H

1996 Huitt-Zollars Correspondence **1000.026**

HUITT-ZOLLARS

Engineering / Architecture

Dallas • Fort Worth • Houston • El Paso • Phoenix • Tustin • Ontario • San Clemente

FACSIMILE TRANSMITTAL

Date: 2-13-96 Fax No.: 931-6643

H-Z Proj. No. 01-1022-04 No. of Pages: 4 (Including Cover Sheet)

TO: Town of Addison

John Baumgartner

☐ URGENT ☒ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

John,

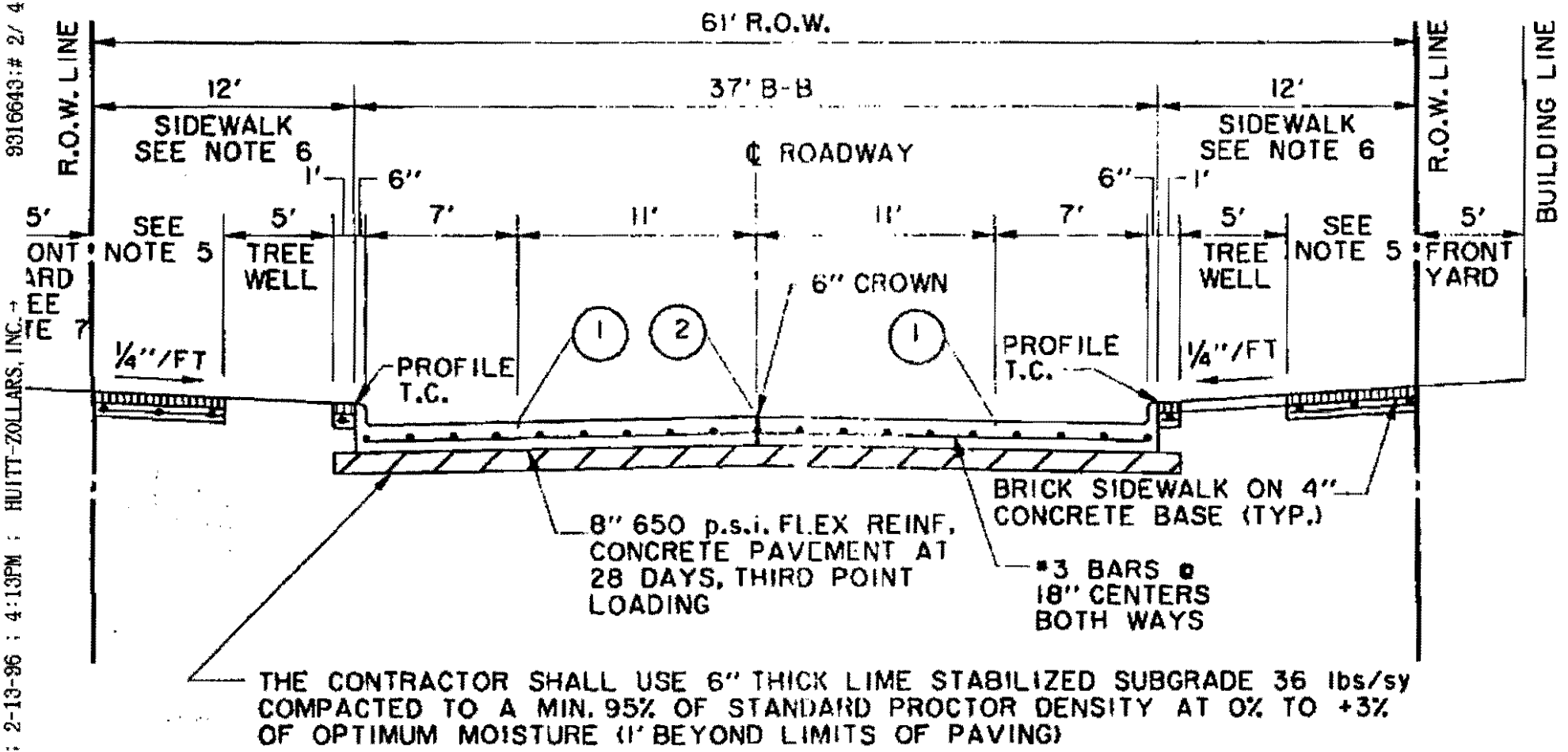
For the Residential Streets, McKamy & Morris, what type of typical section do you want: Normal Parabolic, Straight Crown, or Modified Straight Crown? Look over the attached sections and give me a call. Thanks,

FROM: Ken Roberts

SENT BY: _____ TIME: _____ DATE: _____

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

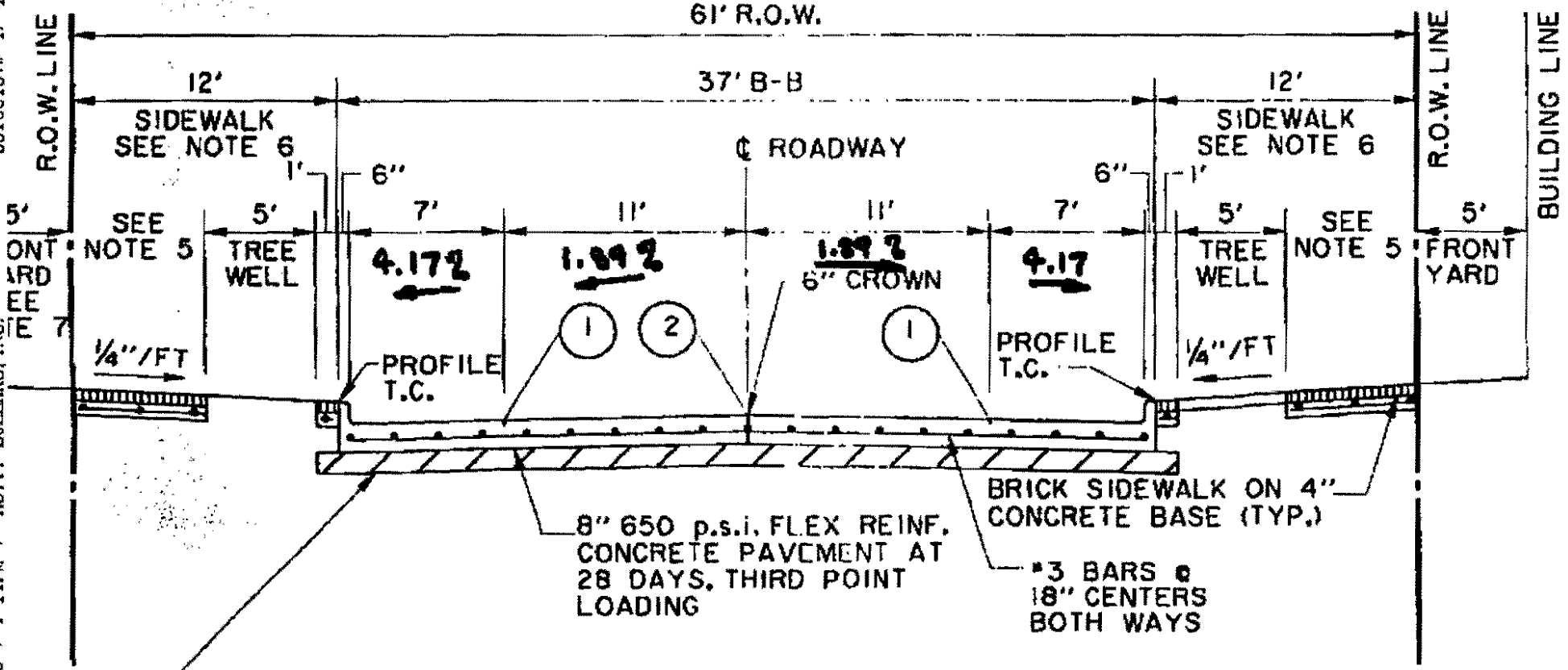


Section 'A'

6" Normal Parabolic Crown

2 LANES UNDIVIDED

McKAMY AVENUE & MORRIS AVENUE

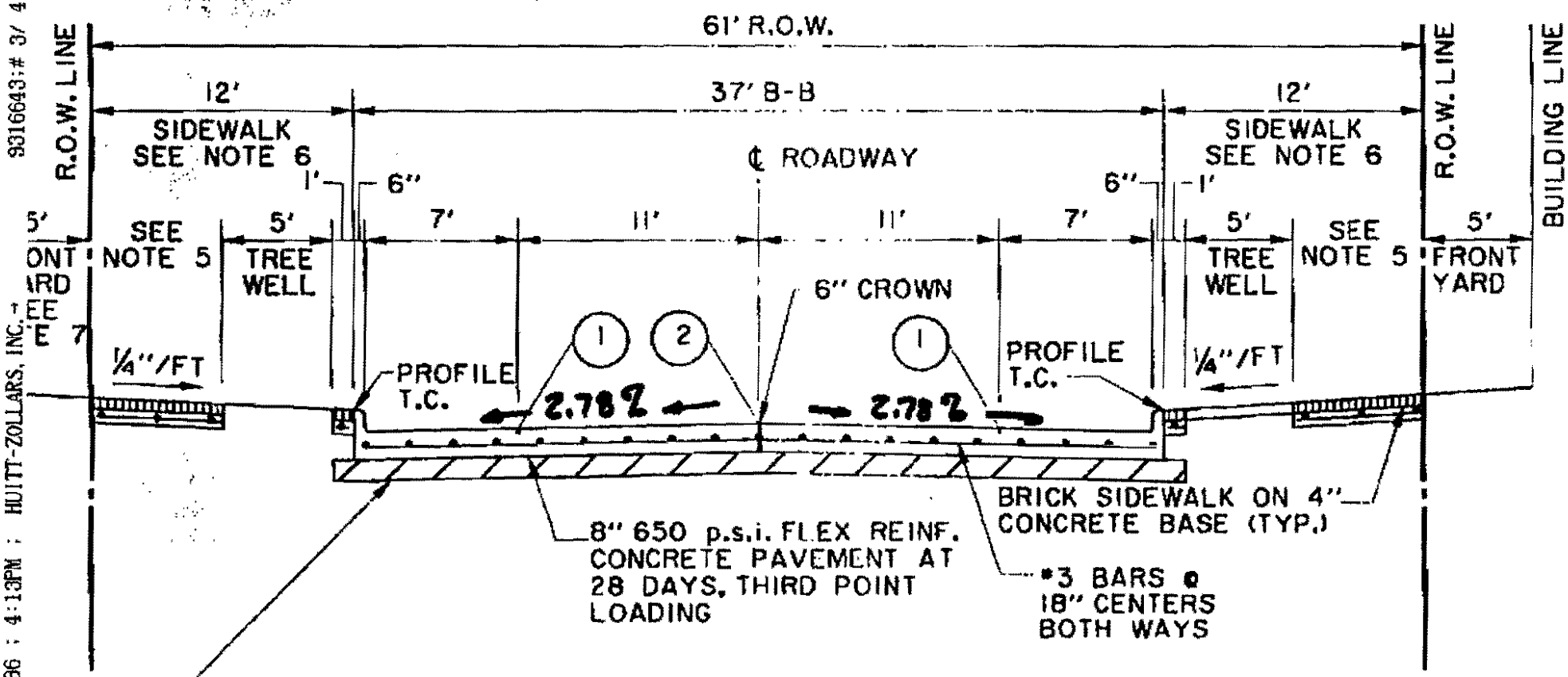


Section 'C'

6" Modified Straight Crown

2 LANES UNDIVIDED

McKAMY AVENUE & MORRIS AVENUE



Section 'B'
6" Straight Crown

2 LANES UNDIVIDED

McKAMY AVENUE & MORRIS AVENUE

PICK UP LIST FOR

96-28
ADDISON CIRCLE PHASE I
3-4-96 4:00 PM

BID NO:

	COMPANY NAME	FULL MAILING ADDRESS CITY, STATE, ZIP	TELEPHONE	PRINT CONTACT NAME
✓	Whitty & Siddons / AGC	Adams 6510 #255 Dallas, TX	PHONE 342-8878 FAX 342-4707	Vallerie Hewson
✓	Builders Exchange	121 Interpark #104 San Antonio, TX 78216-1899	PHONE 216 491-6900 FAX 210 491-6921	Teri Kenny
X	MEL'S ELECTRIC	1810 S. AKARD DALLAS TX 75215	PHONE 214-565-1074 FAX 565-1081	KEITH ROBERTSON
✓	Ft WORTH AGC	417 Fulton Ft Worth, TX	PHONE FAX	
X	Texas Mocking Bird, Inc.	PO Box 831389 Richardson, TX. 75083-1389	PHONE (214) 881-7771 FAX (214) 423-1264	Steve Morel
X	GIBSON & ASSOCIATES	11210 RylieCrest Balch Springs, TX 75180	PHONE 557-1199 FAX 557-1552	Jack Sanford
X	North Texas Contractors	P.O. Box 29752 Dallas, 75229	PHONE 350-4509 FAX	Dennis Bailey
X	Dowager Coast	6418 [illegible] Dallas 75248	PHONE 931-1263 FAX same	George Smart
X	REBCON, Inc + ONE COMPLETE SET	1868 W. Northwest Hwy Dallas, TX 75220	PHONE 214-444-8230 FAX 214 444 8834	Mito Fortiz
✓	American Co. (Got All Documents)	4320 N. Beltline #A102 Irving, TX. 75038	PHONE 256-2219 FAX	Terri McAdams
✓	DODGE REPORTS DALLAS & FT WORTH	STEMMONS (NEW & OLD) SUMMIT	PHONE FAX	
X	INTEGRATED RDWY INC	10701 SHADY TRAIL DALLAS, TX 75220	PHONE 352-1537 FAX 352 1538	David

(13)

2-27-1996 2:28PM FROM FINANCE BUILDING [illegible]

HUITT-ZOLLARS

Working Copy

Huitt-Zollars, Inc. / Engineers / Architects / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

MEMORANDUM

DATE	February 9, 1996
RE:	Addison Circle Phase I Public Infrastructure
FROM:	Andy Oakley, Huitt-Zollars, Inc.
TO:	John Baumgartner, Town of Addison
CC:	Bryant Nail, Columbus Realty Trust

We have reviewed the apparent low bid submitted by Gibson and Associates for the Addison Circle Phase I Public Infrastructure in an attempt to identify possible savings. These savings fall into a variety of categories as grouped and described below. All values are approximate.

The following items are those where the construction quantity could be reduced or eliminated at the given bid price to result in a savings.

- Due to the relocation of the bollards in the mews which occurred during the bid process, the sidewalk areas can be reduced from 8-inch pavement to 4-inch pavement and the surface can be changed from vehicular brick to pedestrian brick.

Savings: $30,900

- It is highly probable that the final number of street light pull boxes, including those needed for the tree lighting, will be less than half of the bid quantity.

Savings $10,000

- It is most likely that the conduit required for the tree lighting will be 1-inch or 2-inch and we can eliminate the 3-inch conduit item.

Savings: $18,000

- The pole mounted lights, bases and conduit that have been bid for the mews will not be needed if Columbus constructs the hanging lights.

Savings: $39,000

7 - Proper management of the contractor should eliminate the need for approximately half of the specified silt fence.

Saving: $10,000

- The temporary hedge of Nellie R. Stevens Hollies along the west edge of Paschal Mews and its irrigation can be eliminated.

Savings: $9,000

- Columbus and the Town could work to provide "Event Fencing" at a more reasonable cost.

Savings: $25,000

- The sidewalks, tree fences, lights and underplanting on the undeveloped sides of McKamy Ave. and Paschal Mews could be delayed until future phases (which would eliminate the damage that they will sustain at that time).(Street light price is the TUE price, not the Gibson price.)

Savings: $58,000

The following items are not in the current bid package. While they could be negotiated as changes and result in some savings, the maximum savings would probably result from rebidding the project with these modifications.

- The pavement in Morris Ave., McKamy Ave. and Witt Mews might be able to be reduced from 8-inch to 6-inch with some analysis. There is not a bid item for 6-inch street pavement, only 6-inch drive. We believe the 6-inch pavement would result in a savings of approximately $4 per square yard.

Savings: $19,500

- We believe that both a vehicular brick and a pedestrian brick have been found which will be acceptable to the Town but which are available at a material cost of approximately $0.50 less per square foot than the currently specified "Acme" brick.

Savings: $49,000

- The earthwork was bid including haul-off and we therefore do not have a unit price for unclassified excavation where a disposal site is made available adjacent to the construction. Elimination of the haul-off should save at least $7 per cubic yard.

Savings: $68,000

The following items may not have been adequately explained in the bidding process which resulted in a higher price than expected. Further explanation of these items and rebidding the project could result in some savings.

? • The work at the water tower site seems inordinately expensive and could be itemized or otherwise clarified.

Savings: $50,000

? • The electrical and telephone work at the water tower can be accomplished more simply than originally expected and the contractor will just be required to install some empty conduit runs.

Savings: $10,000

? • The developer could make a staging area available to the infrastructure contractor.

Trailer Power Phone Yard

Savings: $ Unknown

Other Items

• The two drinking fountains in the base bid are actually Bosque Park items which reduces the total project cost.

Savings: $11,300

• The price for the standard tree grate is much higher than we have seen in the past Perhaps it could be purchased outside the contract and an installation price negotiated which would be more reasonable.

Savings: $11,200

We would like to meet to discuss these items and other ideas for reducing the value of the work which is charged against the Phase I budget. Though all of the savings listed may not be achievable, the combined possible savings is a very significant $416,900.

PICK UP LIST FOR : ADDISON CIRCLE PHASE I
3-4-96 4:00 P.M.

