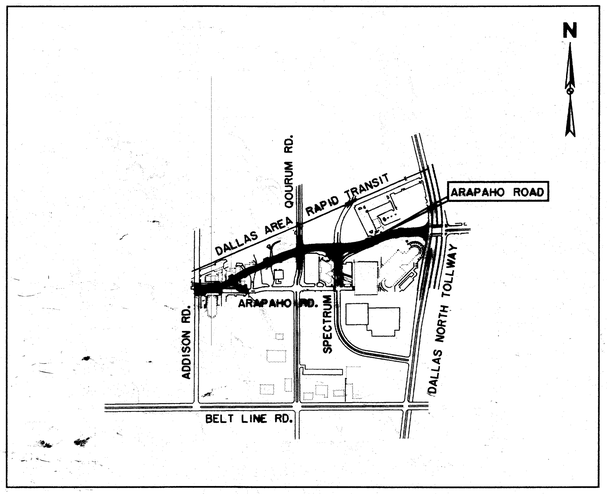
PLANS FOR THE CONSTRUCTION OF
PAVING, STORMWATER, WATER, WASTEWATER,
SIGNALIZATION AND STREETSCAPE IMPROVEMENTS FOR

ARAPAHO ROAD

FROM ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF
ADDISON

SHEET NO.	INDEX OF DRAWINGS
	COVER SHEET
Q-1 to Q-4	QUANTITY SHEETS
R-1 to R-3	RIGHT-OF-WAY PLANS
D-1 to D-3	DEMOLITION PLANS
CS-1 to CS-7	CONSTRUCTION SEQUENCING PLANS
P-1 to P-2	PAVING TYPICAL SECTIONS
P-3 to P-14	PAVING PLANS, PROFILES & DETAILS
P-15	RETAINING WALL PLAN, PROFILE & DETAIL
P-16 to P-19	STRIPING PLANS
ST-1	DRAINAGE AREA MAP
ST-2 to ST-5	STORMWATER CALCULATIONS
ST-6 to ST-17	STORMWATER PLANS, PROFILES & DETAILS
W-1 to W-11	WATER & WASTEWATER PLAN/PROF. & DET.
S-1 to S-14	SIGNALIZATION PLANS & DETAILS
X-1 to X-10	CROSS SECTIONS
LA-1 to LA-7	LANDSCAPE LAYOUT PLANS
LC-1 to LC-4	LANDSCAPE CONSTRUCTION DETAILS
PL-1 to PL-7	PLANTING PLANS & DETAILS
IR-1 to IR-6	IRRIGATION PLANS
SE-1 to SE-6	SITE-ELECTRICAL PLANS



LOCATION MAP

RECORD DOCUMENTS 6/9/2000

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OWNER:
TOWN OF ADDISON
DEPARTMENT OF PUBLIC WORKS
16801 WESTGROVE
P.O. BOX 144
ADDISON, TEXAS 75001
(972) 450-7018

ENGINEER:
HUITT-ZOLLARS, INC.
3131 McKINNEY AVE., SUITE 600
DALLAS, TEXAS 75204
(214) 871-3311

LANDSCAPE ARCHITECT:
MESA DESIGN GROUP
3100 McKINNON ST., SUITE 905
DALLAS, TEXAS 75201
(214) 871-0568

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A. ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A. ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER
10/24/97

ARAPAHO ROAD

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FF-17

N

0 20 40 60 80
SCALE IN FEET

DALLAS AREA RAPID TRANSIT

DALLAS AREA RAPID TRANSIT

DALLAS AREA RAPID TRANSIT

DALLAS AREA RAPID TRANSIT

ADDISON RD.

ARAPAHO RD.

MATCH LINE

MATCH LINE

EX. ARAPAHO RD.

MCM COMPANY

SUMMERFIELD SUITES HOTEL

QUORUM CENTER LTD. P/S

SWBT

PC 51+17.88

PT 46+58.04

PC 40+01.47

46.820' R.

925' R.

185' R.

50

48

6

BUILDING CORNERS	C/L STATION	OFFSET
1	42+26.97	40.50' LT.
2	42+56.28	129.42' LT.
3	42+72.23	27.13' LT.
4	43+15.85	48.31' LT.
5	43+41.80	3.94' RT.
6	43+57.84	132.48' LT.
7	43+63.44	44.07' RT.
8	44+07.17	67.88' RT.
9	44+16.07	130.93' LT.
10	44+73.24	73.23' RT.
11	45+80.36	92.51' LT.
12	46+13.63	45.58' LT.
13	46+34.36	90.89' LT.
14	47+14.27	1.57' RT.
15	47+34.92	44.79' LT.

REMOVE INLET, 18" RCP LATERAL & 24" RCP PIPE

REMOVE FIRE HYDRANT & DELIVER TO TOWN 16801 WESTGROVE

SALVAGE BRICK PAVERS FOR REUSE

REMOVE LIGHT & DELIVER TO DART

REMOVE CONCRETE PAVEMENT

SAWED BREAKOUT GROOVE

BUILDING AND FOUNDATION TO BE REMOVED BY DART

REMOVE CONCRETE

STEEL SIGN TO BE RELOCATED BY OTHERS

REMOVE INLET & 15" RCP & PLUG PIPE AT PROPOSED ROW LINE

REMOVE BRICK PARKING LOT ONLY WITHIN PROPOSED R.O.W. & PROPOSED PARKING AREA & DELIVER TO SWBT

REMOVE 15" RCP & PLUG PIPE AT PROP. ROW LINE

REMOVE CONC. SLAB

REMOVE FIRE HYDRANT & DELIVER TO TOWN 16801 WESTGROVE

REMOVE INLET DO NOT PLUG PIPE

SALVAGE BRICK PAVERS FOR REUSE

SAWED BREAKOUT GROOVE

REMOVE 18" RCP LATERAL & PLUG PIPE NEAR MAIN

SALVAGE BRICK PAVERS FOR REUSE

SAWED BREAKOUT GROOVE

REMOVE INLET & 18" RCP LATERAL & PLUG PIPE NEAR MAIN

REMOVE INLET & 18" RCP LATERAL DO NOT PLUG PIPE

REMOVE 3 WATER METERS & DELIVER TO TOWN 16801 WESTGROVE

REMOVE CONCRETE STREET PAVEMENT/ SIDEWALK

LEGEND

CONCRETE REMOVAL

⚠ BUILDING AND FOUNDATION TO BE REMOVED BY DART

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS · KENNETH A. ROBERTS · 55446 · REGISTERED · PROFESSIONAL ENGINEER

10-24-97

⚠2 REVISED 3/13/98

⚠1 ADDENDUM #2, 11/18/97

DEMOLITION PLAN
ADDISON ROAD TO STA. 51+50

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=40'	OCT 97	1772-01	D-1

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0 20 40 60 80
SCALE IN FEET

QUORUM DRIVE

TOWN OF ADDISON

LANCO ARAPAHO PARTNERSHIP

DALLAS AREA RAPID TRANSIT

REMOVE INLET & 18" RCP LATERAL DO NOT PLUG PIPE

SAWED BREAKOUT GROOVE

MATCH LINE

REMOVE INLET & 18" RCP LATERAL PLUG PIPE NEAR MAIN

PT 54+85.75

PC 57+07.96

REMOVE FIRE HYDRANT & DELIVER TO TOWN 16801 WESTGROVE

REMOVE 2 INLETS & 24" RCP LATERALS DO NOT PLUG NORTH LATERAL & PLUG SOUTH LATERAL NEAR MAIN

ARAPAHO RD.

REMOVE SIGN

1000' R

60

PT 61+25.76

PC 61+52.66

SAWED BREAKOUT GROOVE

REMOVE WOODEN BARRICADE

REMOVE CONCRETE STREET PAVEMENT/ SIDEWALK

REMOVE CONCRETE STREET PAVEMENT/ SIDEWALK

SAWED BREAKOUT GROOVE

MEPC QUORUM PROPERTIES II INC.

REMOVE 36" RCP & 15" RCP LATERAL DO NOT PLUG PIPES

REMOVE FIRE HYDRANT & DELIVER TO TOWN 16801 WESTGROVE

SAWED BREAKOUT GROOVE

CARRAMERICA REALTY LIMITED PARTNERSHIP

SAWED BREAKOUT GROOVE

PT 2+61.48

MCM COMPANY

PRC 1+24.07

PC 0+75.00

SPECTRUM

MATCH LINE

EX. ARAPAHO RD.

LEGEND

CONCRETE REMOVAL

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

DEMOLITION PLAN
STA. 51+50 TO STA. 62+50
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=40'	OCT 97	1772-01	D-2

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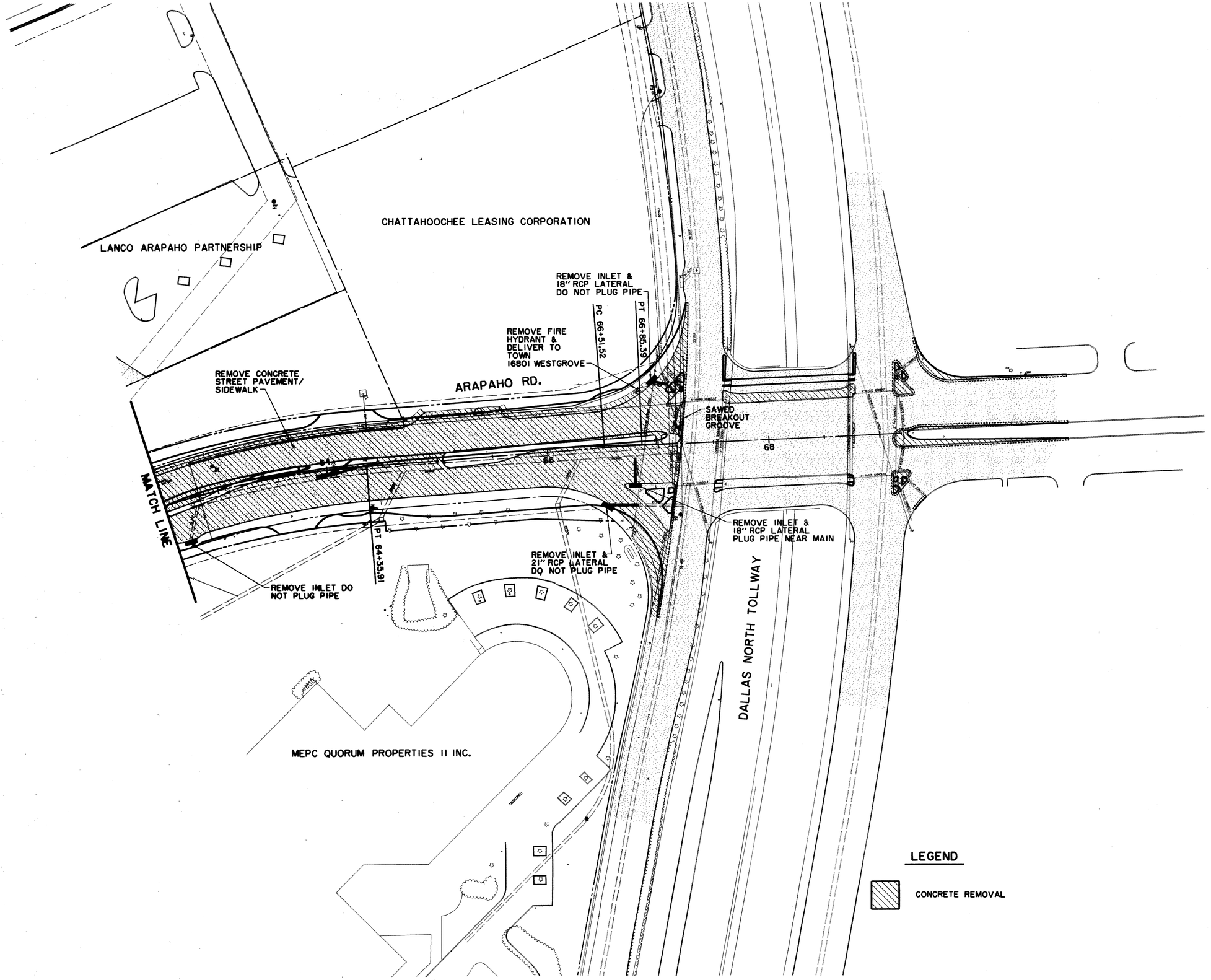

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STATE OF TEXAS
KENNETH A. ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER
10-24-97

DEMOLITION PLAN
STA. 62+50 TO DALLAS NORTH TOLLWAY
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=40'	OCT 97	1772-01	D-3

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ITEM NO	DESCRIPTION	UNIT	SHEET SUMMARY																		ITEM NO.	PROJ. TOTAL	
			D-1	D-2	D-3	P-3	P-4	P-5	P-6	P-7	P-8	P-9	P-10	P-11	P-12	P-15	P-16	P-17	P-18				
	PAVING IMPROVEMENTS																						
101	BARRICADES AND TRAFFIC CONTROL	MONTH				14															101	14	
102	PREPARING RIGHT-OF-WAY	STA				4.65	5	5	5	5	2.35	1.75	2.5	2	3.75						102	37	
103	REMOVE EX. CONCRETE PAVEMENT	SY	2,963	5,832	3,969																103	12,764	
104	REMOVE EX. CONCRETE SIDEWALK	SF	2,890	4,621	2,172																104	9,683	
105	UNCLASSIFIED STREET EXCAVATION	CY				1,243	2,299	2,732	2,957	1,336	1,485	175	150	150	600						105	13,127	
106	10" 650 PSI FLEX REINF. CONC. PAVEMENT	SY				4,261	3,943	4,776	4,649	4,465	2,687	980	797	700	2,174						106	29,432	
107	6" 650 PSI FLEX REINF. CONC. PAVEMENT	SY				619	35		129	260		204		74	388						107	1,709	
108	6" LIME STAB. COMP. SUBGRADE/PROOFROLLING	SY				5,078	4,182	4,999	4,979	4,916	2,736	1,231	870	829	2,689						108	32,509	
109	HYDRATED LIME (30 LBS./SY)	TON				76	63	75	75	74	41	18	13	12	41						109	488	
110	6" INTEGRAL CONCRETE CURB	LF				1,785	1,835	2,001	1,817	1,714	1,423	431	657	493	1,140						110	13,296	
111	MONOLITHIC MEDIAN NOSE	EA				3	2	2	3	1	1		1	1	1						111	15	
112	650 PSI FLEX REINF. CONC. ISLAND	SY									85										112	85	⚠
113	4" 3000 PSI REINF. CONC. SIDEWALK	SF										1,480			1,332						113	2,812	
114	6" THICK HMAC FOR DETOURS,	SY							350	350	200		250	250	300						114	1,700	
115	REINF. CONC. STREET HEADER	LF										45	56	56	50						115	207	
116	4" REFL. PAVEMENT MARKER TYPE I-C	EA															252	424	304		116	980	
117	4" REFL. PAVEMENT MARKER TYPE II-A-A	EA															32				117	32	
118	CERAMIC 6"x6" REFL. JIGGLE BAR	EA															115	117	79		118	311	
119	8" DIA. TWO-WAY DUAL REFL PVMT MARKER (YEL)	EA																	246		119	246	
120	4" REFL. FIRE HYDRANT MARKER (BLUE)	EA															10	4	3		120	17	
121	24" REFL. STOP BAR (WHITE)	LF															288	243	44		121	575	
122	PVMT. ADVISORY MARKER (WHITE)	EA															9	10	7		122	26	
123	4" REFL. TEMP. LANE STRIPE	LF				1,000			2,000	2,000	1,000	2,000	1,600	1,600	1,600						123	12,800	
124	2" PVC SCH. 40 STREET LIGHT CONDUIT	LF				490	500	500	500	500	265		387	322	236						124	3,700	
125	STREET LIGHT FOUNDATION	EA				4	3	3	3	3	1		1	1	1						125	20	
126	STREET LIGHT PULL BOX	EA				3	2	2	3	1	1		2	2	2						126	18	
127	MISCELLANEOUS EXCAVATION	CY						4,133	2,067												127	6,200	
128	6"x12" REINFORCED CONCRETE BAND	LF										65									128	65	
129	3600 PSI REINF. CONC. RET. WALL/SIDEWALK	CY													8						129	8	⚠
130	3600 PSI REINF. CONC. RETAINING WALL	SF														3,300					130	3,300	⚠

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ UPDATED 1/16/98

QUANTITY SUMMARY SHEET

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	Q-1

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ITEM NO	DESCRIPTION	UNIT	SHEET SUMMARY																			ITEM NO.	PROJ. TOTAL
			D-1	D-2	D-3	ST-6	ST-7	ST-8	ST-9	ST-10	ST-11	ST-12	ST-13	ST-14	W-1	W-2	W-3	W-4	W-5	W-6	W-7		
	STORMWATER IMPROVEMENTS																						
201	15" PVC SDR35, FITTINGS & CLEANOUT	LF								46												201	46
202	15" CLASS III RCP	LF								34												202	34
203	18" CLASS III RCP	LF				101	123	96	104	20	158		125									203	727
204	21" CLASS III RCP	LF				85								71								204	156
205	24" CLASS III RCP	LF				460		123	192													205	775
206	36" CLASS III RCP	LF								468	61											206	529
207	39" CLASS III RCP	LF								97	368											207	465
208	42" CLASS III RCP	LF						162														208	162
209	TYPE 'A' MANHOLE	EA				1																209	1
210	TYPE 'B' MANHOLE	EA								2	1											210	3
211	DBL TYPE 'B' HEADWALL (42" RCP)	EA								1												211	1
212	2' THICK STONE RIPRAP, TYPE 'A'	SY										290										212	290
213	SOLID SOD BERMUDA GRASS	SY										156										213	156
214	HYDROMULCH BERMUDA GRASS	SY										1,435										214	1,435
215	6' STANDARD INLET	EA				1																215	1
216	14' STANDARD INLET	EA												1								216	1
217	6' RECESSED INLET	EA					2															217	2
218	8' RECESSED INLET	EA					1															218	1
219	10' RECESSED INLET	EA				3		6	1		2		4	1								219	17
220	12' RECESSED INLET	EA							2													220	2
221	14' RECESSED INLET	EA				2				2												221	4
222	4'x4' 'Y' INLET	EA							1													222	1
223	REMOVE PIPE	LF	162	405	65																	223	632
224	REMOVE INLET	EA	5	3	4																	224	12
225	UNCLASSIFIED CHANNEL EXCAVATION	CY										1,545										225	1,545
226	TRENCH SAFETY DESIGN (ALL UTILITIES)	LS				1																226	1
227	TRENCH SAFETY - STORMWATER	LF				646	123	381	296	665	587		125	71								227	2,894
228	INLET PROTECTION	EA				6	3	6	4	2	2		4	2								228	29
229	STRAW BALE DIKE	LF							65			60										229	125
230	ROCK BERM	LF										20										230	20
231	SILT FENCE	LF										1,050										231	1,050
232	STABILIZED CONSTR. ENTRY/EXIT	EA					1	2				1										232	4
	WATER IMPROVEMENTS																						
301	4" P.V.C. WATER, CL 'A' EMBEDMENT	LF														20						301	20
302	6" P.V.C. WATER, CL 'A' EMBEDMENT	LF														87	17	55	25	15	19	302	218
303	8" P.V.C. WATER, CL 'A' EMBEDMENT	LF													249	580	391					303	1,220
304	4" GATE VALVE / BOX	EA														1						304	1
305	6" GATE VALVE / BOX	EA													1	3	2	1				305	7
306	8" GATE VALVE / BOX	EA													2	4	2					306	8
307	FIRE HYDRANT ASSEMBLY	EA													2	4	3	1	2	1	1	307	14
308	CONCRETE ENCASEMENT	LF													40							308	40
309	8"x6" TAPPING SLEEVE & VALVE/BOX	EA													1							309	1
310	24"x8" TAPPING SLEEVE & VALVE/BOX	EA															2					310	2
311	12"x6" TAPPING SLEEVE & VALVE/BOX	EA																			1	311	1
312	WATER METER/VAULT/BACKFLOW PREVENTER	EA													1							312	1
313	WATER METER/BOX/BACKFLOW PREVENTER	EA													2							313	2
314	ADJUST EXISTING WATER VALVE COVER & STACK	EA															2		2	1		314	5
315	ADJUST EXISTING WATER METER BOX	EA													2							315	2
316	RECONNECT EXISTING SERVICES	EA													3							316	3
317	CONNECT TO EXISTING WATER	EA													1			1	2	1		317	5
318	TRENCH SAFETY - WATER	LF													249	687	408	55	25	15	19	318	1,458
319	WATER TEST	LS													1							319	1
328	2" IRRIGATION TAP/VALVE/BOX	EA														1			1			328	2
	WASTEWATER IMPROVEMENTS																						
320	8" P.V.C. SDR35 WASTEWATER, CL '4' EMBEDMENT	LF													194			290	13			320	497
321	CONSTRUCT 4' DIA. MANHOLE	EA																1				321	1
322	CONNECT TO EX. MANHOLE	EA													1			1				322	2
323	ADJUST MANHOLE TOP	EA																	2	1	1	323	4
324	CONCRETE ENCASEMENT	LF																20				324	20
325	TRENCH SAFETY - WASTEWATER	LF													194			290	13			325	497
326	T.V. INSPECTION WASTEWATER MAIN	LF													194			290	13			326	497
327	WASTEWATER LINE & MANHOLE TEST	LS													1							327	1

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RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ UPDATED 1/16/98

QUANTITY SUMMARY SHEET

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	Q-2

ITEM NO	DESCRIPTION	UNIT	SHEET SUMMARY S-1	S-2	S-4	S-6	ITEM NO.	PROJ. TOTAL
	SIGNALIZATION IMPROVEMENTS							
401	2" SCHEDULE 40 PVC CONDUIT - TRENCHED	LF	2,720	13	94	314	401	3,141
402	3" SCHEDULE 40 PVC CONDUIT - TRENCHED	LF		215	255	269	402	739
403	4" SCHEDULE 40 PVC CONDUIT - TRENCHED	LF			62	101	403	163
404	4" SCHEDULE 40 PVC CONDUIT - BORED	LF		70			404	70
405	2 CONDUCTOR #6 XHHW ELECTRICAL WIRE	LF		472	114	484	405	1,070
406	#6 BARE ELECTRICAL WIRE	LF		564	526	801	406	1,891
407	TYPE A PULL BOX	EA	16	3	3	6	407	28
408	TYPE C PULL BOX	EA		1	1	1	408	3
409	ELECTRICAL SERVICE CONNECTION	EA		1	1	1	409	3
410	TRAFFIC SIGN R10-12 MAST ARM MOUNT	EA		2	4	4	410	10
411	TRAFFIC SIGN R3-8 MAST ARM MOUNT	EA		2			411	2
412	TRAFFIC SIGN R3-4 MAST ARM MOUNT	EA		1	2	4	412	7
413	DRILLED SHAFT FOUND. - TYPE 30A	EA		2	4	2	413	8
414	DRILLED SHAFT FOUND. - TYPE 30B	EA		2		2	414	4
415	CONTROLLER CABINET FOUNDATION	EA		1	1	1	415	3
416	30' T BASE POLE W/ 32' MAST ARM	EA		2	2		416	4
417	30' T BASE POLE W/ 36' MAST ARM	EA			2	2	417	4
418	30' T BASE POLE W/ 40' MAST ARM	EA				2	418	2
419	30' T BASE POLE W/ 44' MAST ARM	EA		1			419	1
420	12" 3 SECT. SIGNAL HEAD - TYPE V3	EA		4	6	8	420	18
421	12" 4 SECT. SIGNAL HEAD - TYPE VLT	EA		4	4	4	421	12
422	12" 4 SECT. SIGNAL HEAD - TYPE V4RT(F)	EA		4	4	2	422	10
423	VACUUM BACKPLATE 3 SECT. 12" TCT	EA		4	6	8	423	18
424	VACUUM BACKPLATE 4 SECT. 12" TCT	EA		6	8	8	424	22
425	3 SECTION ASTRO BRACKET W/29" BANDS	EA		4	6	8	425	18
426	4 SECTION ASTRO BRACKET W/29" BANDS	EA		6	8	8	426	22
427	PED. SIGNAL HEAD & MOUNTING HARDWARE	EA		6	8	8	427	22
428	BELDEN 8281 COAXIAL CABLE	LF		525	587	560	428	1,672
429	4-COND. OPTICOM CABLE	LF		575	638	630	429	1,843
430	5-COND. #12 AWG SIGNAL CABLE	LF		225	393	420	430	1,038
431	7-COND. #12 AWG SIGNAL CABLE	LF		270	285	307	431	862
432	3-COND. #14 AWG SIGNAL CABLE	LF		525	587	680	432	1,792
433	5-COND. #12 AWG RAILROAD CABLE	LF		378		321	433	699
434	16-COND. #12 AWG SIGNAL CABLE	LF		435	467	560	434	1,462
435	PEDESTRIAN PUSHBUTTON & R10-4B SIGN	EA		6	8	8	435	22
436	OPTICOM DIRECTIONAL SENSORS W/BRACKET	EA		3	4	4	436	11
437	OPTICOM DISCRIMINATOR MODULE	EA		2	2	2	437	6
438	INTERFACE UP/DN DEVICE/COMPUTER (LABOR)	EA		1	1	1	438	3
439	INTERFACE UP/DN DEVICE/COMPUTER (MATERIALS)	EA		1	1	1	439	3
440	8-PHASE NEMA TS-2 TY 1 CONTROLLER	EA		1	1	1	440	3
441	VIDEO CAMERA W/BRACKET,CABLES,J.B.	EA		3	4	4	441	11
442	TV MONITOR W/CABLES (MATERIALS)	EA		1	1	1	442	3
443	TV MONITOR W/CABLES (LABOR)	EA		1	1	1	443	3
444	CONNECT TO EXISTING RAILROAD CONTROLLER	EA		1		1	444	2
445	ADJUST CITY OF DALLAS TRAFFIC SIGNALS	LS				1	445	1
446	FURNISH & DELIVER CONTROLLER CABINET	EA				1	446	1
447	FURNISH & DELIVER VIDEO TRACKING UNIT	EA				1	447	1
448	FURNISH & DELIVER 62 PIN I/O CABLE	EA				1	448	1
449	FURNISH & DELIVER CAMERA INTERFACE 6 CAM.	EA				1	448	1
450	FURNISH & DELIVER BNC CONNECTOR	EA				1	450	1
451	FURNISH & DELIVER CPOWER CONDITIONER/VTU	EA				1	451	1
452	INSTALL SERVICE, PEDESTAL & METER	EA				2	452	2

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ UPDATED 1/16/98

QUANTITY SUMMARY SHEET

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	Q-3

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ITEM NO	DESCRIPTION	UNIT	SHEET SUMMARY TOTALS	ITEM NO.	PROJ. TOTAL
	STREETSCAPE IMPROVEMENTS				
501	BRICK PAVER/DROP SLAB/ARAPAHO/QUORUM	SF	3,950	501	3,950
502	SANDBLAST CONC PVMT/ARAPAHO/QUORUM	SF	9,800	502	9,800
503	CONCRETE CROSSWALKS SANDBLAST FINISH	SF	3,490	503	3,490
504	BRICK PAVING/CONCRETE SIDEWALK/QUORUM	SF	4,000	504	4,000
505	DOUBLE ROW BRICK BAND ON CONCRETE SLAB	SF	8,763	505	8,763
506	SPEC. SIDEWALK/DIAG. SAWCUTS/SANDBLAST	SF	44,288	506	44,288
507	1/4" FIBEROUS EXPANSION JOINT	LF	9,780	507	9,780
508	1' CONCRETE EDGER ACROSS MEDIAN	LF	385	508	385
509	BEGA LIGHT FIXTURE/POLE/FOUNDATION	EA	77	509	77
510	3/4" SCH 40 PVC ELEC. CONDUIT	LF	3,500	510	3,500
511	1" SCH 40 PVC ELEC. CONDUIT	LF	4,000	511	4,000
512	2" SCH 40 PVC ELEC. CONDUIT	LF	1,200	512	1,200
513	#6 AWG ELEC. WIRE WITH TERMINATIONS	LF	4,000	513	4,000
514	#8 AWG ELEC. WIRE WITH TERMINATIONS	LF	10,000	514	10,000
515	#10 AWG ELEC. WIRE WITH TERMINATIONS	LF	2,800	515	2,800
516	CAST IRON ELECTRICAL JUNCTION BOX	EA	12	516	12
517	60" TREE GRATE W/CONC. EDGE & BEAM	EA	113	517	113
518	LIGHTED BOLLARD/CONDUIT/WIRING	EA	16	518	16
519	4" PERFORATED PVC FRENCH DRAIN	LF	700	519	700
520	NON-PERF. PVC CONNECTED TO INLETS	LF	4,500	520	4,500
521	RED OAK TREE / 100 GAL. / 4" CAL.	EA	125	521	125
522	FOSTER HOLLY / 12 FT. HEIGHT	EA	132	522	132
523	ASIAN JASMINE / 4" POT / 9" O.C. IN QUORUM	SF	504	523	504
524	BERMUDA SOD (TEX TURF 10)/6" TOPSOIL	SF	21,862	524	21,862
525	ASIAN JASMINE / 4" POT / 9" O.C. IN MEDIAN	SF	2,275	525	2,275
526	1 1/2" HERSEY WATER METER & VALVE	EA	2	526	2
527	FEBCO 805-Y DOUBLE CHECK VALVE	EA	2	527	2
528	RAINMASTER EVOLUTION DX-2 CONTROLLER	EA	1	528	1
529	ELEC. SERVICE CONNECTION FOR IRRIGATION	LS	1	529	1
530	RAIN BIRD 1402 BUBBLER FOR TREE WELL	EA	214	530	214
531	TORO 57DZ-40 - 4" POP-UP FOR LAWNS	EA	318	531	318
532	TORO 5702 - 12" POP-UP FOR PLANTING BED	EA	227	532	227
533	4" SCH. 40 PVC SLEEVES FOR IRRIGATION	LF	1,160	533	1,160
534	2 1/2" SCH. 40 PVC SLEEVES FOR IRRIGATION	LF	5,260	534	5,260
535	WEATHERMATIC 1" ELEC. CONTROL VALVE	EA	3	535	3
536	WEATHERMATIC 1 1/2" ELEC. CONTROL VALVE	EA	7	536	7
537	WEATHERMATIC 2" ELEC. CONTROL VALVE	EA	8	537	8
538	14 GA. ELECTRIC VALVE WIRING	LF	18,100	538	18,100
539	2" SCH 40 BELLED PVC MAIN LINE	LF	350	539	350
540	SPEARS 2" BALL VALVE	EA	18	540	18
541	BUCKNER QUICK CONNECT VALVE	EA	4	541	4
542	2 1/2" CLASS 200 PVC PIPE & FITTINGS	LF	80	542	80
543	2" CLASS 200 PVC PIPE & FITTINGS	LF	1,120	543	1,120
544	1 1/2" CLASS 200 PVC PIPE & FITTINGS	LF	1,360	544	1,360
545	1 1/4" CLASS 200 PVC PIPE & FITTINGS	LF	3,220	545	3,220
546	1" CLASS 200 PVC PIPE & FITTINGS	LF	4,000	546	4,000
547	3/4" CLASS 200 PVC PIPE & FITTINGS	LF	3,400	547	3,400
	ALTERNATES				
548	60" GRATE W/METAL FRAME-NEENAH(DEDUCT)	EA	109	548	109
549	SW W/BEAM & BASE TREE GRATE(DEDUCT)	EA	109	549	109
550	3/4" SCH 40 PVC ELECT. CONDUIT & FITTINGS	LF	1,750	550	1,750

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ UPDATED 1/16/98

QUANTITY SUMMARY SHEET

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	Q-4

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STATE OF TEXAS
KENNETH A. ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

[illegible]
10-24-97

⚠ REVISED
1/16/98

RIGHT-OF-WAY MAP

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=40'	OCT 97	1772-01	R-1

McLEAN TRACT ADDITION
VOL.82005 PG.2784

TOWN OF ADDISON
VOL.93243 PG.6422

LANCO ARAPAHO PARTNERSHIP
VOL.89050 PG.3144

LANCO PROPERTIES INC.
VOL.89050 PG.3050

DRAINAGE & UTILITY ESM'T.
VOL.80005 PG.1768
VOL.82005 PG.2784

DRAINAGE & UTILITY ESM'T.
VOL.80005 PG.1768
VOL.81075 PG.1696

UTILITY ESM'T.
VOL.81075 PG.1696

ARAPAHO ROAD
80' R.O.W.

PROPOSED R.O.W.

EXISTING R.O.W.

PROPOSED CENTERLINE

CL STA.53+24.46, 51.00'LT.

CL STA.56+76.73 ARAPAHO RD.
CL STA.139+22.83 SPECTRUM DR.

CL PC STA.57+97.96

CL STA.57+53.53, 51.00'RT.

CL STA.18+50.44, 50.81'RT.

CL STA.17+87.13, 41.19'LT.

CL STA.17+13.76, 58.81'RT.

CL STA.16+47.23, 41.19'LT.

CL STA.64+36.92

CL STA.64+67.54
51.00'LT.

CL STA.64+46.92, 58.00'RT.

CL STA.61+65.67

CL STA.61+25.75

CL STA.60+56.51, 51.00'LT.

CL STA.60+46.66, 51.00'RT.

UNDERGROUND UTILITY ESM'T.
VOL.84240 PG.3658
(10' WIDTH)

UTILITY ESM'T.
VOL.82012 PG.0170
VOL.82230 PG.0774

R.O.W. PARCEL 7-R BY
SHIMEK, JACOBS & FINKLEA

R.O.W. PARCEL 6-1-R BY
SHIMEK, JACOBS & FINKLEA

QUORUM DRIVE 80' R.O.W.

SPECTRUM DRIVE 80' R.O.W.
(FORMERLY QUORUM LOOP NORTH)

ARAPAHO ROAD
(FORMERLY FACTORY ST.)
60' R.O.W.

CARRAMERICA REALTY, L.P.
VOL.97055 PG.3445

MEPC QUORUM PROPERTIES II INC.
VOL.87186 PG.3028
(CORRECTION DEED VOL.88109 PG.1723)
TRACT 4

MEPC QUORUM PROPERTIES II INC.
VOL.87186 PG.3028
(CORRECTION DEED VOL.88109 PG.1723)
TRACT 3

MEPC QUORUM PROPERTIES II INC.
VOL.87186 PG.3028
(CORRECTION DEED VOL.88109 PG.1723)
TRACT 2

MEPC QUORUM PROPERTIES INC.
VOL.81133 PG.0162

REVISED PLAT QUORUM NORTH OFFICES
VOL.82230 PG.0774

SCALE IN FEET
0 20 40 60 80

N

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 1/16/98

RIGHT-OF-WAY MAP

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=40'	OCT 97	1772-01	R-2

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DALLAS AREA RAPID TRANSIT PROPERTY ACQUISITION
VOL.91088 PG.1398

612.25'

15' DRAINAGE & UTILITY ESM'T.
VOL.80005 PG.1768
VOL.81075 PG.1696

LANCO ARAPAHO PARTNERSHIP
VOL.89050 PG.3144

25'

ADLESTEIN ADDITION
VOL.81075 PG.1696

20' DRAINAGE & UTILITY ESM'T.
VOL.80005 PG.1768
VOL.81075 PG.1696

L= 338.50'
R= 2191.83'

0 20 40 60 80
SCALE IN FEET

N

312.17'

125.07'

CHATTAHOOCHEE LEASING CORPORATION
VOL.95191 PG.06172

G.W. FISHER SURVEY ABSTRACT NO. 482
ROBERT WILBORN SURVEY ABSTRACT NO. 1580

CL STA.67+27.95, 147.05'LT.

R= 1137.47'
L= 30.74'
L=15.49'

LANCO PROPERTIES INC.
VOL.89050 PG.3050

308.34'

130.75'

406.36'

McLEAN TRACT ADDITION
VOL.82005 PG.2784

LANCO ARAPAHO PARTNERSHIP
VOL.89050 PG.3144

28' UTILITY ESM'T.
VOL.81075 PG.1696

10

CL STA.64+35.52

CL STA.64+67.54, 51.00'LT.

CL STA.65+28.03, 51.00'LT.

R= 100.00'
L= 153.13'
L= 117.63'
R= 51.00'

LANCO ARAPAHO PARTNERSHIP
VOL.89050 PG.3144

31.63'
N85°39'11"E 160.47'
32.11'
N24°18'59"E

DRAINAGE & UTILITY ESM'T.
VOL.80005 PG.1768
VOL.81075 PG.1696

CL STA.61+25.76

CL STA.61+62.67

PROPOSED R.O.W.
EXISTING R.O.W.
R= 841.00'
L= 290.58'
L= 311.47'
R= 838.96'

22.85'
S85°39'11"W 177.18'
154.33'

ARAPAHO ROAD
80' R.O.W.

EXISTING CENTERLINE
N85°39'11"E

40'
40'
51'
69'

TOWN OF ADDISON
VOL.93243 PG.6422

15'
15'

CL STA.58+51.08, 51.00'LT.

S25°19'29"E
28.81'

DRAINAGE & UTILITY ESM'T.
VOL.80005 PG.1768
VOL.82005 PG.2784

R= 949.00'
L= 70.02'

93.08'
N64°10'35"E

N65°50'25"E
36.98'

15'

PROPOSED CENTERLINE
R= 790.00'
L= 273.25'

142.34'
N85°39'11"E

L= 72.18'
R= 290.00'

N04°20'49"W 9.00'

N88°17'45"W 70.41'

L= 281.49'
R= 750.36'
L= 255.61'
PROPOSED R.O.W.
EXISTING R.O.W.

S85°39'11"W 136.63'

S85°39'11"W 13.00'

CL STA.64+48.32, 58.00'RT.

CL STA.65+65.55, 58.00'RT.

CL STA.66+35.56, 67.42'RT.

R= 949.00'
L= 326.47'

5

S64°10'35"W 275.11'

R= 1895.86'
L= 69.31'

L= 21.75'

L= 417.88'
R= 1895.86'
PROPOSED CENTERLINE

189.82'
27.43'
36.98'
S65°50'25"W

N64°10'35"E
R= 1851.00'
L= 83.14'

14.28'

R= 1851.00'
L= 300.88'
PROPOSED R.O.W.
EXISTING R.O.W.

259.89'
298.81'

S64°10'35"W

8

CL STA.59+15.55, 51.00'RT.

15'
15'

UTILITY ESM'T.
VOL.82012 PG.0170
VOL.82230 PG.0774

MEPC QUORUM PROPERTIES II INC.
VOL.87186 PG.3028
(CORRECTION DEED VOL.88109 PG.1723)

TRACT 4

MEPC QUORUM PROPERTIES II INC.
VOL.87186 PG.3028
(CORRECTION DEED VOL.88109 PG.1723)

TRACT 3

MEPC QUORUM PROPERTIES INC.
VOL.81133 PG.0162

MEPC QUORUM PROPERTIES II INC.
VOL.87186 PG.3028
(CORRECTION DEED VOL.88109 PG.1723)

TRACT 2

REVISED PLAT QUORUM NORTH OFFICES
VOL.82230 PG.0774

DALLAS NORTH TOLLWAY (VARIABLE WIDTH)

R= 1856.86'
L= 69.31'
L= 98.63'
R= 1862.86'

S68°28'45"W
209.58'

SEE PREVIOUS SHEET
FOR THIS AREA

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 3/16/98

RIGHT-OF-WAY MAP

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=40'	OCT 97	1772-01	R-3

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AREA B-26 IS DRAINAGE AREA FOR EXISTING STORM SEWER IN ADDISON RD. AND CLARA ST. NORTH OF RAILROAD
T_c = 16.13 MIN.
C= 0.90
I_{100} = 7.4 in/hr

B-26 | 27.10 | 180.49

ADDISON RD.
ARAPAHO RD.
EX. ARAPAHO RD.
SPECTRUM DR.
QUORUM DR.
DALLAS NORTH TOLLWAY
BELT LINE RD.
LINE 'A'
LINE 'A-1'
LINE 'A-2'
LINE 'B-1'
LINE 'B-2'
LINE 'B-3'
LINE 'C-1'
LINE 'C-2'
LINE 'C-3'
LINE 'C-4'
LINE 'C-1 DRAIN'
EX. SWALE
EX. SWALE

A-1 | 0.46 | 3.62
A-2 | 0.28 | 2.20
A-3 | 0.50 | 3.93
A-4 | 0.33 | 2.60
A-5 | 0.42 | 3.30
A-6 | 0.57 | 4.48
A-7 | 0.27 | 2.12
A-8 | 0.21 | 1.65
A-9 | 0.16 | 1.26
A-10 | 0.20 | 1.57
A-11 | 3.10 | 24.38
A-12 | 2.60 | 20.45
A-13 | 5.57 | 43.81
A-14 | 5.57 | 43.81
B-0 | 2.42 | 19.04
B-1 | 1.03 | 8.10
B-2 | 1.40 | 11.01
B-3 | 1.17 | 9.20
B-4 | 1.26 | 9.91
B-5 | 0.93 | 7.32
B-6 | 0.88 | 6.92
B-7 | 0.88 | 6.92
B-8 | 1.97 | 15.50
B-9 | 0.41 | 3.23
B-10 | 0.52 | 4.09
B-11 | 0.31 | 2.44
B-12 | 0.76 | 5.98
B-13 | 5.11 | 40.20
B-14 | 0.31 | 2.44
B-15 | 1.81 | 14.24
B-16 | 0.30 | 2.36
B-17 | 0.30 | 2.36
B-18 | 0.38 | 2.99
B-19 | 2.45 | 19.27
B-20 | 0.56 | 4.40
B-21 | 0.61 | 4.80
B-22 | 1.65 | 12.82
B-23 | 0.32 | 2.52
B-24 | 0.17 | 1.34
B-25 | 1.14 | 8.97
C-1 | 3.34 | 26.27
C-2 | 0.73 | 5.74
C-3 | 2.66 | 20.92
C-4 | 2.88 | 22.65
C-5 | 2.61 | 20.53
C-6 | 0.72 | 5.66
C-7 | 0.24 | 1.89
C-8 | 0.38 | 2.99
C-9 | 0.43 | 3.38
C-10 | 0.37 | 2.91
C-11 | 0.77 | 6.06
C-12 | 0.47 | 3.70
C-13 | 1.27 | 9.99
C-14 | 0.64 | 5.03
C-15 | 0.54 | 4.25
C-16 | 0.47 | 3.70
C-17 | 1.51 | 11.88
C-18 | 0.87 | 6.84
C-19 | 0.48 | 3.78
C-20 | 0.22 | 1.73
C-21 | 0.71 | 5.74
C-22 | 0.19 | 1.49
C-23 | 0.58 | 4.64
C-24 | 3.84 | 30.21
C-25 | 5.00 | 39.33
C-26 | 0.71 | 5.58
C-27 | 3.05 | 23.99
C-28 | 1.64 | 12.90
C-29 | 9.25 | 72.76
D-1 | 1.67 | 13.14
E-1 | 7.81 | 61.43

N

0 50 100 150 200
SCALE IN FEET

DRAINAGE AREA DIVIDES

FLOW ARROWS

RUNOFF CRITERIA

C = 0.90
MINIMUM t_c = 10.00 MINUTES
I_{100} = 8.74 in/hr

A-1 | 2.22 | 17.46
- DRAINAGE AREA DESIGNATION
- TOTAL DRAINAGE AREA (ACRES) AT POINT OF CONCETRATION
- Q100 (cfs)

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

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NOTE:
EXISTING STORM SEWER LOCATIONS AND SIZES OBTAINED FROM RECORD DRAWINGS FROM THE TOWN OF ADDISON. ACTUAL LOCATION IN THE FIELD MAY VARY FROM THE PLANS.

DRAINAGE AREA MAP

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=100'	OCT 97	1772-01	ST-1

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ARAPAHO ROAD
RUNOFF CALCULATIONS - SEPTEMBER 9, 1997

AREA NO.	Tc (MIN.)	RUNOFF COEFF. "C"	INTENSITY "I-25" (IN./HR)	INTENSITY "I-100" (IN./HR)	AREA "A" (ACRES)	STORM RUNOFF "Q-25"	STORM RUNOFF "Q-100"
A-1	10.00	0.90	7.29	8.74	0.46	3.02	3.62
A-2	10.00	0.90	7.29	8.74	0.28	1.84	2.20
A-3	10.00	0.90	7.29	8.74	0.50	3.28	3.93
A-4	10.00	0.90	7.29	8.74	0.33	2.17	2.60
A-5	10.00	0.90	7.29	8.74	0.42	2.76	3.30
A-6	10.00	0.90	7.29	8.74	0.57	3.74	4.48
A-7	10.00	0.90	7.29	8.74	0.27	1.77	2.12
A-8	10.00	0.90	7.29	8.74	0.21	1.38	1.65
A-9	10.00	0.90	7.29	8.74	0.16	1.05	1.26
A-10	10.00	0.90	7.29	8.74	0.20	1.31	1.57
A-11	10.00	0.90	7.29	8.74	3.10	20.34	24.38
A-12	10.00	0.90	7.29	8.74	2.60	17.06	20.45
A-13	10.00	0.90	7.29	8.74	5.57	36.54	43.81
A-14	10.00	0.90	7.29	8.74	5.57	36.54	43.81
B-0	10.00	0.90	7.29	8.74	2.42	15.88	19.04
B-1	10.00	0.90	7.29	8.74	1.03	6.76	8.10
B-2	10.00	0.90	7.29	8.74	1.40	9.19	11.01
B-3	10.00	0.90	7.29	8.74	1.17	7.68	9.20
B-5	10.00	0.90	7.29	8.74	0.93	6.10	7.32
B-6	10.00	0.90	7.29	8.74	0.88	5.77	6.92
B-7	10.00	0.90	7.29	8.74	0.88	5.77	6.92
B-8	10.00	0.90	7.29	8.74	1.97	12.93	15.50
B-9	10.00	0.90	7.29	8.74	0.41	2.69	3.23
B-10	10.00	0.90	7.29	8.74	0.52	3.41	4.09
B-11	10.00	0.90	7.29	8.74	0.31	2.03	2.44
B-12	10.00	0.90	7.29	8.74	0.76	4.99	5.98
B-13	10.00	0.90	7.29	8.74	5.11	33.53	40.20
B-14	10.00	0.90	7.29	8.74	0.31	2.03	2.44
B-15	10.00	0.90	7.29	8.74	1.81	11.88	14.24
B-16	10.00	0.90	7.29	8.74	0.30	1.97	2.36
B-17	10.00	0.90	7.29	8.74	0.30	1.97	2.36
B-18	10.00	0.90	7.29	8.74	0.38	2.49	2.99
B-19	10.00	0.90	7.29	8.74	2.45	16.07	19.27
B-20	10.00	0.90	7.29	8.74	0.56	3.67	4.40
B-21	10.00	0.90	7.29	8.74	0.61	4.00	4.80
B-22	10.00	0.90	7.29	8.74	1.63	10.69	12.82
B-23	10.00	0.90	7.29	8.74	0.32	2.10	2.52
B-24	10.00	0.90	7.29	8.74	0.17	1.12	1.34
B-25	10.00	0.90	7.29	8.74	1.14	7.48	8.97
B-26	16.13	0.90	6.10	7.40	27.10	148.78	180.49
C-1	10.00	0.90	7.29	8.74	3.34	21.91	26.27
C-2	10.00	0.90	7.29	8.74	0.73	4.79	5.74
C-3	10.00	0.90	7.29	8.74	2.66	17.45	20.92
C-4	10.00	0.90	7.29	8.74	2.88	18.90	22.65
C-5	10.00	0.90	7.29	8.74	2.61	17.12	20.53
C-6	10.00	0.90	7.29	8.74	0.72	4.72	5.66
C-7	10.00	0.90	7.29	8.74	0.24	1.57	1.89
C-8	10.00	0.90	7.29	8.74	0.38	2.49	2.99
C-9	10.00	0.90	7.29	8.74	0.43	2.82	3.38
C-10	10.00	0.90	7.29	8.74	0.37	2.43	2.91
C-11	10.00	0.90	7.29	8.74	0.77	5.05	6.06
C-12	10.00	0.90	7.29	8.74	0.47	3.08	3.70
C-13	10.00	0.90	7.29	8.74	1.27	8.33	9.99
C-14	10.00	0.90	7.29	8.74	0.64	4.20	5.03
C-15	10.00	0.90	7.29	8.74	0.54	3.54	4.25
C-16	10.00	0.90	7.29	8.74	0.47	3.08	3.70
C-17	10.00	0.90	7.29	8.74	1.51	9.91	11.88
C-18	10.00	0.90	7.29	8.74	0.87	5.71	6.84
C-19	10.00	0.90	7.29	8.74	0.48	3.15	3.78
C-20	10.00	0.90	7.29	8.74	0.22	1.44	1.73
C-21	10.00	0.90	7.29	8.74	0.73	4.79	5.74
C-22	10.00	0.90	7.29	8.74	0.19	1.25	1.49
C-23	10.00	0.90	7.29	8.74	0.80	5.25	6.29
C-24	10.00	0.90	7.29	8.74	3.84	25.19	30.21
C-25	10.00	0.90	7.29	8.74	5.00	32.81	39.33
C-26	10.00	0.90	7.29	8.74	0.71	4.66	5.58
C-27	10.00	0.90	7.29	8.74	3.05	20.01	23.99
C-28	10.00	0.90	7.29	8.74	1.64	10.76	12.90
C-29	10.00	0.90	7.29	8.74	9.25	60.69	72.76
D-1	10.00	0.90	7.29	8.74	1.67	10.96	13.14
E-1	10.00	0.90	7.29	8.74	7.81	51.24	61.43
B-27	10.00	0.90	7.29	8.74	2.00	13.12	15.73
B-28	10.00	0.90	7.29	8.74	1.76	11.55	13.84
B-29	10.00	0.90	7.29	8.74	0.98	6.43	7.71
B-30	10.00	0.90	7.29	8.74	1.04	6.82	8.18
B-31	10.00	0.90	7.29	8.74	1.94	12.73	15.26
B-32	10.00	0.90	7.29	8.74	1.23	8.07	9.68
B-33	10.00	0.90	7.29	8.74	1.66	10.89	13.06
B-34	10.00	0.90	7.29	8.74	0.11	0.72	0.87
B-35	10.00	0.90	7.29	8.74	0.21	1.38	1.65
B-36	10.00	0.90	7.29	8.74	2.74	17.98	21.55
B-37	10.00	0.90	7.29	8.74	0.66	4.33	5.19
B-38	10.00	0.90	7.29	8.74	2.86	18.76	22.50
B-39	10.00	0.90	7.29	8.74	0.40	2.62	3.15
B-40	10.00	0.90	7.29	8.74	1.16	7.61	9.12
B-41	10.00	0.90	7.29	8.74	4.53	29.72	35.63
B-42	10.00	0.90	7.29	8.74	3.82	25.06	30.05

AREA B-26 IS THE AREA (B-27 THRU BB-42) NORTH OF THE RAILROAD WHICH DRAINS ADDISON ROAD AND CLARA STREET TO QUORUM DRIVE.

ARAPAHO ROAD
INLET CALCULATIONS - SEPTEMBER 9, 1997

INLET NO.	INLET LOCATION	DESIGN STORM FREQUENCY (YRS)	TIME OF CONC. "TC" (MIN.)	AREA RUNOFF INTENSITY "I-100" (INCHES/HOUR)	AREA RUNOFF COEFF. "C"	AREA NO.	AREA "A" (ACRES)	"Q-100" FOR AREA (CFS)	CARRY-OVER FROM UPSTREAM (CFS)	TOTAL GUTTER FLOW (CFS)	GUTTER CAPACITY ONE DRY LANE(CFS)	DEPTH OF FLOW ONE DRY LANE(FT)	GUTTER SLOPE (FT/FT)	STREET CROSS SLOPE (FT/FT)	ACTUAL DEPTH OF FLOW (FT.)	CAPACITY PER FOOT OF INLET (CFS)	REQUIRED LENGTH OF INLET (FT.)	SELECTED LENGTH OF INLET (FT.)	TYPE OF INLET	GUTTER FLOW PICKED UP(CFS)	CARRY-OVER TO DOWNSTREAM (CFS)
LINE "A" - PROPOSED ARAPAHO ROAD AT ADDISON ROAD																					
A-0	DART	100	10.00	8.74	0.90	A-0	0.79	6.21	0.00	6.21	NA	NA	NA	NA	NA	NA	NA	8	STD-SAG	6.21	0.00
A-1	43+60 LT. A	100	10.00	8.74	0.90	A-1	0.46	3.62	0.00	3.62	4.00	0.27	0.0050	0.0182	0.26	0.55	6.53	10	REC-GR	3.62	0.00
A-2	41+31.48 LT. A	100	10.00	8.74	0.90	A-2	0.28	2.20	0.00	2.20	9.21	0.45	0.0050	0.0300	0.26	1.37	1.61	6	STD-SAG	2.20	0.00
A-3	41+54 LT. A	100	10.00	8.74	0.90	A-3&4	0.83	6.53	0.00	6.53	38.39	0.64	0.0050	0.0182	0.33	1.60	4.08	14	REC-SAG	6.53	0.00
A-5	43+10 RT. A	100	10.00	8.74	0.90	A-5	0.42	3.30	0.00	3.30	5.00	0.31	0.0050	0.0208	0.27	0.56	5.92	10	REC-GR	3.30	0.00
A-6	42+69.87 RT. A	100	10.00	8.74	0.90	A-6	0.59	4.64	0.00	4.64	7.74	0.31	0.0120	0.0208	0.26	0.55	8.46	10	REC-GR	4.64	0.00
A-7	QUORUM CENTER	100	10.00	8.74	0.90	A-7	0.27	2.12	0.00	2.12	NA	NA	NA	NA	NA	NA	NA	SUMP	EX SAG	2.12	0.00
A-8	41+50 RT. A	100	10.00	8.74	0.90	A-8&9	0.37	2.91	0.00	2.91	5.00	0.31	0.0050	0.0208	0.25	1.34	2.17	14	REC-SAG	2.91	0.00
LINE "A" - EXISTING ADDISON ROAD SOUTH OF PROPOSED ARAPAHO ROAD																					
A-10	QUORUM CENTER	100	10.00	8.74	0.90	A-10	0.20	1.57	0.00	1.57	NA	NA	NA	NA	NA	NA	NA	5	EX STD-SAG	1.57	0.00
LINE "B" - EXISTING QUORUM DRIVE SOUTH OF EXISTING ARAPAHO																					
B-0	9+40 LT. Q	100	10.00	8.74	0.90	B-0	2.42	19.04	0.00	19.04	6.47	0.27	0.0180	0.0208	0.40	0.69	27.51	10&10	REC-GR/SAG	19.04	0.00
B-1	9+40 RT. Q	100	10.00	8.74	0.90	B-1	1.03	8.10	0.00	8.10	6.47	0.27	0.0180	0.0208	0.29	0.58	13.89	10&10	REC-GR/SAG	8.10	0.00
B-2	7+40 RT.	100	10.00	8.74	0.90	B-2	1.40	11.01	0.00	11.01	NA	NA	NA	NA	NA	NA	NA	10	EX STD-SAG	11.01	0.00
B-3	5+82.50 RT. Q	100	10.00	8.74	0.90	B-3	1.17	9.20	0.00	9.20	6.47	0.27	0.0180	0.0208	0.31	0.60	15.42	10&10	REC-GR/SAG	9.20	0.00
B-4	5+50 LT. Q	100	10.00	8.74	0.90	B-4	1.26	9.91	0.00	9.91	6.47	0.27	0.0180	0.0208	0.32	0.61	16.38	10	EX REC-GR	6.10	3.81
B-5	2+13 LT. Q	100	10.00	8.74	0.90	B-5	0.93	7.32	3.81	11.13	3.41	0.27	0.0050	0.0208	0.42	1.95	5.70	10	EX REC-SAG	11.13	0.00
B-6	2+11 RT. Q	100	10.00	8.74	0.90	B-6	0.88	6.92	0.00	6.92	3.41	0.27	0.0050	0.0208	0.35	1.69	4.10	10	EX REC-SAG	6.92	0.00
B-7	0+50 LT. Q	100	10.00	8.74	0.90	B-7	0.88	6.92	0.00	6.92	NA	NA	NA	NA	NA	NA	NA	12	EX DROP-SAG	6.92	0.00
B-8	0+50 RT. Q	100	10.00	8.74	0.90	B-8	1.97	15.50	0.00	15.50	NA	NA	NA	NA	NA	NA	NA	12	EX DROP-SAG	15.50	0.00
LINE "B" - EXISTING ARAPAHO ROAD AT PROPOSED ARAPAHO ROAD																					
B-9	4+21 RT. EA	100	10.00	8.74	0.90	B-9	0.41	3.23	0.00	3.23	3.92	0.38	0.0068	PARABOLIC	0.35	0.64	5.05	6	REC-GR	3.23	0.00
B-10	44+98 RT. A	100	10.00	8.74	0.90	B-10	0.52	4.09	0.00	4.09	5.00	0.31	0.0050	0.0208	0.29	0.58	7.07	8	REC-GR	4.09	0.00
B-11	4+27 LT. EA	100	10.00	8.74	0.90	B-11	0.31	2.44	0.00	2.44	3.59	0.38	0.0057	PARABOLIC	0.34	0.63	3.88	6	REC-GR	2.44	0.00
LINE "B" - EXISTING ARAPAHO ROAD WEST OF QUORUM DRIVE																					
B-12	SUMMERFIELD	100	10.00	8.74	0.90	B-12	0.76	5.98	0.00	5.98	NA	NA	NA	NA	NA	NA	NA	5	EX STD-SAG	5.98	0.00
B-13	7+20 RT. EA	100	10.00	8.74	0.90	B-13	5.11	40.20	0.00	40.20	NA	NA	NA	NA	NA	NA	NA	12	EX DROP-SAG	40.20	0.00
B-14	9+58 LT. EA	100	10.00	8.74	0.90	B-14	0.31	2.44	0.00	2.44	3.36	0.38	0.0050	PARABOLIC	0.34	1.63	1.50	10	EX REC-SAG	2.44	0.00
B-16	9+58 RT. EA	100	10.00	8.74	0.90	B-15&16	2.11	16.60	0.00	16.60	3.36	0.38	0.0050	PARABOLIC	0.50	2.27	7.32	10&10	EX REC-SAG	16.60	0.00
LINE "B" - PROPOSED ARAPAHO ROAD AT QUORUM DRIVE																					
B-17	3+23.50 LT. Q	100	10.00	8.74	0.90	B-17	0.30	2.36	0.00	2.36	2.20	0.13	0.0240	0.0100	0.13	0.44	5.38	10	REC-GR	2.36	0.00
B-18	3+69 RT. Q	100	10.00	8.74	0.90	B-18	0.38	2.99	0.00	2.99	3.76	0.17	0.0100	0.0072	0.15	0.45	6.58	10	REC-GR	2.99	0.00
B-20	51+47 RT. A	100	10.00	8.74	0.90	B-20	0.56	4.40	0.00	4.40	16.52	0.36	0.0060	0.0104	0.22	1.23	3.59	10	REC-GR	4.40	0.00
B-21	51+95 LT. A	100	10.00	8.74	0.90	B-21	0.61	4.80	0.00	4.80	2.80	0.19	0.0060	0.0104	0.23	1.25	3.83	10	REC-GR	4.80	0.00
B-22	DART	100	10.00	8.74	0.90	B-22	1.63	12.82	0.00	12.82	NA	NA	NA	NA	NA	NA	NA	8&2-6	STD-GR/SAG	12.82	0.00
B-23	4+96.50 LT. Q	100	10.00	8.74	0.90	B-23	0.32	2.52	0.00	2.52	4.44	0.21	0.0066	0.0090	0.17	0.47	5.38	10	REC-GR	2.52	0.00
B-24	5+35.50 RT. Q	100	10.00	8.74	0.90	B-24	0.17	1.34	0.00	1.34	1.75	0.17	0.0060	0.0132	0.15	0.46	2.92	10	REC-GR	1.34	0.00
B-25	DART	100	10.00	8.74	0.90	B-25	1.14	8.97	0.00	8.97	NA	NA	NA	NA	NA	NA	NA	6&2x2	STD&DR-SAG	8.97	0.00
LINE "C" - EXISTING SPECTRUM DRIVE SOUTH OF EXISTING ARAPAHO ROAD																					
C-1	8+20 LT. S	100	10.00	8.74	0.90	C-1	3.34	26.27	0.00	26.27	NA	NA	NA	NA	NA	NA	NA	16	EX DROP-SAG	10.50	15.77
C-2	9+20 LT. S	100	10.00	8.74	0.90	C-2	0.73	5.74	15.77	21.51	7.06	0.31	0.0100	0.0208	0.47	0.76	28.21	10	EX REC-GR	7.60	13.91
C-3	11+20 LT. S	100	10.00	8.74	0.90	C-3	2.66	20.92	13.91	34.84	7.06	0.31	0.0100	0.0208	0.57	0.86	40.36	10	EX REC-GR	8.60	26.24
C-4	GRND. KEMP. RT.	100	10.00	8.74	0.90	C-4	2.88	22.65	0.00	22.65	NA	NA	NA	NA	NA	NA	NA	2-5&SUMP	EX STD-SAG	22.65	0.00
C-5	13+80 LT. S	100	10.00	8.74	0.90	C-5	2.61	20.53	26.24	46.77	7.06	0.31	0.0100	0.0208	0.63	0.94	49.91	10	EX REC-GR	9.40	37.37
C-6	13+80 RT. S	100	10.00	8.74	0.90	C-6	0.72	5.66	0.00	5.66	7.06	0.31	0.0100	0.0208	0.29	0.58	9.82	10	EX REC-GR	5.66	0.00
LINE "C" - PROPOSED SPECTRUM DRIVE AT PROPOSED ARAPAHO ROAD																					
C-8	15+20 LT. S	100	10.00	8.74	0.90	C-7&8	0.62	4.88	16.84	21.72	7.06	0.31	0.0100	0.0208	0.47	0.76	28.41	14	REC-GR	10.64	11.08
C-9	17+71.53 LT. S	100	10.00	8.74	0.90	C-9	0.43	3.38	11.08	14.46	2.55	0.17	0.0100	0.0113	0.32	0.61	23.61	14	REC-GR	8.54	5.92
C-10	54+40 RT. A	100	10.00	8.74	0.90	C-10&11	1.14	8.97	0.00	8.97	NA	NA	NA	NA	NA	NA	NA	15" RCP	EX PIPE-SAG	8.97	0.00
C-12	18+36.35 RT. S	100	10.00	8.74	0.90	C-12	0.47	3.70	0.02	3.72	21.88	0.35	0.0120	0.0100	0.18	0.48	7.76	10	REC-GR	3.72	0.00
C-13	54+79.66 RT. A	100	10.00	8.74	0.90	C-13	1.27	9.99	0.00	9.99	NA	NA	NA	NA	NA	NA	NA	16	DROP-SAG	9.99	0.00
C-14	56+10.50 RT. A	100	10.00	8.74	0.90	C-14	0.64	5.03	0.00	5.03	12.28	0.26	0.0200	0.0104	0.19	0.48	10.40	10	REC-GR	4.80	0.23
C-15	55+89.81 LT. A	100	10.00	8.74	0.90	C-15	0.54	4.25	0.00	4.25	11.01	0.25	0.0200	0.0104	0.17	0.47	8.96	10	REC-GR	4.25	0.00
C-16	57+66.31 RT. A	100	10.00	8.74	0.90	C-16	0.47	3.70	6.15	9.85	6.83	0.27	0.0060	0.0112	0.31	0.60	16.51	10	REC-GR	6.00	3.85
LINE "C" - PROPOSED ARAPAHO ROAD AT NORTH DALLAS TOLLWAY																					
C-17	COLONADE RT. S	100	10.00	8.74	0.90	C-17	1.51	11.88	0.00	11.88	12.39	0.38	0.0050	0.0140	0.37	1.76	6.74	10	EX STD-SAG	11.88	0.00
C-18	59+35 RT. A	100	10.00	8.74	0.90	C-18	0.87	6.84	3.85	10.69	17.98	0.48	0.0060	0.0200	0.39	0.68	15.68	10	REC-GR	6.80	3.89
C-20	60+98.95 RT. A	100	10.00	8.74	0.90	C-19&20	0.70	5.51	3.89	9.40	17.87	0.50	0.0052	0.0208	0.39	0.68	13.84	10	REC-GR	6.80	2.60
C-21	62+08 LT. A	100	10.00	8.74	0.90	C-21	0.73	5.74	0.00	5.74	19.51	0.50	0.0062	0.0208	0.32	0.60	9.51	10	REC-GR	5.74	0.00
C-22	62+59.72 RT. A	100	10.00	8.74	0.90	C-22	0.19	1.49	2.60	4.09	17.87	0.50	0.0052	0.0208	0.29	0.58	7.10	10	REC-GR	4.09	0.00
C-23	64+20 RT. A	100	10.00	8.74	0.90	C-23	0.80	6.29	0.00	6.29	13.01	0.41	0.0052	0.0172	0.31	0.60	10.44	10	REC-GR	6.00	0.29
C-24	COLONADE RT. A	100	10.00	8.74	0.90	C-24	3.84	30.21	0.00	30.21	NA	NA	NA	NA	NA	NA	NA	EX SUMP	EX STD-SAG	30.21	0.00
C-25	COLONADE RT. A	100	10.00	8.74	0.90	C-25	5.00	39.33	0.00	39.33	NA	NA	NA	NA	NA	NA	NA	EX SUMP	EX STD-SAG	39.33	0.00
C-26	66+55 LT. A	100	10.00	8.74	0.90	C-26	0.71	5.58	0.00	5.58	19.93	0.48	0.0050	0.0166	0.30	1.49	3.74	10	REC-GR	5.58	0.00
LINE "D" - PROPOSED ARAPAHO ROAD AT NORTH DALLAS TOLLWAY																					
D-1	66+68 RT. A	100	10.00	8.74	0.90	D-1	1.67	13.14	0.29	13.43	2.02	0.19	0.0050	0.0135	0.38	1.81	7.42	14	REC-GR	13.43	0.00

A = PROPOSED ARAPAHO ROAD
EA = EXISTING ARAPAHO ROAD
Q = QUORUM DRIVE
S = SPECTRUM DRIVE

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED · PROFESSIONAL ENGINEER

10-24-97

RECORD DOCUMENTS 6/9/2000

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE CONSULTANT HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.

STORMWATER CALCULATIONS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	NONE	OCT 97	1772-01	ST-2

ARAPAHO ROAD
STORMWATER PIPE CALCULATIONS - SEPTEMBER 16, 1997

COLLECTION POINT UPSTREAM STATION	COLLECTION POINT DOWNSTREAM STATION	DISTANCE BETWEEN COLLECTION POINTS	AREA NO.	INCREMENTAL DRAINAGE A AREA A (ACRES)	RUNOFF COEFF. C	INCREM. CA	ACCUM. CA	TIME @ UPSTREAM STATION (MIN.)	DESIGN STORM FREQUENCY (YEAR)	RAINFALL INTENSITY I (IN./HR)	STORM WATER RUNOFF Q (CFS)	SLOPE OF HYDRAULIC GRADIENT S (FT/FT)	PIPE SIZE (INCHES)	VELOCITY IN STORM SEWER V (FPS)	HEAD LOSS COEFF. Kj	HEAD LOSS AT UPSTREAM WYE STATION (FT)	FLOW TIME IN PIPE (MIN)	TIME @ DOWNSTREAM STATION (MIN)	DESIGN Q (CFS)	VELOCITY HEAD Hv (FT)	H.G. AT UPSTREAM STATION (FT)	H.G. AT DOWNSTREAM STATION (FT)	REMARKS
LINE "A" EXISTING ADDISON ROAD SOUTH OF ARAPAHO ROAD - 100 YEAR DESIGN																							
1200.00	1030.00	170.00	A-11	3.10	0.90	2.79	2.79	10.00	100	8.74	24.38	0.0062	27	6.13	1.25	0.58	0.46	10.46	24.38	0.58	637.98	636.93	FUTURE PIPE
1030.00	850.00	180.00					2.79	10.46	100	8.74	24.38	0.0062	27	6.13	0.50	0.29	0.49	10.95	24.38	0.58	636.64	635.52	FUTURE PIPE
850.00	540.00	310.00	A-12	2.60	0.90	2.34	5.13	10.95	100	8.50	43.61	0.0113	30	8.88	0.60	0.88	0.58	11.53	43.61	1.23	634.65	631.14	EX 30" RCP
540.00	440.00	100.00					5.13	11.53	100	8.50	43.61	0.0019	42	4.53	0.60	-0.42	0.37	11.90	43.61	0.32	631.56	631.37	EX 42" RCP
440.00	300.00	140.00	A-13	5.57	0.90	5.01	10.14	11.90	100	8.25	83.68	0.0069	42	8.70	0.60	0.98	0.27	12.17	83.68	1.17	630.39	629.42	EX 42" RCP
300.00	0.00	300.00	A-14	5.57	0.90	5.01	15.16	12.17	100	8.20	124.28	0.0075	48	9.89	0.60	0.81	0.51	12.67	124.28	1.52	628.61	626.36	EX 48" RCP AT JUNCT. BOX
LINE "A" EXISTING ADDISON ROAD SOUTH OF ARAPAHO ROAD - 25 YEAR DESIGN																							
1200.00	1030.00	170.00	A-11	3.10	0.90	2.79	2.79	10.00	25	7.29	20.34	0.0043	27	5.12	1.25	0.41	0.55	10.55	20.34	0.41	633.10	632.36	FUTURE PIPE
1030.00	850.00	180.00					2.79	10.55	25	7.29	20.34	0.0043	27	5.12	0.50	0.20	0.59	11.14	20.34	0.41	632.16	631.38	FUTURE PIPE
850.00	540.00	310.00	A-12	2.60	0.90	2.34	5.13	11.14	25	7.00	35.91	0.0077	30	7.32	0.60	0.59	0.71	11.85	35.91	0.83	630.80	628.42	EX 30" RCP
540.00	440.00	100.00					5.13	11.85	25	7.00	35.91	0.0013	42	3.73	0.60	-0.28	0.45	12.29	35.91	0.22	628.70	628.58	EX 42" RCP
440.00	300.00	140.00	A-13	5.57	0.90	5.01	10.14	12.29	25	6.75	68.47	0.0046	42	7.12	0.60	0.66	0.33	12.62	68.47	0.79	627.92	627.27	EX 42" RCP
300.00	0.00	300.00	A-14	5.57	0.90	5.01	15.16	12.62	25	6.70	101.55	0.0050	48	8.08	0.60	0.54	0.62	13.24	101.55	1.01	626.73	625.23	EX 48" RCP AT JUNCT. BOX
LINE "A" EXISTING OUTFALL WEST OF ADDISON ROAD - 100 YEAR DESIGN																							
1981.00	1757.00	224.00	A-10	0.20	0.90	0.18	3.77	12.07	100	8.20	30.92	0.0057	30	6.30	0.50	0.31	0.59	12.66	30.92	0.62	627.91	626.64	EX 30" RCP AT JUNCT. BOX
1757.00	1347.00	410.00	A-11-14	16.84	0.90	15.16	18.93	12.67	100	8.10	153.31	0.0035	60	7.81	0.50	0.47	0.88	13.55	153.31	0.95	626.17	624.75	EX 60" OUTFALL AT JUNCT BOX
1347.00	1037.00	310.00					18.93	13.55	100	8.10	153.31	0.0035	60	7.81	0.25	0.24	0.66	14.21	153.31	0.95	624.51	623.44	EX 60" OUTFALL WEST
1037.00	1007.00	30.00					18.93	14.21	100	8.10	153.31	0.0035	60	7.81	0.35	0.33	0.06	14.27	153.31	0.95	623.10	623.00	EX 60" OUTFALL WEST
LINE "A" EXISTING OUTFALL WEST OF ADDISON ROAD - 25 YEAR DESIGN																							
1981.00	1757.00	224.00	A-10	0.20	0.90	0.18	3.77	12.50	25	6.75	25.45	0.0038	30	5.18	0.50	0.21	0.72	13.22	25.45	0.42	626.28	625.42	EX 30" RCP AT JUNCT. BOX
1757.00	1347.00	410.00	A-11-14	16.84	0.90	15.16	18.93	13.24	25	6.60	124.92	0.0023	60	6.36	0.50	0.31	1.07	14.31	124.92	0.63	625.10	624.16	EX 60" OUTFALL AT JUNCT BOX
1347.00	1037.00	310.00					18.93	14.31	25	6.60	124.92	0.0023	60	6.36	0.25	0.16	0.81	15.13	124.92	0.63	624.00	623.29	EX 60" OUTFALL WEST
1037.00	1007.00	30.00					18.93	15.13	25	6.60	124.92	0.0023	60	6.36	0.35	0.22	0.08	15.20	124.92	0.63	623.07	623.00	EX 60" OUTFALL WEST
LINE "A-1" NORTH - ARAPAHO ROAD AT ADDISON ROAD - 100 YEAR DESIGN																							
2389.32	2322.32	67.00	A-0	0.79	0.90	0.71	0.71	10.00	100	8.74	6.21	0.0035	18	3.51	1.25	0.24	0.32	10.32	6.21	0.19	629.73	629.50	FUTURE BY DART
2322.32	2202.26	120.06	A-1	0.46	0.90	0.41	1.13	10.32	100	8.65	9.73	0.0018	24	3.10	0.50	0.15	0.65	10.96	9.73	0.15	629.35	629.13	
2202.26	2093.66	108.60					1.13	10.96	100	8.65	9.73	0.0015	24	2.76	1.00	-0.03	0.66	11.62	8.68	0.12	629.16	629.00	PIPE EQUALIZER
2093.66	2071.00	22.66	A-2-4	1.11	0.90	1.00	2.12	11.62	100	8.35	17.74	0.0044	24	4.77	0.60	0.28	0.08	11.70	15.00	0.35	628.72	628.62	LAT A-3
2071.00	1981.00	90.00					2.12	11.70	100	8.35	17.74	0.0044	24	4.77	1.00	0.00	0.31	12.01	15.00	0.35	628.62	628.22	PIPE EQUALIZER
LINE "A-1" NORTH - ARAPAHO ROAD AT ADDISON ROAD - 25 YEAR DESIGN																							
2389.32	2322.32	67.00	A-0	0.79	0.90	0.71	0.71	10.00	25	7.29	5.18	0.0024	18	2.93	1.25	0.17	0.38	10.38	5.18	0.13	627.60	627.44	FUTURE BY DART
2322.32	2202.26	120.06	A-1	0.46	0.90	0.41	1.13	10.38	25	7.15	8.04	0.0013	24	2.56	0.50	0.10	0.78	11.16	8.04	0.10	627.33	627.18	
2202.26	2093.66	108.60					1.13	11.16	25	7.15	8.04	0.0010	24	2.28	1.00	-0.02	0.79	11.96	7.16	0.08	627.20	627.09	PIPE EQUALIZER
2093.66	2071.00	22.66	A-2-4	1.11	0.90	1.00	2.12	11.96	25	6.80	14.44	0.0029	24	3.89	0.60	0.19	0.10	12.05	12.21	0.23	626.91	626.84	LAT A-3
2071.00	1981.00	90.00					2.12	12.05	25	6.80	14.44	0.0029	24	3.89	1.00	0.00	0.39	12.44	12.21	0.23	626.84	626.58	PIPE EQUALIZER
LINE "A-2" SOUTH - ARAPAHO ROAD AT ADDISON ROAD - 100 YEAR DESIGN																							
2288.63	2241.29	47.34	A-5	0.42	0.90	0.38	0.38	10.00	100	8.74	3.30	0.0002	24	1.05	1.25	0.02	0.75	10.75	3.30	0.02	629.43	629.42	
2241.29	2204.06	37.23	A-6	0.57	0.90	0.51	0.89	10.75	100	8.55	7.62	0.0011	24	2.43	0.60	0.05	0.26	11.01	7.62	0.09	629.37	629.32	LAT A-6
2204.06	2092.00	112.06					0.89	11.01	100	8.55	7.62	0.0015	24	2.76	1.00	0.03	0.68	11.68	8.67	0.12	629.30	629.13	PIPE EQUALIZER
2092.00	2074.00	18.00	A-8 & 9	0.37	0.90	0.33	1.22	11.68	100	8.35	10.22	0.0044	24	4.77	0.60	0.28	0.06	11.75	14.99	0.35	628.85	628.77	LAT A-8
2074.00	2071.00	3.00	A-7	0.27	0.90	0.24	1.47	11.75	100	8.35	12.25	0.0044	24	4.77	0.60	0.14	0.01	11.76	14.99	0.35	628.63	628.62	
2071.00	1981.00	90.00					1.47	11.76	100	8.35	12.25	0.0044	24	4.77	1.00	0.00	0.31	12.07	14.99	0.35	628.62	628.22	PIPE EQUALIZER
LINE "A-2" SOUTH - ARAPAHO ROAD AT ADDISON ROAD - 25 YEAR DESIGN																							
2288.63	2241.29	47.34	A-5	0.42	0.90	0.38	0.38	10.00	25	7.29	2.76	0.0001	24	0.88	1.25	0.01	0.90	10.90	2.76	0.01	627.39	627.38	
2241.29	2204.06	37.23	A-6	0.57	0.90	0.51	0.89	10.90	25	7.05	6.28	0.0008	24	2.00	0.60	0.04	0.31	11.21	6.28	0.06	627.34	627.31	LAT A-6
2204.06	2092.00	112.06					0.89	11.21	25	7.05	6.28	0.0010	24	2.28	1.00	0.02	0.82	12.03	7.16	0.08	627.30	627.18	PIPE EQUALIZER
2092.00	2074.00	18.00	A-8 & 9	0.37	0.90	0.33	1.22	12.03	25	6.80	8.32	0.0029	24	3.89	0.60	0.19	0.08	12.11	12.21	0.23	627.00	626.94	LAT A-8
2074.00	2071.00	3.00	A-7	0.27	0.90	0.24	1.47	12.11	25	6.80	9.98	0.0029	24	3.89	0.60	0.09	0.01	12.12	12.21	0.23	626.85	626.84	
2071.00	1981.00	90.00					1.47	12.12	25	6.80	9.98	0.0029	24	3.89	1.00	0.00	0.39	12.50	12.21	0.23	626.84	626.58	PIPE EQUALIZER
LAT "A-2"																							
23.82	0.00	23.82	A-2	0.28	0.90	0.25	0.25	10.00	100	8.74	2.20	0.0004	18	1.24	1.25	0.03	0.32	10.32	2.20	0.02	629.22	629.21	
LAT "A-3"																							
42.36	24.24	18.12	A-3 & 4	0.83	0.90	0.75	0.75	10.00	100	8.74	6.53	0.0017	21	2.71	1.25	0.14	0.11	10.11	6.53	0.11	629.19	629.16	
24.24	0.00	24.24	A-2	0.28	0.90	0.25	1.00	10.11	100	8.70	8.69	0.0030	21	3.61	0.60	0.13	0.11	10.22	8.69	0.20	629.02	628.95	LAT A-2
LAT "A-6"																							
60.48	0.00	60.48	A-6	0.59	0.90	0.57	0.57	10.00	100	8.74	4.98	0.0022	18	2.82	1.25	0.15	0.36	10.36	4.98	0.12	629.53	629.39	
LAT "A-8"																							
42.12	0.00	42.12	A-8 & 9	0.37	0.90	0.33	0.33	10.00	100	8.74	2.91	0.0003	21	1.21	1.25	0.03	0.58	10.58	2.91	0.02	629.20	629.19	
LINE "B - 1" EXISTING ARAPAHO ROAD WEST OF QUORUM DRIVE - 100 YEAR DESIGN																							
704.98	641.98	63.00	B-9	0.41	0.90	0.37	0.37	10.00	100	8.74	3.23	0.0002	24	1.03	0.60	0.02	1.02	11.02	3.23	0.02	630.43	630.42	EX 24" RCP - LAT B-9
641.98	484.23	157.75	B-10 & 11	0.83	0.90	0.75	1.12	10.75	100	8.55	9.54	0.0018	24	3.04	0.60	0.13	0.87	11.62	9.54	0.14	630.28	630.00	EX 24" RCP - LAT B-10
484.23	403.23	81.00	B-12	0.76	0.90	0.68	1.80	11.62	100	8.30	14.94	0.0005	36	2.11	0.60	-0.02	0.64	12.25	14.94	0.07	630.02	629.98	EX 36" RCP
403.23	170.75	232.48	B-13	5.11	0.90	4.60	6.40	12.25	100	8.20	52.47	0.0062	36	7.42	0.60	0.81	0.52	12.78	52.47	0.86	629.17	627.73	EX 36" RCP
170.75	153.43	17.32	B-14	0.31	0.90	0.28	6.68	12.78	100	8.05	53.76	0.0014	48	4.28	0.60	-0.23	0.07	12.84	53.76	0.28	627.96	627.93	EX 48" RCP
153.43	0.00	153.43	B-15 & 16	2.11	0.90	1.90	8.58	12.84	100	8.05	69.04	0.0023	48	5.49	0.60	0.30	0.47	13.31	69.04	0.47	627.63	627.28	EX 48" QUORUM JUNCT. BOX
LINE "B - 1" EXISTING ARAPAHO ROAD WEST OF QUORUM DRIVE - 25 YEAR DESIGN																							
704.98	641.98	63.00	B-9	0.41	0.90	0.37	0.37	10.00	25	7.29	2.69	0.0001	24	0.86	0.60	0.01	1.23	11.23	2.69	0.01	626.33	626.33	EX 24" RCP - LAT B-9
641.98	484.23	157.75	B-10 & 11	0.83	0.90	0.75	1.12	11.23	25	7.00	7.81	0.0012	24	2.49	0.60	0.09	1.06	12.28	7.81	0.10	626.24	626.05	EX 24" RCP - LAT B-10
484.23	403.23	81.00	B-12	0.76	0.90	0.68	1.80	12.28	25	6.80	12.24	0.0003	36	1.73	0.60	-0.01	0.78	13.06	12.24	0.05	626.06	626.03	EX 36" RCP
403.23	170.75	232.48	B-13	5.11	0.90	4.60	6.40	13.06	25	6.60	42.23	0.0040	36	5.97	0.60	0.53	0.65	13.71	42.23	0.55	625.51	624.57	EX 36" RCP
170.75	153.43	17.32	B-14	0.31	0.90	0.28	6.68	13.71	25	6.50	43.41	0.0009	48	3.45	0.60	-0.15	0.08	13.80	43.41	0.19	624.72	624.71	EX 48" RCP
153.43	0.00	153.43	B-15 & 16	2.11	0.90	1.90	8.58	13.80	25	6.50	55.75	0.0015	48	4.44	0.60	0.19	0.58	14.37	55.75	0.31	624.51	624.28	EX 48" QUORUM JUNCT. BOX
LINE "B - 2" EXISTING QUORUM DRIVE FROM BELT LINE ROAD TO RAILROAD NORTH OF PROPOSED ARAPAHO ROAD - 100 YEAR DESIGN																							
2019.61	1929.61	90.00	B-0	2.42	0.90	2.18	2.18	10.00	100	8.74	19.04	0.0152	18	7.32	1.25	1.04	0.20	10.20	12.94	0.83	631.53	630.16	EX 18" RCP
1929.61	1912.29	17.32					2.18	10.20	100	8.74	19.04	0.0008	36	2.69	0.60	-0.39	0.11	10.31	19.04	0.11	630.55	630.54	EX 36" RCP
1912.29	1702.29	210.00	B-1	1.03	0.90	0.93	3.11	10.31	100	8.65	26.86	0.0016	36	3.80	0.60	0.16	0.92	11.23	26.86	0.22	630.38	630.04	EX 36" RCP
1702.29	1554.79	147.50	B-2	1.40	0.90	1.26	4.37	11.23	100	8.40	36.67	0.0030	36	5.19	0.60	0.28	0.47	11.71	36.67	0.42	629.76	629.31	EX 36" RCP
1554.79	1539.61	15.18	B-3	1.17	0.90	1.05	5.42	11.71	100	8.30	44.97	0.0020	42	4.67	0.60	0.09	0.05	11.76	44.97	0.34	629.22	629.19	EX 42" RCP
1539.61	1202.61	337.00	B-4	1.26	0.90	1.13	6.55	11.76	100	8.30	54.38	0.0026	42	5.31	0.60	0.23	1.06	12.82	51.07	0.44	628.96	628.09	EX 42" RCP
1202.61	1183.21	19.40	B-5	0.93	0.90	0.84	7.39	12.82	100	8.05	59.48	0.0017	48	4.73	0.60	0.09	0.07	12.89	59.48	0.35	628.00	627.97	EX 48" RCP
1183.21	1036.72	146.49	B-6	0.88	0.90	0.79	8.18	12.89	100	8.05	65.86	0.0021	48	5.24	0.60	0.22	0.47	13.35	65.86	0.43	627.75	627.44	EX 48" RCP
1036.72	1019.40	17.32	B-7	0.88	0.90	0.79	8.97	13.35	100	7.95	71.34	0.0013	54	4.49	0.60	0.06	0.06	13.42	71.34	0.31	627.39	627.37	EX 54" RCP
1019.40	990.00	29.40	B-8	1.97	0.90	1.77	10.75	13.42	100	7.95	85.43	0.0019	54	5.37	0.50	0.29	0.09	13.51	85.43	0.45	627.07	627.02	EX ARAPAHO RD JUNCT. BOX
990.00	652.47	337.53	B-9-16	9.53	0.90	8.58	19.32	13.51	100	7.95	153.62	0.0035	60	7.82	0.60	0.68	0.72	14.23	153.62	0.95	626.34	625.16	EX 60" RCP
652.47	625.31	27.16	B-17	0.30	0.90	0.27	19.59	14.23	100	7.80	152.83	0.0034	60	7.78	0.60	0.37	0.06	14.29	152.83	0.94	624.79	624.70	EX 60" RCP - LAT B-17
625.31	527.29	98.02	B-18	0.38	0.90	0.34	19.94	14.29	100	7.80	155.49	0.0036	60	7.92	0.60	0.41	0.21	14.49	155.49	0.97	624.29	623.94	EX 60" RCP - LAT B-18
527.29	482.59	44.70	B-19-21	3.62	0.90	3.26	23.19	14.49	100	7.75	179.75	0.0029	66	7.57	0.60	0.30	0.10	14.59	179.75	0.89	623.64	623.51	EX 66" RCP - LAT B-21
482.59	459.96	22.63	B-22 & 23	1.95	0.90	1.76	24.95	14.59	100	7.75	193.35	0.0033	66	8.14	0.60	0.50	0.05	14.64	193.35	1.03	623.01	622.94	EX 66" RCP - LAT B-23
459.96	308.05	151.91	B-24	0.17	0.90	0.15	25.10	14.64	100	7.70	193.28	0.0033	66	8.14	0.60	0.41	0.31	14.95	193.28	1.03	622.53	622.02	EX 66" RCP - LAT B-24
308.05	228.05	80.00	B-25	1.14	0.90	1.03	26.13	14.95	100	7.60	198.57	0.0035	66	8.36	0.60	0.47	0.16	15.11	198.57	1.08	621.55	621.28	EX 66" RCP - LAT B-25
228.05	188.05	40.00	B-26	27.10	0.90	24.39	50.52	16.13	100	7.40	373.83	0.0078	72	13.22	0.60	2.06	0.05	16.18	373.83	2.71	619.21	618.90	EX 72"-JUNCTION BOX N OF RR

RECORD DOCUMENTS 6/9/2000

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE CONSULTANT HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER
10-24-97

STORMWATER CALCULATIONS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	NONE	OCT 97	1772-01	ST-3

