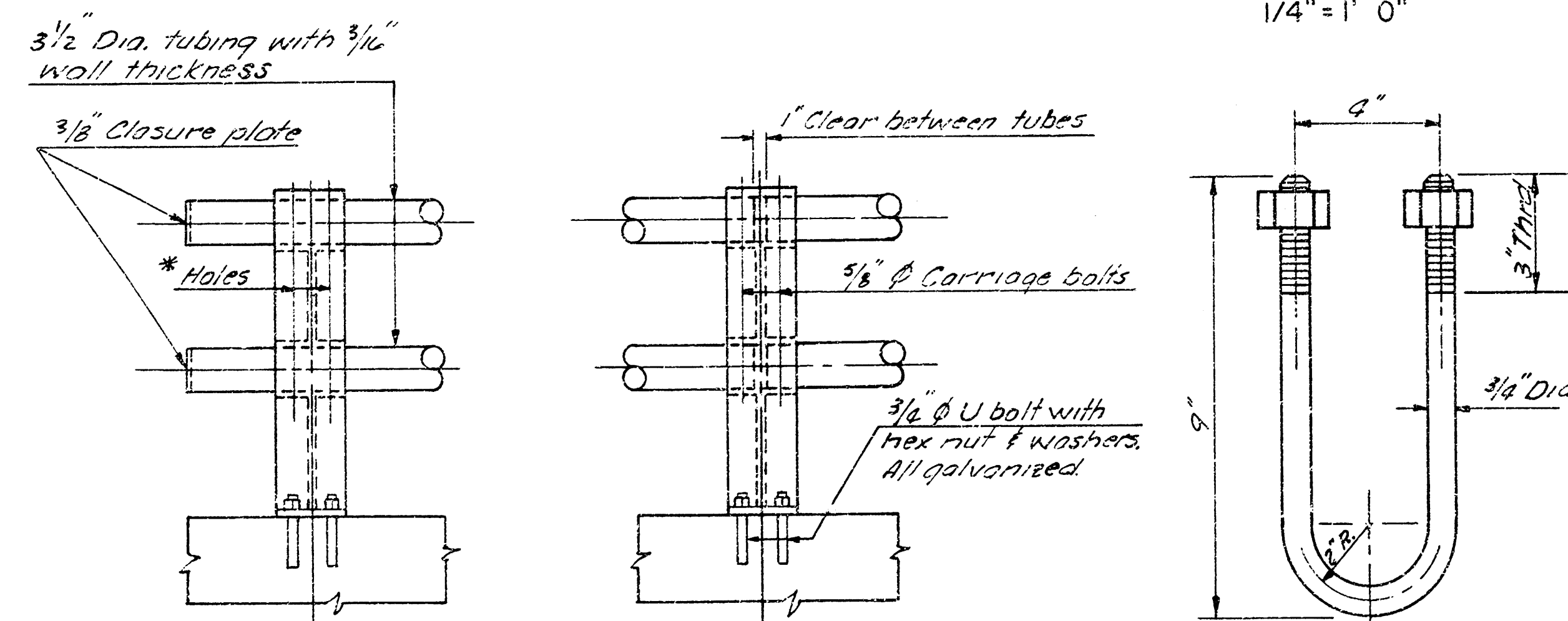
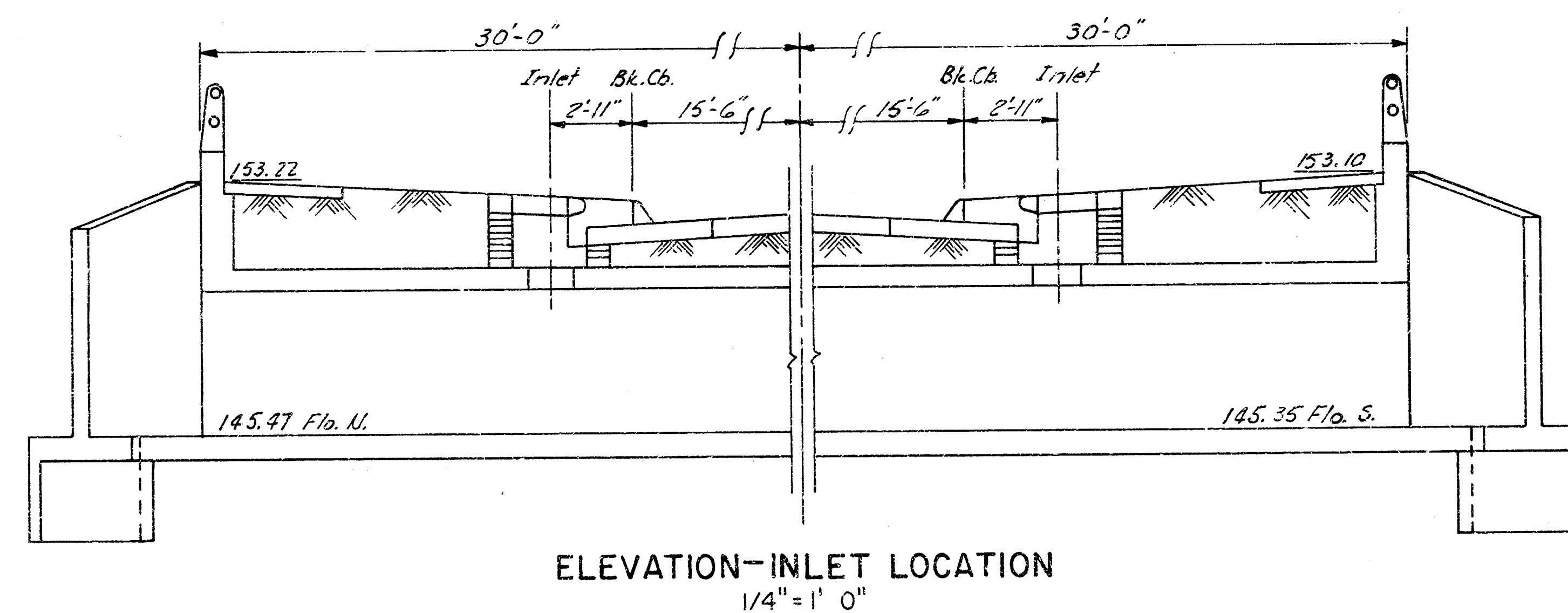