BID NO: 96-28

	COMPANY NAME	FULL MAILING ADDRESS CITY, STATE, ZIP	TELEPHONE	PRINT CONTACT NAME
✓	TEXAS CONTRACTORS	2510 NATIONAL DRIVE GARLAND TX 75041	PHONE FAX	
x	PALM	(SEE 96-12)	PHONE FAX	
x 2-20-96	LLANO	(SEE 96-12)	PHONE FAX	DALE DERRICKS (15)
	Botanical Technologies	10565 Spangler Dallas TX 75220	PHONE 407-9911 FAX 556-0377	Kathy Ayers
2-23-	DURABLE SPECIALTIES	1211 S ALEXANDER AVE Duncanville, TX 75138	PHONE 296-6324 FAX 780-7411	J Bryan
2-23	SMILEY CONSTRUCTION		PHONE FAX	
2-23	JOHN BURNS CONST	6316 TORONTO ST. DALLAS TX 75212	PHONE 263 9383 FAX 634 8938	T.K.
	TRIPLE S UTIL	DALLAS	PHONE 287-7703 FAX 287-1714	FREDDIE {ALL DOCS
2/26	Z & S CONS. INC.	11427 RAMVIEW DALLAS, TX 75253	PHONE 286-3299 FAX 557-8184	
			PHONE FAX	
			PHONE FAX	
			PHONE FAX	

HUITT-ZOLLARS, INC.
3131 McKinney Avenue, Suite 600
DALLAS, TEXAS 75204

(214) 871-3311

LETTER OF TRANSMITTAL

DATE	JOB NO.
2/29/96	01182204

ATTENTION: JOHN BAUMGARTNER

RE: ADDISON CIRCLE

TO TOWN OF ADDISON SERVICE Center
16801 WESTGROVE RD
ADDISON TX. 75001

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via Courier the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1		9	Addendum #6

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 _____

COPY TO _____

SIGNED: David Meyers

If enclosures are not as noted, kindly notify us at once.

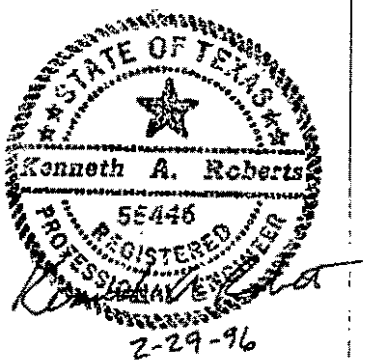
Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

ADDENDUM NO. 6

To The Construction Specifications And Contract Documents For

ADDISON CIRCLE
PHASE I
PUBLIC INFRASTRUCTURE

FEBRUARY 29, 1996



I. CONSTRUCTION SPECIFICATIONS AND CONTRACT DOCUMENTS

SECTION PF - PROPOSAL FORM

Delete Schedule VI of **SECTION PF - PROPOSAL FORM** in its entirety (Pages PF-60 R4 thru PF-62 R4) and replace with the revised Schedule VI (Pages PF-60 R6 thru PF-62 R6) as attached hereto.

SCHEDULES: ADD THE FOLLOWING NOTES AND CLARIFICATIONS TO THE APPROPRIATE SCHEDULE.

Bid Schedule VI:

1. Item No. 601 - Perform Clearing, Pruning and Grading
   This item has been deleted.

2. Item No. 602 - Relocate Existing Tree From Quorum Median
   This item has been deleted. The trees in the Quorum Drive median that were designated for relocation will not be transplanted but will be removed and disposed of by the Contractor. The removal of these trees and other vegetation in the Quorum Drive median will be subsidiary to the construction of the project.

SECTION T - TECHNICAL SPECIFICATIONS

1. Add the following technical specification: Brick Paver Installation in Vehicular Areas

II. CONSTRUCTION PLANS

1. Sheet 58/137 - The "Subsurface Drain System Detail (Section Parallel To The Curb)" shall be modified to show a variable length dimension (depending on tree pit length) instead of 5' for the perforated PVC pipe. See plans and details for various tree pit lengths within the project.

2. Sheet 129/137 - The trees in the Quorum Drive median designated for relocation will not be transplanted but will be removed and disposed of by the Contractor.

III. ITEMS FOR CLARIFICATION FROM PRE-BID MEETING HELD FEBRUARY 27, 1996

1. It is anticipated that a contract will be awarded by the Town of Addison following the receipt of bids on March 4, 1996.

2. The vehicular and pedestrian brick are being bid as "materials delivered to the site" and "labor to install" to maintain the flexibility of substituting an approved alternate brick paver prior to the construction of the street and mews pavement. The Owner has the option to supply the brick paver materials for the project.

3. The 24" water main is being bid as "materials delivered to the site" and "labor to install" to allow the Town of Addison to pre-order the pipe materials that need to be pre-fabricated in an effort to assist the selected Contractor in meeting the deadline of May 1, 1996 for the relocation of the 24" water main.

4. The detectable warning strip in Witt Mews and Paschal Mews is not a separate pay item and is subsidiary to "Item No. 145, Furnish and place 6" thick 650 psi flex @ 28 days reinforced concrete pavement".

5. The Benches in the project under Schedule II are to be bid as described. The Contractor may submit benches for evaluation as "Approved Equals" by Columbus and the Town of Addison after the award of a contract.

6. The perforated portion of the subdrain system may be either drilled Schedule 40 or SDR-35 Polyvinyl Chloride (PVC) pipe with 3/8 inch diameter holes, 4 holes spaced at 4 inches on center. The contractor will be allowed to hand drill holes in the field. Please note that the subdrain is only perforated through the tree pit. (See detail on sheet 58/137)

7. The "offsite" wastewater line east of Quorum Drive is primarily within the limits of the slope of the outfall channel which is already being grassed and paid for under Item 343. The area disturbed by the construction of the wastewater lines outside the limits of the outfall channel will not be grassed.

8. The cement treated/stabilized subgrade for the temporary sidewalk on the north side of McKamy Avenue and the west side of Paschal Mews shall constructed as detailed in "Exhibits 4M & 4P". The subgrade shall be scarified to a depth of 4 inches, the cement spread out on top of the subgrade at the appropriate rate of application, the entire sidewalk area wetted down, and the sidewalk subgrade compacted in accordance with the detail.

9. A sidewalk, temporary or permanent, shall be maintained on the east side of Quorum Drive only, throughout the duration of the construction to allow for pedestrian traffic in a north/south direction. Any temporary sidewalk necessary shall be constructed as described in Addendum No. 2. A temporary sidewalk will not be required on Mildred Street.

10. The private developer, Columbus Realty Trust, will be responsible for delivering the grading for McKamy Avenue & Morris Avenue to within +\- 0.10' of street subgrade and for Witt Mews and Paschal Mews to within +\- 0.10' of drop slab subgrade for the full width of the mews at the commencement of the public contract.

11. "Item 912" does not include the vehicular brick pavers to be installed on top of the drop slab.

12. Tree lighting conduit shall be installed per "Exhibit G - Typical Conduit/Sleeve Embedment" issued in Addendum No. 2.

13. "Item 907 - Wall Mounted Clock..." shall be installed on a building at the location determined by Columbus. Columbus shall provide electrical wiring from the building to the location of the clock installation.

14. The brick to placed on top of the inlets shall be paid for under "Items 201 & 258".

15. Special Provision "No. 48 - Special Construction Sequencing" shall remain as described in the 'Construction Specifications and Contract Documents' and as amended in the Addenda.

END OF ADDENDUM NO. 6

SCHEDULE VI
ADDISON CIRCLE PHASE I
PUBLIC INFRASTRUCTURE

BOSQUE PARK IMPROVEMENTS

ITEM NO.	ESTIM. QTY.	UNIT	DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE $	AMOUNT BID $
601	N/A	N/A	ITEM DELETED	N/A	N/A
602	N/A	N/A	ITEM DELETED	N/A	N/A
603	N/A	N/A	ITEM DELETED	N/A	N/A
604	2	EA.	Furnish and install metro drinking fountain, dbl. arm, cast iron, w/std. blk. finish, solid bowls w/ a patina finish, for permanent anchoring, Canterbury Int'l., including water service line from Bosque Park meter, Complete in Place, for the Sum of _____ _____ Dollars and _____ Cents per unit.		
605	4,449	S.F.	Furnish and place 4" thick 3000 PSI compressive @ 28 days reinforced concrete subbase (sidewalk), Complete in Place, for the Sum of _____ _____ Dollars and _____ Cents per unit.		

Addendum No. 2 1/22/96
Addendum No. 3 1/26/96
Addendum No. 4 2/16/96
Addendum No. 6 2/29/96

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ITEM NO.	ESTIM. QTY.	UNIT	DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE $	AMOUNT BID $
606	4,449	S.F.	Furnish pedestrian brick paver materials delivered to site (sidewalk), Complete in Place, for the Sum of _____ _____ Dollars and Cents per unit.		
607	4,449	S.F.	Furnish and install bedding materials and install pedestrian brick pavers (sidewalk), Complete in Place, for the Sum of _____ _____ Dollars and Cents per unit.		

Addendum No. 2 1/22/96
Addendum No. 3 1/26/96
Addendum No. 4 2/16/96
Addendum No. 6 2/29/96

SCHEDULE VI
ADDISON CIRCLE PHASE I
TOWN OF ADDISON, TEXAS
BOSQUE PARK IMPROVEMENTS

TOTAL AMOUNT BID FOR MATERIALS AND SERVICES, SCHEDULE VI, ITEMS 601 THROUGH 607, INCLUSIVE $_____

Addendum No. 2 1/22/96
Addendum No. 3 1/26/96
Addendum No. 4 2/16/96
Addendum No. 6 2/29/96

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BRICK PAVER INSTALLATION IN VEHICULAR AREAS

PART 1 - GENERAL

1.01 Conformity

Conform to the requirements of the general conditions of the contract.

1.02 Work Included

1. Supply and place bituminous setting bed.
2. Supply and install brick pavers in quality, shape, thickness and color as specified.
3. Supply and place all accessory items as required by the contract.

1.03 Product Handling

Brick pavers shall be delivered and unloaded at jobsite on pallets and bound in such a manner that no damage occurs to the product during handling, hauling and unloading.

1.04 Project Conditions

Environmental requirements: Ambient and surface temperatures:
Minimum 35 degrees F for minimum 48 hours prior to and during construction.

1. Area to receive bituminous base must be dry.

PART 2 - MATERIALS

2.01 Asphalt adhesive will consist of 2 percent neoprene (grade WM), oxidized asphalt 80 penetration.

2.02 Joint and filler to be pigmented Portland Cement (ASTM C-50). Sand to conform to ASTM C-33.

2.03 Mixes:

a. Bituminous Setting Bed: The fine aggregate to be used in the bituminous setting bed shall be clean, hard sand with durable particles and free from adherent coatings, lumps of clay, alkali salts and organic matter.

It shall be uniformly graded from "coarse" to "fine" and all passing the number 4 sieve and meet the gradation requirements when tested in accordance with the standard method of test for sieve or screen analysis for fine and course aggregates ASTM Designation C-36. The dried fine aggregate shall be combined with hot asphalt and cement, and the mix shall be heated to approximately 300 degrees F at an asphalt plant.

The proportion of materials shall be seven (7) percent cement and ninety three (93) percent fine aggregate. Each ton shall be apportioned by weight in the approximate ratio, 45 pounds (lbs.) asphalt to 855 pounds (lbs.) sand.

b. Neoprene: Modified Asphalt Adhesive: Consist of two (2) percent neoprene (grade WM) oxidized asphalt with a 55 degree softening point. (80 penetration) and ten (10) percent long fibers.

Solids (Base)	75 + %
Lbs/Gal	8 - 8.5 lbs.
Solvents	Varsol (over 100 F flash)
Base	(2% neoprene, 0% fibers, 88% asphalt).
Melting Point	ASTM D-36 - 22 f Min.
Penetration	77 F 100 gram load 5 second (.1mm) 23-27
Ductility	ASTM D-3-44 @ 25 5 cms/per minute - .125 cm minimum

PART 3 - EXECUTION

3.01 Examine surfaces to receive Bituminous setting bed to assure that:

a. Surfaces are free from structural defects.

b. Elevation is such that when setting bed and brick paver are placed, the top surface of the pavers will be the required finished grade.

c. Paver surface shall be completed to established elevations without ridges, voids, or other obstructions that would interfere with installation of brick pavers or asphalt.

3.02 Edge Restraint:

a. Vehicular Paver: Pavers in vehicular areas will be restrained in all directions by the depression in street pavement provided by the paving contractor per details on plans, requiring no special work when pavers are installed.

b. Check all restraint systems for proper location and elevation per plans and specifications.

3.03 Preparation:

a. Prime concrete slab with rapid curing cut back asphalt (m-81), at a rate of .1 gal/square yard.

3.04 Application:

a. To install the setting bed over the base, place 3/4 inch deep control bars directly over the base. If grades must be adjusted, set wood chocks under depth control bars to proper grade.

Set two bars parallel to other, approximately eleven (11) feet apart to serve as guides for the striking board (2 foot long, 2 inch by 6 inch board). The depth control bars must be set carefully, to bring the pavers, when laid, to proper grade.

Place some bituminous bed between the parallel depth control bars. Pull this bed with the striking board over these bars several times. After each passage, low porous spots must be showered with fresh bituminous material to produce smooth, firm and even setting bed. As

soon as this initial panel is completed, advance the first bar to the next position in readiness for striking the next panel. Carefully fill any depressions that remain after removing the depth control bars and wood chocks. The setting bed shall be rolled while hot with a power roller to nominal depth of 3/4 inch for vehicular areas.

The elevation will be adjusted so that when the brick pavers are placed, the top surface of the pavers will be required finished grade.

b. A coating of two (2) percent neoprene - modified asphalt adhesive shall be applied by mopping or squeezing or toweling over the top surface of the bituminous setting bed so as to provide a bond under the pavers. If it is troweled, the trowel shall be serrated with serrations not to exceed one-sixteenth (1/16) of an inch.

c. Installation of brick pavers shall begin when the modified asphalt adhesive is dry to the touch, carefully place pavers by hand in straight courses with hand tight joints and uniform top surface. Good alignment must be kept, and the pattern shall be that shown ont he drawings.

d. If additional leveling of the pavers is required, and before sweeping in joint filler, roll with a power roller after sufficient hear has built up in the surface of the brick from several days of hot weather.

e. Joint Treatment: Hand tight joints (shall read from 0 inch to maximum 1/4 inch).

Sweep a dry mixture of one part colored portland cement to match color of brick pavers and three parts sand until joints are completely filled. Fog lightly with water. Cement stains that remain shall be cleaned with a 10 percent solution of muratic acid or mortar cleaner.

3.05 Protection

a. Newly laid pavers must be protected at all times by panels of plywood on which the installer stands. These panels of plywood can be advanced as work progresses. However, the plywood protection must be kept in areas which will be subjected to continued movements of materials and equipment. These precautions must be taken in order to avoid depressions and protect paver alignment.

END OF SECTION

HUITT-ZOLLARS

Engineering / Architecture

Dallas • Fort Worth • Houston • El Paso • Phoenix • Tustin • Ontario • San Clemente

FACSIMILE TRANSMITTAL

Date: 3/14/96 Fax No.:

H-Z Proj. No. 0182204 No. of Pages: 23
(Including Cover Sheet)

TO: CLYDE JOHNSON - ADDISON FINANCE BLDG 387-4954

JOHN BRAMGARDNER - ADDISON PUBLIC WORKS 931-6643

☐ URGENT ☐ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

RE: ADDISON CIRCLE

THE FOLLOWING SHOWS ITEMS TO BE REVISED.

Items in Schedule IX for Revised are:

913 - 4" THICK Cement Stab. Subgrade (15 lbs/sy)
914 - 1/4" x 4" RYERSON STEEL LANDSCAPE EDGING

FROM: David Meyers

SENT BY: TIME: DATE:

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

ADDISON CIRCLE PHASE I
PUBLIC INFRASTRUCTURE

Recommendation For Award of Contract

	PHASE I COST	PHASE II COST	OFFSITE COST	TOTAL AWARD
BASE BID (All Items)	3,234,018.48	103,701.42	88,389.08	3,426,108.98
SCH VIII (All Items)	0.00	86,943.06	0.00	86,943.06
SCH IX (1) Partial	4612.40	0.00	0.00	4612.40
TOTALS	3,238,630.88	190,644.48	88,389.08	3,517,664.44

(1) Includes award of only Item Nos. 913 and 914.
(2) Includes streetscape and utilities East of Quorum to future Spectrum.
(3) Includes utilities between future Spectrum and Tollway.