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ARAPAHO ROAD
STORMWATER PIPE CALCULATIONS - SEPTEMBER 16, 1997

COLLECTION POINT UPSTREAM STATION	COLLECTION POINT DOWNSTREAM STATION	DISTANCE BETWEEN COLLECTION POINTS	AREA NO.	AREA A (ACRES)	INCREMENTAL DRAINAGE RUNOFF COEFF. C	INCREM. CA	ACCUM. CA	TIME @ UPSTREAM STATION (MIN.)	DESIGN STORM FREQUENCY (YEAR)	RAINFALL INTENSITY I (IN./HR)	STORM WATER RUNOFF Q (CFS)	SLOPE OF HYDRAULIC GRADIENT S (FT/FT)	PIPE SIZE (INCHES)	VELOCITY IN STORM SEWER V (FPS)	HEAD LOSS COEFF. Kj	HEAD LOSS AT UPSTREAM WYE STATION (FT)	FLOW TIME IN PIPE (MIN)	TIME @ DOWNSTREAM STATION (MIN)	DESIGN Q (CFS)	VELOCITY HEAD Hv (FT)	H.G. AT UPSTREAM STATION (FT)	H.G. AT DOWNSTREAM STATION (FT)	REMARKS
LINE "B - 2" EXISTING QUORUM DRIVE FROM BELT LINE ROAD TO RAILROAD NORTH OF PROPOSED ARAPAHO ROAD - 25 YEAR STORM																							
2019.61	1929.61	90.00	B-0	2.42	0.90	2.18	2.18	10.00	25	7.29	15.88	0.0152	18	7.32	1.25	1.04	0.20	10.20	12.94	0.83	627.54	626.17	EX 18" RCP
1929.61	1912.29	17.32					2.18	10.20	25	7.29	15.88	0.0006	36	2.25	0.60	-0.42	0.13	10.33	15.88	0.08	626.59	626.58	EX 36" RCP
1912.29	1702.29	210.00	B-1	1.03	0.90	0.93	3.11	10.33	25	7.20	22.36	0.0011	36	3.16	0.60	0.11	1.11	11.44	22.36	0.16	626.47	626.24	EX 36" RCP
1702.29	1554.79	147.50	B-2	1.40	0.90	1.26	4.37	11.44	25	6.95	30.34	0.0021	36	4.29	0.60	0.19	0.57	12.01	30.34	0.29	626.04	625.74	EX 36" RCP
1554.79	1539.61	15.18	B-3	1.17	0.90	1.05	5.42	12.01	25	6.80	36.84	0.0013	42	3.83	0.60	0.06	0.07	12.08	36.84	0.23	625.68	625.66	EX 42" RCP
1539.61	1202.61	337.00	B-4	1.26	0.90	1.13	6.55	12.08	25	6.80	44.55	0.0020	42	4.63	0.60	0.20	1.21	13.29	44.55	0.33	625.47	624.81	EX 42" RCP
1202.61	1183.21	19.40	B-5	0.93	0.90	0.84	7.39	13.29	25	6.60	48.77	0.0012	48	3.88	0.60	0.03	0.08	13.37	48.77	0.23	624.77	624.75	EX 48" RCP
1183.21	1036.72	146.49	B-6	0.88	0.90	0.79	8.18	13.37	25	6.60	53.99	0.0014	48	4.30	0.60	0.15	0.57	13.94	53.99	0.29	624.60	624.40	EX 48" RCP
1036.72	1019.40	17.32	B-7	0.88	0.90	0.79	8.97	13.94	25	6.50	58.32	0.0009	54	3.67	0.60	0.04	0.08	14.02	58.32	0.21	624.36	624.34	EX 54" RCP
1019.40	990.00	29.40	B-8	1.97	0.90	1.77	10.75	14.02	25	6.45	69.31	0.0012	54	4.36	0.50	0.19	0.11	14.13	69.31	0.29	624.15	624.12	EX ARAPAHO RD JUNCT. BOX
990.00	652.47	337.53	B-9-16	9.53	0.90	8.58	19.32	14.37	25	6.40	123.67	0.0023	60	6.30	0.60	0.44	0.89	15.26	123.67	0.62	623.68	622.92	EX 60" RCP
652.47	625.31	27.16	B-17	0.30	0.90	0.27	19.59	15.26	25	6.25	122.46	0.0022	60	6.24	0.60	0.23	0.07	15.34	122.46	0.60	622.68	622.62	EX 60" RCP - LAT B-17
625.31	527.29	98.02	B-18	0.38	0.90	0.34	19.94	15.34	25	6.25	124.59	0.0023	60	6.35	0.60	0.26	0.26	15.59	124.59	0.63	622.36	622.13	EX 60" RCP - LAT B-18
527.29	482.59	44.70	B-19-21	3.62	0.90	3.26	23.19	15.59	25	6.15	142.64	0.0018	66	6.00	0.60	0.18	0.12	15.72	142.64	0.56	621.95	621.87	EX 66" RCP - LAT B-21
482.59	459.96	22.63	B-22 & 23	1.95	0.90	1.76	24.95	15.72	25	6.15	153.43	0.0021	66	6.46	0.60	0.31	0.06	15.78	153.43	0.65	621.56	621.51	EX 66" RCP - LAT B-23
459.96	308.05	151.91	B-24	0.17	0.90	0.15	25.10	15.78	25	6.15	154.37	0.0021	66	6.50	0.60	0.27	0.39	16.17	154.37	0.66	621.24	620.92	EX 66" RCP - LAT B-24
308.05	228.05	80.00	B-25	1.14	0.90	1.03	26.13	16.17	25	6.10	159.37	0.0023	66	6.71	0.60	0.31	0.20	16.36	159.37	0.70	620.62	620.44	EX 66" RCP - LAT B-25
228.05	188.05	40.00	B-26	27.10	0.90	24.39	50.52	17.55	25	5.95	300.58	0.0050	72	10.63	0.60	1.34	0.06	17.61	300.58	1.75	619.10	618.90	EX 72"-JUNCTION BOX N OF RR
LINE "B - 3" EXISTING ADDISON ROAD NORTH OF RAILROAD - 100 YEAR DESIGN																							
3980.00	3750.00	230.00	B-29	2.00	0.90	1.80	1.80	10.00	100	8.74	15.73	0.0224	18	8.90	1.25	1.54	0.43	10.43	15.73	1.23	663.72	658.57	EX 18" RCP
3750.00	3627.00	123.00	B-30	1.76	0.90	1.58	3.38	10.43	100	8.65	29.27	0.0051	30	5.96	0.75	-0.37	0.34	10.77	29.27	0.55	658.94	658.31	EX 30" RCP
3627.00	3497.00	130.00	B-31	0.98	0.90	0.88	4.27	10.77	100	8.55	36.47	0.0079	30	7.43	0.75	0.44	0.29	11.07	36.47	0.86	657.87	656.84	EX 30" RCP
3497.00	3254.00	243.00	B-32	1.04	0.90	0.94	5.20	11.07	100	8.45	43.96	0.0115	30	8.96	0.75	0.60	0.45	11.52	43.96	1.25	656.24	653.45	EX 30" RCP
3254.00	3100.00	154.00	B-33	1.94	0.90	1.75	6.95	11.52	100	8.35	58.02	0.0200	30	11.82	0.75	1.24	0.22	11.74	58.02	2.17	652.21	649.13	EX 30" RCP
3100.00	2800.00	300.00	B-34	1.23	0.90	1.11	8.06	11.74	100	8.30	66.86	0.0100	36	9.46	0.75	-0.24	0.53	12.26	66.86	1.39	649.37	646.35	EX 36" RCP
2800.00	2750.00	50.00	B-35	1.66	0.90	1.49	9.55	12.26	100	8.20	78.30	0.0138	36	11.08	0.50	1.21	0.08	12.34	78.30	1.91	645.14	644.45	EX 36" RCP
2750.00	2657.00	93.00	B-36	0.11	0.90	0.10	9.65	12.34	100	8.20	79.11	0.0141	35	11.19	0.50	0.99	0.14	12.48	79.11	1.94	643.46	642.15	EX 36" RCP
2657.00	2300.00	357.00	B-37	0.21	0.90	0.19	9.84	12.48	100	8.15	80.17	0.0063	42	8.33	0.60	-0.09	0.71	13.19	80.17	1.08	642.24	639.97	EX 42" RCP
2300.00	2218.00	82.00	B-38	2.74	0.90	2.47	12.30	13.19	100	8.00	98.42	0.0096	42	10.23	0.50	1.09	0.13	13.33	98.42	1.62	638.89	638.10	EX 42" RCP
2218.00	1860.00	358.00	B-39	0.66	0.90	0.59	12.90	13.33	100	7.95	102.53	0.0104	42	10.66	0.50	0.95	0.56	13.89	102.53	1.76	637.15	633.44	EX 42" RCP
1860.00	1810.00	50.00	B-40	2.86	0.90	2.57	15.47	13.89	100	7.85	121.45	0.0146	42	12.62	0.75	1.15	0.07	13.95	121.45	2.47	632.28	631.56	EX 42" RCP
1810.00	1730.00	80.00	B-41	0.40	0.90	0.36	15.83	13.95	100	7.85	124.27	0.0153	42	12.92	0.75	0.73	0.10	14.05	124.27	2.59	630.82	629.60	EX 42" RCP
1730.00	910.00	820.00	B-42	1.16	0.90	1.04	16.88	14.05	100	7.80	131.63	0.0084	48	10.47	0.50	0.85	1.30	15.36	131.63	1.70	628.75	621.86	EX 48" RCP
910.00	647.00	263.00					16.88	15.36	100	7.80	131.63	0.0026	60	6.70	1.00	-1.01	0.65	16.01	131.63	0.70	622.87	622.20	EX 60" RCP
647.00	590.00	57.00	B-43	4.53	0.90	4.08	20.95	16.01	100	7.45	156.09	0.0036	60	7.95	0.60	0.56	0.12	16.13	156.09	0.98	621.63	621.43	QUORUM JUNCT BOX N OF RR
LINE "B - 3" EXISTING ADDISON ROAD NORTH OF RAILROAD - 25 YEAR DESIGN																							
3980.00	3750.00	230.00	B-29	2.00	0.90	1.80	1.80	10.00	25	7.29	13.12	0.0156	18	7.42	1.25	1.07	0.52	10.52	13.12	0.86	647.06	643.47	EX 18" RCP
3750.00	3627.00	123.00	B-30	1.76	0.90	1.58	3.38	10.52	25	7.15	24.20	0.0035	30	4.93	0.75	-0.26	0.42	10.93	24.20	0.38	643.74	643.31	EX 30" RCP
3627.00	3497.00	130.00	B-31	0.98	0.90	0.88	4.27	10.93	25	7.05	30.08	0.0054	30	6.13	0.75	0.30	0.35	11.29	30.08	0.58	643.01	642.31	EX 30" RCP
3497.00	3254.00	243.00	B-32	1.04	0.90	0.94	5.20	11.29	25	6.95	36.15	0.0078	30	7.36	0.75	0.40	0.55	11.84	36.15	0.84	641.90	640.02	EX 30" RCP
3254.00	3100.00	154.00	B-33	1.94	0.90	1.75	6.95	11.84	25	6.85	47.59	0.0135	30	9.69	0.75	0.83	0.26	12.10	47.59	1.46	639.19	637.12	EX 30" RCP
3100.00	2800.00	300.00	B-34	1.23	0.90	1.11	8.06	12.10	25	6.80	54.77	0.0067	36	7.75	0.75	-0.16	0.65	12.75	54.77	0.93	637.28	635.26	EX 36" RCP
2800.00	2750.00	50.00	B-35	1.66	0.90	1.49	9.55	12.75	25	6.70	63.98	0.0092	36	9.05	0.50	0.81	0.09	12.84	63.98	1.27	634.45	633.99	EX 36" RCP
2750.00	2657.00	93.00	B-36	0.11	0.90	0.10	9.65	12.84	25	6.65	64.16	0.0093	36	9.08	0.50	0.64	0.17	13.01	64.16	1.28	633.35	632.49	EX 36" RCP
2657.00	2300.00	357.00	B-37	0.21	0.90	0.19	9.84	13.01	25	6.65	65.42	0.0042	42	6.80	0.60	-0.05	0.88	13.88	65.42	0.72	632.54	631.03	EX 42" RCP
2300.00	2218.00	82.00	B-38	2.74	0.90	2.47	12.30	13.88	25	6.50	79.97	0.0063	42	8.31	0.50	0.71	0.16	14.05	79.97	1.07	630.31	629.79	EX 42" RCP
2218.00	1860.00	358.00	B-39	0.66	0.90	0.59	12.90	14.05	25	6.35	81.90	0.0066	42	8.51	0.50	0.59	0.70	14.75	81.90	1.13	629.21	626.83	EX 42" RCP
1860.00	1810.00	50.00	B-40	2.86	0.90	2.57	15.47	14.75	25	6.30	97.47	0.0094	42	10.13	0.75	0.75	0.08	14.83	97.47	1.59	626.08	625.61	EX 42" RCP
1810.00	1730.00	80.00	B-41	0.40	0.90	0.36	15.83	14.83	25	6.30	99.74	0.0098	42	10.37	0.75	0.47	0.13	14.96	99.74	1.67	625.14	624.36	EX 42" RCP
1730.00	910.00	820.00	B-42	1.16	0.90	1.04	16.88	14.96	25	6.26	105.64	0.0054	48	8.41	0.50	0.55	1.63	16.59	105.64	1.10	623.81	619.37	EX 48" RCP
910.00	647.00	263.00					16.88	16.59	25	6.26	105.64	0.0016	60	5.38	1.00	-0.65	0.81	17.40	105.64	0.45	620.02	619.59	EX 60" RCP
647.00	590.00	57.00	B-43	4.53	0.90	4.08	20.95	17.40	25	5.95	124.66	0.0023	60	6.35	0.60	0.36	0.15	17.55	124.66	0.63	619.23	619.10	QUORUM JUNCT BOX N OF RR
LINE "B - 4" FUTURE CLARA ST NORTH OF RAILROAD																							
177.00	0.00	177.00	B-44	3.82	0.90	3.44	3.44	10.00	100	8.74	30.05	0.0020	36	4.25	0.00	0.00	0.69	10.69	30.05	0.28	622.16	621.80	QUORUM JUNCT BOX N OF RR
LAT "B-9"																							
14.51	0.00	14.51	B-9	0.41	0.90	0.37	0.37	10.00	100	8.74	3.23	0.0009	18	1.83	1.25	0.06	0.13	10.13	3.23	0.05	630.43	630.42	
LAT "B-10"																							
103.32	44.63	58.69	B-10	0.52	0.90	0.47	0.47	10.00	100	8.74	4.09	0.0015	18	2.31	1.25	0.10	0.42	10.42	4.09	0.08	630.71	630.62	
44.63	0.00	44.63	B-11	0.31	0.90	0.28	0.75	10.42	100	8.65	6.46	0.0038	18	3.66	0.60	0.16	0.20	10.63	6.46	0.21	630.46	630.29	LAT B-11
LAT "B-11"																							
5.86	0.00	5.86	B-11	0.31	0.90	0.28	0.28	10.00	100	8.74	2.44	0.0005	18	1.38	1.25	0.04	0.07	10.07	2.44	0.03	630.65	630.65	
LAT "B-17"																							
55.40	0.00	55.40	B-17	0.30	0.90	0.27	0.27	10.00	100	8.74	2.36	0.0005	18	1.34	1.25	0.03	0.69	10.69	2.36	0.03	625.74	625.71	
LAT "B-18"																							
19.71	0.00	19.71	B-18	0.38	0.90	0.34	0.34	10.00	100	8.74	2.99	0.0008	18	1.69	1.25	0.06	0.19	10.19	2.99	0.04	625.26	625.24	
LAT "B-19"																							
103.84	91.75	12.09	B-19	2.45	0.90	2.21	2.21	10.00	100	8.74	19.27	0.0004	42	2.00	0.00	0.00	0.10	10.10	19.27	0.06	624.68	624.68	
91.75	0.00	91.75	B-20	0.56	0.90	0.50	2.71	10.10	100	8.70	23.57	0.0005	42	2.45	0.60	0.06	0.62	10.72	23.57	0.09	624.62	624.57	LAT B-20
LAT "B-20"																							
28.98	0.00	28.98	B-20	0.56	0.90	0.50	0.50	10.00	100	8.74	4.40	0.0004	24	1.40	1.25	0.04	0.34	10.34	4.40	0.03	624.70	624.69	
LAT "B-21"																							
81.27	52.67	28.60	B-21	0.61	0.90	0.55	0.55	10.00	100	8.74	4.80	0.0005	24	1.53	1.25	0.05	0.31	10.31	4.80	0.04	624.62	624.60	
52.67	0.00	52.67	B-19 & 20	3.01	0.90	2.71	3.26	10.31	100	8.65	28.18	0.0008	42	2.93	0.60	0.11	0.30	10.61	28.18	0.13	624.49	624.45	LAT B-19
LAT "B-23"																							
73.14	55.14	18.00	B-22	1.63	0.90	1.47	1.47	10.00	100	8.74	12.82	0.0065	21	5.33	0.00	0.00	0.06	10.06	12.82	0.44	624.65	624.54	FUTURE BY DART
55.14	0.00	55.14	B-23	0.32	0.90	0.29	1.76	10.06	100	8.74	15.34	0.0046	24	4.88	1.25	0.46	0.19	10.24	15.34	0.37	624.07	623.82	
LAT "B-24"																							
20.40	0.00	20.40	B-24	0.17	0.90	0.15	0.15	10.00	100	8.74	1.34	0.0002	18	0.76	1.25	0.01	0.45	10.45	1.34	0.01	623.55	623.55	
LINE "C-1" PROPOSED ARAPAHO ROAD - 100 YEAR DESIGN																							
191.82	51.07	140.75	C-13	1.27	0.90	1.14	1.14	10.00	100	8.74	9.99	0.0019	24	3.18	1.25	0.20	0.74	10.74	9.99	0.16	618.30	618.03	
51.07	37.12	13.95	C-14	0.64	0.90	0.58	1.72	10.74	100	8.55	14.70	0.0042	24	4.68	0.60	0.25	0.05	10.79	14.70	0.34	617.78	617.72	LAT C-14
37.12	0.00	37.12	C-15	0.54	0.90	0.49	2.21	10.79	100	8.55	18.85	0.0069	24	6.00	0.60	0.36	0.10	10.89	18.85	0.56	617.37	617.11	LAT C-15
LINE "C-1" PROPOSED ARAPAHO ROAD - 25 YEAR DESIGN																							
191.82	51.07	140.75	C-13	1.27	0.90	1.14	1.14	10.00	100	7.29	8.33	0.0014	24	2.65	1.25	0.14	0.88	10.88	8.33	0.11	617.14	616.95	
51.07	37.12	13.95	C-14	0.64	0.90	0.58	1.72	10.88	100	7.05	12.12	0.0029	24	3.86	0.60	0.17	0.06	10.94	12.12	0.23	616.79	616.75	LAT C-14
37.12	0.00	37.12	C-15	0.54	0.90	0.49	2.21	10.94	100	7.05	15.55	0.0047	24	4.95	0.60	0.24	0.12	11.07	15.55	0.38	616.51	616.33	LAT C-15
LINE "C-2" PROPOSED SPECTRUM DRIVE - 100 YEAR DESIGN																							
1764.90	1665.86	99.04	C-P3 & 5	4.27	0.90	3.84	3.84	10.00	100	8.74	33.59	0.0036	36	5.66	0.00	0.00	0.29	10.29	40.00	0.50	620.40	620.05	
1665.86	1420.61	245.25	C-7 & 8	0.62	0.90	0.56	4.40	10.29	100	8.65	38.07	0.0044	36	6.29	0.60	0.32	0.65	10.94	44.48	0.61	619.73	618.64	LAT C-8
1420.61	1400.35	20.26	C-9	0.43	0.90	0.39	4.79	10.94	100	8.50	40.70	0.0050	36	6.66	0.60	0.32	0.05	10.99	47.11	0.69	618.32	618.22	LAT C-9
1400.35	1296.89	103.46	C-10 & 11	1.14	0.90	1.03	5.81	10.99	100	8.50	49.42	0.0070	36	7.90	0.50	0.62	0.22	11.21	55.83	0.97	617.59	616.87	LAT C-10
1296.89	1200.00	96.89	C-13,14,15	2.45	0.90	2.21	8.02	11.21	100	8.40	67.36	0.0080	39	8.89	0.60	0.65	0.18	11.39	73.77	1.23	616.22	615.45	LINE C-1
LINE "C-2" PROPOSED SPECTRUM DRIVE - 25 YEAR DESIGN																							
1764.90	1665.86	99.04	C-P3 & 5	4.27	0.90	3.84	3.84	10.00	25	7.29	28.02	0.0018	36	3.96	0.00	0.00	0.42	10.42	28.02	0.24	618.06	617.89	
1665.86	1420.61	245.25	C-7 & 8	0.62	0.90	0.56	4.40	10.42	25	7.15	31.47	0.0022	36	4.45	0.60	0.16	0.92	11.33	31.47	0.31	617.73	617.18	LAT C-8
1420.61	1400.35	20.26	C-9	0.43	0.90	0.39	4.79	11.33	25	6.95	33.28	0.0025	36	4.71	0.60	0.16	0.07	11.41	33.28	0.34	617.02	616.97	LAT C-9
1400.35	1296.89	103.46	C-10 & 11	1.14	0.90	1.03	5.81	11.41	25	6.95	40.41	0.0037	36	5.72	0.50	0.34	0.30	11.71	40.41	0.51	616.63	616.26	LAT C-10
1296.89	1200.00	96.89	C-13,14,15	2.45	0.90	2.21	8.02	11.71	25	6.85	54.93	0.0044	39	6.62	0.60	0.38	0.24	11.95	54.93	0.68	615.88	615.45	LINE C-1
LINE "C - 3" EXISTING SYSTEM IN SPECTRUM DRIVE AT PROP. ARAPAHO ROAD, PROPOSED CHANGES - 100 YEAR DESIGN																							
2368.12	2263.12	105.00	PART C-1	1.34	0.90	1.21	1.21	10.00	100	8.74	10.54	0.0022	24	3.35	1.25	0.22	0.52	10.52	10.54	0.17	629.62	629.39	EX. 24"-1.00 AC TO C-3/C-5
2263.12	2198.12	65.00	C-2	0.73	0.90	0.66	1.86	10.52	100	8.60	16.02	0.0233	18	9.07	0.50	1.19	0.12	10.64	16.02	1.28	628.20	626.69	EX. 18" RCP
2198.12	1998.12	200.00	PART C-1	1.00	0.90	0.90	2.76	10.64	100	8.60	23.76	0.0110	24	7.56	0.60	0.12	0.44	11.08	23.76	0.89	626.57	624.36	EX. 24"-FUT. CONN. FROM C-1
1998.12	1856.12	142.00	PART C-3	1.00	0.90	0.90	3.66	11.08	100	8.45	30.95	0.0057	30	6.31	0.60	0.08	0.38	11.46	30.95	0.62	624.28	623.47	EX. 30"-1.66 AC TO C/5 LN 'C-2'
1856.12	1751.12	105.00	C-4	2.88	0.90	2.59	6.26	11.46	100	8.40	52.54	0.0164	30	10.70	0.60	1.41	0.16	11.62	52.54	1.78	622.06	620.34	EX. 30" RCP
1751.12	1567.72	183.40	PART C-3 & 6	1.72	0.90	1.55	7.80	11.62	100	8.30	64.76	0.0094	36	9.16	0.60	0.24	0.33	11.95	64.76	1.30	620.10	618.37	EX. 36" RCP
1567.72	1330.36	237.36					7.80	11.95	100	8.30	64.76	0.0062	39	7.81	1.00	-0.36	0.51	12.46	64.76	0.95	618.73	617.27	PROP.39" RCP
1330.36	1227.49	102.87	C-12	0.47	0.90	0.42	8.23	12.46	100	8.15	67.04	0.0066	39	8.08	0.60	0.45	0.21	12.67	67.04	1.01	616.83	616.15	PROP.39" RCP-LAT C-12
1227.49	1200.00	27.49	C-16	0.47	0.90	0.42	8.65	12.67	100	8.10	70.06	0.0072	39	8.45	0.60	0.50	0.05	12.73	70.06	1.11	615.65	615.45	PROP.39" RCP-LAT C-16

RECORD DOCUMENTS 6/9/2000

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE CONSULTANT HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER
10-24-97

STORMWATER CALCULATIONS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	NONE	OCT 97	1772-01	ST-4

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ARAPAHO ROAD
STORMWATER PIPE CALCULATIONS - SEPTEMBER 16, 1997

COLLECTION POINT UPSTREAM STATION	COLLECTION POINT DOWNSTREAM STATION	DISTANCE BETWEEN COLLECTION POINTS	AREA NO.	AREA A (ACRES)	INCREMENTAL RUNOFF COEFF. C	DRAINAGE AREA INCREM. CA	ACCUM. CA	TIME @ UPSTREAM STATION (MIN.)	DESIGN STORM FREQUENCY (YEAR)	RAINFALL INTENSITY I (IN./HR)	STORM WATER RUNOFF Q (CFS)	SLOPE OF HYDRAULIC GRADIENT S (FT/FT)	PIPE SIZE (INCHES)	VELOCITY IN STORM SEWER V (FPS)	HEAD LOSS COEFF. Kj	HEAD LOSS AT UPSTREAM WYE STATION (FT)	FLOW TIME IN PIPE (MIN)	TIME @ DOWNSTREAM STATION (MIN)	DESIGN Q (CFS)	VELOCITY HEAD Hv (FT)	H.G. AT UPSTREAM STATION (FT)	H.G. AT DOWNSTREAM STATION (FT)	REMARKS
LINE "C - 3" EXISTING SYSTEM IN SPECTRUM DRIVE AT PROP. ARAPAHO ROAD, PROPOSED CHANGES - 25 YEAR DESIGN																							
2368.12	2263.12	105.00	PART C-1	1.34	0.90	1.21	1.21	10.00	100	7.29	8.79	0.0015	24	2.80	1.25	0.15	0.63	10.63	8.79	0.12	625.00	624.84	EX. 24"-1.00 AC TO C-3/C-5
2263.12	2198.12	65.00	C-2	0.73	0.90	0.66	1.86	10.63	100	7.10	13.23	0.0159	18	7.49	0.50	0.81	0.14	10.77	13.24	0.87	624.03	623.00	EX. 18" RCP
2198.12	1998.12	200.00	PART C-1	1.00	0.90	0.90	2.76	10.77	100	7.05	19.48	0.0074	24	6.20	0.60	0.07	0.54	11.31	19.48	0.60	622.93	621.44	EX. 24"-FUT. CONN. FROM C-1
1998.12	1856.12	142.00	PART C-3	1.00	0.90	0.90	3.66	11.31	100	6.95	25.46	0.0039	30	5.19	0.60	0.06	0.46	11.76	25.46	0.42	621.38	620.84	EX. 30"-1.66 AC TO C/5 LN 'C-2'
1856.12	1751.12	105.00	C-4	2.88	0.90	2.59	6.26	11.76	100	6.85	42.85	0.0109	30	8.73	0.60	0.93	0.20	11.96	42.85	1.18	619.90	618.76	EX. 30" RCP
1751.12	1567.72	183.40	PART C-3 & 6	1.72	0.90	1.55	7.80	11.96	100	6.85	53.45	0.0064	36	7.56	0.60	0.18	0.40	12.37	53.45	0.89	618.58	617.40	EX. 36" RCP
1567.72	1330.36	237.36					7.80	12.37	100	6.85	53.45	0.0042	39	6.44	1.00	-0.24	0.61	12.98	53.45	0.64	617.65	616.65	PROP.39" RCP
1330.36	1227.49	102.87	C-12	0.47	0.90	0.42	8.23	12.98	100	6.65	54.70	0.0044	39	6.59	0.60	0.29	0.26	13.24	54.70	0.68	616.36	615.91	PROP.39" RCP-LAT C-12
1227.49	1200.00	27.49	C-16	0.47	0.90	0.42	8.65	13.24	100	6.60	57.08	0.0048	39	6.88	0.60	0.33	0.07	13.31	57.08	0.74	615.58	615.45	PROP.39" RCP-LAT C-16
LINE "C - 4" EXISTING SYSTEM IN ARAPAHO ROAD DRAINING TO TOLLWAY - 100 YEAR DESIGN																							
1643.00	1538.00	105.00	C-17	1.51	0.90	1.36	1.36	10.00	100	8.74	11.88	0.0003	36	1.68			1.04	11.04	11.88	0.04	612.53	612.49	EX. 36" RCP-EX. LAT C-17
1538.00	1355.00	183.00	C-18	0.87	0.90	0.78	2.14	11.04	100	8.50	18.21	0.0007	36	2.58	0.60	0.08	1.18	12.23	18.21	0.10	612.42	612.28	EX. 36" RCP-LAT C-18
1355.00	1250.00	105.00	C-19 & 20	0.70	0.90	0.63	2.77	12.23	100	8.20	22.73	0.0012	36	3.22	0.60	0.10	0.54	12.77	22.73	0.16	612.18	612.06	EX. 36" RCP-LAT C-20
1250.00	1190.00	60.00	C-21	0.73	0.90	0.66	3.43	12.77	100	8.10	27.77	0.0008	42	2.89	0.60	0.03	0.35	13.12	27.77	0.13	612.03	611.98	EX. 42" RCP-LAT C-21
1190.00	1027.00	163.00	C-22	0.19	0.90	0.17	3.60	13.12	100	8.00	28.80	0.0008	42	2.99	0.60	0.06	0.91	14.02	28.80	0.14	611.92	611.78	EX. 42" RCP-LAT C-22
1027.00	1000.00	27.00	C-23	0.80	0.90	0.72	4.32	14.02	100	7.80	33.70	0.0007	42	3.50	0.60	0.11	0.13	14.15	33.70	0.19	611.68	611.65	EX. 42" RCP-LAT C-23
1000.00	840.00	160.00	C-24	3.84	0.90	3.46	7.78	14.15	100	7.80	60.65	0.0010	54	3.81	0.60	0.11	0.70	14.85	60.65	0.23	611.54	611.38	EX. 54" RCP-EX. LAT C-24
840.00	773.27	66.73	C-25	5.00	0.90	4.50	12.28	14.85	100	7.60	93.30	0.0023	54	5.87	0.60	0.40	0.19	15.04	93.30	0.53	610.98	610.83	EX. 54" RCP-EX. LAT C-25
773.27	713.53	59.74					12.28	15.04	100	7.60	93.30	0.0013	60	4.75	0.50	0.18	0.21	15.25	93.30	0.35	610.66	610.58	EX. 60" RCP
713.53	170.00	543.53	C-26	0.71	0.90	0.64	12.92	15.25	100	7.50	96.86	0.0014	60	4.93	0.60	0.17	1.84	17.09	96.86	0.38	610.41	609.66	EX. 60" RCP-LAT C-26
170.00	5.00	165.00					12.92	17.09	100	7.50	96.86	0.0014	60	4.93	0.50	0.19	0.56	17.64	96.86	0.38	609.47	609.25	EX. 60" RCP
5.00	0.00	5.00					12.92	17.64	100	7.50	96.86	0.0014	60	4.93	0.50	0.19	0.02	17.66	96.86	0.38	609.06	609.05	EX. 60" RCP
0.00	-110.00	110.00	C-1-16&27-29	32.46	0.90	29.21	42.13	17.66	100	7.15	301.22	0.0012	95	6.15	1.00	0.21	0.30	17.96	301.22	0.59	605.76	605.63	EX. 7'x7' BOX UNDER RR
LINE "C - 4" EXISTING SYSTEM IN ARAPAHO ROAD DRAINING TO TOLLWAY - 25 YEAR DESIGN																							
1643.00	1538.00	105.00	C-17	1.51	0.90	1.36	1.36	10.00	100	7.29	9.91	0.0002	36	1.40			1.25	11.25	9.91	0.03	611.34	611.32	EX. 36" RCP-EX. LAT C-17
1538.00	1355.00	183.00	C-18	0.87	0.90	0.78	2.14	11.25	100	7.00	14.99	0.0005	36	2.12	0.60	0.05	1.44	12.69	14.99	0.07	611.27	611.17	EX. 36" RCP-LAT C-18
1355.00	1250.00	105.00	C-19 & 20	0.70	0.90	0.63	2.77	12.69	100	6.70	18.57	0.0008	36	2.63	0.60	0.07	0.67	13.35	18.57	0.11	611.11	611.03	EX. 36" RCP-LAT C-20
1250.00	1190.00	60.00	C-21	0.73	0.90	0.66	3.43	13.35	100	6.55	22.46	0.0005	42	2.33	0.60	0.02	0.43	13.78	22.46	0.08	611.01	610.98	EX. 42" RCP-LAT C-21
1190.00	1027.00	163.00	C-22	0.19	0.90	0.17	3.60	13.78	100	6.50	23.40	0.0005	42	2.43	0.60	0.04	1.12	14.90	23.40	0.09	610.94	610.85	EX. 42" RCP-LAT C-22
1027.00	1000.00	27.00	C-23	0.80	0.90	0.72	4.32	14.90	100	6.30	27.22	0.0007	42	2.83	0.60	0.07	0.16	15.06	27.22	0.12	610.78	610.76	EX. 42" RCP-LAT C-23
1000.00	840.00	160.00	C-24	3.84	0.90	3.46	7.78	15.06	100	6.25	48.60	0.0006	54	3.06	0.60	0.07	0.87	15.93	48.60	0.14	610.69	610.59	EX. 54" RCP-EX. LAT C-24
840.00	773.27	66.73	C-25	5.00	0.90	4.50	12.28	15.93	100	6.15	75.50	0.0015	54	4.75	0.60	0.26	0.23	16.16	75.50	0.35	610.33	610.23	EX. 54" RCP-EX. LAT C-25
773.27	713.53	59.74					12.28	16.16	100	6.15	75.50	0.0008	60	3.85	0.50	0.11	0.26	16.42	75.50	0.23	610.12	610.06	EX. 60" RCP
713.53	170.00	543.53	C-26	0.71	0.90	0.64	12.92	16.42	100	6.10	78.78	0.0009	60	4.01	0.60	0.11	2.26	18.68	78.78	0.25	609.95	609.46	EX. 60" RCP-LAT C-26
170.00	5.00	165.00					12.92	18.68	100	6.10	78.78	0.0009	60	4.01	0.50	0.12	0.69	19.37	78.78	0.25	609.33	609.18	EX. 60" RCP
5.00	0.00	5.00					12.92	19.37	100	6.10	78.78	0.0009	60	4.01	0.50	0.12	0.02	19.39	78.78	0.25	609.05	609.05	EX. 60" RCP
0.00	-110.00	110.00	C-1-16&27-29	32.46	0.90	29.21	42.13	19.39	100	5.70	240.14	0.0007	95	4.90	1.00	0.12	0.37	19.76	240.14	0.37	605.71	605.63	EX. 7'x7' BOX UNDER RR
LAT "C-8"																							
9.78	0.00	9.78	C-7 & 8	0.62	0.90	0.56	0.56	10.00	100	8.74	4.88	0.0022	18	2.76	1.25	0.15	0.06	10.06	4.88	0.12	621.39	621.37	
LAT "C-9"																						(FT)	
9.81	0.00	9.81	C-9	0.43	0.90	0.39	0.39	10.00	100	8.74	3.38	0.0010	18	1.91	1.25	0.07	0.09	10.09	3.38	0.06	620.31	620.30	
LAT "C-10"																							
225.34	0.00	225.34	C-10 & 11	1.14	0.90	1.03	1.03	10.00	100	8.74	8.97	0.0193	15	7.31	0.00	0.00	0.51	10.51	8.97	0.83	622.40	618.06	EX 15" RCP
LAT "C-12"																							
46.01	0.00	46.01	C-12	0.47	0.90	0.42	0.42	10.00	100	8.74	3.70	0.0012	18	2.09	1.25	0.09	0.37	10.37	3.70	0.07	617.86	617.80	
LAT "C-14"																							
9.82	0.00	9.82	C-14	0.64	0.90	0.58	0.58	10.00	100	8.74	5.03	0.0023	18	2.85	1.25	0.16	0.06	10.06	5.03	0.13	618.06	618.04	
LAT "C-15"																							
79.10	0.00	79.10	C-15	0.54	0.90	0.49	0.49	10.00	100	8.74	4.25	0.0016	18	2.41	1.25	0.11	0.55	10.55	4.25	0.09	618.01	617.88	
LAT "C-16"																							
112.26	0.00	112.26	C-16	0.47	0.90	0.42	0.42	10.00	100	8.74	3.70	0.0014	18	2.22	1.25	0.10	0.84	10.84	3.93	0.08	616.87	616.71	
LAT "C-18"																							
9.72	0.00	9.72	C-18	0.87	0.90	0.78	0.78	10.00	100	8.74	6.84	0.0035	18	3.51	1.25	0.24	0.05	10.05	6.20	0.19	616.21	616.18	
LAT "C-20"																							
36.67	0.00	36.67	C-19 & 20	0.70	0.90	0.63	0.63	10.00	100	8.74	5.51	0.0034	18	3.48	1.25	0.24	0.18	10.18	6.15	0.19	614.85	614.72	
LAT "C-21"																							
54.21	0.00	54.21	C-21	0.73	0.90	0.66	0.66	10.00	100	8.74	5.74	0.0030	18	3.25	1.25	0.20	0.28	10.28	5.74	0.16	614.14	613.98	
LAT "C-22"																							
40.99	0.00	40.99	C-22	0.19	0.90	0.17	0.17	10.00	100	8.74	1.49	0.0002	18	0.84	1.25	0.01	0.81	10.81	1.49	0.01	613.69	613.68	
LAT "C-23"																							
46.33	0.00	46.33	C-23	0.80	0.90	0.72	0.72	10.00	100	8.74	6.29	0.0033	18	3.40	1.25	0.22	0.23	10.23	6.00	0.18	612.79	612.64	
LAT "C-26"																							
56.12	0.00	56.12	C-26	0.71	0.90	0.64	0.64	10.00	100	8.74	5.58	0.0028	18	3.16	1.25	0.19	0.30	10.30	5.58	0.15	612.50	612.34	
LINE "C - 3/4" EXISTING SYSTEM IN SPECTRUM DRIVE AND ARAPAHO ROAD - 100 YEAR DESIGN																							
2770.00	2665.00	105.00	PART C-1	1.34	0.90	1.21	1.21	10.00	100	8.74	10.54	0.0022	24	3.35	1.25	0.22	0.52	10.52	10.54	0.17	643.82	643.60	EX. 24"-1.00 AC TO C-3/C-5
2665.00	2600.00	65.00	C-2	0.73	0.90	0.66	1.86	10.52	100	8.60	16.02	0.0233	18	9.07	0.50	1.19	0.12	10.64	16.02	1.28	642.41	640.89	EX. 18" RCP
2600.00	2400.00	200.00	PART C-1	1.00	0.90	0.90	2.76	10.64	100	8.60	23.76	0.0110	24	7.56	0.60	0.12	0.44	11.08	23.76	0.89	640.77	638.57	EX. 24"-FUT. CONN. FROM C-1
2400.00	2258.00	142.00	PART C-3	1.00	0.90	0.90	3.66	11.08	100	8.45	30.95	0.0057	30	6.31	0.60	0.08	0.38	11.46	30.95	0.62	638.48	637.67	EX. 30"-1.66 AC TO C/5 LN 'C-2'
2258.00	2153.00	105.00	C-4	2.88	0.90	2.59	6.26	11.46	100	8.40	52.54	0.0164	30	10.70	0.60	1.41	0.16	11.62	52.54	1.78	636.26	634.54	EX. 30" RCP
2153.00	1828.00	325.00	PART C-3 & 6	1.72	0.90	1.55	7.80	11.62	100	8.30	64.76	0.0094	36	9.16	0.60	0.24	0.59	12.21	64.76	1.30	634.31	631.24	EX. 36" RCP
1828.00	1538.00	290.00	C-17	1.51	0.90	1.36	9.16	12.21	100	8.15	74.67	0.0125	36	10.56	0.60	0.95	0.46	12.67	74.67	1.73	630.29	626.66	EX. 36" RCP-EX. LAT C-17
1538.00	1355.00	183.00	C-18	0.87	0.90	0.78	9.95	12.67	100	8.10	80.55	0.0146	36	11.40	0.60	0.98	0.27	12.94	80.55	2.02	625.68	623.01	EX. 36" RCP-LAT C-18
1355.00	1250.00	105.00	C-19 & 20	0.70	0.90	0.63	10.58	12.94	100	8.10	85.66	0.0165	36	12.12	0.60	1.07	0.14	13.08	85.66	2.28	621.94	620.21	EX. 36" RCP-LAT C-20
1250.00	1190.00	60.00	C-21	0.73	0.90	0.66	11.23	13.08	100	8.00	89.86	0.0080	42	9.34	0.60	-0.01	0.11	13.19	89.86	1.35	620.22	619.74	EX. 42" RCP-LAT C-21
1190.00	1027.00	163.00	C-22	0.19	0.90	0.17	11.40	13.19	100	8.00	91.22	0.0082	42	9.48	0.60	0.58	0.29	13.48	91.22	1.40	619.16	617.82	EX. 42" RCP-LAT C-22
1027.00	1000.00	27.00	C-23	0.80	0.90	0.72	12.12	13.48	100	7.95	96.38	0.0092	42	10.02	0.60	0.72	0.04	13.52	96.38	1.56	617.10	616.85	EX. 42" RCP-LAT C-23
1000.00	840.00	160.00	C-24	3.84	0.90	3.46	15.58	13.52	100	7.95	123.85	0.0040	54	7.79	0.60	0.01	0.34	13.86	123.85	0.94	616.85	616.21	EX. 54" RCP-EX. LAT C-24
840.00	806.77	33.23	C-25	5.00	0.90	4.50	20.08	13.86	100	7.85	157.62	0.0064	54	9.92	0.60	0.96	0.06	13.92	157.82	1.53	615.25	615.03	EX. 54" RCP-EX. LAT C-25
806.77	773.27	33.50	PD-1	0.33	0.90	0.30	20.38	13.92	100	7.85	159.95	0.0066	54	10.06	0.60	0.65	0.06	13.97	159.95	1.57	614.38	614.16	EX. 54" RCP-EX. LAT D-1
773.27	693.27	80.00					20.38	13.97	100	7.85	159.95	0.0038	60	8.15	0.50	0.52	0.16	14.14	159.95	1.03	613.64	613.34	EX. 60" RCP
693.27	170.00	523.27	C-26	0.71	0.90	0.64	21.02	14.14	100	7.80	163.92	0.0040	60	8.35	0.60	0.46	1.04	15.18	163.92	1.08	612.88	610.81	EX. 60" RCP-LAT C-26
170.00	5.00	165.00					21.02	15.18	100	7.80	163.92	0.0040	60	8.35	0.50	0.54	0.33	15.51	163.92	1.08	610.26	609.61	EX. 60" RCP
5.00	0.00	5.00					21.02	15.51	100	7.80	163.92	0.0040	60	8.35	0.50	0.54	0.01	15.52	163.92	1.08	609.07	609.05	EX. 60" RCP
0.00	-110.00	110.00	C-P3,5,7-9 C-12-16,27-29	29.28	0.90	26.35	47.37	15.52	100	7.55	357.62	0.0016	95	7.30	1.00	-0.26	0.25	15.77	357.62	0.83	605.81	605.63	EX. 7'x7' BOX UNDER RR
LINE "C - 3/4" EXISTING SYSTEM IN SPECTRUM DRIVE AND ARAPAHO ROAD - 25 YEAR DESIGN																							
2770.00	2665.00	105.00	PART C-1	1.34	0.90	1.21	1.21	10.00	25	7.29	8.79	0.0015	24	2.80	1.25	0.15	0.63	10.63	8.79	0.12	631.99	631.83	EX. 24"-1.00 AC TO C-3/C-5
2665.00	2600.00	65.00	C-2	0.73	0.90	0.66	1.86	10.63	25	7.10	13.23	0.0159	18	7.49	0.50	0.81	0.14	10.77	13.23	0.87	631.02	629.99	EX. 18" RCP
2600.00	2400.00	200.00	PART C-1	1.00	0.90	0.90	2.76	10.77	25	7.05	19.48	0.0074	24	6.20	0.60	0.07	0.54	11.31	19.48	0.60	629.91	628.43	EX. 24"-FUT. CONN. FROM C-1
2400.00	2258.00	142.00	PART C-3	1.00	0.90	0.90	3.66	11.31	25	6.95	25.46	0.0039	30	5.19	0.60	0.06	0.46	11.76	25.46	0.42	628.37	627.82	EX. 30"-1.66 AC TO C/5 LN 'C-2'
2258.00	2153.00	105.00	C-4	2.88	0.90	2.59	6.26	11.76	25	6.85	42.85	0.0109	30	8.73	0.60	0.93	0.20	11.96	42.85	1.18	626.89	625.74	EX. 30" RCP
2153.00	1828.00	325.00	PART C-3 & 6	1.72	0.90	1.55	7.80	11.96	25	6.80	53.06	0.0063	36	7.51	0.60	0.17	0.72	12.69	53.06	0.87	625.58	623.52	EX. 36" RCP
1828.00	1538.00	290.00	C-17	1.51	0.90	1.36	9.16	12.69	25	6.70	61.39	0.0085	36	8.68	0.60	0.65	0.56	13.24	61.39	1.17	622.88	620.42	EX. 36" RCP-EX. LAT C-17
1538.00	1355.00	183.00	C-18	0.87	0.90	0.78	9.95	13.24	25	6.60	65.64	0.0097	36	9.29	0.60	0.64	0.33	13.57	65.64	1.34	619.78	618.01	EX. 36" RCP-LAT C-18
1355.00	1250.00	105.00	C-19 & 20	0.70	0.90	0.63	10.58	13.57	25	6.50	68.74	0.0106	36	9.72	0.60	0.67	0.18	13.75	68.74	1.47	617.35	616.23	EX. 36" RCP-LAT C-20
1250.00	1190.00	60.00	C-21	0.73	0.90	0.66	11.23	13.75	25	6.50	73.01	0.0053	42	7.59	0.60	0.01	0.13	13.88	73.01	0.89	616.22	615.90	EX. 42" RCP-LAT C-21
1190.00	1027.00	163.00	C-22	0.19	0.90	0.17	11.40	13.88	25	6.50	74.12	0.0054	42	7.70	0.60	0.39	0.35	14.24	74.12	0.92	615.52	614.63	EX. 42" RCP-LAT C-22
1027.00	1000.00	27.00	C-23	0.80	0.90	0.72	12.12	14.24	25	6.40	77.59	0.0059	42	8.06	0.60	0.46	0.06	14.29	77.59	1.01	614.18	614.01	EX. 42" RCP-LAT C-23
1000.00	840.00	160.00	C-24	3.84	0.90	3.46	15.58	14.29	25	6.40	99.71	0.0026	54	6.27	0.60	0.00	0.43	14.72	99.71	0.61	614.01	613.60	EX. 54" RCP-EX. LAT C-24
840.00	806.77	33.23	C-25	5.00	0.90	4.50	20.08	14.72	25	6.30	126.50	0.0041	54	7.95	0.60	0.62	0.07	14.79	126.50	0.98	612.98	612.85	EX. 54" RCP-EX. LAT C-25
806.77	773.27	33.50	PD-1	0.33	0.90	0.30	20.38	14.79	25	6.30	128.37	0.0043	54	8.07	0.60	0.42	0.07	14.86	128.37	1.01	612.42	612.28	EX. 54" RCP-EX. LAT D-1
773.27	693.27	80.00					20.38	14.86	25	6.30	128.37	0.0024	60	6.54	0.50	0.33	0.20	15.06	128.37	0.66	611.95	611.75	EX. 60" RCP
693.27	170.00	523.27	C-26	0.71	0.90	0.64	21.02	15.06	25	6.20	130.29	0.0025	60	6.64	0.60	0.29	1.31	16.37	130.29	0.68	611.47	610.16	EX. 60" RCP-LAT C-26
170.00	5.00	165.00					21.02	16.37	25	6.20	130.29	0.0025	60	6.64	0.50	0.34	0.41	16.79	130.29	0.68	609.82	609.40	EX. 60" RCP
5.00	0.00	5.00					21.02	16.79	25	6.20	130.29	0.0025	60	6.64	0.50	0.34	0.01	16.80	130.29	0.68	609.06	609.05	EX. 60" RCP
0.00	-110.00	110.00	C-P3,5,7-9 C-12-16,27-29	29.28	0.90	26.35	47.37	16.80	25	6.00	284.20	0.0010	95	5.80	1.00	-0.16	0.32	17.12	284.20	0.52	605.74	605.63	EX. 7'x7' BOX UNDER RR

RECORD DOCUMENTS 6/9/2000

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER
10-24-97

STORMWATER CALCULATIONS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	NONE	OCT 97	1772-01	ST-5

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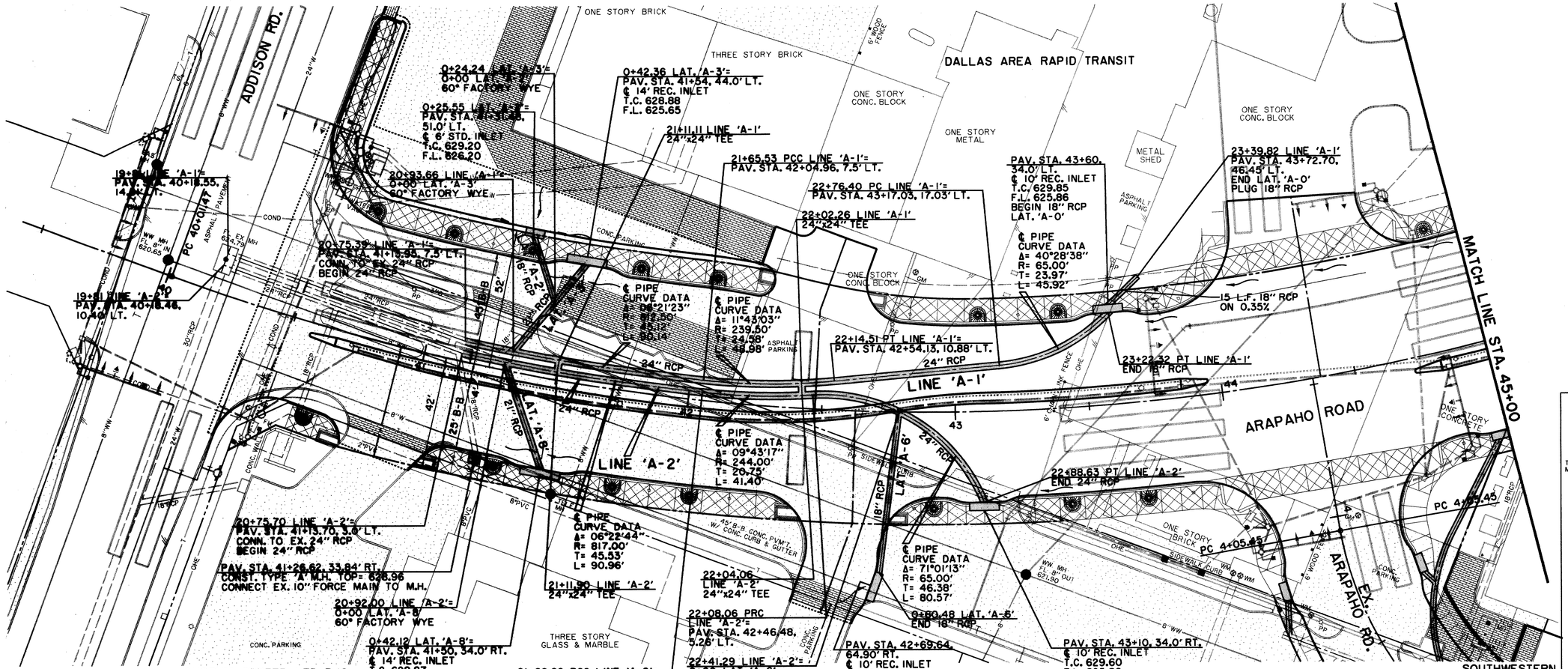

NOTE:
VERIFY LOCATION, HORIZONTAL & VERTICAL, OF ALL UTILITIES PRIOR TO CONSTRUCTION OF STORMWATER INLETS & PIPES

RECORD DOCUMENTS 6/9/2000

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LEGEND

- ELECTRIC — OHE
  - LIGHT POLE
  - POWER POLE
  - GUY WIRE
- TELEPHONE — T
  - TELEPHONE MANHOLE
  - TELEPHONE PEDESTAL
  - TELEPHONE SIGN
- GAS — G
  - GAS METER
  - GAS SIGN
- LAND USE
  - RAILROAD SIGN
  - SIGN
- SURVEY
  - FOUND IRON ROD
  - TEMP BENCHMARK
- WASTEWATER — WW
  - WASTEWATER MANHOLE
  - CLEANOUT
- WATER — W
  - FIRE HYDRANT
  - METER
  - WATER VALVE
- MISC.
  - 48" RCP — R.C.P. REMOVAL
  - CHAIN LINK FENCE
  - WOOD FENCE
  - EXISTING ASPHALT
  - EXISTING DIRT OR GRAVEL
  - EX. CONCRETE
  - TREE/TREE LINE
  - EXISTING CURB
  - PROP. CURB
  - EX. PROPERTY LINE
  - PROP. CENTERLINE
  - PROP. R.O.W.
  - PROP. INLET
  - PVMT — TOP OF PAVEMENT
  - T.C. — TOP OF CURB
  - C.R. — CURB RETURN

BENCHMARKS:

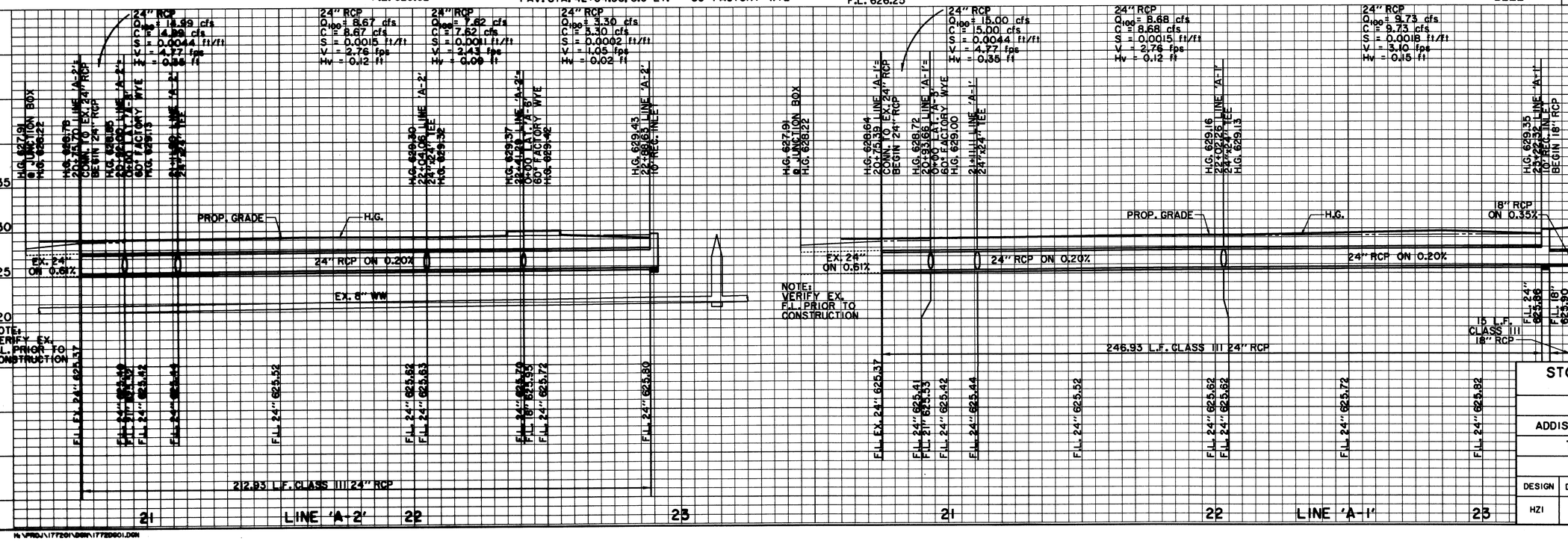
USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS — KENNETH A. ROBERTS — 55446 — REGISTERED PROFESSIONAL ENGINEER

10-24-97



STORMWATER PLAN & PROFILE
LINES 'A-1' & A-2'
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	ST-6

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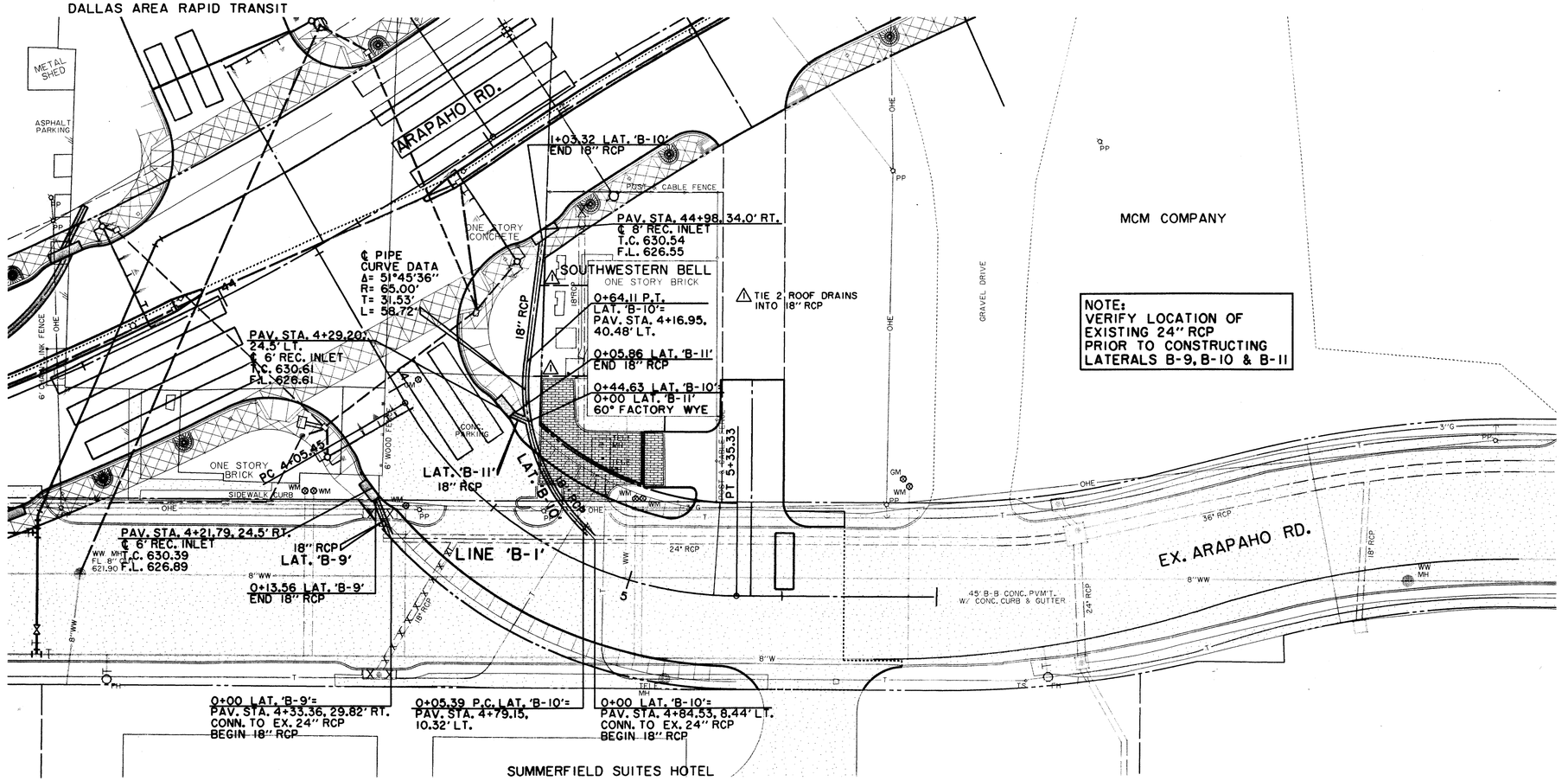


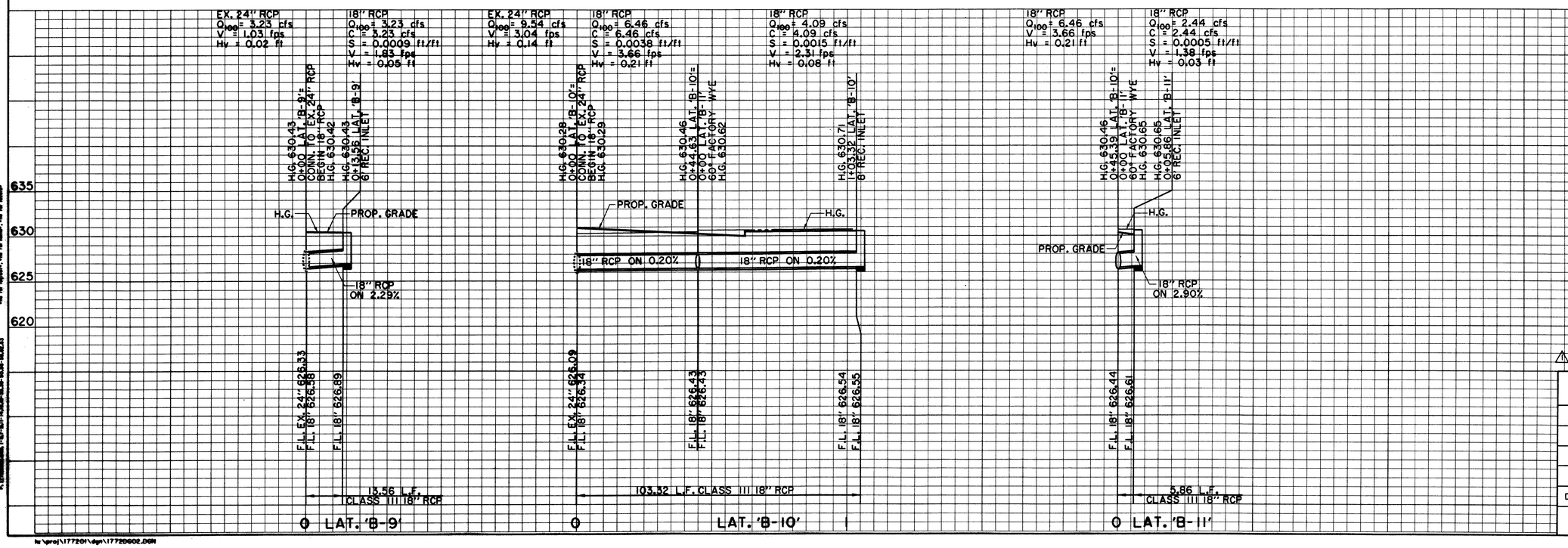
NOTE:
VERIFY LOCATION, HORIZONTAL & VERTICAL, OF ALL UTILITIES PRIOR TO CONSTRUCTION OF STORMWATER INLETS & PIPES

NOTE:
VERIFY LOCATION OF EXISTING 24" RCP PRIOR TO CONSTRUCTING LATERALS B-9, B-10 & B-11

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE CONSULTANT HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.

LEGEND

- ELECTRIC — OHE —
  - LIGHT POLE
  - POWER POLE
  - GUY WIRE
- TELEPHONE — T —
  - TELEPHONE MANHOLE
  - TELEPHONE PEDESTAL
  - TELEPHONE SIGN
- GAS — G —
  - GAS METER
  - GAS SIGN
- LAND USE
  - RAILROAD SIGN
  - SIGN
- SURVEY
  - FOUND IRON ROD
  - TEMP BENCHMARK
- WASTEWATER — WW —
  - WASTEWATER MANHOLE
  - CLEANOUT
- WATER — W —
  - FIRE HYDRANT
  - METER
  - WATER VALVE
- MISC.
  - R.C.P. REMOVAL
  - CHAIN LINK FENCE
  - WOOD FENCE
  - EXISTING ASPHALT
  - EXISTING DIRT OR GRAVEL
  - EX. CONCRETE
  - TREE/TREE LINE
  - EXISTING CURB
  - PROP. CURB
  - EX. PROPERTY LINE
  - PROP. CENTERLINE
  - PROP. R.O.W.
  - PROP. INLET
  - PVMT TOP OF PAVEMENT
  - T.C. TOP OF CURB
  - C.R. CURB RETURN



BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

'□' ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A. ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS — KENNETH A. ROBERTS — 55446 — REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ RECORD DOCUMENTS 6/9/2000

STORMWATER PLAN & PROFILE
LINE 'B-1'
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	ST-7

I:\proj\177201\dgn\1772DG02.DGN

RECORD DOCUMENTS 6/9/2000

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N
0 10 20 30 40
SCALE IN FEET

NOTE:
VERIFY LOCATION, HORIZONTAL & VERTICAL, OF ALL UTILITIES PRIOR TO CONSTRUCTION OF STORMWATER INLETS & PIPES

MCI BURIED CABLE. CONTACT ADRIAN THEBEAU 972/554-4127 48 HOURS PRIOR TO ANY CONSTRUCTION IN THIS AREA.

BROOKS BURIED CABLE. CONTACT THERESA HARDIN 972/753-1900 48 HOURS PRIOR TO ANY CONSTRUCTION IN THIS AREA

NOTE:
VERIFY LOCATION OF EXISTING 60" & 66" RCP PRIOR TO CONSTRUCTING LATERALS B-17, B-18, B-19 B-20, B-21, B-23 & B-24

DALLAS AREA RAPID TRANSIT

MCM COMPANY

CARRAMERICA REALTY LIMITED PARTNERSHIP

TOWN OF ADDISON

QUORUM DR.

ARAPAHO RD.

0+91.75 LAT. 'B-19'=
0+00 LAT. 'B-20'
60° FACTORY WYE

PAV. STA. 5I+47.44.0' RT. PC 5I+17.88
℄ 10' REC. INLET
T.C. 625.97
F.L. 621.97

0+28.98 LAT. 'B-20'
END 24" RCP

1+03.84 LAT. 'B-19'
END 42" RCP & PLUG

0+55.40 LAT. 'B-17'=
PAV. STA. 3+23.50, 32.0' LT.
℄ 10' REC. INLET
T.C. 626.61
F.L. 622.61

PAV. STA. 5I+95.34' LT.
℄ 10' REC. INLET
T.C. 625.68
F.L. 621.68

0+81.27 LAT. 'B-21'
END 24" RCP

0+87.68 LAT. 'B-21'
END 42" RCP
BEGIN 24" RCP

0+52.67 LAT. 'B-21'=
0+00 LAT. 'B-19'
60° FACTORY WYE

0+17.50 LAT. 'B-21'=
PAV. STA. 52+61.69, 34.00' LT.
P.I.

PAV. STA. 4+88.06, 49.04' LT.
END LAT. 'B-22'
PLUG 24" RCP
F.L. 621.82

LAT. 'B-22'
15 L.F. 24" RCP
@ 0.40%

0+55.14 LAT. 'B-23'=
PAV. STA. 4+96.50, 32.0' LT.
℄ 10' REC. INLET
T.C. 625.72
F.L. 621.72
BEGIN 24" RCP
LAT. 'B-22'
F.L. 621.76

0+00 LAT. 'B-17'=
PAV. STA. 3+51.20, 15.0' RT.
CONN. TO EX. 60" RCP
BEGIN 18' RCP

0+19.71 LAT. 'B-18'=
PAV. STA. 3+69.32.0' RT.
℄ 10' REC. INLET
T.C. 625.70
F.L. 621.70

0+00 LAT. 'B-18'=
PAV. STA. 3+78.86, 15.0' RT.
CONN. TO EX. 60" RCP
BEGIN 18' RCP

0+00 LAT. 'B-24'=
PAV. STA. 5+45.70, 15.0' RT.
CONN. TO EX. 66" RCP
BEGIN 18' RCP

0+20.40 LAT. 'B-24'=
PAV. STA. 5+35.50, 32.0' RT.
℄ 10' REC. INLET
T.C. 625.40
F.L. 621.40

0+00 LAT. 'B-23'=
PAV. STA. 5+24.07, 15.0' RT.
CONN. TO EX. 66" RCP
BEGIN 24' RCP

0+00 LAT. 'B-21'=
PAV. STA. 4+77.87, 15.0' RT.
CONN. TO EX. 66" RCP
BEGIN 42" RCP

LAT. 'B-19' 42" RCP
LAT. 'B-20' 24" RCP
LAT. 'B-17' 18" RCP
LAT. 'B-18' 18" RCP
LAT. 'B-21' 42" RCP
LAT. 'B-23' 24" RCP
LAT. 'B-24' 18" RCP
LINE 'B-2'

BROOKS CABLE 2-2" PVC
MCI CABLE

33'-8-B
25'-B-B

23' B-B CONC. PVM'T. W/ CONC. CURB & GUTTER

LEGEND

ELECTRIC — OHE —
LIGHT POLE
POWER POLE
GUY WIRE
TELEPHONE — T —
TELE MH TELEPHONE MANHOLE
TELEPHONE PEDESTAL
TS TELEPHONE SIGN
GAS — G —
GM GAS METER
GS GAS SIGN
LAND USE
R.R RAILROAD SIGN
SIGN
SURVEY
I.R. FOUND IRON ROD
TEMP BENCHMARK
WASTEWATER — WW —
WW MH WASTEWATER MANHOLE
CO CLEANOUT
WATER — W —
FH FIRE HYDRANT
WM METER
T WATER VALVE
MISC.
48" RCP R.C.P. REMOVAL
CHAIN LINK FENCE
WOOD FENCE
EXISTING ASPHALT
EXISTING DIRT OR GRAVEL
EX. CONCRETE
TREE/TREE LINE
EXISTING CURB
PROP. CURB
EX. PROPERTY LINE
PROP. CENTERLINE
PROP. R.O.W.
PROP. INLET
PVMT TOP OF PAVEMENT
T.C. TOP OF CURB
C.R. CURB RETURN

42" RCP
Q_{100} = 19.27 cfs
C = 9.77 cfs
S = 0.0004 ft/ft
V = 2.00 fps
Hv = 0.06 ft

42" RCP
Q_{100} = 23.57 cfs
C = 23.57 cfs
S = 0.0005 ft/ft
V = 2.45 fps
Hv = 0.09 ft

42" RCP
Q_{100} = 28.18 cfs
V = 2.93 fps
Hv = 0.13 ft

24" RCP
Q_{100} = 4.40 cfs
C = 4.40 cfs
S = 0.0004 ft/ft
V = 1.40 fps
Hv = 0.03 ft

42" RCP
Q_{100} = 23.57 cfs
V = 2.45 fps
Hv = 0.09 ft

24" RCP
Q = 4.80 cfs
C = 4.80 cfs
S = 0.0005 ft/ft
V = 1.53 fps
Hv = 0.04 ft

42" RCP
Q_{100} = 28.18 cfs
C = 28.18 cfs
S = 0.0008 ft/ft
V = 2.93 fps
Hv = 0.13 ft

EX. 66" RCP
Q_{100} = 179.75 cfs
V = 7.57 fps
Hv = 0.89 ft

0+91.75 LAT. 'B-19'=
0+00 LAT. 'B-20'
60° FACTORY WYE
H.G. 624.63

0+28.98 LAT. 'B-20'
END 24" RCP
H.G. 624.63

1+03.84 LAT. 'B-19'
END 42" RCP & PLUG
H.G. 624.63

0+52.67 LAT. 'B-19'=
0+00 LAT. 'B-20'
60° FACTORY WYE
H.G. 624.62

0+00 LAT. 'B-21'=
0+52.67 LAT. 'B-19'
60° FACTORY WYE
H.G. 624.49

0+81.27 LAT. 'B-21'
10' REC. INLET
H.G. 624.62

0+87.68 LAT. 'B-21'
END 42" RCP
BEGIN 24" RCP
H.G. 624.60

0+00 LAT. 'B-21'=
0+52.67 LAT. 'B-19'
60° FACTORY WYE
H.G. 624.49

0+00 LAT. 'B-24'
CONN. TO EX. 66" RCP
BEGIN 18" RCP
H.G. 624.45

PROP. 8" WATER

PROP. GRADE
H.G.
42" RCP ON 0.40%
24" RCP ON 11.32%
24" RCP ON 10.98%

103.84 L.F. CLASS III 42" RCP
28.98 L.F. CLASS III 24" RCP
23.59 L.F. CLASS III 24" RCP
57.68 L.F. CLASS III 42" RCP

LAT. 'B-19' 0
LAT. 'B-20' 0
LAT. 'B-21' 0

630
625
620
615

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER
10-24-97

STORMWATER PLAN & PROFILE
LINE 'B-2'

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	ST-8

H:\PROJ\1772\DGN\1772D803.DGN

TOWN OF ADDISON

TOWN OF ADDISON

0+00 LINE 'C-1'=
12+96.89 LINE 'C-2'
CONST. TYPE 'B' M.H.

0+02.81 LINE 'C-1'
BEGIN 24" RCP

0+37.12 LINE 'C-1'=
0+00 LAT. 'C-15'
60° FACTORY WYE

2+00 LINE 'C-1'=
PAV. STA. 56+97.74,
65.86' LT.
CONST. TYPE "B"
HEADWALL

PC 57+07.98

0+79.10 LAT. 'C-15'=
PAV. STA. 55+89.81, 43.0' LT.
℄ 10' REC. INLET
T.C. 620.65
F.L. 616.65

0+51.07 LINE 'C-1'=
0+00 LAT. 'C-14'
60° FACTORY WYE

℄ PIPE
CURVE DATA
Δ= 48°35'44"
R= 65.00'
T= 29.35'
L= 55.13'

LAT. 'C-15'
18" RCP

LAT. 'C-16'
18" RCP

ARAPAHO ROAD

39" RCP

55 56 57 58 59

N 89°46'23" E

25.5'

1+36.01
LINE 'C-1'
P.C.

1+91.14 PT LINE 'C-1'
END 24" RCP

GRAVEL DRIVE

24" RCP

LINE 'C-1'

LAT. 'C-14'
18" RCP

13.19

39" RCP

0+00 LAT. 'C-18'=
PAV. STA. 59+37.81,
33.85' RT.
CONN. TO EX. 36" RCP
BEGIN 18" RCP

LAT. 'C-18'
18" RCP

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE CONSULTANT HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.

N

0 10 20 30 40
SCALE IN FEET

NOTE:
VERIFY LOCATION, HORIZONTAL & VERTICAL, OF ALL UTILITIES PRIOR TO CONSTRUCTION OF STORMWATER INLETS & PIPES

⚠ STUB OUT 18" RCP AND CONNECT TO EX. 15" RCP

⚠ CONNECT EX. LIFT STATION TO 4'x4' 'Y' INLET W/ 18" RCP

PT 14+85.79

Sump overflow, 15" cap

STORM LIFT STATION

PAV. STA. 54+78.85,
47.49' RT.
℄ 4'x4' 'Y' INLET
TOP 622.08
LIP 621.00
F.L. 614.40
MATCH EX. FLUME
WITH INLET APRON

15" RCP

TOWN OF ADDISON

LINE 'C-2'

SPECTRUM DR.

LINE 'C-3'

36" RCP

LAT. 'C-12'
18" RCP

TS TELE MH

TELE MH

UGE

25' B-B CONC PVMT. W/ CONC. CURB & GUTTER

10" WW

36" RCP

8" WW

WW MH
FL 10" IN
610.05

12" W

0+09.72 LAT. 'C-18'=
PAV. STA. 59+35, 43.0' RT.
℄ 12' REC. INLET
T.C. 617.74
F.L. 613.74

8" PVC

0+09.82 LAT. 'C-14'=
PAV. STA. 56+10.50,
34.0' RT.
℄ 12' REC. INLET
T.C. 620.25
F.L. 616.25

18" RCP

8" PVC

MEPC QUORUM PROPERTIES II INC.

CARRAMERICA REALTY LIMITED PARTNERSHIP

LEGEND

ELECTRIC — OHE —
- LIGHT POLE
- PP POWER POLE
- GUY WIRE

TELEPHONE — T —
- TELE MH TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TS TELEPHONE SIGN

GAS — G —
- GM GAS METER
- GS GAS SIGN

LAND USE
- R.R RAILROAD SIGN
- SIGN

SURVEY
- I.R. FOUND IRON ROD
- TEMP BENCHMARK

WASTEWATER — WW —
- WW MH WASTEWATER MANHOLE
- CO CLEANOUT

WATER — W —
- FH FIRE HYDRANT
- WM METER
- T WATER VALVE

MISC.
- 48" RCP R.C.P. REMOVAL
- CHAIN LINK FENCE
- WOOD FENCE
- EXISTING ASPHALT
- EXISTING DIRT OR GRAVEL
- EX. CONCRETE
- TREE/TREE LINE
- EXISTING CURB
- PROP. CURB
- EX. PROPERTY LINE
- PROP. CENTERLINE
- PROP. R.O.W.
- PROP. INLET
- PVMT TOP OF PAVEMENT
- T.C. TOP OF CURB
- C.R. CURB RETURN

24" RCP
Q100 = 9.99 cfs
C = 9.99 cfs
S = 0.0019 ft/ft
V = 3.18 fps
Hv = 0.16 ft

24" RCP
Q100 = 14.70 cfs
C = 14.70 cfs
S = 0.0042 ft/ft
V = 4.68 fps
Hv = 0.34 ft

24" RCP
Q100 = 18.85 cfs
C = 18.85 cfs
S = 0.0069 ft/ft
V = 6.00 fps
Hv = 0.56 ft

1+91.14 LINE 'C-1'
4'x4' 'Y' INLET
H.G. 618.30

0+51.07 LINE 'C-1'=
0+00 LAT. 'C-14'
60° FACTORY WYE
H.G. 618.03
H.G. 617.78

0+37.12 LINE 'C-1'=
0+00 LAT. 'C-15'
60° FACTORY WYE
H.G. 617.72
H.G. 617.37

0+02.81 LINE 'C-1'
BEGIN 24" RCP
H.G. 617.11

0+00 LINE 'C-1'=
12+96.89 LINE 'C-2'
CONST. TYPE 'B'
MANHOLE
H.G. 616.22

PROP. GRADE

H.G.

24" RCP ON 0.40%

625
620
615
610

F.L. 24" 614.40
F.L. 18" 614.90

F.L. 24" 614.24

F.L. 24" 614.04

F.L. 24" 613.84
F.L. 18" 614.09

F.L. 24" 613.79
F.L. 18" 614.04

F.L. 24" 613.64
F.L. 36" 612.39
F.L. 39" 612.39

191.82 L.F. CLASS III 24" RCP

2 LINE 'C-1' 0

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL. 4' EAST OF CENTER OF THE ENTRANCE. 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠1 RECORD DOCUMENTS 6/9/2000

STORMWATER PLAN & PROFILE
LINE 'C-1'

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	ST-9

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VERIFY LOCATION OF EXISTING 10" WASTEWATER, 12" WATER & 15" RCP PRIOR TO CONSTRUCTION OF LINE 'C-2'

CARRAMERICA REALTY LIMITED PARTNERSHIP

EXISTING ARAPAHO RD.

0+09.78 LAT. 'C-8'=
PAV. STA. 15+23.50, 34.0' LT.
℄ 14' REC. INLET
T.C. 623.20
F.L. 619.20

℄ PIPE CURVE DATA
Δ= 40°01'08"
R= 65.00'
T= 23.67'
L= 45.40'

P.C. 17+19.50

LAT. 'C-8'
18" RCP

10 L.F. CONC. CAP OVER EX. W.W. MAIN

25' B-B CONC. PVM'T. W/ CONC. CURB & GUTTER

36" RCP

LINE 'C-2'

17+64.90 PT LINE 'C-2'
END 36" RCP & PLUG

16+65.86 LINE 'C-2'=
0+00 LAT. 'C-8'
60° FACTORY WYE

SPECTRUM DR.

MEPC QUORUM PROPERTIES I INC.

46 L.F. 15" PVC SDR35

CONNECT EX. 3" D.I. PIPE TO 15" PVC W/ 12-15"x4" TEE/WYE

CONNECT 15" PVC TO BACK OF INLET
F.L. 617.72

0+09.81 LAT. 'C-9'=
PAV. STA. 17+69, 34.0' LT.
℄ 14' REC. INLET
T.C. 620.73
F.L. 616.73

SPRINKLER CONTROL VALVE

0+33.96 LAT. 'C-10'=
PAV. STA. 18+02.83, 57.94' LT.
END 15" RCP
CONN. TO EX. 15" RCP

INSTALL STD. C.O.

TOWN OF ADDISON

TIE EX. 3" D.I. PIPES INTO LAT. 'C-10'

℄ PIPE CURVE DATA
Δ= 29°56'05"
R= 65.00'
T= 17.36'
L= 33.96'

LAT. 'C-10'
15" RCP

13+35.24
LINE 'C-2' P.C.

13+70.22
LINE 'C-2' P.T.

LAT. 'C-9'
18" RCP

14+00.35 LINE 'C-2'=
0+00 LAT. 'C-10'
PAV. STA. 17+94.16, 25.50' LT.
BEGIN 15" RCP

14+20.61 LINE 'C-2'=
0+00 LAT. 'C-9'
60° FACTORY WYE

39" RCP

LAT. 'C-12'
18" RCP

℄ PIPE CURVE DATA
Δ= 15°34'31"
R= 125.00'
T= 17.10'
L= 33.98'

24" RCP

LINE 'C-1'

ARAPAHO RD.

TOWN OF ADDISON

12+96.89 LINE 'C-2'=
0+00 LINE 'C-1'=
PAV. STA. 56+66.37, 26.26' RT.
CONST. TYPE 'B' MANHOLE

LINE 'C-2'

39" RCP

LINE 'C-3'

12+00.00 LINE 'C-2'=
PAV. STA. 56+92.45, 65.86' LT.
CONST. DOUBLE TYPE 'B' HEADWALL FOR 42" RCP
BEGIN 39" RCP

PC 57+07.96

NOTE:
VERIFY LOCATION, HORIZONTAL & VERTICAL, OF ALL UTILITIES PRIOR TO CONSTRUCTION OF STORMWATER INLETS & PIPES

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N

0 10 20 30 40
SCALE IN FEET

LEGEND

ELECTRIC — OHE —
- LIGHT POLE
- POWER POLE
- GUY WIRE

TELEPHONE — T —
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TELEPHONE SIGN

GAS — G —
- GAS METER
- GAS SIGN

LAND USE
- RAILROAD SIGN
- SIGN

SURVEY
- FOUND IRON ROD
- TEMP BENCHMARK

WASTEWATER — WW —
- WASTEWATER MANHOLE
- CLEANOUT

WATER — W —
- FIRE HYDRANT
- METER
- WATER VALVE

MISC.
- R.C.P. REMOVAL
- CHAIN LINK FENCE
- WOOD FENCE
- EXISTING ASPHALT
- EXISTING DIRT OR GRAVEL
- EX. CONCRETE
- TREE/TREE LINE
- EXISTING CURB
- PROP. CURB
- EX. PROPERTY LINE
- PROP. CENTERLINE
- PROP. R.O.W.
- PROP. INLET
- PVMT TOP OF PAVEMENT
- T.C. TOP OF CURB
- C.R. CURB RETURN

36" RCP
Q_{100} = 40.00 cfs
C = 40.00 cfs
S = 0.0036 ft/ft
V = 5.66 fps
Hv = 0.50 ft

36" RCP
Q_{100} = 44.48 cfs
C = 44.48 cfs
S = 0.0044 ft/ft
V = 6.29 fps
Hv = 0.61 ft

36" RCP
Q_{100} = 47.11 cfs
C = 47.11 cfs
S = 0.0050 ft/ft
V = 6.66 fps
Hv = 0.69 ft

36" RCP
Q_{100} = 55.83 cfs
C = 55.83 cfs
S = 0.0070 ft/ft
V = 7.90 fps
Hv = 0.97 ft

39" RCP
Q_{100} = 73.77 cfs
C = 73.77 cfs
S = 0.0080 ft/ft
V = 8.89 fps
Hv = 1.23 ft

⚠ RECORD DOCUMENTS 6/9/2000

17+64.90 LINE 'C-2' END 36" RCP & PLUG H.G. 620.40 F.L. 36" 616.37

EX. 10" WASTEWATER F.L. 10" 614.44

17+40 LINE 'C-2' P.V.I. F.L. 36" 616.27

17+20 LINE 'C-2' P.V.I. F.L. 36" 613.88 F.L. 12" 619.50±

EX. 12" WATER

16+65.86 LINE 'C-2'= 0+00 LAT. 'C-8' 60° FACTORY WYE H.G. 620.05 F.L. 36" 613.62 F.L. 18" 614.46

H.G. 619.73

14+20.61 LINE 'C-2'= 0+00 LAT. 'C-9' 60° FACTORY WYE H.G. 618.64 F.L. 36" 612.96

14+00.35 LINE 'C-2'= 0+00 LAT. 'C-10' PAV. STA. 17+94.16, 25.50' LT. BEGIN 15" RCP H.G. 618.32 F.L. 36" 612.76

H.G. 618.22 F.L. 36" 612.60 F.L. 15" 613.48

12+96.89 LINE 'C-2'= 0+00 LINE 'C-1'= PAV. STA. 56+66.37, 26.26' RT. CONST. TYPE 'B' MANHOLE H.G. 616.87 F.L. 36" 612.30 F.L. 33" 612.39 F.L. 24" 613.64

12+00.00 LINE 'C-2'= PAV. STA. 56+92.45, 65.86' LT. CONST. DOUBLE TYPE 'B' HEADWALL FOR 42" RCP BEGIN 39" RCP H.G. 615.45 F.L. 39" 612.30 F.L. 39" 612.20

H.G.

PROP. GRADE

36" RCP ON 0.40%

36" RCP ON 11.95%

36" RCP ON 0.40%

36" RCP ON 0.20%

39" RCP ON 0.20%

468.01 L.F. CLASS III 36" RCP

96.89 L.F. CLASS III 39" RCP

625
620
615
610

17 16 15 LINE 'C-2' 14 13 12

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL. 4' EAST OF CENTER OF THE ENTRANCE. 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
PROFESSIONAL REGISTERED ENGINEER

10-24-97

STORMWATER PLAN & PROFILE
LINE 'C-2'

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	ST-10

N:\proj\17720\dgn\1772D605.DGN

CARRAMERICA REALTY LIMITED PARTNERSHIP

EXISTING ARAPAHO RD.

VERIFY LOCATION OF EXISTING 10" WASTEWATER & 36" RCP PRIOR TO CONSTRUCTION OF LINE 'C-3'

TOWN OF ADDISON

ARAPAHO RD.

TOWN OF ADDISON

N

0 10 20 30 40
SCALE IN FEET

NOTE:
VERIFY LOCATION, HORIZONTAL & VERTICAL, OF ALL UTILITIES PRIOR TO CONSTRUCTION OF STORMWATER INLETS & PIPES

RECORD DOCUMENTS 6/9/2000

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE CONSULTANT HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.

LINE 'C-1'
24" RCP
56
57
58

LINE 'C-2'
36" RCP
39" RCP
17
16
15
14
13
19

LINE 'C-3'
39" RCP
15
16
17
18
14
13

LINE 'C-4'
36" RCP

LAT. 'C-12'
18" RCP

LAT. 'C-16'
18" RCP

SPECTRUM DR.
25' B-B CONC. PVMT. W/ CONC. CURB & GUTTER

MEPC QUORUM PROPERTIES I INC.

3" D.I. PIPE THRU CURB
SPRINKLER CONTROL VALVE
18" RCP
4"G
3"G
UGE
TELE MH
WW MH
FL EX 36" 618.21
36"RCP
18"RCP
12"W
10"WW
WW MH FL 10" OUT 610.79
WW MH FL 10" IN 610.05

12+27.49 LINE 'C-3'=
0+00 LAT. 'C-16'
60° FACTORY WYE

12+45.26
LINE 'C-3'
P.C.

12+79.24
LINE 'C-3' P.T.

13+30.36 LINE 'C-3'=
0+00 LAT. 'C-12'
60° FACTORY WYE

PC 57+07.98

℄ PIPE
CURVE DATA
Δ= 15°34'31"
R= 125.00'
T= 17.10'
L= 33.98'

12+00.00 LINE 'C-3'=
PAV. STA. 56+97.67, 65.60' LT.
CONST. DOUBLE TYPE 'B'
HEADWALL FOR 42" RCP

15+67.72 LINE 'C-3'=
PAV. STA. 16+22, 4.15' RT.
CONN. TO EX. 36" RCP
END 39" RCP

14+75.00 LINE 'C-3'=
18+80.92 LINE 'C-4'=
PAV. STA. 17+14.72,
4.15' RT.
CONST. TYPE 'B'
MANHOLE
36" 60° BEND

18+19.75 LINE 'C-4'=
PAV. STA. 17+63.
35.93' RT.
CONN. TO EX. 36" RCP
END 36" RCP
F.L. EX. 36" 615.56

0+46.01 LAT. 'C-12'=
PAV. STA. 18+36.35, 44.0' RT.
℄ 10' REC. INLET
T.C. 619.56
F.L. 615.56

1+12.26 LAT. 'C-16'=
PAV. STA. 57+66.31, 34.0' RT.
℄ 10' REC. INLET
T.C. 618.75
F.L. 614.75

LEGEND

ELECTRIC — OHE —
- LIGHT POLE
- POWER POLE
- GUY WIRE

TELEPHONE — T —
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TELEPHONE SIGN

GAS — G —
- GAS METER
- GAS SIGN

LAND USE
- RAILROAD SIGN
- SIGN

SURVEY
- FOUND IRON ROD
- TEMP BENCHMARK

WASTEWATER — WW —
- WASTEWATER MANHOLE
- CLEANOUT

WATER — W —
- FIRE HYDRANT
- METER
- WATER VALVE

MISC.
- 48" RCP — R.C.P. REMOVAL
- CHAIN LINK FENCE
- WOOD FENCE
- EXISTING ASPHALT
- EXISTING DIRT OR GRAVEL
- EX. CONCRETE
- TREE/TREE LINE
- EXISTING CURB
- PROP. CURB
- EX. PROPERTY LINE
- PROP. CENTERLINE
- PROP. R.O.W.
- PROP. INLET
- PVMT — TOP OF PAVEMENT
- T.C. — TOP OF CURB
- C.R. — CURB RETURN

39" RCP
Q_{100} = 64.76 cfs
C = 64.76 cfs
S = 0.0062 ft/ft
V = 7.81 fps
Hv = 0.95 ft

39" RCP
Q_{100} = 67.04 cfs
C = 67.04 cfs
S = 0.0066 ft/ft
V = 8.08 fps
Hv = 1.01 ft

39" RCP
Q_{100} = 70.06 cfs
C = 70.06 cfs
S = 0.0072 ft/ft
V = 8.45 fps
Hv = 1.11 ft

H.G. 618.73
15+67.72 LINE 'C-3'=
CONN. TO EX. 36" RCP
END 39" RCP

13+50 LINE 'C-3'
P.V.I.

14+75 LINE 'C-3'=
18+80.92 LINE 'C-4'=
CONST. TYPE 'B'
MANHOLE

EX. 10" WASTEWATER

H.G. 617.27
13+30.36 LINE 'C-3'=
0+00 LAT. 'C-12'
60° FACTORY WYE
H.G. 616.83

13+00 LINE 'C-3'
P.V.I.

H.G. 616.15
12+27.49 LINE 'C-3'=
0+00 LAT. 'C-16'
60° FACTORY WYE
H.G. 615.65

H.G. 615.45
12+00.00 LINE 'C-3'
CONST. DOUBLE TYPE 'B'
HEADWALL FOR 42" RCP
BEGIN 39" RCP

H.G.
PROP. GRADE
EX. 36" RCP
39" RCP ON 0.80%
39" RCP ON 10.78%
39" RCP ON 0.29%

625
620
615
610

F.L. EX. 36" 616.21
F.L. 36" 616.08
F.L. 39" 614.40
F.L. 39" 614.00
F.L. 39" 613.80
F.L. 36" 613.80
F.L. 10" 610.69
F.L. 39" 613.60
F.L. 39" 613.20
F.L. 39" 612.80
F.L. 39" 612.64
F.L. 18" 613.39
F.L. 39" 612.40
F.L. 39" 612.30
F.L. 39" 612.26
F.L. 18" 613.14
F.L. 39" 612.20

367.72 L.F. CLASS III 39" RCP

16 15 LINE 'C-3' 14 13 12

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER
10-24-97

STORMWATER PLAN & PROFILE
LINE 'C-3'

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	ST-11

H:\PROJ\177201\DGN\1772DG14.DGN

TOWN OF ADDISON

HYDROMULCH OUTFALL CHANNEL AND DISTURBED AREAS IRRIGATE UNTIL GRASS IS ESTABLISHED & APPROVED BY TOWN

FUTURE SPECTRUM DR. EXTENSION

LINES 'C-2' & 'C-3' OUTFALL

P.T. 10+68.63

2' THICK STONE RIP RAP DRY, TYPE 'A'

S 04°15'06" W

GRADE TO DRAIN APPROX. 500' ON 0.10%

℄ CURVE DATA
Δ= 20°16'01"
R= 406.50'
T= 72.65'
L= 143.79'

P.C.C. 9+24.84

℄ CURVE DATA
Δ= 09°12'45"
R= 506.50'
T= 40.81'
L= 81.44'

P.C. 8+43.40

S 33°46'18" W

P.T. 7+87.67

P.C. 7+58.93

℄ CURVE DATA
Δ= 11°06'53"
R= 125.00'
T= 12.16'
L= 24.25'

DALLAS AREA RAPID TRANSIT RAIL LINE

MATCH EX. CHANNEL ALIGNMENT WITH ℄ OF OUTFALL CHANNEL

LANCO ARAPAHO PARTNERSHIP

LINE 'C-2'

LINE 'C-3'

℄ CURVE DATA
Δ= 11°06'53"
R= 125.00'
T= 12.16'
L= 24.25'

P.C. 11+61.71

P.T. 11+86.96
PATH STA. 50+00.00
73.65' LT.

ARAPAHO RD.

HYDROMULCH
SOLID SOD
4'
4:1

SECTION A-A

RR
HYDROMULCH
3:1
4:1

SECTION B-B

N

0 10 20 30 40
SCALE IN FEET

NOTE:
VERIFY LOCATION, HORIZONTAL & VERTICAL, OF ALL UTILITIES PRIOR TO CONSTRUCTION OF STORMWATER INLETS & PIPES

RECORD DOCUMENTS 6/9/2000

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE CONSULTANT HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.

Q= 143.83 cfs
DEPTH= 3.80 ft ±
V= 2.5 fps ±

EXISTING GRADE

GRADE TO DRAIN ON 0.10%

12+00 LINE 'C-1'
END SECTION 'A-A'
AT HEADWALL

8+00 LINE 'C-1'
END SECTION B-B
BEGIN SECTION A-A

7+00.00 LINE 'C-1'
BEGIN SECTION 'B-B'
MATCH EX. F.L.