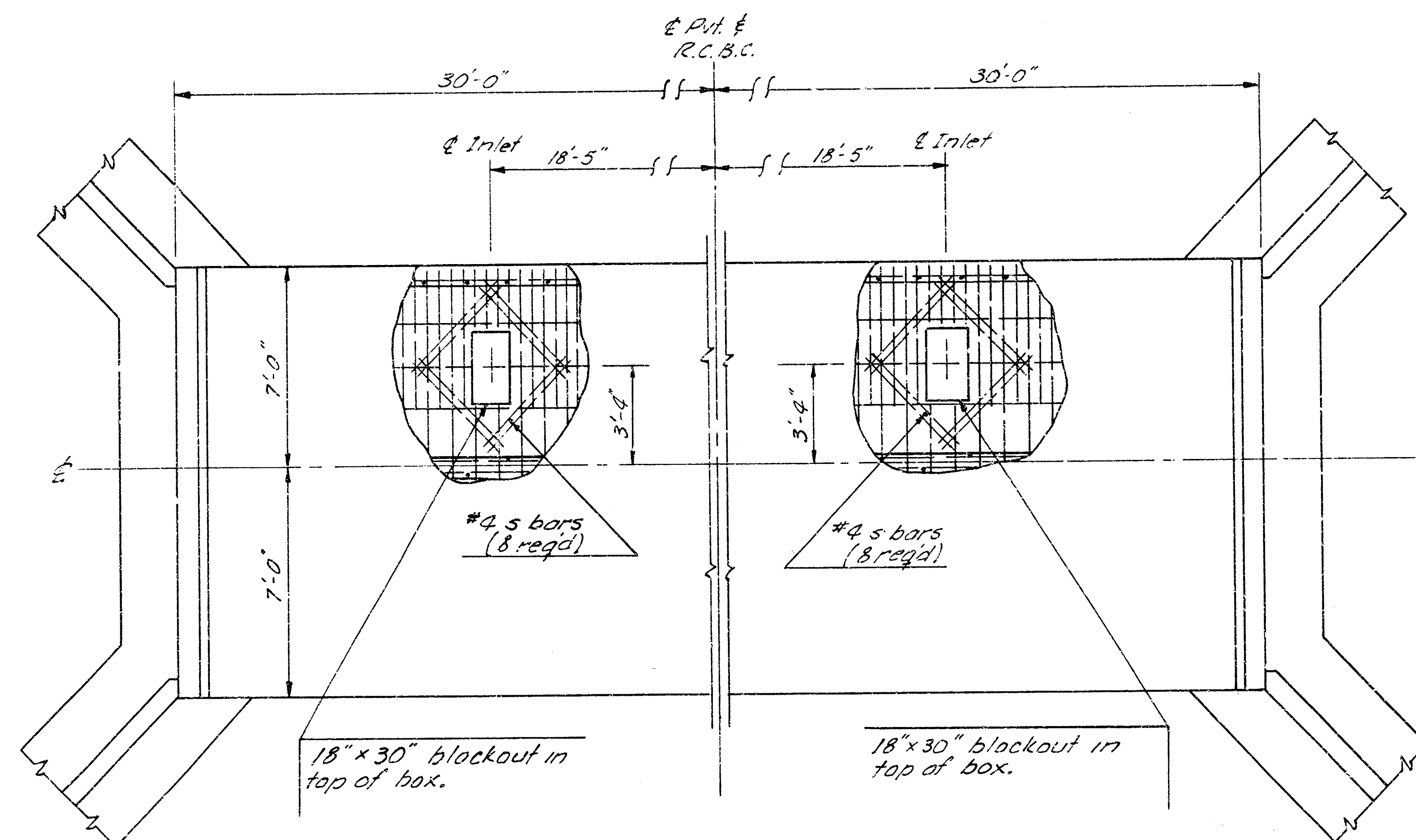
f bar