ADDISON CIRCLE PHASE I (95-1022-04)
PUBLIC INFRASTRUCTURE

BID TABULATION
MARCH 6, 1996
PAGE 5

ITEM NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	GIBSON & ASSOCIATES UNIT PRICE	GIBSON & ASSOCIATES AMOUNT BID	REBCON, INC UNIT PRICE	REBCON, INC AMOUNT BID	AVERAGE UNIT PRICE	AVERAGE AMOUNT
SCHEDULE VI - BOSQUE PARK IMPROVEMENTS									
601	ITEM DELETED	NA	NA	NA	NA	NA	NA	NA	NA
602	ITEM DELETED	NA	NA	NA	NA	NA	NA	NA	NA
603	ITEM DELETED	NA	NA	NA	NA	NA	NA	NA	NA
604	METRO DRINKING FOUNTAIN, DBL. ARM CAST IRON	EA	2	$5,900.00	$11,800.00	$4,500.00	$9,000.00	$5,200.00	$10,400.00
605	4" THICK 3000 PSI COMPRESSIVE REINF. CONC. SUBBASE	SF	4449	$2.70	$12,012.30	$2.30	$10,232.70	$2.50	$11,122.50
606	FURNISH PEDESTRIAN BRICK PAVER MAT, DELIVERED TO SITE	SF	4449	$1.98	$8,809.02	$1.98	$8,809.02	$1.98	$8,809.02
607	FURNISH & INSTALL BEDDING MAT & INSTALL PEDESTRIAN BRICK	SF	4449	$1.52	$6,762.48	$1.52	$6,762.48	$1.52	$6,762.48
	SCHEDULE VI SUBTOTAL:				$39,383.80		$34,804.20		$37,094.00

ITEM NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	GIBSON & ASSOCIATES UNIT PRICE	GIBSON & ASSOCIATES AMOUNT BID	REBCON, INC UNIT PRICE	REBCON, INC AMOUNT BID	AVERAGE UNIT PRICE	AVERAGE AMOUNT
SCHEDULE VII - ELECTRICAL IMPROVEMENTS									
701	4&6 CONC. ENCASED DUCTBANK, 6" DIA. TYPE DB PVC CONDUIT	LF	2800	$70.00	$196,000.00	$68.00	$190,400.00	$69.00	$193,200.00
702	4&6 CONC. ENCASED DUCTBANK, 6" DIA. TYPE DB PVC CONDUIT	LF	353	$50.00	$17,650.00	$60.00	$21,180.00	$55.00	$19,415.00
703	TUE STANDARD 4-WAY MANHOLE	EA	9	$8,600.00	$81,900.00	$7,200.00	$68,300.00	$8,400.00	$75,600.00
704	TUE STANDARD 3-WAY MANHOLE	EA	1	$9,000.00	$9,000.00	$7,100.00	$7,100.00	$8,050.00	$8,050.00
705	REINFORCED 5' X 3' X 6" CONC. PAD AROUND 604	EA	2	$750.00	$1,500.00	$440.00	$880.00	$595.00	$1,190.00
706	TUE STANDARD PRECAST DEEP WELL 15 KV SWITCH PAD	EA	3	$1,200.00	$3,600.00	$930.00	$2,790.00	$1,065.00	$3,195.00
707	8" DIA. TYPE DB PVC 90 DEGREE SWEEP, 36"	EA	13	$55.00	$715.00	$60.00	$780.00	$57.50	$747.50
708	1DEA CONC. ENCASED DUCTBANK, 8" DIA. TYPE DB PVC CONDUIT	LF	135	$150.00	$20,250.00	$104.00	$14,040.00	$127.00	$17,145.00
709	1DEA CONC. ENC. DUCTBANK 1N 42" ENCASEMENT PIPE	LF	70	$300.00	$21,000.00	$360.00	$25,200.00	$330.00	$23,100.00
710	8" DIA. TYPE DB PVC 90 DEGREE SWEEP, 60"	EA	12	$55.00	$660.00	$60.00	$720.00	$57.50	$690.00
711	2" SCHEDULE 40 PVC CONDUIT	LF	780	$4.00	$3,120.00	$14.00	$10,920.00	$9.00	$7,020.00
	SCHEDULE VII SUBTOTAL:				$354,395.00		$341,310.00		$349,352.50

ITEM NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	GIBSON & ASSOCIATES UNIT PRICE	GIBSON & ASSOCIATES AMOUNT BID	REBCON, INC UNIT PRICE	REBCON, INC AMOUNT BID	AVERAGE UNIT PRICE	AVERAGE AMOUNT
SCHEDULE VIII - ALTERNATE STREETSCAPE IMPROVEMENTS (PHASE II)									
801	COMPLETE IRRIGATION SYSTEM (E. SIDE QUORUM)	LS	1	$10,260.00	$10,260.00	$22,500.00	$22,500.00	$16,380.00	$16,380.00
802	RED OAK TREE, 200 GAL., 3"-4" CAL., 16'-18' HT., 10'-20' SPREAD	EA	40	$1,150.20	$46,008.00	$1,200.00	$48,000.00	$1,175.10	$47,004.00
803	4" PVC SCH. 40 PERFORATED SUBDRAIN SYSTEM	LF	1021	$11.00	$11,231.00	$9.00	$9,189.00	$10.00	$10,210.00
804	WEEPING LOVE GRASS	SF	29110	$0.03	$873.30	$0.08	$2,328.80	$0.06	$1,601.05
805	STREET LIGHT OR TREE LIGHTING PULL BOX	EA	10	$232.20	$2,322.00	$240.00	$2,400.00	$236.10	$2,361.00
806	1" PVC SCHEDULE 40 STREET LIGHT CONDUIT	LF	1066	$3.89	$4,146.74	$4.00	$4,264.00	$3.95	$4,205.37
807	STREET LIGHT FOUNDATION	EA	14	$388.80	$5,443.20	$400.00	$5,600.00	$394.40	$5,521.60
808	SQUARE CAP FOR LIGHT BASE	EA	14	$97.20	$1,360.80	$100.00	$1,400.00	$98.60	$1,380.40
809	1" PVC SCHEDULE 40 STREET LIGHT CONDUIT	LF	1066	$4.97	$5,298.02	$5.00	$5,330.00	$4.99	$5,314.01
	SCHEDULE VIII SUBTOTAL:				$86,943.06		$101,011.80		$93,977.43

ITEM NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	GIBSON & ASSOCIATES UNIT PRICE	GIBSON & ASSOCIATES AMOUNT BID	REBCON, INC UNIT PRICE	REBCON, INC AMOUNT BID	AVERAGE UNIT PRICE	AVERAGE AMOUNT
SCHEDULE IX - ALTERNATE STREETSCAPE IMPROVEMENTS									
901	UPGRADED TREE GRATE	EA	28	$1,300.00	$36,400.00	$1,000.00	$28,000.00	$1,150.00	$32,200.00
902	ITEM DELETED	NA	NA	NA	NA	NA	NA	NA	NA
903	PLANTER POT	EA	22	$270.00	$5,940.00	$200.00	$4,400.00	$235.00	$5,170.00
904	ITEM DELETED	NA	NA	NA	NA	NA	NA	NA	NA
905	ITEM DELETED	NA	NA	NA	NA	NA	NA	NA	NA
906	SINGLE BOWL DRINKING FOUNTAIN, INCLUDING PLUMBING	EA	2	$5,100.00	$10,200.00	$4,000.00	$8,000.00	$4,550.00	$9,100.00
907	WITT NEWS WALL MOUNTED CLOCK, INCLUDING ELECTRICAL	EA	1	$4,100.00	$4,100.00	$7,100.00	$7,100.00	$5,600.00	$5,600.00
908	ITEM DELETED	NA	NA	NA	NA	NA	NA	NA	NA
909	ANTIQUE STREET LIGHT, TEXAN STYLE POLE TUS 17 MTHD	EA	68	$2,950.60	$200,830.40	$2,950.00	$200,550.00	$2,950.30	$202,190.75
910	ITEM DELETED	NA	NA	NA	NA	NA	NA	NA	NA
911	GRANITE BOLLARD	EA	71	$1,490.00	$105,790.00	$1,060.00	$75,260.00	$1,275.00	$90,525.00
912	8" THK. 650 PSI FLEX REINF. CONC. DROP SLAB, ROUNDABOUT ONLY	SY	2060	$35.90	$73,954.00	$46.00	$94,760.00	$40.95	$84,357.00
913	4" THICK CEMENT STABILIZED SUBGRADE (15 LBS./SY)	SY	479	$8.40	$3,834.20	$6.00	$4,029.60	$7.20	$3,836.10
914	3/8" X 4" RYERSON STEEL LANDSCAPE EDGING	LF	670	$1.46	$978.20	$3.30	$2,211.00	$2.38	$1,594.60
	SCHEDULE IX SUBTOTAL				$441,127.80		$427,310.00		$434,373.40

* All of Schedule VIII

Items 913 & 914 of Schedule IX

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

PAVEMENT ANALYSIS FOR THE
ADDISON CIRCLE
"Residential" and "Mews" Street Classifications

The secondary streets for the proposed Addison Circle Development, which in the project documentation are referred to as "Residential" and "Mews" streets, have been reviewed using the Portland Cement Association publication, "Design of Concrete Pavement for City Streets" to determine the optimum pavement thickness. Input parameters for this design method include the following:

Modulus of subgrade reaction, k = 150 psi/in. (lime treated, high P.I. clays)
Concrete flexural strength, MR = 650 psi @ 28 days
Pavement design life periods reviewed = 20 years, 35 years, 50 years

Traffic using these streets will predominantly consist of automobiles, although we have made some assumptions as to truck traffic which may also be present. Since there are business units located on McKamy Avenue just west of Quorum Drive, we have assumed there will be several delivery vans entering and leaving the area each day. We have also assumed weekly dumpster and full-size moving van traffic, as well as daily bus traffic. The average number of daily heavy commercial vehicles (2-axle 6-tire and heavier), including construction traffic in the early stages of the development, is estimated to be thirty, which falls at the top end of the design charts. Because these are "Residential" streets, the load safety factor is 1.0, which is a basic level of conservatism.

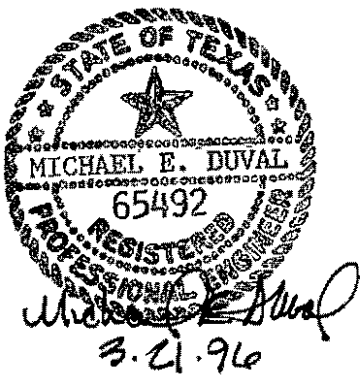
Using the design charts from the PCA manual (copies attached), the required thickness for the parameters listed above is just over 5.5 inches for a 20-year life. Looking at the required thickness for 35 and 50 year designs, the charts also indicate just over 5.5 inches is required for each, which suggests that the thickness is not sensitive to this relatively low level of heavy vehicle traffic.

Construction traffic may be using the pavement during the early weeks of its life. Once the pavement design strength has been reached, construction traffic should not be a problem; in fact, lighter construction vehicles may use the pavements before they reach this design strength. Expected construction traffic consists of ready-mix concrete trucks, material and equipment delivery trucks, and construction equipment. The heaviest construction vehicles, including ready-mix trucks, cranes, and other vehicles with single axle loads of 18 kips or more, should not be allowed to use the new pavements until the design strength of 650 psi is reached. Lighter equipment such as front end loaders and other pneumatic-tired vehicles may be allowed to use the pavements after 14 days, while pickups and light construction vehicles may be

allowed on the pavements after 3 to 7 days. The construction traffic is accounted for in the design traffic analysis.

Based on the stated parameters and assumptions, we believe that the pavement for the "Residential" streets and "Mews" streets of the Addison Circle development should be constructed using 6 inches of concrete over a lime treated subgrade.

HUITT-ZOLLARS, INC.
Engineers/Architects



HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

March 22, 1996

Mr. John Baumgartner, P.E.
Director of Public Works
Town of Addison
16801 Westgrove Drive
P.O. Box 144
Addison, Texas 75001

RE: Addison Circle Phase I
Public Infrastructure
HZI Project No. 01-1822-04

Dear John:

I am transmitting herewith 3 copies of our final version of the design report for the modern roundabout at Addison Circle. This report supports the geometry and other design details that are now reflected in the construction plans and reduced copies of the most relevant plans are included therein. While the report itself does not specifically respond to the comments that have been made by Barton-Aschman, the design does address most of those comments, such as the location of the crosswalks and the proximity of parallel parking to the circle. It does not, however, reflect any changes to increase the level of service or the confidence level of the traffic projections. Per our meeting with you, the City Manager and others on January 19th, we believe that the traffic projections are conservative in many ways and the Town does not want to further compromise the urban pedestrian environment by expanding the roundabout to handle more traffic.

Also enclosed is a signed, sealed copy of the report which supports reduction of the pavement thickness in the mews and residential streets from 8 inches to 6 inches.

There are still a few outstanding items in the project design but none of them is critical to beginning the construction. These items and their proposed resolution are as follows:

- Roundabout Lighting

  Peter Doctors is currently performing the final photometric analysis of the roundabout based on our selection of fixtures that are consistent with the existing tall fixtures on Quorum and Mildred. The Gibson contract, however, already includes items and quantities for the required conduit and light pole bases. All that remains is to precisely locate the fixtures based on the photometrics and supply a revised plan to the contractor. T.U. Electric will supply and install all of the fixtures.

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- Tree Lighting

  Once the transformer locations for the development project have been finally decided we can complete the electrical design for lighting the trees. The Gibson contract has an allowance for the conduit and hand holes but we must still supply them with a plan showing the locations. A separate contract will be let for the electrical cable, connections and outlet installation (probably along with the Bosque Park work).

- Bosque Park

  This design is currently being completed by Newman Jackson Bieberstein (ponding outcome of transformer locations) and should be ready for bidding in June.

- Private Utilities

  We have received this week a plan showing the conceptual layout of the private communications conduit system in the public streets. We are providing some specific direction for that contractor to complete his construction documents. This information will not be reflected on the Town's construction plans but will be supplied to Gibson for coordination purposes. The final locations of the facilities could, however, be shown on the As-Built plans for the Town's project.

Please let me know if you are aware of any other outstanding issues. We are working with Clyde Johnson to prepare final contracts and will provide sets of plans issued for construction following action on any comments you may have on the set you are currently reviewing.

Sincerely,

HUITT-ZOLLARS, INC.
Engineering/Architecture

Andrew C. Oakley, P.E.
Senior Vice President

ACO/psp

cc: Bryant Nail

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HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

MEMORANDUM

DATE: March 25, 1996

RE: Addison Circle Phase I Public Infrastructure

FROM: David Meyers, Huitt-Zollars, Inc. DM

TO:			Fax #
	Bryant Nail	Columbus Realty Trust	770-5129
	Mark Brandenburg	Columbus Realty Trust	770-5147
	Tony Johnston	Gibson & Associates	557-1552
	Ricky Raymond	Gibson & Associates	557-1552
	Paul Shaw	Newman, Jackson, Bieberstein	233-2022
	Saad Hineidi	Furgo-McClelland, Inc.	620-7328
	John Baumgartner	Town of Addison	931-6643
	Bruce Ellis	Town of Addison	931-6643
	Dan Shipp	Southwestern Bell Telephone	234-7062
	George Esqueda	TU Electric	888-1304
	Jeanne Hooker	Lone Star Gas	235-4690
	John Hannah	Aerotek	690-6014

There will be a pre-construction meeting at 2:00 pm on Thursday, March 28, 1996 at the Addison Circle job site. The meeting will be held in the Columbus Realty job trailer located just north of the Addison Circle Apartment construction at the northwest corner of Quorum Drive and Mildred Street. All parties are encouraged to attend.

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Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

MEMORANDUM

DATE: April 2, 1996

RE: Addison Circle Phase I Public Infrastructure

FROM: David Meyers, Huitt-Zollars, Inc.

			Fax #
TO:	Bryant Nail	Columbus Realty Trust	770-5129
	Mark Brandenburg	Columbus Realty Trust	770-5147
	Tony Johnston	Gibson & Associates	557-1552
	Mark Person	Gibson & Associates	557-1552
	Paul Shaw	Newman, Jackson, Bieberstein	233-2022
	Saad Hineidi	Furgo-McClelland, Inc.	620-7328
	John Baumgartner	Town of Addison	931-6643
	Bruce Ellis	Town of Addison	931-6643
	Jeff Hicks	Llano Construction	690-6371

We are tentatively setting Tuesdays at 10:00 A.M. as the day and time for construction progress meetings for Addison Circle Phase I Public Infrastructure. The first meeting will be held at 10:00 A.M. on Tuesday April 9, 1996 in the Columbus Realty construction trailer. Progress meetings will be held on a weekly basis until further notice.

Please call if this day and time is not compatible with your schedules.

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HUITT-ZOLLARS

Engineering / Architecture

Dallas • Fort Worth • Houston • El Paso • Phoenix • Tustin • Ontario • San Clemente

FACSIMILE TRANSMITTAL

Date: 4/3/96 Fax No.: 931-6643

H-Z Proj. No. 0120130 No. of Pages: 9
(Including Cover Sheet)

TO: TOWN of ADDISON
ATTN: JOHN BAUMGARTNER
SLADE STRICKLAND

☐ URGENT ☒ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

ADDISON CIRCLE
MEMO REGARDING IRRIGATION
Comments.

FROM: David Meyers

SENT BY: _____ TIME: _____ DATE: _____

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

Huitt-Zollars, Inc. / Engineers / Architects / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

MEMORANDUM

DATE: April 3, 1996

RE: Addison Circle Phase One Public Infrastructure
Irrigation Comments Received March 28, 1996

FROM: Andy Oakley, Huitt-Zollars, Inc. AZO

TO: John Baumgartner, Town of Addison
Slade Strickland, Town of Addison
Bryant Nail, Columbus Realty Trust
Paul Shaw, Newman, Jackson, Bieberstein

I will be out of the office most of the day on Wednesday and did not want to wait any longer to address this issue. Therefore, I felt it best to communicate with all of you at once and allow you to review the information so we can talk later and try to resolve it.

On last Thursday, March 28th, at 9:00 A.M. Huitt-Zollars received a FAX from the Town transmitting the attached comments to the landscape and irrigation plans. The comments were in turn transmitted to Newman, Jackson, Bieberstein that morning to be addressed. I did not personally see the comments at that time. It is my understanding that Paul Shaw spoke with Slade Strickland later and it was agreed that no changes were required on the planting and furniture plans that would result in a contract modification for Gibson. However, the changes to the irrigation plans were not resolved. From my conversations with Paul on Friday, the irrigation comments sounded substantive enough to cause a change in the contractor's scope of work and I instructed Paul not to make any changes to the plans until I had reviewed the comments and their possible cost consequences further.

I spoke with Bryant later and made him aware of this, telling him that I had not yet seen the comments myself but would not be issuing a change order without talking to him and the Town first. I read the comments on Tuesday while Paul and Bryant were out of town and I called Slade too late in the day to discuss them with him.

The memo from Slade transmitting the comments indicates that some of them had previously been transmitted but had not been reflected on the plans. He suggests that the changes could be made without plan revisions but that the contractor should be made aware of them now. This implies that they are of a nature that will cause a change in the scope and possibly the cost of the work. After reviewing them, I have no doubt that they will add cost to the project . If these items were not considered in

the bid I believe we are all better served to change the plans and give the contractor an opportunity to review the changes with respect to his bid.