FLL 612.20

FLL 612.10

FLL 612.00

FLL 611.90

FLL 611.80

MATCH EX. F.L. 611.70

620
615
610

12 11 10 9 8 7

LINES 'C-2' & 'C-3' OUTFALL

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER
10-29-97

STORMWATER PLAN & PROFILE
LINES 'C-2' & 'C-3' OUTFALL

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	ST-12

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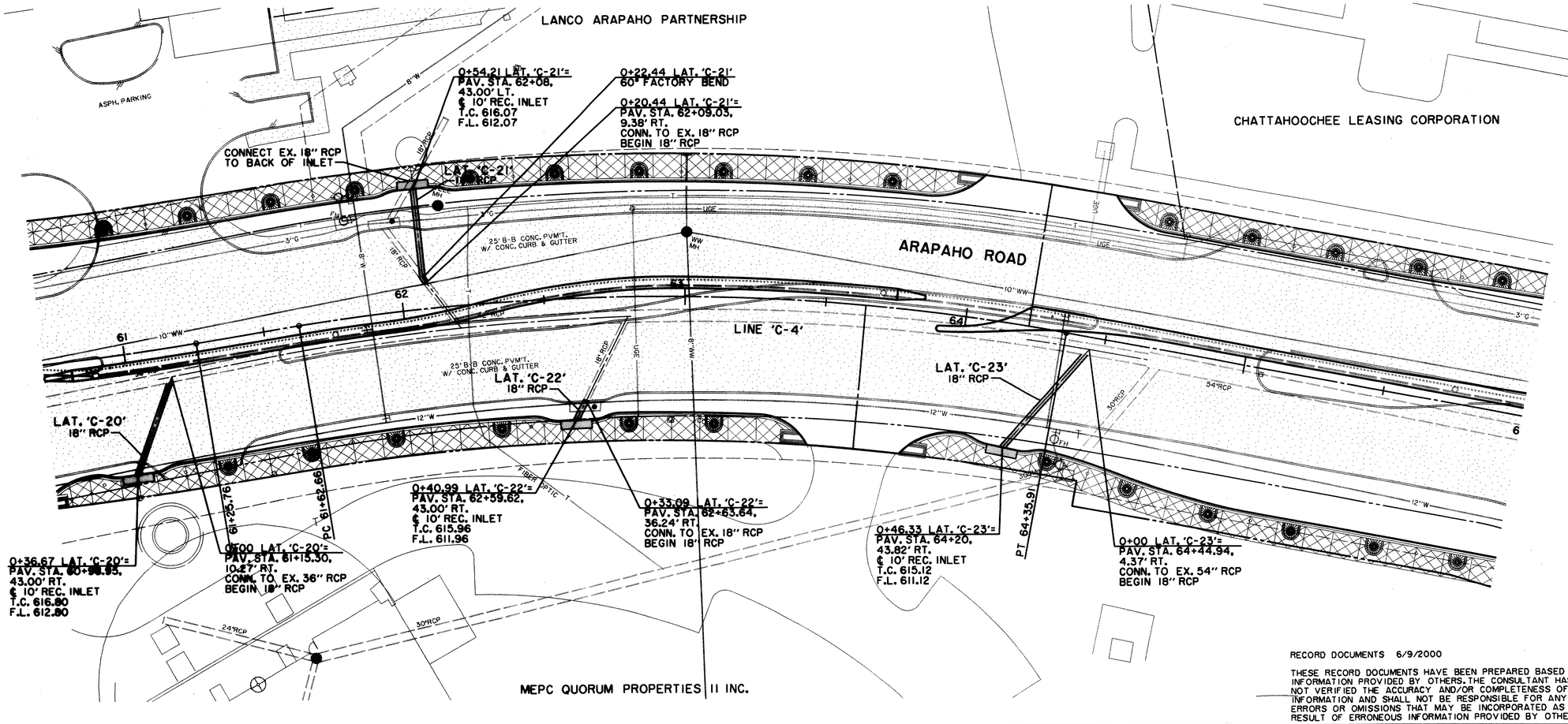

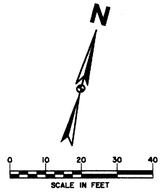

NOTE:
VERIFY LOCATION, HORIZONTAL & VERTICAL, OF ALL UTILITIES PRIOR TO CONSTRUCTION OF STORMWATER INLETS & PIPES

LEGEND

ELECTRIC —OHE—	**WATER** —W—
LIGHT POLE	FIRE HYDRANT
POWER POLE	METER
GUY WIRE	WATER VALVE
TELEPHONE —T—	**MISC.**
TELEPHONE MANHOLE	R.C.P. REMOVAL
TELEPHONE PEDESTAL	CHAIN LINK FENCE
TELEPHONE SIGN	WOOD FENCE
GAS —G—	EXISTING ASPHALT
GAS METER	EXISTING DIRT OR GRAVEL
GAS SIGN	EX. CONCRETE
LAND USE	TREE/TREE LINE
RAILROAD SIGN	EXISTING CURB
SIGN	PROP. CURB
SURVEY	EX. PROPERTY LINE
FOUND IRON ROD	PROP. CENTERLINE
TEMP BENCHMARK	PROP. R.O.W.
WASTEWATER —WW—	PROP. INLET
WASTEWATER MANHOLE	PVMT TOP OF PAVEMENT
CLEANOUT	T.C. TOP OF CURB
	C.R. CURB RETURN

RECORD DOCUMENTS 6/9/2000

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LATERALS NOT PROFILED

625
620
615
610

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL. 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"CI" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

STORMWATER PLAN & PROFILE
LINE 'C-4'

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	ST-13

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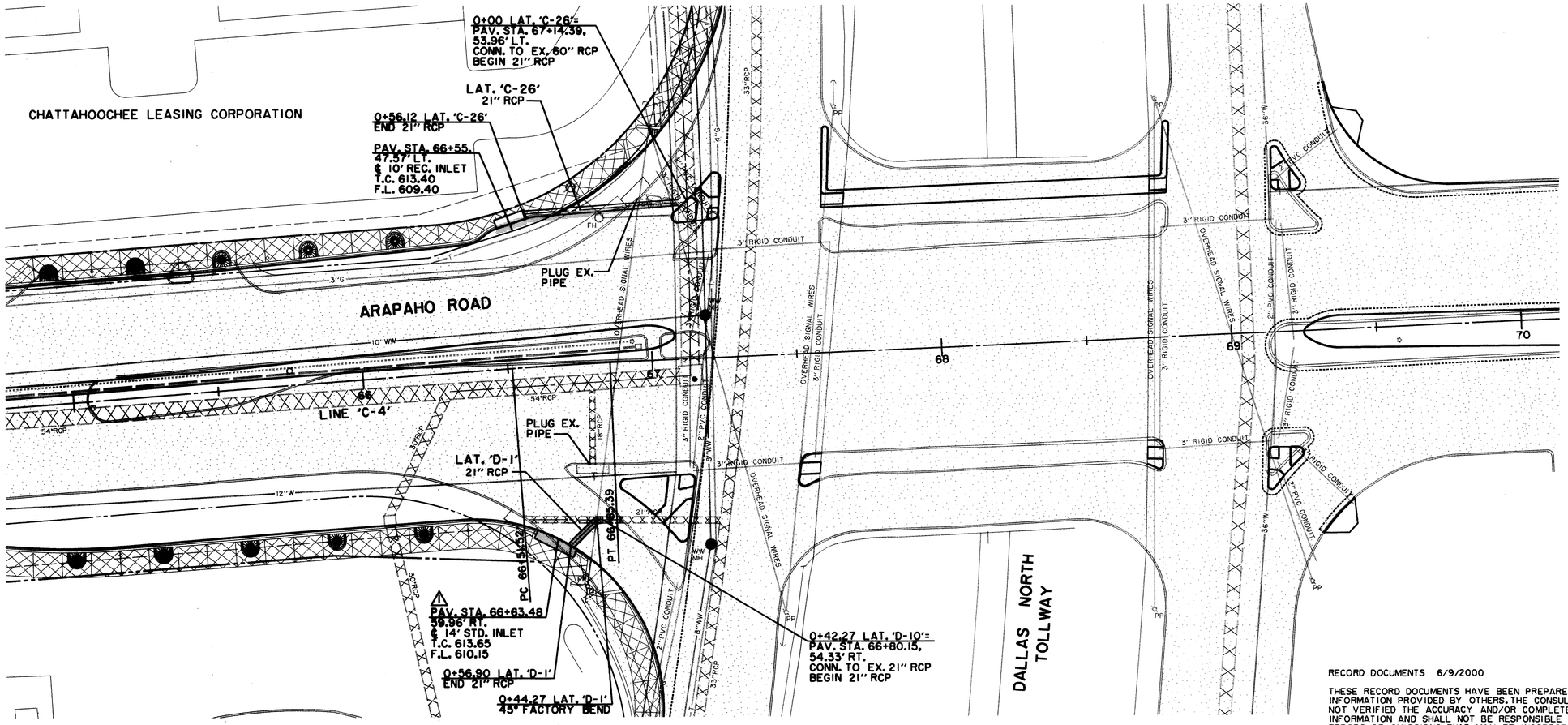

N

0 10 20 30 40

SCALE IN FEET

NOTE:
VERIFY LOCATION, HORIZONTAL & VERTICAL, OF ALL UTILITIES PRIOR TO CONSTRUCTION OF STORMWATER INLETS & PIPES

LEGEND

- ELECTRIC —OHE—
  - LIGHT POLE
  - POWER POLE
  - GUY WIRE
- TELEPHONE —T—
  - TELEPHONE MANHOLE
  - TELEPHONE PEDESTAL
  - TELEPHONE SIGN
- GAS —G—
  - GAS METER
  - GAS SIGN
- LAND USE
  - RAILROAD SIGN
  - SIGN
- SURVEY
  - FOUND IRON ROD
  - TEMP BENCHMARK
- WASTEWATER —WW—
  - WASTEWATER MANHOLE
  - CLEANOUT
- WATER —W—
  - FIRE HYDRANT
  - METER
  - WATER VALVE
- MISC.
  - 48" RCP — R.C.P. REMOVAL
  - CHAIN LINK FENCE
  - WOOD FENCE
  - EXISTING ASPHALT
  - EXISTING DIRT OR GRAVEL
  - EX. CONCRETE
  - TREE/TREE LINE
  - EXISTING CURB
  - PROP. CURB
  - EX. PROPERTY LINE
  - PROP. CENTERLINE
  - PROP. R.O.W.
  - PROP. INLET
  - PVMT — TOP OF PAVEMENT
  - T.C. — TOP OF CURB
  - C.R. — CURB RETURN

RECORD DOCUMENTS 6/9/2000

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LATERALS NOT PROFILED

625
620
615
610

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 1/16/98

STORMWATER PLAN & PROFILE
LINE 'C-4'

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	ST-14

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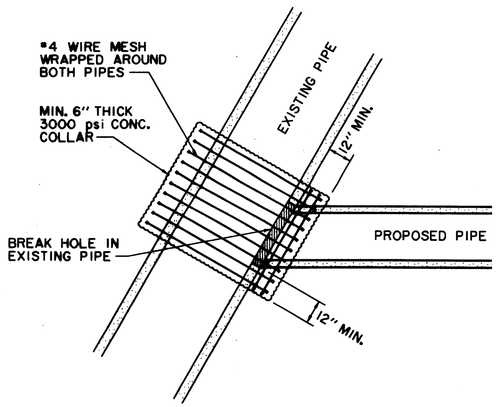
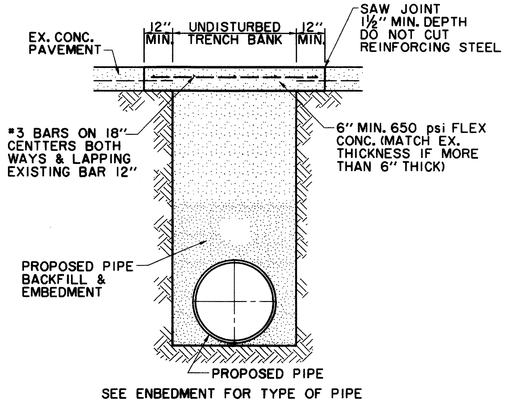


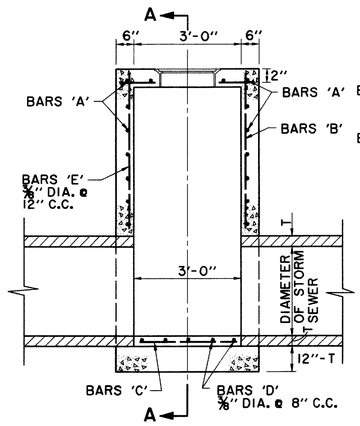
PROPOSED PIPE TO EXISTING PIPE WYE CONNECTION

N.T.S.



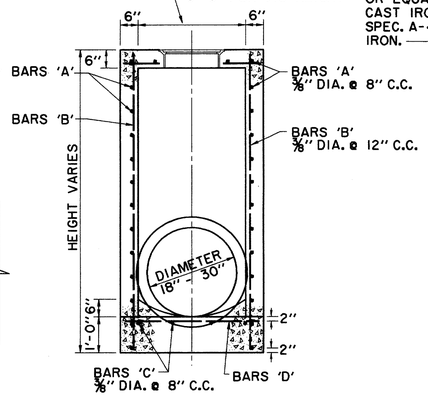
CONCRETE STREET OR DRIVEWAY REPAIR

N.T.S.



ELEVATION

N.T.S.



SECTION A-A

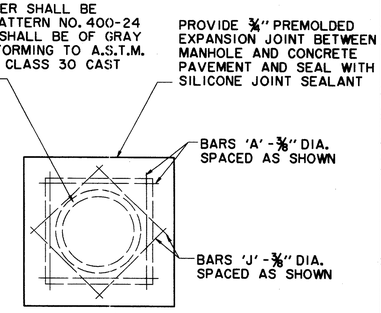
N.T.S.

TYPE A STORM SEWER MANHOLE

(FOR PIPE 18" TO 30" IN DIAMETER)

NOTE: STRUCTURAL CONCRETE TO BE MINIMUM 4200 p.s.i. UNLESS NOTED OTHERWISE

NOTE:
FRAME AND COVER SHALL BE BASS & HAYS PATTERN NO. 400-24 OR EQUAL AND SHALL BE OF GRAY CAST IRON CONFORMING TO A.S.T.M. SPEC. A-48 FOR CLASS 30 CAST IRON.

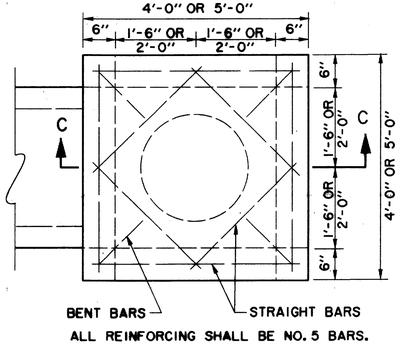


TOP PLAN TYPE A & TYPE B STORM SEWER MANHOLE

N.T.S.

NOTE MAXIMUM PIPE SIZE TO BE USED 78"

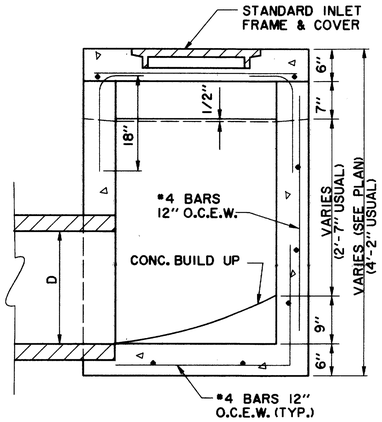
NOTE: MANHOLES AND INLETS GREATER THAN 4' IN DEPTH SHALL HAVE BASS AND HAYES MODEL MA STEPS OR APPROVED EQUAL



STANDARD TYPE "Y" INLET

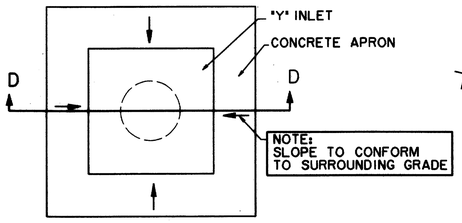
N.T.S.

NOTE: ALL 'Y' INLETS TO HAVE CONCRETE APRON AROUND INLET



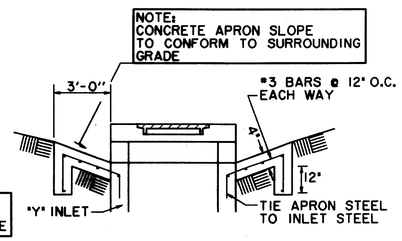
SECTION C-C

N.T.S.



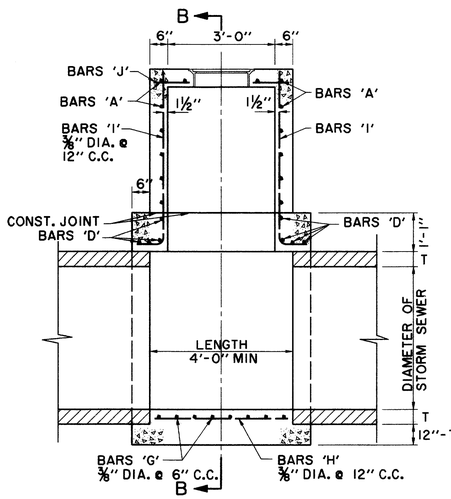
"Y" INLET CONCRETE APRON PLAN

N.T.S.



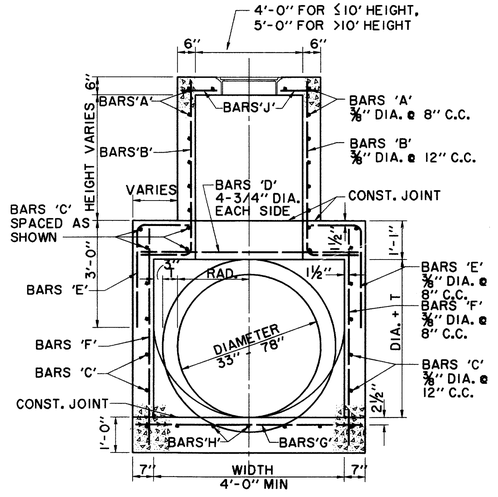
SECTION D-D

N.T.S.



ELEVATION

N.T.S.

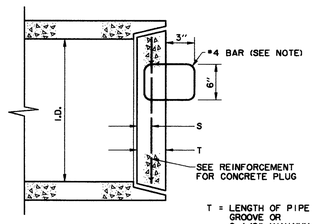


SECTION B-B

N.T.S.

TYPE B STORM SEWER MANHOLE

(FOR PIPE 33" TO 78" IN DIAMETER)

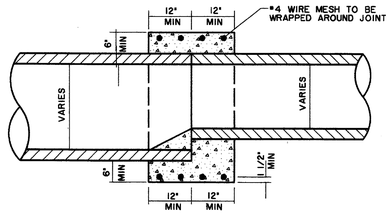


REINFORCEMENT FOR CONCRETE PLUG

PIPE SIZE	REINF. BAR	DISTANCE (C-C)	S
18"-39"	#3	12" BOTH WAYS	1/2 T
42"-54"	#3	12" BOTH WAYS	1/3 T
60"-72"	#4	12" BOTH WAYS	1/4 T

NOTE:
STEEL HANDLE FOR REINFORCED CONCRETE PIPE PLUG SHALL BE LOCATED ¼ I.D. ABOVE CENTER POINT OF PLUG. TWO STEEL HANDLES WILL BE REQUIRED ON PLUGS OF 36" PIPES OR LARGER AND SHALL BE PLACED ¼ I.D. ABOVE CENTER OF PLUG.

CONCRETE PLUG DETAIL



DETAIL OF CONCRETE COLLAR

FOR END TO END EXTENSIONS

EMBEDMENT DETAIL FOR STORM SEWER

N.T.S.

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED ENGINEER

10-24-97

STORMWATER DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	ST-15

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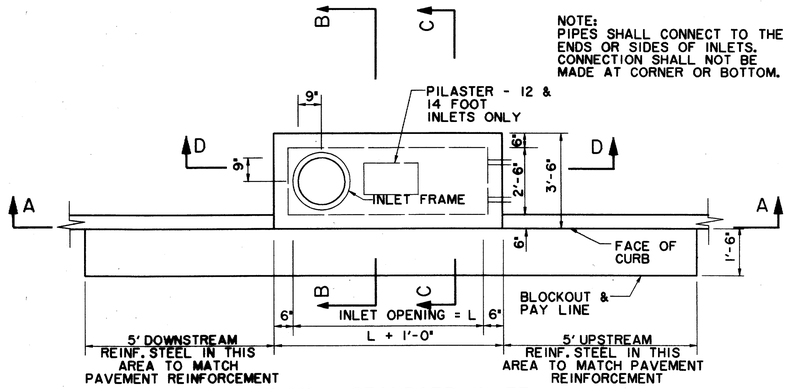
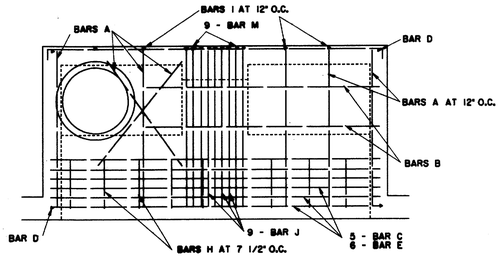
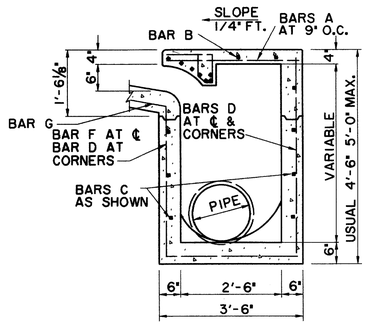


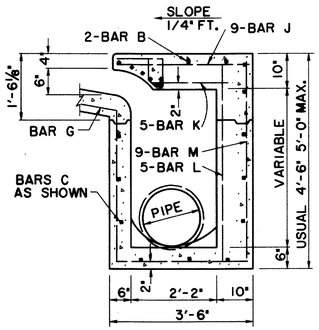
PLAN - STANDARD INLET
N.T.S.



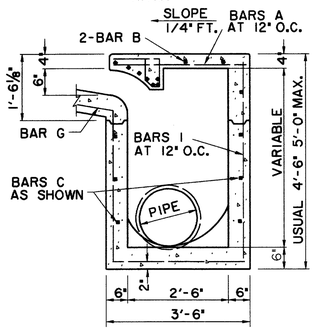
INLET PLAN
N.T.S.



SECTION B-B
6' & 8' INLETS
N.T.S.



SECTION B-B
10' & 14' INLETS
N.T.S.



SECTION C-C
10' & 14' INLETS
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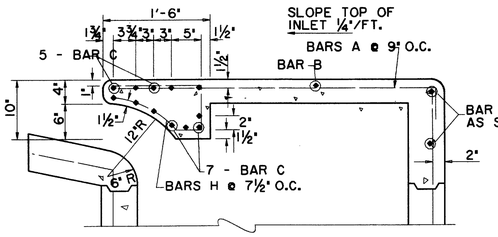
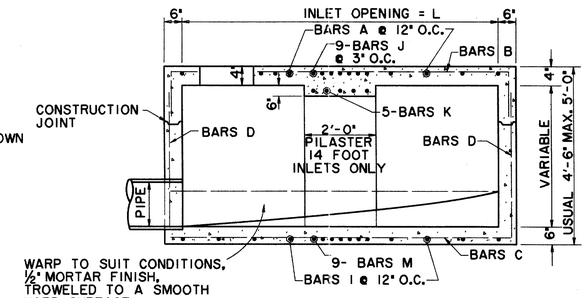
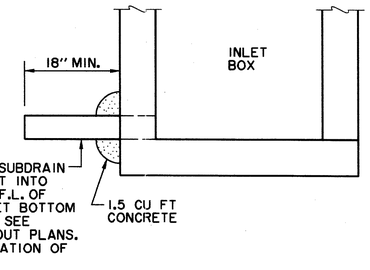


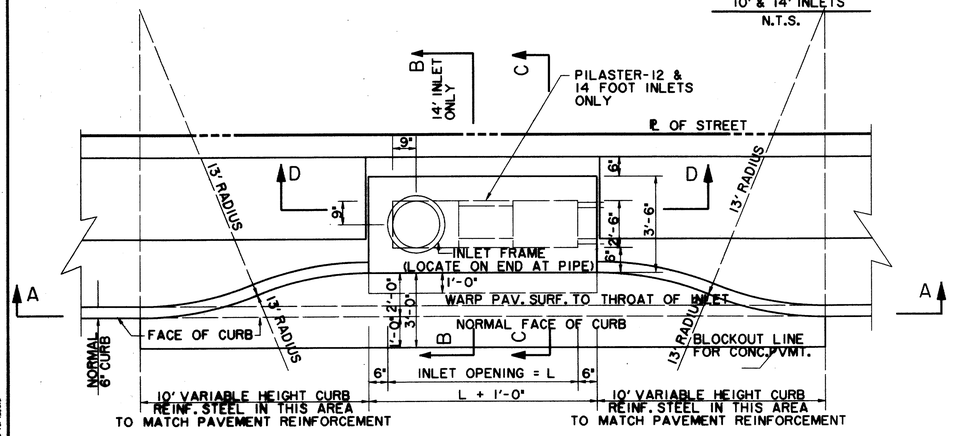
SECTION C-C - DETAIL
6' & 8' INLETS
N.T.S.



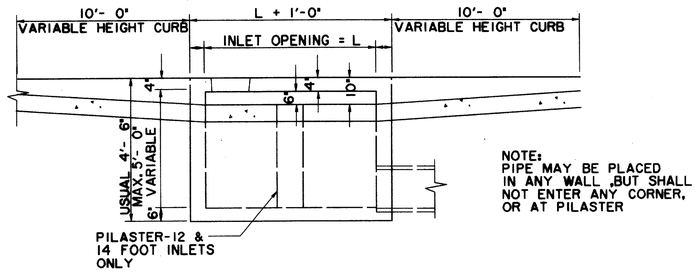
SECTION D-D
14' INLET
N.T.S.



⚠ PVC SUBDRAIN PIPE CONNECTION TO INLET BOX
N.T.S.



PLAN - RECESSED INLET
N.T.S.



SECTION A-A - RECESSED AND STANDARD INLETS
6, 8, 10 & 14 FOOT INLETS
N.T.S.

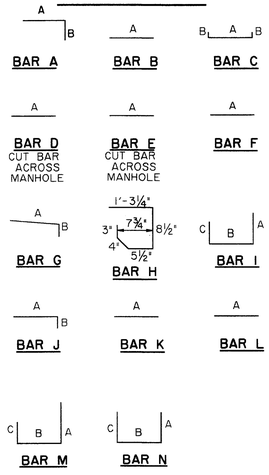
REINFORCING STEEL SCHEDULE

DIMENSION SHOWN ARE FOR MAXIMUM SIZE INLETS

INLET LENGTH	BAR TYPE	BAR DIA. (⅛IN)	NO. REQ'D	BAR DIMENSIONS A	B	C
6	A	3	9	3'-2"	0'-3"	
	B	3	1	4'-10"		
	C	4	15	6'-8"	0'-6"	
	D	4	5	4'-8"		
	F	4	1	3'-2"		
	G	3	5	2'-0"	1'-3"	
	H	6	6	•	•	•
	N	3	3	3'-2"	3'-2"	3'-2"
8	A	3	12	3'-2"	0'-3"	
	B	3	1	6'-10"		
	C	4	15	8'-8"	0'-6"	
	D	4	5	4'-8"		
	F	4	1	3'-2"		
	G	3	5	2'-0"	1'-3"	
	H	6	8	•	•	•
	N	3	3	3'-2"	3'-2"	3'-2"
10	A	3	10	3'-2"	0'-3"	
	B	3	2	8'-10"		
	C	4	16	10'-8"	0'-6"	
	D	4	4	4'-8"		
	E	5	6	10'-8"		
	G	3	5	2'-0"	1'-3"	
	H	3	15	•	•	•
	I	4	8	4'-8"	3'-2"	3'-2"
	L	4	5	4'-3"		
12	A	3	12	3'-2"	0'-3"	
	B	3	2	10'-10"		
	C	4	16	12'-8"	0'-6"	
	D	4	4	4'-8"		
	E	5	6	12'-8"		
	G	3	5	2'-0"	1'-3"	
	H	3	18	•	•	•
	I	4	10	4'-8"	3'-2"	3'-2"
	J	5	9	3'-2"	1'-3"	
	K	4	5	2'-3"		
	L	4	5	4'-3"		
	M	5	9	4'-3"	3'-2"	3'-9"
14	A	3	14	3'-2"	0'-3"	
	B	3	2	10'-10"		
	C	4	16	14'-8"	0'-6"	
	D	4	4	4'-8"		
	E	5	6	14'-8"		
	G	3	5	2'-0"	1'-3"	
	H	3	21	•	•	•
	I	4	12	4'-8"	3'-2"	3'-2"
	J	5	9	3'-2"	1'-3"	
	K	4	5	2'-3"		
	L	4	5	4'-3"		
	M	5	9	4'-3"	3'-2"	3'-9"

• SEE DIAGRAM FOR DIMENSIONS

BAR DIAGRAMS



RECORD DOCUMENTS 6/9/2000

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ ADDENDUM #5, 1/9/98

STORMWATER DETAILS

ARAPAHO ROAD

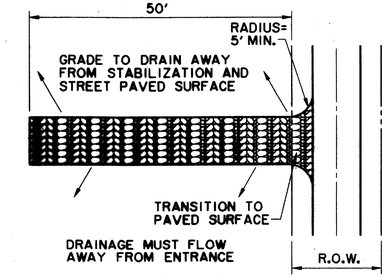
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

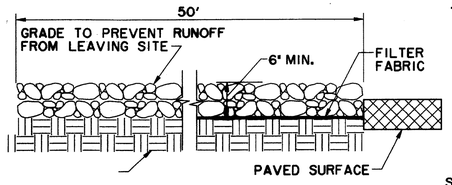
Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	ST-16

N:\PROJ\1772\01\DGN\1772ST04.DGN



PLAN



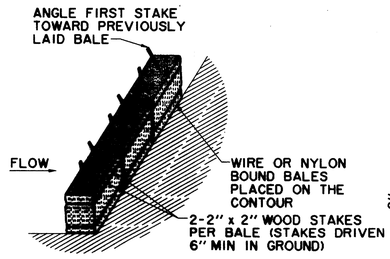
PROFILE

STABILIZED CONSTRUCTION ENTRANCE / EXIT

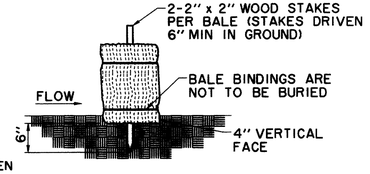
NCTCOG 02270.G
STORMWATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

DETAIL 'A'

N.T.S.



ANCHORING DETAIL



EMBEDDING DETAIL

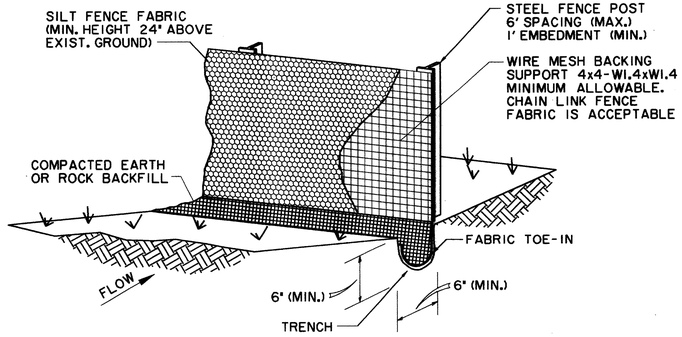
NOTE: HAY BALES TO BE PLACED AROUND ALL INLETS DURING CONSTRUCTION.

DETAIL 'C'
TEMPORARY STRAW BALE DIKE (CHECK DAM)

NCTCOG 02270.A
STORMWATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

N.T.S.

STRAW BALES SHALL BE PLACED IN A ROW WITH TIGHTLY ABUTTING ENDS. EMBED BALES IN THE SOIL A MINIMUM OF FOUR INCHES. STRAW BALES SHALL BE REPLACED IF THEY ARE DAMAGED OR HAVE DEGRADED TO A POINT OF INEFFECTIVENESS. REPLACEMENT OF STRAW BALES SHALL OCCUR NO LESS OFTEN THAN 90 DAYS, UNLESS NOTIFIED BY ENGINEER.



SILT FENCE SHOULD BE SECURELY FASTENED TO BACKING SUPPORT AND POSTS.

SILT FENCE

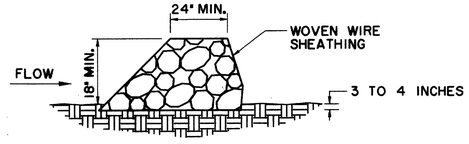
NCTCOG 02270.B
STORMWATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

DETAIL 'B'

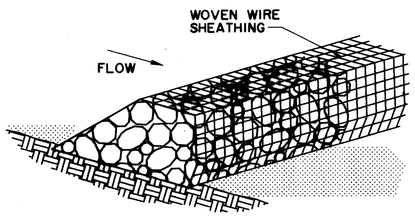
N.T.S.

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF THE SWPPP. THE SWPPP IS NOT A SEPARATE BID ITEM BUT IS SUBSIDIARY TO THE PROJECT. A NOTICE OF INTENT (N.O.I.) WILL BE PREPARED BY THE CONTRACTOR FOR THIS PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF THE N.P.D.E.S. GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION.
2. ALL CONTRACTORS WILL COMPLY WITH THE REQUIREMENTS AND INTENT OF THE N.P.D.E.S. GENERAL PERMIT FOR STORMWATER DISCHARGES.
3. EACH CONTRACTOR SHALL SUBMIT A NOTICE OF INTENT (N.O.I.) FOR STORMWATER DISCHARGE PERMIT COVERAGE. THIS SUBMITTAL SHALL BE COORDINATED WITH THE TOWN AND SHALL OCCUR NO LESS THAN 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
4. EACH CONTRACTOR SHALL OBTAIN AND SUBMIT TO TOWN A POLLUTION PREVENTION CERTIFICATION FROM EACH SUBCONTRACTOR WHOSE WORK IMPACTS THE STORMWATER POLLUTION PREVENTION PLAN (S.W.P.P.P.) PRIOR TO THE PERFORMANCE OF ANY WORK BY SAID SUBCONTRACTOR. THESE CERTIFICATIONS SHALL BECOME A PART OF THE STORMWATER POLLUTION PREVENTION PLAN.
5. CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES, AS INDICATED ON THE PLANS AND AS FIELD CONDITIONS WARRANT, PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITY. REPAIRS OR MODIFICATIONS TO THE MEASURES WILL BE MADE BY THE CONTRACTOR IF THE CONTROL MEASURES PROVE INEFFECTIVE OR IF ADDITIONAL CONTROL MEASURES ARE NECESSARY.
6. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PREVENT TRACKING OF MUD AND/OR SOILS ONTO EXISTING AND/OR NEW PAVEMENT. ANY TRACKING THAT OCCURS SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
7. CONTRACTOR SHALL CONSTRUCT INLET PROTECTION FOR ALL INCOMPLETE CURB INLETS AND SHALL TAKE EVERY MEASURE TO KEEP SOILS AND SEDIMENTS FROM ENTERING THE STORM SEWER SYSTEM.
8. CONTRACTOR SHALL CONSTRUCT DROP INLET PROTECTION FOR ALL INCOMPLETE DROP INLETS AND SHALL TAKE EVERY MEASURE TO KEEP SOILS AND SEDIMENTS FROM ENTERINGTHE STORM SEWER SYSTEM.
9. AT A MINIMUM, PERIMETER CONTROLS SUCH AS SILT FENCE OR STRAW BALES SHALL BE INSTALLED AT ALL DOWN SLOPE BOUNDARIES AND AS WARRANTED WHERE PAVEMENT REMOVAL, UTILITY CONSTRUCTION, GRADING, OR OTHER CONSTRUCTION ACTIVITIES ARE TO BE PERFORMED. THE CONTRACTOR SHALL AT ALL TIMES TAKE SUCH MEASURES AS NECESSARY TO MINIMIZE OFFSITE TRACKING OR TRANSPORT OF SEDIMENT AND DEBRIS.
10. DAMAGE TO ADJACENT PROPERTY AND/OR TO RECEIVING WATERS CAUSED BY IMPROPERLY INSTALLED OR POORLY MAINTAINED EROSION CONTROL MEASURES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ANY SILTATION CAUSED BY HIS OPERATIONS AND/OR FAILURE OF THE EROSION CONTROL MEASURES.
12. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ACCUMULATED SILT AND SEDIMENT FROM EROSION CONTROL MEASURES WHEN IT REACHES A DEPTH OF SIX (6) INCHES OR IMPAIRS THE EFFECTIVENESS OF THE MEASURES.
13. THE TOWN'S REPRESENTATIVE WILL INSPECT THE PROJECT EVERY SEVEN DAYS, AT A MINIMUM, AND AFTER EVERY RAINFALL OF ONE-HALF INCHES OR GREATER TO DETERMINE THE INTEGRITY AND EFFECTIVENESS OF THE EROSION CONTROL MEASURES. A WRITTEN INSPECTION REPORT WILL BE FILED WITH THE POLLUTION PREVENTION PLAN. THIS INSPECTION DOES NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR INSPECTION AND MAINTENANCE OF THE EROSION CONTROL MEASURES OR HIS DUTY TO COMPLY WITH THE INTENT AND CONDITIONS OF THE N.P.D.E.S. GENERAL PERMIT.
14. ALL STOCKPILED SOILS WILL BE SURROUNDED BY A STRAW BALE DIKE, SILT FENCE, SEDIMENT CONTROL SWALE, OR EQUIVALENT MEASURE TO PROPERLY CONTROL SEDIMENT RUNOFF, AS APPROVED BY THE TOWN.
15. CONTRACTOR SHALL STABILIZE ANY AREA WHERE CONSTRUCTION ACTIVITY IS TO BE TEMPORARILY OR PERMANENTLY CEASED FOR MORE THAN 14 DAYS.



CROSS-SECTION



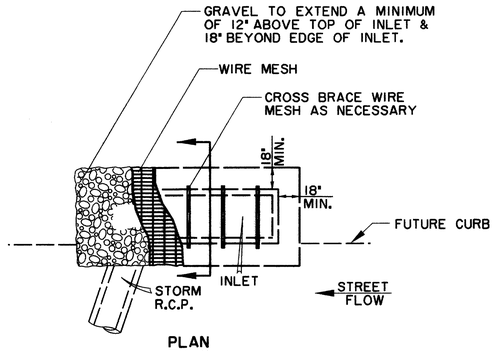
ISOMETRIC PLAN VIEW

ROCK BERM

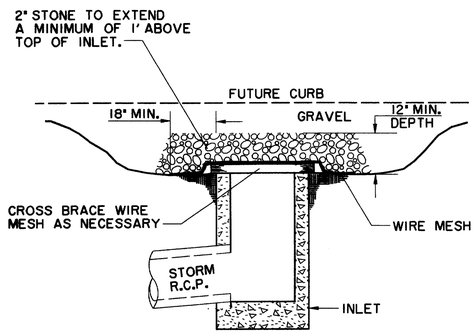
NCTCOG 02270.F
STORMWATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

DETAIL 'D'

N.T.S.



PLAN



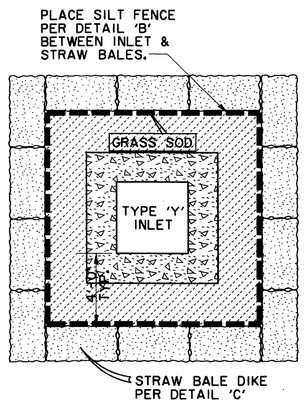
CROSS-SECTION

INLET PROTECTION
WIRE MESH & GRAVEL

NCTCOG 02270.G
STORMWATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

DETAIL 'E'

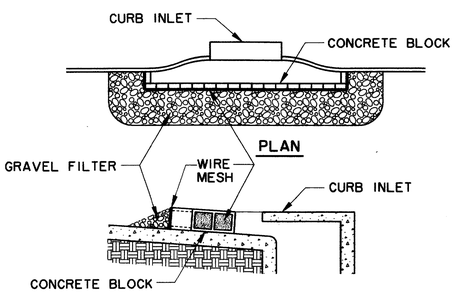
N.T.S.



TYPE 'Y' PROTECTION (TYP.)

DETAIL 'F'

N.T.S.



CROSS-SECTION

INLET PROTECTION
BLOCK & GRAVEL

NCTCOG 02270.G
STORMWATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

DETAIL 'G'

N.T.S.

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

POLLUTION CONTROL DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	ST-17

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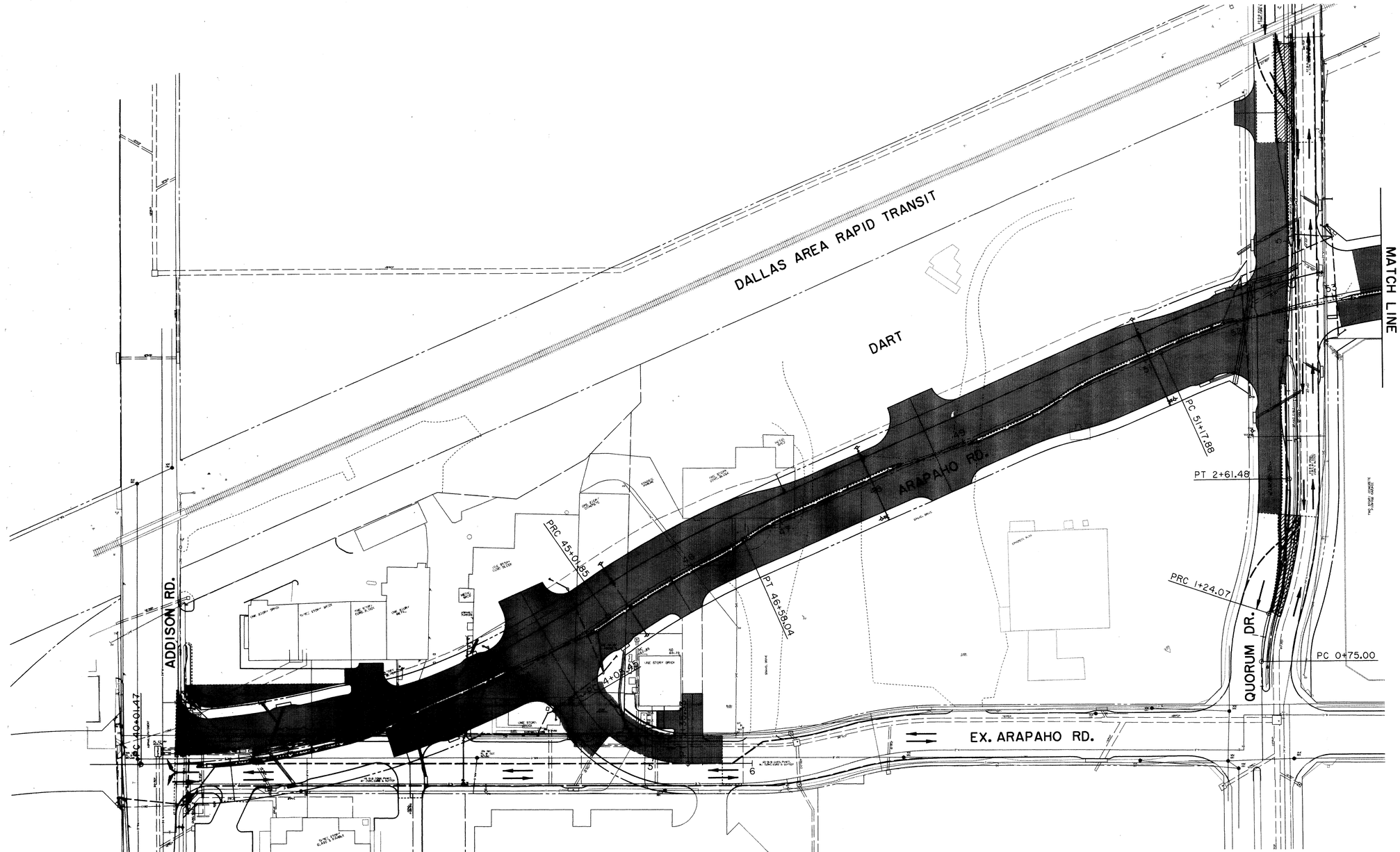

N

0 25 50 75 100
SCALE IN FEET

SEQUENCE OF CONSTRUCTION
(For Bidding Purposes Only)

GENERAL:

1. THE SEQUENCE OF CONSTRUCTION SHOWN ON THE PLANS IS FOR THE PREPARATION AND COMPARISON OF BIDS ONLY. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL DEVELOP, IN DETAIL, A CONSTRUCTION SCHEDULE AND SEQUENCE OF CONSTRUCTION THAT SHALL CAUSE MINIMUM INTERFERENCE WITH TRAFFIC ALONG, ACROSS AND ADJACENT TO THE PROJECT DURING CONSTRUCTION. IF THE SCHEDULE OR SEQUENCE BECOMES UNWORKABLE OR UNSATISFACTORY AS WORK PROCEEDS, ADJUSTMENTS SHALL BE MADE. TWO LANES OF TRAFFIC ON ARAPAHO ROAD (ONE IN EACH DIRECTION) AND ACCESS TO ALL SIDE STREETS AND DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE TOWN OF ADDISON.
2. DURING ALL PHASES OF CONSTRUCTION, TWO LANES OF TRAFFIC (22' MIN. PAVEMENT WIDTH INCLUDING DETOUR PAVEMENT) ON ARAPAHO ROAD (ONE IN EACH DIRECTION) AND ACCESS TO ALL SIDE STREETS AND DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE TOWN OF ADDISON.
3. LIGHTED BARRICADES, TEMPORARY PAVEMENT MARKINGS, AND CHANNELIZING DEVICES CONFORMING TO THE CURRENT EDITION OF THE M.U.T.C.D. SHALL BE USED DURING ALL STAGES OF CONSTRUCTION TO CONTROL TRAFFIC FLOW THROUGH THE WORK ZONES.
4. MAINTAIN A MINIMUM RADIUS OF 20 FEET ON ALL STREET CONNECTIONS AND 10 FEET ON ALL DRIVEWAY CONNECTIONS DURING CONSTRUCTION OF ARAPAHO ROAD TO ACCOMMODATE THE TRAFFIC USING THE ROADWAY DURING CONSTRUCTION.
5. POLLUTION CONTROL DEVICES MUST BE PROPERLY INSTALLED AND MAINTAINED DURING ALL STAGES OF CONSTRUCTION.
6. VERIFY THE LOCATION OF ALL EXISTING UTILITIES AND RELOCATE, IF NECESSARY, PRIOR TO THE START OF ANY STAGE OF CONSTRUCTION. AND INSTALL STORMWATER TO THE EXTENT POSSIBLE.
7. DRIVEWAY CONSTRUCTION MAY BE DONE DURING ONE PHASE OF CONSTRUCTION INSTEAD OF TWO PHASES (1/2 DRIVE - 1/2DRIVE) WITH THE PERMISSION OF THE AFFECTED PROPERTY OWNER. CONTACT THE AFFECTED PROPERTY OWNER A MINIMUM 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OF ANY DRIVEWAYS.
8. IT IS ASSUMED THAT ALL FRANCHISED UTILITIES HAVE BEEN RELOCATED BY OTHERS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
9. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND NOTIFY THE TOWN OF ADDISON AND RELATIVE UTILITY COMPANY IMMEDIATELY IF A CONFLICT IS FOUND TO EXIST.
10. CONTRACTOR SHALL COORDINATE & COOPERATE WITH THE DART CONTRACTOR WHO IS CONSTRUCTING THE DART STATION AT THE NORTHWEST CORNER OF QUOROM DRIVE & PROPOSED ARAPAHO ROAD.

NOTE:
CONTRACTOR SHALL COMPLETE THE SECTION OF ARAPAHO ROAD FROM ADDISON ROAD TO QUOROM DRIVE BY SEPTEMBER 30, 1998.

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER
10-24-97

CONSTRUCTION SEQUENCING PLAN
PHASE I

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=50'	OCT 97	1772-01	CS-1

N:\PROJ\177201\DGN\1772CS01.DGN

DALLAS AREA RAPID TRANSIT

MATCH LINE

PT 54+85.75

PC 57+07.96

PT 61+25.76

PC 61+62.69

PT 64+35.91

PC 66+51.52

PT 66+85.39

EX. ARAPAHO RD.

SPECTRUM

DALLAS NORTH TOLLWAY

N

0 25 50 75 100
SCALE IN FEET

TEMPORARY DETOUR (ASPHALT)

UNDER CONSTRUCTION

COMPLETED CONSTRUCTION

TRAFFIC FLOW DURING CONSTRUCTION

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

CONSTRUCTION SEQUENCING PLAN
PHASE I

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
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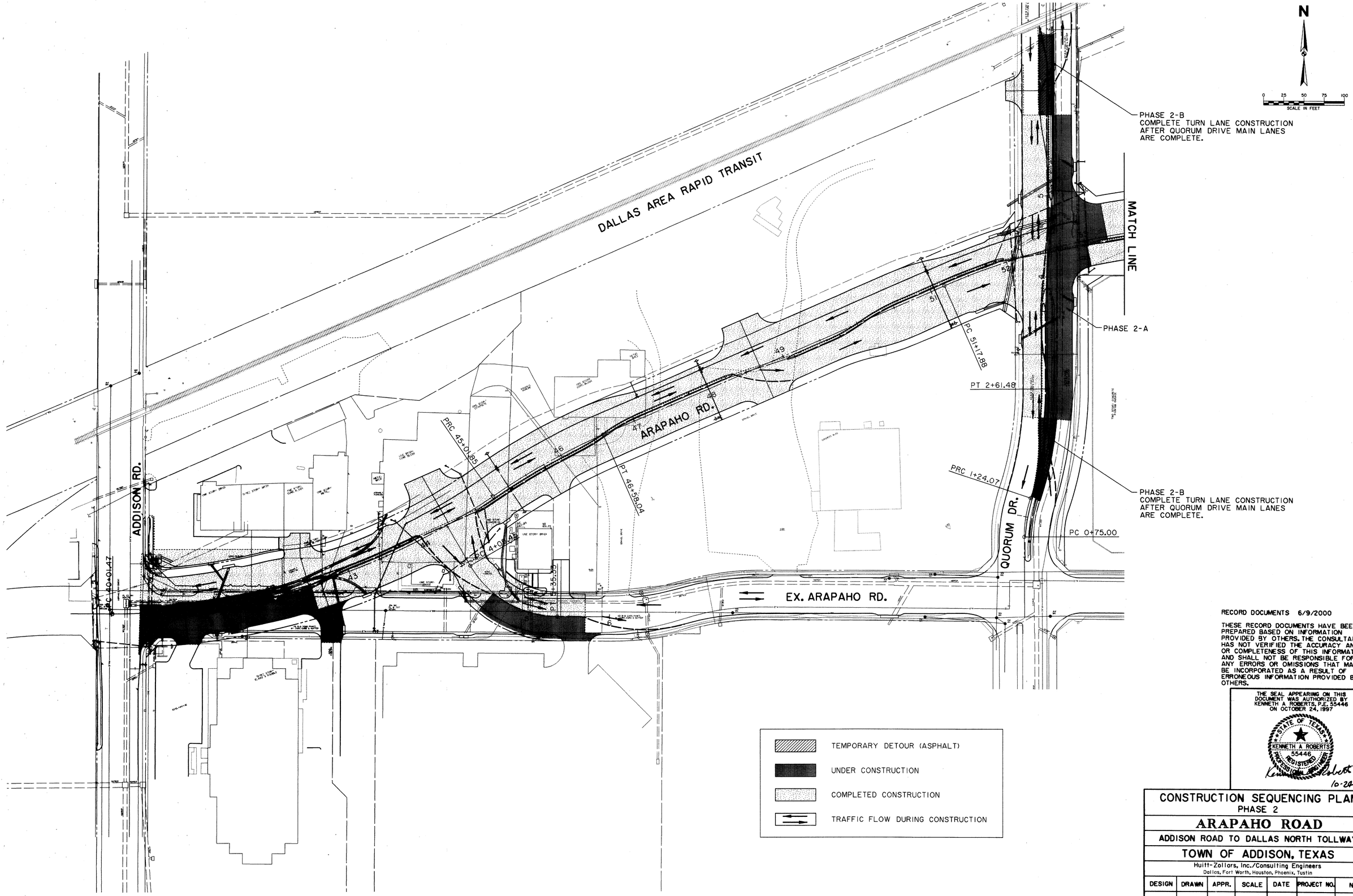

RECORD DOCUMENTS 6/9/2000

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

CONSTRUCTION SEQUENCING PLAN
PHASE 2
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
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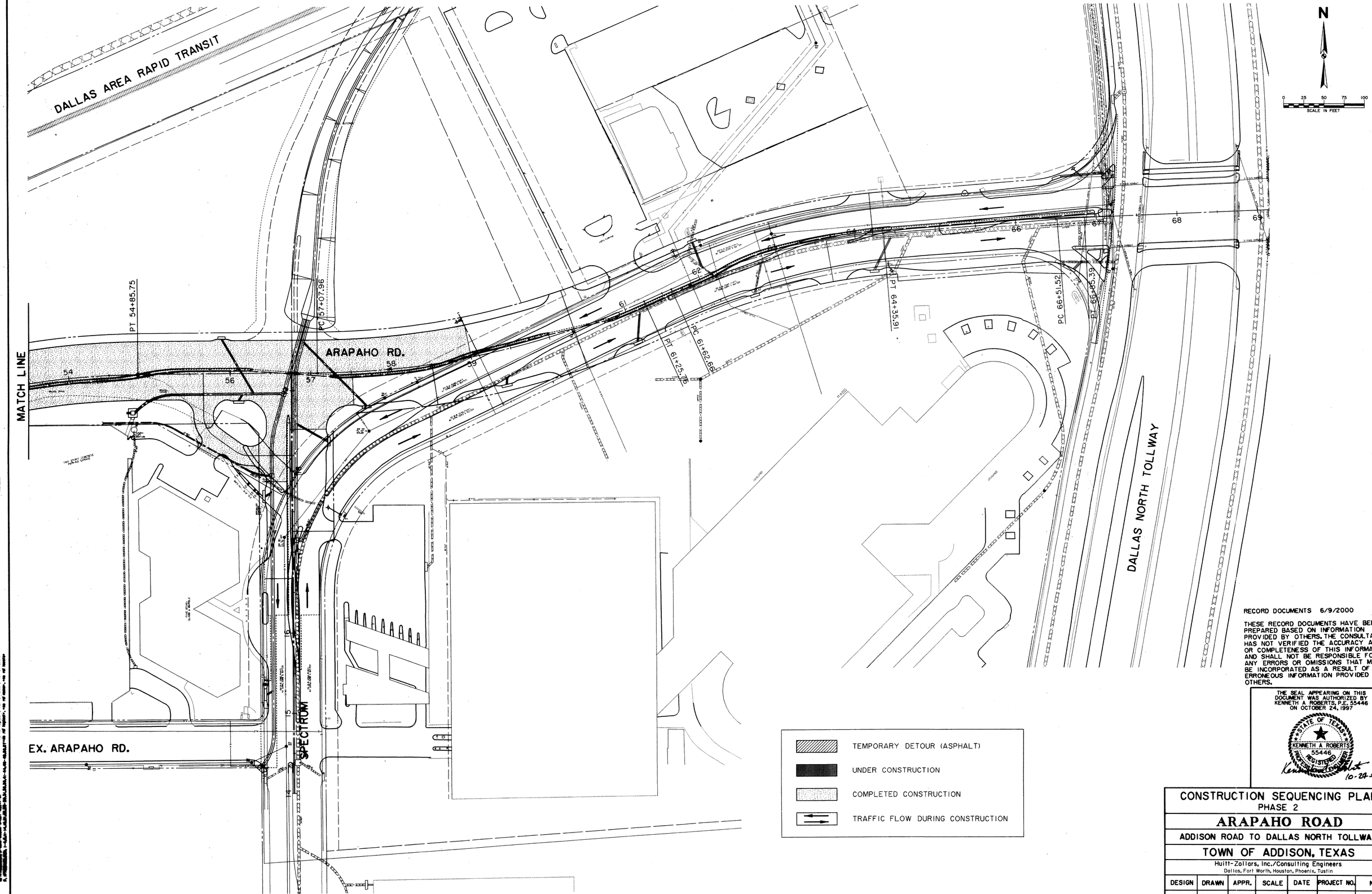

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
10-24-97

CONSTRUCTION SEQUENCING PLAN
PHASE 2

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
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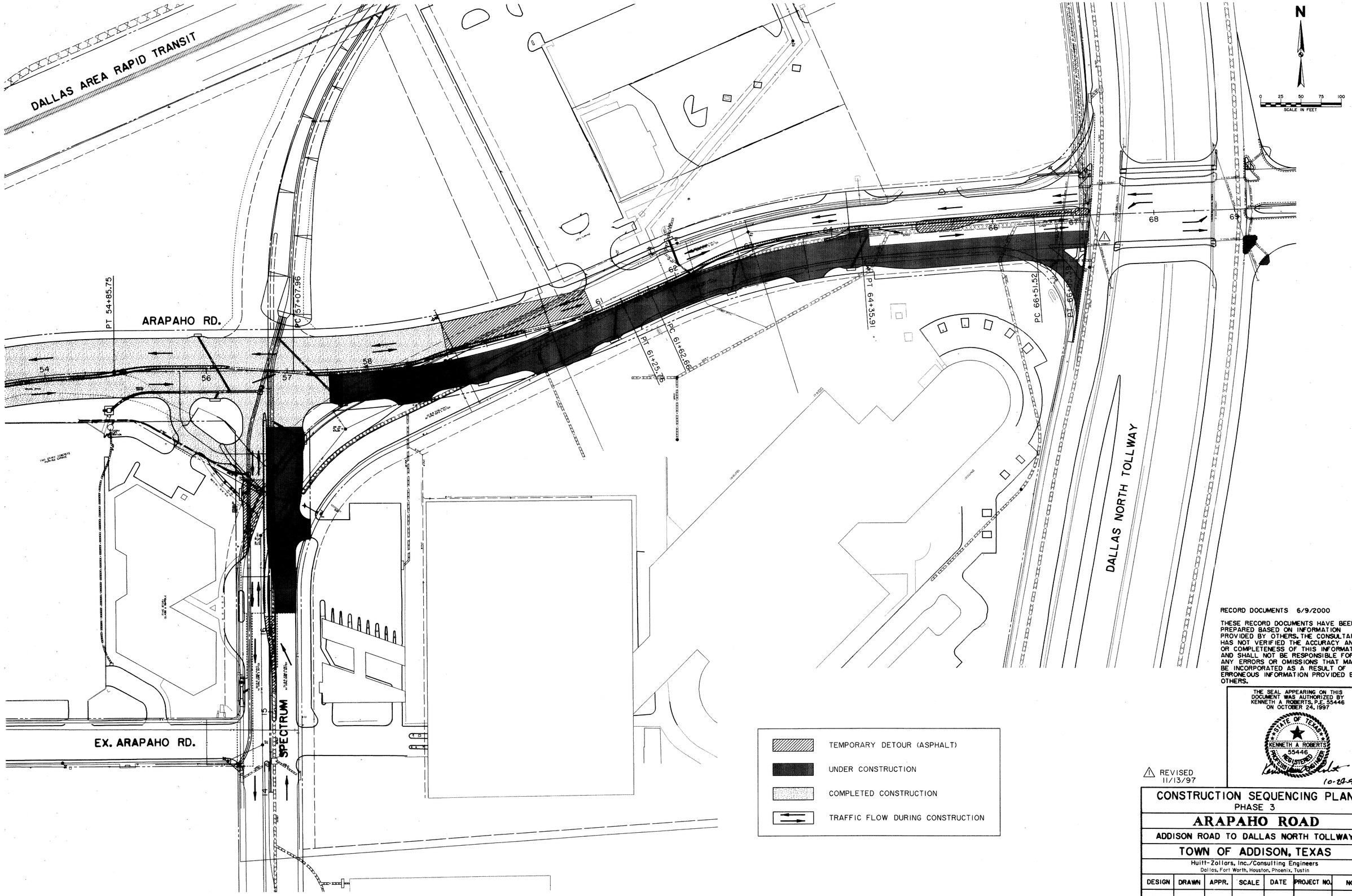

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
ENGINEER

10-24-97

⚠ REVISED 11/13/97

CONSTRUCTION SEQUENCING PLAN
PHASE 3

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=50'	OCT 97	1772-01	CS-5

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DALLAS AREA RAPID TRANSIT

ARAPAHO RD.

EX. ARAPAHO RD.

SPECTRUM

DALLAS NORTH TOLLWAY

PC 57+07.96

PT 61+25.76

PC 61+62.66

PT 64+35.91

PC 66+51.52

PT 66+85.39

56 57 58 59 60 61 62 63 64 65 66 67 68 69

N

0 25 50 75 100
SCALE IN FEET

TEMPORARY DETOUR (ASPHALT)

UNDER CONSTRUCTION

COMPLETED CONSTRUCTION

TRAFFIC FLOW DURING CONSTRUCTION

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A. ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 11/13/97

CONSTRUCTION SEQUENCING PLAN
PHASE 4
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=50'	OCT 97	1772-01	CS-6

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DALLAS AREA RAPID TRANSIT

ARAPAHO RD.

EX. ARAPAHO RD.

SPECTRUM

DALLAS NORTH TOLLWAY

PC 57+07.96

PC 61+62.66

PT 61+25.78

PT 64+35.91

PC 66+51.52

PT 66+85.39

56 57 58 59 60 61 62 63 64 65 66 67 68 69

N

0 25 50 75 100
SCALE IN FEET

TEMPORARY DETOUR (ASPHALT)

UNDER CONSTRUCTION

COMPLETED CONSTRUCTION

TRAFFIC FLOW DURING CONSTRUCTION

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 11/13/97

CONSTRUCTION SEQUENCING PLAN
PHASE 5

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
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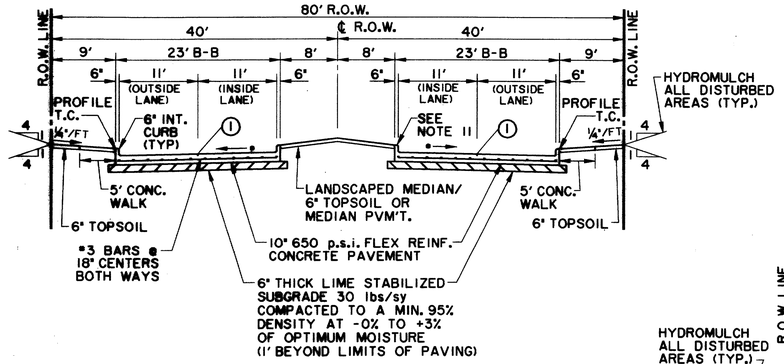
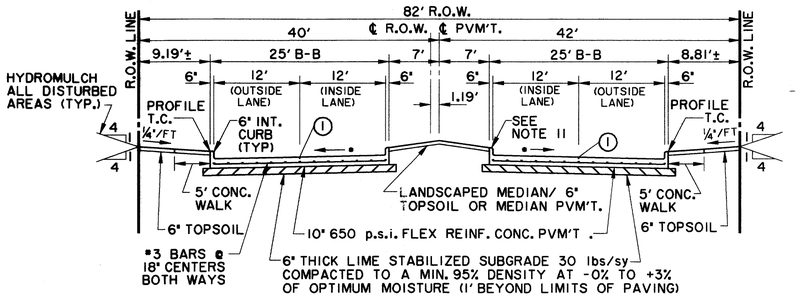


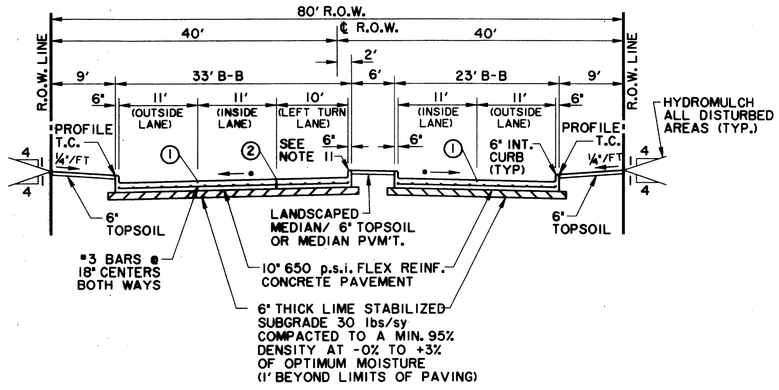
TYPICAL SECTION 4 LANE DIVIDED
QUORUM DRIVE

•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL ¼"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.



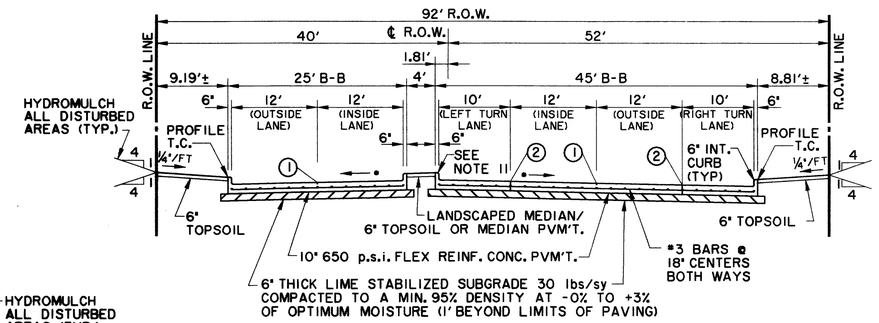
TYPICAL SECTION 4 LANE DIVIDED
SPECTRUM DRIVE
LOOKING NORTH

•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL ¼"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.



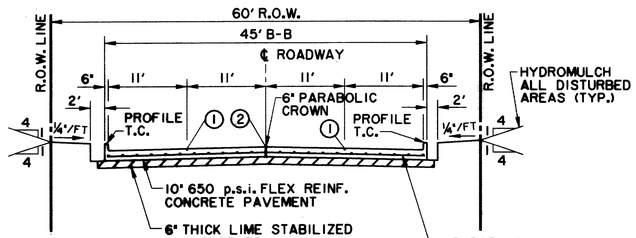
TYPICAL SECTION 4 LANE DIVIDED WITH LEFT TURN LANE
QUORUM DRIVE

•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL ¼"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.



TYPICAL SECTION 4 LANE DIVIDED WITH LEFT & RIGHT TURN LANE
SPECTRUM DRIVE
LOOKING NORTH

•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL ¼"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.



4 LANES UNDIVIDED
EXISTING ARAPAHO ROAD

NOTES:

1. BACKFILL MATERIAL NOT A SEPARATE PAY ITEM. MATERIAL ACQUIRED FROM EXCAVATION MAY BE USED IF APPROVED BY TOWN.

2. PAY LIMIT FOR UNCLASSIFIED EXCAVATION CALCULATED AT BACK OF CURB.

3. 3" PVC SCHEDULE 40 DOVE GREY ELECTRICAL TRAFFIC SIGNAL INTERCONNECT CONDUIT TO BE PLACED IN ALL MEDIANS, 6" BEHIND SOUTH OR EAST MEDIAN UNLESS OTHERWISE SHOWN ON THE PLANS. BURIAL DEPTH SHALL BE 3'-0" BELOW FINISH GRADE. 30" RADIUS SWEEP BENDS TO BE USED AT ALL STREET LIGHT BASES AND HANDHOLE BOXES.

4. A NO. 9 GALVANIZED WIRE SHALL BE PLACED IN ALL CONDUIT. THIS WIRE SHALL EXTEND A MINIMUM OF 1' BEYOND THE END OF THE CONDUIT. MARKER TAPE IS TO BE INSTALLED ON THE ENDS OF ALL CONDUIT WITH CAP.

5. CONTACT T.U. ELECTRIC COMPANY PRIOR TO INSTALLING PULL BOXES. PLACEMENT OF ELECTRIC HANDHOLE BOXES SHALL BE AS DIRECTED BY T.U. ELECTRIC COMPANY.

6. 2" PVC SCHEDULE 40 DOVE GREY ELECTRICAL STREET LIGHT CONDUIT SHALL BE PLACED IN ALL MEDIANS, 6" BEHIND NORTH OR WEST MEDIAN CURB UNLESS OTHERWISE SHOWN ON THE PLANS. BURIAL DEPTH SHALL BE 3'-0" BELOW FINISH GRADE. 30" RADIUS SWEEP BENDS TO BE USED AT ALL STREET LIGHT BASES AND HANDHOLE BOXES.

7. THE LETTER "C" WILL BE STAMPED OR CHISELED ON CURB AT ALL LOCATIONS OF CONDUIT UNDER DRIVE AND INTERSECTIONS.

8. ALL TRANSVERSE JOINTS SHALL BE ON MAX. 12' CENTERS.

9. PROFILE GRADES SHOWN ON THE PAVING PLAN AND PROFILE SHEETS ARE TOP OF CURB AT BACK OF CURB UNLESS NOTED OTHERWISE ON THE PLANS.

10. SEE PAVING PLAN VIEWS FOR MEDIAN AND RIGHT TURN LANE TOP OF CURB GRADES.

11. THE FINAL FINISH ON THE CONCRETE STREET PAVEMENT SHALL CONSIST OF A COMBINATION OF A LONGITUDINAL CARPET DRAG AND TRANSVERSE METAL TINE FINISH AS DESCRIBED IN TxDOT STANDARD SPECIFICATIONS FOR ITEM 360 - CONCRETE PAVEMENT UNLESS SPECIFIED OTHERWISE IN THE PLANS.

JOINT LEGEND:

① - SAWED LONGITUDINAL DUMMY JOINT

② - CONSTRUCTION JOINT (FULL WIDTH PVM'T. IS ALLOWED WHERE APPROVED BY THE TOWN OF ADDISON.)

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

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PAVING TYPICAL SECTIONS
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1" = 10'	OCT 97	1772-01	P-1

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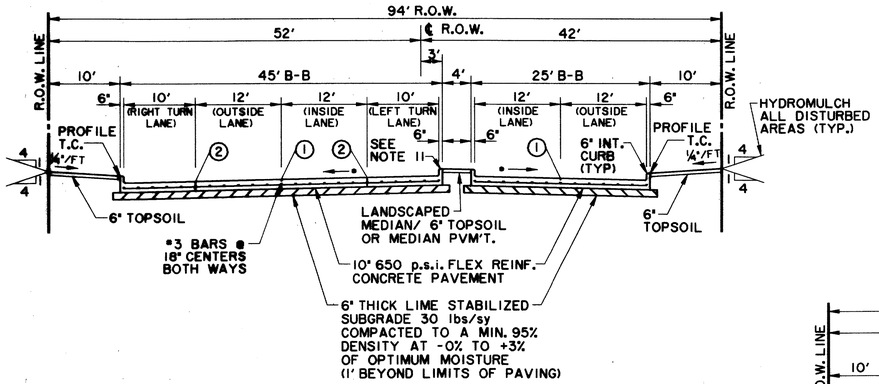
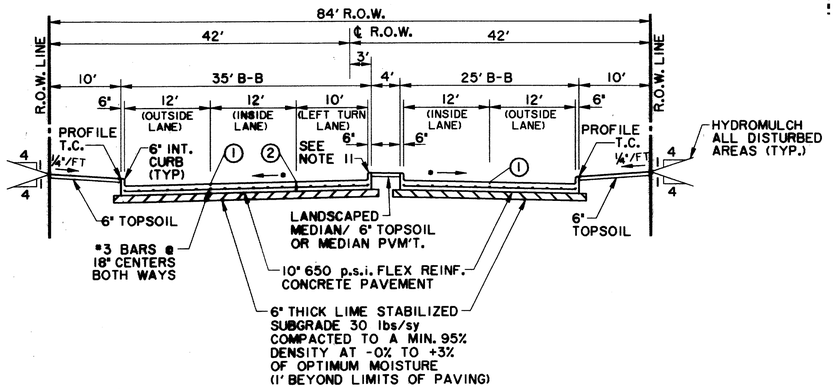


TYPICAL SECTION 4 LANE DIVIDED WITH LEFT & RIGHT TURN LANE

ARAPAHO ROAD

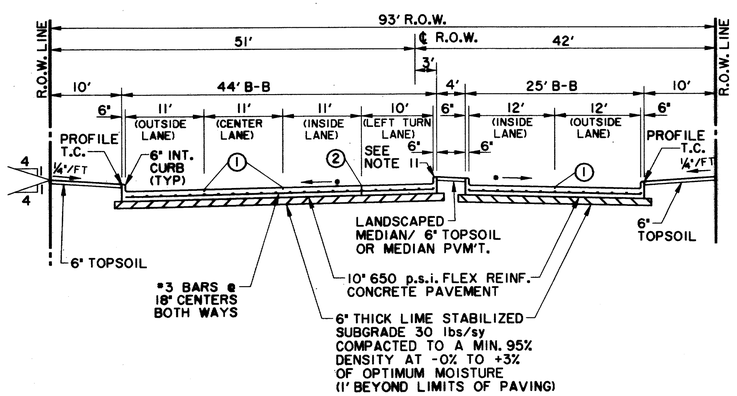
•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL 1/4"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.



TYPICAL SECTION 4 LANE DIVIDED WITH LEFT TURN LANE

ARAPAHO ROAD

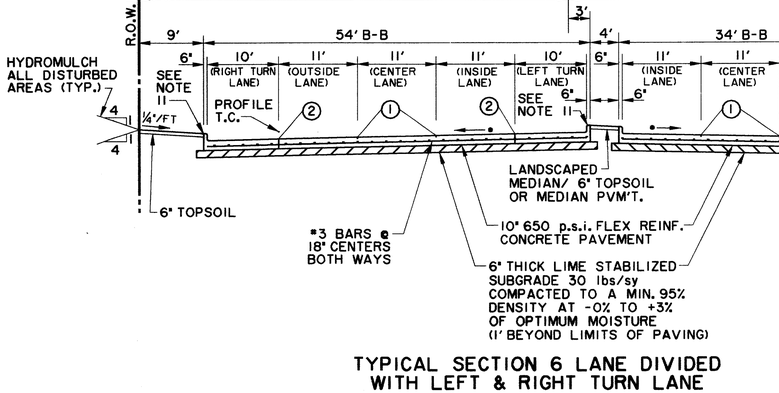
•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL 1/4"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.



TYPICAL SECTION 5 LANE DIVIDED 2 EASTBOUND LANES & 3 WESTBOUND LANES WITH LEFT TURN LANE

ARAPAHO ROAD

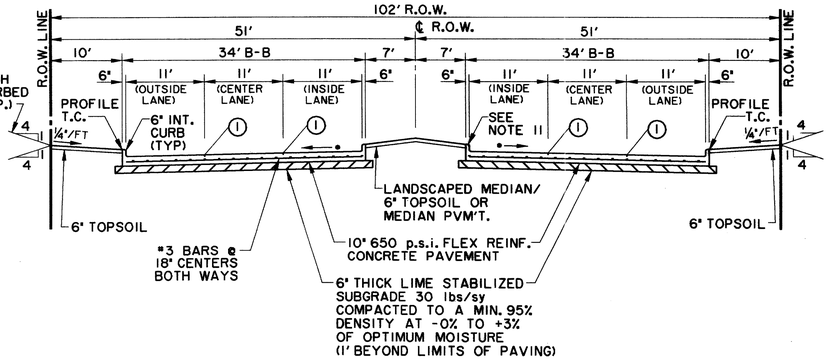
•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL 1/4"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.



TYPICAL SECTION 5 LANE DIVIDED 2 EASTBOUND LANES WITH LEFT TURN LANE & 3 WESTBOUND LANES

ARAPAHO ROAD

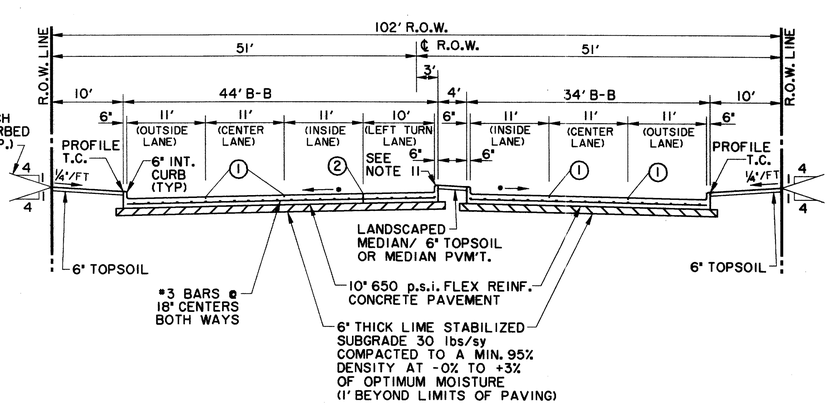
•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL 1/4"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.



TYPICAL SECTION 6 LANE DIVIDED

ARAPAHO ROAD

•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL 1/4"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.



TYPICAL SECTION 6 LANE DIVIDED WITH LEFT TURN LANE

ARAPAHO ROAD

•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL 1/4"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.

TYPICAL SECTION 5 LANE DIVIDED 2 EASTBOUND LANES & 3 WESTBOUND LANES WITH LEFT TURN LANE

ARAPAHO ROAD

•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL 1/4"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.

TYPICAL SECTION 6 LANE DIVIDED WITH LEFT & RIGHT TURN LANE

ARAPAHO ROAD

•PAVEMENT CROSS-SLOPES VARY FROM THE TYPICAL 1/4"/1' ALONG THE ENTIRE LENGTH OF THE PROJECT. SEE PAVING PLANS FOR PROPOSED MEDIAN GRADES.

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

PAVING TYPICAL SECTIONS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1" = 10'	OCT 97	1772-01	P-2

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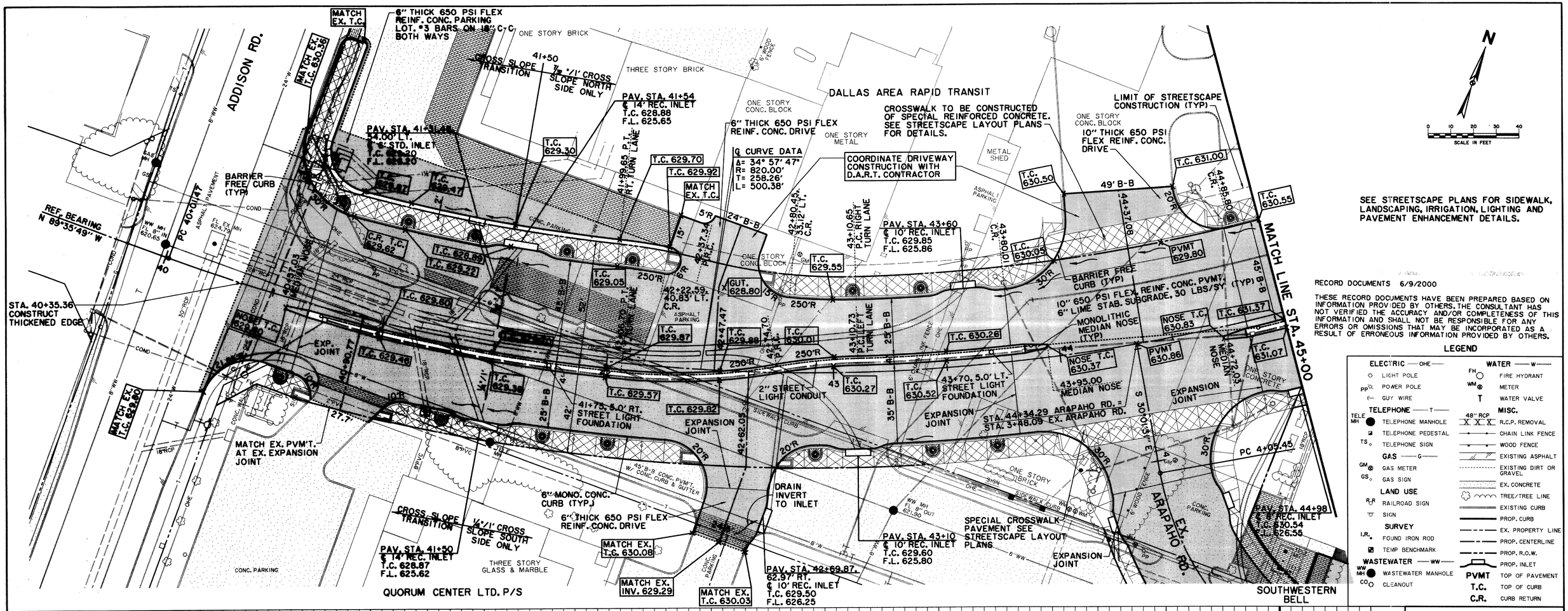

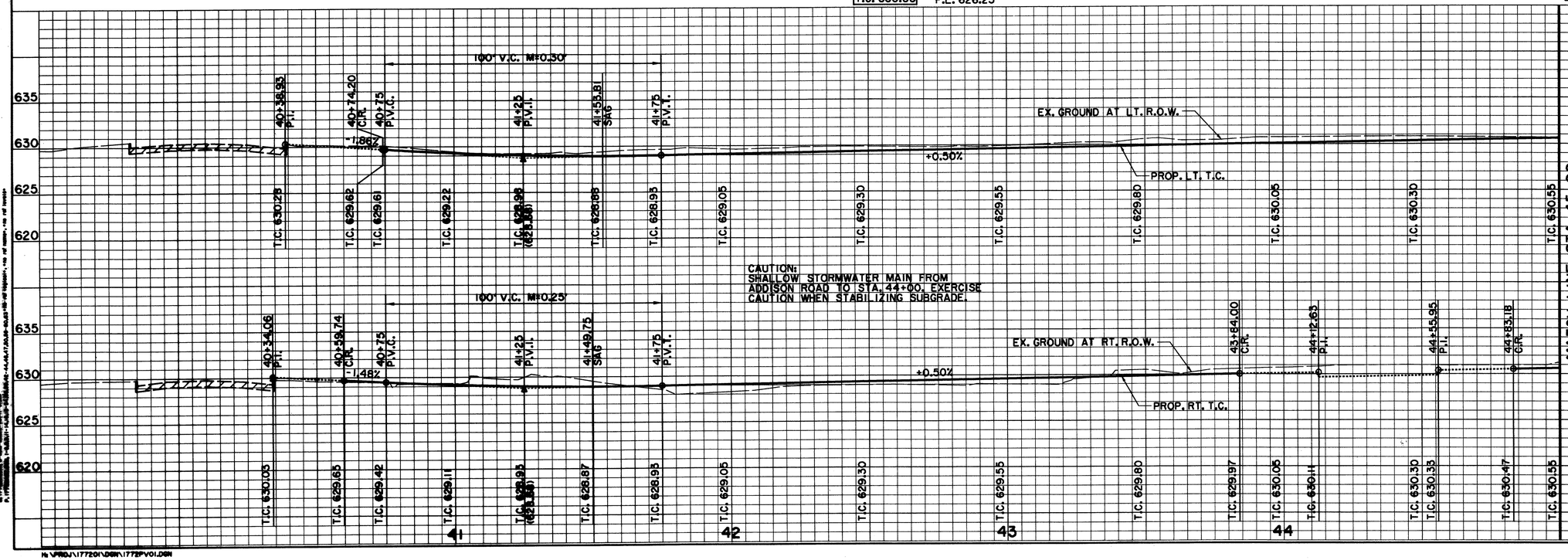

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

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STATE OF TEXAS · KENNETH A. ROBERTS · 55446 · LICENSED PROFESSIONAL ENGINEER

10-24-97

PAVING PLAN & PROFILE
ADDISON ROAD TO STA. 45+00

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-3

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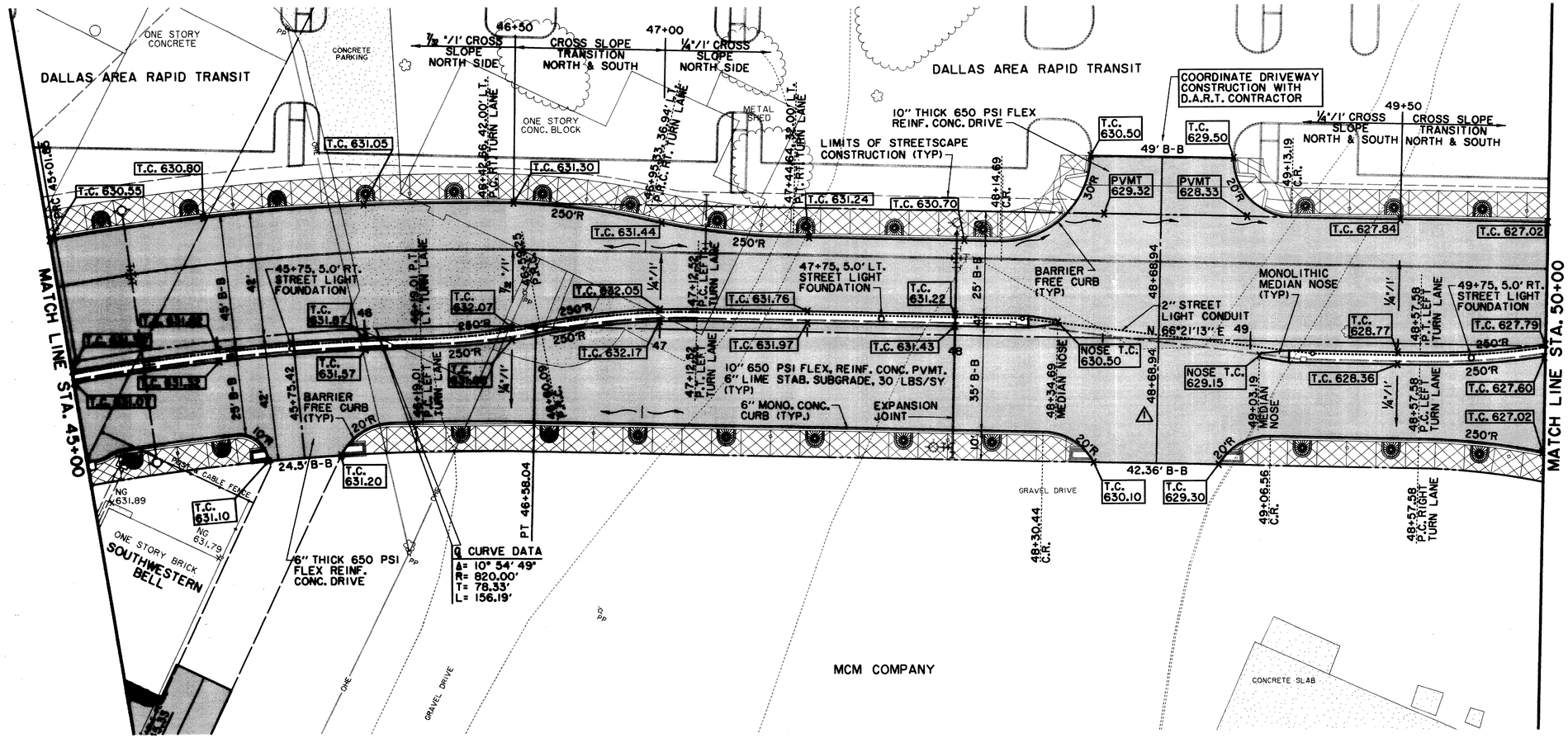

SEE STREETSCAPE PLANS FOR SIDEWALK, LANDSCAPING, IRRIGATION, LIGHTING AND PAVEMENT ENHANCEMENT DETAILS.

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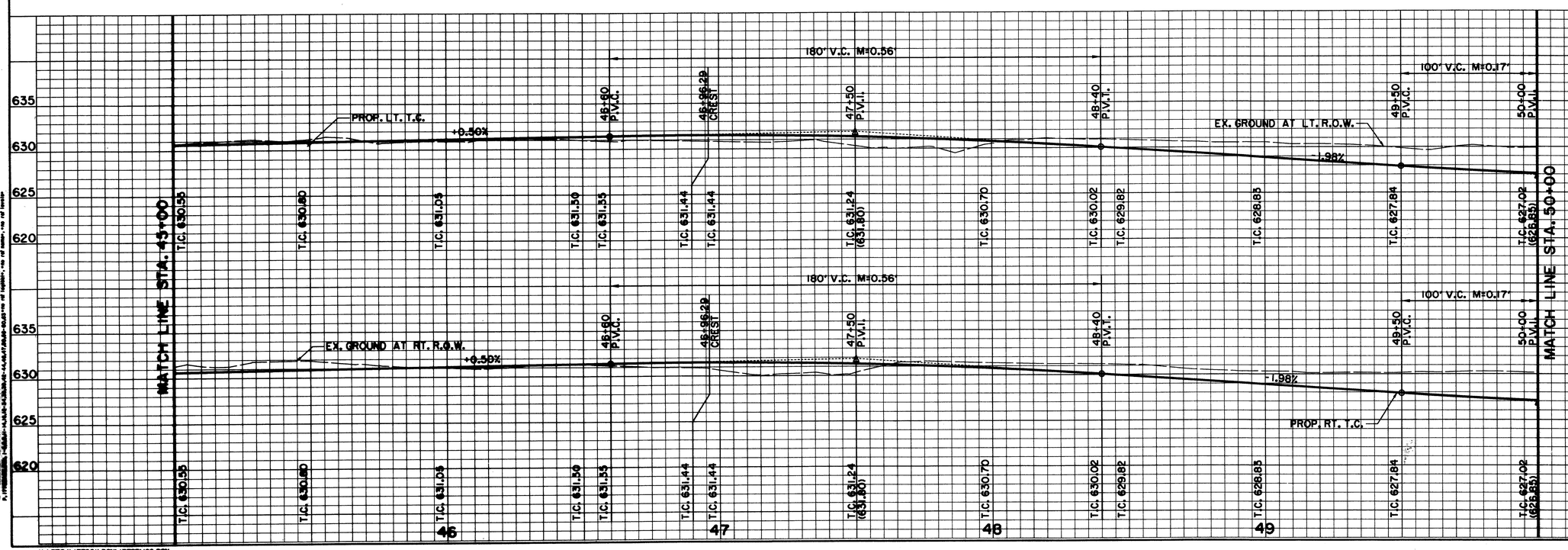
LEGEND

ELECTRIC — OHE —	WATER — W —
LIGHT POLE	FIRE HYDRANT
POWER POLE	METER
GUY WIRE	WATER VALVE
TELEPHONE — T —	MISC.
TELEPHONE MANHOLE	48" RCP
TELEPHONE PEDESTAL	R.C.P. REMOVAL
TELEPHONE SIGN	CHAIN LINK FENCE
GAS — G —	WOOD FENCE
GAS METER	EXISTING ASPHALT
GAS SIGN	EXISTING DIRT OR GRAVEL
LAND USE	EX. CONCRETE
RAILROAD SIGN	TREE/TREE LINE
SIGN	EXISTING CURB
SURVEY	PROP. CURB
FOUND IRON ROD	EX. PROPERTY LINE
TEMP BENCHMARK	PROP. CENTERLINE
WASTEWATER — WW —	PROP. R.O.W.
WASTEWATER MANHOLE	PROP. INLET
CLEANOUT	PVMT TOP OF PAVEMENT
	T.C. TOP OF CURB
	C.R. CURB RETURN



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ELEV. 650.61

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 1/16/98

PAVING PLAN & PROFILE
STA. 45+00 TO STA. 50+00

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-4

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DALLAS AREA RAPID TRANSIT

RECORD DOCUMENTS 6/9/2000

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COORDINATE CONSTRUCTION WITH D.A.R.T. CONTRACTOR

LIMITS OF STREETSCAPE CONSTRUCTION (TYP.)

BROOKS BURIED CABLE. CONTACT THERESA HARDIN 972/753-1900 48 HOURS PRIOR TO ANY CONSTRUCTION IN THIS AREA

MCI BURIED CABLE. CONTACT ADRIAN THEBEAU 972/554-4127 48 HOURS PRIOR TO ANY CONSTRUCTION IN THIS AREA.

TOWN OF ADDISON

MATCH LINE STA. 50+00

MATCH LINE STA. 55+00

Q CURVE DATA
Δ= 23° 25' 10"
R= 900.00'
T= 186.54
L= 367.87'

PAV. STA. 51+95.
34.00' LT.
℄ 10' REC. INLET
T.C. 625.68
F.L. 621.68

51+75. 5.0' LT. STREET LIGHT FOUNDATION

C.R. T.C. 625.59

C.R. T.C. 624.88

EXPANSION JOINT

QUORUM DR.

2" STREET LIGHT CONDUIT

6" MONO. CONC. CURB (TYP.)

PC 51+17.88

PAV. STA. 51+47.
44.00' RT.
℄ 10' REC. INLET
T.C. 625.97
F.L. 621.97

INTERSECTION TO BE CONSTRUCTED OF SPECIAL REINFORCED CONCRETE. SEE STREETSCAPE LAYOUT PLANS FOR DETAILS.

MCM COMPANY

10" 650 PSI FLEX. REINF. CONC. PVMT
6" LIME STAB. SUBGRADE, 30 LBS/SY (TYP.)

STA. 52+53.20 ARAPAHO RD.=
STA. 4+34.04 QUORUM DR.

53+75. 5.0' RT. STREET LIGHT FOUNDATION

RETAINING WALL

CIRCULAR AREA IN THE MIDDLE OF THE INTERSECTION SHALL BE CONSTRUCTED OF VEHICULAR BRICK ON REINFORCED CONCRETE PAVEMENT. SEE STREETSCAPE LAYOUT PLANS FOR DETAILS.