V1, V2, V3, V4, & V5 bars

BENDING DIAGRAMS No Scale
All dimensions out to out of bars



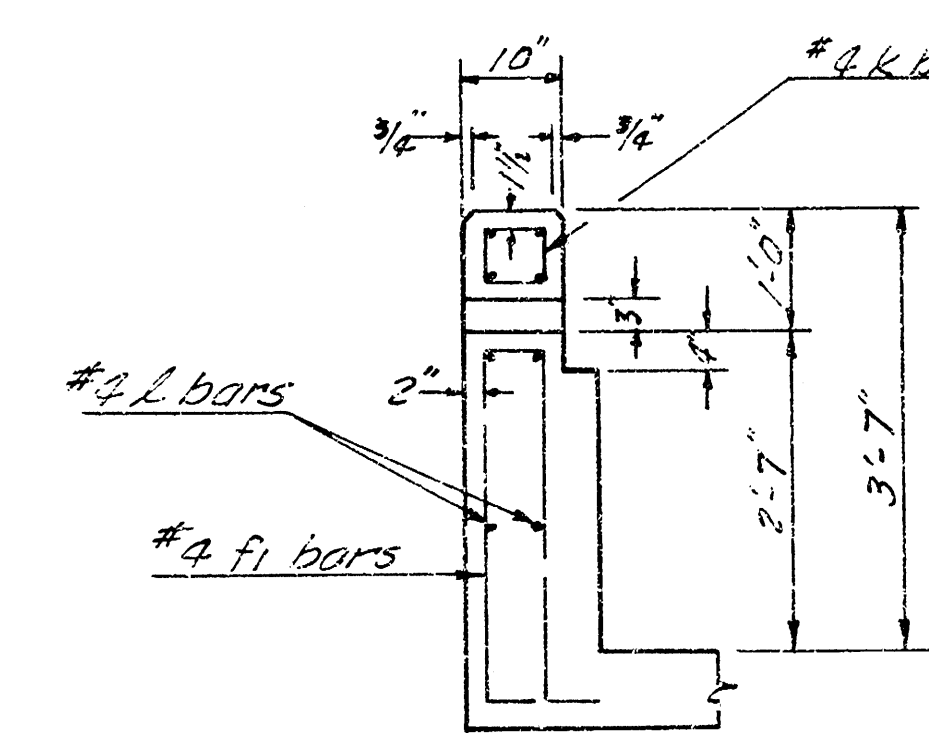
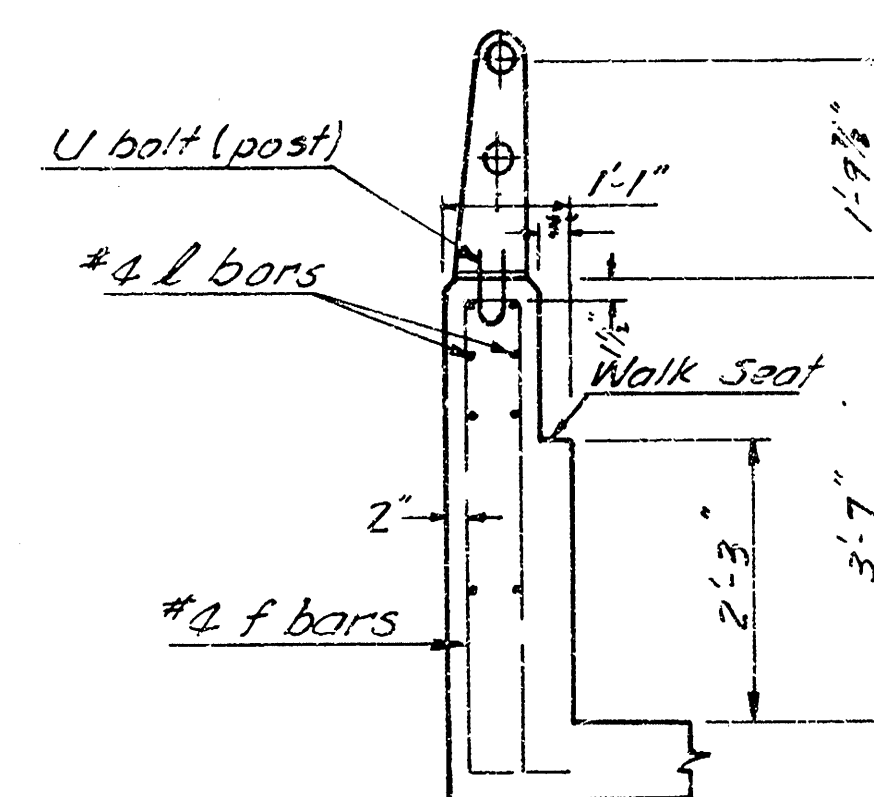
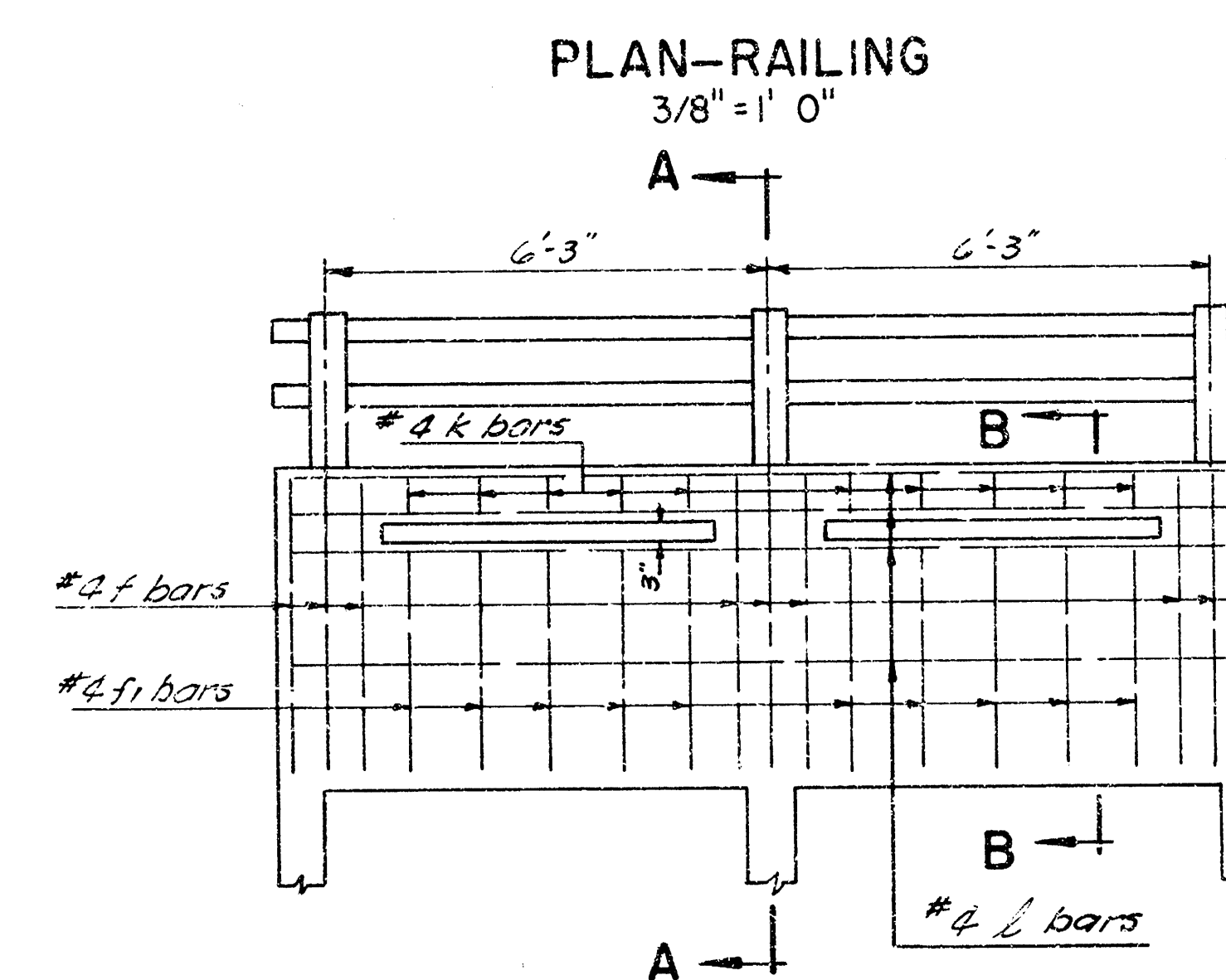