I have several questions...

- Were these comments made previously and, if so, were they conveyed to the contractor as part of one of the addenda just like many of the civil comments that were not, at that time, reflected on the plans? Perhaps we are just dealing with creating a conformed set of documents.

- If the comments are new to the contractor, are they substantive enough to cause a change in the price?

- How should we proceed, considering our strained relationship with Gibson and the likelihood that every additive change order will be used to take advantage of the owner?

Since it may take some time to resolve this, I have instructed David Meyers to issue the construction sets without the irrigation plans. Please discuss this if you have the opportunity and let me know how we should proceed. I should be in the office by 2:00 P.M.

Town of Addison Public Works

To: David Meyers

Company: Huitt-Zollars

Fax #: 871-0757

Date: 3/28/96

# of pages, including cover: 6

From: John Baumgartner

☐ Original in mail ☐ Per your request ☐ FYI ☐ Call me

Comments:

TOWN OF ADDISON

PARKS & LEISURE SERVICES (214) 450-2851 • FAX (214) 248-7814

Post Office Box 144 Addison, Texas 75001 16801 Westgrove

MEMORANDUM

Date: March 27, 1996
To: John Baumgartner
From: Slade Strickland
Subject: Construction Plan Review - Urban Center/Public Infrastructure Improvements

The following comments need to be made part of the final set of plans issued for construction for the Urban Center phase I public infrastructure improvements.

Planting and Furniture Plan

1. The issue of who maintains the pots and the planters adjacent to the buildings is unresolved. There is no irrigation shown on the plans for the pots, but it is shown for the planters as part of the public irrigation system. If Columbus wants potted plants and vines to grow on the buildings from the planters, they need to connect the irrigation to their sprinkler system and provide the ongoing maintenance.

   Additionally, 12 pots are shown on the plans, but 22 are listed on the plans under the furniture schedule. Where are the other 12?

2. One water fountain is shown and 2 are listed in the Bid Schedule IX.

3. The plan needs to show the trees on Quorum Road to be removed instead of transplanted and held. This is according to our last conversation with Paul Shaw and Hulit-Zollars.

4. Where is the clock located?

5. All park benches need to be centered between the tree wells to allow adequate pedestrian walk space.

6. The number of 'Nellie R. Stevens' Holly shown (0) is incorrect. It should be 80.

Irrigation

The majority of the previous comments on necessary irrigation revisions are not reflected in the plan (see attached). Most of the changes can be accomplished in the field, however, the contractor needs to be aware them up front.

Irrigation Revisions - Urban Center Public Infrastructure Improvements-Phase I

1. Delete all 45 degree elbows on pipe larger than 3/4". •
2. Indicate sleeve sizes on irrigation plans. •
3. Avoid fittings under hardscape, but if necessary, house in a concrete traffic • control box with metal lid.
4. All irrigation water meters shall be 11/2 inch, but DCA can be 2". Include approved master valve, flow meter, and necessary wiring at each water source.
5. Wherever possible, avoid placing mainline and valves underneath hardscape.
6. Connect new irrigation system to existing system on Quorum medians south of the circle.
7. Install extra wire to end of all mainline runs in every direction.
8. Some heads require arcs are not shown on the legend.
9. Some sleeves are not shown.
10. Some nozzles are too large for given landscape area and over spray too much.
11. Eliminate all crosses.
12. Some piping is not sized.
13. There is only single head coverage in some areas.
14. Water turf zones and bed zones separate.
15. Provide 8 extra wires to circle area and use ball valve as main cap. Plans say gate valve.
16. Some head symbols are not shown in the proper location.

The attached Town of Addison Irrigation Specifications apply to this project and are made part of the construction plans.

TOWN OF ADDISON
IRRIGATION SPECIFICATIONS

Revision 01/11/96

1. Design head to head with no single head coverage. Use appropriate size nozzles for a given landscape area so as not to spray onto or over paved surfaces or structures. Do not exceed manufacturer's recommendations.

2. All main-line pipe 2" and smaller is to be Schedule 40 belled PVC; larger sizes are to be Class 200. Put not more than two (2) pipes in any one trench. Class 200 belled PVC lateral piping is subject to prior approval by the Town.

3. Fittings: No crosses are permitted. Separate tees and/or elbows by at least 12". Reduction tees are preferred over use of reducer bushings. Only Spears and/or Lasco are permitted. Allow 18" outside of sleeve before first fitting. Prefer no 45 degree elbows on 1" and larger pipe.

4. Wiring: 14 ga. UF. Red - Control sires. White - Ground. Anytime wiring changes direction, such as at an elbow or tee, allow a loop at least one hand width (10 inches) alongside the fitting at that location. Only continuous wire runs are permissible unless otherwise approved. Wire should follow mainline where possible and lay along a single side not crossing over lateral lines.

5. Use King connectors for all wire splices. Allow at least 36" of pigtailed wire at each splice. All valve splices are to be housed in standard (large) rectangular plastic valve boxes. All field splices are to be in 10" round plastic valve boxes.

6. Only Weathermatic 11000 Series plastic valves are permitted. They are to be located within standard (large) rectangular plastic valve boxes with 4"-6" of pea gravel placed underneath the valve in such a manner as to prevent soil infiltration into the box.

7. Only Buckner Model 30A single lug ¾" QCV's are permitted. They are to be connected to a threaded fitting. Teflon paste and appropriate length gray Schedule 80 nipples and Schedule 40 fittings are to be used. House QCV in a 10" round plastic valve box.

8. All heads are to be attached to threaded fittings via 6" Lasco polyethylene nipples cut to the appropriate length. All nozzle sizes will be designated on the plans.

   Pop-ups: Only Toro 570C Series are permitted, unless otherwise noted. Install ½" above finished grade. Turf - 4" (includes tree bubblers within turf areas, use Toro SB-PC nozzles). Very low ground cover (<6" mature height) - 6" HP. Ground cover and low growing shrubs - 12" HP. Funny pipe for 12" HP installations with owner approval is acceptable if conditions warrant.

Bubblers: Bed areas only. Use Toro 500 Series stream or flood bubblers.

Rotaries: Only Hunter PGP Series are permitted, unless otherwise noted. Install ¾" above finished grade.

Risers: Use Type-M copper with soldered male ends for Toro 570-S shrub adapters and female ends to attach to short polyethylene nipples screwed into threaded fittings. Owner reserves the right to determine placement of risers versus pop-ups.

9. Only Hersey MVR meters and three (3) brass flanges are acceptable. Meter lay lengths must be in accordance with Town of Addison's Public Works Department specifications. Stainless steel bolts and nuts must be used in the installation along with neoprene gaskets. House in appropriate size, (to be determined by Owner), concrete box with lid. To bring box to ground level use bricks or pavers, and backfill inside below meter base with at least 6" of pea gravel. Connection to main must be approved and inspected by the Town's Utilities Department and all tap materials are to be purchased at the expense of the contractor and must comply with the Town's specifications. A permit is also required.

10. Only Febco 805-Y Double Check assemblies are to be used. Connect to meter flange using Teflon paste and gray Schedule 80 nipple at least 12" in length. House in appropriate size, (to be determined by Owner), rectangular plastic valve box. See above meter installation instructions and follow same with the exception of using plastic valve box extensions for increased height. Connect irrigation mainline to DCA using Teflon paste and PVC male adapter.

11. Female threaded plastic ball valves with positive T-handle cut off must be installed. House in standard (large) rectangular plastic valve box and follow meter box installation instructions for DCA assembly.

12. Only an appropriate size Rain Master Evolution stainless steel controller with sensor and communication board and transient protection along with a stainless steel free-standing pedestal is permitted. Controller must include all necessary hardware to ensure communication and operation with the Town's central control located at 16601 Westgrove. Installation must also include, but not be limited to, additional Rain Master hardware such as: phone modem, flow meters, Weathermatic master valves, etc. Any additional direct burial wiring going to a device other than a station valve must have a separate solid color assigned to it. It is the contractor's responsibility to entail the cost of and work in conjunction with Southwestern Bell Telephone to establish a dedicated phone service and install an interface within the pedestal at each controller location via approved direct burial cable. Controllers are to be affixed to a Town-approved permanent concrete pad via four (4) 7/16" or larger stainless steel bolts, nuts and washers. All wiring is to enter the pedestal via approved size gray PVC sweep elbows extending at least 1" through the pad. Control wiring, 120-volt service, and phone cables are to be separated with each having its own access elbow. All local and national codes must conform to any and all aspects of the installation. All

controllers are to be wired for remote operation with Irritrol RVC units; to achieve this utilize appropriate size universal pig tail adapters The entire installation must conform to Rain Master specifications and be approved by the Town prior to and be inspected during installation. Such specifications will include grounding and pad configurations and distances of separation from water meter to master valve to flow meter and first fitting. Additional Rain Master hardware will be needed to control remote devices such as lighting, fountains, or booster pumps; these will also be the responsibility of the contractor to supply, install and ensure proper operation. The Town of Addison may also specify the installation of a Rain Master ET Tracker and any related equipment to make it a functional component of the computer-controlled system. A mini-click freeze sensor must be installed at every controller in an approved location and by an approved method.

13. Use clean and approved loam to backfill all pipe to a depth of at least 6" above top of pipe. All heads and boxes are to be backfilled to grade with loam. Remainder of trench may be filled using clean and approved soil. No rocks greater than 1" are allowed. Compact trenches to alleviate settling. Minimal depth of coverage is 12".

14. All sleeves 2" and smaller will be Schedule 40 PVC with size and approximate location noted on the plan. Larger sizes will be Class 200. All piping underneath paving, including sidewalks, must be sleeved. All sleeves are to be belled PVC pipe.

15. Use appropriate and approved PVC solvent. Avoid excessive use and wipe all joints and fittings clean.

16. The installer is responsible for resetting head and/or box height due to settling. Contractor must supply a workmanship warranty for (1) year from date of completion.

17. All work is to be accomplished by or directly supervised by an on-site irrigator licensed by the State of Texas.

18. Prior to any backfilling of trenches, an inspection by the Town's representative must take place and implement any necessary changes, otherwise, manual excavation to enable proper inspection will be necessary.

19. Valve sequencing must be performed by the contractor and in an order approved by the Town's representative. At least 6" of extra station wiring within the bottom of the pedestal is necessary for each zone and must be of neat and orderly appearance.

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

21. Communication is the key. If you are unsure - CALL!

HUITT-ZOLLARS

MEMORANDUM

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

DATE: April 8, 1996

RE: Addison Circle Phase I Public Infrastructure

FROM: Andy Oakley, Huitt-Zollars, Inc.

TO: Bryant Nail - Columbus Realty Trust
John Baumgartner - Town of Addison
Paul Shaw - Newman Jackson Bieberstein
David Meyers - Huitt-Zollars
Jeff Nigh - RTKL

I have been reviewing the status of outstanding issues on Addison Circle in order to bring full closure to the design phase and I find the following items still require some resolution:

- I am unsure if final locations have been agreed upon for all transformers necessary to serve Phase I. This will affect conduit placement by Gibson and is holding up the completion of electrical design for tree lighting. What is the status? (Action required by Columbus followed by approval from Town)

- Allowances for conduit and handholes necessary to provide power to each street tree are included in Gibson's contract however there is still no plan. Once all available transformers have been identified, we can design the most cost-effective system. We will then provide Gibson with an accurate layout of the conduit system and we will prepare a separate set of electrical plans (to be bid with the Bosque Park) for the wiring and receptacles. (HZ will act following resolution of transformer item, above)

- The conduit layout for the public street light system will require some minor modifications once T.U. Electric completes their design. Generally this will include specifying the locations of hand holes and extending conduit to specific transformer locations. T.U. should have a plan to us this week. (HZ will act within a week of receipt of T.U.E. plan)

- The final plat is still on hold pending resolution of reservation and/or license agreements. I believe all other plat comments have been satisfied. What is the status? (Action required by Columbus followed by approval by Town)

- The plans which were issued for construction reflected Peter Doctor's final design for tall-pole lighting of the roundabout. I want to point out that, on my instructions, his design was based on using pole styles and high pressure sodium lamps identical to those that

currently exist on the two streets that are affected. That is, lights on the Quorum approach lanes and around the roundabout are the square, brown, 30' poles with "shoebox" style fixtures. On the Mildred approach from the west, we re-used several of the white goose-neck fixtures. We currently show one of these fixtures on the north side of Mildred but we may want to specify something less noticeable in this location. Any opinions? (Action requested from all)

- We are still wrestling with brick selections for streets and sidewalks. Since the roundabout will be paved this summer, we need resolution of this issue. (Action required by Columbus followed by approval from Town)

- Though it is actually a private development issue, we need a response from the MEP Engineer on the meters, vaults and backflow prevention devices per the City's January 12th comments so we can properly coordinate the public work. We have been asking for this information since November 21, 1995. (Action required by RTKL)

Other than continuing to coordinate with private utilities, (which has now become a construction task rather than a design task) I am not aware of any other outstanding issues.

Huitt-Zollars, Inc / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

MEMORANDUM

DATE: April 15, 1996

RE: Addison Circle Phase I Public Infrastructure

FROM: David Meyers, Huitt-Zollars, Inc.

			Fax #
TO:	Bryant Nail	Columbus Realty Trust	770-5129
	John Baumgartner	Town of Addison	931-6643

Huitt-Zollars was notified on April 3, 1996 of a possible change order resulting from a SWBT fiber optic duct located approximately 5 feet off the existing 5' drop manhole at Station 0+00 on Line "D". The conflict has caused Llano Construction to support the duct and tunnel through the rock to make the manhole connection. Jeff Hicks has been instructed to continue working and to submit the items in the change order when they are available.

Please see the following letter from Jeff Hicks to Huitt-Zollars dated April 3, 1996.

G:\PROJ\0120130\BN0115.MEM

LLANO CONSTRUCTION SERVICES, INC.

April 3, 1996

Mr. David Myers
Huit-Zollars, Inc.
3131 McKinney Ave., Suite 600
Dallas, TX 75204

Dear Mr. Myers:

We are presently making a connection to an existing 5 ft. Drop Manhole at Station 0+00 on Line D for a 12 in. wastewater line. Excavation has proved difficult due to an existing SWBT Duct on the West side of the manhole. This duct system was not indicated on the plans. This situation has required us to support the duct system while tunneling under it to make the tie-in. The result may require a change order.

Should you have any questions, feel free to call me at (214) 690-6486.

Sincerely,

M. Jeffery Hicks
Vice President

MJH:od

1475 RICHARDSON DRIVE ♦ SUITE 245 ♦ RICHARDSON, TEXAS 75080
OFFICE: (214) 690-6486 ♦ FAX: (214) 690-6371

REC'D APR 2 9 1996

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

April 22, 1996

Mr. Mark Person
Gibson & Associates, Inc.
11210 Ryliecrest
P.O. Box 800579
Balch Springs, TX 75180-0579

RE: Addison Circle Phase I
Public Infrastructure Construction
HZI Project No. 01-2013-01

Dear Sir:

Please find the enclosed concrete batch designs submitted to Huitt-Zollars on April 15th, 1996 for the above referenced project. We request that the mix designs be revised and resubmitted for the reasons discussed below.

Mix Design #8274 meets or exceeds the established requirements, however, the test results for specimens from Mix #K8274 appear to be compressive test results for a 4,000 p.s.i. strength. We require the submission of test results for a 650 p.s.i. flexural strength per the plan requirements and as noted in your report for Mix Design #8274. Mix Design #8272 meets or exceeds the established requirements and the specimen test results are acceptable. Mix Design #8272 can be approved as it currently stands if submitted separately from the current Mix #8274 or with a revised and acceptable Mix #8274.

In addition, please note that the wastewater manholes and stormwater manholes require a compressive strength of 3,600 p.s.i. and 4,200 p.s.i. respectively (See sheets 79 & 100 of 137.) We will require the submittal of a mix design for the manhole construction in addition to the previous submittals.

Sincerely,

HUITT-ZOLLARS, INC.
Engineering/Architecture

David E. Meyers

David E. Meyers

cc: John Baumgartner, P.E.
Bryant Nail

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FILE 0120130|

HUITT-ZOLLARS

Engineers / Architects

Dallas • Fort Worth • Houston • El Paso • Phoenix • Orange County

FACSIMILE TRANSMITTAL

Date: 4/29/96 Fax No.: 931-6643

H-Z Proj. No. 0120130| No. of Pages: 3 (Including Cover Sheet)

TO: TOWN OF ADDISON
ATTN: JOHN BAUMGARTNER

☐ URGENT ☐ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

RE: ADDISON CIRCLE

TOTAL COST OF PAVEMENT ITEMS SUBGRADE AND UP:

$764,395.81

THERE IS A 2 YEAR MAINTENANCE BOND ON THE PROJECT.

FROM: David Meyers

SENT BY: _____ TIME: _____ DATE: _____

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

FILE 01201501

GIBSON & ASSOCIATES INC.