PAV. STA. 54+78.85.
47.49' RT.
℄ 4'x4' 'Y' INLET
W/ CONC. APRON
TOP 622.08
LIP 621.00
F.L. 614.40

TWO STORY CONCRETE PARKING GARAGE

CARRAMERICA REALTY LIMITED PARTNERSHIP

SEE STREETSCAPE PLANS FOR SIDEWALK, LANDSCAPING, IRRIGATION, LIGHTING AND PAVEMENT ENHANCEMENT DETAILS.

NOTE:
EXISTING FILL MATERIAL TO DEPTHS OF 4-6 FEET, FROM APPROXIMATELY PAVING STATION 53+00 TO 56+00, CONSISTING OF BROKEN LIMESTONE AND MISCELLANEOUS DEBRIS SHALL BE EXCAVATED, REMOVED AND DISPOSED OF AND REPLACED WITH ON-SITE SOILS COMPACTED IN LIFTS AS DESCRIBED IN THE SPECIFICATIONS.

LEGEND

ELECTRIC — OHE —
LIGHT POLE
POWER POLE
GUY WIRE
TELEPHONE — T —
TELEPHONE MANHOLE
TELEPHONE PEDESTAL
TELEPHONE SIGN
GAS — G —
GAS METER
GAS SIGN
LAND USE
RAILROAD SIGN
SIGN
SURVEY
FOUND IRON ROD
TEMP BENCHMARK
WASTEWATER — WW —
WASTEWATER MANHOLE
CLEANOUT
WATER — W —
FIRE HYDRANT
METER
WATER VALVE
MISC.
48" RCP
R.C.P. REMOVAL
CHAIN LINK FENCE
WOOD FENCE
EXISTING ASPHALT
EXISTING DIRT OR GRAVEL
EX. CONCRETE
TREE/TREE LINE
EXISTING CURB
PROP. CURB
EX. PROPERTY LINE
PROP. CENTERLINE
PROP. R.O.W.
PROP. INLET
PVMT TOP OF PAVEMENT
T.C. TOP OF CURB
C.R. CURB RETURN

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A. ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

2 REVISED 1/16/98

1 ADDENDUM #4, 12/12/97

PROP. LT. T.C.
PROP. RT. T.C.
EX. GROUND AT LT. R.O.W.
EX. GROUND AT RT. R.O.W.
0.60%
-0.60%
-2.00%
100' V.C. M=0.17'
100' V.C. M=-0.18'
RETAINING WALL

PAVING PLAN & PROFILE
STA. 50+00 TO STA. 55+00

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-5

H:\PROJ\1772\01\DGN\1772PV03.DGN

RECORD DOCUMENTS 6/9/2000

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N

0 10 20 30 40
SCALE IN FEET

SEE STREETSCAPE PLANS FOR SIDEWALK, LANDSCAPING, IRRIGATION, LIGHTING AND PAVEMENT ENHANCEMENT DETAILS.

NOTE:
EXISTING FILL MATERIAL TO DEPTHS OF 4-6 FEET, FROM APPROXIMATELY PAVING STATION 53+00 TO 56+00, CONSISTING OF BROKEN LIMESTONE AND MISCELLANEOUS DEBRIS SHALL BE EXCAVATED, REMOVED AND DISPOSED OF AND REPLACED WITH ON-SITE SOILS COMPACTED IN LIFTS AS DESCRIBED IN THE SPECIFICATIONS.

TOWN OF ADDISON

TOWN OF ADDISON

MATCH LINE STA. 55+00

MATCH LINE STA. 60+00

FUTURE EXTENSION OF SPECTRUM DRIVE

STA. 56+76.73 ARAPAHO RD.= 19+22.03 SPECTRUM DR.

PAV. STA. 55+89.81
℄ 8" REC. INLET
T.C. 620.65
F.L. 616.65

℄ CURVE DATA
Δ= 23° 56' 17"
R= 1000.00'
T= 211.99'
L= 417.80'

6" MONO. CONC. CURB (TYP.)

10" 650 PSI FLEX. REINF. CONC. PVMT. 6" LIME STAB. SUBGRADE, 30 LBS/SY (TYP.)

55+75, 5.0' LT. STREET LIGHT FOUNDATION

57+75, 5.0' RT. STREET LIGHT FOUNDATION

59+75, 5.0' LT. STREET LIGHT FOUNDATION

EXP. JOINT

MONOLITHIC MEDIAN NOSE (TYP)

EXPANSION JOINT

2" STREET LIGHT CONDUIT 57

BARRIER FREE CURB (TYP)

PAV. STA. 57+66.31
℄ 10" REC. INLET
T.C. 618.75
F.L. 614.75

PAV. STA. 56+10.51
℄ 10" REC. INLET
T.C. 620.25
F.L. 616.25

PAV. STA. 59+35
℄ 10" REC. INLET
T.C. 617.74
F.L. 613.74

WW MH FL. 10" IN 610.05

CROSSWALKS TO BE CONSTRUCTED OF SPECIAL REINFORCED CONCRETE. SEE STREETSCAPE LAYOUT PLANS FOR DETAILS.

COORDINATE DRIVE CONSTRUCTION WITH COLONNADE CONTRACTOR

6" THICK 650 PSI FLEX REINF. CONC. DRIVE

IRRIGATION IN EXISTING MEDIAN. CONTACT TOWN OF ADDISON PRIOR TO DEMOLITION.

CARRAMERICA REALTY LIMITED PARTNERSHIP

MEPC QUORUM PROPERTIES II INC.

LEGEND

ELECTRIC —OHE—
- LIGHT POLE
- POWER POLE
- GUY WIRE

TELEPHONE —T—
- TELE MH — TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TS — TELEPHONE SIGN

GAS —G—
- GM — GAS METER
- GS — GAS SIGN

LAND USE
- RR — RAILROAD SIGN
- SIGN

SURVEY
- I.R. — FOUND IRON ROD
- TEMP BENCHMARK

WASTEWATER —WW—
- WW MH — WASTEWATER MANHOLE
- CO — CLEANOUT

WATER —W—
- FH — FIRE HYDRANT
- WM — METER
- T — WATER VALVE

MISC.
- 48" RCP — R.C.P. REMOVAL
- CHAIN LINK FENCE
- WOOD FENCE
- EXISTING ASPHALT
- EXISTING DIRT OR GRAVEL
- EX. CONCRETE
- TREE/TREE LINE
- EXISTING CURB
- PROP. CURB
- EX. PROPERTY LINE
- PROP. CENTERLINE
- PROP. R.O.W.
- PROP. INLET
- PVMT — TOP OF PAVEMENT
- T.C. — TOP OF CURB
- C.R. — CURB RETURN

100' V.C. M=0.18

PROP. LT. T.C.

EX. GROUND AT LT. R.O.W.

EX. GROUND AT RT. R.O.W.

PROP. RT. T.C.

-2.00%

-0.60%

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

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ELEV. 630.61

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 1/16/98

PAVING PLAN & PROFILE
STA. 55+00 TO STA. 60+00

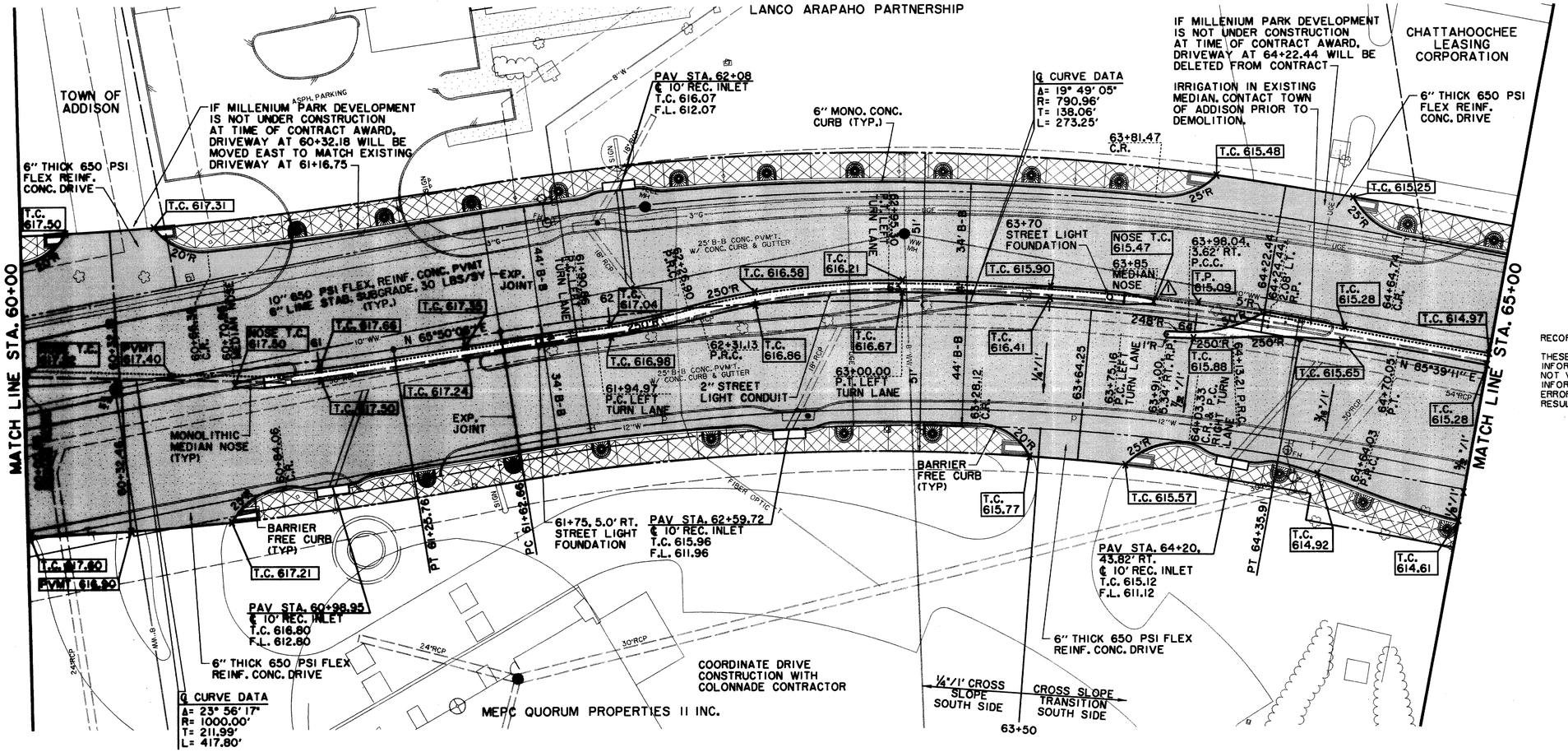
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-6

N:\PROJ\17720\DGN\1772PV04.DGN



SEE STREETSCAPE PLANS FOR SIDEWALK, LANDSCAPING, IRRIGATION, LIGHTING AND PAVEMENT ENHANCEMENT DETAILS.

RECORD DOCUMENTS 6/9/2000

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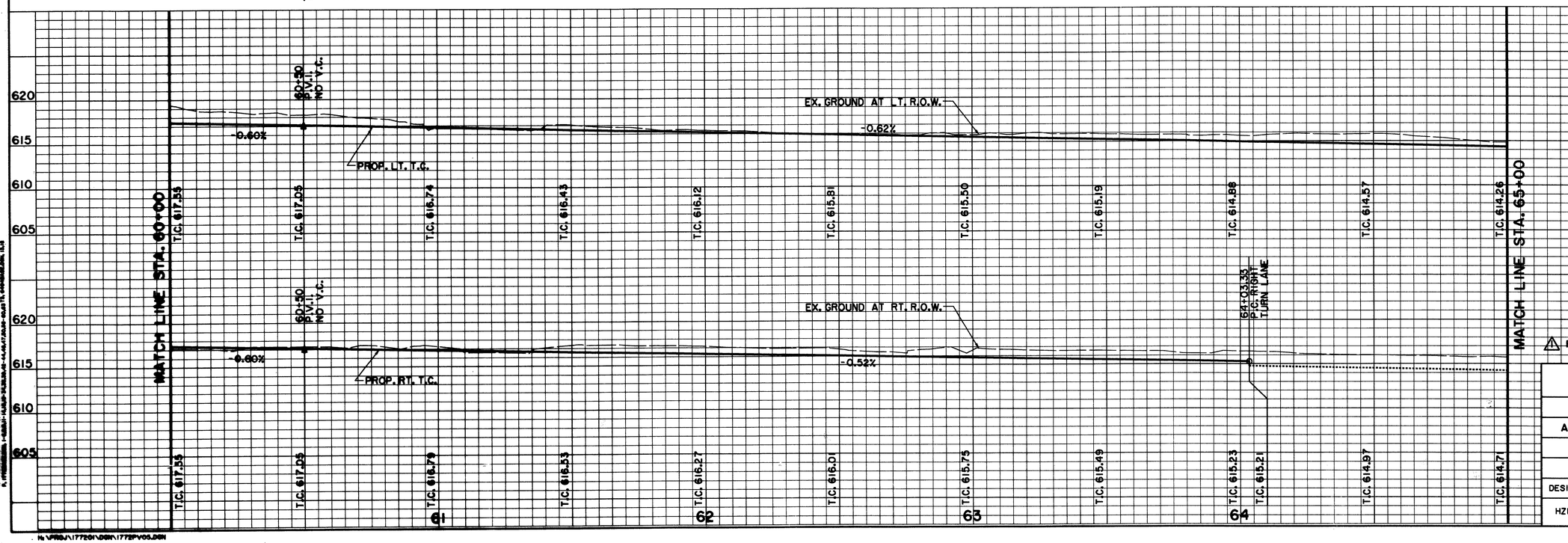
LEGEND

- ELECTRIC — OHE
  - LIGHT POLE
  - PP POWER POLE
  - GUY WIRE
- TELEPHONE — T
  - TELE MH TELEPHONE MANHOLE
  - TELEPHONE PEDESTAL
  - TS TELEPHONE SIGN
- GAS — G
  - GM GAS METER
  - GS GAS SIGN
- LAND USE
  - R-R RAILROAD SIGN
  - SIGN
- SURVEY
  - I.R. FOUND IRON ROD
  - TEMP BENCHMARK
- WASTEWATER — WW
  - WW MH WASTEWATER MANHOLE
  - CO CLEANOUT
- WATER — W
  - FH FIRE HYDRANT
  - WM METER
  - T WATER VALVE
- MISC.
  - 48" RCP R.C.P. REMOVAL
  - CHAIN LINK FENCE
  - WOOD FENCE
  - EXISTING ASPHALT
  - EXISTING DIRT OR GRAVEL
  - EX. CONCRETE
  - TREE/TREE LINE
  - EXISTING CURB
  - PROP. CURB
  - EX. PROPERTY LINE
  - PROP. CENTERLINE
  - PROP. R.O.W.
  - PROP. INLET
  - PVMT TOP OF PAVEMENT
  - T.C. TOP OF CURB
  - C.R. CURB RETURN



BENCHMARKS:

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 3/13/98

PAVING PLAN & PROFILE
STA. 60+00 TO STA. 65+00

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-7

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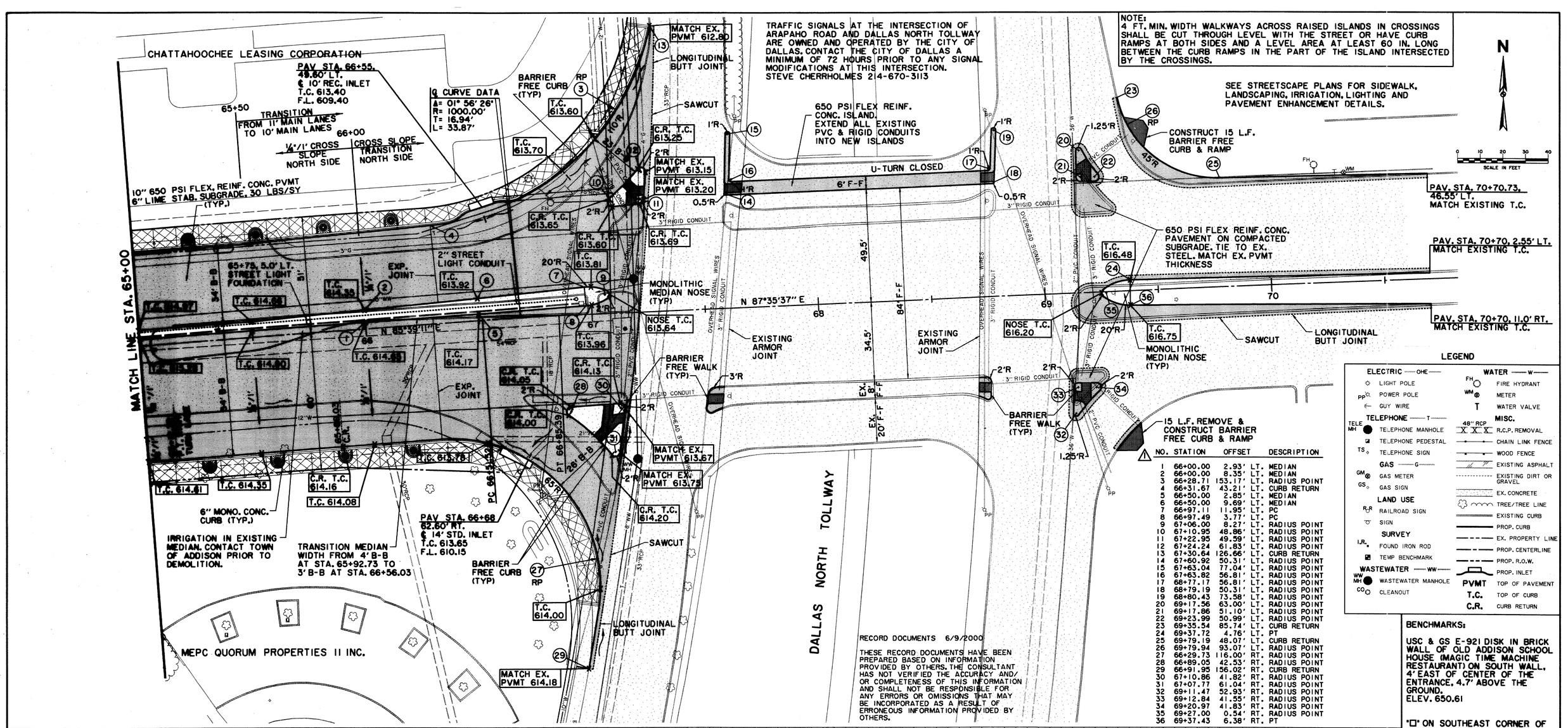

NO.	STATION	OFFSET	DESCRIPTION
1	66+00.00	2.93' LT.	MEDIAN
2	66+00.00	8.35' LT.	MEDIAN
3	66+28.71	153.17' LT.	RADIUS POINT
4	66+31.67	45.21' LT.	CURB RETURN
5	66+50.00	2.85' LT.	MEDIAN
6	66+50.00	9.69' LT.	MEDIAN
7	66+97.11	11.95' LT.	PC
8	66+97.49	3.77' LT.	PC
9	67+06.00	8.27' LT.	RADIUS POINT
10	67+10.95	48.86' LT.	RADIUS POINT
11	67+22.95	49.59' LT.	RADIUS POINT
12	67+24.24	61.83' LT.	RADIUS POINT
13	67+30.64	126.66' LT.	CURB RETURN
14	67+60.92	50.31' LT.	RADIUS POINT
15	67+63.04	77.04' LT.	RADIUS POINT
16	67+63.82	56.81' LT.	RADIUS POINT
17	68+77.17	56.81' LT.	RADIUS POINT
18	68+79.19	50.31' LT.	RADIUS POINT
19	68+80.43	73.58' LT.	RADIUS POINT
20	69+17.56	63.00' LT.	RADIUS POINT
21	69+17.86	51.10' LT.	RADIUS POINT
22	69+23.99	50.99' LT.	RADIUS POINT
23	69+35.54	85.74' LT.	CURB RETURN
24	69+37.72	4.76' LT.	PT
25	69+79.19	48.07' LT.	CURB RETURN
26	69+79.94	93.07' LT.	RADIUS POINT
27	66+29.73	116.00' RT.	RADIUS POINT
28	66+89.05	42.53' RT.	RADIUS POINT
29	66+91.95	156.02' RT.	CURB RETURN
30	67+10.86	41.82' RT.	RADIUS POINT
31	67+07.77	61.04' RT.	RADIUS POINT
32	69+11.47	52.93' RT.	RADIUS POINT
33	69+12.84	41.55' RT.	RADIUS POINT
34	69+20.97	41.83' RT.	RADIUS POINT
35	69+27.00	0.54' RT.	RADIUS POINT
36	69+37.43	6.38' RT.	PT

LEGEND

ELECTRIC — OHE
- LIGHT POLE
- POWER POLE
- GUY WIRE

TELEPHONE — T
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TELEPHONE SIGN

GAS — G
- GAS METER
- GAS SIGN

LAND USE
- RAILROAD SIGN
- SIGN

SURVEY
- FOUND IRON ROD
- TEMP BENCHMARK

WASTEWATER — WW
- WASTEWATER MANHOLE
- CLEANOUT

WATER — W
- FIRE HYDRANT
- METER
- WATER VALVE

MISC.
- 48" RCP R.C.P. REMOVAL
- CHAIN LINK FENCE
- WOOD FENCE
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- EX. CONCRETE
- TREE/TREE LINE
- EXISTING CURB
- PROP. CURB
- EX. PROPERTY LINE
- PROP. CENTERLINE
- PROP. R.O.W.
- PROP. INLET
- PVMT TOP OF PAVEMENT
- T.C. TOP OF CURB
- C.R. CURB RETURN

BENCHMARKS:

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"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD. ELEV. 630.61

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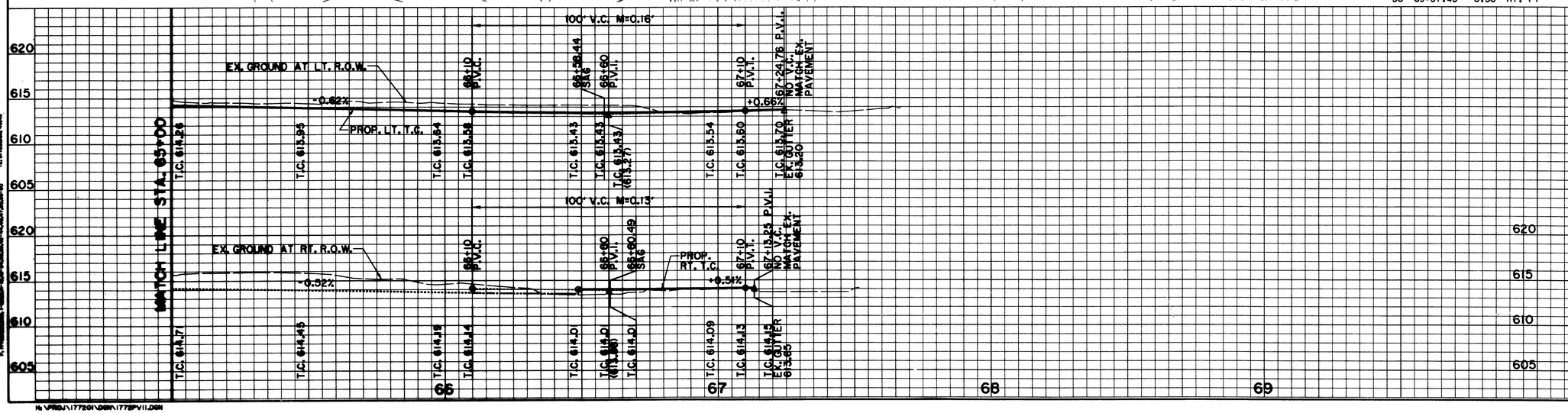
STATE OF TEXAS · KENNETH A. ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97



⚠ REVISED 11/13/97

PAVING PLAN & PROFILE
STA. 65+00 TO DALLAS NORTH TOLLWAY

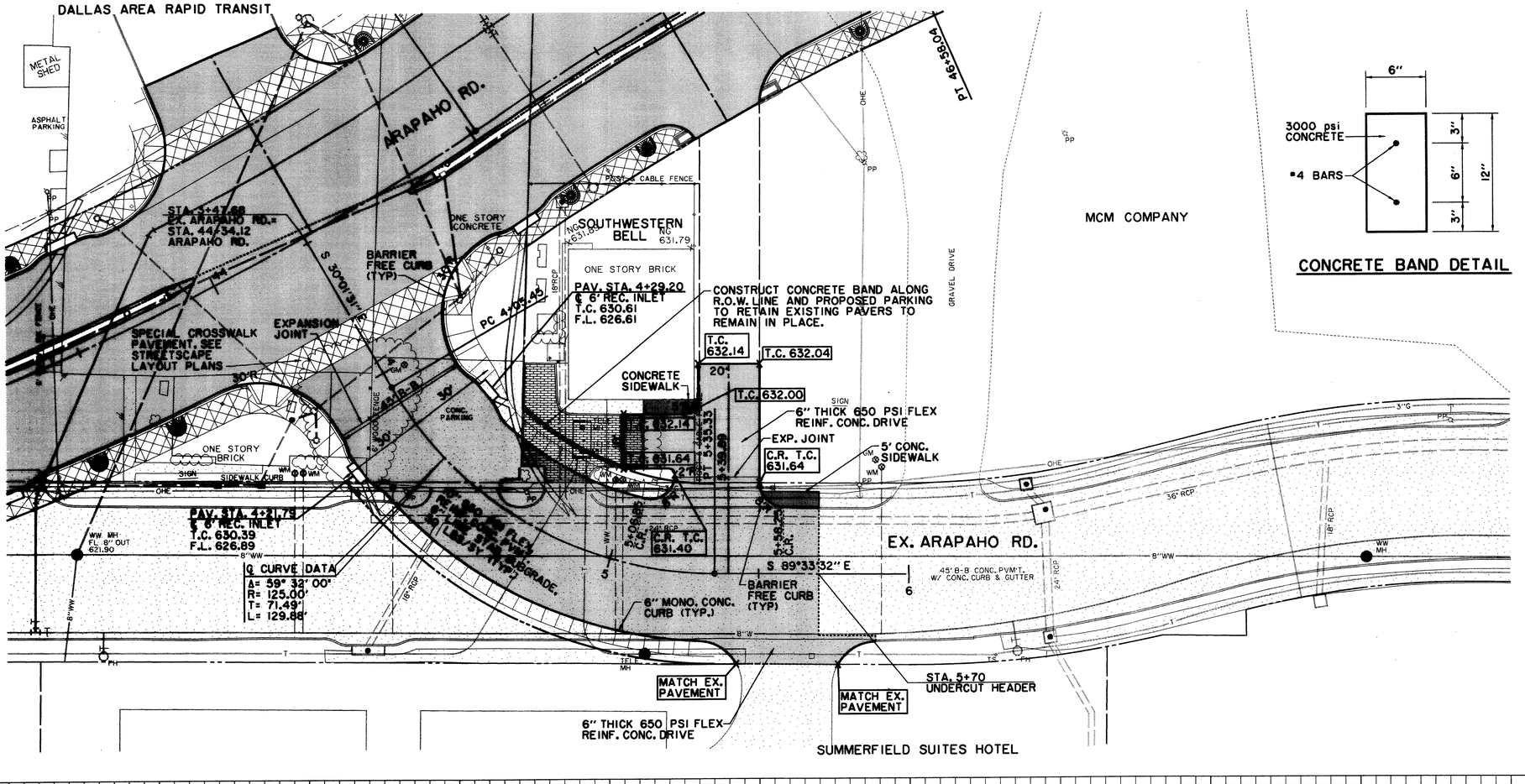
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

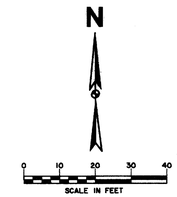
Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-8

H:\PROJ\1772GI\DGN\1772PV11.DGN



CONCRETE BAND DETAIL



SEE STREETSCAPE PLANS FOR SIDEWALK, LANDSCAPING, IRRIGATION, LIGHTING AND PAVEMENT ENHANCEMENT DETAILS.

RECORD DOCUMENTS 6/9/2000

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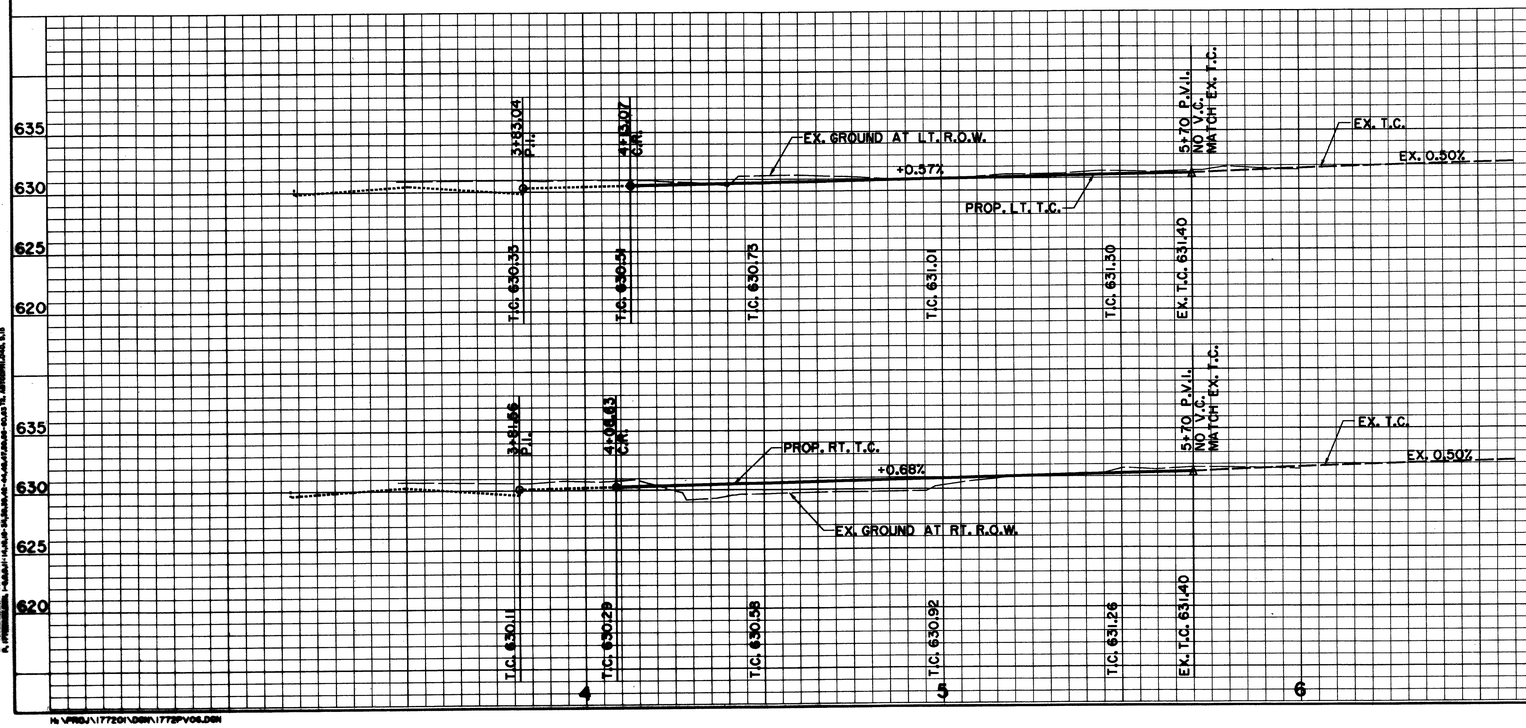
LEGEND

ELECTRIC — OHE —		WATER — W —	
☼	LIGHT POLE	FH ○	FIRE HYDRANT
PP ○	POWER POLE	WM ⊗	METER
←	GUY WIRE	T	WATER VALVE
TELEPHONE — T —		MISC.	
TELE MH ●	TELEPHONE MANHOLE	48" RCP	R.C.P. REMOVAL
◪	TELEPHONE PEDESTAL		CHAIN LINK FENCE
TS ◇	TELEPHONE SIGN		WOOD FENCE
GAS — G —			EXISTING ASPHALT
GM ⊗	GAS METER		EXISTING DIRT OR GRAVEL
GS ◇	GAS SIGN		EX. CONCRETE
LAND USE			TREE/TREE LINE
R.R.	RAILROAD SIGN		EXISTING CURB
○	SIGN		PROP. CURB
SURVEY			EX. PROPERTY LINE
I.R. ▪	FOUND IRON ROD		PROP. CENTERLINE
◪	TEMP BENCHMARK		PROP. R.O.W.
WASTEWATER — WW —			PROP. INLET
WW MH ●	WASTEWATER MANHOLE	PVMT	TOP OF PAVEMENT
CO ○	CLEANOUT	T.C.	TOP OF CURB
		C.R.	CURB RETURN



BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

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ELEV. 630.61

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

PAVING PLAN & PROFILE

EX. ARAPAHO STA. 3+47.68 TO STA. 5+70

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-9

H:\PROJ\1772\01\DGN\1772PV06.DGN

MCM COMPANY

DALLAS AREA RAPID TRANSIT

SCALE IN FEET 0 10 20 30 40

SEE STREETSCAPE PLANS FOR SIDEWALK, LANDSCAPING, IRRIGATION, LIGHTING AND PAVEMENT ENHANCEMENT DETAILS.

RECORD DOCUMENTS 6/9/2000

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℄ CURVE DATA
Δ= 18° 44' 41"
R= 150.00'
T= 24.76'
L= 49.07'

℄ CURVE DATA
Δ= 18° 44' 41"
R= 420.00'
T= 24.76'
L= 49.07'

PC 0+75.00
PRC 1+24.07
PC 51+17.88
PT 2+61.48

LONGITUDINAL BUTT JOINT

MATCH EX. T.C. 631.25

MATCH EX. T.C. 631.20

STA. 1+25

STA. 2+25 UNDERCUT HEADER

PAV. STA. 3+23.50
℄ 10' REC. INLET
T.C. 626.61
F.L. 622.61

10" 650 PSI FLEX. REINF. CONC. PVMT 6" LIME STAB. SUBGRADE. 30 LBS/SY (TYP.)

23' B-B CONC. PVMT. W/ CONC. CURB & GUTTER

23' B-B CONC. PVMT. W/ CONC. CURB & GUTTER

T.C. 629.34
T.C. 628.69
T.C. 627.40
T.C. 628.66
T.C. 627.27
T.C. 630.85
T.C. 630.10
T.C. 629.35

250'R

60" RCP

24'W

2-2" PVC

MCI CABLE

OHE

EXPANSION JOINT

EXP. JOINT

MONOLITHIC MEDIAN NOSE (TYP)

NOSE T.C. 625.68

T.C. 626.31

T.C. 626.21

N 00°11'10" W

BROOKS CABLE

2-2" PVC

MCI CABLE

3+67.49 MEDIAN NOSE

BARRIER FREE CURB (TYP)

STREET LIGHT CONDUIT

66" RCP

EXP. JOINT

INTERSECTION TO BE CONSTRUCTED OF SPECIAL REINFORCED CONCRETE. SEE STREETSCAPE LAYOUT PLANS FOR DETAILS.

STA. 4+34.04 QUORUM DR.= STA. 52+53.20 ARAPAHO RD.

4+34.89 MEDIAN NOSE

QUORUM DR.

N 00°11'10" W

BROOKS CABLE

2-2" PVC

MCI CABLE

EXP. JOINT

23' B-B

33' B-B

30'R

52

53

BROOKS BURIED CABLE. CONTACT THERESA HARDIN 972/753-1900 48 HOURS PRIOR TO ANY CONSTRUCTION IN THIS AREA

MCI BURIED CABLE. CONTACT ADRIAN THEBEAU 972/554-4127 48 HOURS PRIOR TO ANY CONSTRUCTION IN THIS AREA.

6" MONO. CONC. CURB (TYP.)

PAV. STA. 3+69
℄ 10' REC. INLET
T.C. 625.70
F.L. 621.70

⚠ RETAINING WALL

TWO STORY CONCRETE PARKING GARAGE

CARRAMERICA REALTY LIMITED PARTNERSHIP

CIRCULAR AREA IN THE MIDDLE OF THE INTERSECTION SHALL BE CONSTRUCTED OF VEHICULAR BRICK ON REINFORCED CONCRETE PAVEMENT. SEE STREETSCAPE LAYOUT PLANS FOR DETAILS.

ARAPAHO RD.

TOWN OF ADDISON

EXP. JOINT

LEGEND

ELECTRIC —OHE—
- LIGHT POLE
- POWER POLE (PP)
- GUY WIRE

TELEPHONE —T—
- TELEPHONE MANHOLE (TELE MH)
- TELEPHONE PEDESTAL
- TELEPHONE SIGN (TS)

GAS —G—
- GAS METER (GM)
- GAS SIGN (GS)

LAND USE
- RAILROAD SIGN (R R)
- SIGN

SURVEY
- FOUND IRON ROD (I.R.)
- TEMP BENCHMARK

WASTEWATER —WW—
- WASTEWATER MANHOLE (WW MH)
- CLEANOUT (CO)

WATER —W—
- FIRE HYDRANT (FH)
- METER (WM)
- WATER VALVE (T)

MISC.
- R.C.P. REMOVAL (48" RCP)
- CHAIN LINK FENCE
- WOOD FENCE
- EXISTING ASPHALT
- EXISTING DIRT OR GRAVEL
- EX. CONCRETE
- TREE/TREE LINE
- EXISTING CURB
- PROP. CURB
- EX. PROPERTY LINE
- PROP. CENTERLINE
- PROP. R.O.W.
- PROP. INLET
- PVMT TOP OF PAVEMENT
- T.C. TOP OF CURB
- C.R. CURB RETURN

EX. GROUND AT LT. R.O.W.

EX. T.C.

EX. -2.46%

2+25 MATCH EX. T.C.

PROP. LT. T.C.

2.46%

-1.65%

50' V.C. M=+0.05'

3+00 P.V.C.

3+25 P.V.I.

3+39.06 C.R.

3+50 P.V.T.

3+81.27 P.I.

EX. T.C. 628.99

T.C. 628.38

T.C. 627.15

T.C. 626.58 (626.53)

T.C. 626.31

T.C. 626.12

T.C. 625.60

EX. GROUND AT RT. R.O.W.

EX. T.C.

EX. -2.68%

2+25 MATCH EX. T.C.

PROP. RT. T.C.

2.68%

-1.29%

50' V.C. M=+0.10'

2+95 P.V.C.

3+25 P.V.I.

3+55 P.V.T.

3+84.57 C.R.

4+08.59 P.I.

RETAINING WALL

EX. T.C. 628.95

T.C. 628.28

T.C. 627.07

T.C. 626.94

T.C. 626.37 (626.27)

T.C. 625.95

T.C. 625.88

T.C. 625.50

T.C. 625.19

635
630
625
620

1 2 3 4

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A. ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠2 REVISED 1/16/98

⚠1 ADDENDUM #4, 12/2/97

PAVING PLAN & PROFILE
QUORUM DR. STA. 2+25 TO STA. 4+50

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-10

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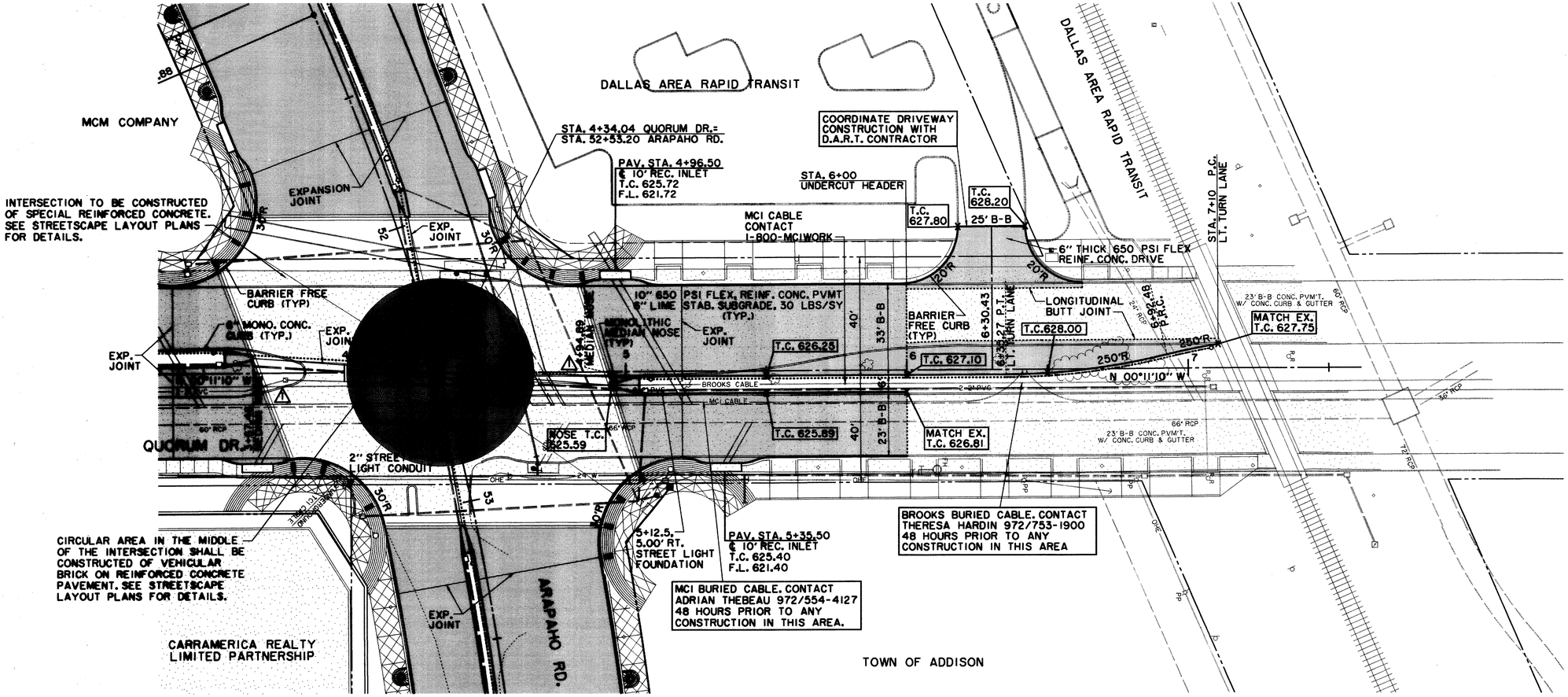

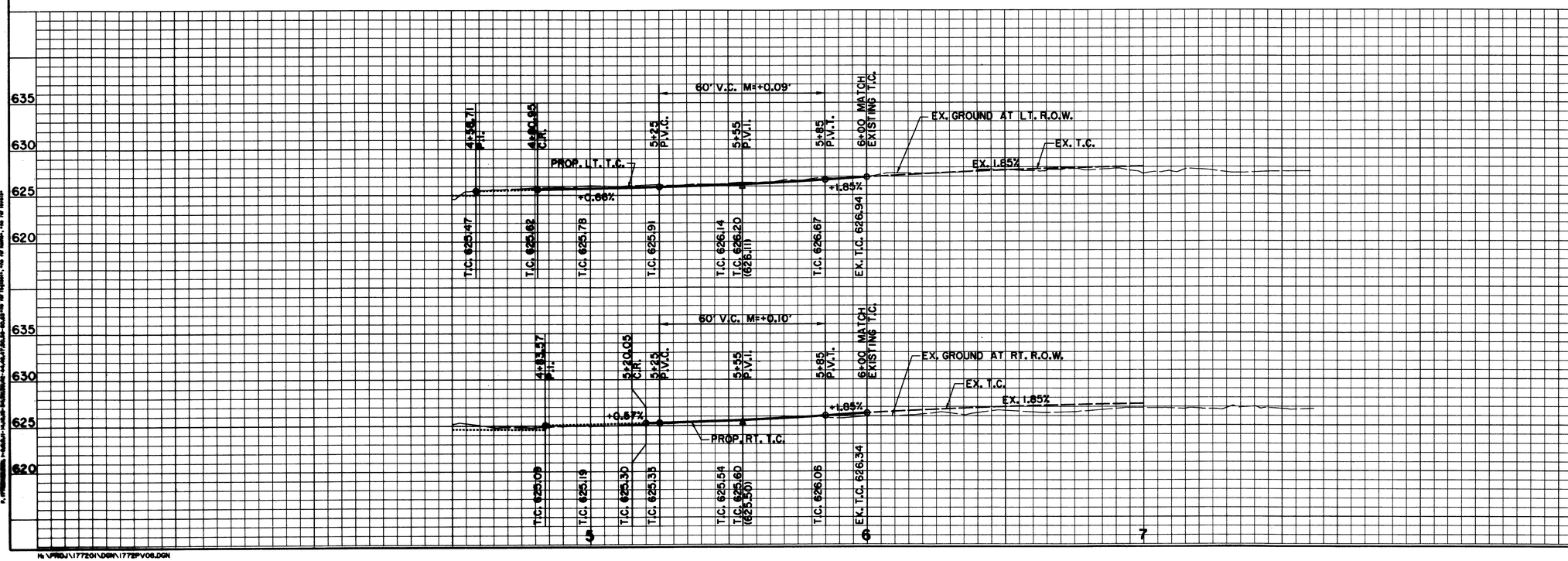

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER
10-24-97

⚠ REVISED 1/16/98

PAVING PLAN & PROFILE
QUORUM DR. STA. 4+50 TO STA. 6+00

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-11

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CARRAMERICA REALTY LIMITED PARTNERSHIP

ARAPAHO RD.

FIVE STORY GLASS & MARBLE

16+22 EX. 1/4"/1' CROSS SLOPE

17+50 1/4"/1' CROSS SLOPE / CROSS SLOPE TRANSITION

EXISTING IRRIGATION CONTACT BUILDING MANAGEMENT SUITE 380 PRIOR TO DEMOLITION.

17+10, 37' LT. COMBINATION SIDEWALK RETAINING WALL

17+05, 39' LT. CONSTRUCT STREET LIGHT FOUNDATION

17+61.5, 39' LT. COMBINATION SIDEWALK RETAINING WALL

6" THICK 650 PSI FLEX REINF. CONC. DRIVE

℄ DRIVE
Δ= 54°09'45"
R= 32.00'
T= 16.36'
L= 30.25'

25 L.F. LONGITUDINAL BUTT JOINT

PAV. STA. 15+23.50
℄ 14' REC. INLET
T.C. 623.20
F.L. 619.20

PAV. STA. 17+69
℄ 14' REC. INLET
T.C. 620.73
F.L. 616.73

PAV. STA. 18+36.35
℄ 10' REC. INLET
T.C. 619.56
F.L. 615.56

REPLACE EX. BARRIER FREE RAMP

MATCH PVMT AT EX. JOINT

LONGITUDINAL BUTT JOINT

MATCH EX. T.C.

MATCH EX. T.C. 622.44

MATCH EX. T.C. 622.45

MATCH EX. T.C. 622.70

T.C. 622.44

T.C. 622.00

T.C. 620.00

T.C. 620.75

T.C. 620.69

T.C. 621.44

T.C. 621.46

T.C. 620.69

T.C. 622.41

T.C. 621.95

T.C. 621.65

T.C. 621.35

T.C. 622.94

T.C. 622.20

T.C. 621.55

T.C. 621.70

T.C. 621.15

T.C. 621.80

T.C. 621.30

T.C. 619.94

T.C. 619.91

NOSE T.C. 619.36

16+46.23 C.R.

16+96.29 C.R.

17+87.04 C.R.

16+67.71 P.R.C.

16+76.71 P.R.C.

16+98.58 C.R.

17+25.58 P.T. LT. TURN LANE

17+26.48 P.C. LEFT TURN LANE

16+26.97

18+19.03

18+50.91 C.R.

18+69.83 MEDIAN NOSE

SPECTRUM DR.

25' B-B CONC. PVMT. W/ CONC. CURB & GUTTER

10" WW

WW MH FL. 10" OUT 610.79

36" RCP

FL EX 36" 618.21

3" TELE MH

3" TELE

4" G

W.M.

UGE

IRRCP

40'

22'

52'

57'

45' B-B

25' B-B

14'

12" W

250' R

15' R

24"

10' R

20' R

30' R

2" STREET LIGHT CONDUIT

2" CONDUIT

3" I.D. PIPE THRU CURB

SPRINKLER CONTROL VALVE

MONOLITHIC MEDIAN NOSE (TYP)

℄ EX. R.O.W.

℄ PROP. PVM'T

10" 650 PSI FLEX, REINF. CONC. PVMT. 6" LIME STAB. SUBGRADE (TYP.)

EXP. JOINT

BARRIER FREE CURB (TYP)

EXPANSION JOINT

℄ 55+66.98

51.81'

56' N 89°46'23" E

N 00°11'10" W

PC 57+

LONGITUDINAL BUTT JOINT

6" MONO. CONC. CURB (TYP.)

17+55.43, 37.42' RT. P.R.C. RT. TURN LANE

18+03.08, 42.00' RT. P.T. RT. TURN LANE

STA. 15+55 BEGIN SAWCUT

IRRIGATION IN EXISTING MEDIAN. CONTACT TOWN OF ADDISON PRIOR TO DEMOLITION.

STA. 16+22 UNDERCUT HEADER

COORDINATE DRIVEWAY CONSRTUCTION WITH DRIVE THRU BANK TO INSURE CUSTOMER ACCESS

MEPC QUORUM PROPERTIES I INC.

SEE STREETSCAPE PLANS FOR SIDEWALK, LANDSCAPING, IRRIGATION, LIGHTING AND PAVEMENT ENHANCEMENT DETAILS.

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TOWN OF ADDISON

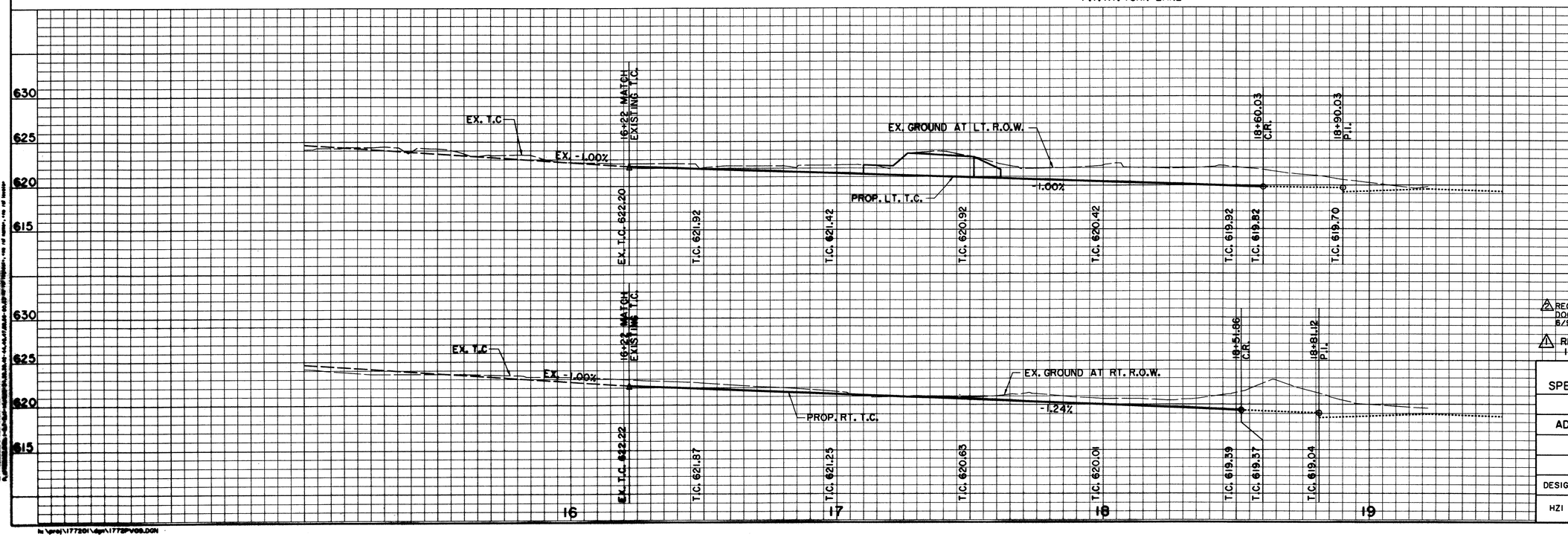
CROSSWALK TO BE CONSTRUCTED OF SPECIAL REINFORCED CONCRETE. SEE STREETSCAPE LAYOUT PLANS FOR DETAILS.

STA. 19+22.03 SPECTRUM DR.=
STA. 56+76.73 ARAPAHO RD.

0 10 20 30 40
SCALE IN FEET

LEGEND

- ELECTRIC — OHE —
  - LIGHT POLE
  - POWER POLE
  - GUY WIRE
- TELEPHONE — T —
  - TELE MH TELEPHONE MANHOLE
  - TELEPHONE PEDESTAL
  - TS TELEPHONE SIGN
- GAS — G —
  - GM GAS METER
  - GS GAS SIGN
- LAND USE
  - R-R RAILROAD SIGN
  - SIGN
- SURVEY
  - I.R. FOUND IRON ROD
  - TEMP BENCHMARK
- WASTEWATER — WW —
  - WW MH WASTEWATER MANHOLE
  - CO CLEANOUT
- WATER — W —
  - FH FIRE HYDRANT
  - WM METER
  - T WATER VALVE
- MISC.
  - 48" RCP R.C.P. REMOVAL
  - CHAIN LINK FENCE
  - WOOD FENCE
  - EXISTING ASPHALT
  - EXISTING DIRT OR GRAVEL
  - EX. CONCRETE
  - TREE/TREE LINE
  - EXISTING CURB
  - PROP. CURB
  - EX. PROPERTY LINE
  - PROP. CENTERLINE
  - PROP. R.O.W.
  - PROP. INLET
  - PVMT TOP OF PAVEMENT
  - T.C. TOP OF CURB
  - C.R. CURB RETURN



BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

'□' ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A. ROBERTS · 55446 · REGISTERED · ENGINEER

10-24-97

2 RECORD DOCUMENTS 6/9/2000

1 REVISED 1/16/98

PAVING PLAN & PROFILE
SPECTRUM DR. STA. 15+55 TO STA. 19+22.03

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

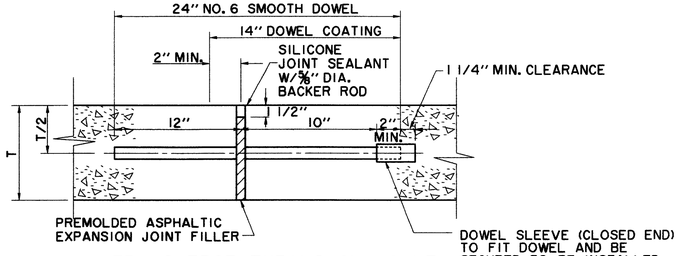
Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	P-12

N:\proj\177201\dgn\1772PV08.DGN

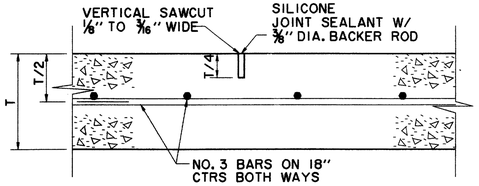
NOTES-PAVING AND GRADING

1. UNLESS SPECIFICALLY STATED OTHERWISE IN PLANS OR CONTRACT DOCUMENTS, THE CONTROLLING SPECIFICATIONS FOR ALL WORK WITHIN PUBLIC RIGHTS-OF-WAY AND EASEMENTS SHALL BE THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SECOND EDITION 1987, AS AMENDED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (THE ''STANDARD SPECIFICATIONS''). COPIES OF THE STANDARD SPECIFICATIONS MAY BE PURCHASED BY MAIL OR OVER THE COUNTER FROM THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, 616 SIX FLAGS DRIVE, P.O. BOX DRAWER COG, ARLINGTON, TEXAS 76005-5888. PHONE METRO 817/640-3300. BULK DISCOUNTS ARE AVAILABLE. THIS DOCUMENT IS COPYRIGHTED.
2. ROUGH GRADING SHALL BE ACCOMPLISHED TO WITHIN +/- 0.10 FEET OF PLAN ELEVATION.
3. ALL TRAFFIC CONTROL NECESSARY FOR THE WORK SHALL BE PROVIDED BY THE CONTRACTOR. ALL BARRICADES, WARNING SIGNS, LIGHTS, DEVICES, ETC. FOR THE GUIDANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS MUST CONFORM TO THE INSTALLATIONS SHOWN IN THE LATEST ISSUE OF THE ''TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'', AS CURRENTLY AMENDED, TEXAS DEPARTMENT OF TRANSPORTATION.
4. ALL FILL SHALL BE PLACED IN MAXIMUM 8-INCH LIFTS COMPACTED TO 95% OF STANDARD PROCTOR DENSITY BETWEEN 0% AND +3% OF OPTIMUM MOISTURE CONTENT.
5. ALL TREES, STUMPS, BRUSH, GRASSES AND SURFACE ORGANICS WITHIN PROPOSED RIGHT-OF-WAY ARE TO REMOVED AND PROPERLY DISPOSED OF OFF-SITE. TREE REMOVAL PERMITS, IF REQUIRED, WILL BE OBTAINED BY THE OWNER.
6. EXISTING UTILITY POLES, IF ANY, WILL BE REMOVED OR RELOCATED BY THE UTILITY COMPANIES THROUGH COORDINATION BY THE OWNER. CONTRACTOR SHALL BRING TO THE OWNER'S ATTENTION ANY FACILITIES THAT APPEAR TO BE IN CONFLICT SO THAT THE OWNER HAS SUFFICIENT TIME TO ACCOMPLISH THE NECESSARY RELOCATIONS.
7. WHERE DEEP VERTICAL EXCAVATIONS (IN EXCESS OF 3 FEET) ARE INDICATED, CUTS SHALL BE LAID BACK AT A STABLE SLOPE (ON OWNER'S PROPERTY) UNTIL WALLS ARE CONSTRUCTED. BACKFILL MATERIAL SHALL BE STOCKPILED ON-SITE AT THE DIRECTION OF THE OWNER.
8. ALL REINFORCING STEEL AND DOWEL BARS IN PAVEMENT SHALL BE SUPPORTED AND MAINTAINED AT THE CORRECT CLEARANCES BY THE USE OF BAR CHAIRS OR OTHER APPROVED SUPPORT.
9. THE USE OF WOOD FORMS FOR PAVEMENT CONSTRUCTION WILL BE PERMITTED.
10. DUMMY JOINTS SHALL BE SAWED IN THE PAVEMENT IN THIS PROJECT. DUMMY JOINTS WILL BE SPACED APPROXIMATELY 12 FEET ON CENTERS UNLESS DIRECTED OTHERWISE BY THE TOWN. SPACING VARIATIONS SHALL BE MADE AT BLOCKOUTS, CONSTRUCTION JOINTS, AND STREET INTERSECTIONS TO LINE UP WITH EXISTING PAVING JOINTS AS DIRECTED BY THE TOWN. THE SPACING BETWEEN ANY JOINT SHALL NOT BE LESS THAN 10 FEET NOR MORE THAN 15 FEET. ALL DUMMY JOINTS SHALL BE SAWED NOT LATER THAN 12 HOURS AFTER THE PLACEMENT OF THE PAVEMENT.
11. BARRIER-FREE RAMPS SHALL BE BUILT WITH THIS PROJECT. LOCATIONS MAY BE ADJUSTED AS DIRECTED BY THE TOWN TO CLEAR OBSTRUCTIONS.
12. VARIABLE HEIGHT CURB AT INTERSECTIONS AND SLOPING CURBS AT DRIVES SHALL BE BUILT TO MATCH FUTURE BARRIER-FREE RAMPS PER PLANS. NO SEPARATE PAY ITEMS ARE PROVIDED.
13. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES ON PUBLIC STREETS ADJACENT TO THIS PROJECT UNLESS SPECIFIED OTHERWISE IN THE PLANS AND SPECIFICATIONS. THE TRAVELWAY WIDTH SHALL NOT BE LESS THAN 10 FEET.
14. SEE TYPICAL SECTIONS SHEET FOR ADDITIONAL DETAILS AND NOTES.
15. ALL CURBS SHALL BE PLACED INTEGRAL WITH PAVEMENT.
16. CURBS SHALL MEET THE SAME COMPRESSIVE STRENGTH AS SPECIFIED FOR THE CONCRETE PAVEMENT.
17. BAR LAPS SHALL BE 30 DIAMETERS.

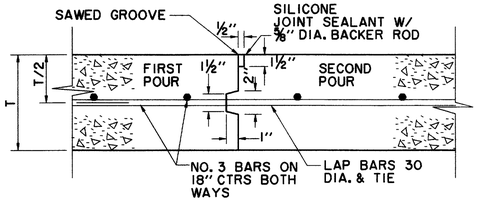


TRANSVERSE EXPANSION JOINT
N.T.S.

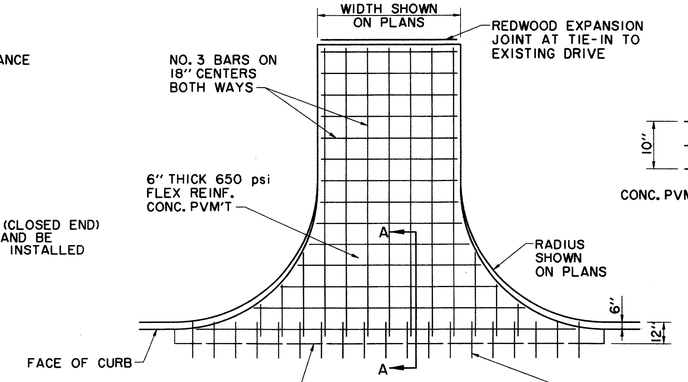
(SPACED 600 FT. MAXIMUM, LOCATE AT INTERSECTIONS)
NOTE:
DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE.



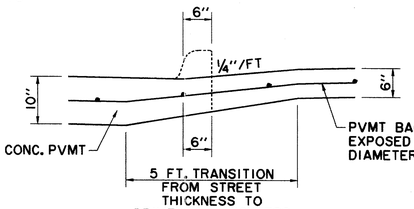
SAWED DUMMY JOINT
N.T.S.



CONSTRUCTION JOINT
N.T.S.



DRIVE RETURN TO STREET
N.T.S.



SECTION A-A

RECORD DOCUMENTS 6/9/2000

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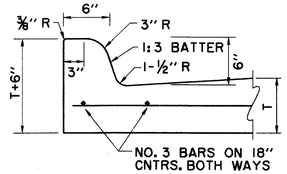
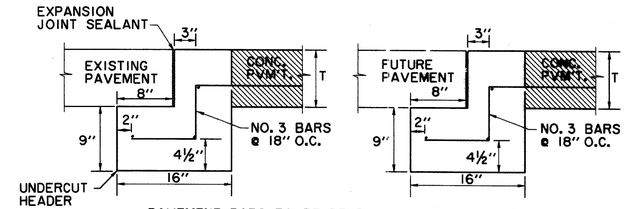
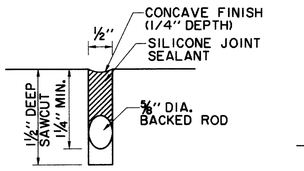


INTEGRAL CURB AND GUTTER
N.T.S.

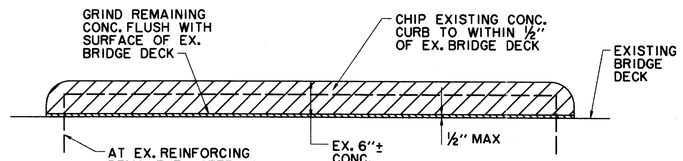


PAVEMENT BARS TO BE BENT DOWN INTO HEADER. HEADER AND PAVEMENT TO BE MONOLITHIC.

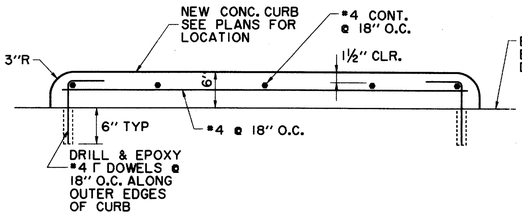
STREET HEADER
N.T.S.



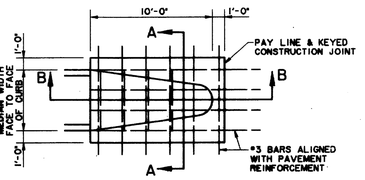
TYPICAL JOINT DETAIL
N.T.S.



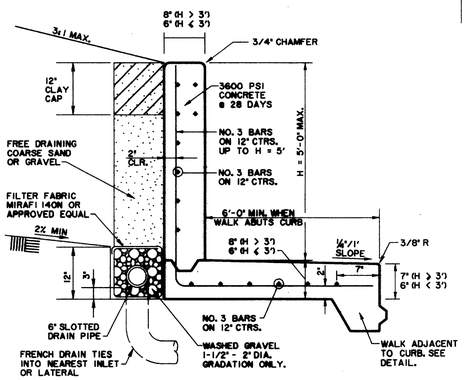
CONCRETE ISLAND REMOVAL DETAIL
N.T.S.



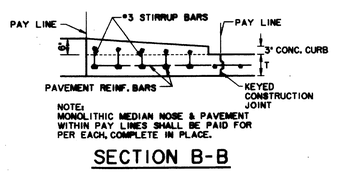
NEW CONCRETE ISLAND DETAIL
N.T.S.



MONOLITHIC MEDIAN NOSE

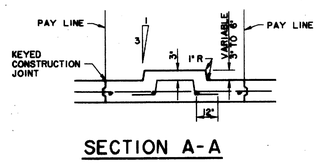


COMBINATION CANTILEVER RETAINING WALL & SIDEWALK DETAIL ⚠1
WALL GREATER THAM H = 5'-0" REQUIRES SPECIAL ENGINEERING ANALYSIS

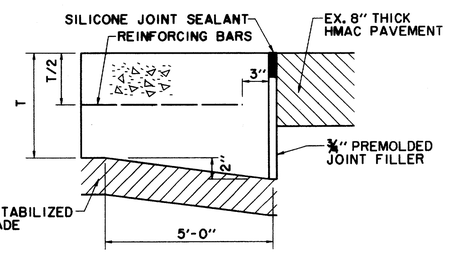


NOTE:
MONOLITHIC MEDIAN NOSE & PAVEMENT WITHIN PAY LINES SHALL BE PAID FOR PER EACH, COMPLETE IN PLACE.

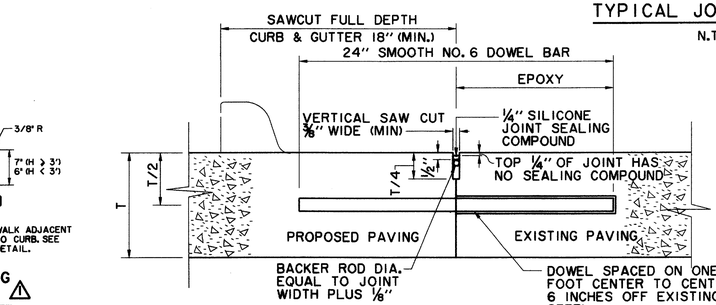
SECTION B-B



SECTION A-A

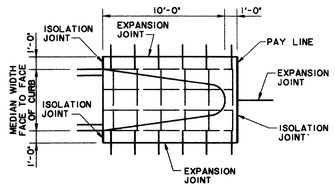


THICKENED EDGE JOINT AT ADDISON ROAD
N.T.S.

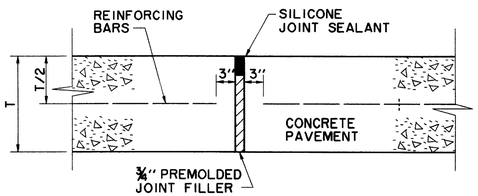


DOWEL BARS SHALL BE DRILLED INTO EX. PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO GREEN CONCRETE NOT ACCEPTABLE.

LONGITUDINAL BUTT JOINT
N.T.S.



MONOLITHIC MEDIAN NOSES AT QUORUM DR. ⚠2



ISOLATION JOINT
N.T.S.

⚠2 ADDENDUM #4, 12/19/97

⚠1 ADDENDUM #2, 11/18/97

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

PAVING DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	P-13

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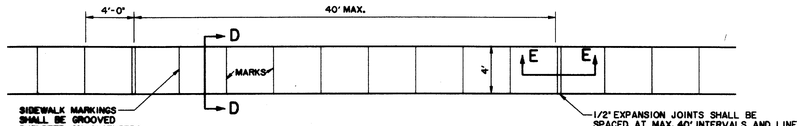
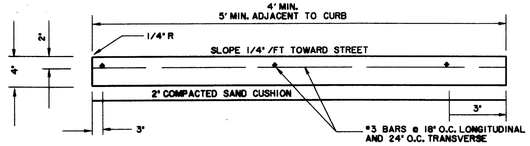


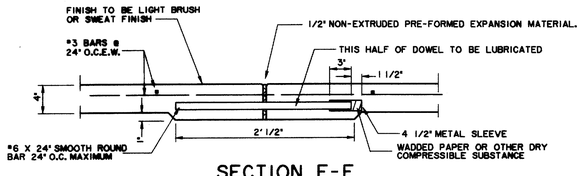
REINFORCED CONCRETE SIDEWALK

PLAN

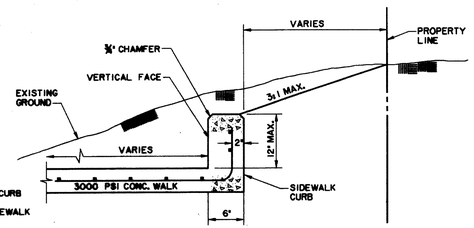
NOTE: CONCRETE TO HAVE MINIMUM 3000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS AND MINIMUM CEMENT CONTENT OF 5 SACKS PER CUBIC YARD OF CONCRETE.



SECTION D-D
TYPICAL SECTION

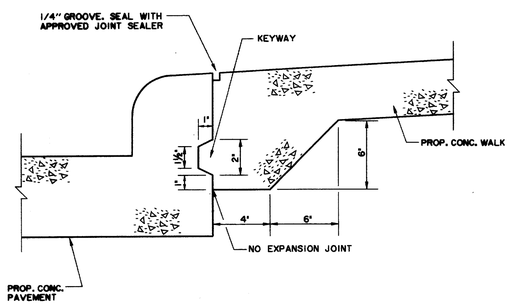


SECTION E-E
EXPANSION JOINT DETAIL

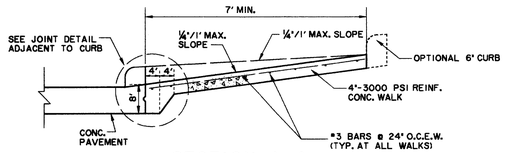


NOTE: FOR SIDEWALK CURB CONSTRUCTION REDUCE STEEL SPACING IN SIDEWALK TO *3 BARS @ 12" ON CENTER EACH WAY

SIDEWALK CURB DETAIL



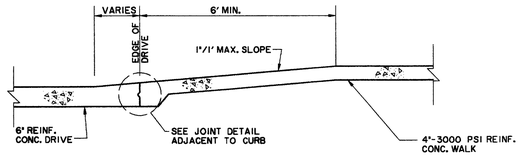
JOINT DETAIL FOR SIDEWALK
ADJACENT TO PROPOSED PAVEMENT



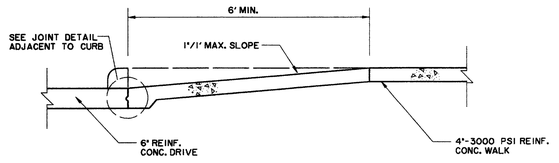
SECTION A-A

NOTES:

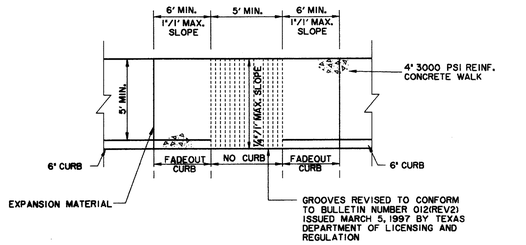
1. ALL HONEYCOMB IN BACK OF CURB TO BE TROWEL-PLASTERED BEFORE POURING SIDEWALK
2. LUG MAY BE FORMED BY SHAPING SUBGRADE TO APPROXIMATE DIMENSIONS SHOWN.



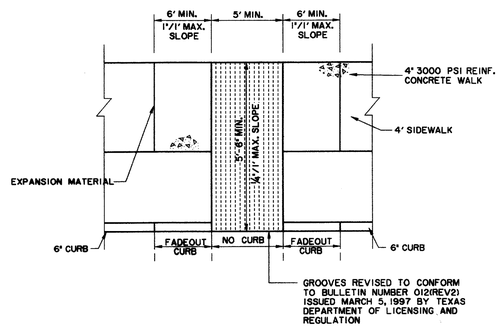
SECTION B-B



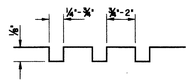
SECTION C-C



BARRIER FREE RAMP IN STRAIGHT CURB ⚠
SIDEWALK ADJACENT TO CURB

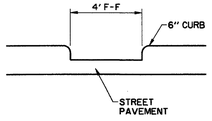


BARRIER FREE RAMP IN STRAIGHT CURB ⚠
SIDEWALK AWAY FROM CURB

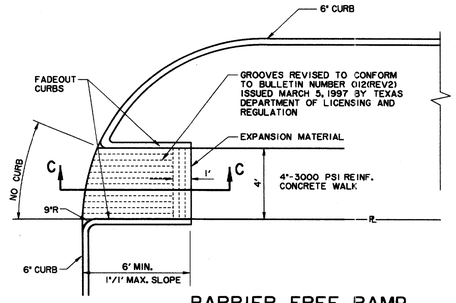


GROOVE DETAIL ⚠
PLAN

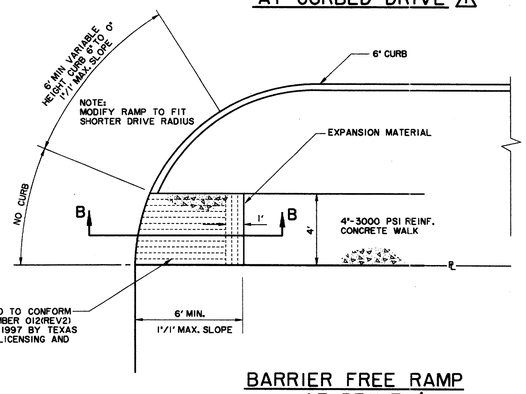
NOTE:
ENTIRE BARRIER FREE RAMP AREA TO HAVE GROOVED TEXTURE.



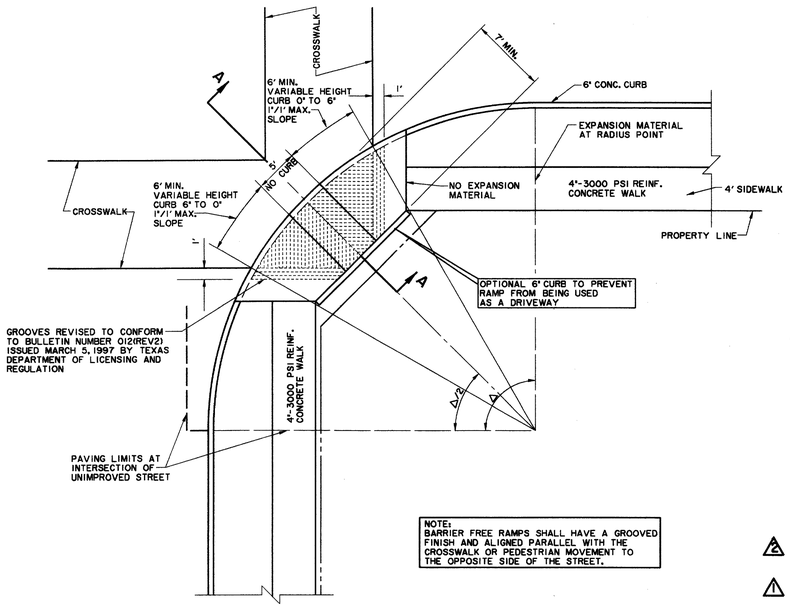
BARRIER FREE ⚠2 WALK DETAIL



BARRIER FREE RAMP AT CURBED DRIVE ⚠



BARRIER FREE RAMP AT DRIVE ⚠



NOTE:
BARRIER FREE RAMPS SHALL HAVE A GROOVED FINISH AND ALIGNED PARALLEL WITH THE CROSSWALK OR PEDESTRIAN MOVEMENT TO THE OPPOSITE SIDE OF THE STREET.

BARRIER FREE RAMP DETAIL AT INTERSECTING STREET ⚠

BARRIER FREE RAMP GENERAL NOTES

1. MAXIMUM SLOPE ON BARRIER FREE RAMPS MUST NOT EXCEED ONE INCH PER FOOT AT ANY LOCATION.
2. DESIGNS SHOWN ARE FOR 6" CURBS. FOR CURBS WITH HEIGHT GREATER THAN 6" DIMENSIONS MUST BE INCREASED PROPORTIONATELY.
3. STREETS ON STEEP GRADE WILL REQUIRE LONGER TRANSITION ON UPGRADE SIDE.
4. LOCATION OF BARRIER FREE RAMP MAY BE SHIFTED TO CLEAR OBSTRUCTIONS.
5. CONCRETE TO HAVE MINIMUM 3000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS.
6. GROOVES MUST BE CLEAN AND STRAIGHT FOR CLEAR DETECTION BY TOUCH WITH A CANE AND PARALLEL TO CROSSWALKS.
7. CURBS AT ALL STREET AND DRIVEWAY INTERSECTIONS SHALL BE CONSTRUCTED TO ALLOW FOR BARRIER FREE RAMP ACCESS.
8. ⚠2 FOR PURPOSES OF WARNING, THE FULL WIDTH AND DEPTH OF CURB RAMPS SHALL HAVE LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN ROUTES. TOWN SHALL APPROVE MATERIALS AND CONTRASTING COLOR PRIOR TO CONSTRUCTION OF RAMPS.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠2 REVISED 1/16/98

⚠ ADDENDUM #2, 11/18/97

RECORD DOCUMENTS 6/9/2000

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SIDEWALK & B.F. RAMP DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	P-14

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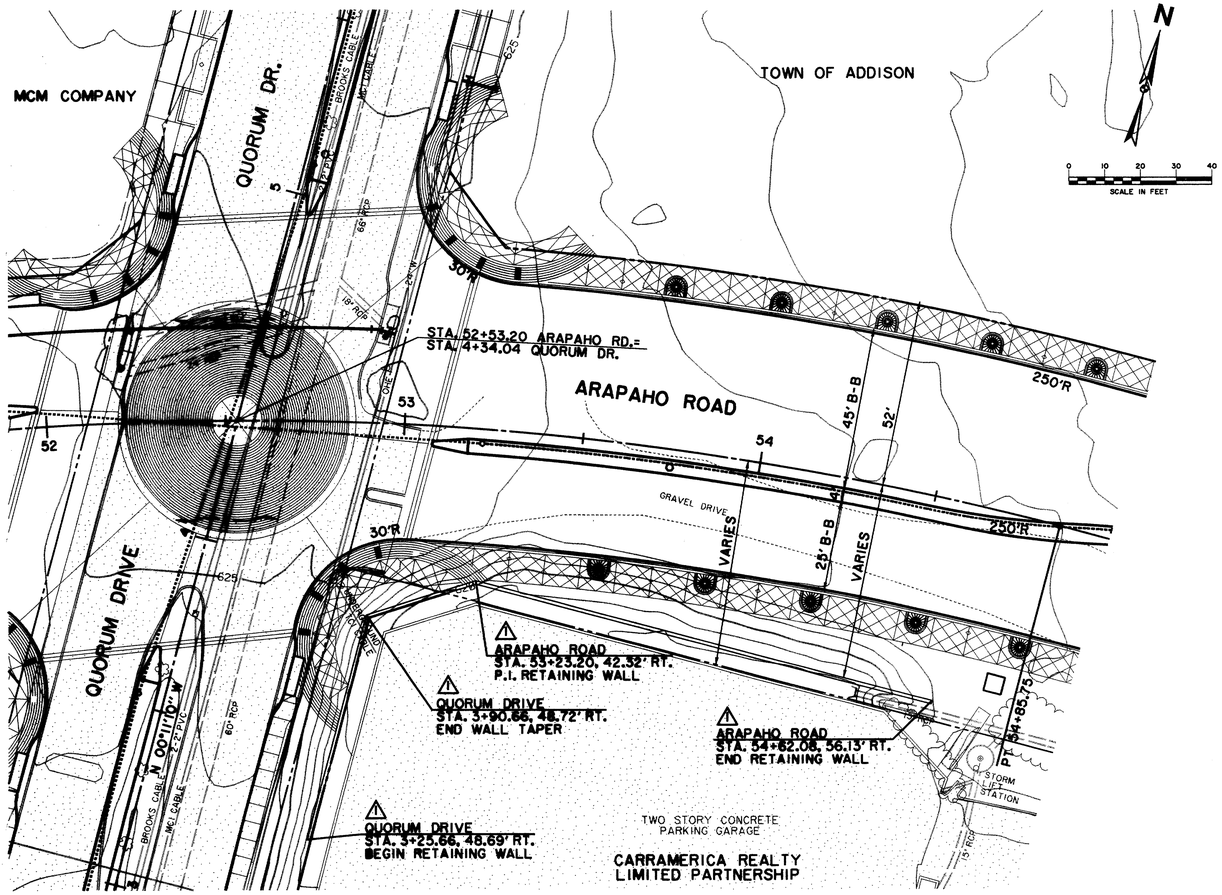

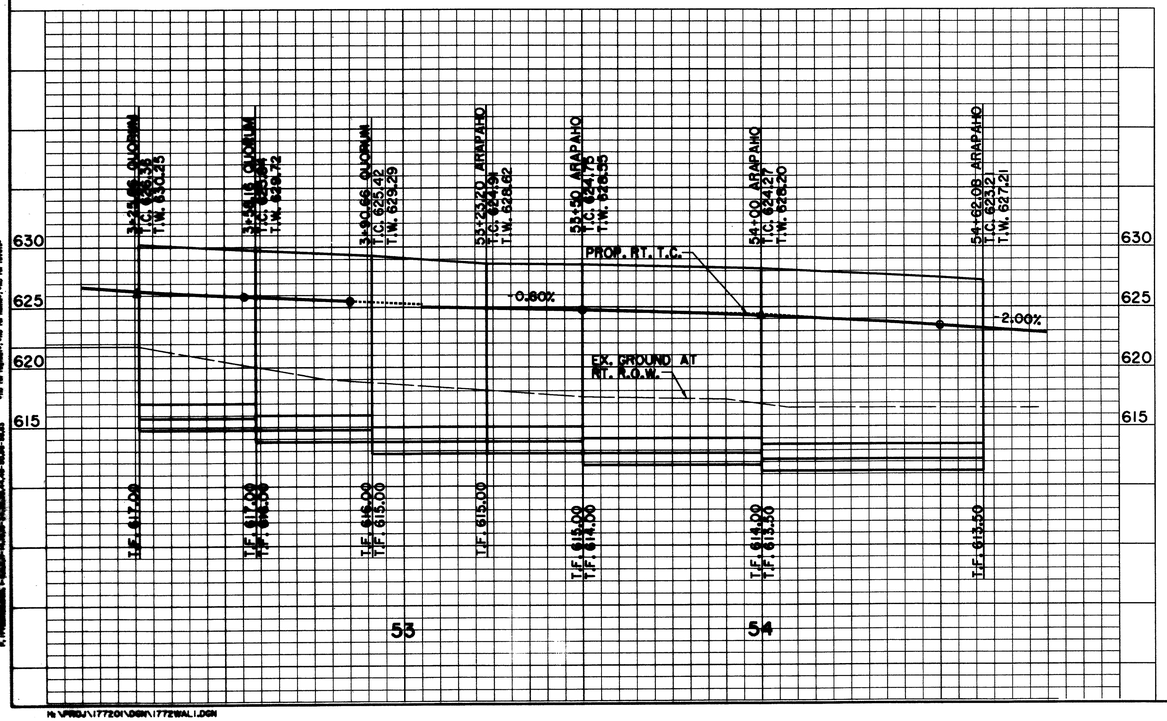

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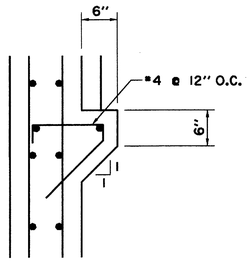
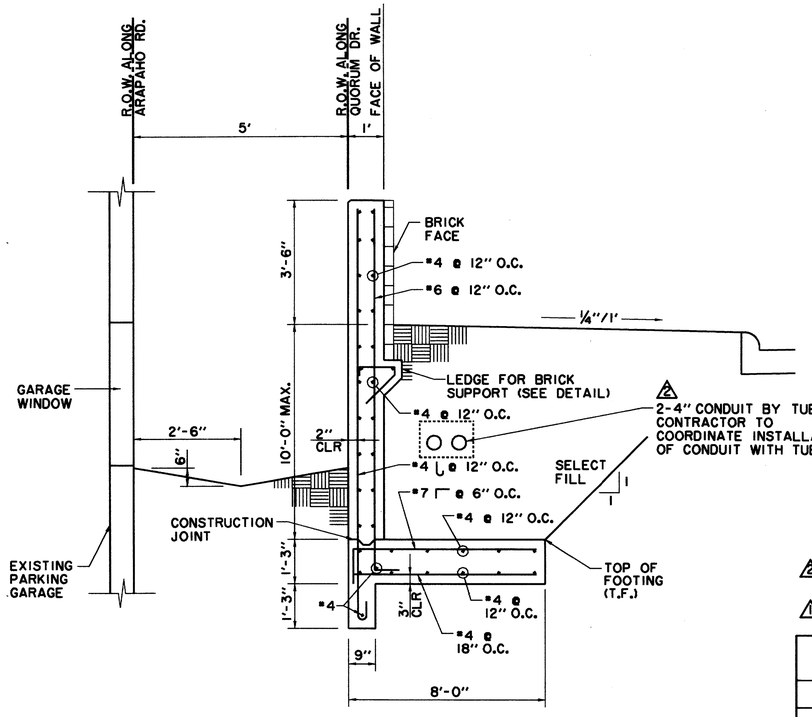


BRICK LEDGE DETAIL

SCALE: 1" = 1'-0"

GENERAL NOTES:

1. SELECT FILL MATERIAL SHALL CONSIST OF INORGANIC NONEXPANSIVE SOIL OR ROCK WITH A PLASTICITY INDEX BETWEEN 4 AND 12. THE MATERIAL SHALL BE FREE OF CLAY LUMPS, ROCKS IN EXCESS OF 4 INCHES IN DIAMETER, AND OTHER DELETERIOUS MATERIAL.
2. SELECT MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 8 INCHES IN THICKNESS AND COMPACTED TO BETWEEN 95% AND 100% OF STANDARD PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT (-0% + 3%).
3. THE COMPACTION OF BACKFILL WITHIN 5'-0" OF WALL SHALL BE ACHIEVED USING HAND COMPACTION EQUIPMENT.
4. REINFORCING STEEL SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60.
5. DETAIL REINFORCING BARS AND PROVIDE BAR SUPPORTS AND SPACES IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI DETAILING MANUAL.
6. REINFORCING BARS SHALL BE SUPPORTED, SPACED AND ACCURATELY SECURED IN PLACE BY BOLSTERS, SPACERS OR CHAIRS IN ACCORDANCE WITH SPECIFICATIONS FOR PLACING REINFORCEMENTS OF THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
7. ALL REINFORCING STEEL SHALL BE LAPPED A MINIMUM OF 36 BAR DIAMETERS AT ALL CORNERS AND AT ALL SPLICE POINTS UNLESS OTHERWISE NOTED.
8. FIVE TO SEVEN PERCENT AIR ENTRAINMENT SHALL BE ADDED TO CONCRETE USED FOR STRUCTURAL ELEMENTS EXPOSED TO WEATHER, UNLESS SPECIFIED OTHERWISE ON THE PLANS.
9. CHAMFER ALL EXPOSED CORNERS 3/4" INCHES
10. CONCRETE FOR ALL RETAINING WALLS AND JUNCTION STRUCTURES SHALL BE CLASS "C" WITH A MINIMUM COMPRESSIVE STRENGTH OF 3600 PSI AT 28 DAYS.
11. WHERE INDICATED ON THE DRAWINGS, ROUGHENED SURFACES SHALL BE PROVIDED BY MEANS OF HEAVY RAKING OR GROOVING TO A FULL AMPLITUDE OF 1/4" INCH. ALL INTERFACING SURFACES MUST BE CLEAN AND FREE OF LAITANCE.
12. ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, PIPE SLEEVES, ETC., SHALL BE SURELY POSITIONED IN THE FORMS BEFORE PLACING CONCRETE.
13. THE KEYWAY AND FOOTING SHALL BE POURED DIRECTLY AGAINST UNDISTURBED SOIL WITHIN 48 HOURS AFTER EXCAVATION.
14. ALL EXPOSED SURFACES ON THE RETAINING WALL SHALL BE STAINED WITH A WATER REPELLANT (PIGMENTED) STAIN MANUFACTURED BY UNITED COATINGS, EAST 19011 CATALDO, GREENACRES, WA 99016 OR APPROVED EQUAL. COLOR SELECTION SHALL BE APPROVED BY THE OWNER PRIOR TO APPLICATION.



REINFORCED CONCRETE RETAINING WALL DETAIL ⚠

N.T.S.