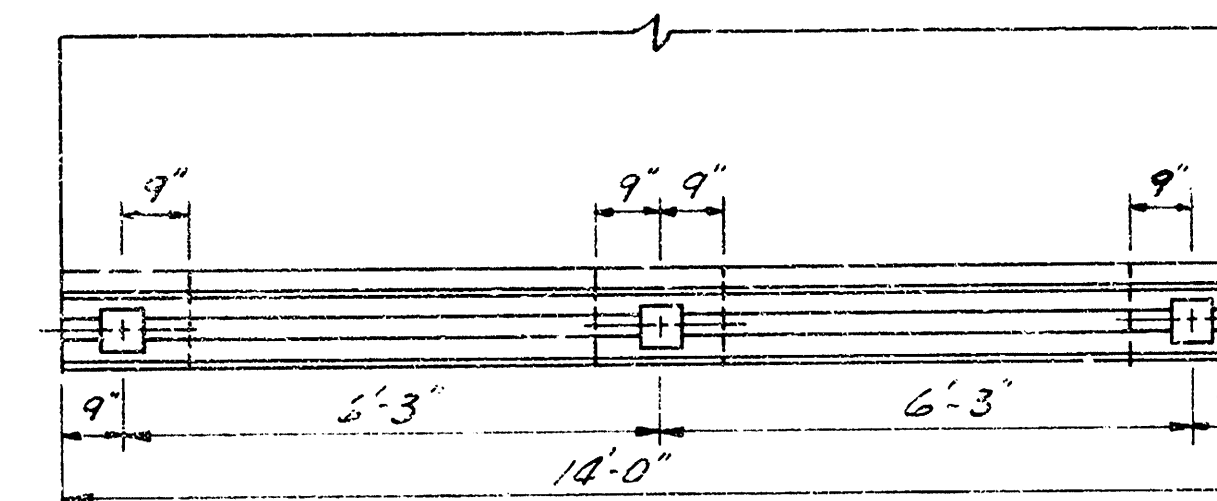
STORM WATER SEWER NO. 146
PART II
2-6x4.5' R.C.B.C
WESTLINK LAKES ESTATE
HARVEST LANE AT MAIZE RD.
CITY OF WICHITA, KANSAS
R.W. LINN CITY ENGINEER
DATE
PROJ. NO. 468 76 245 80 649 000 000 001