BID

CRIPTION: ADDISON CIRCLE PHASE I

REBID
BID DATE: 3-4-96
TIME: 4 PM

NT: TOWN OF ADDISON ,GAYLORD , CRT

IME: See Specs

ENG. ESTIMATE :3 MIL

ITEM	DESCRIPTION	UNIT	QUANTITY	BID	TOTAL
	SCHEDULE I PAVING IMPROVEMENTS				
101	MOBILIZATION	LS	1	$94,135.00	$94,135.00
102	UNCLASS ST EXCAVA INC HAUL/DISPOSE	CY	2143	$2.16	$4,628.88
103	REM & DISP OF EXIST CONC PAVE	SY	5604	$9.40	$52,677.60
104	REM & DISP OF EXIST CONC SW	SY	1292	$5.40	$6,976.80
105	6" LIME STAB or subgrade prep	SY	14247	$4.03	$57,415.41
106	HYDRATED LIME 36#/sy	TON	257	$97.29	$25,003.53
107	8" 650 PSI FLEX RC PVMT	SY	5620	$31.00	$174,220.00
108	8" 650 PSI FLEX RC DROP SALB	SY	1685	$35.90	$60,491.50
109	4" 3000 PSI RC SDWLK	SF	4000	$2.80	$11,200.00
110	4" 3000 PSI RC SDWLK SUB-BASE	SF	61865	$2.90	$179,408.50
111	6" 3000 PSI RC SDWLK SUB-BASE	SF	1515	$3.20	$4,848.00
112	item deleted Addenda 4				
113	6" 650 PSI FLEX RC DRIVE	SY	218	$30.00	$6,540.00
114	6" 650 PSI FLEX INTEGRAL CURB	LF	5583	$1.50	$8,374.50
115	REINF CONC ST HEADER	LF	300	$5.00	$1,500.00
116	FULL DEPTH SAWCUT EX CONC	LF	1269	$2.75	$3,489.75
117	* Furnish vehicle brick paver del.	SF	23020	$3.37	$77,577.40
118	ST BOLLARD (STEEL)	EA	71	$350.00	$24,850.00
119	4" WIDE THERMOPLASTIC LANE STRIP	LF	54	$2.16	$116.64
120	4" NON REFLECT BUTTON TY W	EA	112	$4.32	$483.84
121	4" REFLECT BUTTON TY I-W-C	EA	195	$6.48	$1,263.60
122	4" REFLECT BUTTON TY II-Y-Y	EA	40	$8.10	$324.00
123	24" WIDE THERMO STOP LINE	LF	71	$10.80	$766.80
124	12" WIDE THERMO YIELD LINE	LF	152	$6.48	$984.96
125	STD & TRAFF CTRL SIGNS furn/install	EA	98	$164.16	$16,087.68
126	* furn/install st. sign post,found.	EA	58	$166.32	$9,646.56
127	ST BARRICADES (GUARD RAIL)	LF	75	$25.38	$1,903.50
128	BARRICADES, SIGNS & TRAFF CTRL	MO	18	$9,280.00	$167,040.00
129	6' TALL BLACK VINYL COAT CHAIN LINK	LF	202	$19.98	$4,035.96
130	item deleted per addenda 4				
131	item deleted per addenda 4				
132	item deleted per addenda 4				
133	DOWELLED ON 4" RC CURB	LF	8	$20.00	$160.00
134	ITEM DELETED PER ADDENDA 3				
135	THERMOPLASTIC ADVISORY MARKER-YEILD	EA	8	$216.00	$1,728.00
136	8'x7' REFL DIAGRAMMATIC SIGN ADV-01	EA	2	$3,888.00	$7,776.00
137	8'x6' REFL DIAGRAMMATIC SIGN ADV-03	EA	1	$3,564.00	$3,564.00
138	5'x2' REFL STREET SIGN ST 1,2,3	EA	3	$1,296.00	$3,888.00
139	REMOVE EXISTING STREET LIGHT FOUNDAT	EA	5	$426.60	$2,133.00
140	F/INSTALL ST. LIGHT FOUNDATION QUORU	EA	12	$459.00	$5,508.00
141	6"x6" CL A TY I-C JIGGLE BAR	EA	54	$13.50	$729.00
142	CONSTRUCT LONGITUDINAL BUTT JOINT	LF	802	$7.50	$6,015.00
143	item deleted per addenda 4				
144	*4 furn/install bedding matrl & pave	SF	23020	$2.53	$58,240.60
		CY	5381	$34.00	$179,554.00

146	x4 furn/instl 6" 650psi RC drop slab	SY	871	$33.70	$29,352.70
147	x4 furn/instl 6.75'x1.5'refl.diag-si	EA	3	$1,404.00	$4,212.00
148	x4 rem/replc conc. unit pavers	SF	2670	$2.50	$6,675.00
149	x4 furn/instl 6" compacted flex base	SY	297	$6.30	$1,871.10
150	x4 rem/dispose conc. flume	SY	41	$10.00	$410.00
151	x4 replc. exst blk vynl cl fence	LF	240	$19.98	$4,795.20
152	x4 furn/plant buffalo grass seed/fer	SY	564	$0.58	$327.12
153	x4 temp irrig. work area water tower	LS	1	$2,160.00	$2,160.00
154	x4 construction progress report CPM	LS	1	$2,100.00	$2,100.00
			TOTAL SCHEDULE I		$1,317,189.13
	SCHEDULE II STREETSCAPE IMPROVEMENTS				
201	x4 furn pedest. BRICK PAVER del.	SF	61865	$1.98	$122,492.70
202	1" PVC SCH 40 TREE LIGHT CONDUIT	LF	1000	$3.40	$3,400.00
203	2" PVC SCH 40 ST LIGHT CONDUIT	LF	5250	$3.89	$20,422.50
204	ST LIGHT PULL BOX or tree light	EA	50	$226.80	$11,340.00
205	2" PVC SCH 40 SLEEVE	LF	281	$2.92	$820.52
206	3" PVC SCH 40 "	LF	509	$3.35	$1,705.15
207	4" PVC SCH 40 "	LF	1641	$4.05	$6,646.05
208	6" PVC SCH 40 "	LF	815	$5.94	$4,841.10
209	IRRIGATION SYS INC POWER TO CONTRLR	LS	1	$63,099.00	$63,099.00
210	TREE FENCE	LF	4964	$17.00	$84,388.00
211	STD TREE GRATE	EA	28	$1,090.00	$30,520.00
212	DELETED ITEM ADDENDA 2				
213	DELETED ITEM ADDENDA 2				
214	DELETED ITEM ADDENDA 2				
215	DELETED ITEM ADDENDA 2				
216	DELETED ITEM ADDENDA 2				
217	4" PVC SCH 40 PERFOR SUBDRAIN SYS	LF	5123	$11.00	$56,353.00
218	BENCH A	EA	11	$1,740.00	$19,140.00
219	BENCH B	EA	16	$960.00	$15,360.00
220	BENCH C	EA	19	$1,385.00	$26,315.00
221	BOWERY TRASH RECP A	EA	11	$1,100.00	$12,100.00
222	BOWERY TRASH RECP B	EA	7	$320.00	$2,240.00
223	BOWERY TRASH RECP C	EA	6	$285.00	$1,710.00
224	BIKE RACK MODEL BRZ-3	EA	22	$180.00	$3,960.00
225	item deleted per addenda 4				
226	GARDEN PLANTER TY 006	EA	10	$270.00	$2,700.00
227	RED OAK 200 GAL 16'-18' 5"-6" cal.	EA	122	$1,150.20	$140,324.40
228	LIVE OAK 200 GAL 5"-6" CAL 16-18' HT	EA	95	$1,150.20	$109,269.00
229	CHANTICLEER PEAR 4" 14-16'	EA	38	$372.60	$14,158.80
230	DWF YAUPON HOLLY 1 GAL	EA	4612	$4.05	$18,678.60
231	NEW MEXICO AGAVE 1 GAL	EA	14	$13.50	$189.00
232	AUTUMN ASTER 4"	EA	25	$1.78	$44.50
233	SHASTA DAISY 4"	EA	376	$1.78	$669.28
234	DAYLILY RED RUM 4"	EA	76	$3.73	$283.48
235	DAYLILY STELLA DE ORO 4"	EA	180	$3.67	$660.60
236	DAYLILY MIXED 4"	EA	125	$3.67	$458.75
237	RED YUCCA 1 GAL	EA	22	$5.94	$130.68
238	BEARDED IRIS PURPLE NO 1	EA	570	$1.67	$951.90
239	BEARDED IRIS YELLOW NO 1	EA	433	$1.67	$723.11
240	BEARDED IRIS WHITE NO 1	EA	52	$1.67	$86.84
241	JAP IRIS BLUE NO 1	EA	46	$2.75	$126.50
242	SPIDERY LILY 4"	EA	254	$5.72	$1,452.88
243	DAFFODIL MIXED NO.1	EA	389	$0.81	$315.09
244	DAFFODIL FEB GOLD NO.1	EA	461	$0.92	$424.12
245	DAFF PEEP TOM NO.1	EA	245	$0.81	$198.45
246	THRIFT 4"	EA	61	$1.67	$101.87
247	ADAMS NEEDLE STARBURST 1GAL	EA	26	$25.38	$659.88
248	PURPLE HEART 4"	EA	65	$1.89	$122.85

TOWN OF
ADDISON

PUBLIC WORKS

To: John Hill

Company: Cowles + Thompson

FAX #: 672-2020

Date: 4/30/96

# of pages (including cover): 4

From: John Baumgartner, P.E.
Director
Phone: 214/450-2886
FAX: 214/931-6643

16801 Westgrove
P.O. Box 144
Addison, TX 75001

☐ Original in mail ☐ Per your request ☐ FYI ☐ Call me

Comments:

1. Horizontal and vertical control - elevations and some stationing system - street stationing ties should be sufficient.

2. All possible conflicts - other lines such as drains, tree wells, electrical conduits, etc.

3. Profiles on all lines.

4. Typical section showing installation details such as trench, encasement, embedment backfill compaction.

Field installation work performed over last weekend requires further inspections by owner and your field forces.

Expecting revised plans on Monday, May 6, 1996 per our conversation.

Attachment - Private Drainage Plans (Hannah only)

cc: John Baumgartner - Town of Addison
Bryant Nail - Columbus Realty Trust
Mark Brandenberg - Columbus Realty Trust

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Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2418 / 214-871-3311 / FAX 214-871-0757

May 6, 1996

Chris -
FYI
QB
5-13-96
cc: Bruce Ellis

Mr. Bryant Nail
Columbus Realty Trust
15851 Dallas Parkway, Suite 855
Dallas, Texas 75248

RE: Addison Circle Phase I Public Infrastructure
HZI Project No. 01-2013-01

Dear Bryant:

Per your request, we have reviewed the civil site development plan for the proposed U.S. Post Office north of Addison Circle which was provided by Charles Gojer and Assoc. The plan is generally compatible with the master drainage plan we prepared for Addison Circle in that we accounted for drainage from a portion of this site in the master plan. The specific drainage divides proposed for the Post Office result in a slight (2-3 cfs) increase in the projected flow to the Quorum Drive system but we have confirmed that this is acceptable.

While the quantity of runoff to be discharged across your property is reasonable and consistent with the master plan, the method proposed for the outfall is, in our opinion, not acceptable. It is normal practice to require a closed conduit when previous sheet flow is concentrated and discharged through someone else's property. Very often the downstream property owner will allow a temporary open channel (if the municipality will also permit it) so future development of his property is not encumbered by a pipe system that doesn't fit with his development plans. (A ditch is easier to relocate than a pipe). However, if you allow this open channel discharge onto your property without compensation, (or some future cost-sharing scenario) you will be fully responsible for the future pipe system, even thought it carries primarily offsite drainage. If Addison Circle had not come along, the Post Office (and the adjacent proposed office building) would have had significant offsite drainage systems to construct. A master plan exists that shows them exactly what to construct and there is no reason to allow a temporary open channel across your property or, worse yet, an enclosed system that is only sized for the offsite flow. The appropriate course of action is for the offsite owners to construct the ultimate system and for you to reimburse them for your share of the capacity (possibly when you tie into the system). My only reservation about this recommendation is how cost sharing might be affected by your financial arrangements with the Town of Addison for Phase "II" infrastructure (of which this is a part). In conclusion, it is our recommendation that you grant easements along the route of the future storm drains in Residential Street R-1 and widened Quorum Drive for the purposes of constructing only permanent drainage facilities.

Please give me a call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

Andrew C. Oakley, P.E.
Senior Vice President

Post-it® Fax Note 7671	Date 5-9-96	# of pages ▶ 1
To Bryant Nail	From Andy Oakley	
Co./Dept. Columbus	Co. HZI	
Phone #	Phone # 871-3311	
Fax # 770-5129	Fax # 871-0757	

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HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

May 14, 1996

Mr. John R. Baumgartner, P.E.
Director of Public Works
Town of Addison
16801 Westgrove Drive
P.O. Box 144
Addison, Texas 75001

RE: Addison Circle Phase I
Selection of Brick Pavers
HZI Project No. 01-1822-04

Dear John:

I have been working to resolve the issue of selecting an appropriate brick for use in Addison Circle, taking into account the Town's concerns about serviceability and the developer's desires for a particular feel and appearance. In so doing I have reviewed the various test results versus ASTM specifications and the recommendations that have been made by Sasaki Associates on the Town's behalf. I have also done some research into various brick-making techniques and spoken to several manufacturers, distributors and the Brick Institute of America to try to understand what is important in making this decision. As a result, I have arrived at the following observations and conclusions.

The ASTM C902 specification was developed primarily in response to concerns about freeze-thaw durability of brick pavers. Its requirements for molded brick are not a modified or in any way "relaxed" standard. The specification simply has two sets of parameters for two different but related products; molded brick and extruded brick. The level of performance for any "class" of application or "type" of environment is the same for both materials despite the fact that they may have measurably different compressive strengths and other characteristics. That is, a molded brick (Class SX-Type 1) with a compressive strength of 4000 psi can be equal in performance to an extruded brick of the same class and type but having a compressive strength of 8000 psi because both meet the requirements of their respective parameters in the specification. The extruded brick (such as the Acme paver) is not better just because it has a higher compressive strength. What is more important is the combination of characteristics of each material. Extruded bricks have higher compressive strength because they are more dense. Molded bricks are lighter because they have larger voids. However, if a brick does not have a certain relationship between these parameters it may be subject to deterioration due to freeze-thaw cycles. The very small voids in extruded brick can make them more susceptible to freeze damage than a properly balanced molded brick (i.e., one that meets the C902 limits for molded brick). In addition, if extruded bricks fail, it is generally due to layering that occurs in the extrusion process; a fault that is not present in molded brick. Therefore, no purpose is served by holding a molded brick to the extruded brick limits.

If we were to try to compare a molded brick to an extruded brick, the only approach that I can suggest would be to compare how much each sample exceeds the standards. I do not know if this is meaningful because the progression of individual limits may not be linear in their relationship to durability. However, the Glen-Gery pavers can be compared with the Acme paver in this manner with the following results:

	% of Standard			
	Glen-Gery			Acme
	Shillington	Serendipity	Yorkshire	Sidewalk Paver
Compressive Strength (High)	153%	188%	213%	217%
Cold Water Absorption (Low)	13%	14%	24%	13%
Saturation Coefficient (Low)	58%	63%	69%	86%
Abrasion Index (Low)	46%	42%	61%	Not Reported

The Glen-Gery "Shillington", "Yorkshire" and "Serendipity" pavers far exceed the requirements of ASTM C902-92 SX Type 1 and are therefore, in our opinion, suitable for consideration for use in the sidewalks at Addison Circle. The Acme paver may be stronger and more durable than the Glen-Gery, however, there are many stronger, more durable pavers available that may not be the most appropriate for this application. The Acme brick was originally proposed because it was the only brick we had identified at that time that met the standards. Even then, it was acknowledged that its appearance was less than desirable in this application. According to the designers and the developer, the Glen-Gery paver suits the aesthetic goals of the district and, according to the test results, it more than meets the specifications for the pedestrian and light vehicular areas.

The selection of a paver for the streets is somewhat more problematic. An ASTM standard has only existed for heavy vehicular paving bricks for less than two years. Prior to the introduction of ASTM C-1272-94, ASTM C902 was used for most public street projects (and probably still is). Huitt-Zollars, Sasaki and many other consultants have specified C902 in applications identical to the proposed streets in Addison for years. The existence of the new standard (coupled with the existence of lawyers) forces us to raise our standards but it does not invalidate the fact that there are scores of examples of brick pavement meeting C902 that is performing well under conditions similar to those to be expected in Addison Circle.

Because ASTM C1272 is relatively new, its applicability has not yet been fully clarified. The specification states that it applies to areas with a "high volume of heavy vehicular traffic" and "such places as streets, commercial driveways and aircraft taxiways". While this statement seems

simple enough, "high volume" and "heavy vehicular traffic" are not defined and there is a huge difference in the conditions to be experienced by the Addison Circle streets and those of an aircraft taxiway. Further investigation reveals that ASTM C1272 is intended for volumes exceeding 1 to 1.5 million total cumulative Equivalent Standard Axle Loads (ESAL). This equates to 30 to 45 eighteen-wheelers or twice as many buses per day based on a 20-year life. Even using a 50-year life it is unlikely that we will see the resultant 12 to 18 trucks or 24 to 36 buses per day on a mews or residential street. On this basis, I believe we have imposed an excessively conservative specification for the street brick and should, in fact, be using C902, not C1272 for the mews and residential streets. I am now convinced that the Glen-Gery Paver is suitable for these street applications for the following reasons.

- It comfortably exceeds the requirements of ASTM C902 for molded brick.
- Durability and serviceability are more a function of the entire paver system than the individual units. We have a very high quality system in the concrete base, asphalt setting bed and rigid edge restraints.
- It has an abrasion index that is well below the limit for even C1272.
- This paver has been used successfully in drives and streets in Grand Rapids, Michigan and Columbus, Ohio, under their severe weather conditions. (See attached letter from Glen-Gery).

One drawback of this paver is that it is not lugged and must therefore be set more carefully so that an appropriate gap exists to brush sand in between the units. A lugged paver does not require as much care from the installer and thus can be laid more quickly (and presumably less expensively for labor).

Based on the projected traffic volumes for Mildred Street and Quorum Drive (10,000 vpd and 30,000 vpd, respectively) and the corresponding estimates of heavy vehicular traffic (1% to 2%), these streets would not fall under ASTM C902 and the more stringent ASTM C1272 standard should apply. Though the Glen-Gery paver could prove to be suitable here as well, I have no technical basis for such a prediction and have no choice but to recommend that another material be submitted that meets C1272. (Unless the developer wants to post an extended maintenance bond using the Glen-Gery paver).