RECORD DOCUMENTS 6/9/2000

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BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY WILLIAM R. EARL, P.E. 56507 ON OCTOBER 24, 1997

WILLIAM R. EARL 56507 REGISTERED PROFESSIONAL ENGINEER
10/24/97

⚠2 UPDATED 3/16/98

⚠1 ADDENDUM #1, 12/19/97

RETAINING WALL
PLAN, PROFILE & DETAILS
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
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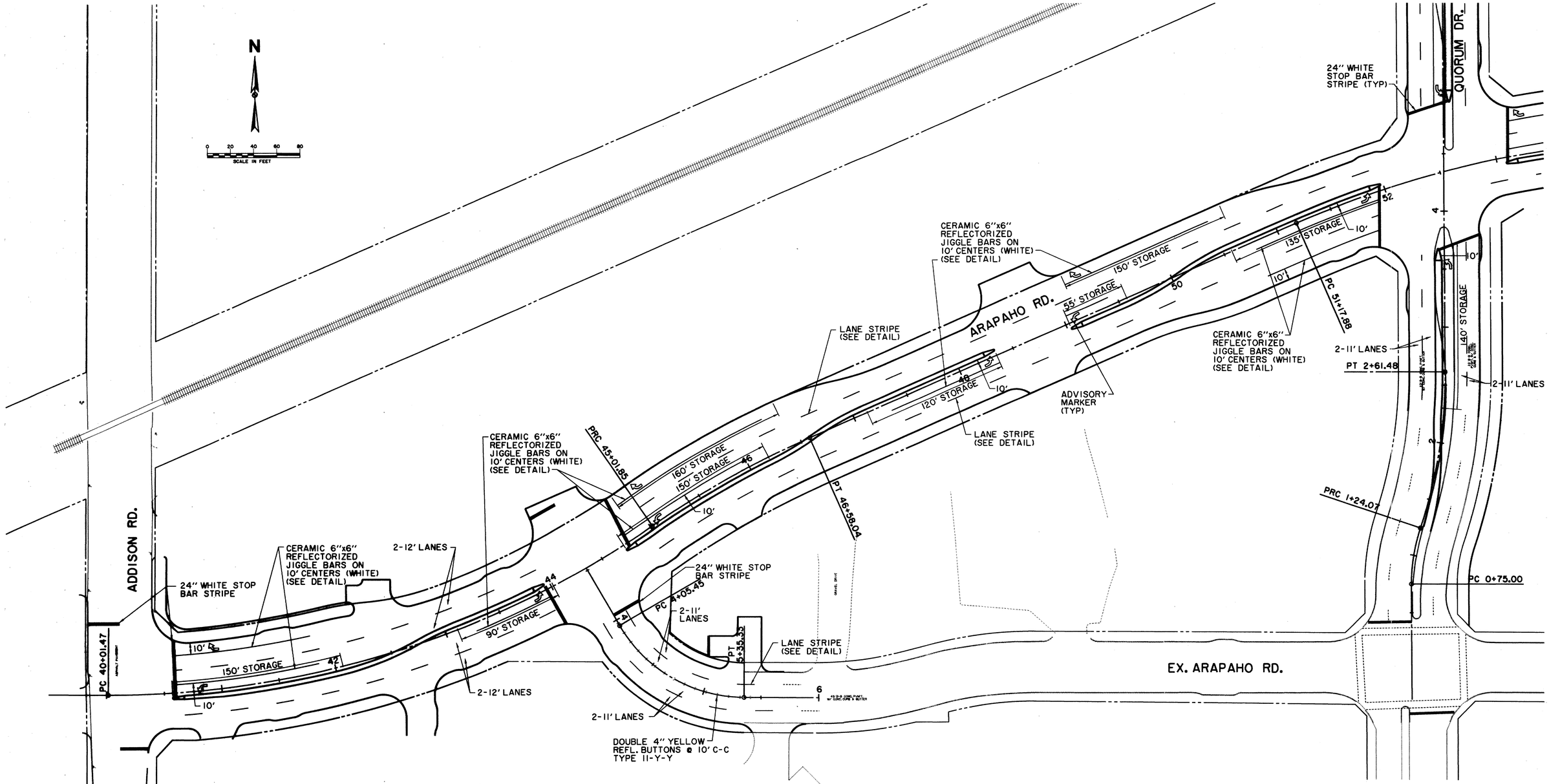

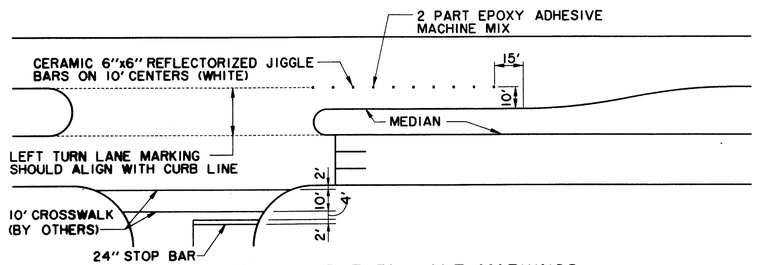

STANDARD TURN LANE MARKINGS
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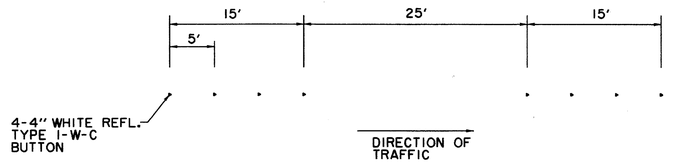

TYPICAL LANE STRIPE
TRAFFIC BUTTON LAYOUT

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

STRIPING PLAN
ADDISON ROAD TO QUORUM DRIVE
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
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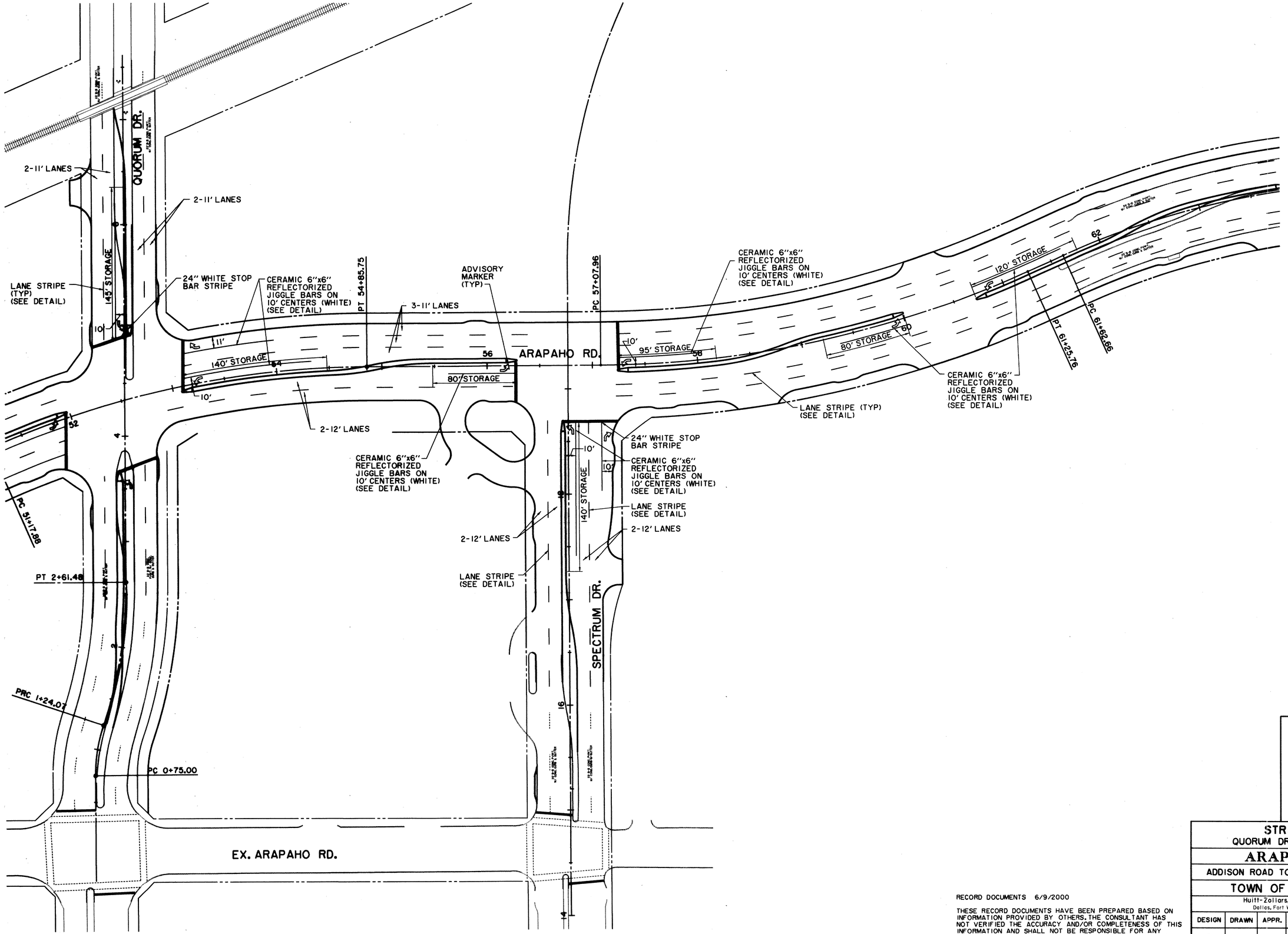

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

STRIPING PLAN
QUORUM DRIVE TO STA. 62+00
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=40'	OCT 97	1772-01	P-17

RECORD DOCUMENTS 6/9/2000

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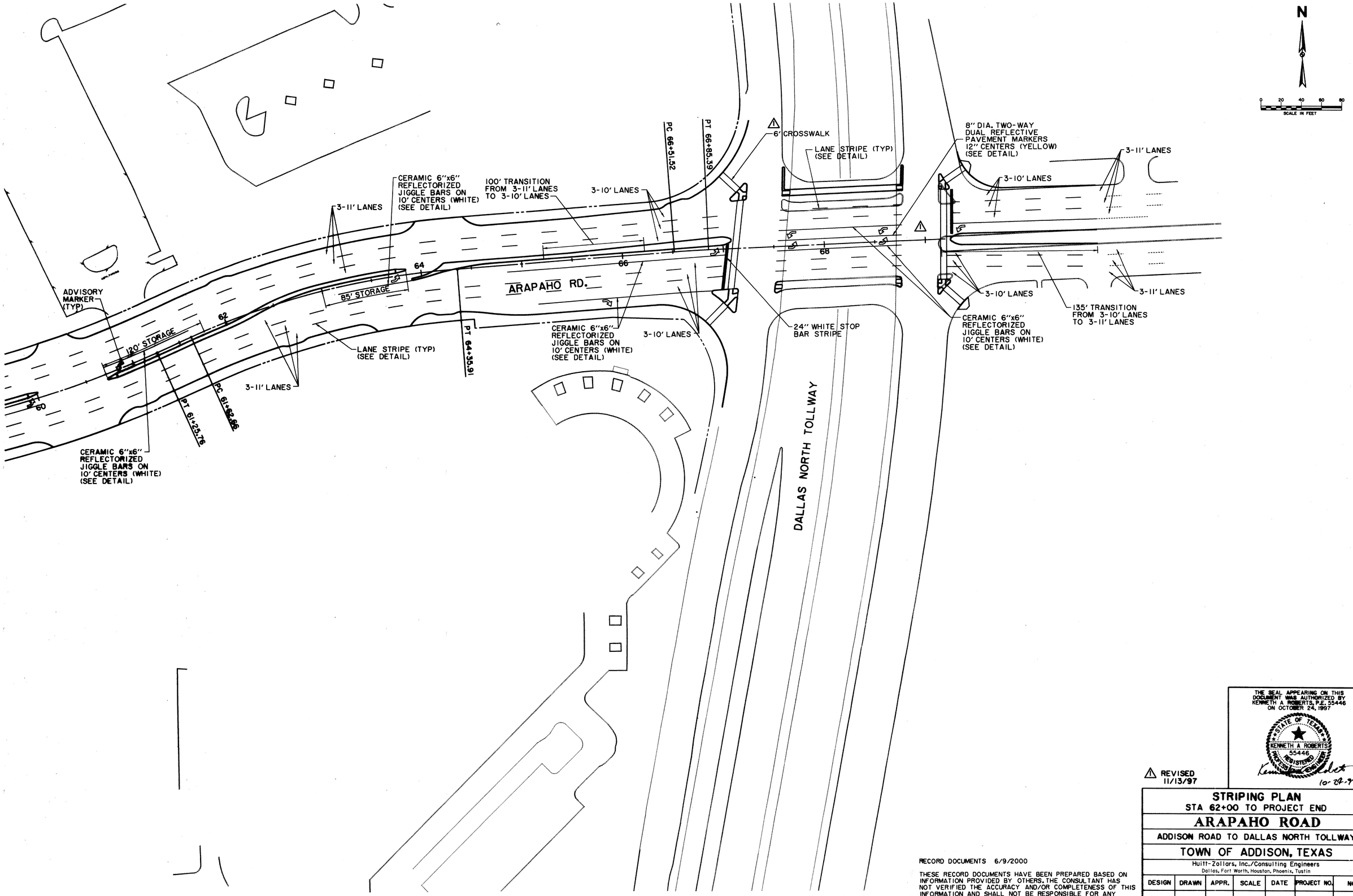

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 11/13/97

STRIPING PLAN
STA 62+00 TO PROJECT END

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=40'	OCT 97	1772-01	P-18

N:\PROJ\1772\DGN\1772STR3.DGN

CHATTAHOOCHEE LEASING CORPORATION

℄ CURVE DATA
Δ= 01° 56' 26"
R= 1000.00'
T= 16.94'
L= 33.87'

65+50
3-11' MAIN LANES
TRANSITION FROM 11' MAIN LANES TO 10' MAIN LANES

MATCH LINE STA. 65+00

3-11' MAIN LANES
10' LEFT TURN LANE
10' RIGHT TURN LANE
TRANSITION FROM 11' MAIN LANES TO 10' MAIN LANES
65+50

MEPC QUORUM PROPERTIES II INC.

2' OPENING FOR DRAINAGE

8" DIA. TWO-WAY DUAL REFLECTIVE PAVEMENT MARKERS 12" CENTERS (YELLOW)

U-TURN CLOSED

3-10' LANES

10' TURN LANE

N 87°35'37" E

LANE STRIPES ON BRIDGE TY 1W-C ON 5' CENTERS

DALLAS NORTH TOLLWAY

TRANSITION FROM 11' MAIN LANES TO 10' MAIN LANES
10' MAIN LANES 10' TURN LANES ACROSS BRIDGE
67+60.5

10' MAIN LANES 10' TURN LANES ACROSS BRIDGE
TRANSITION FROM 10' MAIN LANES TO 11' MAIN LANES
68+74.5

70+70
TRANSITION FROM 10' MAIN LANES TO 11' MAIN LANES
3-11' MAIN LANES
10' LEFT TURN LANE

ARROWS INDICATE TRAFFIC MOVEMENTS SEE STRIPING PLANS FOR ADVISORY MARKER LOCATIONS.

ARAPAHO ROAD

DASHED LINES INDICATE LANES OF TRAFFIC. SEE STRIPING PLANS FOR LANE STRIPING.

TRANSITION FROM 10' MAIN LANES TO 11' MAIN LANES
3-11' MAIN LANES
70+70

SEE P-18 FOR LANE STRIPING IN THIS AREA

N

SCALE IN FEET 0 10 20 30 40

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

⚠ REVISED 11/13/97

BRIDGE LANE MODIFICATION

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	1"=20'	OCT 97	1772-01	P-19

RECORD DOCUMENTS 6/9/2000

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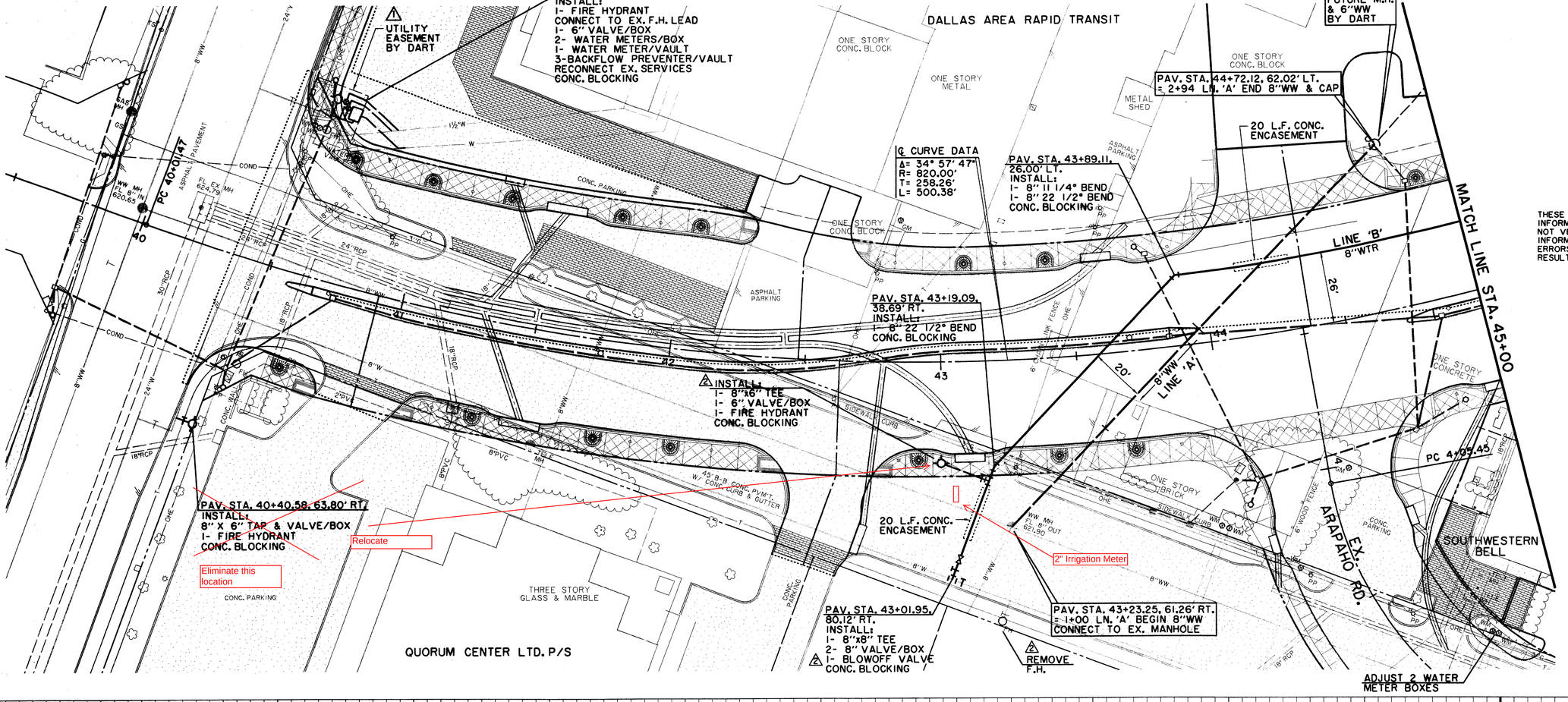

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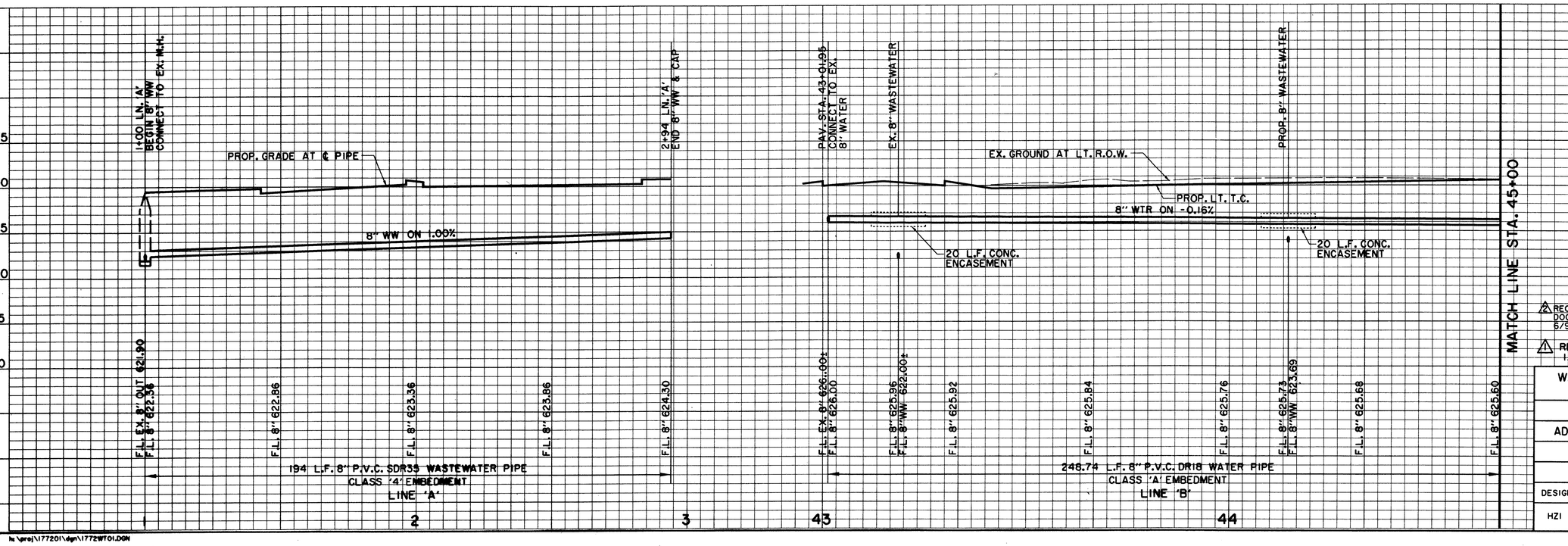
LEGEND

- ELECTRIC — OHE —
  - LIGHT POLE
  - POWER POLE
  - GUY WIRE
- TELEPHONE — T —
  - TELEPHONE MANHOLE
  - TELEPHONE PEDESTAL
  - TELEPHONE SIGN
- GAS — G —
  - GAS METER
  - GAS SIGN
- LAND USE
  - RAILROAD SIGN
  - SIGN
- SURVEY
  - FOUND IRON ROD
  - TEMP BENCHMARK
- WASTEWATER — WW —
  - WASTEWATER MANHOLE
  - CLEANOUT
- WATER — W —
  - FIRE HYDRANT
  - METER
  - WATER VALVE
- MISC.
  - R.C.P. REMOVAL
  - CHAIN LINK FENCE
  - WOOD FENCE
  - EXISTING ASPHALT
  - EXISTING DIRT OR GRAVEL
  - EX. CONCRETE
  - TREE/TREE LINE
  - EXISTING CURB
  - PROP. CURB
  - EX. PROPERTY LINE
  - PROP. CENTERLINE
  - PROP. R.O.W.
  - PROP. INLET
  - PVMT TOP OF PAVEMENT
  - T.C. TOP OF CURB
  - C.R. CURB RETURN



BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

2 RECORD DOCUMENTS 6/9/2000

1 REVISED 1/16/98

WATER & WASTEWATER PLAN & PROFILE
ADDISON ROAD TO STA. 45+00
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	W-1

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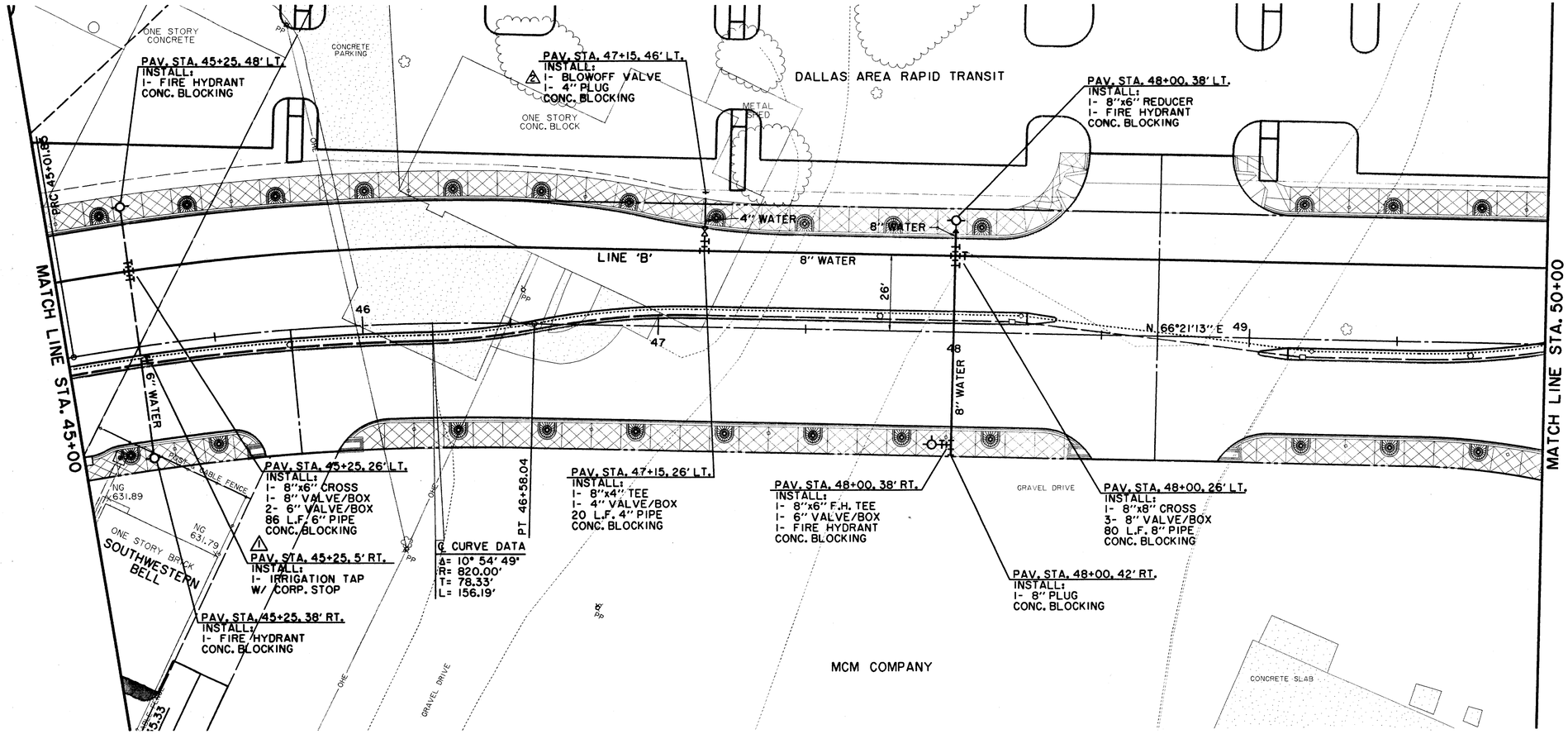

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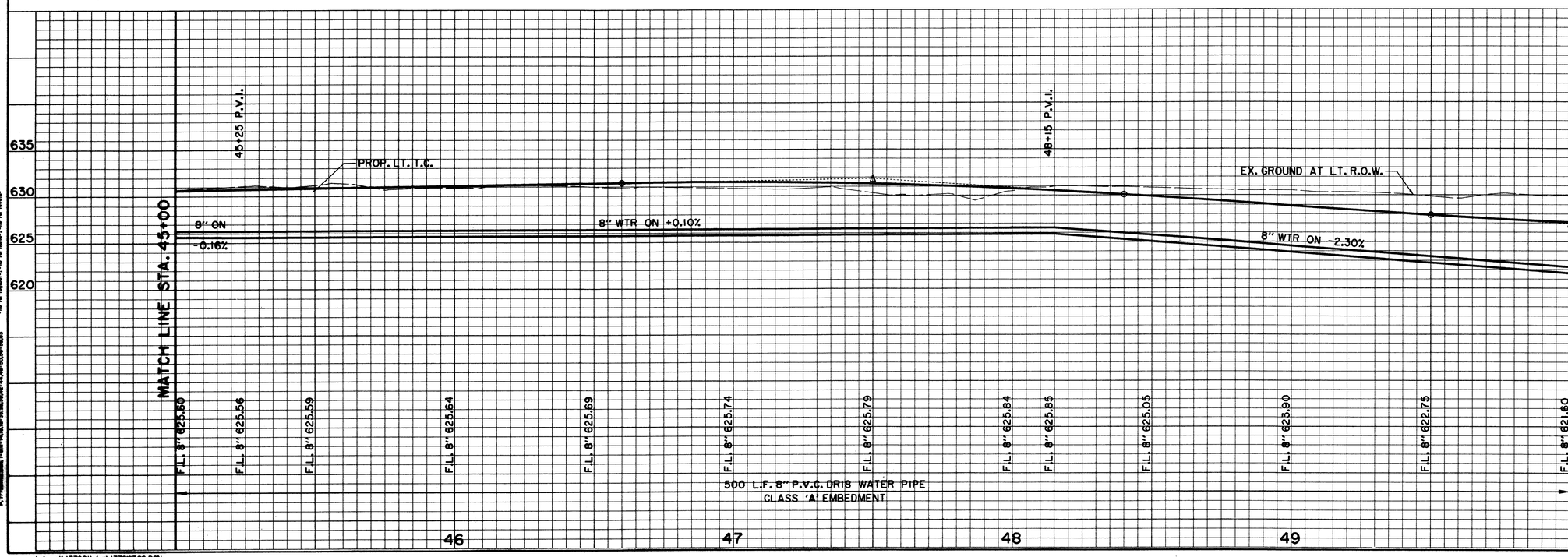

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER
10-24-97

2 RECORD DOCUMENTS 6/9/2000

1 REVISED 1/16/98

WATER PLAN & PROFILE
STA. 45+00 TO STA. 50+00

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H:1"=20' V:1"=6'	OCT 97	1772-01	W-2

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DALLAS AREA RAPID TRANSIT

TOWN OF ADDISON

℄ CURVE DATA
Δ= 23° 25' 10"
R= 900.00'
T= 186.54
L= 367.87'

PAV. STA. 5+42. 36.79' RT.
INSTALL:
1- 24"x8" TAP
1- 8" VALVE/BOX
10 L.F. 8" PIPE RESTRAINED JOINT
1- 8" PLUG
CONC. BLOCKING

PAV. STA. 5I+05. 43' LT.
INSTALL:
1- FIRE HYDRANT
CONC. BLOCKING

⚠ INSTALL:
1- 22 1/2° BEND
CONC. BLOCKING

QUORUM DR.

6" WATER

LINE 'B'
8" WATER

26'

MATCH LINE STA. 50+00

N 66°21'13" E

PAV. STA. 5I+05. 26' LT.
INSTALL:
1- 8"x8" CROSS
1- 8"x6" REDUCER
1- 6" VALVE/BOX
1- 8" VALVE/BOX
17 L.F. 6" PIPE
78 L.F. 8" PIPE
CONC. BLOCKING

8" WATER

PC 5I+17.88

PAV. STA. 5I+05. 49' RT.
INSTALL:
1- 8"x6" F.H. TEE
1- 6" VALVE/BOX
1- FIRE HYDRANT
CONC. BLOCKING

PAV. STA. 5I+05. 52' RT.
INSTALL:
1- 8" PLUG
CONC. BLOCKING

Existing to Remain

QUORUM DRIVE
PAV. STA. 3+10.23. 37' LT.
INSTALL:
1- FIRE HYDRANT
CONNECT TO EX.
F.H. LEAD
ADJUST VALVE BOX
CONC. BLOCKING

MCM COMPANY

MCI BURIED CABLE. CONTACT
ADRIAN THEBEAU 972/554-4127
48 HOURS PRIOR TO ANY
CONSTRUCTION IN THIS AREA.

⚠ INSTALL:
1- 24"x8" TAP
1- 8" VALVE/BOX
CONC. BLOCKING

GRAVEL DRIVE

BROOKS BURIED CABLE. CONTACT
THERESA HARDIN 972/753-1900
48 HOURS PRIOR TO ANY
CONSTRUCTION IN THIS AREA

CARRAMERICA REALTY LIMITED PARTNERSHIP

TWO STORY CONCRETE
PARKING GARAGE

STORM LIFT STATION

PT 54+85.75

ADJUST
VALVE BOX

MATCH LINE STA. 55+00

N 00°11'10" W

BROOKS CABLE
MCI CABLE
AERIAL CABLE
8" RCP
24" RCP
60" RCP
66" RCP
15" RCP
OHE

51
52
53
54

N
0 10 20 30 40
SCALE IN FEET

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LEGEND

ELECTRIC — OHE —
- LIGHT POLE
- POWER POLE
- GUY WIRE

TELEPHONE — T —
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TELEPHONE SIGN

GAS — G —
- GAS METER
- GAS SIGN

LAND USE
- RAILROAD SIGN
- SIGN

SURVEY
- FOUND IRON ROD
- TEMP BENCHMARK

WASTEWATER — WW —
- WASTEWATER MANHOLE
- CLEANOUT

WATER — W —
- FIRE HYDRANT
- METER
- T WATER VALVE

MISC.
- 48" RCP — R.C.P. REMOVAL
- CHAIN LINK FENCE
- WOOD FENCE
- EXISTING ASPHALT
- EXISTING DIRT OR GRAVEL
- EX. CONCRETE
- TREE/TREE LINE
- EXISTING CURB
- PROP. CURB
- EX. PROPERTY LINE
- PROP. CENTERLINE
- PROP. R.O.W.
- PROP. INLET
- PVMT TOP OF PAVEMENT
- T.C. TOP OF CURB
- C.R. CURB RETURN

PROP. LT. T.C.

EX. GROUND AT LT. R.O.W.

51+50 P.V.I.

PROP. 42" R.C.P.

EX. MCI CABLE

EX. 66" R.C.P.

52+80 P.V.I.

52+85 P.V.I.

52+96.33 LINE '8' CONNECT TO EX. 24" WATER

EX. INLET TO BE REMOVED F.L. 620.49

EX. INLET TO BE REMOVED F.L. 621.13

8" WTR ON -2.30%

8" WTR ON -3.22%

8" WTR ON +1.77%

8" WTR ON +100.00%

NOTE:
USE RESTRAINED JOINTS AND CONCRETE BLOCKING ON VERTICAL BENDS

MATCH LINE STA. 50+00

F.L. 8" 621.60

F.L. 8" 620.45

F.L. 8" 619.30

F.L. 8" 618.15

F.L. 8" 616.84

F.L. 8" 619.78
F.L. 42" R.C.P. 617.61

F.L. 8" 614.93

F.L. 8" 614.15
F.L. 66" R.C.P. 616.40

F.L. 8" 613.96

F.L. 8" 619.16
F.L. 24" 618.50±

296.33 L.F. 8" P.V.C. DR18 WATER PIPE
CLASS 'A' EMBEDMENT

630
625
620
615
610

51 52 53

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

⚠ RECORD DOCUMENTS 6/9/2000

WATER PLAN & PROFILE
STA. 50+00 TO STA. 55+00

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	W-3

N:\proj\177201\dgn\1772WT03.DGN

TOWN OF ADDISON

TOWN OF ADDISON

MATCH LINE STA. 55+00

MATCH LINE STA. 60+00

FUTURE EXTENSION OF SPECTRUM DRIVE

SPECTRUM DR.

PAV. STA. 56+04, 61.54' LT.= 2+15 LINE 'C' END & CAP

℄ CURVE DATA
Δ= 23° 56' 17"
R= 1000.00'
T= 211.99'
L= 417.80'
PC 57+07.98

STA. 58+97.52, 57.5' LT.
INSTALL:
1- 6" PLUG
CONC. BLOCKING

⚠ STA. 58+97.52, 48' LT.
INSTALL:
55 L.F. 8" WATER
CONNECT TO EX. 8" WATER
1- 8"x6" REDUCER
1- 8"x6" F.H. TEE
1- 6" VALVE/BOX
1- FIRE HYDRANT
CONC. BLOCKING

PAV. STA. 59+58, 61.98' LT.= 0+75 LINE 'D' END & CAP

Relocate

8"WW LINE 'C'

8"WW LINE 'D'

34' B-B

51'

52'

44' B-B

N 89°46'23" E

CONC. ENCASE 20 L.F. WW

GRAVEL DRIVE

TS TELE & MH

TELE MH

UGE

25 B-B CONC. PVMT. W/ CONC. CURB & GUTTER

10"WW

12"W

36" RCP

REMOVE EX. 8" WW

WW MH FL 10" IN 610.05

N 00°11'00" W

15" RCP

8"WW

8"PVC

0+00 LINE 'C'=
15+67.27 EX. WW
CONNECT TO EX. 8" STUB AT M.H.

PAV. STA. 59+72.57, 11.67' RT.=
0+00 LINE 'D'=
13+42.27 EX. WW
CONSTRUCT 4' DIA. MANHOLE OVER EX. 10" WW
F.L. EX. 10" WW 608.70

CARRAMERICA REALTY LIMITED PARTNERSHIP

MEPC QUORUM PROPERTIES II INC.

N

0 10 20 30 40
SCALE IN FEET

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LEGEND

ELECTRIC — OHE —
- LIGHT POLE
- PP POWER POLE
- GUY WIRE

TELEPHONE — T —
- TELE MH TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TS TELEPHONE SIGN

GAS — G —
- GM GAS METER
- GS GAS SIGN

LAND USE
- R.R RAILROAD SIGN
- SIGN

SURVEY
- I.R. FOUND IRON ROD
- TEMP BENCHMARK

WASTEWATER — WW —
- WW MH WASTEWATER MANHOLE
- CO CLEANOUT

WATER — W —
- FH FIRE HYDRANT
- WM METER
- T WATER VALVE

MISC.
- 48" RCP R.C.P. REMOVAL
- CHAIN LINK FENCE
- WOOD FENCE
- EXISTING ASPHALT
- EXISTING DIRT OR GRAVEL
- EX. CONCRETE
- TREE/TREE LINE
- EXISTING CURB
- PROP. CURB
- EX. PROPERTY LINE
- PROP. CENTERLINE
- PROP. R.O.W.
- PROP. INLET
- PVMT TOP OF PAVEMENT
- T.C. TOP OF CURB
- C.R. CURB RETURN

625 620 615 610 605

2+15 LN. 'C' END 8" WW & CAP

PROP. 39" R.C.P.

PROP. 39" R.C.P.

0+00 LN. 'C' CONNECT TO EX. 8" STUB AT M.H. BEGIN 8" WW

PROP. GRADE AT ℄ PIPE

8" WW ON 0.50%

CONC. ENCASE 20 L.F. WW

F.L. 8" 611.23

F.L. 8" 611.15

F.L. 8" 610.90

F.L. 8" 610.77 39" RCP 612.33

F.L. 8" 610.73 39" RCP 612.34

F.L. 8" 610.65

F.L. 8" 610.40

F.L. 8" 610.15

F.L. EX. 8" OUT 610.05

215 L.F. 8" P.V.C. SDR35 WASTEWATER PIPE CLASS '4' EMBEDMENT LINE 'C'

0+75 LN. 'D' END 8" WW & CAP

0+00 LN. 'D' CONSTRUCT 4' DIA. MANHOLE OVER EX. 10" WW BEGIN 8" WW

PROP. GRADE AT ℄ PIPE

8" WW ON 0.50%

F.L. 8" 609.28

F.L. 8" 609.15

F.L. 8" 608.90

F.L. EX. 8" 608.70

215 L.F. 8" P.V.C. SDR35 WASTEWATER PIPE CLASS '4' EMBEDMENT LINE 'D'

2 1 0 1 0

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

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ELEV. 630.61

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STATE OF TEXAS · KENNETH A. ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

6-18-97

⚠ RECORD DOCUMENTS 6/9/2000

WATER & WASTEWATER PLAN & PROFILE
STA. 55+00 TO STA. 60+00
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	W-4

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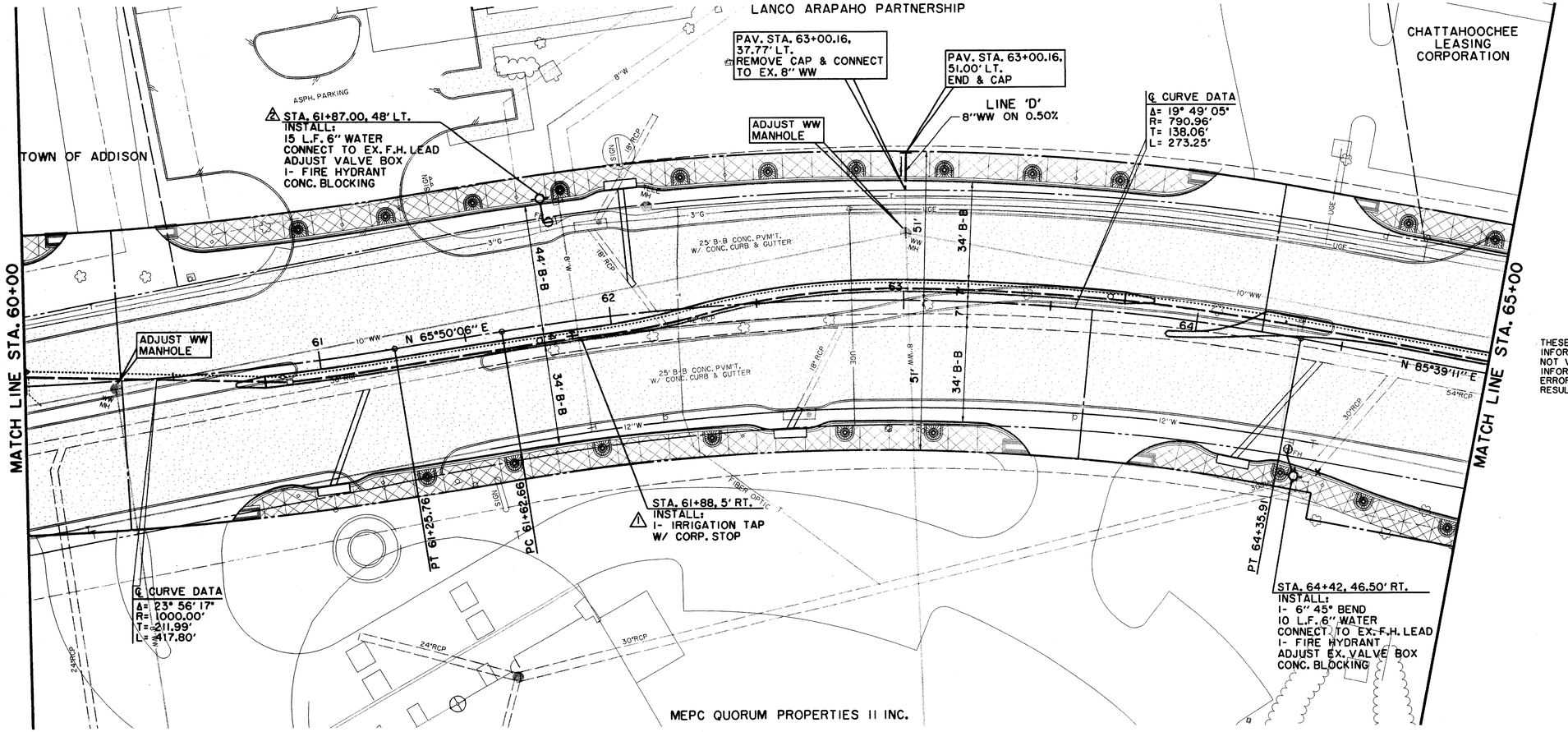

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LEGEND

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  - PP POWER POLE
  - GUY WIRE
- TELEPHONE — T —
  - TELE MH TELEPHONE MANHOLE
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  - TS TELEPHONE SIGN
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  - GM GAS METER
  - GS GAS SIGN
- LAND USE
  - RR RAILROAD SIGN
  - SIGN
- SURVEY
  - I.R. FOUND IRON ROD
  - TEMP BENCHMARK
- WASTEWATER — WW —
  - WW MH WASTEWATER MANHOLE
  - CO CLEANOUT
- WATER — W —
  - FH FIRE HYDRANT
  - WM METER
  - T WATER VALVE
- MISC.
  - 48" RCP R.C.P. REMOVAL
  - CHAIN LINK FENCE
  - WOOD FENCE
  - EXISTING ASPHALT
  - EXISTING DIRT OR GRAVEL
  - EX. CONCRETE
  - TREE/TREE LINE
  - EXISTING CURB
  - PROP. CURB
  - EX. PROPERTY LINE
  - PROP. CENTERLINE
  - PROP. R.O.W.
  - PROP. INLET
  - PVMT TOP OF PAVEMENT
  - T.C. TOP OF CURB
  - C.R. CURB RETURN

BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

2 RECORD DOCUMENTS 6/9/2000

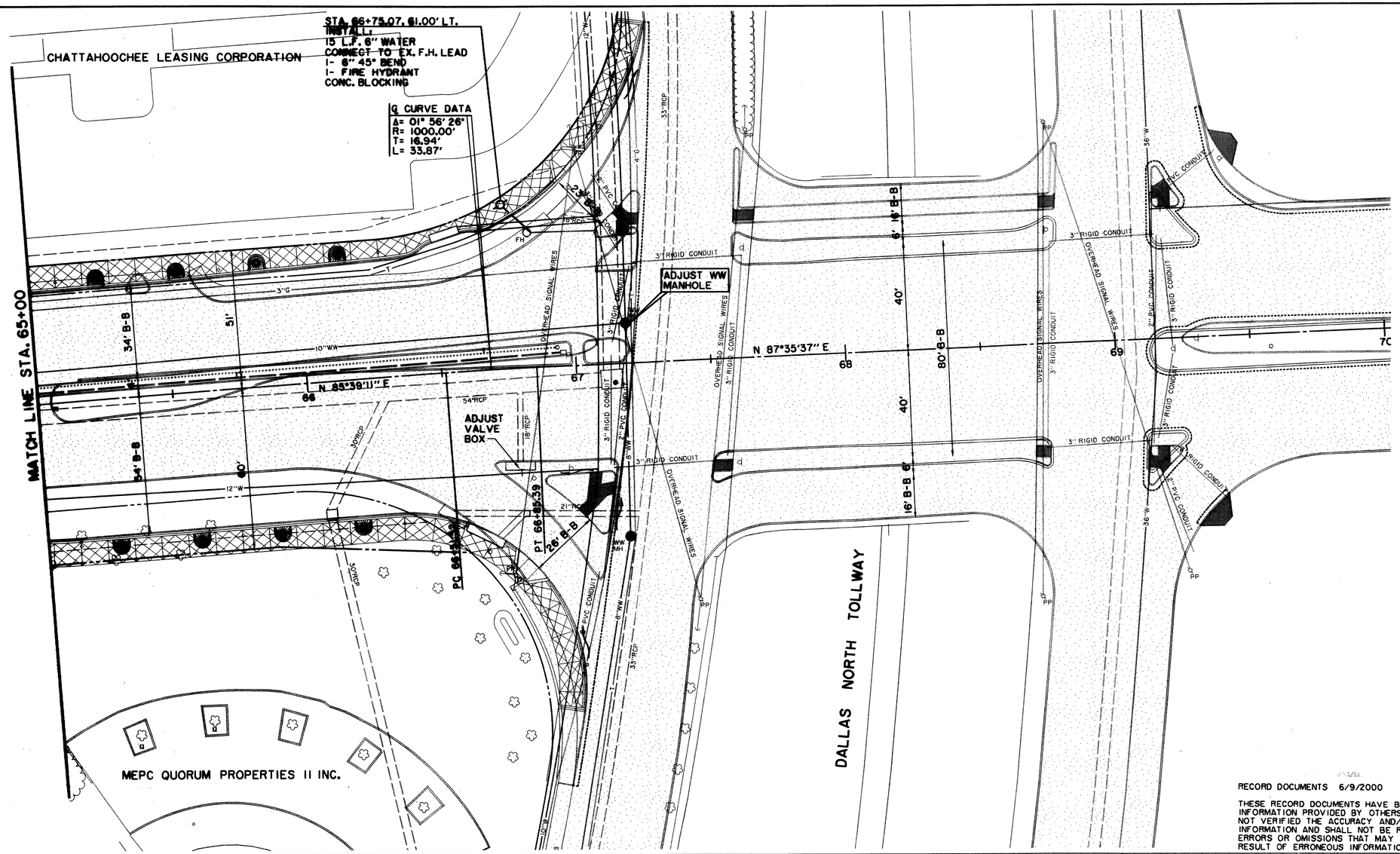
1 REVISED 1/16/98

WATER & WASTEWATER PLAN
STA. 60+00 TO STA. 65+00
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	W-5

N:\proj\177201\dgn\1772WTO5.DGN



N

0 10 20 30 40
SCALE IN FEET

LEGEND

ELECTRIC — OHE —
- LIGHT POLE
- PP POWER POLE
- GUY WIRE

TELEPHONE — T —
- TELE MH TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TS TELEPHONE SIGN

GAS — G —
- GM GAS METER
- GS GAS SIGN

LAND USE
- R,R RAILROAD SIGN
- SIGN

SURVEY
- I.R. FOUND IRON ROD
- TEMP BENCHMARK

WASTEWATER — WW —
- WW MH WASTEWATER MANHOLE
- CO CLEANOUT

WATER — W —
- FH FIRE HYDRANT
- WM METER
- T WATER VALVE

MISC.
- 48" RCP R.C.P. REMOVAL
- CHAIN LINK FENCE
- WOOD FENCE
- EXISTING ASPHALT
- EXISTING DIRT OR GRAVEL
- EX. CONCRETE
- TREE/TREE LINE
- EXISTING CURB
- PROP. CURB
- EX. PROPERTY LINE
- PROP. CENTERLINE
- PROP. R.O.W.
- PROP. INLET
- PVMT TOP OF PAVEMENT
- T.C. TOP OF CURB
- C.R. CURB RETURN

RECORD DOCUMENTS 6/9/2000

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BENCHMARKS:

USC & GS E-921 DISK IN BRICK WALL OF OLD ADDISON SCHOOL HOUSE (MAGIC TIME MACHINE RESTAURANT) ON SOUTH WALL, 4' EAST OF CENTER OF THE ENTRANCE, 4.7' ABOVE THE GROUND.
ELEV. 650.61

"□" ON SOUTHEAST CORNER OF CONCRETE WALK AT FRONT ENTRANCE TO 4805 ARAPAHO ROAD.
ELEV. 630.61

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

WATER & WASTEWATER PLAN
STA. 65+00 TO DALLAS NORTH TOLLWAY

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-04	W-6

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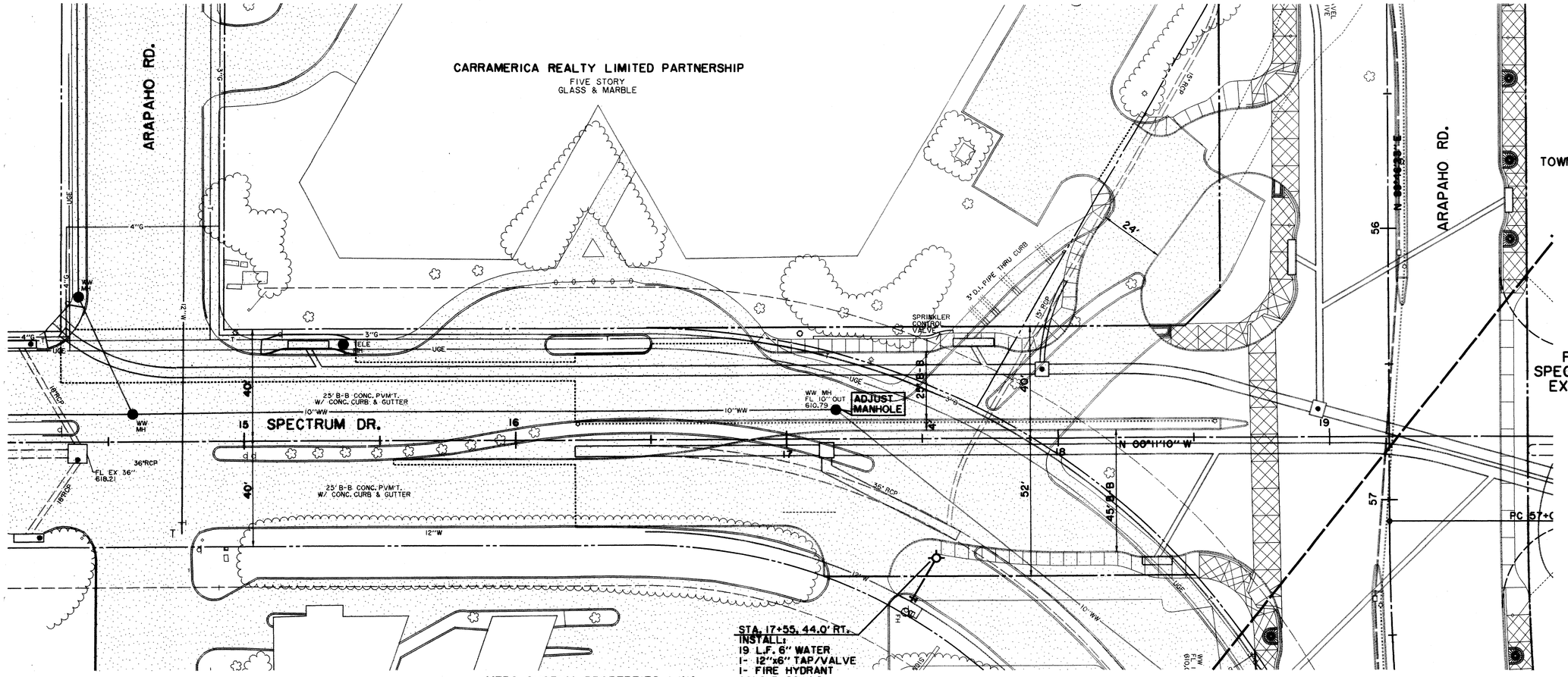

RECORD DOCUMENTS 6/9/2000

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N

0 10 20 30 40
SCALE IN FEET

LEGEND

ELECTRIC —OHE—
- LIGHT POLE
- POWER POLE
- GUY WIRE

TELEPHONE —T—
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TELEPHONE SIGN

GAS —G—
- GAS METER
- GAS SIGN

LAND USE
- RAILROAD SIGN
- SIGN

SURVEY
- FOUND IRON ROD
- TEMP BENCHMARK

WASTEWATER —WW—
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STATE OF TEXAS
KENNETH A. ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

WATER & WASTEWATER PLAN
SPECTRUM DR. STA. 15+55 TO STA. 19+22.03

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=8'	OCT 97	1772-01	W-7

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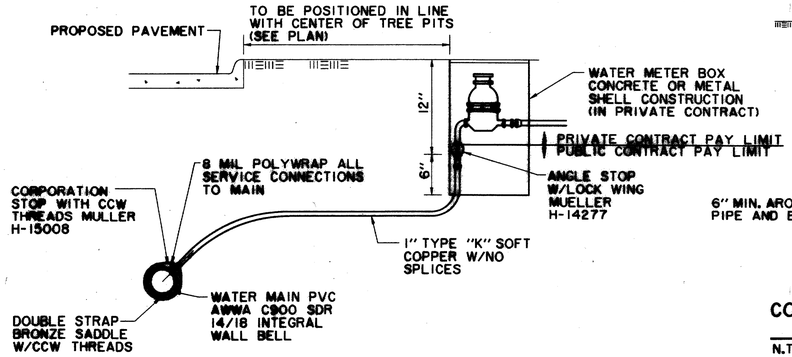
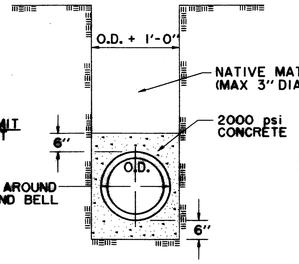
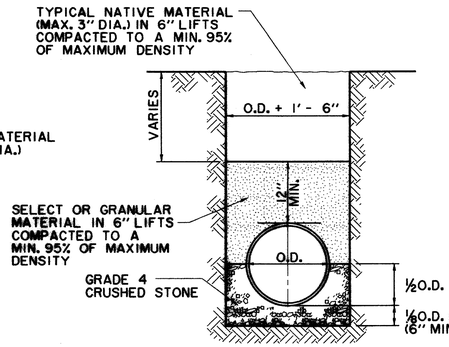


TYPICAL WATER SERVICE DETAIL
N.T.S.



CONCRETE ENCASEMENT WATER MAIN
N.T.S.



RCCP WATERLINE EMBEDMENT
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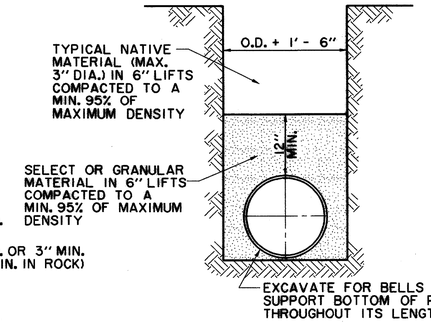
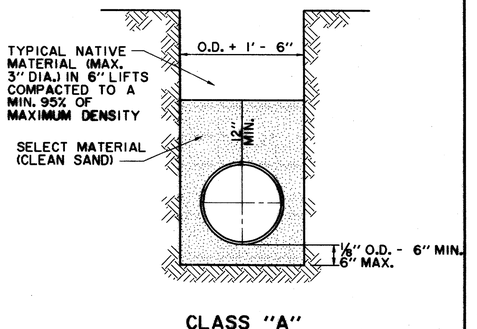


C.I. OR D.I. PIPE
N.T.S.



CLASS "A" EMBEDMENT P.V.C.
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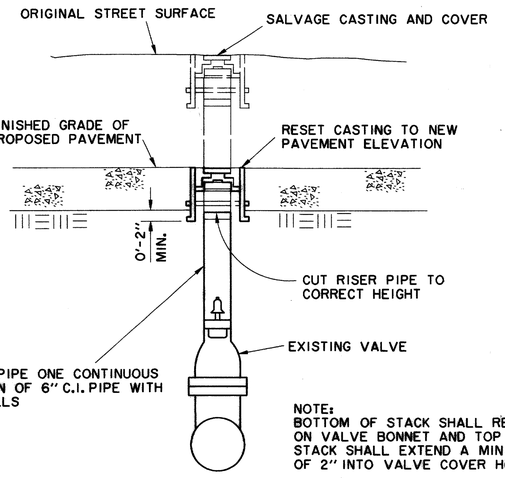
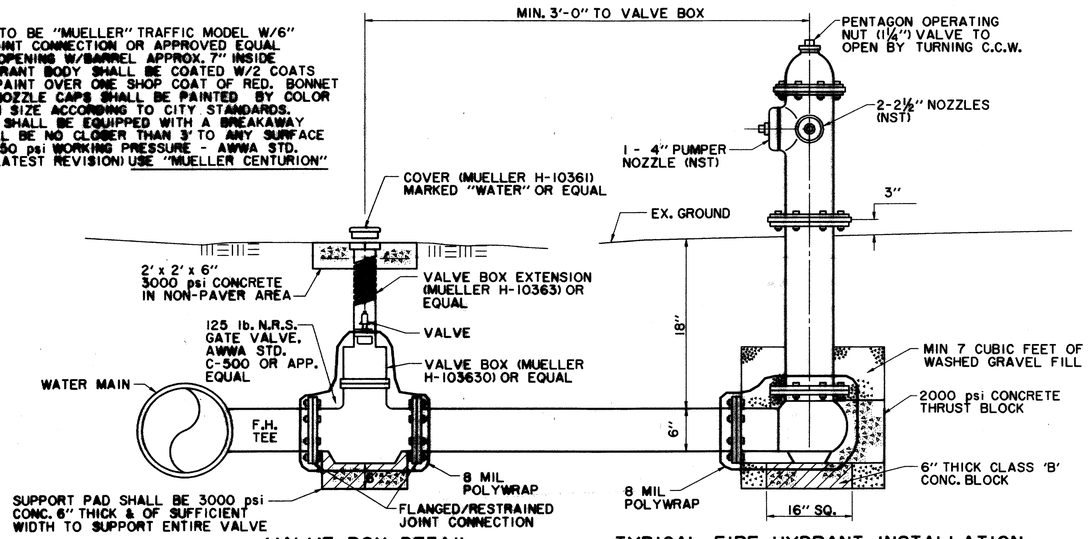


VALVE COVER AND RISER PIPE ADJUSTMENT
N.T.S.

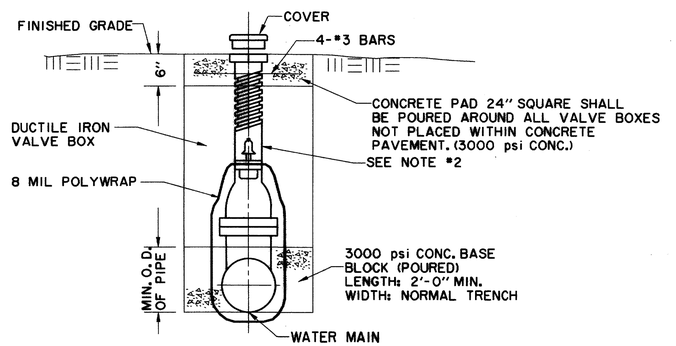
FIRE HYDRANT TO BE "MUELLER" TRAFFIC MODEL W/6" MECHANICAL JOINT CONNECTION OR APPROVED EQUAL W/5¼" VALVE OPENING W/BARREL APPROX. 7" INSIDE DIAMETER. HYDRANT BODY SHALL BE COATED W/2 COATS OF ALUMINUM PAINT OVER ONE SHOP COAT OF RED. BONNET TO FLANGE & NOZZLE CAPS SHALL BE PAINTED BY COLOR CODE FOR MAIN SIZE ACCORDING TO CITY STANDARDS. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE & SHALL BE NO CLOSER THAN 3' TO ANY SURFACE OBSTRUCTION. (150 psi WORKING PRESSURE - AWWA STD. C-502-85 OR LATEST REVISION) USE "MUELLER CENTURION"



VALVE BOX DETAIL
N.T.S.

(SEE PLANS FOR "MAIN SIZE")

TYPICAL FIRE HYDRANT INSTALLATION
N.T.S.



TYPICAL VALVE SETTING AND BOX
N.T.S.

GATE VALVES AND VALVE BOXES:

1. GATE VALVES SHALL BE IRON BODY, BRONZE OR BRASS MOUNTED, NON-RISING STEM, PARALLEL SEAT TYPE. VALVES SHALL BE OF EQUAL OR GREATER PRESSURE CLASS THAN THE PIPING IN WHICH THEY ARE TO BE INSTALLED.
2. VALVE BOXES SHALL BE CAST IRON AND SHALL BE OF SUFFICIENT LENGTH AND DIAMETER TO OPERATE ALL VALVES BURIED IN THE GROUND. COVERS SHALL BE MARKED ''WATER''. THE BOXES SHALL REST ON THE VALVE AND BE ADJUSTED SO THAT THE COVER MAY SET FLUSH WITH THE FINISHED GRADE.

GENERAL NOTES:

1. ℄ OF F.H. BARREL SHALL BE NOT LESS THAN 6.0' OR MORE THAN 9.0' FROM BACK OF CURB OR EDGE OF DRIVING LANE.
2. DO NOT SET F.H. IN AN EXISTING OR PROPOSED SIDEWALK, UNLESS OTHERWISE NOTED.
3. ALL F.H. TEES SHALL BE M.J. WITH FLANGED/RESTRAINED JOINT ON THE BRANCH WITH FLANGED/RESTRAINED JOINT VALVE.

NOTES:

1. GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA STANDARD C-509-80 OR LATEST THEREOF ALL VALVES SHALL BE ''MUELLER'' OR APPROVED EQUAL.
2. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE THAT ITS OPERATING NUT IS LOCATED IN EXCESS OF 4 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 4' OF VALVE BOX LID. MANUFACTURED VALVE STACK DUCTILE IRON PIPE TO BE USED FOR EXTENSION GREATER THAN 4'-0'' BELL END OF STACK TO BE FITTED OVER VALVE. VALVE AND VALVE STACK IS TO BE POLY WRAPED.
3. VALVES SHALL BE OF DUCTILE IRON W/RUBBER ENCAPSULATED DISK. BOLTS SHALL BE STAINLESS STEEL OF SAME SIZE ON EACH VALVE.

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED · PROFESSIONAL ENGINEER

10-24-97

WATER DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	W-8

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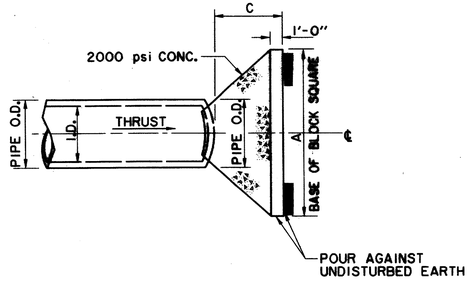
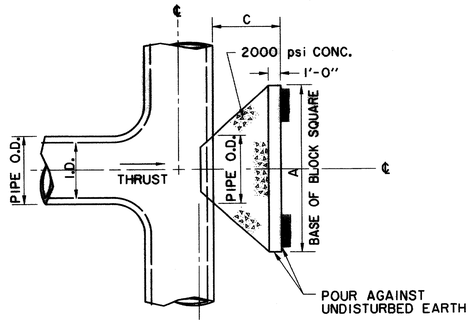
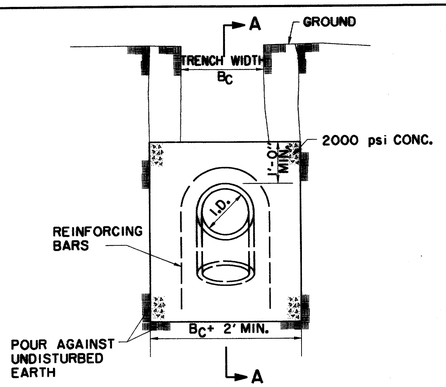


PLAN OF PLUG THRUST BLOCK
N.T.S.

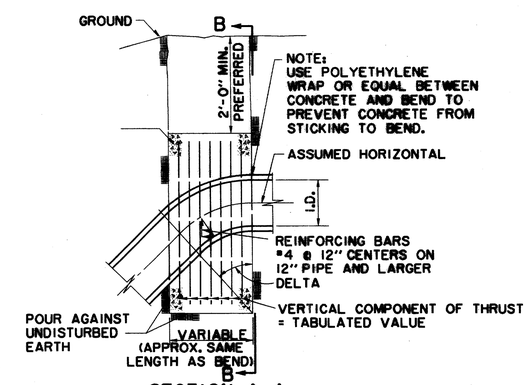


PLAN OF TEE THRUST BLOCK
N.T.S.

			EARTH		ROCK	
I.D. (IN.)	THRUST TONS	C. FT.	A. FT.	VOL. C.Y.	A. FT.	VOL. C.Y.
4, 6, 8	5.1	1.5	2.5	0.3	2.0	0.2
10, 12	11.3	1.5	3.5	0.6	2.5	0.3
16, 18	25.5	2.0	5.5	1.6	4.0	0.9
24	45.2	2.5	7.0	3.1	5.0	1.7



ELEVATION B-B
N.T.S.



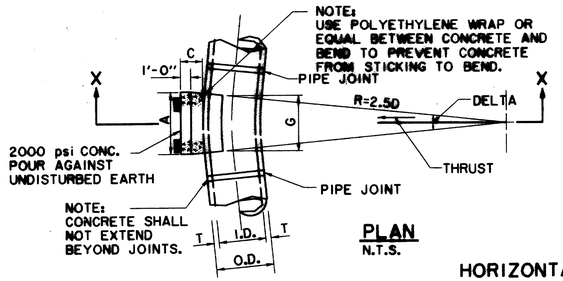
SECTION A-A
N.T.S.

VERTICAL BENDS

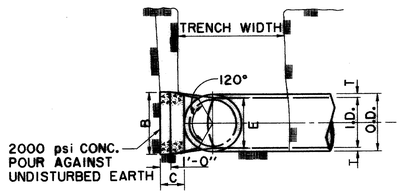
	11.25°		22.50°		30°		45°		67.50°		90°		
I.D. (IN.)	THRUST TONS	VOL. C.Y.	THRUST TONS	VOL. C.Y.	THRUST TONS	VOL. C.Y.	THRUST TONS	VOL. C.Y.	THRUST TONS	VOL. C.Y.	THRUST TONS	VOL. C.Y.	I.D. (IN.)
4, 6, 8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4, 6, 8
10, 12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10, 12
16, 18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16, 18
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.9	20.9	45.2	22.6	24

GENERAL NOTES FOR ALL THRUST BLOCKS

1. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 P.S.I. FOR 24'' I.D. PIPE AND SMALLER AND 150 P.S.I. ON 30'' I.D. AND LARGER.
2. VOLUMES OF VERTICAL BEND THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE (CLASS F) IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THRUST ON THE VERTICAL BEND.
3. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.
4. CONCRETE FOR BLOCKING SHALL BE 2000 psi CONCRETE.
5. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.
6. CONCRETE BLOCKING SHALL BE IN PLACE A MINIMUM OF 4 DAYS PRIOR TO TESTING THE PIPELINE.



PLAN
N.T.S.



SECTION X-X
N.T.S.

I.D. (IN.)	T. IN.	C 11.25° FT.	C 22.50°+ FT.	E. FT.
4, 6, 8	0.4	1.5	1.5	0.9
10, 12	0.5	1.5	1.5	1.2
16, 18	0.6	1.5	1.5	1.6
24	0.9	1.5	1.5	2.1

HORIZONTAL BENDS

DELTA	11.25°								22.50°								DELTA
				EARTH			ROCK					EARTH			ROCK		
I.D. (IN.)	G. FT.	THRUST TONS	A. FT.	B. FT.	VOL. C.Y.	A. FT.	B. FT.	VOL. C.Y.	G. FT.	THRUST TONS	A. FT.	B. FT.	VOL. C.Y.	A. FT.	B. FT.	VOL. C.Y.	I.D. (IN.)
4, 6, 8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1	0.8	2.0	1.5	1.5	0.1	1.0	1.0	0.1	4, 6, 8
10, 12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1	10, 12
16, 18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3	16, 18
24	1.1	8.9	3.0	3.5	0.5	1.5	3.0	0.3	2.2	17.7	4.0	4.5	1.0	3.0	3.5	0.5	24
DELTA	45°								90°								DELTA
4, 6, 8	0.4	3.9	2.0	2.0	0.2	1.5	1.5	0.1	0.4	5.0	5.0	1.5	0.4	2.0	2.0	0.2	4, 6, 8
10, 12	0.5	8.7	3.5	2.5	0.5	2.0	2.5	0.3	0.5	6.5	6.5	2.5	1.0	3.5	2.5	0.5	10, 12
16, 18	0.6	19.5	4.5	4.5	1.2	3.0	3.5	0.6	0.6	9.0	9.0	4.0	2.4	4.5	4.0	1.0	16, 18
24	0.9	34.6	8.0	4.5	2.3	4.5	4.0	1.1	0.9	14.5	14.5	4.5	5.0	8.0	4.0	2.1	24

GENERAL NOTES

1. UNPLASTICIZED POLYVINYL CHLORIDE (PVC) WATER PIPE SHALL MEET OR EXCEED REQUIREMENTS OF AWWA C900 PVC PIPE WITH CAST IRON OUTSIDE DIMENSIONS. PIPE SHALL BE LISTED BY UNDERWRITER LABORATORIES AND SHALL BE APPROVED FOR USE IN CITIES AND TOWNS OF THE STATE OF TEXAS BY THE STATE BOARD OF INSURANCE.
2. PVC WATER PIPE SHALL BE FURNISHED WITH A RUBBER RING AT EACH JOINT AND AN INTEGRAL THICKENED BELL AS A PART OF EACH JOINT. THE PIPE CLASS SHALL BE MINIMUM CLASS 200 DR 14 FOR 6-INCH PIPE AND CLASS 150 DR 18 FOR 8-INCH AND LARGER PIPE WHICH REFERS TO THE MAXIMUM HYDROSTATIC PRESSURE IN NORMAL OPERATIONS. LAYING LENGTHS SHALL BE 20 FEET. PIPE AND FITTINGS MUST BE ASSEMBLED WITH A NONTOXIC LUBRICANT.
3. ALL FITTINGS FOR PVC WATER PIPE SHALL BE GRAY IRON OR DUCTILE IRON AND SHALL BE CLASS 250 IN ACCORDANCE WITH AWWA C110-77 (ANSI.10).
4. UNLESS OTHERWISE SPECIFIED ON PLANS OR SHOWN IN PROFILES, PVC WATER PIPE SHALL BE INSTALLED TO CLEAR ALL UTILITY LINES AND SHALL HAVE A MINIMUM COVER OF 36 INCHES BELOW THE LOWEST GRADE OF THE STREET AS PER CITY CODE.
5. 4"-12" RESILIENT SEAT GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA STANDARD C-500.
6. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE WHOSE OPERATING NUT IS LOCATED IN EXCESS OF 4 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 4' OF VALVE BOX LID.
7. DUCTILE IRON OR C-900 PVC PIPE SHALL BE USED FOR VALVE STACKS WITH VALVE BOX CASTING.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED · PROFESSIONAL ENGINEER

10-24-97

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WATER DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	W-9

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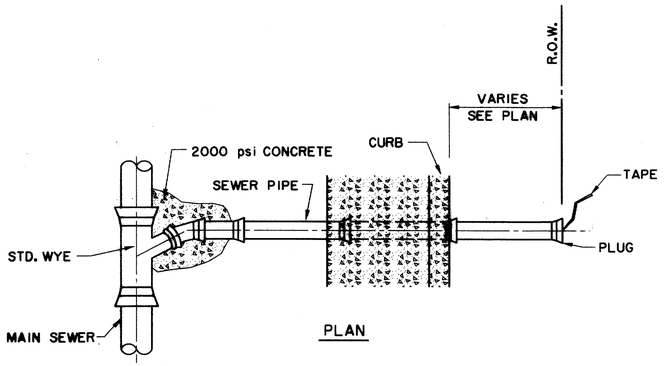
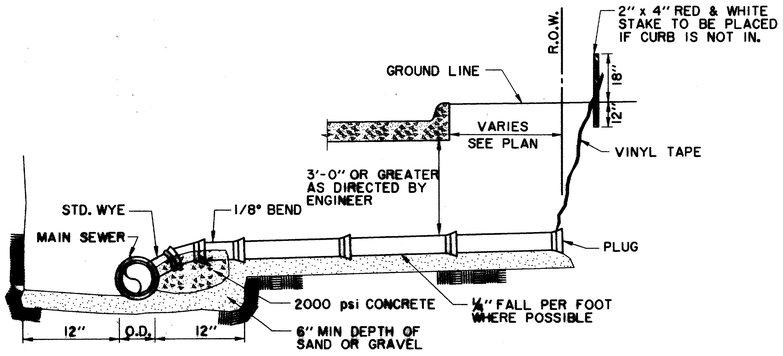


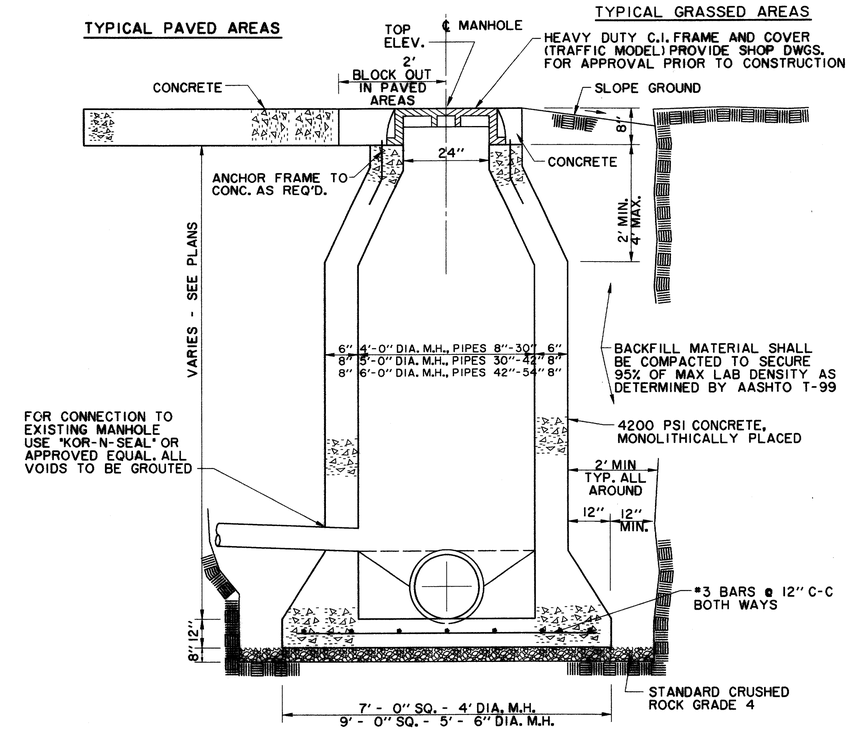
PLAN



ELEVATION

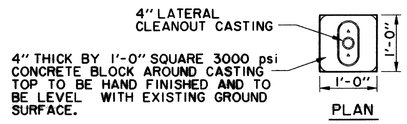
SANITARY SEWER SERVICE CONNECTION

NTS

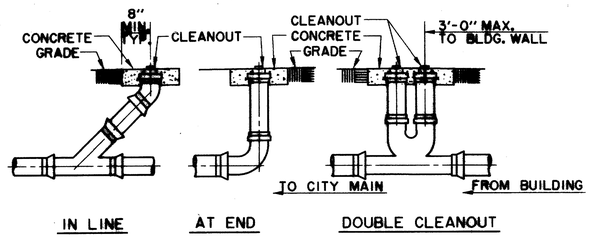


CAST IN PLACE MANHOLE

NOTE:
KEYWAY WITH P.V.C. WATERSTOP REQUIRED AT ALL CONSTRUCTION JOINTS

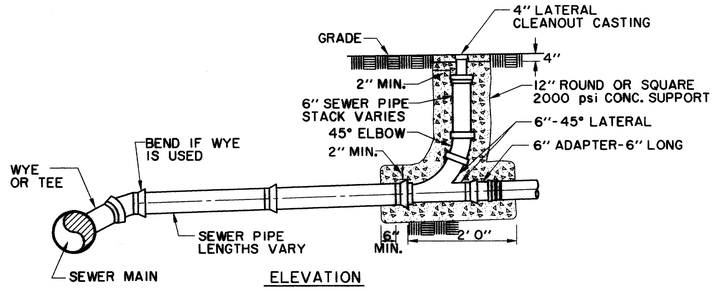


PLAN



IN LINE AT END DOUBLE CLEANOUT

TYPICAL CLEANOUTS IN NON-PAVED AREAS



ELEVATION

SANITARY SEWER CLEANOUT DETAIL

NTS

PVC SANITARY SEWER PIPE TO BE SDR 35 OR SDR 26 (AS NOTED ON PLANS) WITH INTEGRAL BELL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE HORIZONTALLY EACH SERVICE IN RELATION TO THE SANITARY SEWER STATIONING.

FIELD TIES ARE TO BE INCLUDED AND RECORDED ON ALUMINIZED SANITARY SEWER TAPE. THIS TAPE, GREEN OR RED IN COLOR IS TO BE ATTACHED TO THE 6" SERVICE AT THE R.O.W. LINE AND BROUGHT TO THE SURFACE TO BE USED AS A PERMANENT MARKER.

RECORD DOCUMENTS 6/9/2000

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

WASTEWATER DETAILS

ARAPAHO ROAD

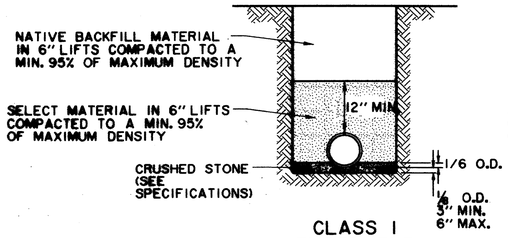
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

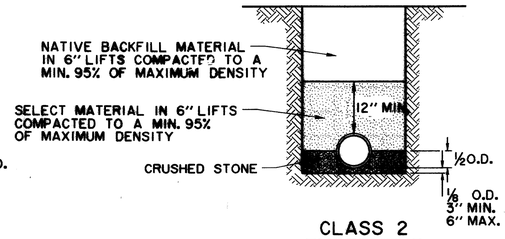
Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	W-10

N:\PROJ\1772\01\DGN\1772TY07.DGN



CLASS 1
EMBEDMENT
LOAD FACTOR = 1.5
N.T.S.



CLASS 2
EMBEDMENT
LOAD FACTOR = 1.9
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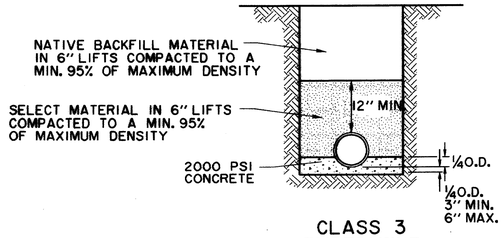
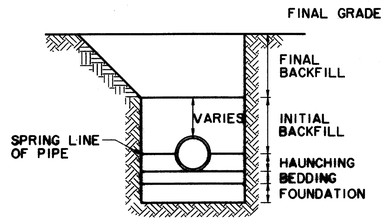
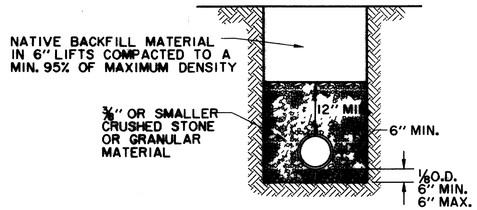


CLASS 3
EMBEDMENT
LOAD FACTOR = 2.8
N.T.S.

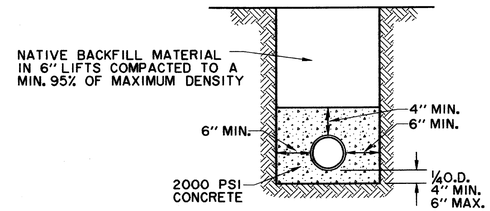


EMBEDMENT ZONES
NTS



CLASS 4 EMBEDMENT
(SDR35 AND SDR26 P.V.C. PIPE ONLY)
LOAD FACTOR = 2.0
NTS

TYPICAL NATIVE MATERIAL COMPACTED TO:
95% OF STANDARD PROCTOR DENSITY AT OPTIMUM MOISTURE 0 TO +3% UNDER PAVEMENT
95% OF STANDARD PROCTOR DENSITY AT OPTIMUM MOISTURE 0 TO +3% OUTSIDE CURB LINES
JETTING IS NOT ALLOWED
BACKFILL TO BE COMPACTED IN 6"+/- LIFTS
TYPICAL NATIVE MATERIAL (MAX. 3" DIA.)



CONCRETE
ENCASEMENT
LOAD FACTOR = 4.2
N.T.S.