* Holes: 1 1/8" square holes in post under head and 1 1/8" round holes under nuts for 3/8" Dia x 5 1/2" carriage bolts with hex nuts.

Notes: Aluminum Handrail
Aluminum posts shall be Reynolds Aluminum Highway Products Bridge Railing System No. 2R19A or equal.
Top & bottom rails shall be 3 1/2" O.D. x 3/16" wall tube of 6063-T6 Aluminum.
Aluminum skids between concrete and post base may be used. The space below posts shall be thoroughly caulked with Alumastic compound or other approved material.

GALVANIZED U BOLT
No Scale



BAR SCHEDULE					
BAR	SIZE	LENGTH	NO.	SHAPE	WEIGHT
1	#5	13'-9"	124	—	2065.14
2	#5	18'-5"	124	—	2114.70
3	#5	7'-0"	124	—	1051.34
4	#4	3'-0"	88	—	1822.87
5	#4	16'-0"	4	—	42.75
6	#4	22'-0"	12	—	233.16
7	#4	7'-0"	22	—	103.81
8	#5	7'-5"	80	—	517.17
9	#4	12'-8"	4	—	33.55
10	#4	19'-1"	5	—	101.72
11	#4	9'-2"	18	—	101.22
12	#4	7'-2"	20	—	123.77
13	#4	17'-3"	8	—	124.77
14	#4	7'-1"	8	—	20.51
15	#4	13'-4"	8	—	31.07
16	#5	20'-3"	20	—	273.83
17	#4	20'-3"	20	—	273.83
18	#4	16'-3"	4	—	22.75
19	#4	19'-3"	12	—	154.81
20	#4	2'-5"	20	—	35.52
21	#4	3'-9"	12	—	44.91
22	#4	2'-5"	16	—	18.10
23	#4	5'-9"	163	—	522.57
24	#5	10'-3 1/2"	9	—	82.03
25	#5	9'-1 1/2"	12	—	14.52
26	#5	8'-1 1/2"	12	—	122.01
27	#5	7'-0 1/2"	12	—	86.36
28	#5	2'-2 1/2"	36	—	232.72
29	#4	1'-9"	36	—	55.46
30	#4	8'-0"	12	—	32.14
31	#4	5'-0"	30	—	56.82
32	#4	5'-8"	16	—	67.14
33	#4	7'-2"	8	—	32.17