In conclusion, I feel strongly that the Glen-Gery paver meets the letter and intent of our specifications for this project for use in the sidewalks and, now given a better understanding of the applicability of ASTM C1272, I believe the Glen-Gery paver to be suitable for our mews and residential street applications as well. There is no question that more durable bricks (and other materials) exist that could be used on this project. However, the same could be said for any material on almost any project. Durability is only one criterion for selection. We must also consider cost, aesthetics and overall appropriateness for the project application.

I will freely admit that I have reversed my own position on several aspects of this brick controversy but I have done so on the basis of further research. I would be happy to meet with you and Sasaki to discuss this further. You may also feel more comfortable about the objectivity of my conclusions by talking to Mr. Brian Trimble. Mr. Trimble is an engineer with the Brick Institute of America and is current president of ASTM C1502, a Task Group on Clay Paving Brick. He can be reached at (703) 620-0010 in Reston, Virginia.

Sincerely,

HUITT-ZOLLARS, INC.

Andrew C. Oakley, P.E.
Senior Vice President

ACO/bc

Attachment

cc: Bryant Nail

cc Chris Terry
Bruce Ellis
5-19-96

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 196 / Dallas, Texas 75204-2410 / 214-871-3311 / FAX 214-871-0757

May 16, 1996

Mr. A.J. Johnston
Gibson & Associates
P.O Box 800579
Balch Springs, TX 75180

RE: Addison Circle Phase I Public Infrastructure
Paving of Witt-Mews
HZI Project No. 01-2013-01

Dear Mr. Johnston:

As of the morning of May 15, 1996, the subgrade preparation for final paving of Witt-Mews was complete.

Huitt-Zollars, Inc. field verified completed subgrade elevations including paving drop locations and a Fugro-McClelland representative was at the site on May 15, 1996 and checked subgrade for density and moisture content and found it to be according to specifications.

During our joint field inspection of Witt-Mews on May 15, 1996, Columbus Realty agreed to maintain moisture control of the subgrade prior to placement of forms. Since your intent is to begin paving form work on Monday, May 20, 1996, your forces will be responsible for the subgrade until actual paving begins on May 22, 1996.

Columbus Realty has agreed to be responsible for payment of concrete yield loss in excess of 8%.

Please call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David E Meyers

David E. Meyers

DEM/psp

See letter dated 5-17-96 from Gibson Associates

G:\PROJ\012013\01\AJJ0516.LTR

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871 3311 / FAX 214-871-0757

May 16, 1996

Mr. Mark Person
Gibson & Associates
11210 Rylie Crest Drive
Balch Springs, TX 75180

RE: Addison Circle Phase I Public Infrastructure
HZI Project No. 01-2013-01

Dear Mr. Person:

Per Change Order No. 1 and as noted in a letter to Gibson dated May 8, 1996, Columbus Realty is now responsible for barricading. We request that Gibson provide the Columbus traffic coordinator with schedules where barricades need to be throughout the project and that Gibson coordinate any changes with that same person. For the time being, Mark Brandenburg will act as traffic coordinator.

We also request that Gibson provide Huitt-Zollars with an updated schedule for distribution to the Town of Addison and Columbus Realty Trust. We would also request that an updated schedule be provided at each status meeting and with every pay application at the end of each month.

Please call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David E. Meyers

David E. Meyers

DEM/psp

G:\PROJ\012013O1\MP0516.LTR

HUITT-ZOLLARS

cc Chris Terry 5-28-96

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2418 / 214-871-3311 / FAX 214-871-0757

May 20, 1996

Post-it® Fax Note 7671	Date 5-23-96	# of pages ▶ 1
To John Baumgartner	From David Meyers	
Co./Dept. Town of Addison	Co. HZI	
Phone # 450-7000	Phone # 871-3311	
Fax # 960-7684	Fax # 871-0757	

Mr. Bryant Nail
Columbus Realty Trust
15851 N. Dallas Parkway, Suite 855
Dallas, TX 75248

RE: Addison Circle Phase I Public Infrastructure
HZI Project No. 01-2013-01

Dear Mr. Nail:

Per your directive on May 15, 1996, Huitt-Zollars will use the $10,000 contract set up to supplement the Town's Construction Administration Contract for subgrade staking verification. Please note that this staking is not part of the original scope and it is very likely that additional fees will be required in the future.

In addition, the Town of Addison has requested that Addison Circle One, Ltd. provide cut sheets from a licensed surveyor showing subgrade within tolerance at the edge points, quarter points and centerline of the Witt Mews. I have scheduled our survey crew to perform the requested work on the morning of May 21, 1996.

For the remaining roadways, we would like to recommend that your subgrade contractor construct (excavate) the subgrade approximately 0.10' low to insure that high spots will not occur in the subgrade. This will save time and money on restakes and additional labor intensive earthwork adjustments. This may, however, result in some additional concrete cost to Addison Circle One, Ltd., however, possibly paying for a small amount of additional concrete will be less expensive and less time consuming than removing and replacing sections that are deficient in thickness. Subgrade must not be more than 1/4" high or the pavement thickness will be deficient per N.T.C.C.O.G. section 5.8.6

Please call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David E. Meyers
David E. Meyers

DEM/psp

cc: John Baumgartner
Mark Brandenburg
Mark Person

G:\PROJ\01\2013\01\...LTR

HUITT-ZOLLARS

cc Chris Terry 5-28-96

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2616 / 214-871-3311 / FAX 214-871-0757

May 20, 1996

Post-it® Fax Note 7671	Date 5-23-96	# of pages ▶ 1
To John Baumgartner	From David Meyers	
Co./Dept. Town of Addison	Co. HZI	
Phone # 450-7000	Phone # 871-3311	
Fax # 960-7684	Fax # 871-0757	

Mr. Bryant Nail
Columbus Realty Trust
15851 N. Dallas Parkway, Suite 855
Dallas, TX 75248

RE: Addison Circle Phase I Public Infrastructure
HZI Project No. 01-2013-01

Dear Mr. Nail:

Per your directive on May 15, 1996, Huitt-Zollars will use the $30,000 contract set up to supplement the Town's Construction Administration Contract for subgrade staking verification. Please note that this staking is not part of the original scope and it is very likely that additional fees will be required in the future.

In addition, the Town of Addison has requested that Addison Circle One, Ltd. provide cut sheets from a licensed surveyor showing subgrade within tolerance at the edge points, quarter points and centerline of the Witt Mews. I have scheduled our survey crew to perform the requested work on the morning of May 21, 1996.

For the remaining roadways, we would like to recommend that your subgrade contractor construct (excavate) the subgrade approximately 0.10' low to insure that high spots will not occur in the subgrade. This will save time and money on restakes and additional labor intensive earthwork adjustments. This may, however, result in some additional concrete cost to Addison Circle One, Ltd., however, possibly paying for a small amount of additional concrete will be less expensive and less time consuming than removing and replacing sections that are deficient in thickness. Subgrade must not be more than 1/4" high or the pavement thickness will be deficient per N.T.C.C.O.G. section 5.8.6

Please call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David E. Meyers

David E. Meyers

DEM/psp

cc: John Baumgartner
Mark Brandenburg
Mark Person

G:\PROJ\01201301\ltr01n1.LTR

cc: Bruce
Christ

HUITT-ZOLLARS

Dallas • Fort Worth • Houston • El Paso • Phoenix • Orange County

FACSIMILIE TRANSMITTAL

Date: May 23, 1996

Fax No.: See List Below

H-Z Project No. 01-2013-01

No./Pages: 5
(Including Cover Sheet)

TO: See Distribution List Below

☐ URGENT X For Your Review ☐ Please Call Upon Receipt ☐ Original to Follow by Mail

Distribution List:

CONSTRUCTION PROGRESS MEETING MINUTES - MEETING NO. 7	FAX NUMBER(S):
Bryant Nail/Mark Brandenburg - Columbus Realty Trust	770-5129
Mark Person - Gibson & Associates, Inc.	557-1552
Jeff Hicks - Llano Construction	690-6371
* John Baumgartner/Bruce Ellis - Town of Addison	960-7684
Saad Hineidi - Fugro-McClelland	620-7328
Jerry Morgan - Building Sciences, Inc.	891-1717
Paul Shaw - Newman Jackson Bieberstein	233-7022
John Hannah - Aerated	690-6014
Dwight Swindle - MTS	783-3099

FROM: David Meyers

SENT BY: Paula Powers TIME: 11:15 am DATE: 5-23-96

If you have any problems receiving this Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

CONSTRUCTION PROGRESS MEETING NO. 7
Addison Circle Phase I Public Infrastructure
May 22, 1996

PRESENT: See Attached List

LOCATION: Columbus Realty Project Trailer
8:30 a.m.

DISCUSSIONS

1. The Town of Addison has reached a decision regarding the temporary and permanent service for the existing irrigation system. Bruce Ellis and Ron Lee will get together with Llano and Gibson in the field after this meeting and discuss the specifics of a temporary meter installation, gate valve installation and keeping water service to the job trailers. The Town will provide a meter and box for the temporary service.

2. Columbus Realty Trust will have a mock-up of the desired water meter can and meter for presentation to the Town by Friday of this week. Columbus should contact John Baumgartner, Bruce Ellis and Keith Thompson to get approval of the mock-up.

3. The Town has decided that all streets shall be lime stabilized per the original design. The subgrade shall consist of a material with a P.I. of 15 or less. When the excavated finished street subgrade terminates in loose or solid rock, the subgrade shall either be undercut 6 inches and new material will be brought in or the rock must be processed and lime treated as was done on Witt Mews.

4. Witt Mews paving is under way. In the future, Columbus Realty will provide a subgrade check with survey cut sheets at the edge, quarter and centerline points prior to turning the subgrade over to Gibson for paving. Gibson will also check the subgrade with string lines. Discrepancies with respect to high or low subgrade will be addressed when they arise in the field. In addition, the subgrade must be kept moist by Columbus Realty Trust until such time that Gibson takes over the street for paving.

5. Neither Columbus nor Gibson is certain as to whether the street lights for the project have been ordered. The bolts to be installed in the foundation must be ordered with the lights. Gibson believes that light foundation construction is still about two months away.

Mr. George Esqueda with TUE ordered the lights on April 26th and expects them to be delivered by the end of June.

6. Bill Brown with Huitt-Zollars will get Gibson a sketch of the wastewater lateral revisions at Building "A". Huitt-Zollars will follow with a revised plan in a few days. Gibson expressed the need for additional pay items for connection to an existing manhole and connecting a new service line to Line "B" which has already been installed.

   Quantities for additional 6" laterals will be paid for at the current contract unit price. The laterals from Building's "A" & "B" which are being increased from 6" to 8" will now be paid for at the contract unit price for 8" main. If the contractor feels that extra work has been generated by these revisions then he should submit a change order request for new pay items in writing.

7. SWBT has not relocated their service to allow for storm sewer installation on the water tower site. Columbus Realty will follow up on this item.

8. The Town has not decided when traffic will be allowed on the Will Mews. Additional test cylinders have been requested to allow for intermediate breaks before and or after the seven day and 28 day beam test.

   Per NTCCOG Item 5.8.2 (j) all traffic shall be excluded from the pavement for a period of not less than 14 days unless the owner directs that sections be opened to traffic at an earlier date. Should test of the beam specimens show a flexural strength of not less than 500 psi the owner may direct that the pavement so represented be opened to traffic in less than 14 days.

9. The current plan for protection of the drop slab and exterior pavement edges is to place cold mix asphalt in the drops. The exterior edges of the pavement will also need protection perhaps with some excavated dirt adjacent to the buildings. Columbus would like to begin placing the cold mix as soon as possible. The current plan is to run a Bobcat beside the pavement and have workers use shovels and other hand tools to place the cold mix on the pavement. The only traffic on the pavement would be the foot traffic of the workers until such time that the street is cleared for vehicular traffic. Columbus Realty Trust will be responsible for protection of the pavement and damages incurred due to their construction operations.

   The Town of Addison has not yet decided when the placement of cold mix asphalt may begin.

10. There is another "Special Event" scheduled for June 15th, 1996. The Town will get with MBNA to discuss their plans for a picnic and how they intend to provide parking. Gibson and Columbus should be notified of any impact this may have on their construction activities

12. Electrical duct bank bore under Quorum Drive will take place this week. Llano will begin installation of the 24" water line and it will probably be ready for testing by the middle of next week. The Town and Llano will coordinate the timing of the actual connection and testing of the 24" water line. Wastewater Line "F" will be installed this week. Stormwater Line "B" will be installed in Mildred Street in the next week or so. Channel excavation should be complete this week. Columbus Realty expressed the importance of getting Mildred Street paved as soon as possible for the purpose of serving Building "A" for construction and fire protection.

END OF MEETING

This report is assumed to be a true and accurate account of this meeting unless written notification to the contrary is received within three (3) days. Please distribute these meeting minutes to the appropriate personnel within your respective companies.

SUBMITTED BY:
HUITT-ZOLLARS, INC.

David E. Meyers

David E. Meyers

cc: Bryant Naif-Columbus Realty Trust
Mark Brandenburg-Columbus Realty Trust
Mark Person-Gibson & Associates, Inc.
Jeff Hicks-Llano Construction
John Baumgartner-Town of Addison
Bruce Ellis-Town of Addison
Saad Hineidi-Fugro-McClelland, Inc.
Jerry Morgan-Building Sciences, Inc.
Paul Shaw-Newman, Jackson & Bieberstein
John Hannah-Aerotek
Dwight Swindle-MTS

SIGN-IN SHEET
CONSTRUCTION PROGRESS MEETING NO. 7

PROJECT: ADDISON CIRCLE PHASE I PUBLIC INFRASTRUCTURE DATE: 5/22/96 8:30 A.M.

NAME	COMPANY	TELEPHONE/FAX NOS.
David Meyers	Huitt-Zollars	871-5311 / 871-0757
John Baumgartner	Town of Addison	450-2871 / 931-6643
Dwight Swindle	MTS	238-4853 / 783-3099
John Hannah	AEROTEK	907-2742
Bruce Ellis	Town of Addison	450-2847 / 931-6643
Bill J. Brown	Huitt-Zollars	871-5311 / 871-0757
Jerry Morgan	BSI	369-7474 / 891-1717
Jeff Hicks	LLANO	690-6486 / 690-6371
Jesse Mata	LLANO	693-4935
Bill Gibson	Gibson + Assoc. Inc.	557-1199 / 557-1552
Mark Gibson	Gibson + Assoc. Inc.	" / "
Ron Lee	Town of Addison	450-2863 / 248-7814
Shad Hinedi	Fuqua-McClelland	434-9301 / 620-7328

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HUITT-ZOLLARS

Engineers / Architects

Dallas • Fort Worth • Houston • El Paso • Phoenix • Orange County

FACSIMILE TRANSMITTAL

Date: 5/28/96 Fax No.: See Below

H-Z Proj. No. No. of Pages: 3 (Including Cover Sheet)

TO: John Baumgartner - 931-6643 ; Mark Billingsley - 726-4562
Mark Person - 557-1552 ; Jerry Morgan - 891-1717
Bryant Nail - 770-5129

☐ URGENT ☒ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

RE: Addison Circle
Compressive Strength Tests for Witt Mews.

If we use the following relationship it appears that Witt Mews pavement has achieved the necessary strength for Input Vehicular pavement.

$P_{flex} = 9\sqrt{Comp.}$

STA. 15+50 $P_{flex} = 9\sqrt{3918} = 569$ psi

14+00 $P_{flex} = 9\sqrt{4065} = 573$ psi

We will discuss this further in tomorrow's Construction Meeting.

FROM: David Meyers

SENT BY: TIME: DATE:

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Wills or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

FUGRO-McCLELLAND (SOUTHWEST), INC.

2390 Virgo Lane; Dallas, Texas 75229
Ph (214) 484-8301; Fax (214) 620-7338

COMPRESSIVE STRENGTH OF CONCRETE REPORT

CLIENT: Town of Addison, C/O Hulti-Zollars Inc. **REPORT DATE:** May 28, 1996
PROJECT: Addison Circle - Public Works, Addison, Texas **PROJECT NO:** 0761-2012

SAMPLE DATE: May 22, 1996

CONTRACTOR:	Gibson And Associates, Inc.		
TICKET NO.:	564994	**CONCRETE SUPPLIER:**	TXI
AMBIENT TEMP. (°F):	85	**PLANT/TRUCK:**	40/859
CONCRETE TEMP. (°F):	85	**MIX ID NUMBER:**	6274
TIME BATCHED:	9:25 am	**AIR (%) (ASTM C-231)**	4.5
TIME SAMPLED:	10:05 am	**WATER ADDED (gal):**	15
WEATHER CONDITION:	Clear	**SLUMP (inches) (ASTM C-143)**	4
LOCATION OF PLACEMENT:	Street paving: Witt Mews, station 15+50		

CONCRETE CYLINDER COMPRESSIVE STRENGTH TESTS
Standard 6" x 12", 28.27 square inches

CYLINDER NUMBER	AGE (days)	DATE TESTED	TOTAL LOAD (pounds)	COMPRESSIVE STRENGTH (psi)	REQUIRED COMPRESSIVE STRENGTH (psi)
APW 7	6	05/28/96	113000	3998	3600/28 days
APW 8	Hold				

Specifications: Making & Curing: ASTM C-31 Testing Methods: ASTM C-143, ASTM C-39

REMARKS:

Technician: Pat Nichols

FUGRO-McCLELLAND (SOUTHWEST), INC.

Checked By: _____

SMH/mm
Distribution: Town of Addison - John Baumgartner
Hulti-Zollars Inc. - David Myers
Gibson & Associates, Inc. - Mark Person
Columbus Realty - Bryant Nail
Building Sciences - Jerry Morgan

FUGRO-McCLELLAND (SOUTHWEST), INC.