EMBEDMENT DETAILS FOR SANITARY SEWER

TABLE OF QUANTITIES OF 2000 psi CONCRETE, GRAVEL OR CRUSHED STONE
IN CUBIC YARDS PER 100 LINEAR FEET FOR EACH CLASS EMBEDMENT

TABLE OF QUANTITIES PER 100 LINEAR FEET REINFORCED CONCRETE PIPE

SIZE OF PIPE IN INCHES I.D.	O.D. OF PIPE IN INCHES	TRENCH WIDTH IN INCHES	TRENCH WIDTH IN FEET	CLASS 1 EMBEDMENT CRUSHED STONE	CLASS 2 EMBEDMENT CONCRETE	CLASS 3 EMBEDMENT CONCRETE	CONCRETE ENCASEMENT
12	16.00	32	2.67	4.1	6.5	4.8	15.8
15	19.50	36	3.00	4.8	7.8	6.4	19.2
18	23.00	39	3.25	5.7	9.2	8.2	21.2
21	26.50	43	3.58	6.9	11.0	10.2	24.9
24	30.00	46	3.83	8.3	13.1	12.4	28.7
27	33.50	51	4.25	10.3	16.1	14.4	32.8
30	37.00	57	4.75	12.7	20.1	17.0	34.8
33	40.50	62	5.17	15.1	23.8	19.3	39.2
36	44.00	67	5.58	18.0	28.6	22.1	43.8

TABLE OF QUANTITIES PER 100 LINEAR FEET-PVC PIPE (IN CUBIC YARDS)

SIZE OF PIPE IN INCHES I.D.	O.D. OF PIPE IN INCHES	TRENCH WIDTH IN INCHES	TRENCH WIDTH IN FEET	CLASS 4 EMBEDMENT CRUSHED STONE	CONCRETE ENCASEMENT
6	6.28	24	2.00	8.0	11.7
8	8.16	24	2.00	8.7	12.4
10	10.20	26	2.18	10.2	14.2
12	12.24	28	2.35	11.7	15.9
16	15.30	31	2.61	14.0	18.8
24		36	3.0		
30		42	3.5		

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A. ROBERTS
55446
REGISTERED
ENGINEER

10-24-97

RECORD DOCUMENTS 6/9/2000

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WASTEWATER DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	N.T.S.	OCT 97	1772-01	W-11

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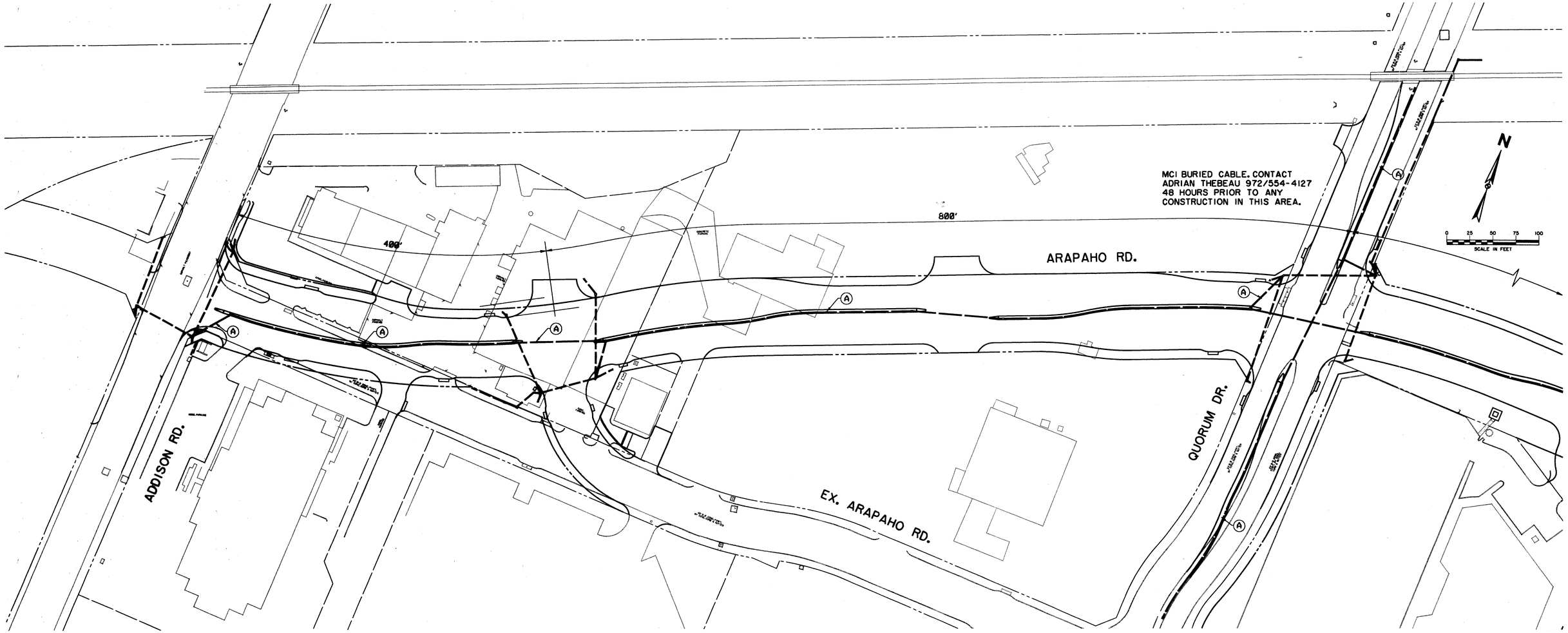

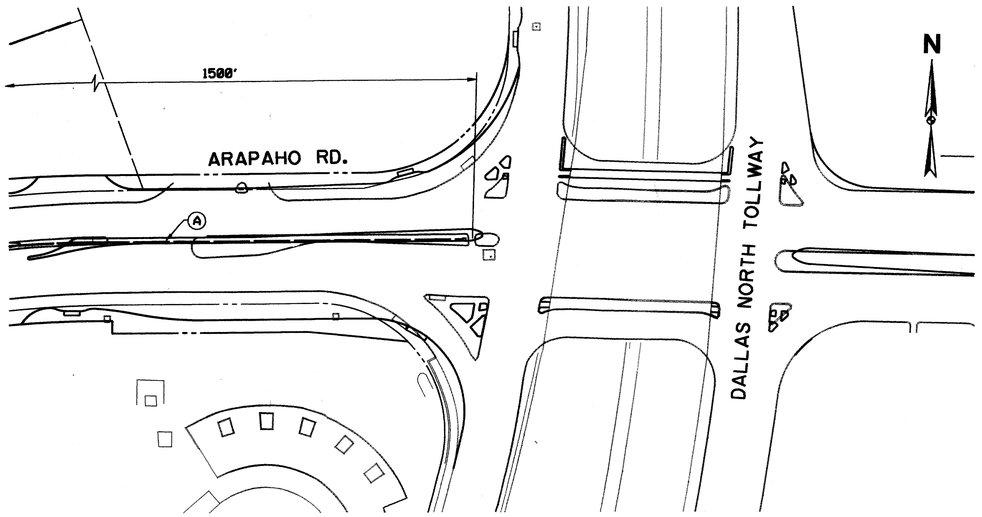

LEGEND

- PROPOSED CONTROLLER
- PROPOSED SIGNAL CONDUIT
- FUTURE SIGNAL CONDUIT
- PROPOSED PULL BOX
- 2" SCH40 PVC INTERCONNECT

INTERCONNECT CONDUIT

RUN #	SCH 40 PVC (INCH)	LENGTH (FEET)	PULL BOX (EACH)
A	2"	2720	16

SEE SIGNAL LAYOUT SHEETS FOR
SIGNAL CONDUIT RUNS TO CONTROLLER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS
DONNA L. MANHART
65548
REGISTERED
PROFESSIONAL ENGINEER
10-24-97

RECORD DOCUMENTS 6/9/2000

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INTERCONNECT LAYOUT

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	1"=50'	OCT 97	1772-01	S-1

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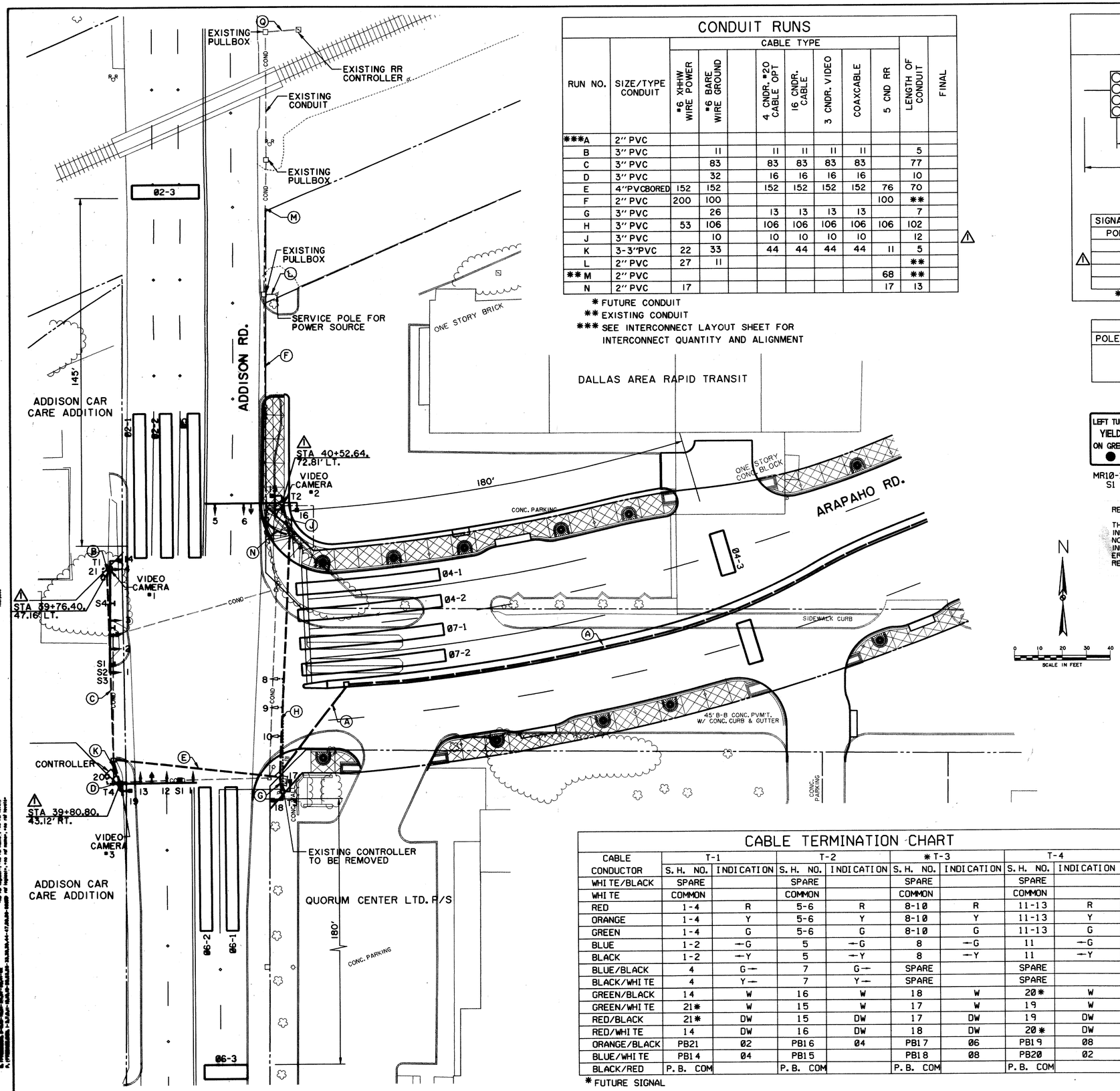
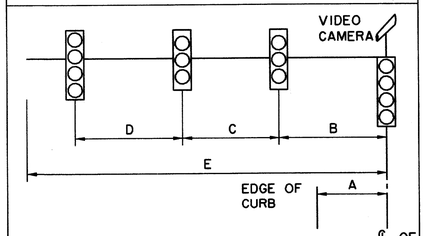


CONDUIT RUNS

RUN NO.	SIZE/TYPE CONDUIT	CABLE TYPE: #6 XHHW WIRE POWER	#6 BARE WIRE GROUND		4 CNDR. #20 CABLE OPT	16 CNDR. CABLE	3 CNDR. VIDEO	COAXCABLE	5 CND RR	LENGTH OF CONDUIT	FINAL
***A	2" PVC										
B	3" PVC		11		11	11	11	11		5	
C	3" PVC		83		83	83	83	83		77	
D	3" PVC		32		16	16	16	16		10	
E	4"PVCBORED	152	152		152	152	152	152	76	70	
F	2" PVC	200	100						100	**	
G	3" PVC		26		13	13	13	13		7	
H	3" PVC	53	106		106	106	106	106	106	102	
J	3" PVC		10		10	10	10	10		12	
K	3-3"PVC	22	33		44	44	44	44	11	5	
L	2" PVC	27	11							**	
**M	2" PVC								68	**	
N	2" PVC	17							17	13	

* FUTURE CONDUIT
** EXISTING CONDUIT
*** SEE INTERCONNECT LAYOUT SHEET FOR INTERCONNECT QUANTITY AND ALIGNMENT

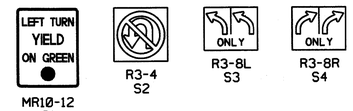
SIGNAL HEAD AND POLE PLACEMENT



SIGNAL HEAD AND POLE PLACEMENT (FEET)					
POLE NUMBER	A	B	C	D	E
T-1	8	22	12	10	44
T-2	9	16	-	12	32
* T-3	9	24	12	12	48
T-4	6	8	11	11	32

* FUTURE

SIGNAL POLE CONDUCTORS			
POLE NUMBER	4CNDR	5CNDR	7CNDR
T-1	65	70	140
T-2	35	60	55
T-4	40	95	60



RECORD DOCUMENTS 6/9/2000

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QUANTITIES

ITEM	UNIT	QTY.
CONDUIT		
1-3" TRENCH	L.F.	215
1-2" TRENCH	L.F.	13
1-4" BORED	L.F.	70
PULL BOX	EA.	4
VIDEO CAMERA	EA.	4
3M OPTICOM DETECTOR	EA.	3
PEDESTRIAN PUSH BUTTON	EA.	6
CABLE WIRE		
5 CONDUCTOR RR	L.F.	378
7 CONDUCTOR #12	L.F.	270
5 CONDUCTOR #12	L.F.	225
16 CONDUCTOR #12	L.F.	435
COAXCABLE	L.F.	525
1 CONDUCTOR #6 GROUND	L.F.	564
2 CONDUCTOR #6 POWER	L.F	472
3 CONDUCTOR (VIDEO)	L.F.	525
4 CONDUCTOR OPTICOM	L.F.	575
SIGNS		
MR10-12	EA.	2
R3-4	EA.	1
R3-8	EA.	2
FOUNDATIONS		
CONTROLLER	EA.	1
TYPE 30-A	EA.	2
TYPE 30-B	EA.	2
TYPE C	EA.	-
POLES:		
MAST ARM POLE		
W/ 32' ARM	EA.	2
W/ 44' ARM	EA.	1
* W/ 48' ARM	EA.	1
SIGNAL HEADS:		
4 SECTION 12" LENS	EA.	6
3 SECTION 12" LENS	EA.	4
2 SECTION PEDESTRIAN	EA.	6
MISCELLANEOUS:		
CONNECT TO RAILROAD GATE CONTROLLER	LS	1

* FUTURE

SIGNAL HEADS

NO	TYPE	PHASE	BACKPLATE 3 SEC	BACKPLATE 4 SEC	12" VEH SEC	PED SIG SEC
1	V4LT	07		1	4	
2	V4LT	07		1	4	
3	V3	04	1		3	
4	V4RT	04		1	4	
5	V4LT	06		1	4	
6	V3	06	1		3	
7	V4RT	06		1	4	
8	V4LT*	03				
9	V3*	08				
10	V3*	08				
11	V4LT	05		1	4	
12	V3	02	1		3	
13	V3	02	1		3	
14,15	PED	04P				2
16,17	PED	06P				2
18,19	PED	08P				2
20,21	PED	02P				
TOTALS			4	6	36	6

* FUTURE

CABLE TERMINATION CHART

CABLE CONDUCTOR	T-1 S.H. NO.	T-1 INDICATION	T-2 S.H. NO.	T-2 INDICATION	*T-3 S.H. NO.	*T-3 INDICATION	T-4 S.H. NO.	T-4 INDICATION
WHITE/BLACK	SPARE		SPARE		SPARE		SPARE	
WHITE	COMMON		COMMON		COMMON		COMMON	
RED	1-4	R	5-6	R	8-10	R	11-13	R
ORANGE	1-4	Y	5-6	Y	8-10	Y	11-13	Y
GREEN	1-4	G	5-6	G	8-10	G	11-13	G
BLUE	1-2	—G	5	—G	8	—G	11	—G
BLACK	1-2	—Y	5	—Y	8	—Y	11	—Y
BLUE/BLACK	4	G—	7	G—	SPARE		SPARE	
BLACK/WHITE	4	Y—	7	Y—	SPARE		SPARE	
GREEN/BLACK	14	W	16	W	18	W	20*	W
GREEN/WHITE	21*	W	15	W	17	W	19	W
RED/BLACK	21*	DW	15	DW	17	DW	19	DW
RED/WHITE	14	DW	16	DW	18	DW	20*	DW
ORANGE/BLACK	PB21	02	PB16	04	PB17	06	PB19	08
BLUE/WHITE	PB14	04	PB15		PB18	08	PB20	02
BLACK/RED	P.B. COM		P.B. COM		P.B. COM		P.B. COM	

* FUTURE SIGNAL

N

0 10 20 30 40
SCALE IN FEET

LEGEND

- PROPOSED PEDESTRIAN SIGNAL
- H — CONDUIT RUN NUMBER
- 8 — SIGNAL HEAD NUMBER
- PROPOSED SIGNAL HEAD
- PROPOSED SIGNAL CONDUIT
- EXISTING SIGNAL CONDUIT
- FUTURE SIGNAL CONDUIT
- FUTURE SIGNAL IMPROVEMENTS
- PROPOSED PULL BOX
- EXISTING PULL BOX
- O_{T3} — PROPOSED SIGNAL POLE
- T — LEFT TURN ON ARROW SIGN
- OPTICOM
- DETECTION ZONE FOR VIDEO

NOTES:

1. ALLOW FOR EXTRA 4, 5 & 7CNDR CABLE FOR THE FUTURE T3 SIGNALS.
2. ALL CABLE SHALL BE RUN CONTINUOUSLY WITHOUT SPLICES.
3. SEE INTERCONNECT LAYOUT SHEET FOR 2" PVC RUN A ALIGNMENT AND SUMMARY.
4. CONTRACTOR SHALL CONTACT TU ELECTRIC TO COORDINATE DISCONNECT AND RECONNECT OF EXISTING STREET LIGHT CIRCUIT. CONTRACTOR SHALL INSTALL NEW FOUNDATION, CONDUIT AND CONDUCTOR IF NECESSARY TO RELOCATE SERVICE POLE.
5. VIDEO CAMERAS SHALL BE MOUNTED ON TOP OF SIGNAL POLE AND AIMED IN THE SAME DIRECTION AS SIGNAL HEADS AND ALIGNED TO DETECT ZONES SHOWN ON THIS SHEET.
6. STREET NAME SIGNS WILL BE INSTALLED BY THE TOWN OF ADDISON.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS · DONNA L. MANHART · 65548 · REGISTERED · PROFESSIONAL ENGINEER

⚠ REVISED 3/16/98

SIGNALIZATION PLAN
ARAPAHO ROAD & ADDISON ROAD

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	1"=20'	OCT 97	1772-01	S-2

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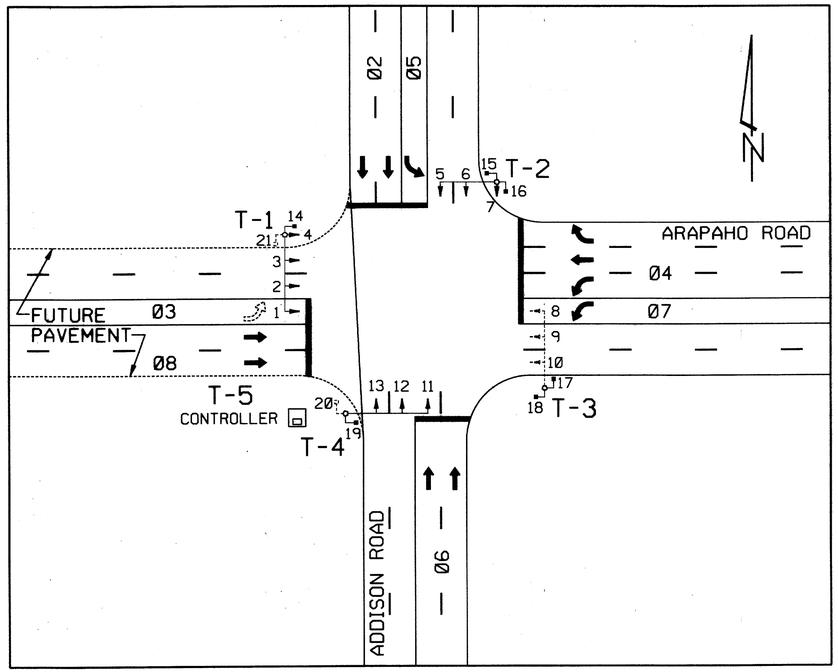
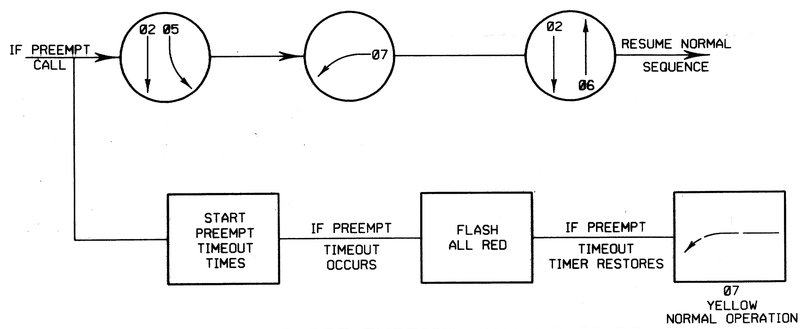
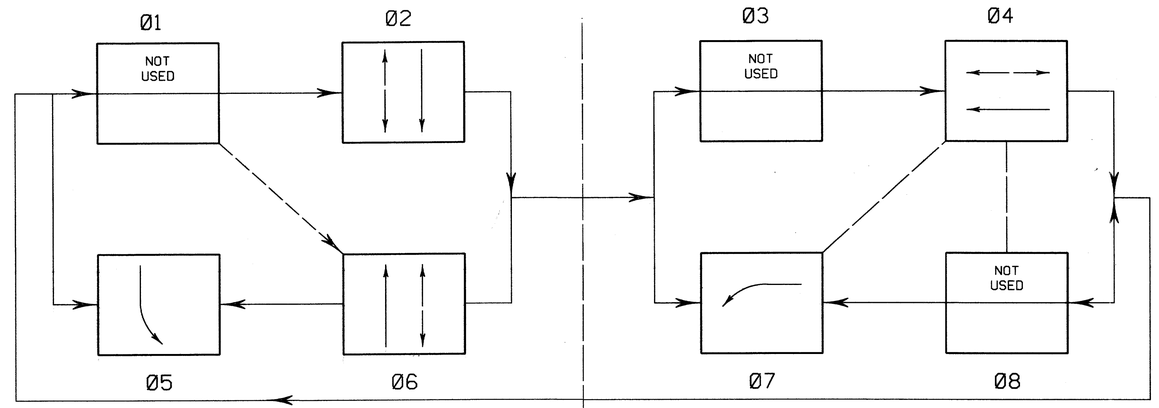


SIGNAL FACES																			
1	2	3	4	5	6	7	8*	9*	10*	11	12	13	14	15	16	17	18	19	20	21
R	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	W	W	W	W	W	W	W	W
G	G	G	G	G	G	G	G	G	G	G	G	G								
←G	←G		G←	←G		G←	←G			←G										

*FUTURE SIGNAL HEADS



RAILROAD PRE-EMPTION PHASING DIAGRAM



PHASE 4 RIGHT TURN WILL OVERLAP WITH PHASE 5

PHASE 5 IS PROTECTED

PHASE 6 RIGHT TURN WILL OVERLAP WITH PHASE 7

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STATE OF TEXAS
DONNA L. MANHART
65548
REGISTERED PROFESSIONAL ENGINEER
10-24-97

RECORD DOCUMENTS 6/9/2000

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PHASE DIAGRAM
ARAPAHO ROAD & ADDISON ROAD
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-3

N:\PROJ\177201\DGN\1772SG02.DGN

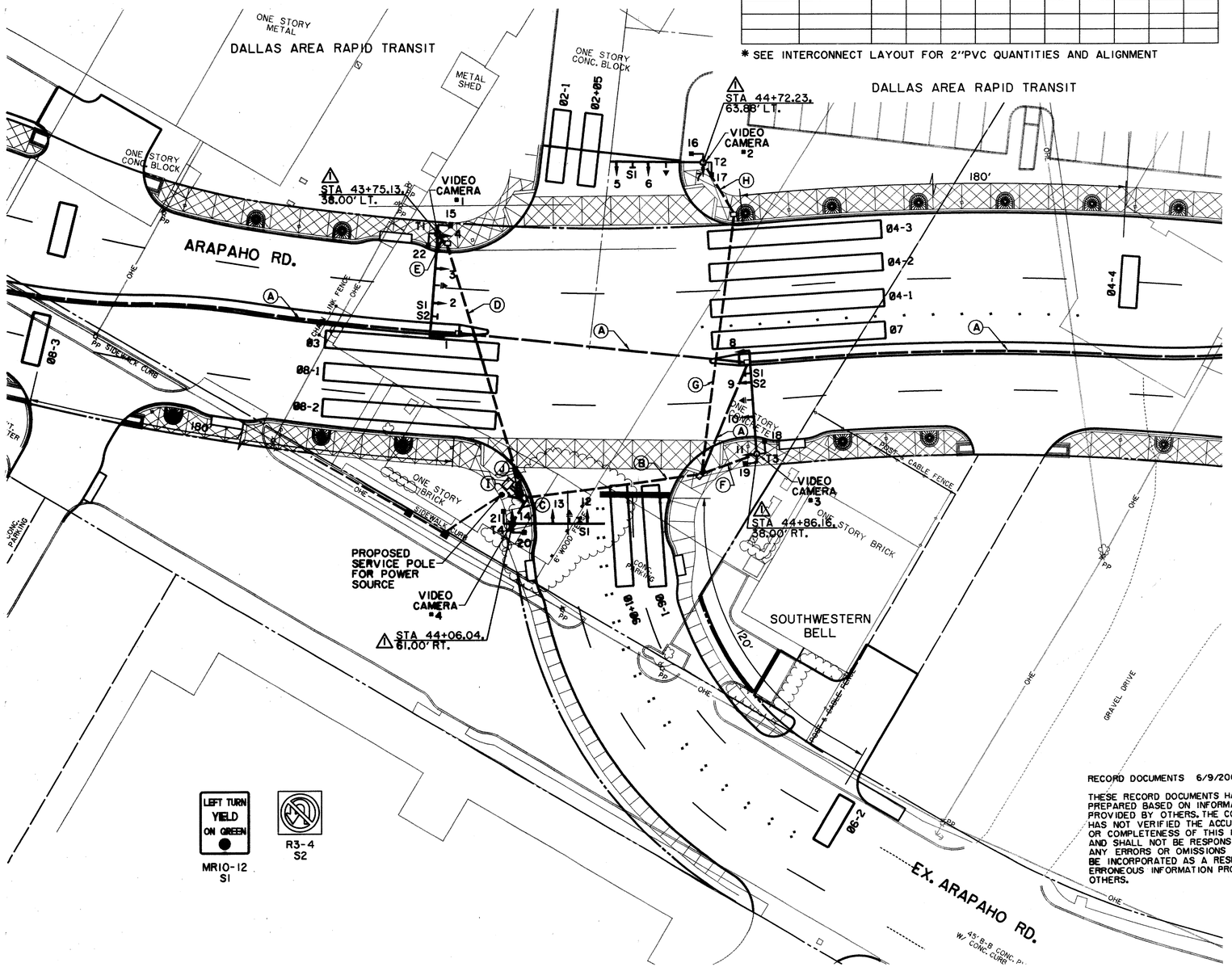
CABLE TERMINATION CHART

CABLE CONDUCTOR	T-1 S.H. NO.	T-1 INDICATION	T-2 S.H. NO.	T-2 INDICATION	T-3 S.H. NO.	T-3 INDICATION	T-4 S.H. NO.	T-4 INDICATION
WHITE/BLACK	SPARE		SPARE		SPARE		SPARE	
WHITE	COMMON		COMMON		COMMON		COMMON	
RED	1-4	R	5-7	R	8-11	R	12-14	R
ORANGE	1-4	Y	5-7	Y	8-11	Y	12-14	Y
GREEN	1-4	G	5-7	G	8-11	G	12-14	G
BLUE	1	—G	5	—G	8	—G	12	—G
BLACK	1	—Y	5	—Y	8	—Y	12	—Y
BLUE/BLACK	4	G—	7	G—	11	G—	14	G—
BLACK/WHITE	4	Y—	7	Y—	11	Y—	14	Y—
GREEN/BLACK	22	W	16	W	18	W	20	W
GREEN/WHITE	15	W	17	W	19	W	21	W
RED/BLACK	22	DW	16	DW	18	DW	20	DW
RED/WHITE	15	DW	17	DW	19	DW	21	DW
ORANGE/BLACK	PB22	02	PB16	4	PB18	06	PB20	08
BLUE/WHITE	PB15	04	PB17	06	PB19	08	PB21	02
BLACK/RED	P.B. COM		P.B. COM		P.B. COM		P.B. COM	

CONDUIT RUNS

RUN NO.	SIZE/TYPE CONDUIT	CABLE TYPE: 2 CNDR. #6 XHHW WIRE POWER	#6 BARE WIRE GROUND	COAX CABLE	4 CNDR. #20 CABLE OPT	16 CNDR. CABLE		3C VIDEO		LENGTH OF CONDUIT	FINAL
*A	2" PVC										
B	4" PVC		68	136	136	136		136		62	
C	3" PVC		30	15	15	15		15		9	
D	3" PVC		98	98	98	98		98		92	
E	3" PVC		10	10	10	10		10		4	
F	3" PVC		52	26	26	26		26		20	
G	3" PVC		96	96	96	96		96		90	
H	3" PVC		30	30	30	30		30		24	
I	2" PVC	20	20							14	
J	2-3" PVC	14	42	56	56	56		56		8	

* SEE INTERCONNECT LAYOUT FOR 2"PVC QUANTITIES AND ALIGNMENT



RECORD DOCUMENTS 6/9/2000

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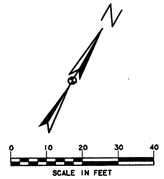
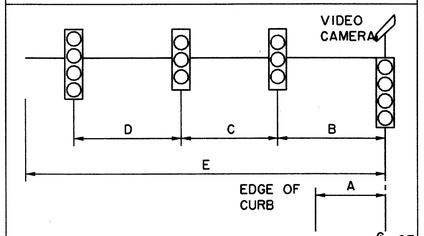


SIGNAL HEAD AND POLE PLACEMENT



SIGNAL HEAD AND POLE PLACEMENT (FEET)					
POLE NUMBER	A	B	C	D	E
T-1	6	12	12	12	36
T-2	8	19	13	-	32
T-3	6	6	12	12	36
T-4	8	14	14	-	32

QUANTITIES

ITEM	UNIT	QTY.
CONDUIT		
1-3" TRENCH	L.F.	255
1-2" TRENCH	L.F.	14
1-4" TRENCH	L.F.	62
PULL BOX	EA.	4
VIDEO CAMERA	EA.	4
3M OPTICOM DETECTOR	EA.	4
PEDESTRIAN PUSH BUTTON	EA.	8
CABLE WIRE		
7 CONDUCTOR #12	L.F.	285
5 CONDUCTOR #12	L.F.	393
16 CONDUCTOR #12	L.F.	467
3 CONDUCTOR (VIDEO)	L.F.	587
1 CONDUCTOR #6 GROUND	L.F.	446
2 CONDUCTOR #6 POWER	L.F.	34
4 CONDUCTOR OPTICOM	L.F	638
COAX CABLE	L.F.	587
SIGNS		
MRI0-12	EA.	4
R3-4	EA.	2
FOUNDATIONS		
CONTROLLER	EA.	1
TYPE 30-A	EA.	4
POLES:		
SIGNAL PEDESTAL	EA.	-
MAST ARM POLE		
W/ 32' ARM	EA.	2
W/ 36' ARM	EA.	2
SIGNAL HEADS:		
4 SECTION 12" LENS	EA.	8
3 SECTION 12" LENS	EA.	6
2 SECTION PEDESTRIAN	EA.	8
INSTALL TUE SUPPLIED PEDESTAL POLE & METER	L.S.	1

SIGNAL HEADS

NO	TYPE	PHASE	BACKPLATE 3 SEC	BACKPLATE 4 SEC	12" VEH SEC	PED SIG SEC
1	V4LT	07		1	4	
2	V3	04	1		3	
3	V3	04	1		3	
*4	V4RT	04		1	4	
5	V4LT	01+06		1	4	
6	V3	06	1		3	
*7	V4RT	06		1	4	
8	V4LT	03		1	4	
9	V3	08	1		3	
10	V3	08	1		3	
*11	V4RT	08		1	4	
12	V4LT	02+05		1	4	
13	V3	02	1		3	
*14	V4RT	02		1	4	
15,16	PED	04P				2
17,18	PED	06P				2
19,20	PED	08P				2
21,22	PED	02P				2
TOTALS			6	8	50	8

*FIBER OPTIC SIGNAL

LEGEND

- PROPOSED PEDESTRIAN SIGNAL
- H — CONDUIT RUN NUMBER
- 8 — SIGNAL HEAD NUMBER
- PROPOSED SIGNAL HEAD
- PROPOSED SIGNAL CONDUIT
- PROPOSED PULL BOX
- EXISTING PULL BOX
- O_{T3} — PROPOSED SIGNAL POLE
- T — LEFT TURN ON ARROW SIGN
- OPTICOM
- DETECTION ZONE FOR VIDEO
- TUE SWITCHGEAR
- TUE PEDESTAL POLE & METER

NOTES:

1. ALL CABLE SHALL BE RUN CONTINUOUSLY WITHOUT SPLICES.
2. SEE INTERCONNECT LAYOUT SHEET FOR 2"PVC RUN A ALIGNMENT AND SUMMARY.
3. CONTRACTOR SHALL CONTACT TU ELECTRIC TO COORDINATE DISCONNECT AND RECONNECT OF EXISTING STREET LIGHT CIRCUIT. CONTRACTOR SHALL INSTALL NEW FOUNDATION, CONDUIT AND CONDUCTOR IF NECESSARY TO RELOCATE SERVICE POLE.
4. VIDEO CAMERAS SHALL BE MOUNTED ON TOP OF SIGNAL POLE AND AIMED IN THE SAME DIRECTION AS SIGNAL HEADS AND ALIGNED TO DETECT ZONES SHOWN ON THIS SHEET.
5. STREET NAME SIGNS WILL BE INSTALLED BY THE TOWN OF ADDISON.
6. TUE WILL PROVIDE PEDESTAL & METER FOR CONTRACTOR TO INSTALL.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS — DONNA L. MANHART — 65548 — REGISTERED PROFESSIONAL ENGINEER

⚠ REVISED 3/16/98

SIGNALIZATION PLAN
ARAPAHO ROAD & EXISTING ARAPAHO ROAD

ARAPAHO ROAD

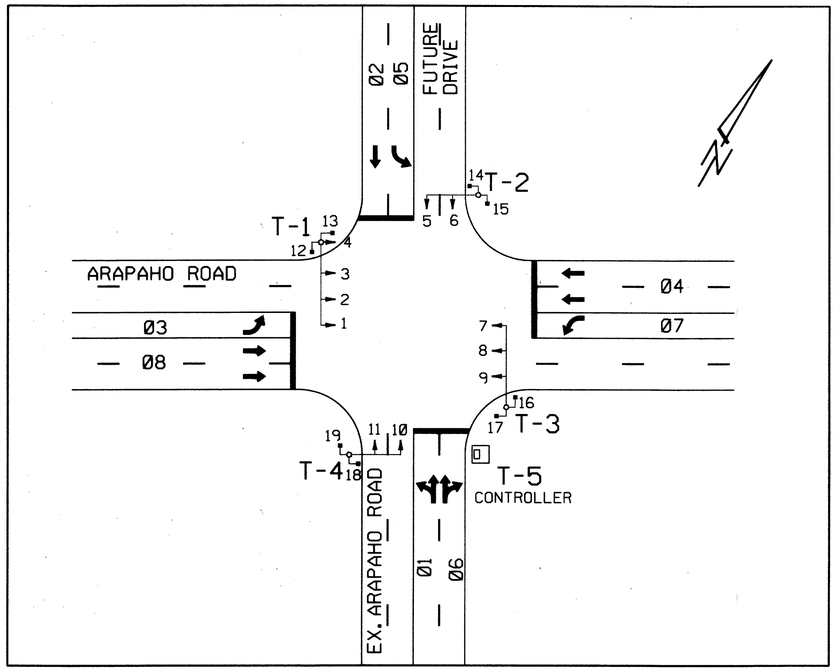
ADDISON ROAD TO DALLAS NORTH TOLLWAY

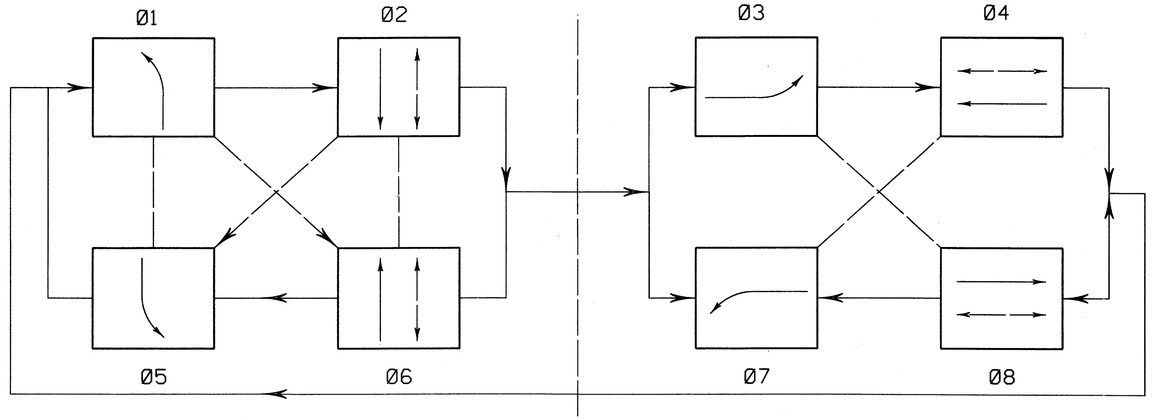
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	1"=20'	OCT 97	1772-01	S-4

N:\PROJ\177201\DGN\17729S06.DGN





PHASE 2 RIGHT TURN WILL OVERLAP WITH PHASE 7
PHASE 4 RIGHT TURN WILL OVERLAP WITH PHASE 1
PHASE 6 RIGHT TURN WILL OVERLAP WITH PHASE 3
PHASE 8 RIGHT TURN WILL OVERLAP WITH PHASE 5

SIGNAL FACES

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
R	R	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	W	W	W	W	W	W	W	W
G	G	G	G	G	G	G	G	G	G	G	G	G	G								
←G			G←	←G		G←	←G			G←	←G		G←								

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS
DONNA L. MANHART
65548
REGISTERED PROFESSIONAL ENGINEER

RECORD DOCUMENTS 6/9/2000

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PHASE DIAGRAM
ARAPAHO ROAD AT EXISTING ARAPAHO ROAD
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY
TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-5

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QUANTITIES

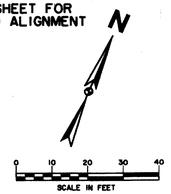
ITEM	UNIT	QTY.
CONDUIT		
1-3" TRENCH	L.F.	269
1-2" TRENCH	L.F.	280
1-4" TRENCH	L.F.	101
PULL BOX	EA.	7
VIDEO CAMERA	EA.	4
3M OPTICOM DETECTOR	EA.	4
PEDESTRIAN PUSH BUTTON	EA.	8
CABLE WIRE		
5 CONDUCTOR RR	L.F.	321
7 CONDUCTOR #12	L.F.	307
5 CONDUCTOR #12	L.F.	420
16 CONDUCTOR #12	L.F.	560
COAX CABLE	L.F.	560
1 CONDUCTOR #6 GROUND	L.F.	591
2 CONDUCTOR #6 POWER	L.F	64
3 CONDUCTOR VIDEO	L.F.	680
4 CONDUCTOR OPTICOM	L.F.	630
SIGNS		
MR10-12	EA.	4
R3-4	EA.	4
FOUNDATIONS		
CONTROLLER	EA.	1
TYPE 30-A	EA.	2
TYPE 30-B	EA.	2
POLES:		
SIGNAL PEDESTAL	EA.	-
MAST ARM POLE		
W/ 36' ARM	EA.	2
W/ 40' ARM	EA.	2
SIGNAL HEADS:		
4 SECTION 12" LENS	EA.	8
3 SECTION 12" LENS	EA.	8
2 SECTION PEDESTRIAN	EA.	8
MISCELLANEOUS:		
CONNECT TO RAILROAD GATE CONTROLLER	L.S.	1
INSTALL TUE PEDESTAL & METER	L.S.	1

CONDUIT RUNS

RUN NO.	SIZE/TYPE CONDUIT	CABLE TYPE: 2CND #6 XHHW WIRE POWER	#6 BARE WIRE GROUND	COAX CABLE	4 CNDR. #20 CABLE OPT	16 CNDR. CABLE	3 CNDR. VIDEO	5CND RR	LENGTH OF CONDUIT	FINAL
* *A	2" PVC									
B	3" PVC		15	15	15	15	15		9	
C	3" PVC		104	104	104	104	104		98	
D	2-3" PVC	12	36	48	48	48	48	12	6	
E	3" PVC	20	20	20	20	20	20	20	14	
F	3" PVC		20	10	10	10	10		4	
G	2" PVC							176	170	
H	2" PVC	16	16						10	
I	2" PVC		80					80	74	
J	2" PVC		32					32	26	
K	4" PVC		107	214	214	214	214		101	
L	3" PVC		24	12	12	12	12		7	
M	3" PVC		126	126	126	126	126		120	
N	3" PVC		11	11	11	11	11		5	

* INTERCONNECT

* *SEE INTERCONNECT LAYOUT SHEET FOR INTERCONNECT QUANTITY AND ALIGNMENT



DALLAS AREA RAPID TRANSIT

SIGNAL HEADS

NO	TYPE	PHASE	BACKPLATE 3 SEC	BACKPLATE 4 SEC	12" VEH SEC	PED SIG SEC
1	V4LT	07		1	4	
2	V3	04	1		3	
3	V3	04	1		3	
4	V4RT	04		1	4	
5	V4LT	01		1	4	
6	V3	06	1		3	
7	V3	06	1		3	
8	V4RT	06		1	4	
9	V4LT	03		1	4	
10	V3	08	1		3	
11	V3	08	1		3	
12	V4RT	08		1	4	
13	V4LT	05		1	4	
14	V3	02	1		3	
15	V3	02	1		3	
16	V4RT	02		1	4	
17,24	PED	02P				2
18,19	PED	04P				2
20,21	PED	06P				2
22,23	PED	08P				2
TOTALS			8	8	56	8

NOTES:

1. ALL CABLE SHALL BE RUN CONTINUOUSLY WITHOUT SPLICES.
2. SEE INTERCONNECT LAYOUT SHEET FOR 2"PVC RUN A ALIGNMENT AND SUMMARY.
3. CONTRACTOR SHALL CONTACT TU ELECTRIC TO COORDINATE DISCONNECT AND RECONNECT OF EXISTING STREET LIGHT CIRCUIT. CONTRACTOR SHALL INSTALL NEW FOUNDATION, CONDUIT AND CONDUCTOR IF NECESSARY TO RELOCATE SERVICE POLE.
4. VIDEO CAMERAS SHALL BE MOUNTED ON TOP OF SIGNAL POLE AND AIMED IN THE SAME DIRECTION AS SIGNAL HEADS AND ALIGNED TO DETECT ZONES SHOWN ON THIS SHEET.
5. STREET NAME SIGNS WILL BE INSTALLED BY THE TOWN OF ADDISON.
6. TUE WILL PROVIDE PEDESTAL & METER FOR CONTRACTOR TO INSTALL.

CABLE TERMINATION CHART

CABLE CONDUCTOR	T-1 S.H. NO.	T-1 INDICATION	T-2 S.H. NO.	T-2 INDICATION	T-3 S.H. NO.	T-3 INDICATION	T-4 S.H. NO.	T-4 INDICATION
WHITE/BLACK	SPARE		SPARE		SPARE		SPARE	
WHITE	COMMON		COMMON		COMMON		COMMON	
RED	1-4	R	5-8	R	9-12	R	13-16	R
ORANGE	1-4	Y	5-8	Y	9-12	Y	13-16	Y
GREEN	1-4	G	5-8	G	9-12	G	13-16	G
BLUE	1	—G	5	—G	9	—G	3	—G
BLACK	1	—Y	5	—Y	9	—Y	3	—Y
BLUE/BLACK	4	G—	8	G—	12	G—	16	G—
BLACK/WHITE	4	Y—	8	Y—	12	Y—	16	Y—
GREEN/BLACK	17	W	19	W	21	W	23	W
GREEN/WHITE	18	W	20	W	22	W	24	W
RED/BLACK	17	DW	19	DW	21	DW	23	DW
RED/WHITE	18	DW	20	DW	22	DW	24	DW
ORANGE/BLACK	PB17	02	PB19	04	PB21	06	PB23	08
BLUE/WHITE	PB18	04	PB20	06	PB22	08	PB24	02
BLACK/RED	P.B. COM		P.B. COM		P.B. COM		P.B. COM	

SIGNAL HEAD AND POLE PLACEMENT

SIGNAL HEAD AND POLE PLACEMENT (FEET) POLE NUMBER	A	B	C	D	E
T-1	3±	14	12	12	40
T-2	4±	14	12	10	36
T-3	4±	14	12	11	40
T-4	5±	14	12	10	36

LEGEND

- PROPOSED PEDESTRIAN SIGNAL
- H — CONDUIT RUN NUMBER
- 8 — SIGNAL HEAD NUMBER
- PROPOSED SIGNAL HEAD
- PROPOSED SIGNAL CONDUIT
- EXISTING SIGNAL CONDUIT
- FUTURE SIGNAL CONDUIT
- PROPOSED PULL BOX
- EXISTING PULL BOX
- O_{T3} — PROPOSED SIGNAL POLE
- LEFT TURN ON ARROW SIGN
- OPTICOM
- DETECTION ZONE FOR VIDEO
- TUE SWITCHGEAR
- TUE PEDESTAL SOURCE & METER

⚠ REVISED 3/16/98

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS — DONNA L. MANHART — 65548 — REGISTERED PROFESSIONAL ENGINEER — 10-24-97

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SIGNALIZATION PLAN
ARAPAHO ROAD & QUORUM DRIVE

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
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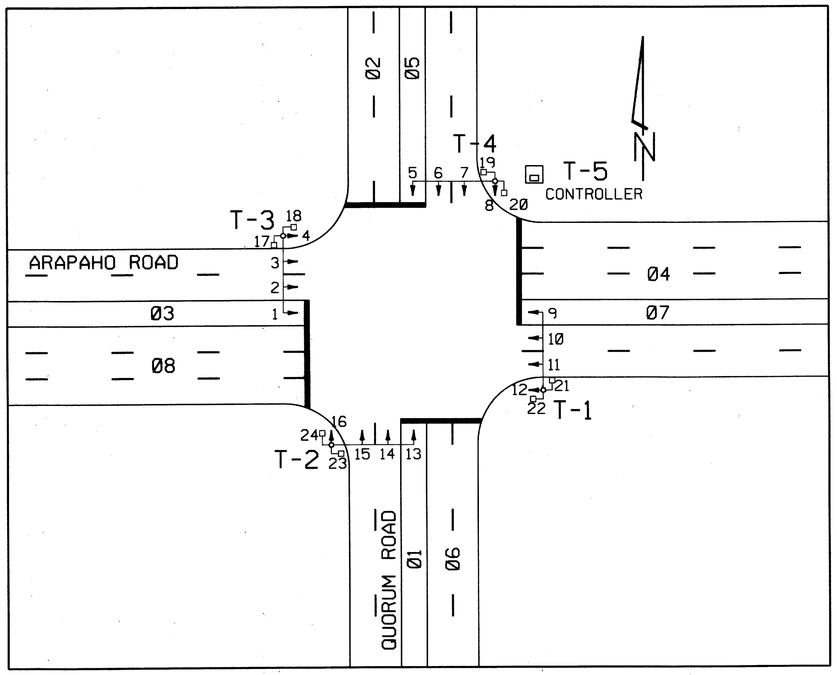
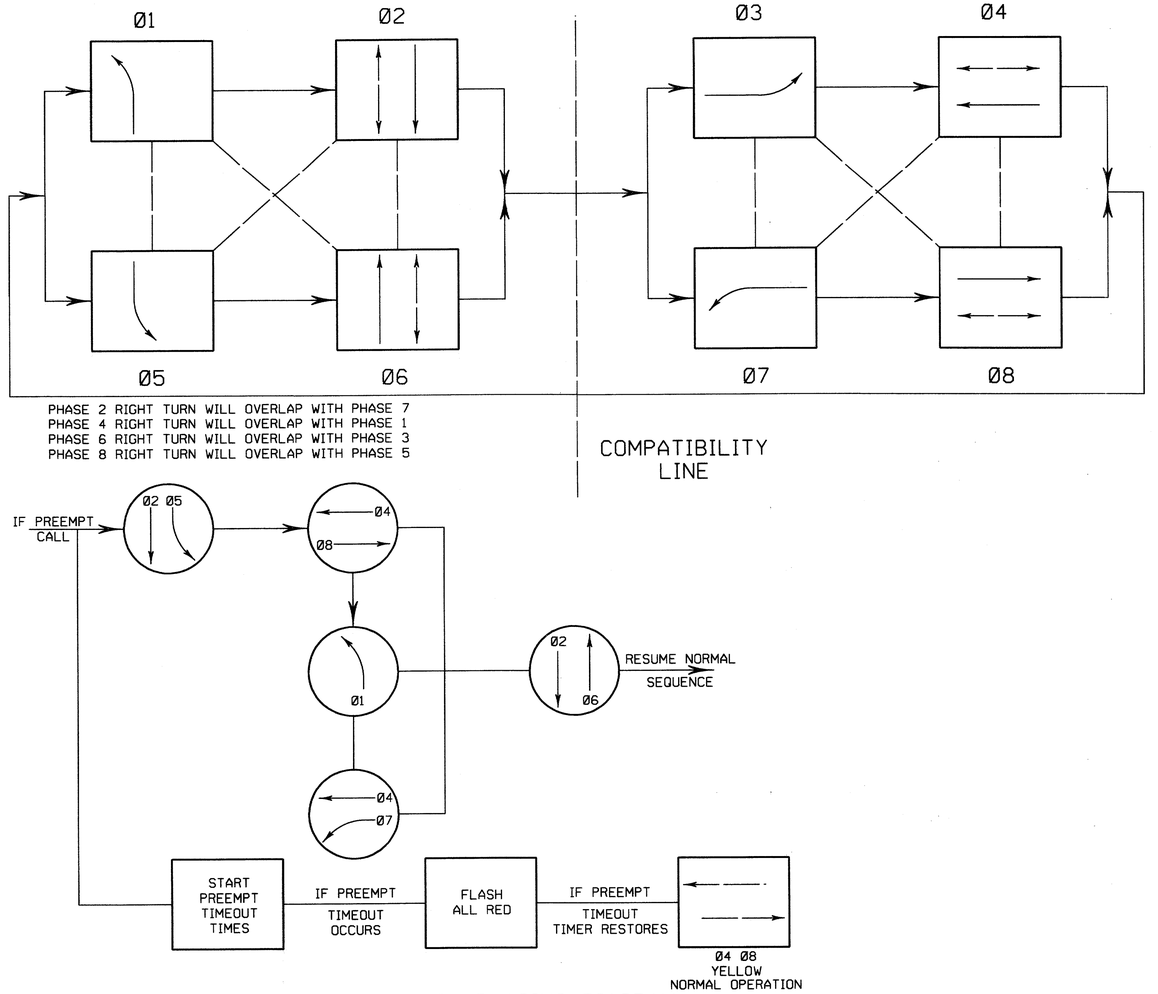


SIGNAL FACES																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	W	W	W	W	W	W	W	W
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G								
-G			-G	-G			-G	-G			-G	-G			-G								



RAILROAD PRE-EMPTION PHASING DIAGRAM

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS — DONNA L. MANHART — 65548 — REGISTERED PROFESSIONAL ENGINEER

PHASE DIAGRAM
ARAPAHO AT QUORUM

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-7

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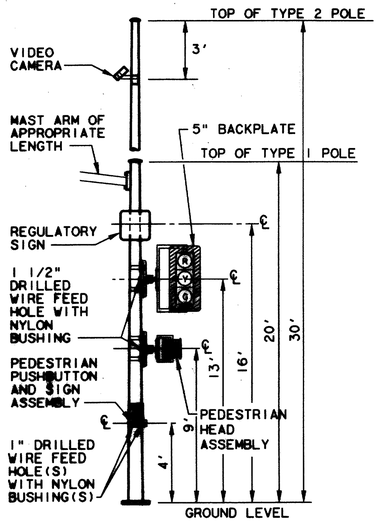
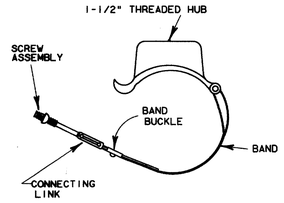


MAST ARM POLE (TYPE 1 AND 2)

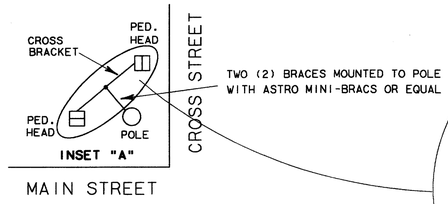
DETAILS FOR MOUNTING SIGNAL AND SIGN HARDWARE ON POLES

GENERAL NOTES

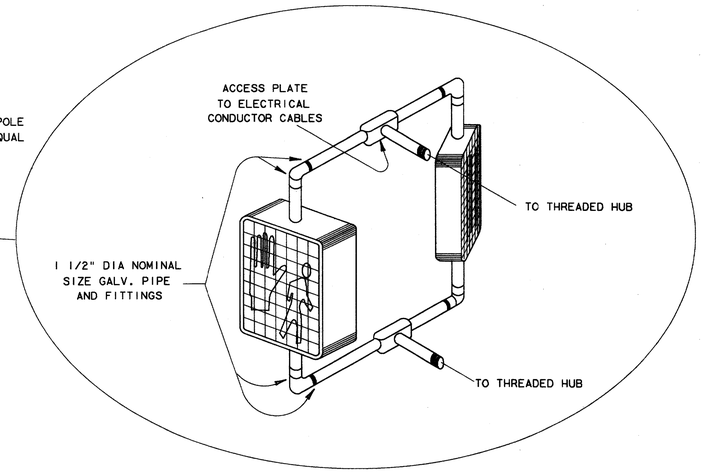
1. ALL WIRE FEED HOLES SHALL BE DRILLED IN THE FIELD BY THE CONTRACTOR. THE USE OF A BLOW TORCH FOR MAKING HOLES WILL NOT BE ALLOWED. COLD, GALVANIZING COMPOUND SHALL BE APPLIED TO THE PERIMETER OF ALL DRILLED HOLES, ALLOWING ADEQUATE DRYING TIME BEFORE MOUNTING ANY SIGNAL OR SIGN HARDWARE.
2. 1 1/2" DIAMETER HOLES SHALL BE DRILLED ON THE BOTTOM FACE OF NEW GALVANIZED MAST ARMS WHEN MOUNTING HORIZONTAL SIGNAL HEADS. (WHEN MOUNTING VERTICAL SIGNAL HEADS ON THE MAST ARM, THE HOLES SHALL BE DRILLED ON THE FRONT FACE OF THE ARM.)
3. SIGNAL & SIGN HARDWARE SHALL BE MOUNTED AT THE DISTANCES AND LOCATIONS SHOWN ON THE DIAGRAMS ABOVE UNLESS OTHERWISE INSTRUCTED BY DOT FIELD REPRESENTATIVE.
4. IF THE VEHICLE SIGNAL HEAD IS SKEWED WITH RESPECT TO THE MAST ARM, THE CONTRACTOR MAYBE REQUIRED TO PROVIDE EXTENDED (12") "ASTRO-BRACKET" ARMS SO THAT THE BACKPLATE CLEARS THE MAST ARM.
5. IF THE DISTANCE BETWEEN THE SIDE MOUNT VEHICLE SIGNAL HEAD AND THE MAST ARM POLE IS NOT SUFFICIENT TO INSTALL A BACK PLATE THE CONTRACTOR MAY BE REQUIRED TO PROVIDE EXTENDED (12") "ASTRO-BRACKET" ARMS.
6. A TWO-WAY UNIVERSAL MOUNTING BRACKET SHALL BE USED WHENEVER TWO PEDESTRIAN SIGNAL HEADS ARE TO BE INSTALLED ON THE SAME POLE, AND A ONE-WAY UNIVERSAL MOUNTING BRACKET SHALL BE USED WHENEVER A SINGLE PEDESTRIAN HEAD IS MOUNTED ON A POLE.
7. NYLON BUSHINGS SHALL BE INSTALLED IN ALL WIRE FEED HOLES TO PROTECT THE WIRE INSULATION.
8. POLE MOUNTED SIGNAL HEADS SHALL BE INSTALLED ON THE AWAY-FROM-TRAFFIC SIDE OF THE SIGNAL POLE.
9. ALL SIGNAL HEAD LENSES SHALL BE 12" IN DIAMETER AND POLYCARBONATE, UNLESS OTHERWISE STATED.
10. ALL TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEADS SHALL BE BLACK.
11. ALL SIGNAL HEADS WILL HAVE FIBEROPTIC ARROWS.



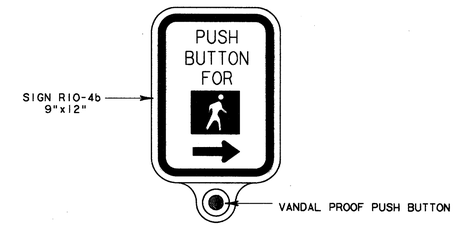
ASTRO MINI-BRAC



PEDESTRIAN SIGNAL HEAD MOUNTED FOR TWO PEDESTRIAN SIGNAL HEADS



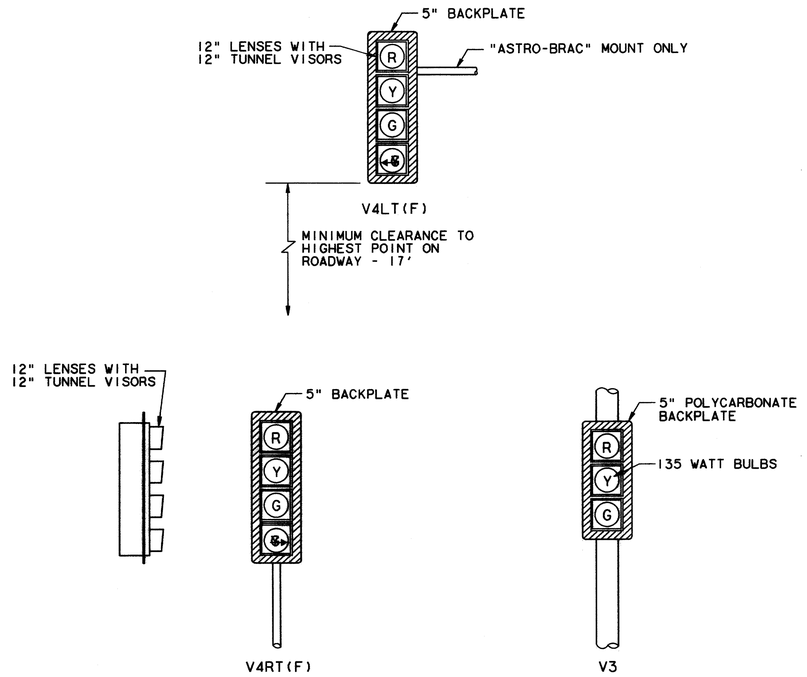
INSET "A"



PEDESTRIAN PUSH BUTTON WITH INTEGRAL SIGN

NOTES:

1. THE CONTRACTOR SHALL FURNISH AND INSTALL 60 WATT BULBS FOR PEDESTRIAN SIGNAL HEADS.
2. FOR THIS PROJECT THE PEDESTRIAN SIGNAL HEAD AND PUSH BUTTON WILL BE MOUNTED ON THE SIGNAL POLE AS SHOWN ON THE "DETAIL OF SIGNAL POLE & MAST ARM".
3. ALL PEDESTRIAN SIGNAL HEADS SHALL BE INSTALLED ON THE AWAY-FROM-TRAFFIC SIDE OF THE PEDESTRIAN OR SIGNAL POLE.
4. ALL WIRING FOR PEDESTRIAN SIGNALS SHALL BE TOTALLY ENCLOSED WITHIN THE SIGNAL MOUNTING HARDWARE.
5. ALL PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON SIGNALS SHALL DISPLAY THE SYMBOLIZED MESSAGE SHOWN ABOVE. (ADA APPROVED)
6. SYMBOLIZED MESSAGE HEIGHT SHALL BE 10 INCHES MINIMUM ON PEDESTRIAN SIGNAL HEADS.
7. V4 TURN SIGNALS SHALL HAVE FIBEROPTIC ARROWS



TYPICAL SIGNAL PEDESTAL TOP MOUNT -4- LENS HEAD

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS — DONNA L. MANHART — 65548 — REGISTERED PROFESSIONAL ENGINEER

RECORD DOCUMENTS 6/9/2000

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TRAFFIC SIGNAL POLES, ARMS, & HEADS DETAILS AND ELEVATIONS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-8

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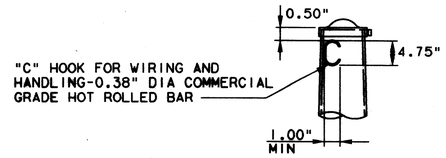
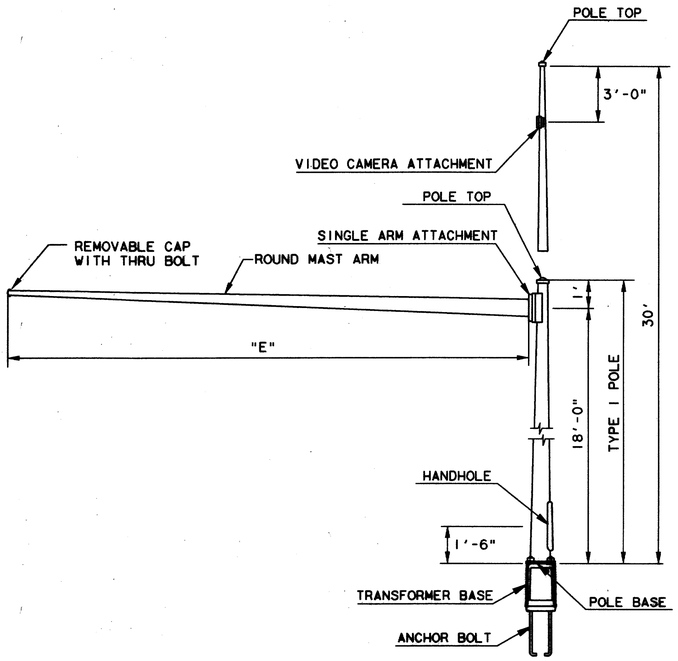
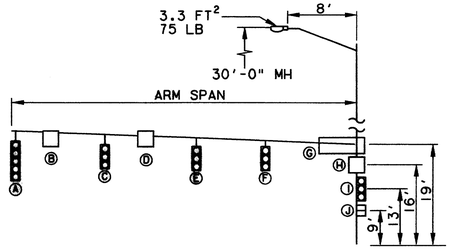


POLE TOP
NO SCALE





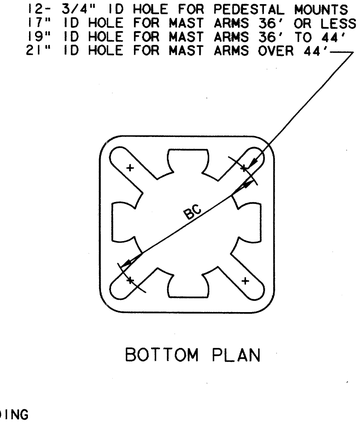
ARM SPAN	DISTANCE FROM POLE TO DEVICE (FT)						
	DEVICE						
	A	B	C	D	E	F	G
20	19	14	N.A.	N.A.	N.A.	N.A.	2
24	23	18	11	N.A.	N.A.	N.A.	2
28	27	22	15	N.A.	N.A.	N.A.	2
32	31	26	16	N.A.	N.A.	N.A.	2
36	35	24	23	12	N.A.	N.A.	2
40	39	34	26	13	N.A.	N.A.	2
44	43	28	28	20	12	N.A.	2
48	47	42	34	28	23	10	2

N.A.=NOT APPLICABLE

ALL STRUCTURES ARE DESIGNED TO THE 1985 (80 MPH) TXDOT STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.

DEVICE	DESCRIPTION	PROJ AREA (FT^2)	WEIGHT (LBS)
(A) SIGNAL	12"-5 SEC WITH BACKPLATES	13.33	55
(B)& (D) SIGN	REGULATORY 30"x30"	6.25	15
(C)& (E)& (F) SIGNAL	12"-3 SEC WITH BACKPLATES	8.67	40
(G) SIGN	STREET NAME 24"x96"	16.00	50
(H) SIGN	REGULATORY 24"x24"	4.00	10
(I) SIGNAL	DUAL-12"-3 SEC WITH BACKPLATES	17.34	80
(J) SIGNAL	DUAL-PEDESTRIAN SIGNAL	8.00	60

LOADING INFORMATION



ELEVATION

BOTTOM PLAN

TRANSFORMER BASE NOTES:

DOOR OPENING APPROXIMATELY 8" X 10 1/2" X 19 1/2"

TOP BOLT HOLES WILL ACCOMODATE MAXIMUM 1.00" DIA BOLTS.

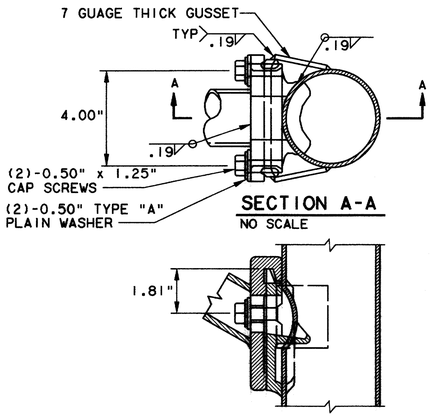
(4)-2.75" O.D. X 0.500" THICK FLAT WASHERS WITH HEX. HEAD CONNECTING BOLT WITH HEX. NUTS (ASTM: A325, NUTS A563 GR DH) TOP OF TRANSFORMER BASE.

(4)-2.50" O.D. X 0.375" THICK HOLDOWN WASHERS FINISHED TO ASTM: B695 CLASS 50 PROVIDED FOR INSTALLATION UNDER THE TRANSFORMER BASE TOP PLATE.

(4) NUT COVERS WITH STAINLESS STEEL DRIVE SCREWS TO COVER THE HEX HEAD BOLTS ON THE TOP OF TRANSFORMER BASE.

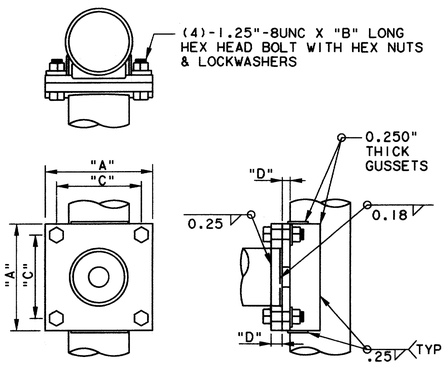
BASE CONFORMS TO BREAKAWAY CRITERIA OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS, FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (1975).

TRANSFORMER BASE
NOT TO SCALE



SECTION A-A
NO SCALE

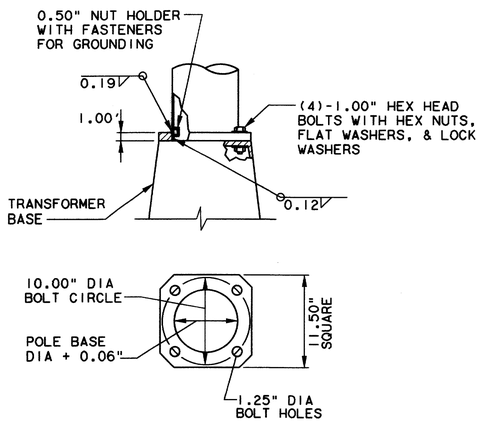
LUMINAIRE ARM ATTACHMENT
NO SCALE



SINGLE ARM ATTACHMENT
NO SCALE

MATERIAL DATA					
COMPONENT	ASTM DESIGNATION	MIN YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN YIELD (KSI)
TUBE - 7 & 3 GAUGE	A595 GR.A	55	POLE BASE - 7 & 3 GA.	A36	36
TUBE - ALL OTHERS	A572 GR.65	60	POLE BASE - ALL OTHERS	A572 GR.42	42
LUMINAIRE ARM PIPE	2" SCHED.40	36	SIGNAL ARM ATTACHMENT	A36	36
LUMINAIRE ARM ATTACHMENT	A27GR.65-35		SIGNAL ARM BOLTS	A325	92
ANCHOR BOLTS	A36-MOD.	55	LUMINAIRE ARM BOLTS	SAE GR.5	
GALVANIZING	A123 & A153				

POLE AND SIGNAL ARM DATA														
DESIGNATION KEY			POLE DATA				SIGNAL ARM DATA				SIGNAL ARM ATTACHMENT DATA			
POLE SERIES	POLE TYPE	SIGNAL ARM SPAN	BASE DIA	TOP DIA	LENGTH	GAUGE (THK)	FIXED END DIA	FREE END DIA	LENGTH "E"	GAUGE (INCHES)	PLATE SQUARE "A"	PLATE THICKNESS "D"	BOLT LENGTH "B"	BOLT SPACING "C"
DAL	1	20'	10.00"	7.50"	19'	0.179"	6.50"	3.80"	19.1'	0.179	11.00"	1.25"	4.50"	8.00"
DAL	1	24'	11.00"	8.50"	19'	0.179"	7.50"	4.30"	23.1'	0.179	11.00"	1.25"	4.50"	8.00"
DAL	1	28'	11.50"	9.00"	19'	0.179"	8.00"	4.20"	27.1'	0.179	11.00"	1.25"	4.50"	8.00"
DAL	1	32'	12.00"	9.50"	19'	0.179"	9.00"	4.70"	31.0'	0.179	13.00"	1.25"	4.50"	10.00"
DAL	1	36'	12.50"	10.00"	19'	0.179"	9.50"	4.60"	35.0'	0.179	13.00"	1.25"	4.50"	10.00"
DAL	1	40'	12.00"	9.50"	19'	0.239"	9.50"	4.10"	39.0'	0.239	13.00"	1.25"	4.50"	10.00"
DAL	1	44'	12.50"	10.00"	19'	0.239"	10.00"	4.10"	43.0'	0.239	14.00"	1.50"	5.00"	11.00"
DAL	1	48'	13.00"	10.50"	19'	0.239"	10.50"	4.10"	47.0'	0.239	14.00"	1.50"	5.00"	11.00"
DAL	2	20'	10.00"	5.00"	30'	0.179"	6.50"	3.80"	19.1'	0.179	11.00"	1.25"	4.50"	8.00"
DAL	2	24'	11.00"	6.80"	30'	0.179"	7.50"	4.30"	23.1'	0.179	11.00"	1.25"	4.50"	8.00"
DAL	2	28'	11.50"	7.30"	30'	0.179"	8.00"	4.20"	27.1'	0.179	11.00"	1.25"	4.50"	8.00"
DAL	2	32'	12.00"	7.80"	30'	0.179"	9.00"	4.70"	31.0'	0.179	13.00"	1.25"	4.50"	10.00"
DAL	2	36'	12.50"	8.30"	30'	0.179"	9.50"	4.60"	35.0'	0.179	13.00"	1.25"	4.50"	10.00"
DAL	2	40'	12.00"	7.80"	30'	0.239"	9.50"	4.10"	39.0'	0.239	13.00"	1.25"	4.50"	10.00"
DAL	2	44'	12.50"	8.30"	30'	0.239"	10.00"	4.10"	43.0'	0.239	14.00"	1.50"	5.00"	11.00"
DAL	2	48'	13.00"	8.80"	30'	0.239"	10.50"	4.10"	47.0'	0.239	14.00"	1.50"	5.00"	11.00"



POLE BASE
NO SCALE

RECORD DOCUMENTS 6/9/2000

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS · DONNA L. MANHART · 65548 · REGISTERED PROFESSIONAL ENGINEER

TRAFFFIC SIGNAL POLE, MAST ARM AND TRANSFORMER BASE DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-9

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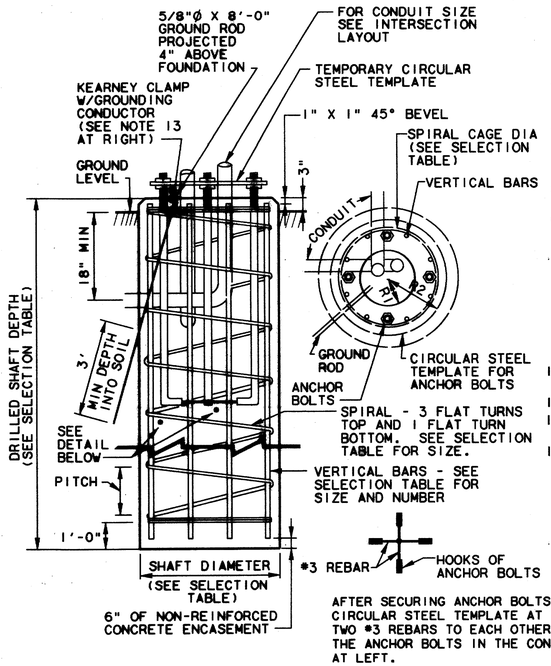


NOTES:

1. A 1/4" THICK STEEL PLATE TEMPLATE WITH HOLES 1/16" GREATER THAN THE ANCHOR BOLT DIAMETER SHALL BE USED TO ACCURATELY POSITION ANCHOR BOLTS.
2. CONCRETE USED FOR FOUNDATIONS SHALL BE EITHER CLASS A OR CLASS C AS DEFINED IN THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS' "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" ITEM 7.4.5
3. ALL ANCHOR BOLT HOOKS SHALL BE POINTED TOWARDS THE CENTER OF THE FOUNDATION.
4. ALL CONDUITS PLACED IN THE FOUNDATION SHALL BE ORIENTED AS INDICATED ON THE INTERSECTION CONDUIT LAYOUT.
5. 7" OF THE THREADED PORTION OF EACH ANCHOR BOLT SHALL PROJECT ABOVE THE TOP SURFACE OF THE FOUNDATION.
6. A 5/8"Ø X 8'-0" COPPER CLAD STEEL GROUND ROD SHALL BE PLACED IN THE FOUNDATION WITH A MINIMUM OF 4" OF THE ROD PROJECTING ABOVE THE FOUNDATION'S TOP SURFACE.
7. EACH GROUND ROD SHALL BE DRIVEN INTO THE SOIL FOR A MINIMUM OF 3' AS INDICATED ON THE DRAWING AT THE LEFT.
8. WHEN SOLID ROCK IS ENCOUNTERED DURING DRILLING, THE DRILLED SHAFT SHALL EXTEND 5'-0" INTO SOLID ROCK, OR TO A DEPTH DETERMINED BY THE INSPECTOR.
9. THE CONFIGURATION FOR ANCHOR BOLTS AND VERTICAL BARS INSIDE THE SPIRAL CAGE SHALL BE AS INDICATED ON DRAWING AT THE LEFT.
10. SEE SELECTION TABLE FOR APPROPRIATE DRILLED SHAFT DEPTH FOR A GIVEN TYPE OF POLE AND ARM.
11. ALL STEEL REINFORCEMENT BARS SHALL BE OF INTERMEDIATE GRADE.
12. A 2' DEEP CIRCULAR FORM SHALL BE PLACED TO ENCASE THE TOP PORTION OF ALL CIRCULAR FOUNDATIONS.
13. CONNECT #6 AWG STRANDED UNINSULATED COPPER GROUNDING CONDUCTOR TO GROUND ROD WITH A KEARNEY CLAMP. FOR FURTHER DETAILS CONCERNING GROUNDING CONSULT "DETAILS FOR GROUNDING CABINETS AND POLES" DRAWING.

AFTER SECURING ANCHOR BOLTS TO THE TEMPORARY CIRCULAR STEEL TEMPLATE AT THE TOP, TACK WELD TWO #3 REBARS TO EACH OTHER AND THE HOOKS OF THE ANCHOR BOLTS IN THE CONFIGURATION SHOWN AT LEFT.

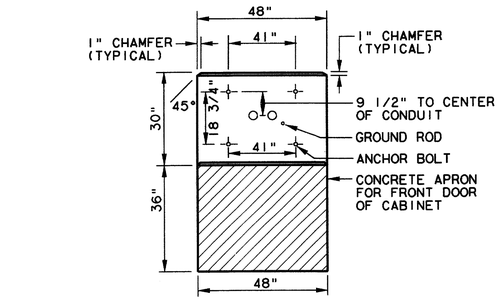
FOUNDATION SELECTION TABLE

TYPE OF POLE AND MAST ARM	FOUNDATION TYPE	DRILLED SHAFT DIAMETER	SPIRAL CAGE DIAMETER	REINFORCEMENT STEEL		DRILLED SHAFT DEPTH	ANCHOR BOLT - QUANTITY AND DIMENSION	ANCHOR BOLT CIRCLE DIAMETER	TEMPLATE	
				VERT BARS	SPIRAL & PITCH				INSIDE RADIUS R1	OUTSIDE RADIUS R2 (MIN.)
TYPE I UP TO 36' ARM	30-A	30"	25"	8-#7'S	#3 AT 9"	11'-0"	(4) - 1 1/2" X 40" X 6" HOOK	17"	7"	10"
TYPE I UP TO 48' ARM	30-B	30"	25"	8-#9'S	#3 AT 9"	13'-0"	(4) - 1 3/4" X 46" X 6" HOOK	19"	7 3/4"	11 1/8"

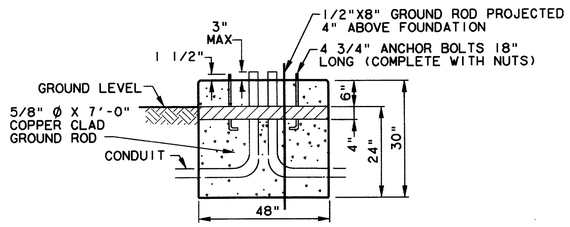
NOTES:

1. DRILLED SHAFT DIAMETER AND DEPTH, AND NUMBER OF VERTICAL BARS BASED ON TXDOT DISTRICT 18 STANDARDS FOR 80 MPH WINDS.
2. SINGLE MAST ARM.

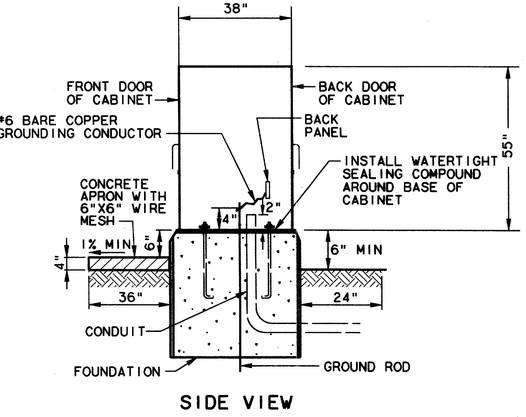
POLE FOUNDATION DETAILS FOR TRAFFIC SIGNAL STRUCTURES



TOP VIEW



FRONT VIEW

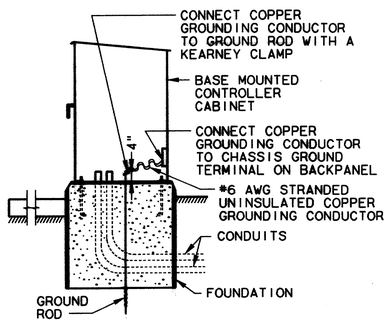


SIDE VIEW

DETAILS FOR INSTALLING CONTROLLER CABINET AND FOUNDATION

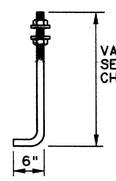
GENERAL NOTES

1. ALL CONTROLLER CABINETS AND SIGNAL POLES MOUNTED ON NEW FOUNDATIONS MUST BE GROUNDED.
2. SIZE OF COPPER CLAD STEEL GROUND ROD SHALL BE 5/8"Ø X 8'-0".
3. WHEN INSTALLING A GROUND ROD IN AN EXISTING FOUNDATION, DRILL 1" HOLE THROUGH THE FOUNDATION MISSING ALL ANCHOR BOLTS AND CONDUITS. AND PACK THE DRILLED HOLE WITH SALT.
4. GROUND ROD SHALL CLEAR ALL ANCHOR BOLTS AND CONDUITS IN THE FOUNDATION. GROUND RODS SHALL EXTEND 4" ABOVE THE TOP OF FOUNDATION.



GROUND CABINETS DETAIL

(4) ANCHOR BOLTS WITH (2) HEX NUTS AND (2) WASHERS PER BOLT WITH THREADED END GALVANIZED AT LEAST 12".



ANCHOR BOLT

NO SCALE

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS — DONNA L. MANHART — 65548 — REGISTERED PROFESSIONAL ENGINEER

RECORD DOCUMENTS 6/9/2000

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TRAFFFIC SIGNAL CONTROLLER CABINET, AND SIGNAL FOUNDATION DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-10

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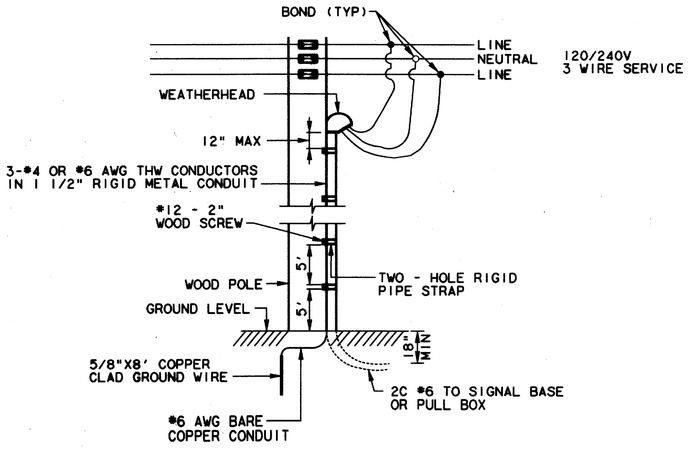
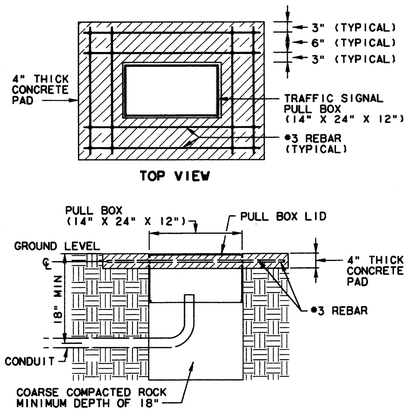


NOTE: STRAPS SHALL BE INSTALLED EVERY 5' STARTING AT GROUND

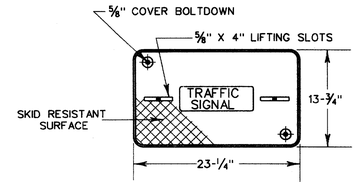
POWER SERVICE CONNECTION DETAILS

CONTRACTOR SHALL MOUNT EQUIPMENT ON POLES AS DIRECTED BY THE POWER COMPANY. IT IS THE RESPONSIBILITY OF THE CONTRUCTOR TO NOTIFY TUE PRIOR TO CONSTRUCTION.

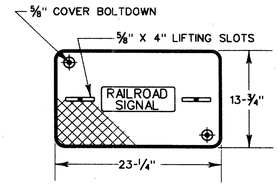


NOTES: 1. PULL BOX LID SHALL BE CAST IRON.
2. COVER SHALL BE FABRICATED TO FIT INTO A RECESSED LIP AND SECURED WITH 2 BRASS OR BRONZE BALLS AND NUTS. LIDS SHALL BE PROVIDED WITH A DROP TYPE HANDLE TO FACILITATE REMOVAL.

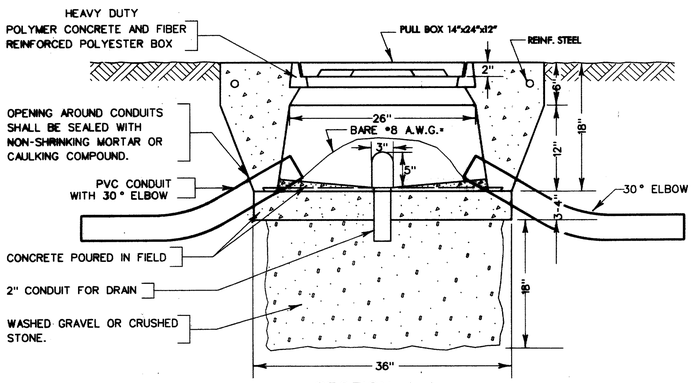
DETAIL OF PULL BOX



TRAFFIC COVER



RAILROAD COVER



SECTION A-A

SHOWING DIMENSIONS OF BOX AND ACCOMPANYING FIELD INSTALLATION

NOTES:

1. ALL PULLBOXES NOT SET IN WALKS OR PAVED MEDIANS SHALL HAVE CONCRETE APRON.
2. TYPE 'C' PULLBOXES BY ALL CONTROLLERS SHALL HAVE CONCRETE APRON.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS
DONNA L. MANHART
65548
REGISTERED
PROFESSIONAL ENGINEER
10/24/97

RECORD DOCUMENTS 6/9/2000

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PULL BOX AND
SERVICE CONNECTION DETAILS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-11

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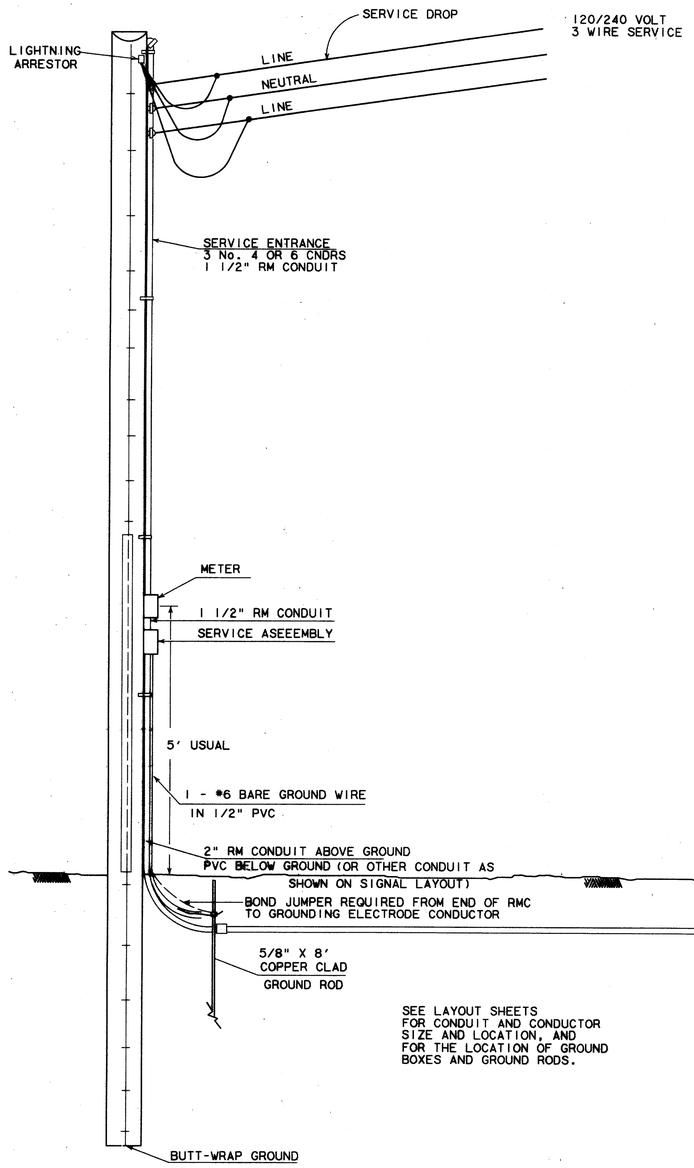
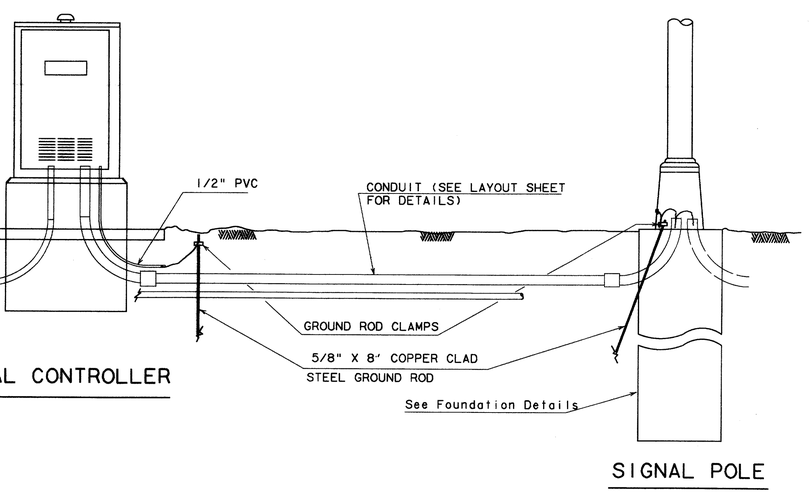


TYPE D SERVICE POLE

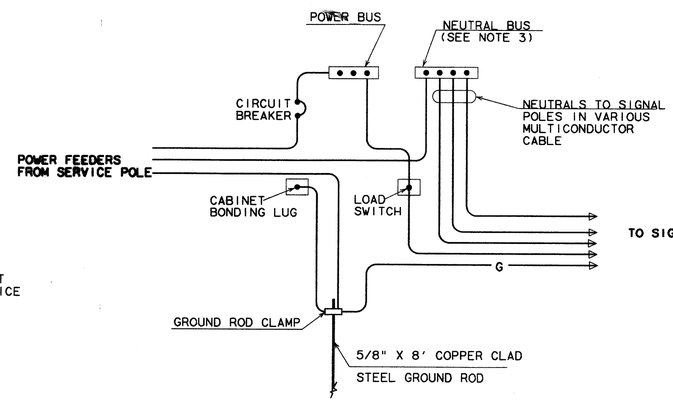
(TIMBER POLE SHOWN, SEE ELECTRICAL DETAILS, LAYOUT SHEETS, AND ELECTRICAL SERVICE DATA SHEET FOR SERVICE REQUIRED AND FOR DETAILS.)

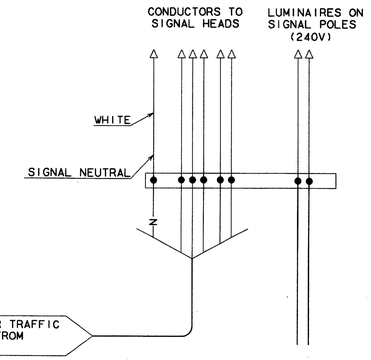
SEE LAYOUT SHEETS FOR CONDUIT AND CONDUCTOR SIZE AND LOCATION, AND FOR THE LOCATION OF GROUND BOXES AND GROUND RODS.



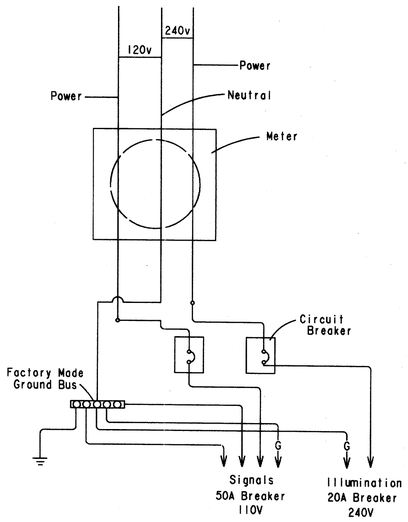
SIGNAL CONTROLLER

SIGNAL POLE





CONNECTIONS AT SIGNAL CONTROLLERS



SERVICE ASSEMBLY SCHEMATIC

120/240 VOLTS - THREE WIRE

TYPE D

NOTES:

1. Luminaire conductors should not be looped through controller cabinet.
2. Electrical system to include an equipment grounding conductor noted here as "G".

   arrestors and surge protectors are to be bonded to grounding conductor.
3. Bond neutral bus to cabinet bonding lug when required elsewhere on the plans or when required by the Town of Addison.
4. Internally lighted street name signs (ILSN), when required, shall be in accordance with the item "Internally Lighted Street Name Signs".

RECORD DOCUMENTS 6/9/2000

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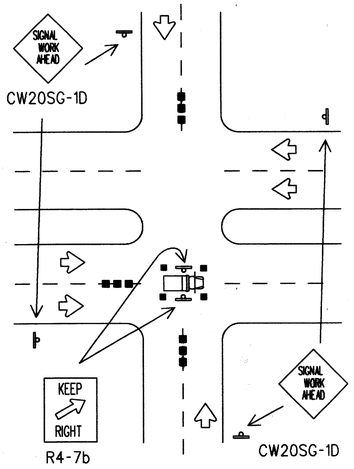
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS — DONNA L. MANHART — 65548 — REGISTERED PROFESSIONAL ENGINEER

10/24/97

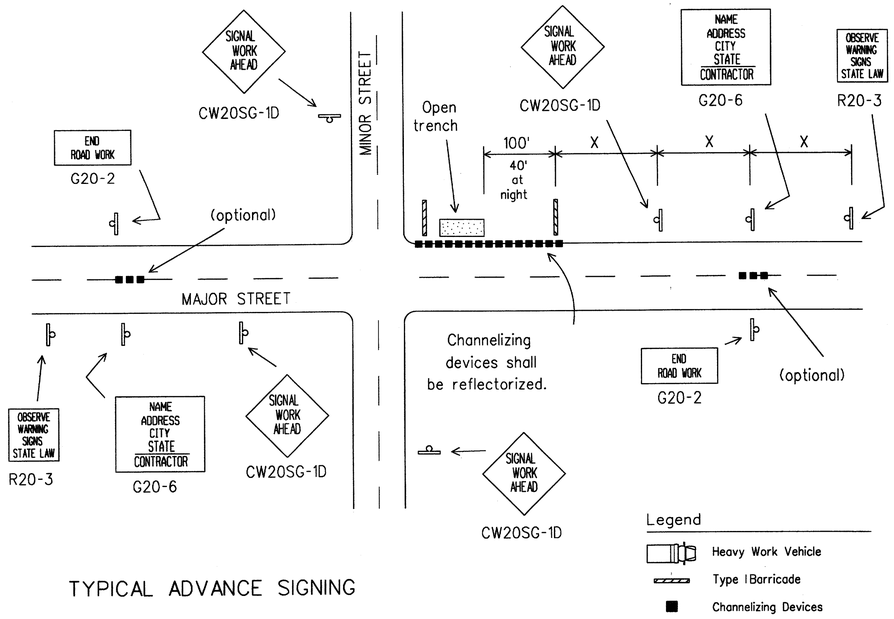
TRAFFFIC SIGNAL CABINET POWER, GROUNDING AND LRT SIGNAL MOUNTING						
ARAPAHO ROAD						
ADDISON ROAD TO DALLAS NORTH TOLLWAY						
TOWN OF ADDISON, TEXAS						
Huitt-Zollars, Inc./Consulting Engineers Dallas, Fort Worth, Houston, Phoenix, Tustin						
DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-12

H:\PROJ\17720\DGN\1772TS03.DGN

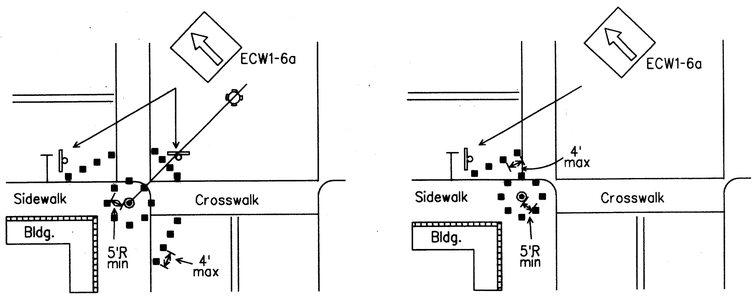


TYPICAL HANGING SIGNAL INSTALLATIONS

Advance warning channelizing devices are optional.



TYPICAL ADVANCE SIGNING



Channelizing devices should not be placed closer than 5 foot radius (minimum) to signal poles.
Parking may be eliminated by placing channelizing devices in spaces.
If pedestrian walkways are blocked, refer to TMUTCD.

TYPICAL RESTRICTED PEDESTRIAN MOVEMENTS

Typical channelizing device is the 28" cone. Plastic drums may be used if approved by the Engineer. Metal drums shall NOT be used as a channelizing device or sign support.

For several closely adjoining projects, advance signing may not be required in advance of each intersection, but only in advance of the intersections at the project limits. See details elsewhere in the plans for advance signing requirements.

Advance signs and barricades shall be in place when signal construction operations are in progress. The contractor may remove advance signs and barricades when no construction operations are underway if permitted elsewhere in the plans. Obstructions or hazards at the work area shall be clearly marked and delineated at all times.

All holes, trenches or other hazardous areas shall be adequately protected by barricades, lights or other protective devices. Trenches shall be covered or surrounded with orange plastic construction fence as directed by the Engineer.

Flagger and FCW20-7a sign may be required according to field conditions. Vehicles parked in roadway shall be equipped with two strobes. High level flags at corners of vehicle may also be used. Work operations that require work vehicle in traveled way 20 minutes or less may use cones, high level flags and strobes as advance warning devices. Cones should only be placed around vehicle. Flaggers may be used on high speed rural intersections.

RECORD DOCUMENTS 6/9/2000

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DONNA L. MANHART, P.E. 65548 ON OCTOBER 24, 1997

STATE OF TEXAS
DONNA L. MANHART
65548
REGISTERED
PROFESSIONAL ENGINEER

TRAFFIC SIGNAL INSTALLATION
TYPICAL DETAILS

ARAPAHO ROAD

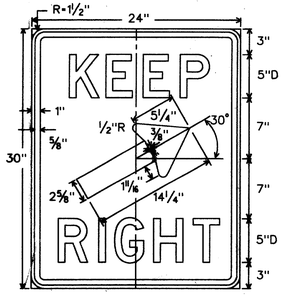
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

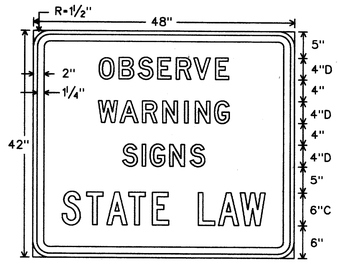
DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-13

H:\PROJ\17720\DGN\1772TSD7.DGN



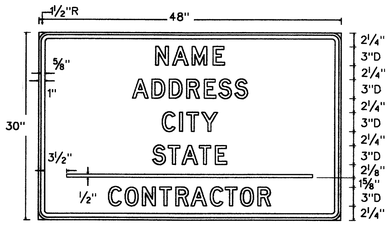
R4-7b
24" X 30"

Letters - Black
Symbol - Black
Border - Black
Background - White Refl.



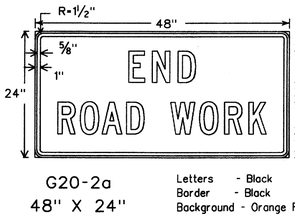
R20-3
48" X 42"

Letters - Black
Border - Black
Background - White Refl.



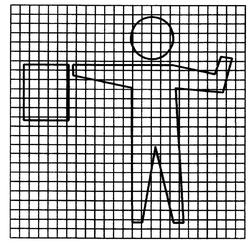
G20-6
48" X 30"

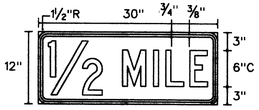
Letters - Black
Border - Black
Background - Orange or
White Refl.



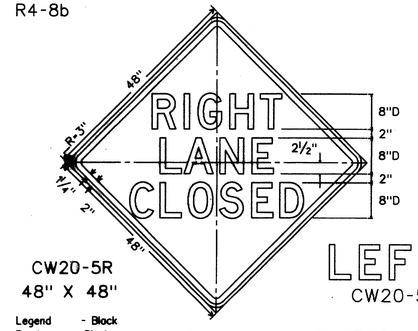
G20-2a
48" X 24"

Letters - Black
Border - Black
Background - Orange Refl.



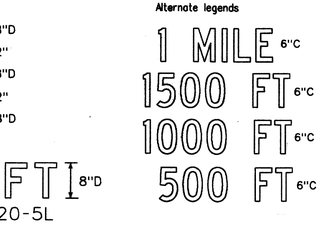


Distance Plaque
30" X 12"



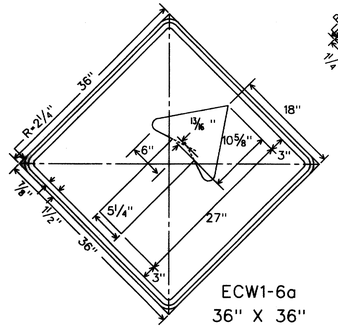
CW20-5R
48" X 48"

Legend - Black
Border - Black
Background - Orange Refl.



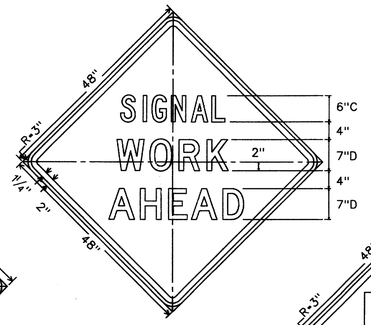
CW20-5L

Alternate legends



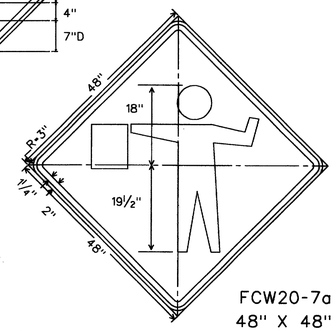
ECW1-6a
36" X 36"

Legend - Black
Border - Black
Background - Orange Refl.



CW20SG-1D
48" X 48"

Letters - Black
Border - Black
Background - Orange Refl.

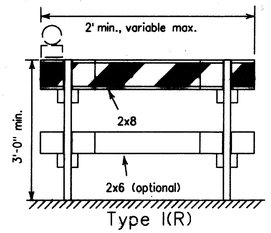


FCW20-7a
48" X 48"

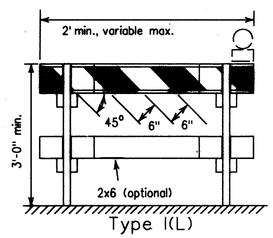
Legend - Black
Border - Black
Background - Orange Refl.