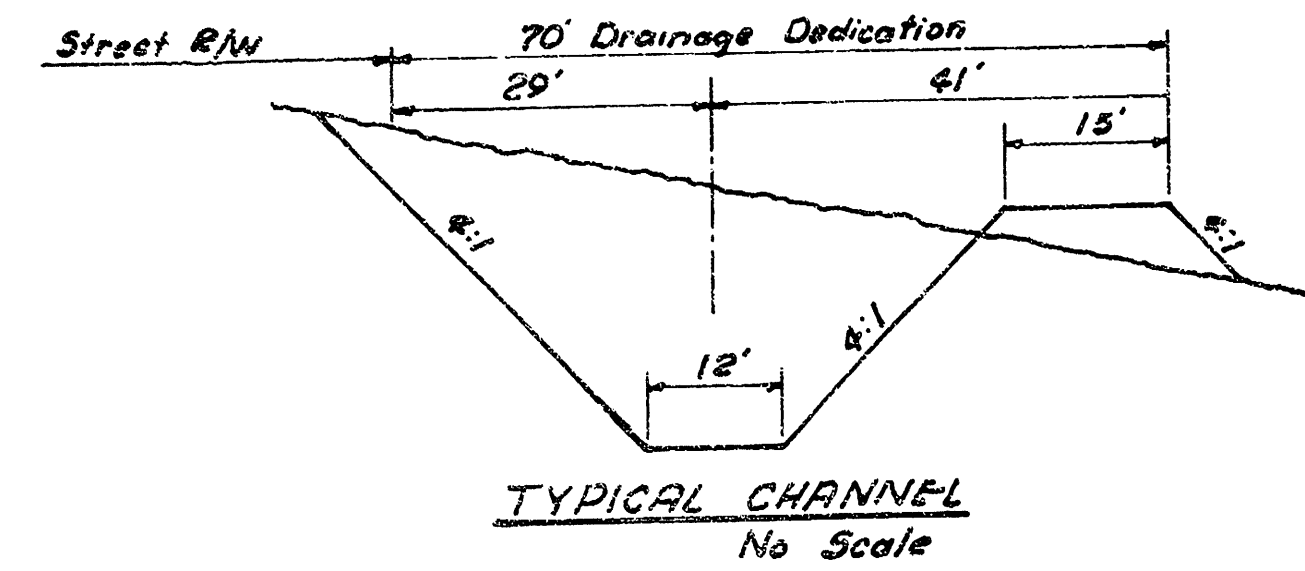
GENERAL NOTES

- CLASS A-AE - CONCRETE SHALL BE USED THROUGHOUT ON THE STRUCTURE. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. SPECIFICATIONS.
- EARTHWORK - ALL EARTHWORK SHALL BE CONSIDERED AS "COMMON EXCAVATION" EXCEPT FOR THE TOEWALL. ALL EXCAVATION SHALL BE INCLUDED IN "LUMP SUM BID".
- BACKFILL - ALL BACKFILL AND EXCAVATION TO EXTEND TO (2') BEYOND SIDES OF BOX AND WING-WALLS.
- BEVEL - ALL EXPOSED EDGES OF CONCRETE WITH 3/4" TRIANGULAR MOUNDING.
- WEEPHOLES - COURSE AGGREGATE SHALL BE DEPOSITED BEHIND EACH WEEPHOLE TO OCCUPY A SPACE EXTENDING (15") IN ALL DIRECTIONS ABOVE WEEPHOLE FLAT LINE. THIS WORK SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED A PART OF THE EXCAVATION WORK.
- SEAL COURSE - A SEAL COURSE CONSISTING OF 3" CLASS "A" CONCRETE SHALL BE CONSTRUCTED ONLY WHERE SPECIFIED ON THE PLANS OR BY THE ENGINEER. NO REINFORCING SHALL BE PLACED UNTIL THE SEAL COURSE HAS GAINED SUFFICIENT STRENGTH TO PERMIT WORKING UPON IT WITHOUT DAMAGE.
- BUILDING OF CULVERT - THE CULVERT SHALL BE BID AS A "LUMP SUM BID".
- THE QUANTITIES SHOWN IN THE "BILL OF MATERIALS OR ITEMS" WHICH ARE INCLUDED IN THE "LUMP SUM BID" OF THE CULVERT ARE FOR "INFORMATION PURPOSES ONLY". THE CONTRACTOR MUST SATISFY HIMSELF AS TO THE "QUANTITIES" AND