2660 Virgo Lane: Dallas, Texas 75229
Ph (214) 484-8301; Fax (214) 620-7326

COMPRESSIVE STRENGTH OF CONCRETE REPORT

CLIENT: Town of Addison, C/O Hulit-Zollars Inc. **REPORT DATE:** May 28, 1996
PROJECT: Addison Circle - Public Works, Addison, Texas **PROJECT NO:** 0761-2012

SAMPLE DATE: May 22, 1996

CONTRACTOR:	Gibson And Associates, Inc.		
TICKET NO.:	594794	**CONCRETE SUPPLIER:**	TXI
AMBIENT TEMP. (°F):	85	**PLANT/TRUCK:**	40/858
CONCRETE TEMP. (°F):	80	**MIX ID NUMBER:**	5274
TIME BATCHED:	7:45 am	**AIR (%) (ASTM C-231)**	4.5
TIME SAMPLED:	8:35 am	**WATER ADDED (gal):**	16
WEATHER CONDITION:	Clear	**SLUMP (inches) (ASTM C-143)**	4
LOCATION OF PLACEMENT:	Street paving: Wit Mews, station 14+00		

CONCRETE CYLINDER COMPRESSIVE STRENGTH TESTS
Standard 6" x 12", 28.27 square inches

CYLINDER NUMBER	AGE (days)	DATE TESTED	TOTAL LOAD (pounds)	COMPRESSIVE STRENGTH (psi)	REQUIRED COMPRESSIVE STRENGTH (psi)
APW 5	6	05/28/96	115000	4068	3600/28 days
APW 6	Hold				

Specifications: Making & Curing: ASTM C-31 Testing Methods: ASTM C-143, ASTM C-39

REMARKS:

Technician: Pat Nichols

FUGRO-McCLELLAND (SOUTHWEST), INC.

Checked By: _____

SMH/rm
Distribution: Town of Addison - John Baumgartner
Hulit-Zollars Inc. - David Myers
Gibson & Associates, Inc. - Mark Person
Columbus Realty - Bryant Nail
Building Sciences - Jerry Morgan

HUITT-ZOLLARS

Engineers / Architects

Dallas • Fort Worth • Houston • El Paso • Phoenix • Orange County

FACSIMILE TRANSMITTAL

Date: 5/28/96 Fax No.:

H-Z Proj. No. 0720130I No. of Pages: 2 (Including Cover Sheet)

TO: John Baumgartner - Town of Addison 931-6643

Tony Johnston + Mike Pelham - Gibson & Assoc. 557-1552

☐ URGENT ☒ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

Re: Addison Circle

Sawcuts in Witt Mews.

FROM: David Meyer

SENT BY: TIME: DATE:

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

[redacted]
REALTY TRUST

May 23, 1996

RECEIVED
MAY 28 1996
Huitt-Zollars

Mr. David Meyers
Huitt-Zollars, Inc.
3131 McKinney Avenue
Suite 600
Dallas, Texas 75204

Dear David:

RE: Addison Circle Phase I Public Infrastructure
HZI Project No. 01-2013-01

Dear David:

On the morning of May 23rd, 1996, it was observed that sawed joints on the Witt Mews were not placed per the plan submitted to Gibson & Associates on May 21, 1996. Huitt-Zollars met with Gibson after the construction progress meeting on May 22nd and clarified which joints needed to be sawed.

The plan called for two longitudinal joints parallel to the center line of Witt Mews 6' left and right of center. These sawcuts were left out and instead a joint was sawed down the center of Witt Mews. Huitt-Zollars recommendation to Mr. Mark Person was to not attempt any additional sawing because it is likely too late to help the situation.

Bruce Ellis has been notified and he is in agreement that no additional saw cuts should be made at this time. Does the Town of Addison wish to accept the joints as sawed? If not, what action does the Town want taken to correct the work in place? Gibson & Associates has requested payment for the concrete placement of Witt Mews in Pay Estimate No. 2. Should this portion of the payment be withheld until this situation is clarified?

Please call if you have any questions.

Sincerely,

Mark Brandenburg /KAR

Mark Brandenburg
Project Manager

MB/kar

cc: Bryant Nail, Columbus Realty Trust
Jim Duffy, Columbus Realty Trust
John Baumgartner, Town of Addison
Tony Johnston, Gibson & Associates

15851 Dallas Parkway Suite 855
Dallas, Texas 75248
214 387-1492 Fax 214 770-5192

CC Chris Terry
Bruce Ellis

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

MEMORANDUM

DATE: June 7, 1996

RE: Addison Circle Phase I Public Infrastructure
Southwestern Bell Telephone Alignment and Schedule

FROM: David Meyers, Huitt-Zollars, Inc. DM

TO:			Fax #
	Bryant Nail	Columbus Realty Trust	770-5129
	Mark Brandenburg	Columbus Realty Trust	726-0562
	Mark Person	Gibson & Associates	557-1552
	John Baumgartner	Town of Addison	931-6643
	Dan Shipp	Sothwestern Bell Telephone	234-7062

Mr. Dan Shipp with Southwestern Bell Telephone has elected to delay the bid and construction start date for his facilities based on a phone conversation on June 6, 1996. The problem area is the designed alignment through the roundabout 67' radius interior circle. The Town of Addison wants the alignment to clear the interior circle as was required for all other utilities with the exception of the existing 24" water line. The Town would also require that the roundabout pavement be clear of any manhole lids for access and safety reasons. Mr. Shipp stated that this will cause at least a two week delay for a construction start date for his facilities. The previous start date, noted in the latest meeting minutes, will be revised from June 24th to at least July 8th. Subgrade preparation on Quorum Drive is not to begin until July 22nd per Gibson's latest schedule. Southwestern Bell would still have a two week window to get their conduit installed in the area of the roundabout prior to subgrade preparation. Mr. Shipp stated that it may be possible for that area of the conduit to be installed first to allow for coordination with the public infrastructure.

Please call if any questions.

G:\PRO\70120130\[illegible].MEM

HUITT-ZOLLARS

Engineers / Architects

Dallas • Fort Worth • Houston • El Paso • Phoenix • Orange County

FACSIMILE TRANSMITTAL

Date: 6/13/96 Fax No.: See Below

H-Z Proj. No. 012o130 No. of Pages: 2 (Including Cover Sheet)

TO: Bryant Neal - 770-5127 John Bevington 931-6645

Mark Brandenberg - 726-0562 Terry Morgan 891-1717

Mark Pearson 557-1552 Dan Shipp - 234-7062

☐ URGENT ☐ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

RE: Addison Circle Phase I

SUBT Construction Coordination

FROM: David Meyers

SENT BY: _____ TIME: _____ DATE: _____

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

June 13, 1996

Mr. Dan Shipp
Southwestern Bell Telephone
275 N. Greenville Ave.
Richardson, TX 75081

RE: Addison Circle Phase I Public Infrastructure
Southwestern Bell Telephone Alignment and Schedule
HZI Project No. 01-2013-01

Dear Mr. Shipp:

We have been informed by the owner, Columbus Realty Trust, that construction of the above referenced project will not be delayed for the installation of the Southwestern Bell Telephone conduit and any additional work that Southwestern Bell incurs from the bid delay will be at your own expense. Please note that cutting the newly poured street pavement is not an option.

The most prudent course of action is for SWBT to have their facilities installed in the area of the roundabout as soon as possible and no later than July 21st, 1996. The general contractor, Gibson & Associates has stated that they will be installing lateral and inlet boxes on the east side of the roundabout in the weeks leading up to July 21st.

Please provide the construction team with approximate dates and durations for the SWBT construction in the roundabout area so that the required tasks may be properly coordinated.

Thank you for your assistance in this matter.

Sincerely,

HUITT-ZOLLARS, INC.

David E. Meyers

David E. Meyers

cc: Bryant Nail, Columbus Realty Trust
Mark Brandenburg, Columbus Realty Trust
Mark Person, Gibson and Associates
John Baumgartner, Town of Addison
Jerry Morgan, Building Sciences

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

June 12, 1996

Mr. John R. Baumgartner, P.E.
Director of Public Works
Town of Addison
16801 Westgrove Road
Addison, TX 75001

RE: Addison Urban Center/Quorum Drive Stopping Sight Distance Study
HZI Project No. 01-1822-21

Dear Mr. Baumgartner:

In response to concerns about visibility over the DART rail line near the intersection of Quorum Drive and the proposed Mews M-3, Huitt-Zollars has analyzed Quorum Drive's profile per standards established by the American Association of State Highway and Transportation Officials (AASHTO). AASHTO'S geometric design manual, A Policy on Geometric Design of Highways and Streets, has been used as a reference for sight distances at different design speeds, object height, and driver's eye height.

In Table III-1, pg. 138, the 1984 AASHTO manual establishes the driver's eye height as 3.5 feet above the top of pavement, a minimum object height of six inches, and a maximum stopping sight distance at a design speed of 40 miles per hour of 325 feet. The 40 mph design speed and its corresponding stopping sight distance of 325 feet were chosen to show that the Town of Addison's criteria of a 30 mph design speed and 300 foot stopping sight distance would be met. The 1984 edition of the AASHTO manual was consulted first, and then these numbers were compared to those in the 1994 edition, which uses metric units. When the metric units are converted to the English units used in the 1984 edition, it is evident that the driver's eye height and object height have not changed, nor has the stopping sight distance at 40 mph increased.

We have used the proposed grades and stationing from the Arapaho Road realignment in conjunction with existing plans and existing topographic shots on Quorum Drive to establish the top of pavement profile. Results of the study are shown on the attached plan and profile sheet for Quorum Drive. Station 7+80 was identified as the critical point for visibility because it is on the far side of M-3 for a vehicle approaching from the south beyond the DART rail line. Using AASHTO criteria, a driver 325 feet away must be able to see a six-inch high object at station 7+80. The top of the object at station 7+80 would be at an elevation of 626.38. A driver located 325 feet away would be at station 5+05 (note the station equation), and the driver's eye height would be at an elevation of 628.20. The profile shows that the line of sight between the driver and the object 325 feet away is not obstructed by the crest in the road. Top of pavement and sight line elevations are noted on the profile where the graphical representation of the sight

line and profile appear to converge.

M-3's profile will be established in the design phase of Addison Circle Phase IIA with sufficient grades near Quorum Drive to ensure that objects will be visible for a suitable distance east of the intersection. We plan to hold the grade on M-3 relatively flat for at least 30 to 40 feet east of Quorum and then transition down to existing grade.

Please call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David Meyers

David Meyers

DM/bdb

Attachment
cc: Bryant Nail

HUITT-ZOLLARS

Dallas • Fort Worth • Houston • El Paso • Phoenix • Tustin • Ontario • San Clemente

FACSIMILE TRANSMITTAL

Date: 6/21/96 Fax No.:

H-Z Proj. No. 012o130(No. of Pages: 3
(Including Cover Sheet)

TO: Bryant Neal - Caldwell Realty - 770-5129
John Baumgartner - Town of Addison - 931-6693
Mary Pearson - Gibson & Associates - 557-1552

☐ URGENT ☒ For Your Review ☐ Please Call Upon Receipt ☒ Orig. To Follow By Mail

RE: Addison Circle - Huitt Mews Condominium

- Manufacturer material will follow in the mail.

FROM:

SENT BY: TIME: DATE:

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

June 19, 1996

Mr. Bryant Nail
Columbus Realty Trust
15851 Dallas Parkway, Suite 855
Dallas, TX 75248

RE: Addison Circle Phase 1 Public Infrastructure
Witt Mews Centerline Joint
HZI Project No. 01-2013-01

Dear Mr. Nail:

The Addison Circle Phase I Public Infrastructure plans call for a silicone joint sealant in all sawed joints. This material is being questioned as an appropriate application for the Witt Mews centerline joint which was mistakenly sawed by the contractor. Huitt-Zollars has investigated some possible alternatives for the Witt Mews centerline joint in an attempt to satisfy the Columbus requirements for aesthetics and the Town of Addison's concern with maintenance.

ALTERNATE NO. 1

Require Gibson & Associates to submit a high grade silicone joint material and application procedures for the joint in question. The silicone joint sealant is gray in color at the time of application which addresses short term aesthetic issues. However, over time the joint sealant will be blackened from tire marks, dirt and fluids washed down the alley. We recommend that the Town request an extended maintenance warranty for the joint material and installation which will address the maintenance issue. Long term maintenance will be required as is the case for all joints.

ALTERNATE NO. 2

Require Gibson & Associates to install a Delastic Preformed Neoprene Compression Seal manufactured by the D.S. Brown Company. Neoprene seals exert a compressive force on the joint to actively prevent the entry of moisture into the joint. We would require the use of Pavement Seal E-437 to be applied with DELASTALL NO. 104 Auto-Installer with the lubricants specified by the manufacturer. Neoprene Compression Seals have an extended performance life of 15 to 20 years. The company has no warranty plan for the material. We would again suggest hat the Town require an extended maintenance warranty from Gibson for this material and installation. The disadvantage of this joint is not being available in any color other than black, which is a major concern to the development from an aesthetic point of view.

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ALTERNATE NO. 3

Require Gibson and Associates to install Sikaflex 1CSL, self-leveling, 1-part polyurethane sealant by the Sika Company. This product has a one year warranty from the manufacturer. The Town should require an extended maintenance and installation warranty for this product similar to the previous products discussed. This product is desirable from the aesthetics point of view because it is readily available in concrete gray. This material has a low tack free time which will cut down on the dirt and debris discoloration at the time of application. This material has specific installation procedures which must be followed and the manufacturer has recommended that priming be used for this application to strengthen the bond with the pavement.

In all of the above alternates it is extremely important that the joint be thoroughly cleaned per the manufacturers recommendations. We recommend that the joint be re-sawed to insure that the seal material has a clean surface for bonding. Alternate No. 2 will likely need re-sawing to allow for the smallest available neoprene seal to be installed. It should be noted that any material installed will require long term maintenance similar to any street pavement joint. It should also be noted that the joint may be concrete gray in color at the time of installation but over a period of time the joint will discolor due to miscellaneous fluids and vehicle tire tracking.

Gibson & Associates has suggested the use of an epoxy to seal the joint. We have discussed this option with the manufacturer and they agree that this is an inappropriate condition for the application of an epoxy product. Epoxy products form a rigid non-flexible bond between the pavement which will likely cause a random crack to occur in some other area of the pavement slab. For this reason epoxy products are not considered as an alternate for the Witt Mews.

Please review the above information and the attached materials and advise Gibson & Associates on how to proceed with the resolution of this problem.

Sincerely,

HUITT-ZOLLARS, INC.

David E. Meyers

David E. Meyers

Enclosure

cc: John Baumgartner, Town of Addison
Mark Person, Gibson & Associates

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HUITT-ZOLLARS

Huitt-Zollars, Inc. / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2489 / 214/871-3311 / FAX 214/871-0757

February 10, 1997

Mr. Bryant Nail
Columbus Realty Trust
15851 Dallas Parkway, Suite 855
Dallas, TX 75248

RE: Addison Circle - Bosque Park
Schedule
HZI Project No. 01-1822-13

Dear Bryant:

The following is the revised schedule for Bosque Park design and bidding.

- September 24th - Council Approval of Concept Design
- September 30th through November 23rd - Preliminary Park Design and TUE Review of Electric Vault
- November 24th through December 20th - Town Review of Preliminary Design
- December 23rd through January 17th - Respond to Town Comments and Incorporate Electrical/Structural/Civil Design
- January 20th through January 24th - Final Town Review
- January 25th through February 18th - Respond to Town Comments
- February 19th through February 24th - Second Final Town Review
- February 25th through February 27th - Respond to Second Final Review
- February 27th - Advertise for Bids for plans to be available on February 28th.
- March 7th - Pre-Bid Meeting at 10:00 a.m.
- March 17th - Bid Opening
- March 25th - Award Bid
- March 31st - Begin Construction

Please call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David E. Meyers

David E. Meyers, P.E.

DEM/psp

cc: Paul Shaw - Newman, Jackson & Bieberstein
John Baumgartner - Town of Addison
Slade Strickland - Town of Addison

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ADDISON CIRCLE PHASE I PUBLIC INFRASTRUCTURE
RECONCILIATION TO $4.5 MILLION BUDGET

DESCRIPTION	AMOUNT	AMOUNT	AMOUNT
GIBSON CONTRACT			
BASE BID (SCHEDULES I thru VII)	$ 3,425,360		
SELECTED ALTERNATES (SCHEDULE VIII)	$ 40,300		
SUBTOTAL AWARD TO GIBSON		$ 3,465,660	
OTHER CONTRACTS			
REMAINING ALLOWANCE FOR BOSQUE PARK	$ 401,170		
ALLOWANCE FOR ROTARY FEATURE	$ 1,000,000		
CONSULTANT FEES	$ 262,800		
CONSTRUCTION INSPECTION ALLOWANCE	$ 90,000		
STREET LIGHT BASES AND CAPS (GIBSON SCH IX)	$ 34,770		
STREET LIGHTS AND POWER BY T.U.ELECTRIC	$ 162,280		
TALL LIGHTS AT ROUNDABOUT BY T.U.ELECTRIC	$ 30,000		
SUBTOTAL OF OTHER CONTRACTS		$ 1,981,020	
TOTAL OF ALL CONTRACTS			$ 5,446,680
POSSIBLE PHASE II BUDGET ITEMS			
E SIDE OF QUORUM (BID SCH VIII W/SHARE OF FEES)	$ (45,130)		
W SIDE OF QUORUM SOUTH OF 3 AC. TRACT (OUT OF BASE BID)	$ (58,300)		
LIGHTS AND BASES IN AREAS ABOVE (OUT OF FUTURE CONTRACT	$ (12,480)		
STREET LIGHT CONDUIT FOR ABOVE (OUT OF BASE BID)	$ (3,000)		
SUBTOTAL OF PHASE II BUDGET ITEMS		$ (118,910)	
PROBABLE SAVINGS DUE TO CONTRACT REDUCTIONS			
ELIMINATE HAUL-OFF	$ (60,000)		
REDUCE PULL BOXES	$ (10,000)		
ELIMINATE 3' CONDUIT FOR TREES	$ (19,000)		
ELIMINATE POLE LIGHTS AND CONDUIT IN MEWS	$ (39,100)		
SUBTOTAL PROBABLE CONTRACT REDUCTIONS		$ (128,100)	
NET ACTUAL COST FOR PHASE I			$ 5,199,670
MAJOR UNBUDGETED ITEMS			
EVENT FENCING	$ (25,000)		
WORK AT WATER TOWER SITE INCL HOLLIES, IRRIG, ETC	$ (110,000)		
RELOCATION OF 24" WATERLINE	$ (36,000)		
ELECTRIC DUCT SYSTEM, INCL DESIGN	$ (318,000)		
TREES, LIGHTS & SIDEWALK IN ROTARY(ORIG W/IN $1 MIL)	$ (200,000)		
TALL POLE LIGHTS IN ROTARY	$ (30,000)		
SUBTOTAL OF MAJOR UNBUDGETED ITEMS		$ (719,000)	
NET COST TO COMPARE TO $4.5 MILLION BUDGET			$ 4,480,670

HUITT-ZOLLARS B. COPY

Huitt-Zollars, Inc. / Engineers / Architects / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

MEMORANDUM

DATE February 9, 1996

RE: Addison Circle Phase I Public Infrastructure

FROM: Andy Oakley, Huitt-Zollars, Inc.