TYPICAL SIGNS USED IN TRAFFIC SIGNAL CONSTRUCTION AREAS

TYPE I BARRICADES



Type I(R)

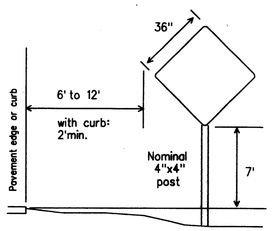


Type I(L)

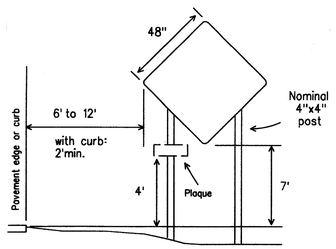
For Type I and II Barricades, both sides of the rails shall have reflective orange and reflective white striping.

TYPICAL SIGN SUPPORTS

FIXED SUPPORTS



WOOD POST SIGN SUPPORT: for 36" x 36" and smaller warning signs, and other signs having an area not exceeding 10 sq.ft.



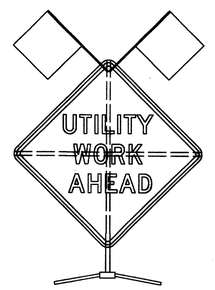
WOOD POST SIGN SUPPORT: for 48" x 48" warning sign.

Signs erected on fixed supports shall be at a minimum height of 7 feet.

Embedment depth for wood sign supports and post type barricades should be 3 feet minimum, unless specified elsewhere in the plans.

Driveable sign supports may be used and shall be installed in accordance with the manufacturers recommendations.

PORTABLE SUPPORTS



GENERAL

All sign usage and erection shall be in strict accordance with the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways" (TMUTCD). The Contractor shall maintain each sign as directed by the Engineer.

The Contractor may use either the sign designs shown in the "Standard Highway Sign Designs for Texas " (SHSD). All work zone signs provided for in the TMUTCD but not detailed in the plans may be used when directed by the Engineer.

WARNING LIGHTS

When required by the Engineer the Contractor shall furnish a copy of the warning light certification. The certification will be by the manufacturer, stating the lights meet the requirements of the latest ITE Purchase Specification for Flashing and Steady-Burn Warning Lights.

REFLECTIVE SHEETING

Type A, B or C sheeting may be used for all, day only, applications.
Type A sheeting should be used for all, white background, regulatory signs.
Type C sheeting shall be used for all other applications.

The above applications of sheeting grades to different type signs will apply unless otherwise specified in the plans.

TYPE A - Engineer Grade
TYPE B - Super Engineer Grade
TYPE C - High Specific Intensity

SUPPORTS AND MOUNTING HEIGHT

Regardless of the type of support used, or duration of work, regulatory signs should not be erected at heights less than 7 feet above the pavement surface.

Wood sign post supports shall be painted white.

Signs may be erected on portable or fixed supports for use on construction projects to warn or guide traffic through and/or around the actual construction area.

PORTABLE - Signs erected on portable supports for use on construction projects normally mean signs which are used during the daytime to warn or guide traffic through and/or around the actual construction area, but at the end of the workday such signs are removed.

Portable supports shall be as shown on this sheet. Signs with portable supports may be used for short term, short duration and mobile operations. The bottom of the sign shall be a minimum of one (1) foot above the pavement surface.

FIXED - Signs erected on fixed supports for use on construction projects normally mean signs that are to remain in place for both daytime and nighttime usage to regulate, warn and guide traffic in advance of and within the limits of the project including the crossrood approaches. Signs erected on fixed supports should be at a minimum height of seven (7) feet.

SIGN SUPPORT WEIGHTS

Where sign supports require the use of weights to keep from turning over, the use of some type of sandbag is recommended. The use of pieces of rock, concrete, iron, steel or other solid objects will not be permitted. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.

REMOVING OR COVERING

When sign messages may be confusing or no longer apply, the signs and supports shall be removed from roadway and shoulder, or the signs shall be completely covered. Turning signs from motorists view will not be allowed. When signs are covered the material used shall be opaque, such as heavy mil black plastic. Burlap shall not be used to cover signs. Signs shall be removed upon completion of the work.

Duct tape or other adhesive material shall not be affixed to sign face.

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
DONNA L. MANHART
65548
REGISTERED
PROFESSIONAL ENGINEER
10/24/97

TRAFFIC SIGNAL INSTALLATION
BARRICADES AND SIGNS

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	DLM	NTS	OCT 97	1772-01	S-14

N:\PROJ\177201\DGN\1772TSD8.DGN

STATION	EXCAVATION AREA (SF)	EMBANKMENT AREA (SF)	EXCAVATION VOLUME (CY)	EMBANKMENT VOLUME (CY)	15% SHRINK. VOLUME (CY)	TOTAL EMBANK. VOLUME (CY)	NET VOLUME (CY)	MASS VOLUME (CY)	STATION
4,035.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,035.36
4,050.00	5.67	22.50	1.54	6.10	0.91	7.01	(5.48)	(5.48)	4,050.00
4,100.00	34.38	18.54	37.08	38.00	5.70	43.70	(6.62)	(12.09)	4,100.00
4,150.00	18.54	25.47	49.00	40.75	6.11	46.86	2.14	(9.96)	4,150.00
4,200.00	48.24	30.06	61.83	51.42	7.71	59.13	2.70	(7.25)	4,200.00
4,250.00	88.92	34.11	127.00	59.42	8.91	68.33	58.67	51.42	4,250.00
4,300.00	84.51	40.23	160.58	68.83	10.33	79.16	81.43	132.84	4,300.00
4,350.00	98.28	33.39	169.25	68.17	10.23	78.39	90.86	223.70	4,350.00
4,400.00	118.17	32.22	200.42	60.75	9.11	69.86	130.55	354.26	4,400.00
4,450.00	128.07	0.00	228.00	29.83	4.48	34.31	193.69	547.95	4,450.00
4,500.00	97.11	1.35	208.50	1.25	0.19	1.44	207.06	755.01	4,500.00
4,550.00	110.61	2.52	192.33	3.58	0.54	4.12	188.21	943.22	4,550.00
4,600.00	36.00	7.29	135.75	9.08	1.36	10.45	125.30	1,068.53	4,600.00
4,650.00	45.99	6.75	75.92	13.00	1.95	14.95	60.97	1,129.49	4,650.00
4,700.00	28.25	19.91	68.74	24.69	3.70	28.39	40.35	1,169.85	4,700.00
4,750.00	2.43	78.45	28.41	91.07	13.66	104.74	(76.33)	1,093.52	4,750.00
4,800.00	93.48	1.26	88.81	73.81	11.07	84.88	3.93	1,097.45	4,800.00
4,850.00	189.48	0.00	262.00	1.17	0.18	1.34	260.66	1,358.11	4,850.00
4,900.00	241.38	0.00	398.94	0.00	0.00	0.00	398.94	1,757.05	4,900.00
4,950.00	256.74	0.00	461.22	0.00	0.00	0.00	461.22	2,218.27	4,950.00
5,000.00	377.01	0.00	586.81	0.00	0.00	0.00	586.81	2,805.08	5,000.00
5,050.00	374.94	0.00	696.25	0.00	0.00	0.00	696.25	3,501.33	5,050.00
5,100.00	415.34	0.00	731.74	0.00	0.00	0.00	731.74	4,233.07	5,100.00
5,150.00	250.72	0.00	616.72	0.00	0.00	0.00	616.72	4,849.79	5,150.00
5,200.00	142.62	0.00	364.20	0.00	0.00	0.00	364.20	5,213.99	5,200.00
5,250.00	12.45	0.00	143.58	0.00	0.00	0.00	143.58	5,357.58	5,250.00
5,300.00	62.64	9.90	69.53	9.17	1.38	10.54	58.99	5,416.56	5,300.00
5,350.00	7.29	68.13	64.75	72.25	10.84	83.09	(18.34)	5,398.23	5,350.00
5,400.00	4.32	69.84	10.75	127.75	19.16	146.91	(136.16)	5,262.06	5,400.00
5,450.00	8.82	57.96	12.17	118.33	17.75	136.08	(123.92)	5,138.15	5,450.00
5,500.00	15.66	55.08	22.67	104.67	15.70	120.37	(97.70)	5,040.45	5,500.00
5,550.00	29.34	24.30	41.67	73.50	11.03	84.53	(42.86)	4,997.59	5,550.00
5,600.00	53.19	50.22	76.42	69.00	10.35	79.35	(2.93)	4,994.66	5,600.00
5,650.00	277.92	11.16	306.58	56.83	8.53	65.36	241.23	5,235.88	5,650.00
5,700.00	343.89	5.40	575.75	15.33	2.30	17.63	558.12	5,794.00	5,700.00
5,750.00	224.91	25.47	526.67	28.58	4.29	32.87	493.80	6,287.79	5,750.00
5,800.00	197.10	34.20	390.75	55.25	8.29	63.54	327.21	6,615.01	5,800.00
5,850.00	172.17	29.52	341.92	59.00	8.85	67.85	274.07	6,889.07	5,850.00
5,900.00	140.49	39.78	289.50	64.17	9.63	73.79	215.71	7,104.78	5,900.00
5,950.00	110.43	50.94	232.33	84.00	12.60	96.60	135.73	7,240.51	5,950.00
6,000.00	79.29	48.69	175.67	92.25	13.84	106.09	69.58	7,310.09	6,000.00
6,050.00	60.57	60.57	129.50	101.17	15.18	116.34	13.16	7,323.25	6,050.00
6,100.00	16.56	23.13	71.42	77.50	11.63	89.13	(17.71)	7,305.54	6,100.00
6,150.00	40.77	4.77	53.08	25.83	3.88	29.71	23.38	7,328.92	6,150.00
6,200.00	39.06	13.59	73.92	17.00	2.55	19.55	54.37	7,383.28	6,200.00
6,250.00	60.57	29.88	92.25	40.25	6.04	46.29	45.96	7,429.25	6,250.00
6,300.00	70.47	18.99	121.33	45.25	6.79	52.04	69.30	7,498.54	6,300.00
6,350.00	93.42	14.22	151.75	30.75	4.61	35.36	116.39	7,614.93	6,350.00
6,400.00	102.24	11.25	181.17	23.58	3.54	27.12	154.05	7,768.98	6,400.00
6,450.00	118.71	4.77	204.58	14.83	2.23	17.06	187.53	7,956.50	6,450.00
6,500.00	158.76	3.15	256.92	7.33	1.10	8.43	248.48	8,204.98	6,500.00
6,550.00	186.66	4.68	319.83	7.25	1.09	8.34	311.50	8,516.48	6,550.00
6,600.00	166.41	2.61	326.92	6.75	1.01	7.76	319.15	8,835.63	6,600.00
6,650.00	277.38	6.30	410.92	8.25	1.24	9.49	401.43	9,237.06	6,650.00
6,700.00	111.42	48.33	360.00	50.58	7.59	58.17	301.83	9,538.89	6,700.00
6,732.64	0.00	0.00	67.35	29.21	4.38	33.59	33.75	9,572.65	6,732.64
TOTALS			12,052.67	2,156.54	323.48	2,480.03	9,572.65	9,572.65	TOTALS

NOTE TO CONTRACTOR:
DO NOT DISPOSE OF EXCESS EXCAVATION WITHOUT APPROVAL FROM THE TOWN.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446

10-24-97

RECORD DOCUMENTS 6/9/2000

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FULL SECTIONS ARE TAKEN EVERY 50'
HALF SECTIONS ARE TAKEN AT DRIVEWAYS

CROSS SECTIONS
MASS VOLUME DATA

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Austin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	NTS	OCT 97	1772-01	X-1

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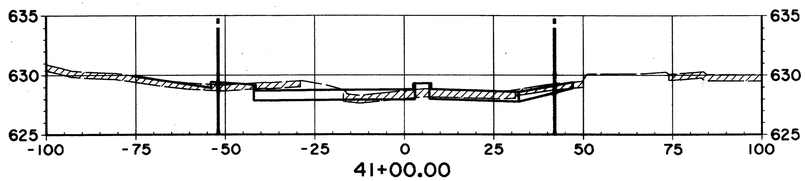
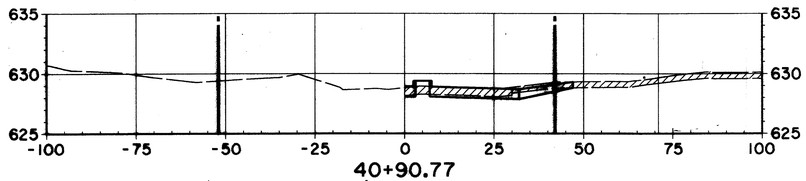
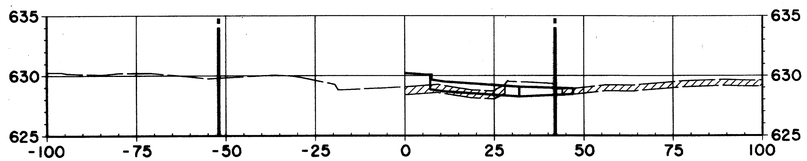


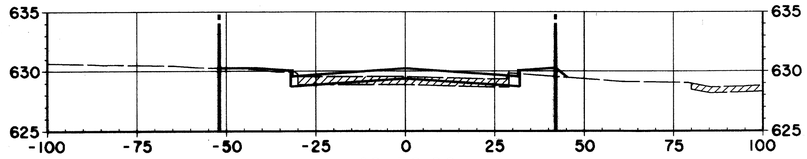
41+00.00



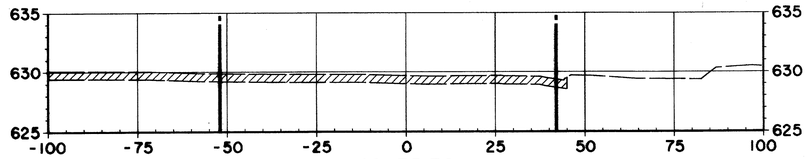
40+90.77
℄ DRIVE



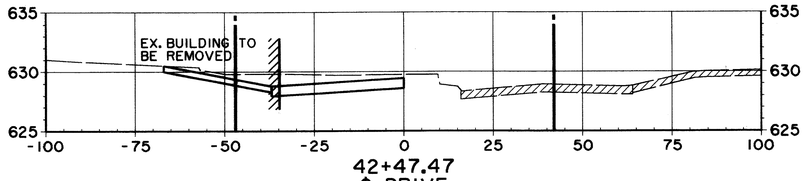
40+76.75
WEST CURB DRIVE



40+50.00

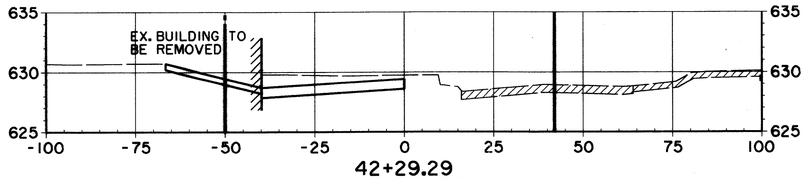


40+35.36

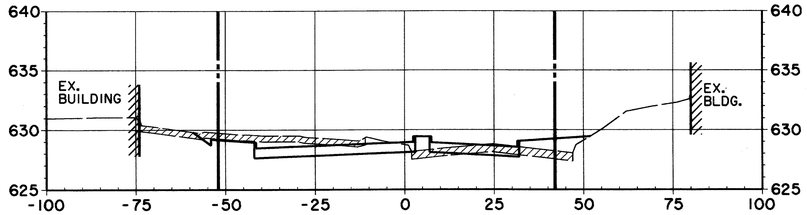


42+47.47
℄ DRIVE

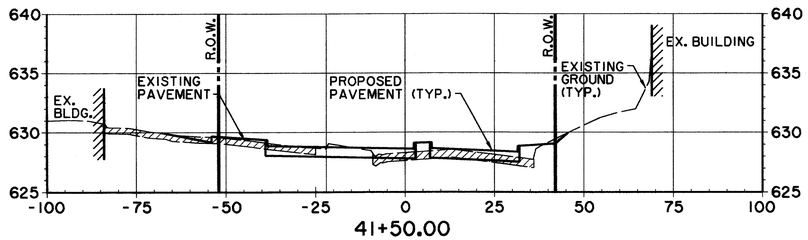
EX. GROUND NORTH OF R.O.W. LINE STA. 42+50 TO STA. 52+00 MAY HAVE BEEN MODIFIED DUE TO CONSTRUCTION OF DART TRANSIT CENTER



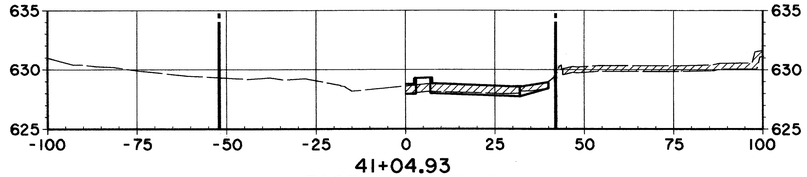
42+29.29
WEST CURB DRIVE



42+00.00



41+50.00



41+04.93
EAST CURB DRIVE

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

CROSS SECTIONS
STA. 40+35.36 TO STA. 42+47.47

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	X-2

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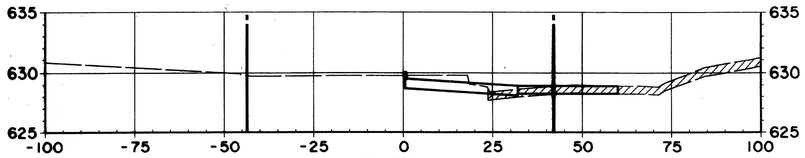
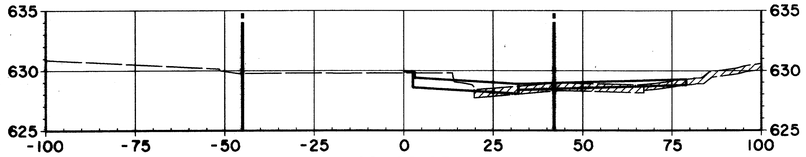
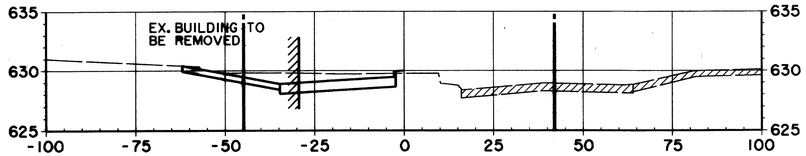


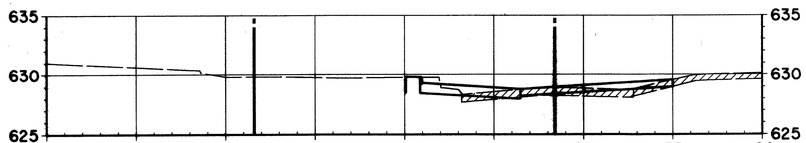
42+74.41
EAST CURB DRIVE



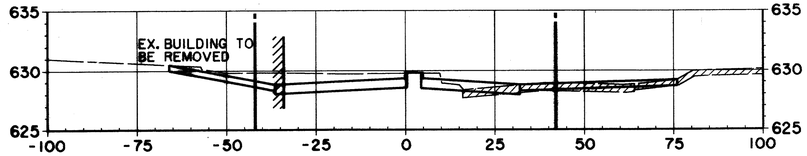
42+62.05
℄ DRIVE



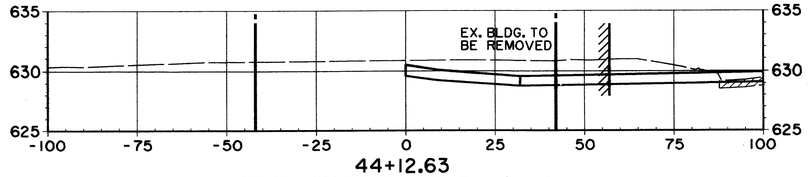
42+66.76
EAST CURB DRIVE



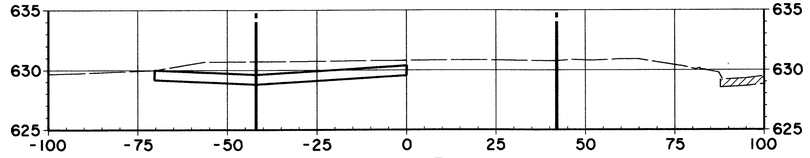
42+50.04
WEST CURB DRIVE



42+50.00

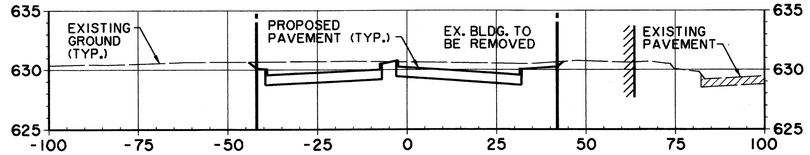


44+12.63
WEST CURB EX. ARAPAHO RD.

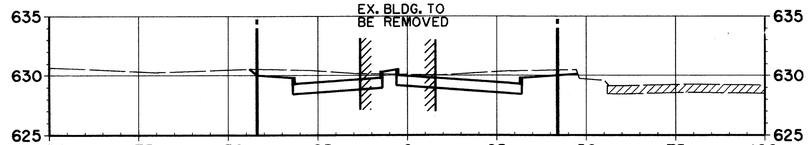


44+11.13
WEST CURB DRIVE

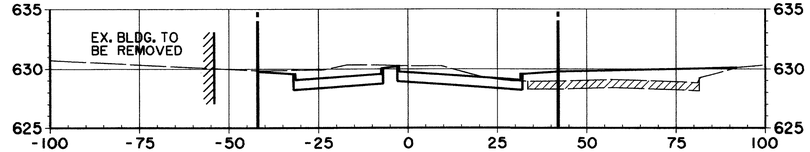
EX. GROUND NORTH OF R.O.W. LINE STA. 42+50 TO STA. 52+00 MAY HAVE BEEN MODIFIED DUE TO CONSTRUCTION OF DART TRANSIT CENTER



44+00.00



43+50.00



43+00.00

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

CROSS SECTIONS
STA. 42+50 TO STA. 44+12.63

ARAPAHO ROAD

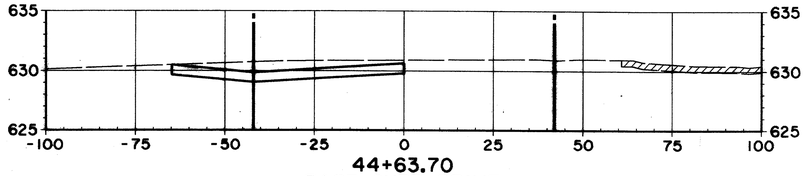
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

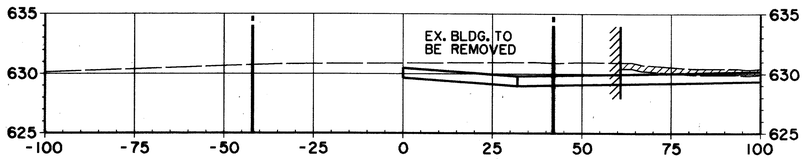
Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	X-3

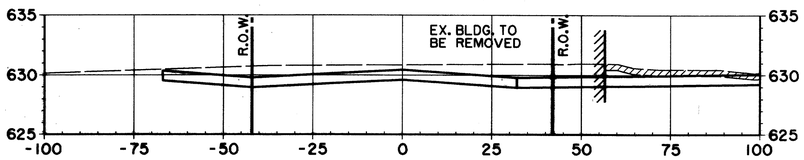
H:\PROJ\1772\01\DGN\1772X302.DGN



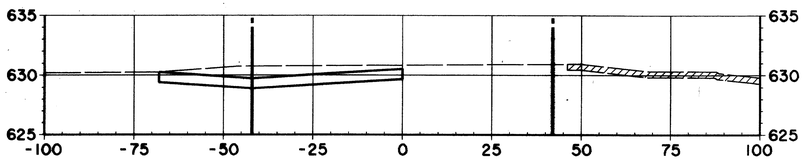
44+63.70
EAST CURB DRIVE



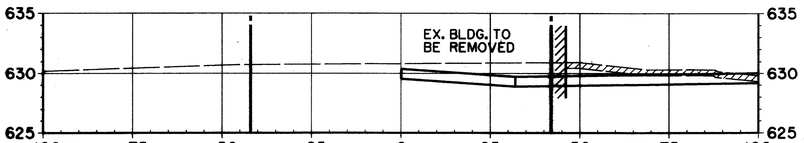
44+55.95
EAST CURB EX. ARAPAHO RD.



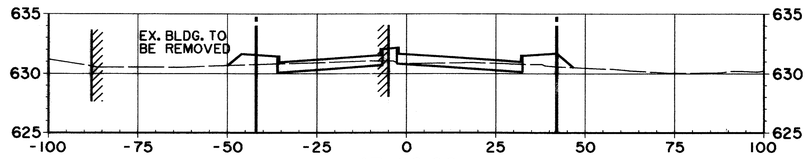
44+50.00



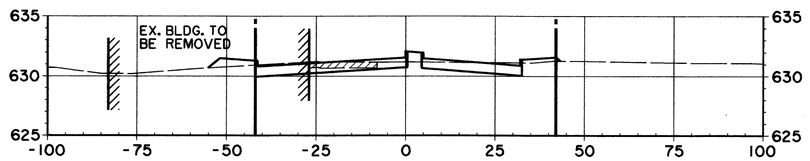
44+37.08
℄ DRIVE



44+34.29
℄ EX. ARAPAHO RD.

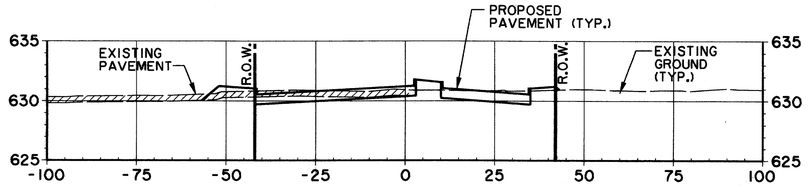


47+00.00

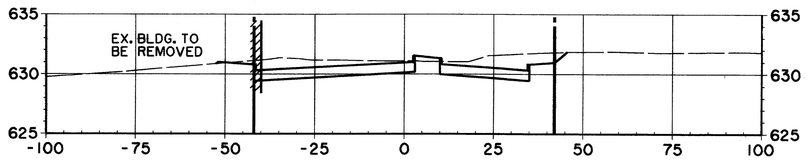


46+50.00

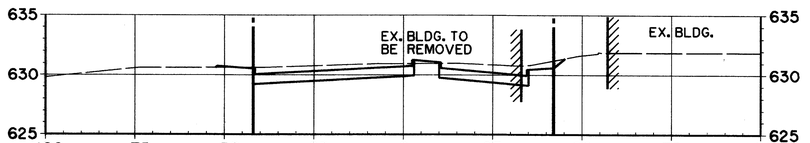
EX. GROUND NORTH OF R.O.W. LINE STA. 42+50 TO STA. 52+00 MAY HAVE BEEN MODIFIED DUE TO CONSTRUCTION OF DART TRANSIT CENTER



46+00.00



45+50.00



45+00.00

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

CROSS SECTIONS
STA. 44+34.29 TO STA. 47+00

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=8'	OCT 97	1772-01	X-4

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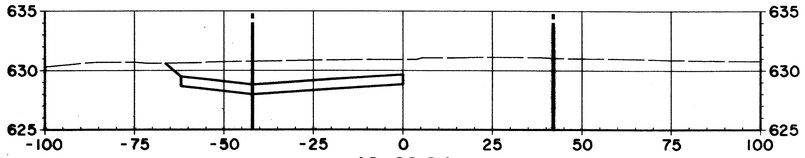
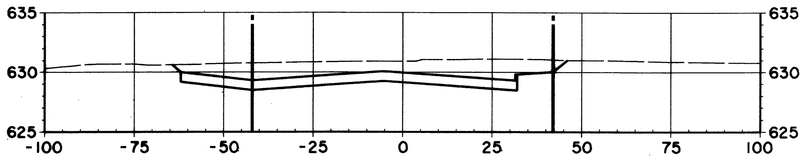
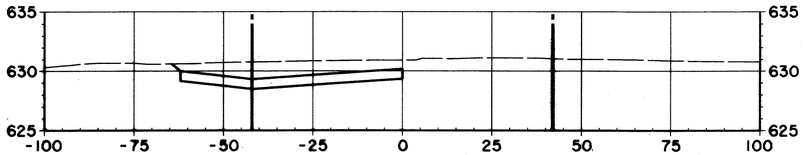


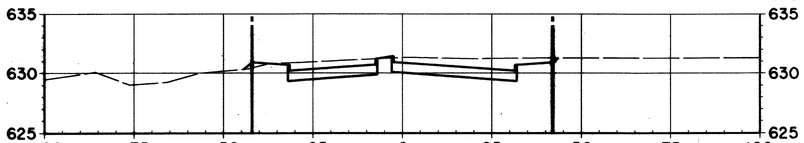
48+68.94
℄ DRIVE



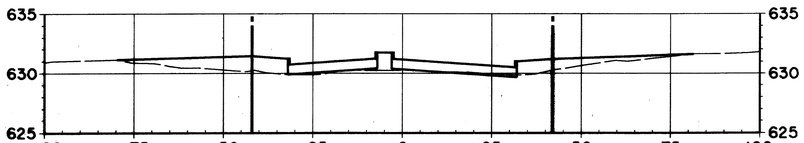
48+50.00



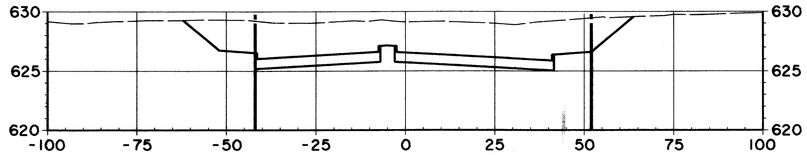
48+44.69
WEST CURB DRIVE



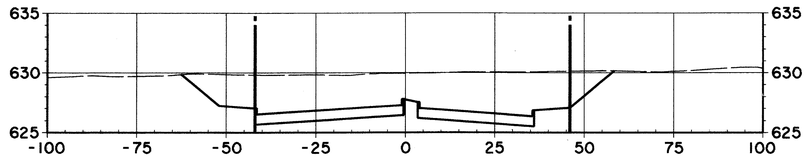
48+00.00



47+50.00

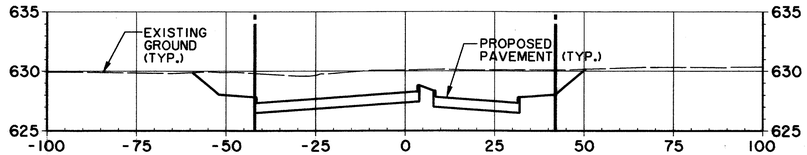


50+50.00

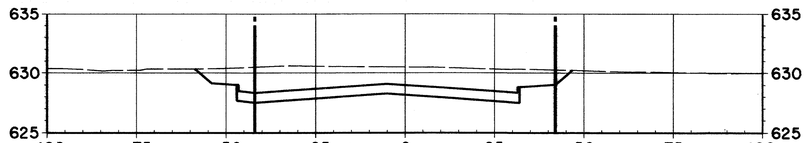


50+00.00

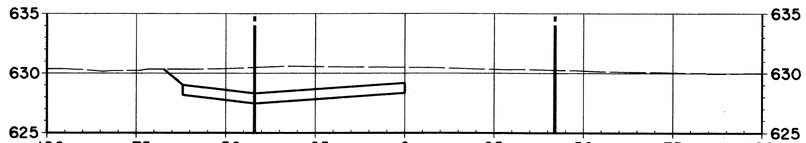
EX. GROUND NORTH OF R.O.W. LINE STA. 42+50 TO STA. 52+00 MAY HAVE BEEN MODIFIED DUE TO CONSTRUCTION OF DART TRANSIT CENTER



49+50.00



49+00.00



48+93.19
EAST CURB DRIVE

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A. ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

CROSS SECTIONS
STA. 47+50 TO STA. 50+50

ARAPAHO ROAD

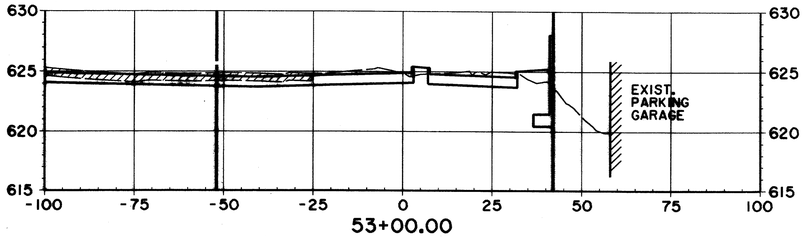
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

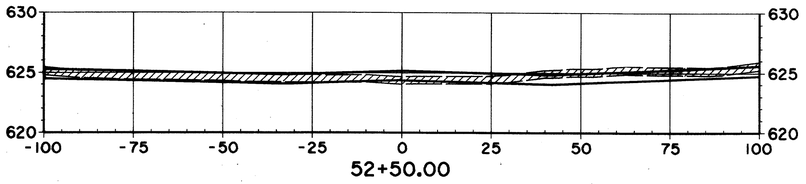
Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=8'	OCT 97	1772-01	X-5

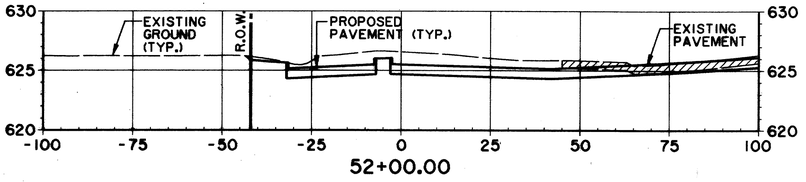
H:\PROJ\1772G\DGN\1772X504.DGN



53+00.00

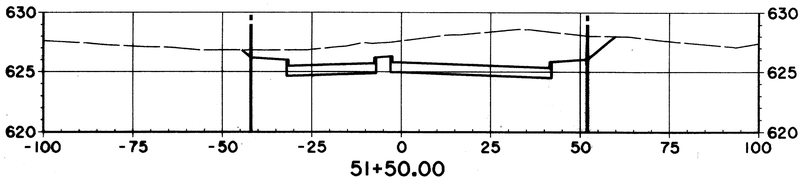


52+50.00

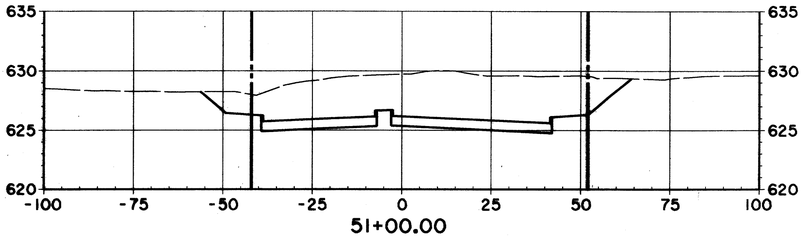


52+00.00

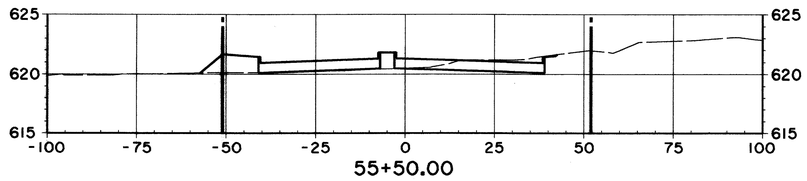
EX. GROUND NORTH OF R.O.W. LINE STA. 42+50 TO STA. 52+00 MAY HAVE BEEN MODIFIED DUE TO CONSTRUCTION OF DART TRANSIT CENTER



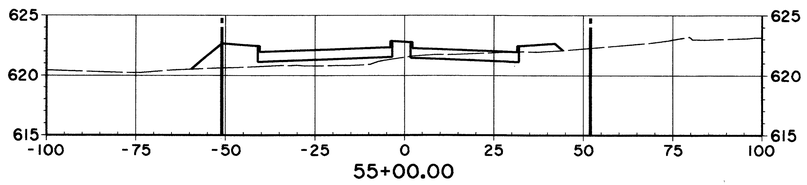
51+50.00



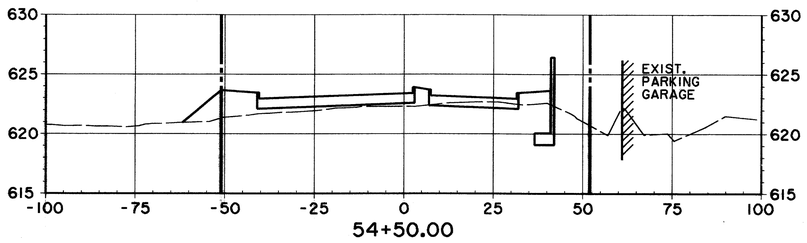
51+00.00



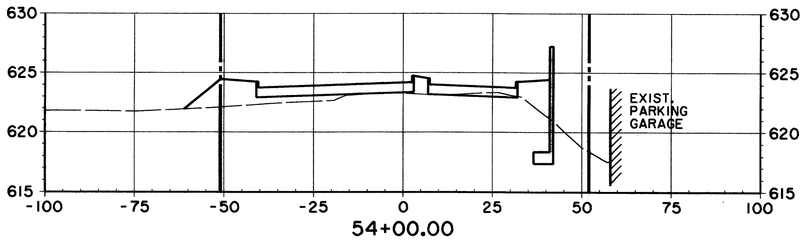
55+50.00



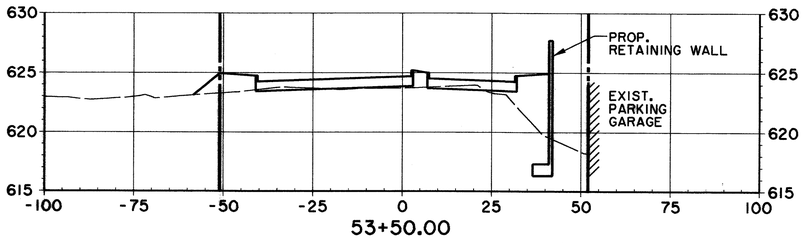
55+00.00



54+50.00



54+00.00



53+50.00

RECORD DOCUMENTS 6/9/2000

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE CONSULTANT HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

CROSS SECTIONS
STA. 51+00 TO STA. 55+50

ARAPAHO ROAD

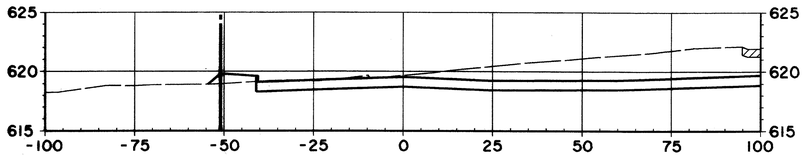
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

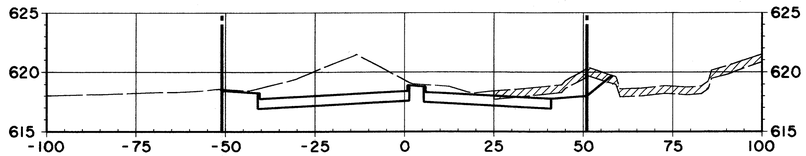
Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=8'	OCT 97	1772-01	X-6

N:\PROJ\17720\DGN\1772XS05.DGN

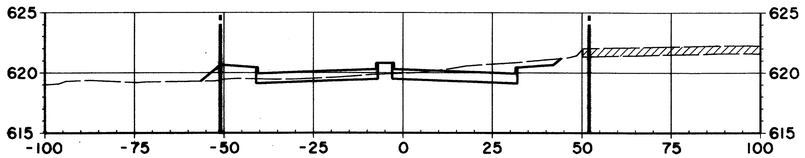


56+50.00

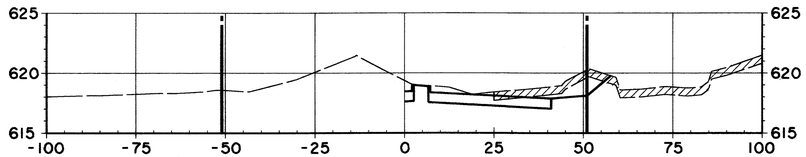


58+50.00

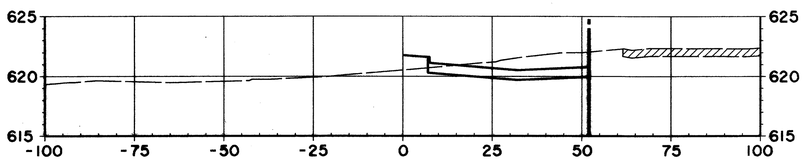
EX. GROUND SOUTH OF R.O.W. LINE STA. 57+50 TO STA. 66+50 MAY HAVE BEEN MODIFIED DUE TO CONSTRUCTION OF THE COLONNADE TOWER III



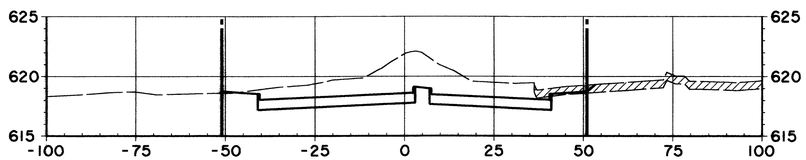
56+00.00



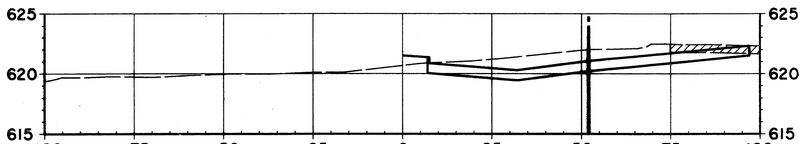
58+32.47
WEST CURB DRIVE



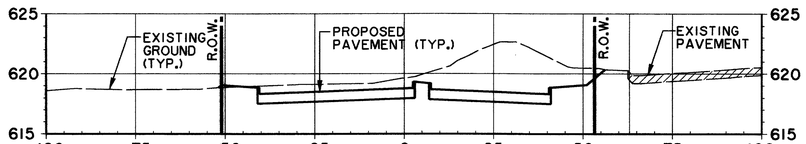
55+78.98
EAST CURB DRIVE



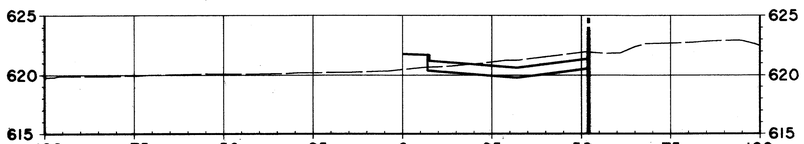
58+00.00



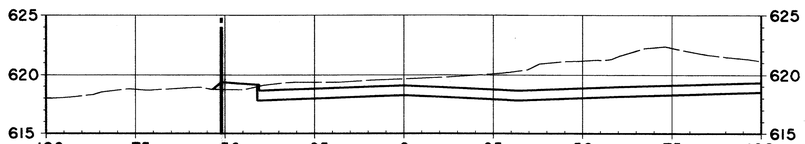
55+66.98
℄ DRIVE



57+50.00



55+54.98
WEST CURB DRIVE



57+00.00

RECORD DOCUMENTS 6/9/2000

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS · KENNETH A ROBERTS · 55446 · REGISTERED PROFESSIONAL ENGINEER

10-24-97

CROSS SECTIONS
STA. 55+54.98 TO STA. 58+50
ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	X-7

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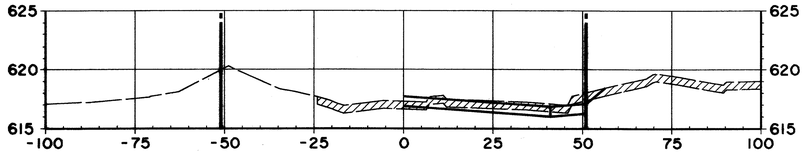
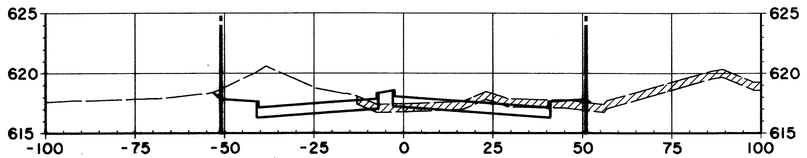
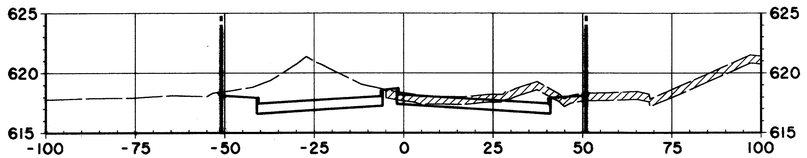


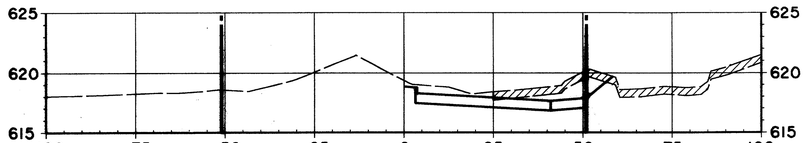
59+99.75
WEST CURB DRIVE



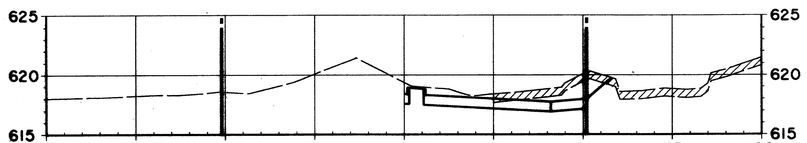
59+50.00



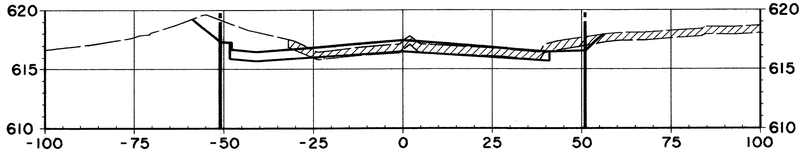
59+00.00



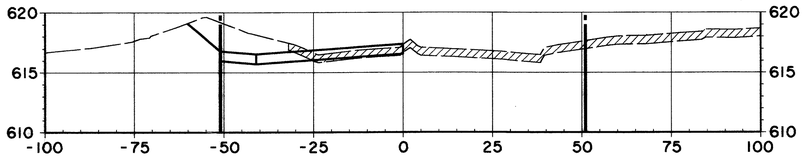
58+68.63
EAST CURB DRIVE



58+50.55
℄ DRIVE

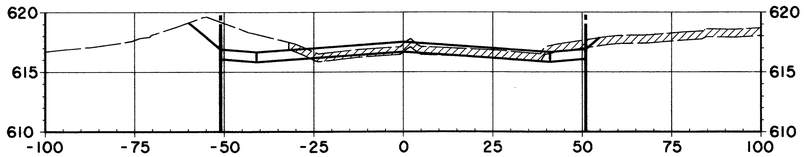


60+50.00

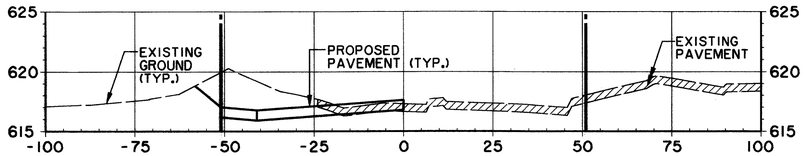


60+48.03
EAST CURB DRIVE

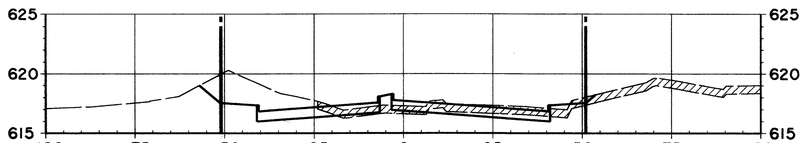
EX. GROUND SOUTH OF R.O.W. LINE STA. 57+50 TO STA. 66+50 MAY HAVE BEEN MODIFIED DUE TO CONSTRUCTION OF THE COLONNADE TOWER III



60+32.18 & 60+32.46
℄ DRIVE



60+16.32
WEST CURB DRIVE



60+00.00

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

CROSS SECTIONS
STA. 58+50.55 TO STA. 60+50

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=8'	OCT 97	1772-01	X-8

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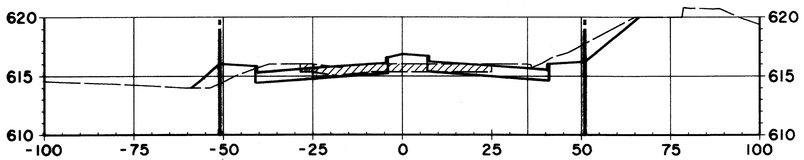
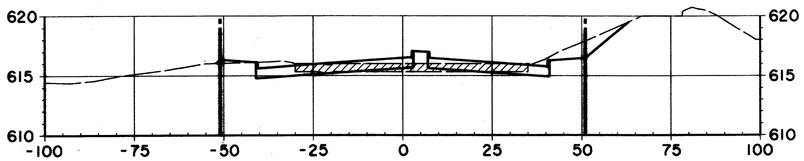
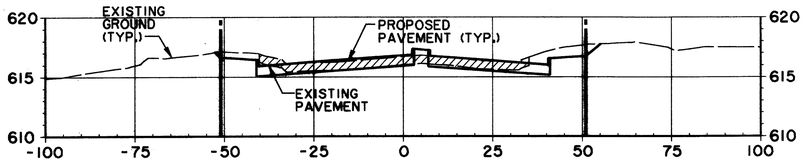


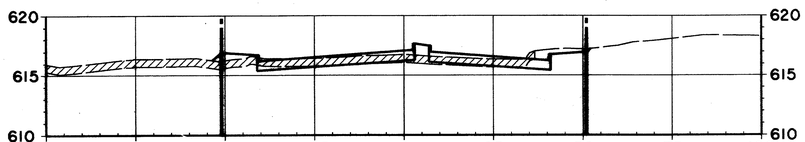
62+50.00



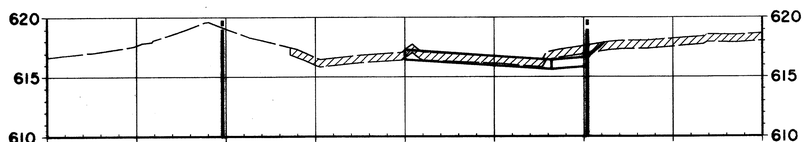
62+00.00



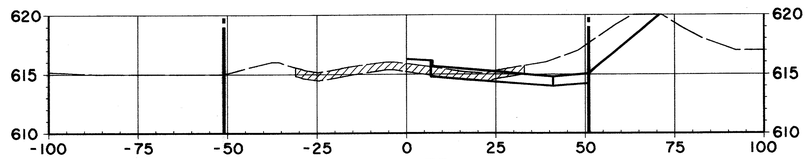
61+50.00



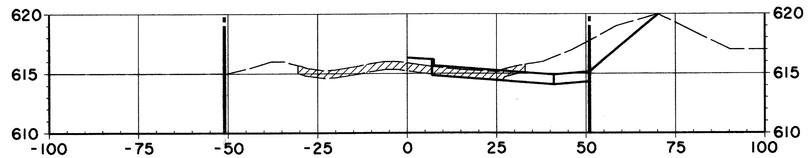
61+00.00



60+65.17
EAST CURB DRIVE

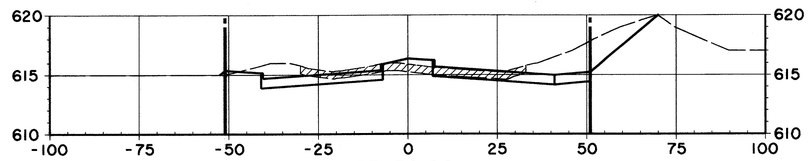


63+81.73
EAST CURB DRIVE

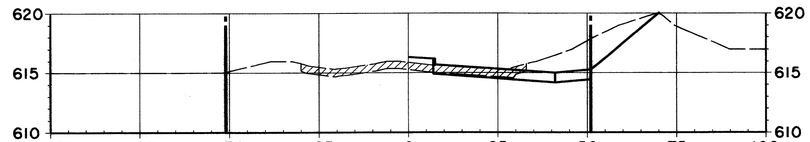


63+64.25
℄ DRIVE

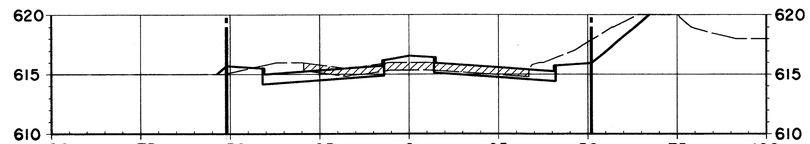
EX. GROUND SOUTH OF R.O.W. LINE STA. 57+50 TO STA. 66+50 MAY HAVE BEEN MODIFIED DUE TO CONSTRUCTION OF THE COLONNADE TOWER III



63+50.00



63+46.76
WEST CURB DRIVE



63+00.00

RECORD DOCUMENTS 6/9/2000

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STATE OF TEXAS
KENNETH A ROBERTS
55446
REGISTERED PROFESSIONAL ENGINEER

10-24-97

CROSS SECTIONS
STA. 60+65.17 TO STA. 63+81.73

ARAPAHO ROAD
ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=8'	OCT 97	1772-01	X-9

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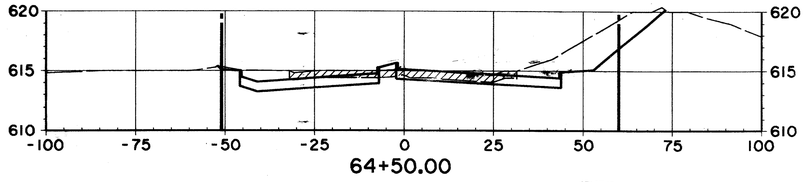
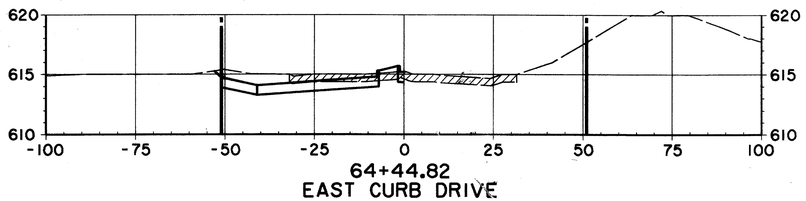
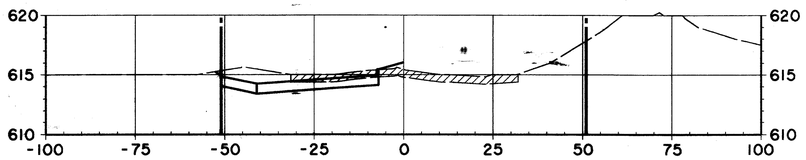


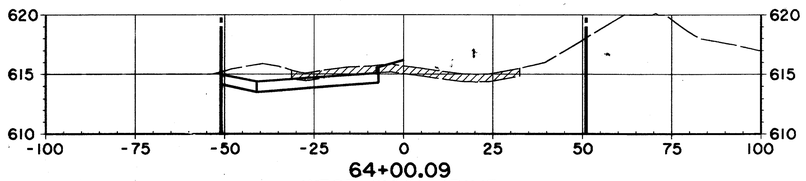
64+50.00



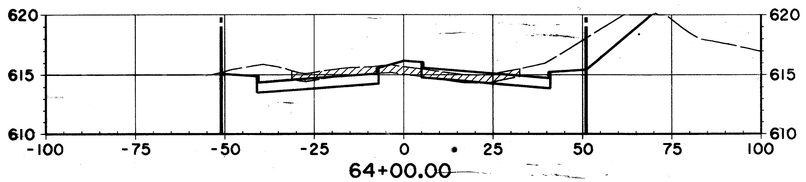
64+44.82
EAST CURB DRIVE



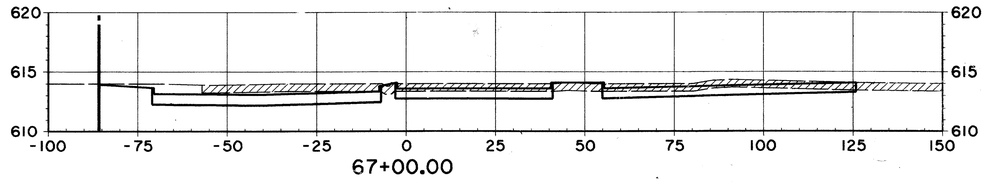
64+22.44
℄ DRIVE



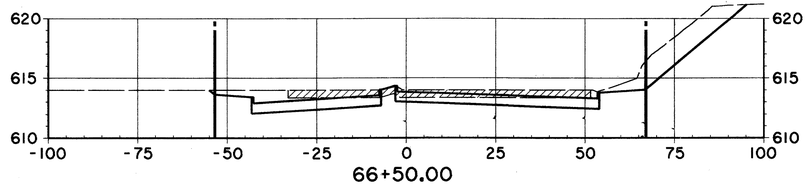
64+00.09
WEST CURB DRIVE



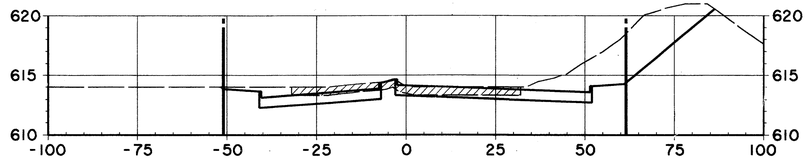
64+00.00



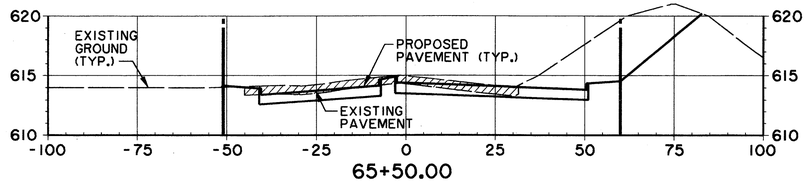
67+00.00



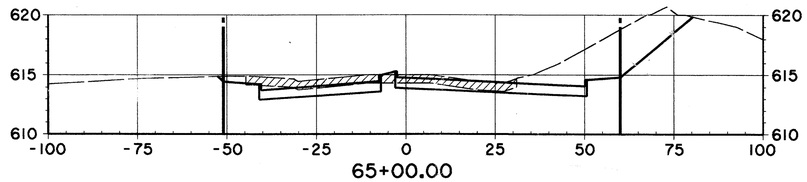
66+50.00



66+00.00



65+50.00



65+00.00

EX. GROUND SOUTH OF R.O.W. LINE STA. 57+50 TO STA. 66+50 MAY HAVE BEEN MODIFIED DUE TO CONSTRUCTION OF THE COLONNADE TOWER III

RECORD DOCUMENTS 6/9/2000

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE CONSULTANT HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KENNETH A ROBERTS, P.E. 55446 ON OCTOBER 24, 1997

STATE OF TEXAS
KENNETH A. ROBERTS
55446
REGISTERED
PROFESSIONAL ENGINEER

10-24-97

CROSS SECTIONS
STA. 64+00 TO STA. 67+00

ARAPAHO ROAD

ADDISON ROAD TO DALLAS NORTH TOLLWAY

TOWN OF ADDISON, TEXAS

Huitt-Zollars, Inc./Consulting Engineers
Dallas, Fort Worth, Houston, Phoenix, Tustin

DESIGN	DRAWN	APPR.	SCALE	DATE	PROJECT NO.	NO.
HZI	HZI	KAR	H: 1"=20' V: 1"=6'	OCT 97	1772-01	X-10

H:\PROJ\17720\DGN\1772XS14.DGN

IMPORTANT!!!

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MATCHLINE 'A'

DALLAS AREA RAPID TRANSIT

LIMIT OF WORK

6" STEEL EDGING (TYPICAL)

BERMUDA SOD

LIMIT OF WORK

43.5' @ 0.4%
F.L.=626.03
T.C.= 630.07

44.58' @ 0.4%
F.L.=625.82
T.C.= 629.08

625.86

ARAPAHO ROAD

AREA BEYOND SIDEWALK IS NOT IN THIS CONTRACT. △

(20) RED OAK (4" CAL.)

(20) FOSTER HOLLY (12' HT.) △

F.L. 625.65

BERMUDA SOD

77.83 @ 0.4%
F.L.= 625.90
T.C.= 629.62

ASIAN JASMINE
4" POTS, 9" O.C.

F.L. 625.62

50.69 @ 0.4%
F.L.= 625.82
T.C.= 629.62

TELE MH

SIGN

85.20' @ 0.4%
F.L.= 625.96
T.C.= 629.12

LIMIT OF WORK

LIMIT OF WORK

LIMIT OF WORK

QUORUM CENTER LTD.

SIGN

55.93' @ 0.3%
F.L.=625.96

F.L. 625.8

13.35' @ 0.4%
F.L.=625.81
T.C.= 629.84

OLD ARAPAHO ROAD

SOUTHWESTERN BELL

F.L.=626.55
T.C.= 630.54

LIMIT OF WORK

LIMIT OF WORK

SIGN

TELE MH

TELE MH

TELE MH

W/M

W/M

W/M

8"W

MATCHLINE 'A'

NOTE:
ALL LANDSCAPE TO BE AUTOMATICALLY IRRIGATED WITH 100% COVERAGE.

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

SCALE:1"=20'

MESA DESIGN GROUP
Landscape Architecture
Urban Design
Land Planning

3100 McKinnon Street
Suite 905
Dallas, Texas 75201
(214) 871-0568 Fax: 871-1507

ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON,TEXAS

Revisions

No.	Date	Item
△1	03/10/98	CITY REVISIONS AS
		LISTED IN ADDENDUM
		NO. 5
	05/18/98	ADDITION OF TREE
		DRAINS.

Registration

STATE OF TEXAS
WILLIAM T. ARTERBURN
868
REGISTERED LANDSCAPE ARCHITECT

KDH/RFM
Drawn

Checked

97018 — Project No.

05/18/98 — Date

Sheet Title

TREEWELL DRAINS/ PLANTING PLAN

Sheet No.

PL-1

C:/PROJECTS/97018/ADDBASE

IMPORTANT!!!

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DALLAS AREA RAPID TRANSIT

289.43' @ 0.4%
F.L.= 625.98
T.C.= 631.44

LIMIT OF WORK

(28) RED OAK
(4" CAL.) △1

(28) FOSTER HOLLY (12 HT.)

ASIAN JASMINE
4" POTS, 9" O.C.

BERMUDA SOD

289.43' @ 0.4%
F.L.= 625.98
T.C.= 631.44

325.97 @ 0.4%
F.L.= 627.16
T.C.= 631.44

6" STEEL EDGING
(TYPICAL)

BERMUDA SOD

MATCHLINE 'A'

ROAD

MCM CO.

ARAPAHO

220.48 @ 1.7%
F.L.= 625.72
T.C.= 631.44

LIMIT OF WORK

284.85 @ 0.5%
F.L.= 627.14
T.C.= 631.44

184.09' @ 0.4%
F.L.= 626.28F
T.C.= 631.44

LIMIT OF WORK

SOUTHWESTERN BELL

LIMIT OF WORK

MATCHLINE 'B'

NOTE:
ALL LANDSCAPE TO BE AUTOMATICALLY IRRIGATED WITH 100% COVERAGE.

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

SCALE:1"=20'

MESA DESIGN GROUP
Landscape Architecture
Urban Design
Land Planning

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Dallas, Texas 75201
(214) 871-0568 Fax: 871-1507

ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
△1	08/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO. 5
	05/18/98	ADDITION OF TREE DRAINS.

Registration

STATE OF TEXAS
WILLIAM T. ARTERBURN
868
REGISTERED
LANDSCAPE ARCHITECT

KDH/RFM
Drawn

Checked

97018 — Project No.
05/18/98 — Date

Sheet Title

TREEWELL DRAINS/ PLANTING PLAN

Sheet No.

PL-2

C:/PROJECTS/97018/ADDBASE

MATCHLINE 'C'

MATCHLINE 'C'

100.68' @ 2.0%
F.L.= 618.66
T.C.= 624.75

(26) RED OAK
(4" CAL.)

(36) FOSTER HOLLY (12' HT.)

ASIAN JASMINE
4" POTS, 9" O.C.

BERMUDA SOD

TOWN OF ADDISON

ARAPAHO ROAD

120.37' @ 2.0%
F.L.= 618.65
T.C.= 624.75

1 All median and parkway planting areas shall have 6 inches of topsoil place prior to planting. The topsoil shall be tilled into the soil below a minimum of 4 inches deep. Backfill in the medians under the proposed topsoil shall consist of friable native material free of rocks and debris. The cost of topsoil and median backfill shall be subsidiary to the contract.

CARRAMERICA LIMITED PARTNERSHIP

LIMIT OF WORK

119.91' @ 1.0%
F.L.= 619.86

6" STEEL EDGING
(TYPICAL)

BERMUDA SOD

120.00' @ 1.0%
F.L.= 619.85

Delete per Jim Pierce

Fire Hydrant

Valve

LIMIT OF WORK

QUORUM DRIVE

DALLAS AREA RAPID TRANSIT

MCM CO.

F.L.= 621.69
T.C.= 665.68

F.L.= 621.97
T.C.= 625.97

NOTE:
ALL LANDSCAPE TO BE AUTOMATICALLY IRRIGATED WITH 100% COVERAGE.

MATCHLINE 'B'

MATCHLINE 'B'

SCALE:1"=20'

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

MESA DESIGN GROUP
Landscape Architecture
Urban Design
Land Planning

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Dallas, Texas 75201
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ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
1	03/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO. 5
	05/19/98	ADDITION OF TREE DRAINS.

Registration

STATE OF TEXAS
WILLIAM T. ARTERBURN
868
REGISTERED
LANDSCAPE ARCHITECT

KDH/RFM
Drawn

Checked

97018 — Project No.

12/12/97 — Date

Sheet Title

TREEWELL DRAINS/ PLANTING PLAN

Sheet No.

PL-3

C:/PROJECTS/97018/ADDBASE

MATCHLINE 'D'

LIMIT OF WORK

All median and parkway planting areas shall have 6 inches of topsoil place prior to planting. The topsoil shall be tilled into the soil below a minimum of 4 inches deep. Backfill in the medians under the proposed topsoil shall consist of friable native material free of rocks and debris. The cost of topsoil and median backfill shall be subsidiary to the contract.

ARAPAHO ROAD

TS TELE MH

(12) RED OAK
(4" CAL.)

(8) FOSTER HOLLY (12' HT.)

ASIAN JASMINE
4" POTS, 3' O.C.

151.11' @ 0.6%
F.L. = 614.71
T.C. = 618.67

MEPC QUORUM PROPERTIES
(COLONADE)

F.L. = 614.75
T.C. = 618.75

13' @ 0.5%
F.L. = 614.82

BERMUDA SOD

428.61' @ 0.6%
F.L. = 614.64
T.C. = 618.85

STORM

FH

SPECTRUM

DRIVE

SPRINKLER CONTROL VALVE

9.75' @ 1.0%
F.L. = 616.75

9.75' @ 2.0%
F.L. = 616.65
T.C. = 620.65

F.L. = 616.25
T.C. = 620.25

Delete drain per Jim Pierce

LIMIT OF WORK

CARRAMERICA
LIMITED
PARTNERSHIP

LIMIT OF WORK

TOWN OF ADDISON

MATCHLINE 'C'

SCALE:1"=20'

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

MESA
DESIGN GROUP
Landscape Architecture
Urban Design
Land Planning

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Suite 905
Dallas, Texas 75201
(214) 871-0568 Fax: 871-1507

ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
1	03/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO. 5
	05/18/98	ADDITION OF TREE DRAINS.

Registration

STATE OF TEXAS
WILLIAM T. ARTERBURN
868
REGISTERED LANDSCAPE ARCHITECT

KDH/RFM
Drawn

Checked

97018 — Project No.

12/12/97 — Date

Sheet Title

TREEWELL DRAINS/ PLANTING PLAN

Sheet No.

PL-4

C:/PROJECTS/97018/ADDBASE

FYI

☐ Keep/Toss
☐ Return

LETTER OF TRANSMITTAL

TOWN OF ADDISON

Public Works / Engineering
16801 Westgrove • P.O. Box 144
Addison, Texas 75001
Telephone: (214) 450-2871 • Fax: (214) 931-6643

DATE 11-3-98	JOB NO.
ATTENTION	
RE: Arapaho Rd Tree Drains	

TO Nelson Mitchell
Ed Bell Const

GENTLEMAN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
3			Arapaho Rd Streetscape Sheets PL-5 & PL-6 by MESA Design Group

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☐ For review and comment ☐ _____

☐ FOR BIDS DUE _____ 19____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS These drawings, submitted previously, did not have tree drain elevations shown. The elevations are shown on the attached. Some alternate elevations are shown "bucking" street grade. We do not want to buck grade.

COPY TO Dave Wilde w/ drawings
Rob Weber w/o drawings

SIGNED: Jim Pierce

If enclosures are not as noted, please notify us at once.

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TOWN OF ADDISON

LANCO ARAPAHO PARTNERSHIP

LANCO ARAPAHO PARTNERSHIP

MATCHLINE 'E'

LIMIT OF WORK

T.C.=616.07
F.L.=612.07

436 L.F. @ 0.62%
F.L.= 612.10

43.5'@ 0.5%
T.C. = 615.90
F.L.= 612.18
(TO RUN LINE WEST AGAINST GRADE)

6" STEEL EDGING (TYPICAL)

BERMUDA SOD

LIMIT OF WORK

(24) RED OAKS (4" CAL.)

(28) FOSTER HOLLY (12 HT.)

ASIAN JASMINE
4" POTS, 9" O.C.

BERMUDA SOD

ARAPAHO ROAD

121.5'@0.62%
T.C.= 616.65
F.L.= 612.59

EXISTING TREES

MEPC QUORUM PROPERTIES
(COLONADE)

T.C.=615.96
F.L.=611.96

129.5'@0.62%
T.C. 615.87
F.L. 611.79
(THIS CALC. IS FOR LINE AS SHOWN.)

LIMIT OF WORK

MATCHLINE 'E'

MEPC
(C

(TO RUN LINE WEST AGAINST GRADE)

49.75'@0.48%
F.L.= 613.98

LIMIT OF WORK

172.75'@0.52%
F.L.= 613.69
(THIS CALC. IS FOR RUNNING LINE AS SHOWN)

T.C. 617.74
F.L. 613.74

OF WORK

NOTE:
ALL LANDSCAPE TO BE AUTOMATICALLY IRRIGATED WITH 100% COVERAGE.

SCALE:1"=20'

MESA
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Landscape Architecture
Urban Design
Land Planning

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON,TEXAS

Revisions

No.	Date	Item
1	09/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO. 5
	05/18/98	ADDITION OF TREE DRAINS.

Registration

STATE OF TEXAS
WILLIAM T. ARTERBURN
866
REGISTERED LANDSCAPE ARCHITECT

KDH/RFM
Drawn

Checked

97018 — Project No.
05/18/98 — Date

Sheet Title

TREEWELL DRAINS/ PLANTING PLAN

SHEET PL-5

IMPORTANT!!!

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MATCHLINE 'E'

...NCO ARAPAHO
...ARTNERSHIP

LIMIT OF WORK

CHATTAHOOCHEE
LEASING CORP.

T.C. = 613.40
F.L. = 609.40

BERMUDA SOD

ARAPAHO ROAD

222 L.F @ 0.52%
F.L. = 611.30

T.C. = 618.12
F.L. = 611.12

T.C. 613.65
F.L. = 610.15

(13) RED OAK
(4" CAL.)
(12) FOSTER HOLLY (12 HT.)
ASIAN JASMINE
4" POTS, 9" O.C.
BERMUDA SOD

MEPC QUORUM PROPERTIES
(COLONADE)

...TIES

MATCHLINE 'E'

LIMIT OF WORK

LIMIT OF WORK

DALLAS NORTH TOLLWAY

ARAPAHO ROAD

OVERPASS

DALLAS NORTH TOLLWAY

NOTE:
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WRITTEN DIMENSIONS PREVAIL OVER

SCALE: 1"=20'

MESA DESIGN GROUP
Landscape Architecture
Urban Design
Land Planning

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Dallas, Texas 75201
(214) 871-0568 Fax. 871-1

ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
⚠1	03/10/98	CITY REVISIONS
		LISTED IN ADDE
		NO. 5
	05/18/98	ADDITION OF TR
		DRAINS.

Registration

STATE OF TEXAS
WILLIAM T. ARTERBURN
868
REGISTERED
LANDSCAPE ARCHITECT

KDH/RFM
Drawn

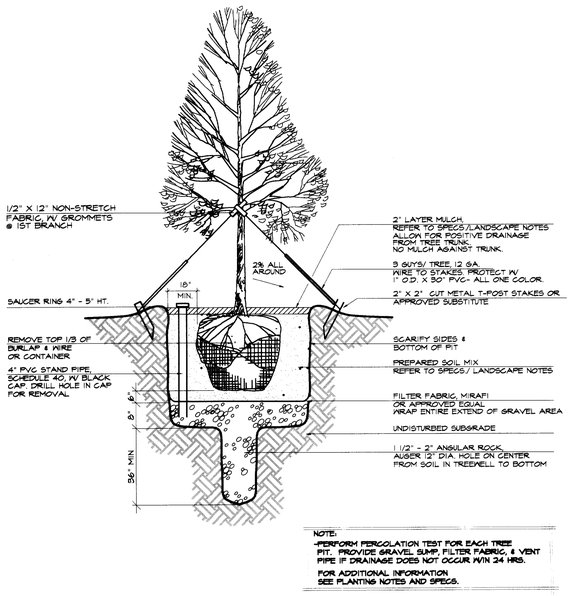
Checked

97018 — Project No.
05/18/98 — Date

Sheet Title

TREEWELL DRAINS/ PLANTING PLAN

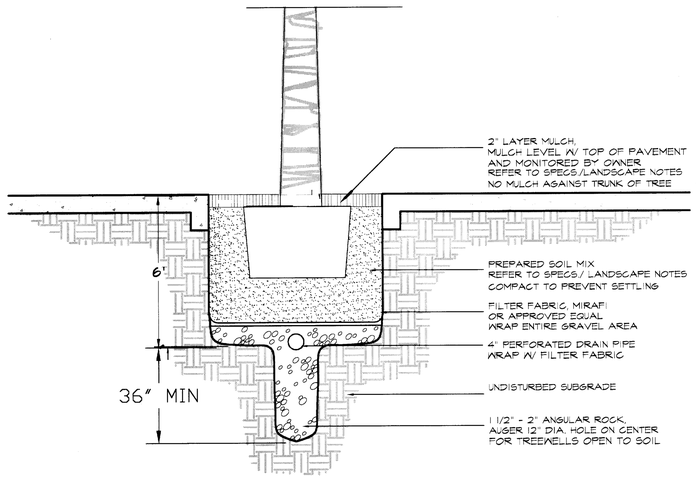
SHEET PL-6



NOTE:
-PERFORM PERCOLATION TEST FOR EACH TREE PIT. PROVIDE GRAVEL SUMP, FILTER FABRIC, & VENT PIPE IF DRAINAGE DOES NOT OCCUR WITH 24 HRS.

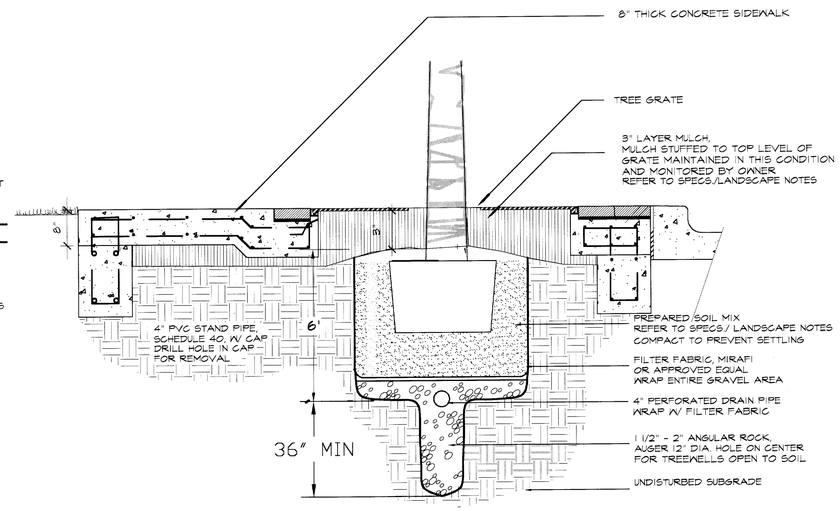
FOR ADDITIONAL INFORMATION SEE PLANTING NOTES AND SPECS.

A ORNAMENTAL TREE PLANTING DETAIL
HORNBEAM / HOLLY



NOTE:
DO NOT INSTALL GUY WIRES ON TREE GRATES.
2" AIR SPACE BETWEEN BOTTOM OF GRATE AND ROOTBALL FINISH GRADE.

B TREE WELL PLANTING DETAIL
RED OAKS ALONG QUORUM DRIVE



IMPORTANT NOTE:
MULCH SHOULD ALWAYS BE STUFFED TO TOP LEVEL OF TREE GRATE AND SHOULD BE MAINTAINED IN THIS CONDITION AND MONITORED BY OWNER

C TREE GRATE PLANTING DETAIL
RED OAKS ALONG ARAPAHO ROAD

LANDSCAPE NOTES

PREPARATION

LANDSCAPE CONTRACTOR AND REPRESENTATIVE OF OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND LINE RUNS IN THE FIELD PRIOR TO THE INSTALLATION OF ANY PLANT MATERIALS.

PLANT LOCATIONS

REFER TO PLANTING PLAN FOR PLANTING LOCATIONS AND PLANT MATERIAL LEGEND FOR SPECIFICATIONS. PLANT MATERIAL LOCATION TO BE STAKED IN THE FIELD AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.

GRADING AND DRAINAGE

MESA DESIGN GROUP ASSUMES NO RESPONSIBILITY FOR FAILURE OF ANY HARDSCAPE AMENITY SUCH AS WALKS, ENTRANCES TO STRUCTURES, AND PLANTER BEDS FORMED OR ENCLOSED BY EDGING AND FLATWORK WHICH DO NOT DRAIN DUE TO IMPROPER SET UP OF ELEVATIONS DURING CONSTRUCTION. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINE GRADING, VERIFYING THAT WATER DRAINS.

COORDINATION

LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER CONTRACTORS ON SITE AS REQUIRED TO ACCOMPLISH ALL PLANTING OPERATIONS.

MAINTENANCE

LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PLANTING BEDS IN A WEED AND DEBRIS FREE CONDITION AND SHALL ACCOMPLISH WATERING BY HAND AS DEEMED NECESSARY UNTIL SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL MAINTAIN ALL WORK FOR A PERIOD OF 30 DAYS AFTER FINAL ACCEPTANCE.

VERIFICATION

CONTRACTOR IS RESPONSIBLE FOR ALL QUANTITIES PER DRAWINGS AND SPECIFICATIONS BY THE LANDSCAPE ARCHITECT. PLANT QUANTITIES HAVE BEEN PROVIDED AS A CONVENIENCE ONLY AND SHALL NOT BE CONSIDERED ABSOLUTE. LANDSCAPE ARCHITECT TO BE NOTIFIED IF DISCREPANCIES OCCUR. OTHERWISE, THE CONTRACTOR IS TO BID THEIR OWN VERIFIED QUANTITIES.

PLANTING BEDS

ALL BED AREAS ARE TO BE LEFT 3" ABOVE FINISHED GRADE OF ADJACENT PAVEMENT TO INCLUDE 3" OF MULCH AFTER COMPACTION AND SETTLEMENT. ALL BED AREAS SHALL BE ROTOTILLED TO A DEPTH OF 6", ADDING PREPARED SOIL MIXTURE AS REQUIRED.

MULCH

AFTER SETTLEMENT AND COMPACTION ALL PLANTING BEDS SHALL RECEIVE A MINIMUM 2" LAYER OF MULCH.
ALL AREAS DISTURBED BY PLANTING OPERATIONS SHALL BE FINE GRADED AND SEEDED.

STANDARDS

ALL PLANT MATERIAL SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION. ALL PLANTING SHALL BE IN ACCORDANCE WITH STANDARD AMERICAN ASSOCIATION OF NUSERYMEN PROCEDURES AND SPECIFICATIONS.
ANY PLANT SUBSTITUTION SHALL BE APPROVED BY LANDSCAPE ARCHITECT.

PRUNING

ALL TREES TO BE PRUNED AT INSTALLATION TO REMOVE DEAD AND UNSIGHTLY LIMBS. ALL TREES ARE TO MATCH IN HEIGHT, SPREAD, AND CLEAR TRUNK AND SHALL HAVE STRAIGHT TRUNKS.

PLANTING SOIL MIXTURE

PLANTING SOIL MIXTURE TO BE AS FOLLOWS: (AVAILABLE LIVING EARTH TECHNOLOGY)
TREES, SHRUBS, AND GROUNDCOVER
45% COMPOST
45% COMPOSTED PINE BARK
10% SANDY LOAM
2 lbs. ORGANIC FERTILIZER/C.Y.
(GARDENVILLE 122 MIX, AVAILABLE
MARSHALL DISTRIBUTING (817)654-0220

FERTILIZER

ADD FERTILIZER TABLETS TO ALL TREES AND SHRUBS, ONE TABLET PER 1/2" CALIPER FOR TREES AND ONE TABLET PER 12" OF HEIGHT OR SPREAD FOR EACH SHRUB AT INSTALLATION.

WARRANTY

ALL PLANT MATERIAL TO BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER.

IRRIGATION

CONTRACTOR TO INSTALL NEW IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE FOR AFFECTED TURF, TREES AND BED AREAS. INSTALL PER PLAN AND CITY OF ADDISON IRRIGATION SPECIFICATIONS.
THE CONTRACTOR SHALL VISIT SITE TO DETERMINE REQUIREMENTS PRIOR TO BID.

SANDY LOAM

SANDY LOAM SHALL BE NATURAL FERTILE FRIABLE SOIL POSSESSING CHARACTERISTICS OF REPRESENTATIVE PRODUCTIVE SOILS IN THE VICINITY. IT SHALL NOT BE EXCESSIVELY ACID OR ALKALINE OR CONTAIN TOXIC SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE WITHOUT ADMIXTURE OF SUBSOIL AND SHALL CONTAIN A MINIMUM OF LUMPS, STONE, STUMPS, ROOTS OF SIMILAR SUBSTANCES ONE INCH OR MORE IN DIAMETER. LOAM SHALL BE FREE FROM WEEDS AND OTHER NOXIOUS MATERIALS. LOAM SHALL NOT BE STRIPPED, COLLECTED OR DEPOSITED WHILE WET.

STAKING, GUYING

ALL TREES ARE TO BE STAKED AND GUYED THROUGH THE ONE YEAR WARRANTY AT WHICH TIME THE OWNER SHALL DETERMINE IF REMOVAL IS NECESSARY (REFER TO PLANTING DETAILS).

PLANT LIST

PLANT	PLANT QUANTITY	COMMON NAME / BOTANICAL NAME	SIZE	HEIGHT	SPREAD	COMMENTS
		LARGE TREES- INSTALL PER DETAIL PL-7; A & B				
	127	RED OAK QUERCUS SHUMARDII	4" CAL. 100 GAL.	14'-16'	8'-10'	SINGLE, STRAIGHT TRUNK. FULL ROUND CANOPY, WELL BRANCHED, MATCHING & CONTAINER GROWN. MESA/CITY OF ADDISON TO APPROVE SOURCE & TAG. APPROVED SOURCES: MARION GARDENS, AM&D TREE FARMS, SKINNERS OR APPROVED EQUAL.
	128	FOSTER'S HOLLY ILEX ATTENUATA 'FOSTERI	100 GAL.	12'	4'-5	SINGLE, TRUNK, STRONG CENTRAL LEADER. FULL WELL BRANCHED TO GROUND. MATCHING & CONTAINER GROWN. MESA/CITY OF ADDISON TO APPROVE SOURCE & TAG. APPROVED SOURCES: CHERRY LAKE TREE FARM OR APPROVED EQUAL.
		GROUNDCOVER- INSTALL PER L-2; C				
	2800	ASIAN JASMINE TRACHELOSPERMUM ASIATICUM	4" POTS 9" O.C.			12" RUNNERS MIN, HEALTHY, VIGOROUS, WELL ROOTED.
		BERMUDA SOD CYNODON DACTYLON 'TEX TURF 10'				REFER TO SPECIFICATIONS & PLANS PER LOCATION. MESA/CITY OF ADDISON TO APPROVE SOURCE & SAMPLES. SOURCE: AI GRASS COMPANY OR APPROVED EQUAL.

SOURCES:

MARION GARDENS
619 N. STATE ROAD 50
GROVELAND, FL 34736
(352) 429-4151

AM&D TREE FARM
HWY 19, SOUTH
CANTON, TX 75103
(800) 965-5622

SKINNERS
RT. 1, BOX 225
BUNNELL, FL 32110
(800) 741-2020

CHERRY LAKE TREE FARMS
7836 CHERRY LAKE ROAD
GROVELAND, FL 34736
(800) 428-2171

INDIAN CREEK TREE FARM
2222 PARKER ROAD
CARROLLTON, TX 75010
(972) 394-8846

PRINCETON NURSERY
P.O. BOX 185
ALLENTOWN, NJ 08501
(609) 259-7671

AI GRASS COMPANY
1320 EAST 14TH STREET
PLANO, TX
(972) 423-8814

MESA
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Landscape Architecture
Urban Design
Land Planning

3100 McKinnon Street
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Dallas, Texas 75201
(214) 871-0568 Fax: 871-1507

ARAPAHO ROAD STREETSCAPE
CITY OF ADDISON, TEXAS

Revisions

No.	Date	Item
1	08/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO.5

Registration

STATE OF TEXAS
WILLIAM G. MCCULLOUGH
REGISTERED LANDSCAPE ARCHITECT

RFM
Drawn
WGM
Checked
97018 — Project No.
12/12/97 — Date

Sheet Title

PLANTING DETAILS

Sheet No.

PL-7

C:\PROJECTS\97018\7018PL7

IMPORTANT!!!

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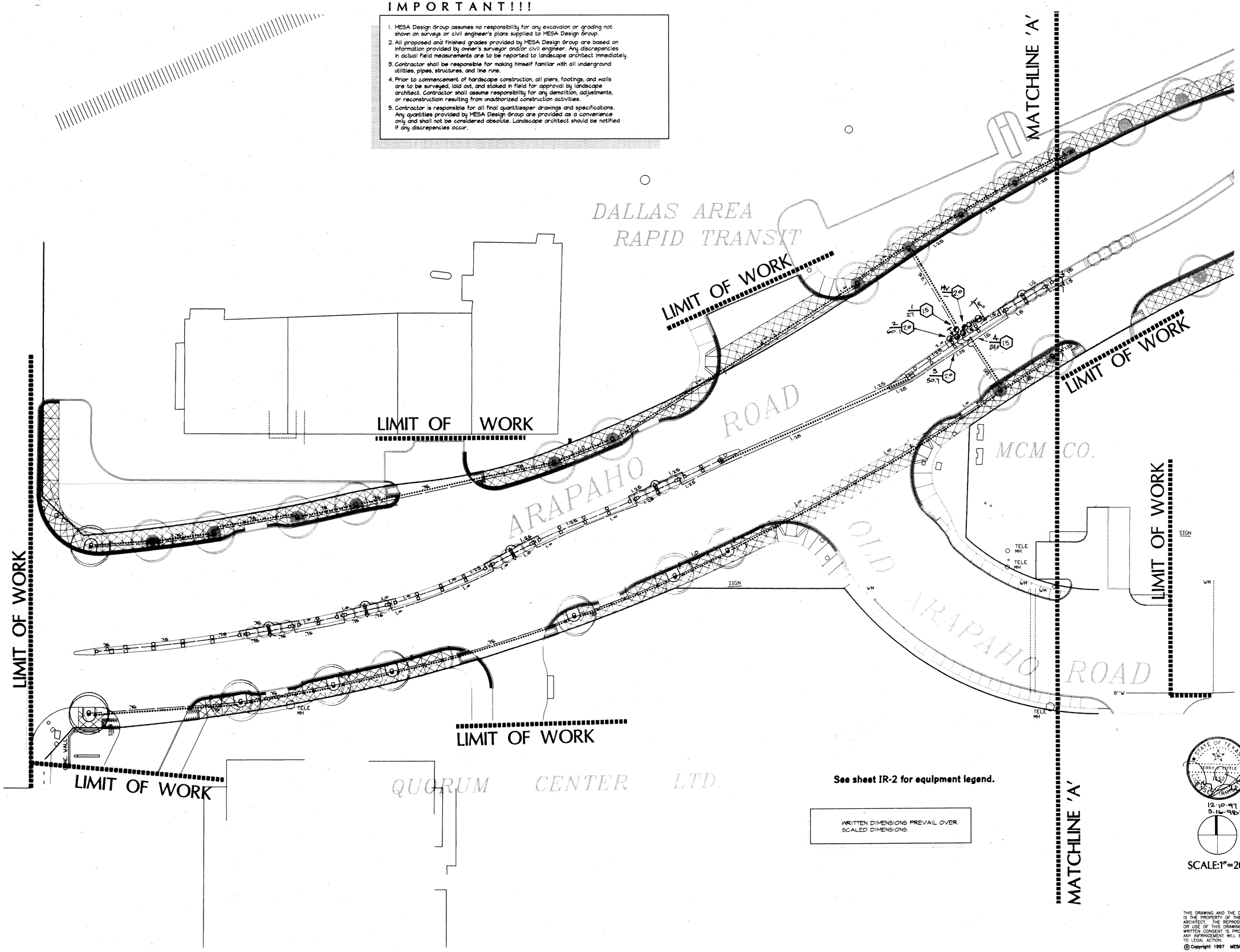

See sheet IR-2 for equipment legend.

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

SCALE:1"=20'

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Land Planning

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ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON,TEXAS

Revisions

No.	Date	Item
	3.16.98	TREE WELL & MED.

Registration

KDH/RFM TL
Drawn

Checked

97018 — Project No.

11/13/97 — Date

Sheet Title

IRRIGATION PLAN

Sheet No.

IR-1

C:/PROJECTS/97018/ADDBASE

IMPORTANT!!!