THE ENGINEER ASSUMES NO RESPONSIBILITIES FOR PROVIDING ACCURACY. THE CONTRACTOR WILL HAVE THE FULL RESPONSIBILITY FOR PROVIDING ALL MATERIALS ON THE DETAILED PLANS NECESSARY TO COMPLETE THE PROJECT.

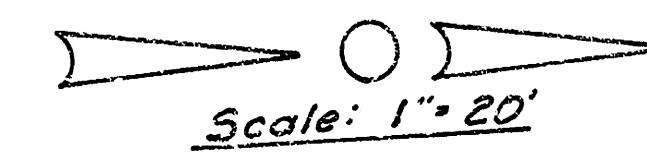
BILL OF MATERIALS		
ITEMS	QUANTITY	UNIT
Class A-AE Concrete	92.3	C.Y.
Reinforcing Steel	10,879.7	LB.S
Hand Excavation	14.3	C.Y.
Aluminum Handrail	23.0	L.F.
Class A Concrete - Seal Course	7.8	C.Y.
Excavation	472.5	C.Y.
Compacted Fill	35.1	C.Y.

STORM WATER SEWER NO. 146
PART II
2'-6"x4.5' R.C.B.C.
WESTLINK LAKES ESTATE
HARVEST LANE AT MAIZE RD.
CITY OF WICHITA, KANSAS
R.W. LINN CITY ENGINEER
DATE
PROJ. NO. 4-8 76 245 80649 000 000 001

12/13



THE RIP-RAP ON THIS PROJECT SHALL BE TYPE 4. THE TYPE 4 RIP-RAP SHALL BE 18" RIP-RAP ON 6" SAND AND GRAVEL BEDDING. THE ROCK FOR RIP-RAP AND GRAVEL PROTECTION SHALL BE HARD, DENSE, DURABLE AND SHALL BE REASONABLY WELL GRADED. THE SIZE RANGE OF ROCK USED SHALL HAVE A MAXIMUM SIZE OF 1/3 CUBIC YARD AND A MINIMUM SIZE OF 1/10 CUBIC FOOT. THE 6 INCH SAND AND GRAVEL BEDDING FOR RIP-RAP SHALL BE A CONTINUOUS LAYER OF SAND AND GRAVEL OR SAND AND CRUSHED ROCK, REASONABLY WELL GRADED TO A MAXIMUM OF 1 1/2 INCHES IN SIZE.



B.M. 154.20 "d" in center of east adw. RCB
553' N. of 1/4 corner of Sec. 7-27-1W.