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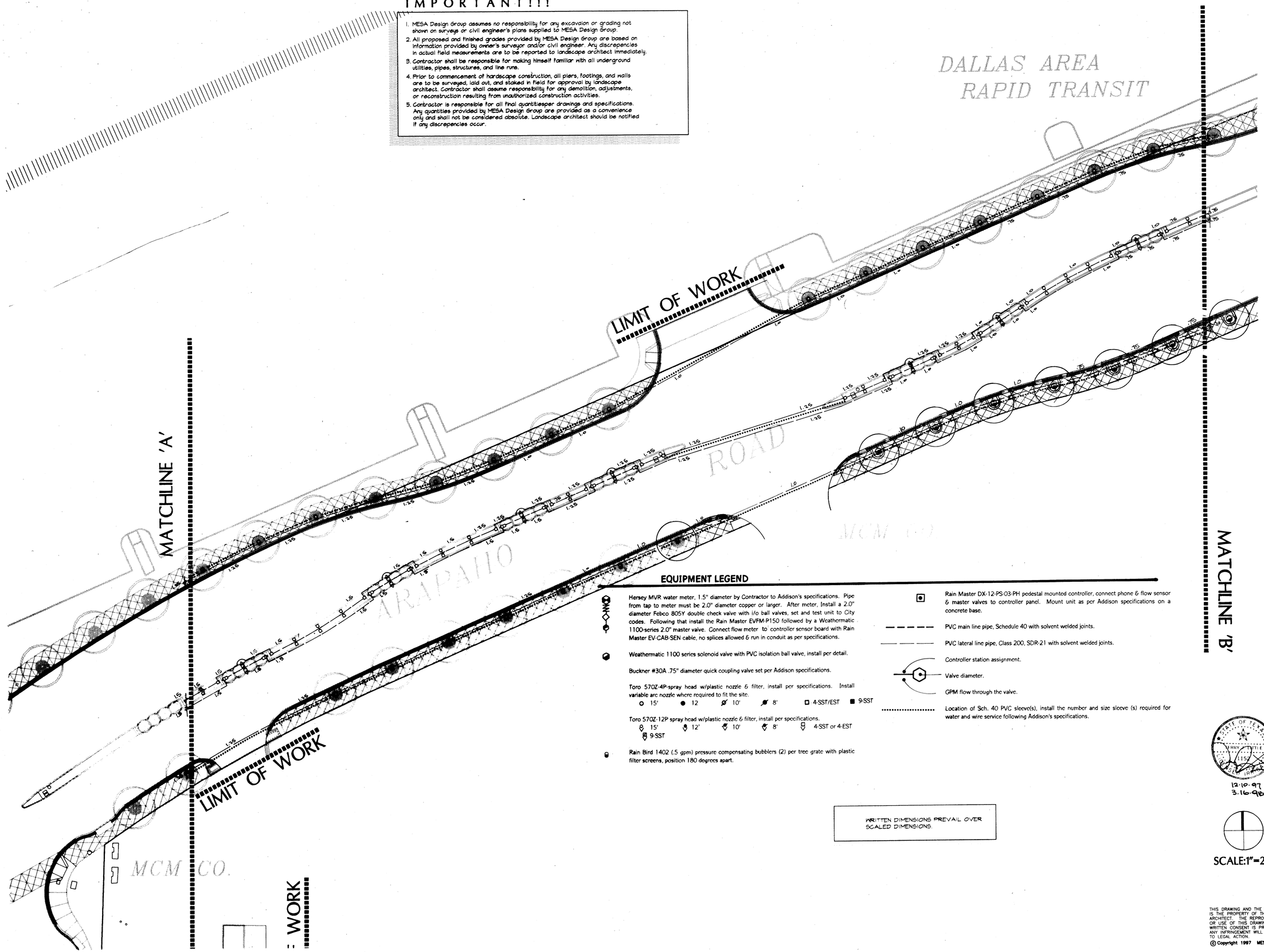

EQUIPMENT LEGEND

Hersey MVR water meter, 1.5" diameter by Contractor to Addison's specifications. Pipe from tap to meter must be 2.0" diameter copper or larger. After meter, Install a 2.0" diameter Febco 805Y double check valve with i/o ball valves, set and test unit to City codes. Following that install the Rain Master EVFM-P150 followed by a Weathermatic 1100-series 2.0" master valve. Connect flow meter to controller sensor board with Rain Master EV-CAB-SEN cable, no splices allowed & run in conduit as per specifications.

Weathermatic 1100 series solenoid valve with PVC isolation ball valve, install per detail.

Buckner #30A .75" diameter quick coupling valve set per Addison specifications.

Toro 570Z-4P-spray head w/plastic nozzle & filter, install per specifications. Install variable arc nozzle where required to fit the site.
○ 15' ● 12 ⌀ 10' ⌀ 8' □ 4-SST/EST ■ 9-SST

Toro 570Z-12P spray head w/plastic nozzle & filter, install per specifications.
15' 12' 10' 8' 4-SST or 4-EST
9-SST

Rain Bird 1402 (.5 gpm) pressure compensating bubblers (2) per tree grate with plastic filter screens, position 180 degrees apart.

Rain Master DX-12-PS-03-PH pedestal mounted controller, connect phone & flow sensor & master valves to controller panel. Mount unit as per Addison specifications on a concrete base.

PVC main line pipe, Schedule 40 with solvent welded joints.

PVC lateral line pipe, Class 200, SDR-21 with solvent welded joints.

Controller station assignment.

Valve diameter.

GPM flow through the valve.

Location of Sch. 40 PVC sleeve(s), install the number and size sleeve (s) required for water and wire service following Addison's specifications.

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

12-10-97
3-16-98 REV.

SCALE:1"=20'

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON,TEXAS

Revisions

No.	Date	Item
	3-16-98	TREE WELLS & MED.

Registration

KDH/RFM TL
Drawn

Checked

97018 — Project No.
11/13/97 — Date

Sheet Title

IRRIGATION PLAN

Sheet No.

IR-2

C:/PROJECTS/97018/ADDBASE

MATCHLINE 'C'

MATCHLINE 'C'

TOWN OF ADDISON

ARAPAHO ROAD

CARRAMERICA LIMITED PARTNERSHIP

LIMIT OF WORK

EVOLUTION DX-12-PS-03-PH
CONTROLLER, PROVIDE 120 V. POWER AND PHONE CONNECTION.

NOTE: RUN WIRES ±410' TO EXISTING IRRITROL (E) CONTROLLER, S.E. QUADRANT OF OLD ARAPAHO AND QUORUM DRIVE.

QUORUM DRIVE

EXISTING METER, D.C. AND MAIN.

LIMIT OF WORK

MATCHLINE 'B'

See sheet IR-2 for equipment legend.

MATCHLINE 'B'

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

SCALE: 1"=20'

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
	3.16.98	TREE WELLS & MED.

Registration

STATE OF TEXAS
TERRY J. LITTLE
1752
LICENSED IRRIGATOR

12.10.97
3.16.98 REV.

KDH Drawn
TL

Checked

97018 Project No.
11/13/97 Date

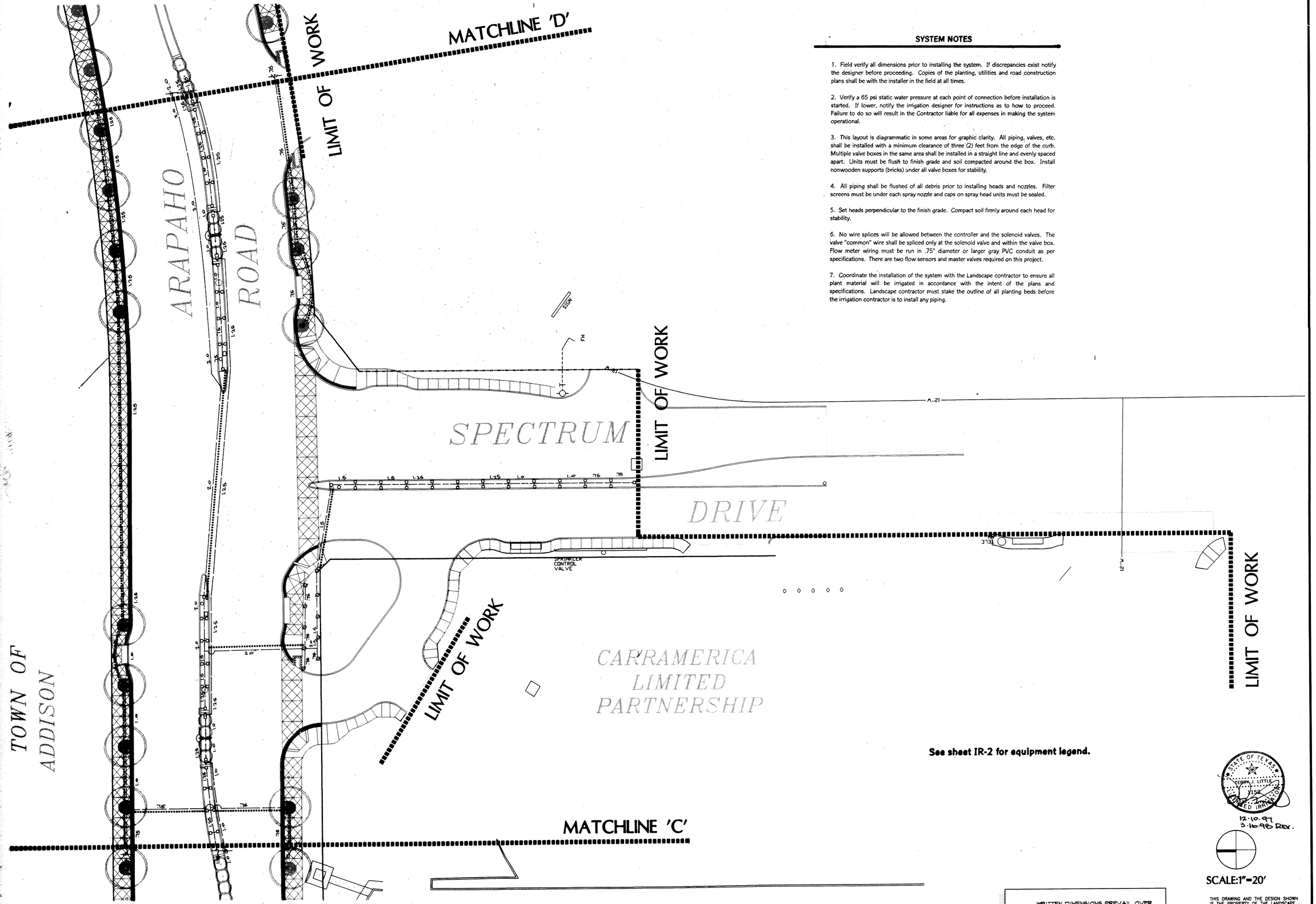
Sheet Title

IRRIGATION PLAN

Sheet No.

IR-3

C:/PROJECTS/97018/ADDBASE



SYSTEM NOTES

1. Field verify all dimensions prior to installing the system. If discrepancies exist notify the designer before proceeding. Copies of the planting, utilities and road construction plans shall be with the installer in the field at all times.

2. Verify a 65 psi static water pressure at each point of connection before installation is started. If lower, notify the irrigation designer for instructions as to how to proceed. Failure to do so will result in the Contractor liable for all expenses in making the system operational.

3. This layout is diagrammatic in some areas for graphic clarity. All piping, valves, etc. shall be installed with a minimum clearance of three (2) feet from the edge of the curb. Multiple valve boxes in the same area shall be installed in a straight line and evenly spaced apart. Units must be flush to finish grade and soil compacted around the box. Install nonwooden supports (bricks) under all valve boxes for stability.

4. All piping shall be flushed of all debris prior to installing heads and nozzles. Filter screens must be under each spray nozzle and caps on spray head units must be sealed.

5. Set heads perpendicular to the finish grade. Compact soil firmly around each head for stability.

6. No wire splices will be allowed between the controller and the solenoid valves. The valve "common" wire shall be spliced only at the solenoid valve and within the valve box. Flow meter wiring must be run in .75" diameter or larger gray PVC conduit as per specifications. There are two flow sensors and master valves required on this project.

7. Coordinate the installation of the system with the Landscape contractor to ensure all plant material will be irrigated in accordance with the intent of the plans and specifications. Landscape contractor must stake the outline of all planting beds before the irrigation contractor is to install any piping.

See sheet IR-2 for equipment legend.

SCALE:1"=20'

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

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ARAPAHO ROAD STREETSCAPE
CITY OF ADDISON, TEXAS

Revisions

No.	Date	Item
	3-16-98	Tree Wells + Med.

Registration

STATE OF TEXAS — TERRY J. LITTLE — 7158 — LICENSED IRRIGATOR

12-10-97
3-16-98 Rev.

KDH — TL
Drawn

Checked

97018 — Project No.

11/13/97 — Date

Sheet Title

IRRIGATION PLAN

Sheet No.

IR-4

C:/PROJECTS/97018/ADDBASE

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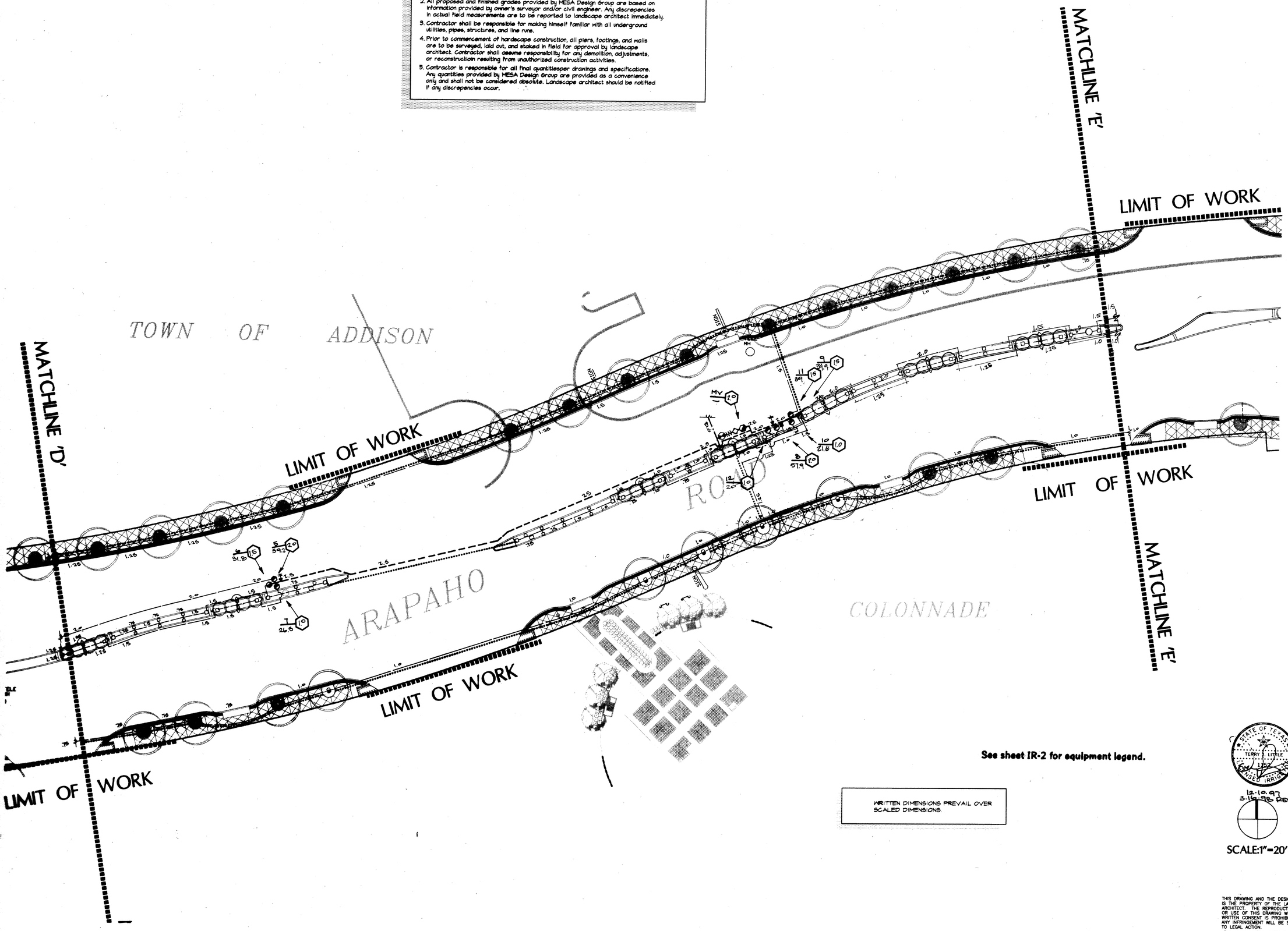

See sheet IR-2 for equipment legend.

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

SCALE: 1"=20'

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
	3.16.98	TREE WELLS + MED.

Registration

STATE OF TEXAS — TERRY LITTLE — LICENSED IRRIGATOR

KDH/RFM TL
Drawn

Checked

97018 — Project No.

11/13/97 — Date

12.10.97
3.16.98 REV.

Sheet Title

IRRIGATION PLAN

Sheet No.

IR-5

C:/PROJECTS/97018/ADDBASE

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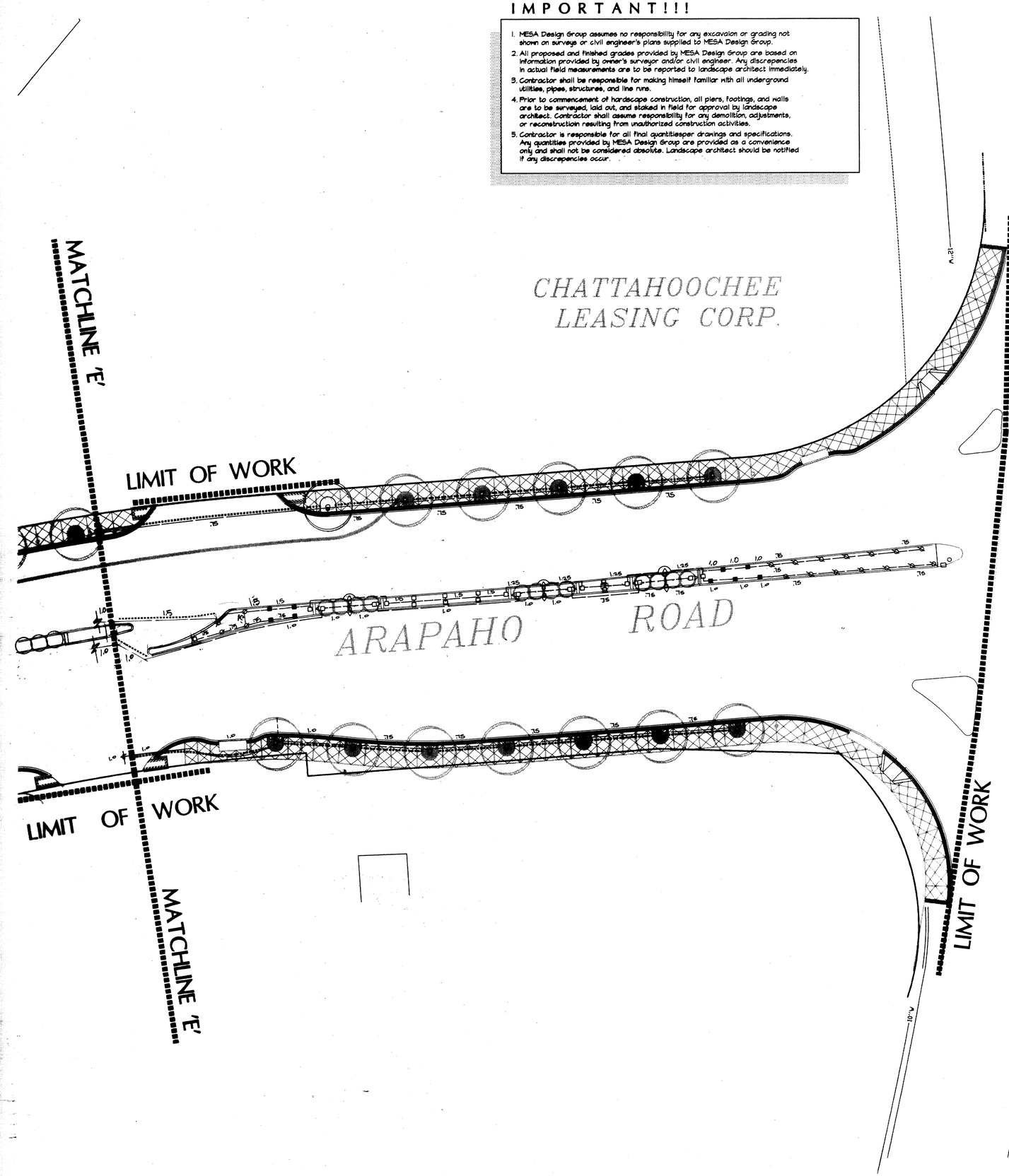

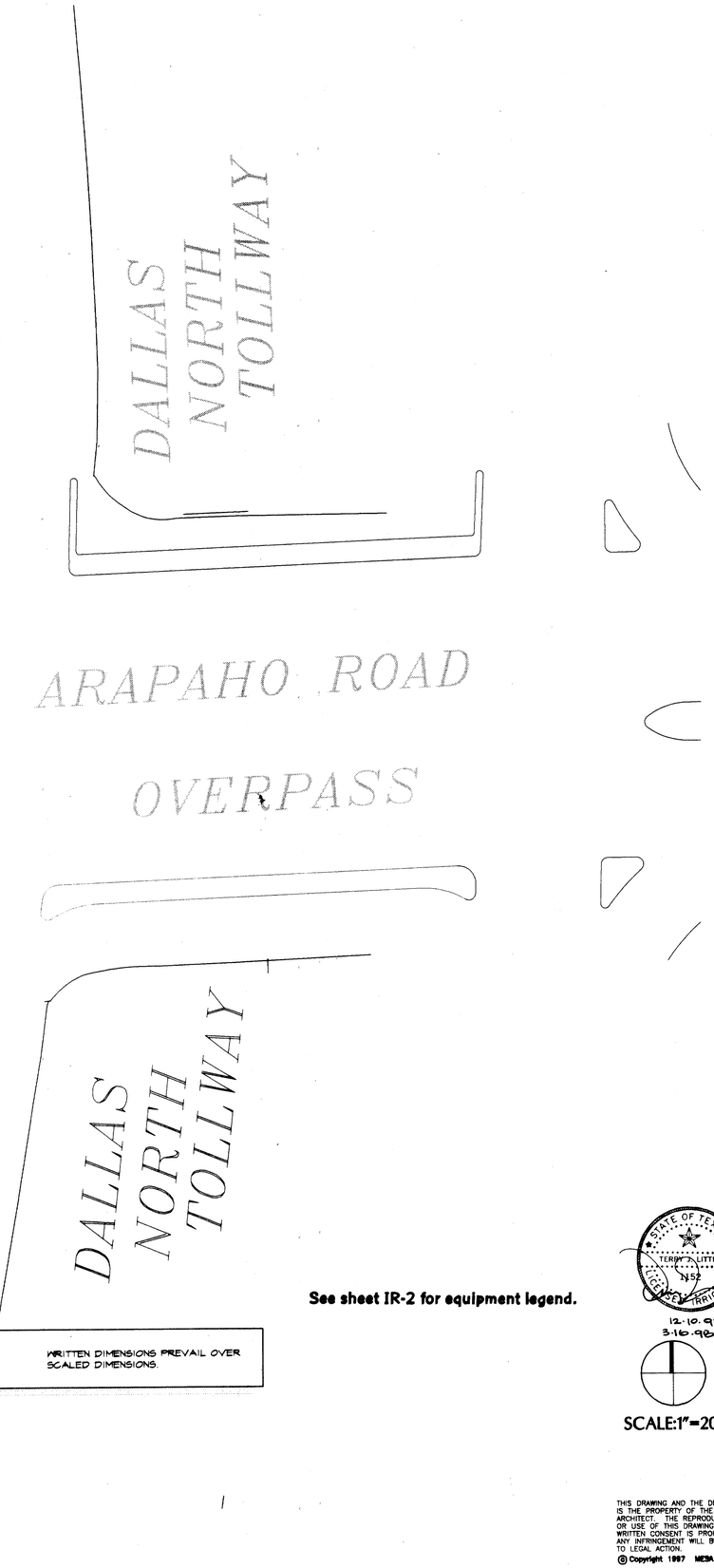

See sheet IR-2 for equipment legend.

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

STATE OF TEXAS
TERRY D. LITTLE
LICENSED IRRIGATOR
N52

12.10.97
3.16.98 Rev.

SCALE:1"=20'

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON,TEXAS

Revisions

No.	Date	Item
1	3.16.98	TREE WELLS + MED.

Registration

KDH/RFM TL
Drawn

Checked

97018 — Project No.

11/13/97 — Date

Sheet Title

IRRIGATION PLAN

Sheet No.

IR-6

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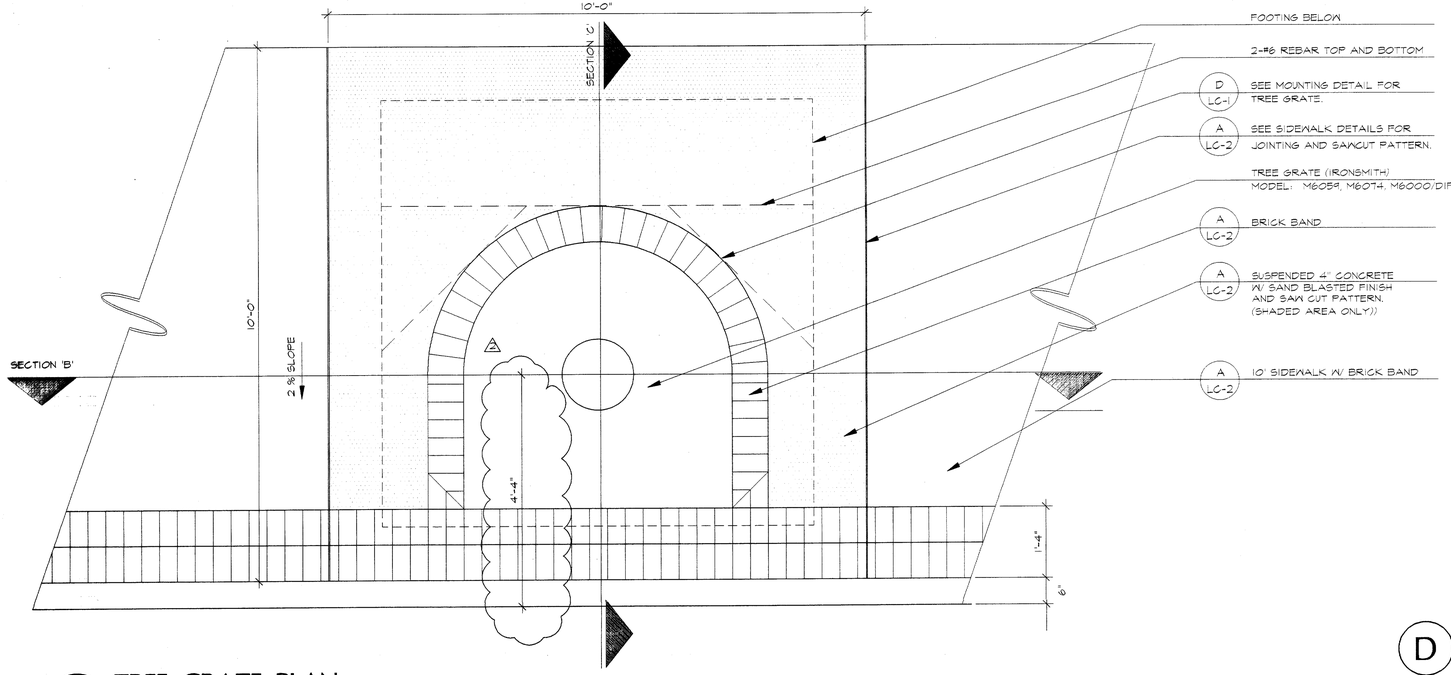
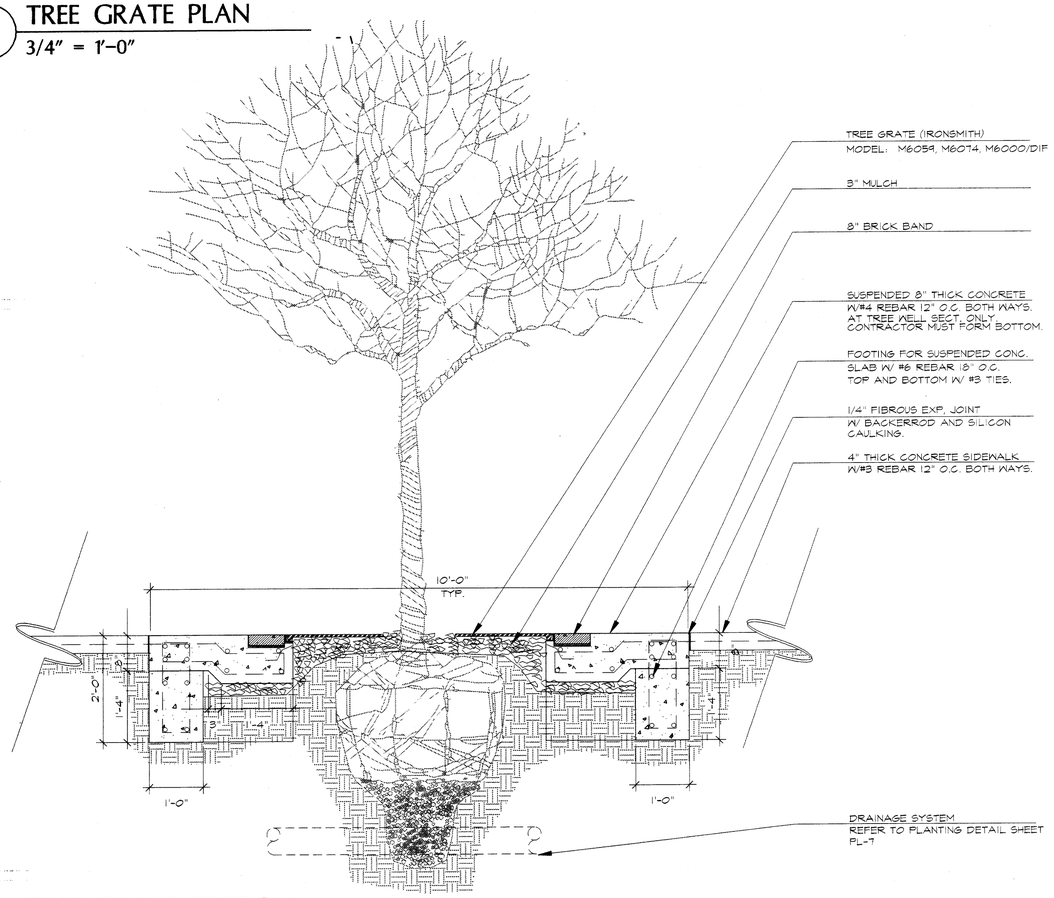


A TREE GRATE PLAN
3/4" = 1'-0"



B TREE GRATE SECTION
3/4" = 1'-0"

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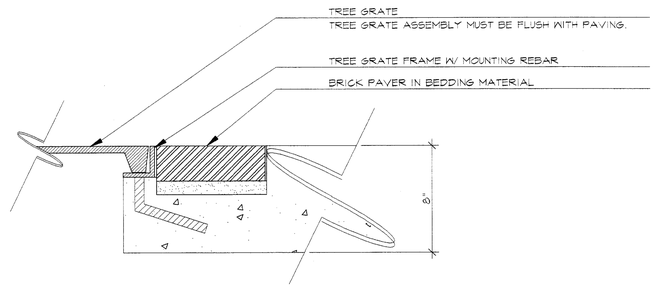
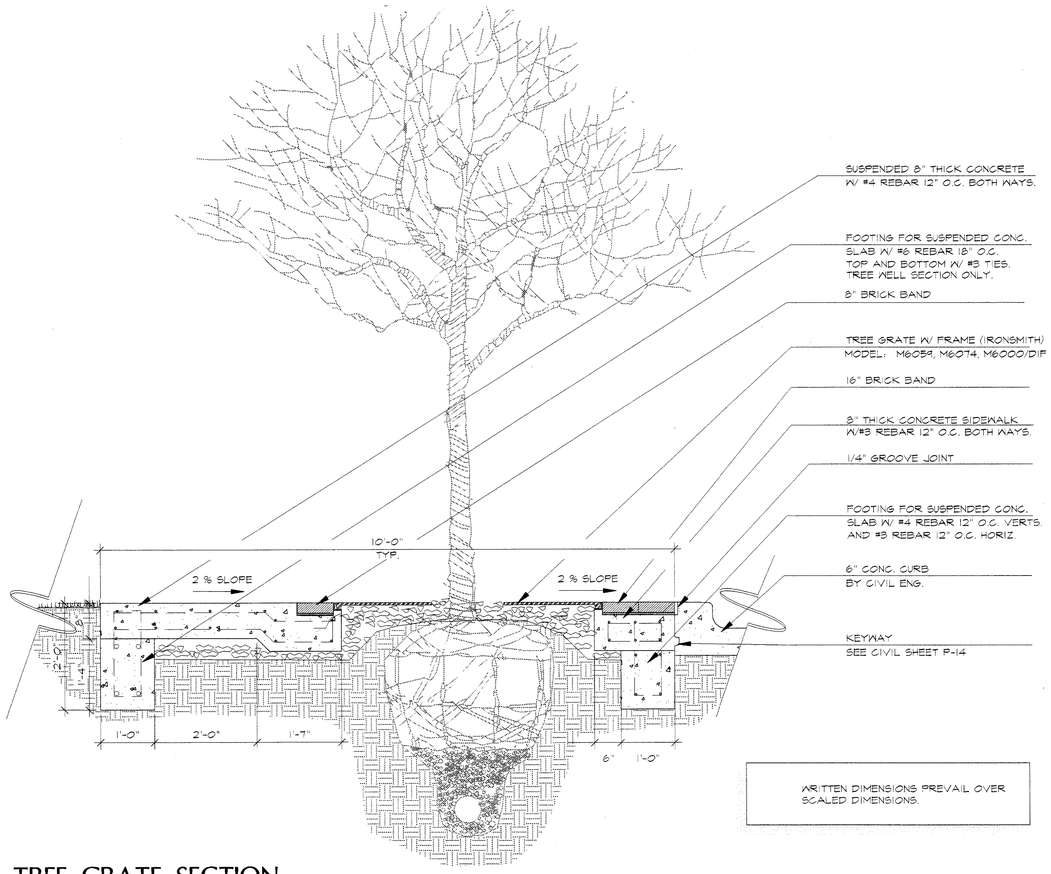


D TREE GRATE MOUNTING DETAIL
3" = 1'-0" CONTRACTOR TO DISCUSS WITH LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.



WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

C TREE GRATE SECTION
3/4" = 1'-0"

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ARAPAHO ROAD STREETSCAPE
CITY OF ADDISON, TEXAS

Revisions

No.	Date	Item
2	05/18/98	CORRECTED DIMENSION ON TREE GRATE

Registration

STATE OF TEXAS
WILLIAM T. ARTERBURN
868
REGISTERED LANDSCAPE ARCHITECT

RFM
Drawn
WGM
Checked
97018 — Project No.
12/12/97 — Date

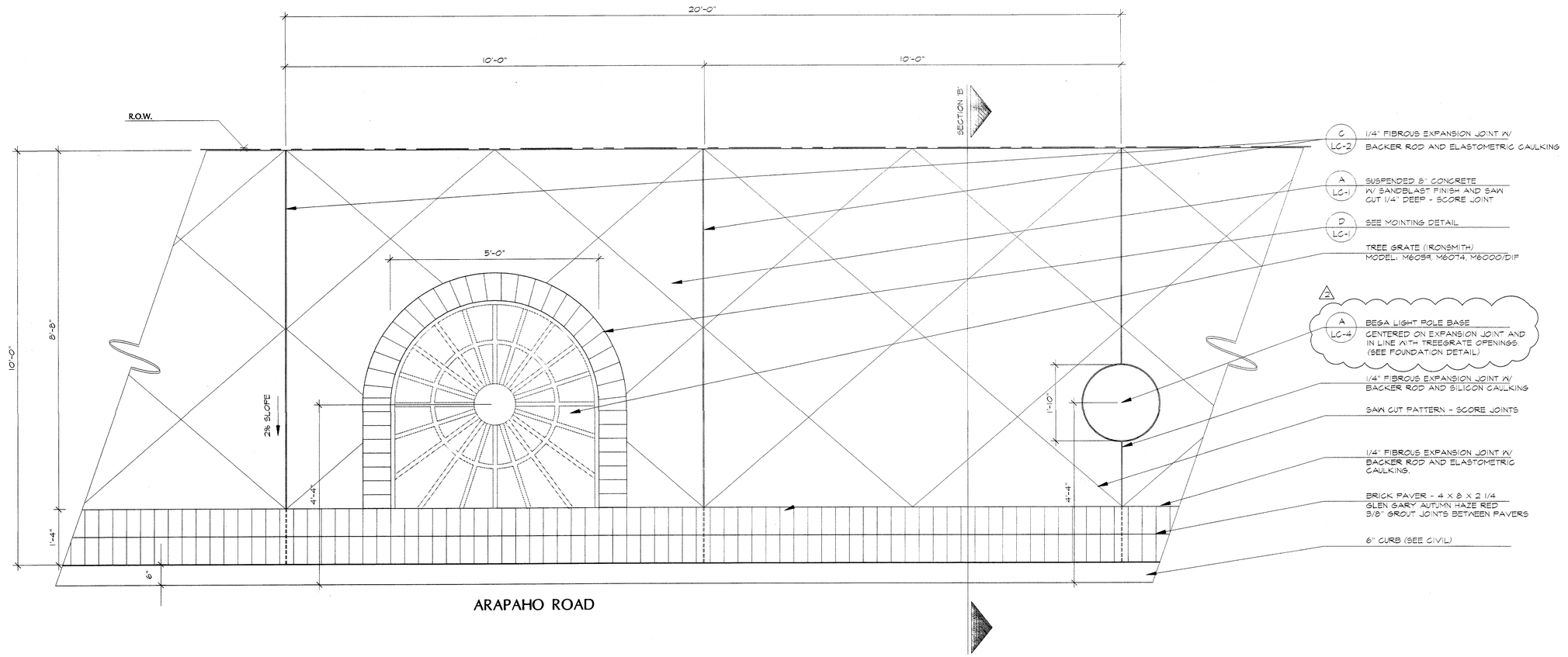
Sheet Title

TREE GRATE DETAILS

Sheet No.

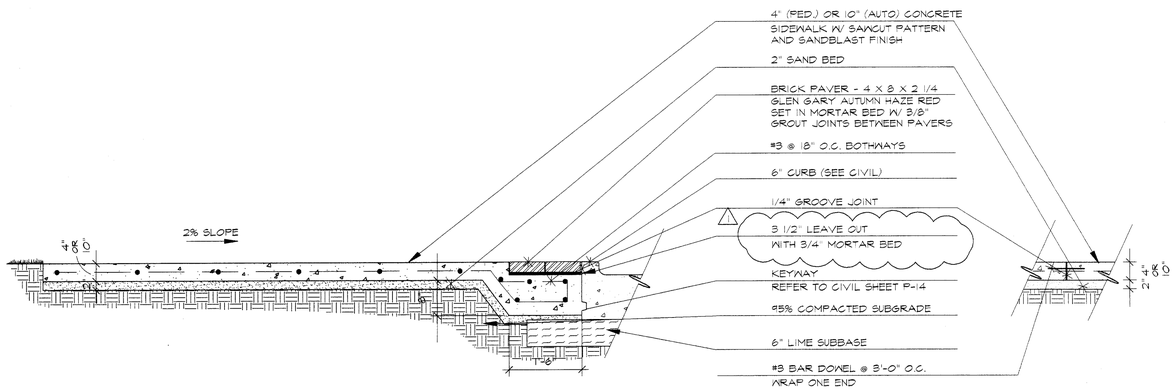
LC-1

7018LC-01



A TYPICAL ARAPAHO SIDEWALK PLAN DETAIL

3/4" = 1'-0"



B TYPICAL ARAPAHO SIDEWALK SECTION

3/4" = 1'-0"

C TYPICAL SIDEWALK EXPANSION JOINT

3/4" = 1'-0"

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ARAPAHO ROAD STREETSCAPE

CITY OF ADDISON, TEXAS

Revisions

No.	Date	Item
1	03/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO. 5.
2	05/18/98	ADDED LOCATION OF BEGA LIGHT BASE

Registration

STATE OF TEXAS
WILLIAM T. ARTERBURN
868
REGISTERED
LANDSCAPE ARCHITECT

RFM/ISP
Drawn
WGM
Checked
97018 — Project No.
05/18/98 — Date

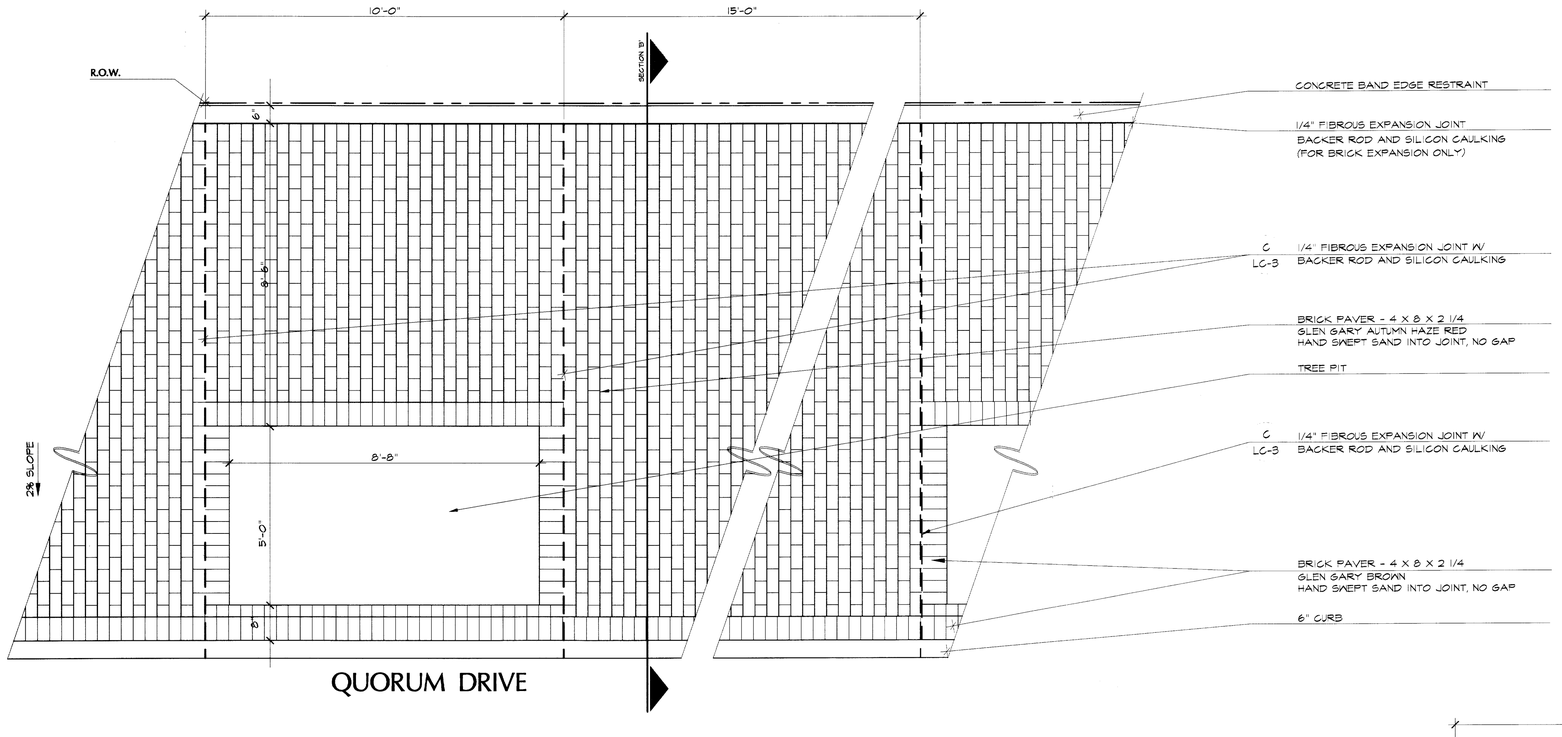
Sheet Title

ARAPAHO SIDEWALK PLAN/SECTIONS

Sheet No.

LC-2

7018LC-02



A TYPICAL QUORUM SIDEWALK PLAN DETAIL

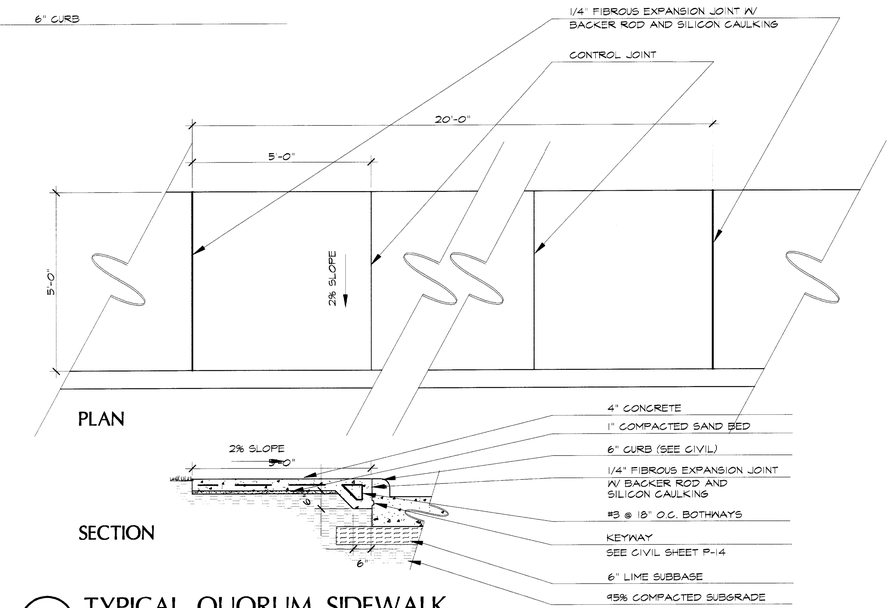
1/2" = 1'-0" (NORTH OF ARAPAHO DRIVE)

B TYPICAL QUORUM SIDEWALK SECTION

3/4" = 1'-0" (NORTH OF ARAPAHO DRIVE)

C TYPICAL SIDEWALK EXPANSION JOINT

3/4" = 1'-0"



D TYPICAL QUORUM SIDEWALK

1/2" = 1'-0" (SOUTH OF ARAPAHO DRIVE)

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

IMPORTANT!!!

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Suite 905
Dallas, Texas 75201
(214) 871-0568 Fax: 871-1507

ARAPAHO ROAD STREETSCAPE

CITY OF ADDISON, TEXAS

Revisions

No.	Date	Item

Registration

STATE OF TEXAS — WILLIAM GUSTAFSON — 808 — REGISTERED LANDSCAPE ARCHITECT

RFM/ISP
Drawn
WGM
Checked
97018 — Project No.
12/12/97 — Date

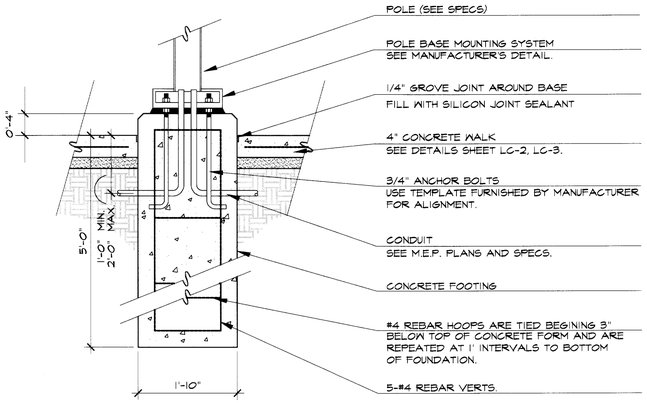
Sheet Title

QUORUM SIDEWALK PLAN/SECTIONS

Sheet No.

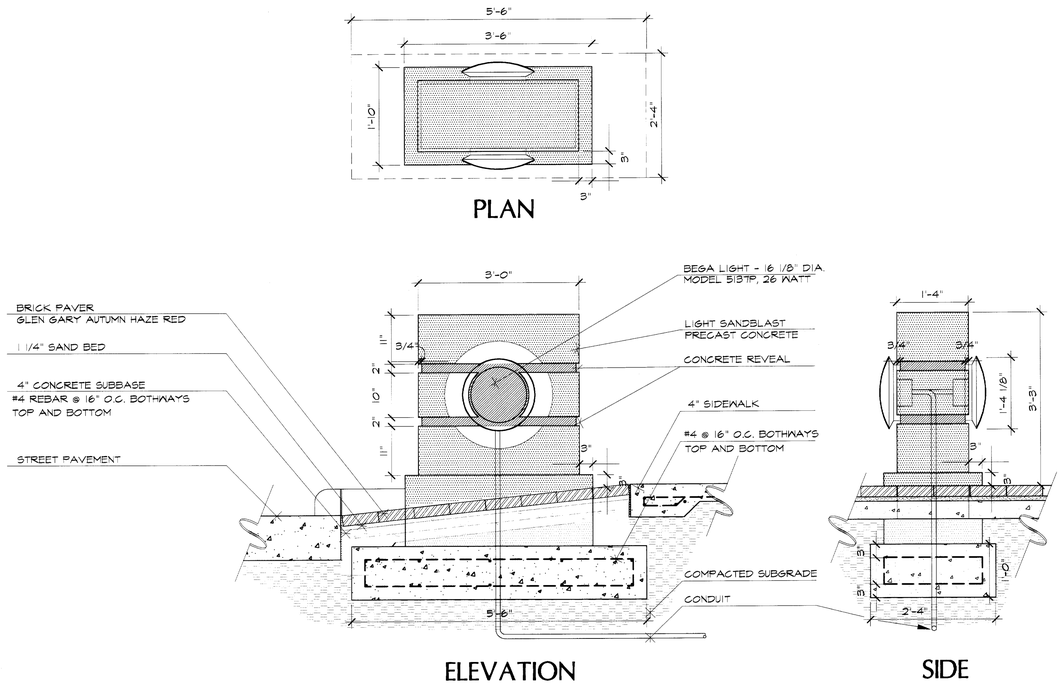
LC-3

7018LC-03



A STREET LIGHT FOUNDATION DETAIL

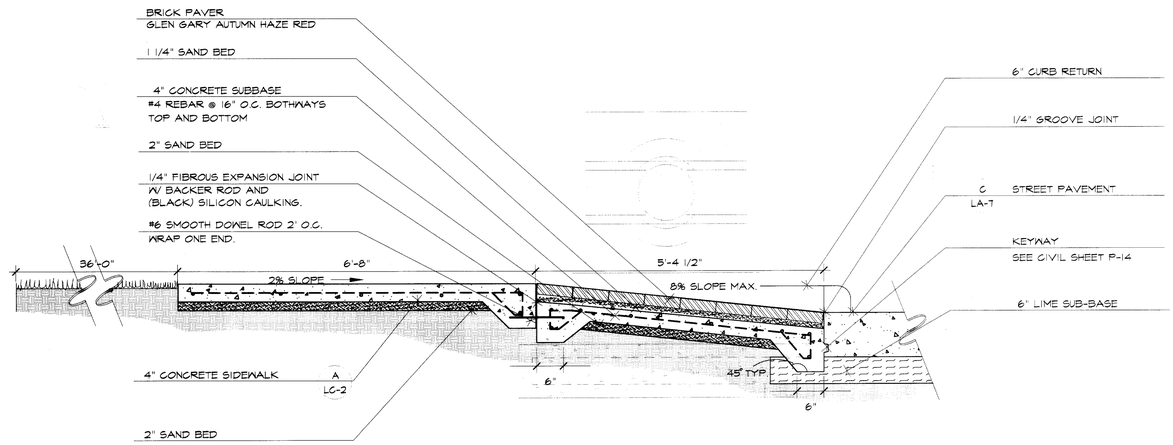
3/4"=1'-0"



B CUSTOM PRE-CAST CONCRETE BOLLARD

3/4"=1'-0"

CONTRACTOR MUST PROVIDE SHOP DRAWING ON THIS ITEM.



C TYPICAL ARAPAHO/QUORUM CORNER SECTION

3/4"=1'-0"

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WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

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ARAPAHO ROAD
STREETSCAPE
CITY OF ADDISON, TEXAS

Revisions

No.	Date	Item

Registration

STATE OF TEXAS
CHARLES T. HOFFMANN
868
REGISTERED LANDSCAPE ARCHITECT

RFM/ISP
Drawn
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97018 — Project No.
12/12/97 — Date

Sheet Title

LIGHT FOUNDATION/BOLLARD DETAILS

Sheet No.

LC-4

PROJECTS\97018\7018LC-04

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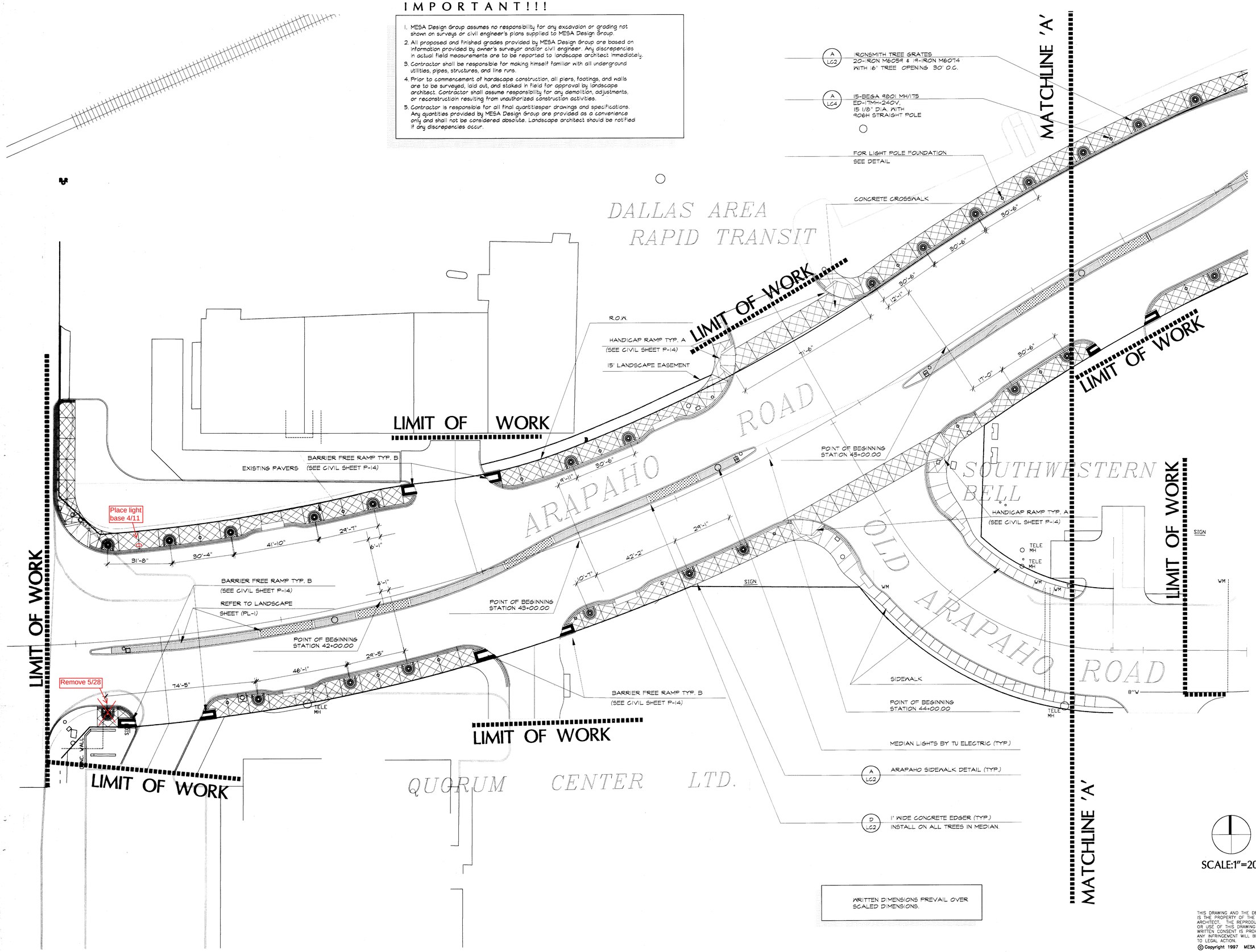

SCALE:1"=20'

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

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ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON,TEXAS

Revisions

No.	Date	Item
1	03/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO. 5

Registration

STATE OF TEXAS — WILLIAM F. WINTERBURN — REGISTERED LANDSCAPE ARCHITECT

KDH/RFM
Drawn

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97018 — Project No.

12/12/97 — Date

Sheet Title

LAYOUT PLAN

Sheet No.

LA-1

C:/PROJECTS/97018/ADDBASE

IMPORTANT!!!

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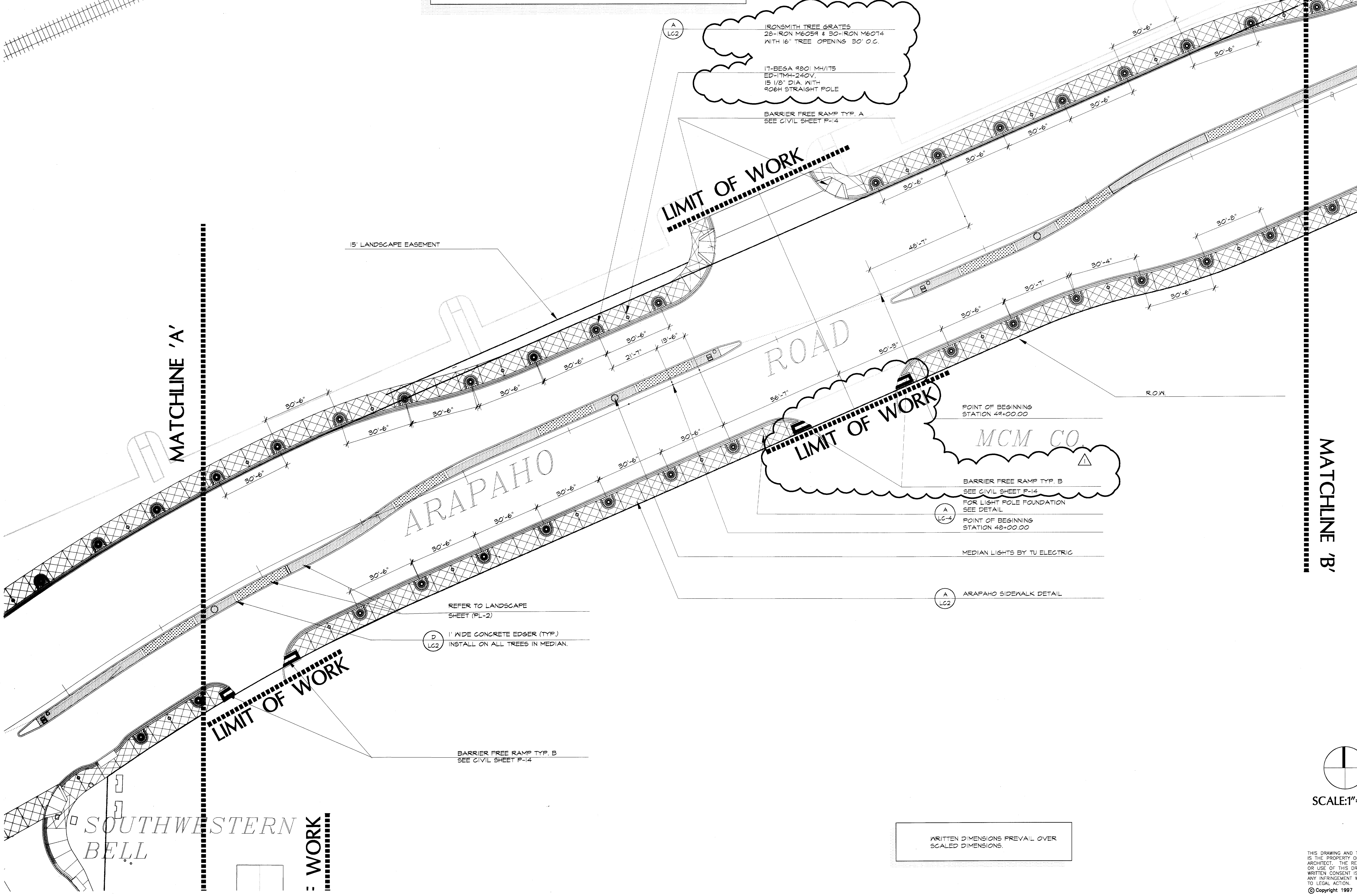

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
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Registration

STATE OF TEXAS · WILLIAM T. ARTERBURN · 868 · REGISTERED LANDSCAPE ARCHITECT

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12/12/97 — Date

Sheet Title

LAYOUT PLAN

Sheet No.

LA-2

C:/PROJECTS/97018/ADDBASE

MATCHLINE 'C'

MATCHLINE 'C'

TOWN OF ADDISON

ARAPAHO ROAD

CARRAMERICA LIMITED PARTNERSHIP

LIMIT OF WORK

30'-0"
30'-0"
30'-0"
30'-0"
30'-6"
30'-6"
30'-6"
30'-6"
71'-3"
58'-3"

REFER TO LANDSCAPE SHEET (PL-3)

R.O.W.

QUORUM WALKWAY (A / LG-3)

15'-0" TYPICAL

STOP BAR SEE CIVIL

STATION POINT 53

STATION POINT 52

QUORUM DRIVE

STOP BAR SEE CIVIL

STOP BAR SEE CIVIL

STOP BAR SEE CIVIL

12 - TREE WELLS (A / LG3)

DALLAS AREA RAPID TRANSIT

MCM CO.

15' LANDSCAPE EASEMENT

45'-3"
30'-0"
56'-0"

R.O.W.

A / LG1 — 8-BESA 980I MH/175A ED-17MH-240V, 15 1/8" DIA. WITH 906H-STRAIGHT POLE

A / LG4 — FOR LIGHT POLE FOUNDATION SEE DETAIL

IRONSMITH TREEGRATES 13-IRON M6059, 13-IRON M6074 & 13-M6000/01F FRAMES WITH 16" TREE OPENINGS 30" O.C.

A / LG2 — ARAPAHO SIDEWALK DETAIL

MEDIAN LIGHT BY T.U. ELECTRIC

GRAVEL

B / LG-4 — (16) CUSTOM BOLLARD

A / P-5 — CONCRETE RETAINING WALL (REFER TO CIVIL REVISION)

D / LG-3 — 5' CONCRETE SIDEWALK (TYPICAL)

A / LG7 — ARAPAHO/QUORUM INTERSECTION LAYOUT PLAN

D / LG-3 — 5' CONCRETE SIDEWALK (TYPICAL)

B / LG7 — CORNER SCAPE

R.O.W.

D / LG2 — 1' WIDE CONCRETE EDGER (TYP.) INSTALL ON ALL TREES IN MEDIAN.

MATCHLINE 'B'

MATCHLINE 'B'

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WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

SCALE:1"=20'

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Dallas, Texas 75201
(214) 871-0568 Fax: 871-1507

ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON,TEXAS

Revisions

No.	Date	Item
1	03/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO. 5

Registration

WILLIAM T. SMITHERMAN 668 REGISTERED LANDSCAPE ARCHITECT STATE OF TEXAS

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Drawn

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97018 — Project No.
12/12/97 — Date

Sheet Title

LAYOUT PLAN

Sheet No.

LA-3

C:/PROJECTS/97018/ADDBASE

MATCHLINE 'D'

LIMIT OF WORK

ARAPAHO ROAD

REFER TO LANDSCAPE SHEET (PL-4)

IRONSMITH TREEGRATES
(2-IRON M6058, (2-IRON M6074
& (2-M6000/01F FRAME WITH
6' TREE OPENINGS 30' O.C.

T-BEGA 980I MH/175A
ED-17MH-240V
15 1/8' D.A. WITH
906H-STRAIGHT POLE

ARAPAHO SIDEWALK DETAIL (TYP)

MEPC QUORUM PROPERTIES
(COLONADE)

HANDICAP RAMP TYP. A
SEE CIVIL SHEET P-14

SIGN

TS TELE

TH

SPECTRUM

DRIVE

TELE

SPRINKLER CONTROL VALVE

D / LC-3 5' CONCRETE SIDEWALK (TYPICAL)

HANDICAP RAMP TYP. B
SEE CIVIL SHEET P-14

R.O.W.

CARRAMERICA
LIMITED
PARTNERSHIP

LIMIT OF WORK

HANDICAP RAMP TYP. A
SEE CIVIL SHEET P-14
1' WIDE CONCRETE EDGER (TYP.)
INSTALL ON ALL TREES IN MEDIAN.

MATCHLINE 'C'

TRANSITION WALK TO TYPICAL 5' WIDTH AND END 16" BRICK BAND

R.O.W.

STATION 56+50.00 ARAPAHO RD.

TRANSITION WALK TO TYPICAL 5' WIDTH AND END 16" BRICK BAND

FOR LIGHT POLE FOUNDATION SEE DETAIL A / LC-4

STATION 55+50.00 ARAPAHO RD.

TOWN OF ADDISON

30'-0" 30'-0" 30'-0" 30'-0" 30'-0"

46'-1" 29'-6" 36'-3" 52'-6" 25'-1" 51'-5" 5'-0"

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SCALE:1"=20'

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

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ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
1	03/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO. 5

Registration

STATE OF TEXAS
Richard F. McKinney
868
REGISTERED LANDSCAPE ARCHITECT

KDH/RFM
Drawn

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12/12/97 — Date

Sheet Title

LAYOUT PLAN

Sheet No.

LA-4

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IRONSMITH TREE GRATES
24-IRON M6058 & 21-IRON M6074
WITH 16" TREE OPENING 30' O.C.
A LC2

16-BEGA 980I MH/175
ED-17MH-240V,
15 1/8" DIA. WITH
906H STRAIGHT POLE

FOR LIGHT POLE FOUNDATION.
SEE DETAIL
A LC-4

R.O.W.

CONCRETE SIDEWALK

MATCHLINE 'D'

MATCHLINE 'E'

LIMIT OF WORK

TOWN OF ADDISON

LANCO ARAPAHO PARTNERSHIP

MEPC QUORUM PROPERTIES (COLONADE)

ARAPAHO ROAD

41'-10"

NOTE

STEEL MH

30'-6"

30'-7"

30'-8"

45'-11"

38'-2"

31'-2"

30'-11"

D LC-2
1" WIDE CONCRETE EDGER

REFER TO LANDSCAPE SHEET (PL-5)

STATION POINT 61

Moved

Moved

Oncor pullbox

HANDICAP RAMPS TYP. B
SEE CIVIL SHEET P-14

MEDIAN LIGHTS BY T.U. ELECTRIC

PROPOSED ENTRANCE INTO COLONADE
(NOT IN CONTRACT)

25'-5"

25'-7"

40'-8"

HANDICAP RAMPS TYP. B
SEE CIVIL SHEET P-14

R.O.W.

HANDICAP RAMPS TYP. B
SEE CIVIL SHEET P-14

SCALE:1"=20'

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

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ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON,TEXAS

Revisions

No.	Date	Item
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Registration

STATE OF TEXAS
WILLIAM F. ARMSTRONG III
6018
REGISTERED LANDSCAPE ARCHITECT

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97018
Project No.

12/12/97
Date

Sheet Title

LAYOUT PLAN

Sheet No.

LA-5

C:/PROJECTS/97018/ADDBASE

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REFER TO LANDSCAPE SHEET (PL-6)

MEDIAN LIGHTS BY T.U. ELECTRIC

IRONSMITH TREE GRATES
13-IRON M6059 & 12-IRON M6074
WITH 16" TREE OPENING 30' O.C.

7-BEGA 9801 MH/175
ED-17MH-240V.
15 1/8" D.A. WITH
906H STRAIGHT POLE

HANDCAP RAMP TYP. B
SEE CIVIL SHEET P-14

HANDCAP RAMP TYP. B
SEE CIVIL SHEET P-14

CHATTAHOOCHEE
LEASING CORP.

LANCO ARAPAHO
PARTNERSHIP

MATCHLINE 'E'

LIMIT OF WORK

LIMIT OF WORK

30'-6" 30'-6" 30'-6" 30'-6" 30'-6"

ARAPAHO ROAD

30'-6" 30'-6" 30'-6" 30'-6" 30'-6"

30'-6" 30'-6"

LIMIT OF WORK

DEMO. END OF EXISTING WALL AND FINISH END OF CONCRETE HERE.

FOR LIGHT POLE FOUNDATION SEE DETAIL

1' WIDE CONCRETE EDGER (TYP.) INSTALL ON ALL TREES IN MEDIAN.

ARAPAHO SIDEWALK DETAIL

R.O.W.

D LC-2 1' WIDE CONCRETE EDGER

MEPC QUORUM PROPERTIES
(COLONADE)

ERTIES

MATCHLINE 'E'

15'-0"

DALLAS NORTH TOLLWAY

ARAPAHO ROAD

OVERPASS

DALLAS NORTH TOLLWAY

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

SCALE:1"=20'

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ARAPAHO ROAD STREETSCAPE

CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
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Registration

STATE OF TEXAS
WILLIAM J. PETERSON
668
REGISTERED LANDSCAPE ARCHITECT

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Project No.

12/12/97
Date

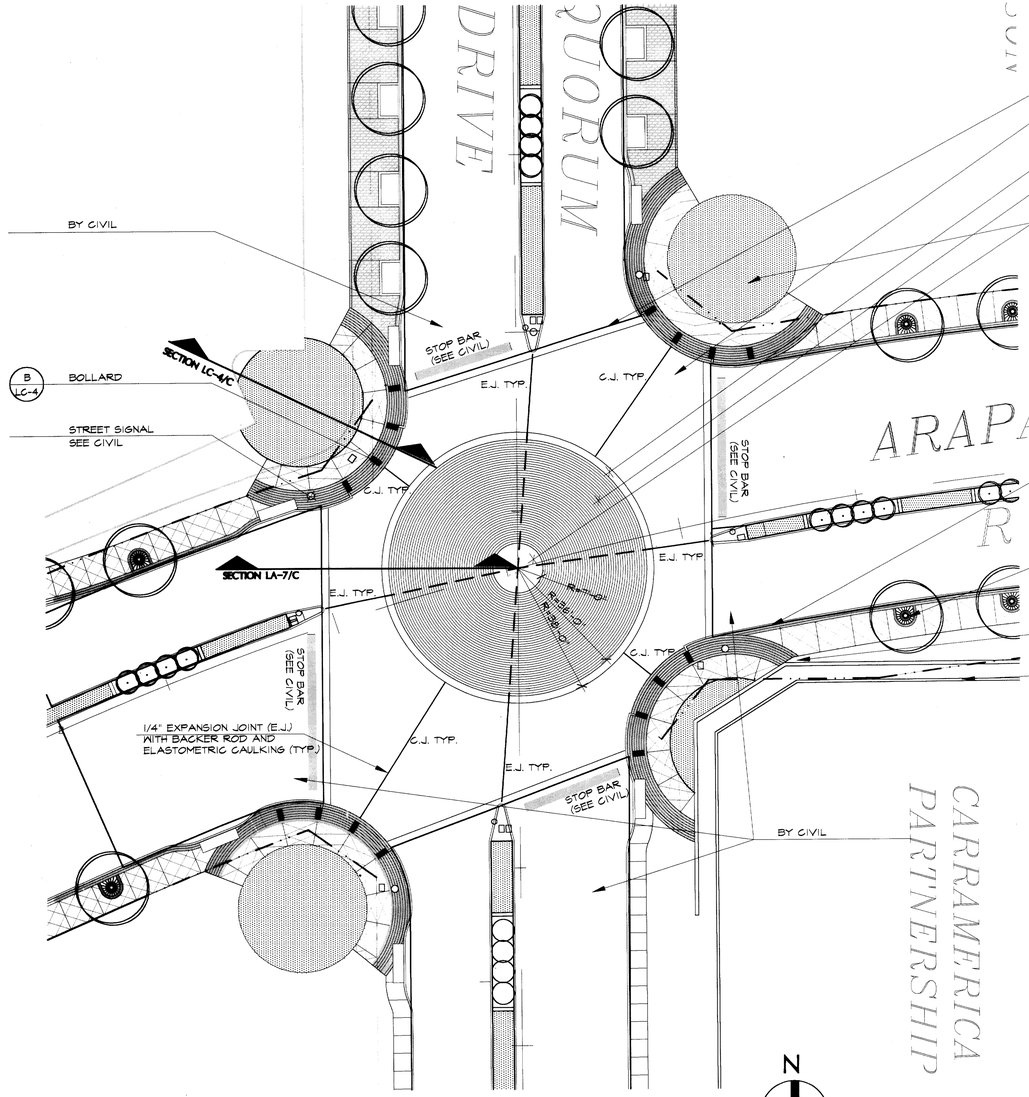
Sheet Title

LAYOUT PLAN

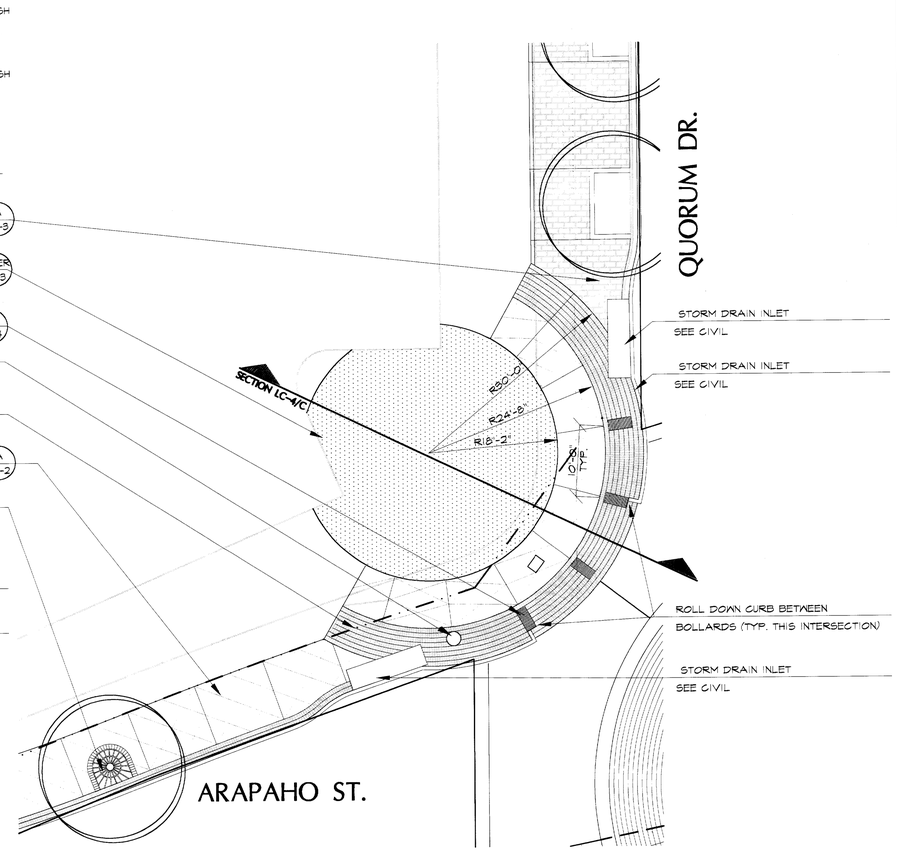
Sheet No.

LA-6

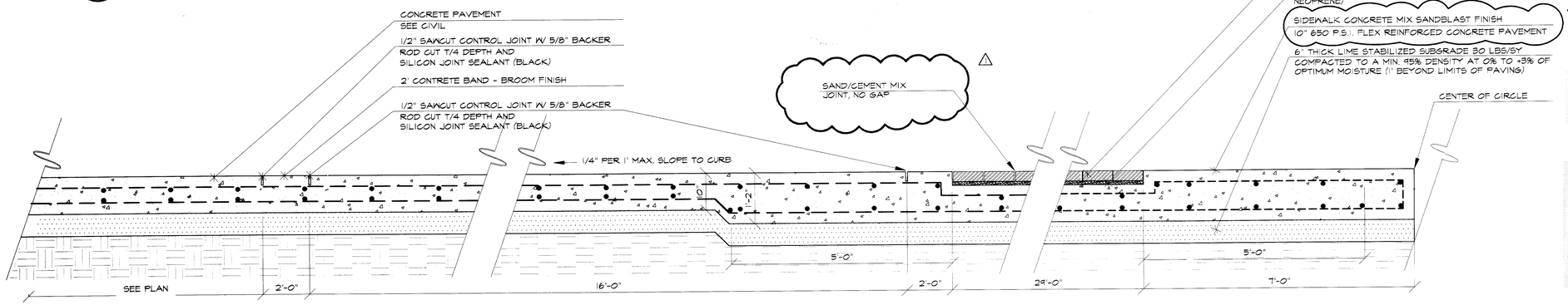
C:/PROJECTS/97018/ADDBASE



A ARAPAHO/QUORUM PLAN
1"=20'-0"



B ARAPAHO/QUORUM CORNER SCAPE
1"=10'-0"



C TYPICAL ARAPAHO/QUORUM ROAD SECTION
3/4"=1'-0"

WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS.

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Dallas, Texas 75201
(214) 871-0568 Fax: 871-0507

ARAPAHO ROAD STREETSCAPE
CITY OF ADDISON, TEXAS

Revisions

No.	Date	Item
1	08/10/98	CITY REVISIONS AS LISTED IN ADDENDUM NO. 5

Registration

STATE OF TEXAS — WILLIAM G. MCDONALD — 868 — REGISTERED LANDSCAPE ARCHITECT

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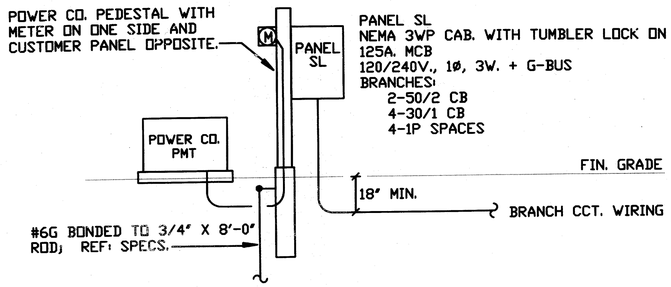
ARAPAHO/QUORUM LAYOUT/SECTION

Sheet No.

LA-7

PROJECTS\97018\7018LA-07



ELECTRICAL SERVICE

NTS

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DALLAS AREA RAPID TRANSIT

MATCHLINE 'A'

LIMIT OF WORK

ARAPAHO ROAD

SOUTHWESTERN BELL

OLD ARAPAHO ROAD

LIMIT OF WORK

LIMIT OF WORK

LIMIT OF WORK

LIMIT OF WORK

MATCHLINE 'A'

QUORUM CENTER LTD.

2" SLEEVE, TYPICAL.

2-#8+#8G, 3/4"C., U.N.O.

BUTT-WRAP GROUND AT EACH POLE CONTINUOUS AND BONDED TO LUMINAIRE, ALL OTHER METAL PARTS, AND RACEWAY GROUNDS, TYPICAL, ALL POLES.

3/4" C. FROM LIGHT POLE STUBBED INTO TREE-WELL AND CAPPED, TYPICAL NOTATION.

TELE MH

SIGN

WM

SCALE: 1"=20'

MESA DESIGN GROUP
Landscape Architecture
Urban Design
Land Planning

3100 McKinnon Street
Suite 905
Dallas, Texas 75201
(214) 871-0568 Fax: 871-1507

ARAPAHO ROAD STREETSCAPE
CITY--OF--ADDISON, TEXAS

Revisions

No.	Date	Item
1	3/10/98	CITY REVISION AS LISTED IN ADDENDUM NO. 1

Registration

D. C. PENDLETON, JR. #28601 REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
20 MAR 98

THE CADDSEAL APPEARING ON THIS DOCUMENT IS VALID IF, AND ONLY IF, ACCOMPANIED BY AN ORIGINAL SIGNATURE OF THE REGISTRANT AND DATE OF EXECUTION. DOCUMENTS NOT BEARING EACH OF THE 3 AFOREMENTIONED ITEMS SHALL BE CONSIDERED INCOMPLETE AND SHALL NOT BE USED FOR CONSTRUCTION, PERMIT, OR BIDDING PURPOSES.

PENDLETON ENGINEERS
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214 341 2040 FAX: 214 341 4142

Drawn	DCP
Checked	DCP
Project No.	7059
Date	12/12/97

Sheet Title

SITE-ELECTRICAL PLAN

Sheet No.

SE-1

IMPORTANT!!!

1. MESA Design Group assumes no responsibility for any excavation or grading not shown on surveys or civil engineer's plans supplied to MESA Design Group.
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DALLAS AREA RAPID TRANSIT

LIMIT OF WORK

2" SLEEVE, TYPICAL.

MATCHLINE 'B'

MATCHLINE 'A'

ARAPAHO ROAD

MCM CO.

1

2-#8+#8G, 3/4"C., U.N.O.

BUTT-WRAP GROUND AT EACH POLE CONTINUOUS AND BONDED TO LUMINAIRE, ALL OTHER METAL PARTS, AND RACEWAY GROUNDS, TYPICAL, ALL POLES.

3/4" C. FROM LIGHT POLE STUBBED INTO TREE-WELL AND CAPPED, TYPICAL NOTATION.

LIMIT OF WORK

SOUTHWESTERN BELL

SCALE: 1"=20'

STATE OF TEXAS
D. C. PENDLETON, JR.
42601
REGISTERED PROFESSIONAL ENGINEER

20MAR98

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
1	3/10/98	CITY REVISION AS LISTED IN ADDENDUM NO.5

Registration

Drawn: DCP
Checked: DCP
Date: 12/12/97
Project No.: 7059

Sheet Title

SITE-ELECTRICAL PLAN

Sheet No.

SE-2

MATCHLINE 'C'

MATCHLINE 'C'

TOWN OF ADDISON

ARAPAHO ROAD

CARRAMERICA LIMITED PARTNERSHIP

LIMIT OF WORK

2-#6+#8G,1"C.

SL-5,7
2-#6+#8G,1"C.

2-#6+3-#10+#8G,1"C.

SL-5,7
2-#6+#8G,1"C.

SL-8
12"X12"X8"d.

2-#10+#10G,3/4"C.

SL-8(30/1CB)

POWER COMPANY PMT AND METER PEDESTAL WITH ELEC. PANEL; LOCATION DETERMINED ON JOBSITE.

SL-6
12"X12"X8"d.

2-#6+3-#10+#8G,1"C.

SL-1,3,2,4
2-#6+3-#10+#8G.,1"C.

SL-6(30/1CB)
12"X12"X8"d.

SL-5,7,6,8
2-#6+3-#10+#8G.,1"C.

QUORUM DRIVE

SL-1,3,2,4
2-#6+3-#10+#8G,1"C.

SL-1,3
2-#8+#8G.,3/4"C.

2" SLEEVE, TYPICAL.

BUTT-WRAP GROUND AT EACH POLE CONTINUOUS AND BONDED TO LUMINAIRE, ALL OTHER METAL PARTS, AND RACEWAY GROUNDS, TYPICAL, ALL POLES.

SL-2(30/1CB)
12"X12"X8"d.

SL-1,3,2,4
2-#6+3-#10+#8G,1"C.

SL-2
12"X12"X8"d.

SL-2
2-#8+#8G.,3/4"C.

DALLAS AREA RAPID TRANSIT

2-#8+2-#10+#8G, 1"C.

3/4" C. FROM LIGHT POLE STUBBED INTO TREE WELL AND CAPPED, TYPICAL NOTATION.

SL-4
8"X8"X6"d., U.N.O.

2-#10+#10G,3/4"C.

SL-4(30/CB)
12"X12"X8"d.

J-BOX, TYPICAL.

2-#8+#8G,3/4"C.

MCM CO.

MATCHLINE 'B'

MATCHLINE 'B'

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SCALE: 1"=20'

STATE OF TEXAS
D. C. PENDLETON, JR.
42601
REGISTERED PROFESSIONAL ENGINEER

20 MAR 98

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON, TEXAS

Revisions

No.	Date	Item
1	3/10/98	CITY REVISION AS LISTED IN ADDENDUM NO. 5.

Registration

DCP
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DCP
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7059
Project No.
12/12/97
Date

Sheet Title

SITE-ELECTRICAL PLAN

Sheet No.

SE-3

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MATCHLINE 'D'

LIMIT OF WORK

ARAPAHO ROAD

TS TELE

3/4" C. FROM TREE-WELL TO TREE-WELL AND CAPPED.

MEPC QUORUM PROPERTIES (COLONADE)

SIGN

FH

SPECTRUM DRIVE

SPRINKLER CONTROL VALVE

TELE

12"V

LIMIT OF WORK

BUTT-WRAP GROUND AT EACH POLE CONTINUOUS AND BONDED TO LUMINAIRE, ALL OTHER METAL PARTS, AND RACEWAY GROUNDS, TYPICAL, ALL POLES

2" SLEEVE, TYPICAL

2-#6+#8G,1"C., U.N.O.

3/4" C. FROM LIGHT POLE STUBBED INTO TREE-WELL AND CAPPED, TYPICAL NOTATION.

CARRAMERICA LIMITED PARTNERSHIP

ADDISON

MATCHLINE 'C'

SCALE: 1"=20'

STATE OF TEXAS
D. C. PENDLETON, JR.
42601
REGISTERED PROFESSIONAL ENGINEER

12/15/97

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON, TEXAS

Revisions

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DCP
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DCP
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7059 — Project No.
12/12/97 — Date

Sheet Title

SITE-ELECTRICAL PLAN

Sheet No.

SE-4

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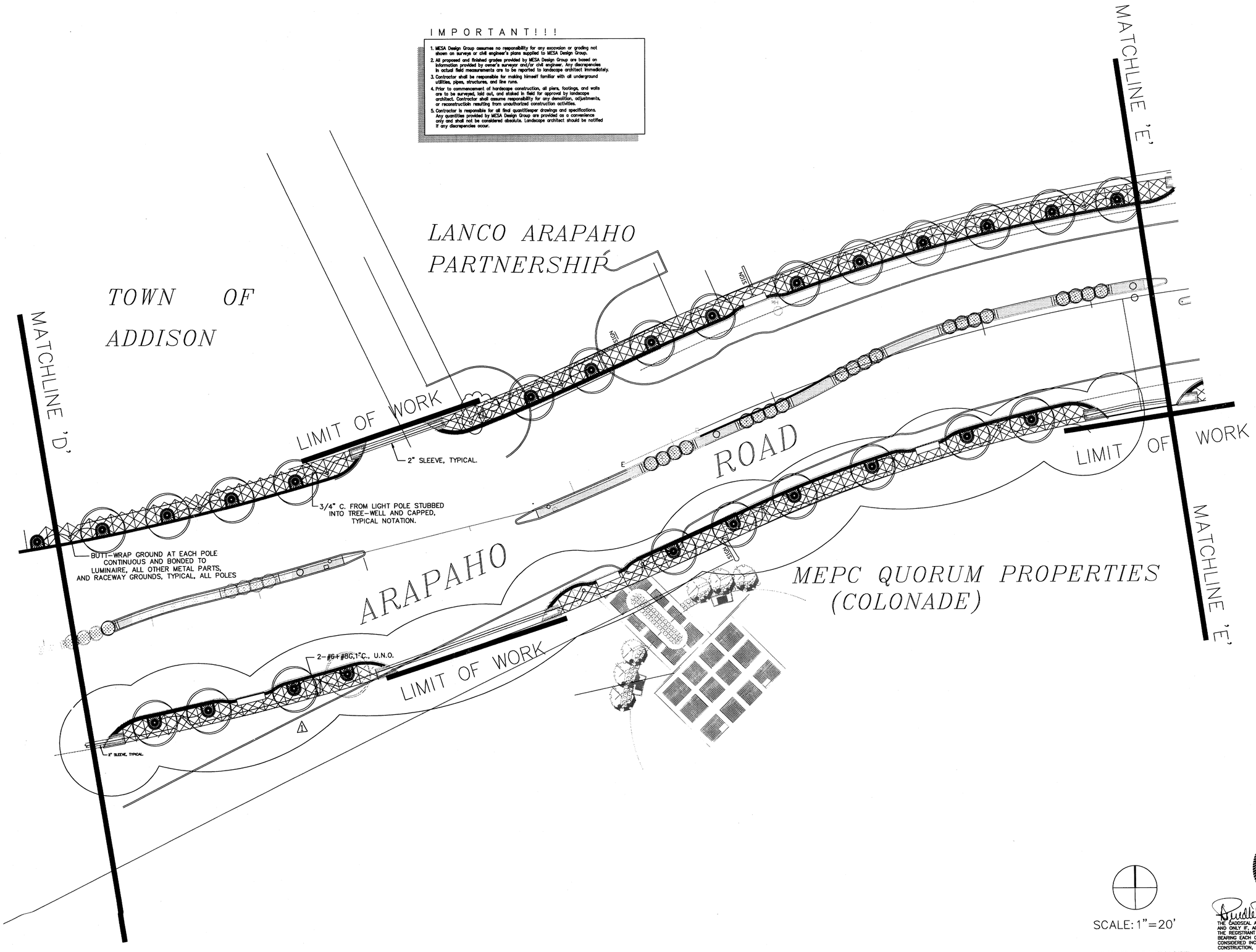

SCALE: 1"=20'

STATE OF TEXAS
D. C. PENDLETON, JR.
42601
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Registration

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Date: 12/12/97

Sheet Title: SITE-ELECTRICAL PLAN

Sheet No.: SE-5

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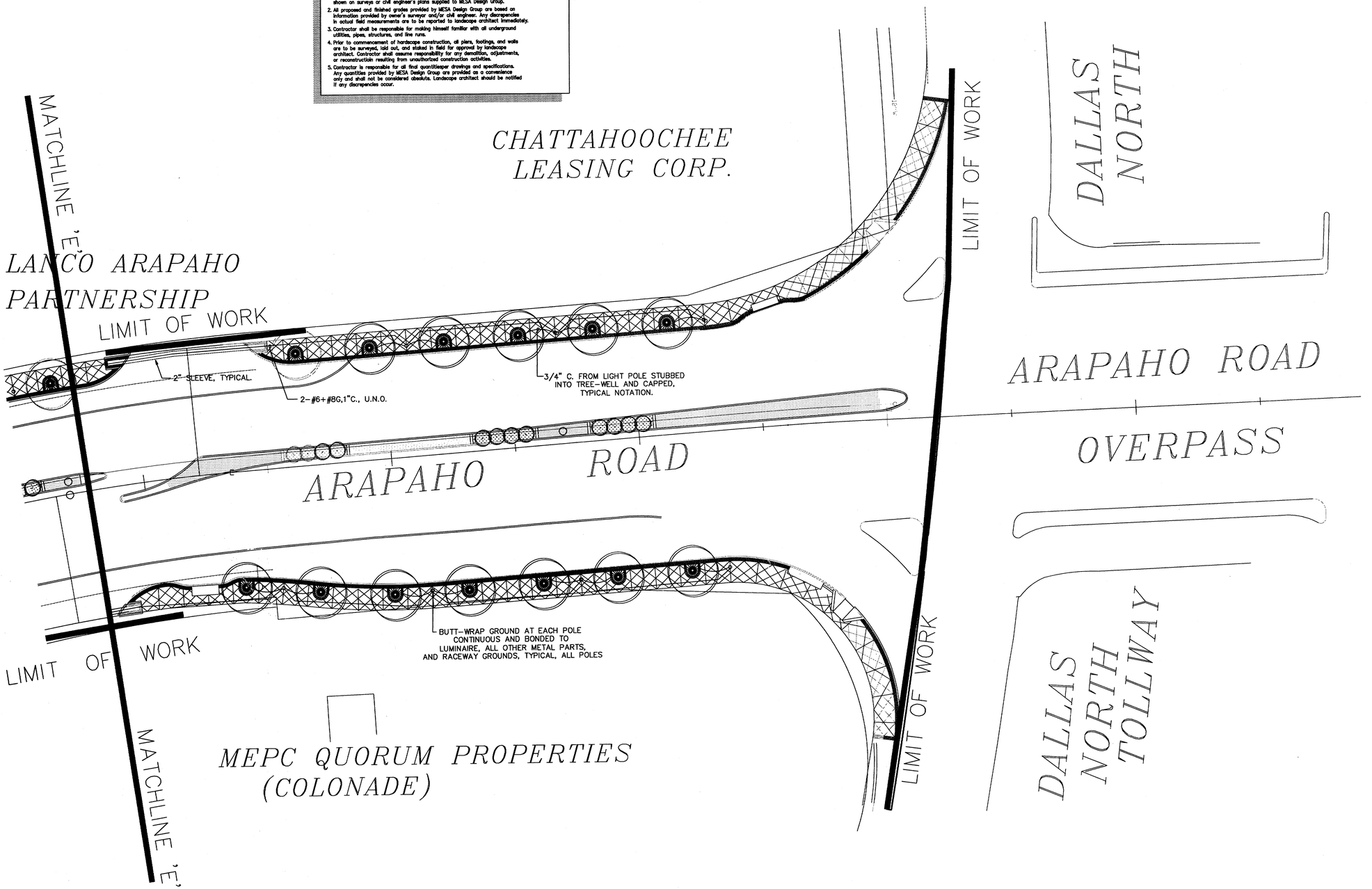

SCALE: 1"=20'

STATE OF TEXAS
D. C. PENDLETON, JR.
42601
REGISTERED PROFESSIONAL ENGINEER

20MAR98

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ARAPAHO ROAD STREETSCAPE
CITY-OF-ADDISON, TEXAS

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Sheet Title

SITE-ELECTRICAL PLAN

Sheet No.

SE-6