TO: John Baumgartner, Town of Addison

CC: Bryant Nail, Columbus Realty Trust

We have reviewed the apparent low bid submitted by Gibson and Associates for the Addison Circle Phase I Public Infrastructure in an attempt to identify possible savings. These savings fall into a variety of categories as grouped and described below. All values are approximate.

The following items are those where the construction quantity could be reduced or eliminated at the given bid price to result in a savings.

- Due to the relocation of the bollards in the mews which occurred during the bid process, the sidewalk areas can be reduced from 8-inch pavement to 4-inch pavement and the surface can be changed from vehicular brick to pedestrian brick.

  Savings: $30,900

- It is highly probable that the final number of street light pull boxes, including those needed for the tree lighting, will be less than half of the bid quantity.

  Savings $10,000

- It is most likely that the conduit required for the tree lighting will be 1-inch or 2-inch and we can eliminate the 3-inch conduit item.

  Savings: $18,000

- The pole mounted lights, bases and conduit that have been bid for the mews will not be needed if Columbus constructs the hanging lights.

  Savings: $39,000

- Proper management of the contractor should eliminate the need for approximately half of the specified silt fence.

  Saving: $10,000

- The temporary hedge of Nellie R. Stevens Hollies along the west edge of Paschal Mews and its irrigation can be eliminated.

Savings: $9,000

- Columbus and the Town could work to provide "Event Fencing" at a more reasonable cost.

Savings: $25,000

- The sidewalks, tree fences, lights and underplanting on the undeveloped sides of McKamy Ave. and Paschal Mews could be delayed until future phases (which would eliminate the damage that they will sustain at that time).(Street light price is the TUE price, not the Gibson price.)

Savings: $58,000

The following items are not in the current bid package. While they could be negotiated as changes and result in some savings, the maximum savings would probably result from rebidding the project with these modifications.

- The pavement in Morris Ave., McKamy Ave. and Witt Mews might be able to be reduced from 8-inch to 6-inch with some analysis. There is not a bid item for 6-inch street pavement, only 6-inch drive. We believe the 6-inch pavement would result in a savings of approximately $4 per square yard.

Savings: $19,500

- We believe that both a vehicular brick and a pedestrian brick have been found which will be acceptable to the Town but which are available at a material cost of approximately $0.50 less per square foot than the currently specified "Acme" brick.

Savings: $49,000

- The earthwork was bid including haul-off and we therefore do not have a unit price for unclassified excavation where a disposal site is made available adjacent to the construction. Elimination of the haul-off should save at least $7 per cubic yard.

Savings: $68,000

The following items may not have been adequately explained in the bidding process which resulted in a higher price than expected. Further explanation of these items and rebidding the project could result in some savings.

- The work at the water tower site seems inordinately expensive and could be itemized or otherwise clarified.

Savings: $50,000

- The electrical and telephone work at the water tower can be accomplished more simply than originally expected and the contractor will just be required to install some empty conduit runs.

Savings; $10,000

- The developer could make a staging area available to the infrastructure contractor.

Savings: $ Unknown

Other Items

- The two drinking fountains in the base bid are actually Bosque Park items which reduces the total project cost.

Savings: $11,300

- The price for the standard tree grate is much higher than we have seen in the past Perhaps it could be purchased outside the contract and an installation price negotiated which would be more reasonable.

Savings: $11,200

We would like to meet to discuss these items and other ideas for reducing the value of the work which is charged against the Phase I budget. Though all of the savings listed may not be achievable, the combined possible savings is a very significant **$416,900**.

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

June 18, 1996

Mr. Bryant Nail
Columbus Realty Trust
15851 Dallas Parkway, Suite 855
Dallas, TX 75248

RE: Addison Circle Phase I Public Infrastructure
HZI Project No. 01-2013-01 (File 01-1822-04)

Dear Bryant:

The following is a summary of the costs associated with transformer vault alternatives to be placed at the southwest corner of the Bosque Park. These costs were developed from vault sizes obtained from TU Electric and budget estimates from Llano Construction. Alternate No. 3 is a budget estimate prepared by Huitt-Zollars based on the costs provided by Llano for Alternate's 1 & 2.

ALTERNATE NO.1- **24' X 32' VAULT WITH TWO SINGLE PHASE(*) AND ONE THREE PHASE TRANSFORMER AND SWITCH GEAR IN THE VAULT**

Concrete, Steel, Vents, Access lids, etc..	$92,000
Excavation	$6,000
Contingency (10%)	$9,800
Design, Plans, Specs, Testing & Inspection	$11,500
TOTAL	**$119,300**

ALTERNATE NO.2- **20' X 30' VAULT WITH TWO SINGLE PHASE(*) AND ONE THREE PHASE TRANSFORMER IN THE VAULT**

Concrete, Steel, Vents, Access lids, etc..	$76,000
Excavation	$5,000
Contingency (10%)	$8,100
Design, Plans, Specs, Testing & Inspection	$11,000
TOTAL	**$100,100**

ALTERNATE NO.3- **15' X 20' VAULT WITH TWO SINGLE PHASE TRANSFORMERS(*) IN THE VAULT**

Concrete, Steel, Vents, Access lids, etc..	$46,400
Excavation	$4,000
Contingency (10%)	$5,040
Design, Plans, Specs, Testing & Inspection	$10,500
TOTAL	**$65,940**

(*) Two single phase vault type transformers with exposed wiring take the place of the originally planned five surface mounted transformers.

We are prepared to move ahead with final design as soon as a decision is reached on which alternative to exercise.

Sincerely,

HUITT-ZOLLARS, INC.

Andrew C. Oakley, P.E.
Senior Vice President

U:\PN\1350\2013\01\DN0618.LTR

HUITT-ZOLLARS, INC.
3131 McKinney Avenue, Suite 600
DALLAS, TEXAS 75204

(214) 871-3311

LETTER OF TRANSMITTAL

DATE	JOB NO.
7/12/96	01182207

ATTENTION: MR. JOHN BAUMGARTNER

RE: ADDISON CIRCLE

TO TOWN OF ADDISON PUBLIC WORKS
P.O. BOX 144
ADDISON, TX. 75001

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via MAIL the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1			ELECTRICAL SPECIFICATIONS FOR
			TREE LIGHTING PLANS

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 _____

COPY TO _____

SIGNED: David Meyers

If enclosures are not as noted, kindly notify us at once.

SECTION 16010 - ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Provide labor, materials, equipment, services, and incidentals required for complete and functioning electrical systems as required by the contract documents.

1.2 APPLICABLE PROVISIONS

A. General and Supplementary General Conditions, applicable provisions of Division 1 - General and other provisions of contract documents apply to work of Division Provisions of this section apply to every section of Division 16 - Electrical, except where specifically modified. All sections of Division 16 - Electrical are complementary, interrelated, and mutually binding. Where provisions of any specification appear to conflict with drawings or other specifications, such conflict shall be identified in writing to the Owner's representative and clarification requested.

1.3 REFERENCE CODES AND STANDARDS

A. Standards of the following organizations may be referenced in the specification. Unless noted otherwise, references are to standards or codes current at the time of bidding.

1. American National Standards Institute (ANSI).
2. Institute of Electrical and Electronics Engineers (IEEE).
3. Insulated Cable Engineers Association (ICEA).
4. National Electrical Code (NEC).
5. National Electrical Manufacturers Association (NEMA).
6. National Electrical Safety Code (NESC).
7. National Fire Protection Association (NFPA).
8. Underwriters' Laboratories (UL).

1.4 REGULATIONS AND PERMITS

A. Regulations. Work, materials and equipment must comply with the latest rules and regulations of the following:

1. National Electrical Code (NEC).
2. National Electrical Safety Code (NESC).
3. Occupational Safety and Health Act (OSHA).
4. Americans with Disabilities Act (ADA).
5. City of Addison.

6. State and federal codes, ordinances and regulations.

7. Serving utilities for electric power.

B. Discrepancies. The drawings and specifications are intended to comply with listed codes, ordinances, regulations and standards. Where discrepancies occur, immediately notify the Owner's representative in writing and ask for an interpretation. Should installed materials or workmanship fail to comply, the Contractor is responsible for correcting the improper installation. Additionally, where sizes, capacities, or other such features are required in excess of minimum code or standards requirements, provide those specified or shown.

C. Permits. Obtain certificates of inspection and other permits required as a part of the work. The Contractor shall obtain timely inspections by jurisdictional authorities at such times as are required by those authorities. Any costs associated with exposing work not inspected in a timely manner, or testing required by authorities to demonstrate compliance with codes or standards shall be the responsibility of the Contractor.

1.5 CONTRACT DRAWINGS

A. Intent. The intent of the drawings is to establish the types of systems and functions, but not to set forth each item essential to the functioning of the system. Electrical drawings are generally diagrammatic and show approximate location and extent of work. Install the work complete, including minor details necessary to perform the function indicated. In case of doubt as to work intended, or if amplification or clarification is needed, request instructions from the Owner's representative.

B. Discrepancies. Review pertinent drawings and adjust the work to conditions shown. Where discrepancies occur between drawings, specifications, and actual field conditions, immediately notify the Owner's representative for his interpretation.

C. Existing Conditions. Visit the site and ascertain the conditions to be met and the work to be accomplished in removing and modifying the existing work, and installing the new work. Failure to comply with this provision shall not constitute grounds for any additional payment in connection with removing or modifying any part of the existing installations and installing any new or temporary work.

D. Outlet and Equipment Locations. Coordinate the actual locations of electrical system and equipment with existing building features and equipment. Review with the Owner's representative any proposed changes in equipment location.

1.6 CONTRACTOR QUALIFICATIONS

A. An acceptable Contractor for the work under this division must have personnel with experience, training and skill to provide a practical working system. The Contractor may be required to furnish acceptable evidence of having installed not less than three systems of size and type comparable to this project. The systems must have served satisfactorily for not less than 3 years. The superintendent must have had experience in installing not less than three such systems.

PART 2 - PRODUCTS

2.1 PRODUCT REQUIREMENTS

A. Condition. Provide new products of manufacturers regularly engaged in production of such equipment. Provide the manufacturer's latest standard design for the type of product specified.

B. NEC and UL. Products must conform to requirements of the National Electrical Code. Where Underwriters' Laboratories have set standards, listed products and issued labels, products used must be listed and labeled by UL.

C. Space Limitations. Equipment selected must conform to the building features and must be coordinated with them. Do not provide equipment which will not suit arrangement and space limitations. Where equipment is described by manufacturer's designations, yet alternate manufacturers are designated in the contract drawings as acceptable suppliers, spatial considerations will bear equally with performance criteria in determining the acceptability of alternate equipment.

D. Factory Finish. Equipment must be delivered with a hard surface, factory-applied finish so that no additional field painting is required except for touch-up as required.

2.2 SUBSTITUTIONS

A. Substitutions will not be considered unless submitted prior to the bid opening or contract award as defined under Division 1. If a product or system is specifically defined on the drawings or in the specifications, requests for substitution will not be considered unless the Contractor can demonstrate that the specified product or system is unavailable within the contract duration. Claims of non-availability must be substantiated by certified letter from the specified supplier stating that the specified product was ordered in a timely fashion and that delivery has become impossible due to factors beyond the supplier's control.

PART 3 - EXECUTION

3.1 PROTECTION OF EQUIPMENT

A. Moisture. During construction, protect panelboards, control equipment, and other items from insulation moisture absorption and metallic component corrosion by appropriate use of strip heaters, lamps or other suitable means. Apply protection immediately on receiving the products and maintain continually.

B. Clean. Keep products clean by elevating above ground or floor and by using suitable coverings.

C. Damage. Take such precautions as are necessary to protect apparatus and materials from damage. Failure to protect materials is sufficient cause for rejection of the apparatus or material in question.

D. Finish. Protect factory finish from damage during construction operations and until acceptance of the project. Satisfactorily restore any finishes that become stained or damaged.

3.2 INSTALLATION

A. Cooperation with Other Trades. Cooperation with trades of adjacent, related or affected materials or operations, and of trades performing continuations of this work under subsequent contracts, is considered a part of this work in order to effect timely and accurate placing of work and to bring together, in proper and correct sequence, the work of such trades.

B. Workmanship. Work must be performed by workmen skilled in their trade. The installation must be complete.

C. Setting of Equipment. Equipment must be leveled and set plumb. Sheet metal enclosures mounted against a wall must be separated from the wall not less than 1/4 inch by means of corrosion-resistant spacers or by 3 inches of air for freestanding units. Use corrosion-resistant bolts, nuts and washers to anchor equipment. In sufficient time to be coordinated with work under other divisions, provide drawings and layout work showing exact size and location of sleeves, openings or inserts for electrical equipment in slabs, walls, partitions and chases.

D. Sealing of Equipment. Seal openings into equipment to prevent entrance of animals, birds and insects.

E. Concealed Work. Conceal all electrical work in walls, floors, chases, underground and above ceilings except:

1. Where shown or specified to be exposed. Exposed is understood to mean open to view.

2. Where exposure is necessary to the proper function.

3. Where size of materials and equipment preclude concealment.

F. Demolition.

1. Unless otherwise noted, remove all electrical materials and equipment requiring demolition from the areas.

2. Remove unused conduit to the extent necessary to accommodate new work and where conduit is visible above the floor line. Seal abandoned conduits that remain in place behind walls or in floor slabs.

3. Materials and equipment to be removed, except items specifically listed to be relocated or delivered to the Owner, become the property of the Contractor and must be immediately removed from the project site.

4. Electrical services and controls to items being removed must be disconnected and removed completely to their source of service as a requirement of this section. Where services are removed to a disconnecting means, label the disconnecting means "Spare".

5. Removal of any equipment must not interfere with existing operations.

3.3 EQUIPMENT AND DEVICE MARKING

A. Designations. Identify all equipment, devices, feeders, branch circuits and similar items with the same designations as indicated on the contract documents.

B. Nameplates. Externally mark all electrical equipment with nameplates identifying each and the equipment served. Nameplates shall be black laminated rigid phenolic with white core. Nameplate minimum size shall be 1 inch high by 3 inches long with 3/16-inch-high engraved white letters. Supply blank nameplates for spare units and spaces.

C. Nameplate Fasteners. Fasten nameplates to the front of equipment only by means of stainless steel self-taping screws. Stick-ons or adhesives will not be allowed unless the NEMA enclosure rating is compromised, then only epoxy adhesive shall be used to attach nameplates.

D. Nameplate Information. In general, the following information is to be provided for the types of electrical equipment as listed.

1. Panelboards. Identify the source, panelboard designation, voltage characteristics, and the equipment fault current withstand rating.

E. Panelboards. Prepare a neatly typed circuit directory behind clear heat-resistant plastic in a metal frame attached to the inside of the door for each panelboard. Identify circuits by equipment served and by room numbers where room numbers exist. Indicate spares and spaces with light, erasable pencil marking. An adhesive mounted directory pocket is not acceptable.

F. Pull, Junction and Outlet Boxes. With 1/2-inch-high lettering, identify conduits connected to pull, junction and outlet boxes with the complete circuit number of the conductors contained therein. Where multiple circuits are contained in a box, identify the circuit conductors with permanent tags which indicate circuit designation.

3.4 ELECTRICAL SERVICE

A. Permanent Service. Coordinate with the Owner's representative and electric utility to establish permanent service no later than seven (7) days prior to scheduled substantial completion. The Contractor shall make such provisions as are required by the utility to establish permanent service. Such provisions may include, but are not limited to, mounting of utility-furnished metering equipment, construction of transformer pads in accordance with utility requirements, installation of grounding, or provision of raceways. Delays in obtaining permanent electrical service caused by the Contractor's failure to identify and comply with utility service criteria shall not be cause for increased costs to the Owner nor extension of the Contractor's contractual duration. Refer to utility transformer locations for Buildings A, B, and C shown on three sketches included in this specification section.

B. Outages. Schedule power outages to avoid interference with the Owner's activities. Obtain approval from Owner at least thirty (30) days prior to the requested outage. If required by Owner, provide a schedule showing sequence and duration of all activities during the requested outage.

3.5 TESTING

A. Test Conditions. Place circuits and equipment into service under normal conditions, collectively and separately, as may be necessary to determine satisfactory operation. Perform specified tests in the presence of the Owner's representative. Furnish all instruments, wiring, equipment and personnel required for conducting tests. Demonstrate that the equipment operates in accordance with requirements of the drawings and specifications.

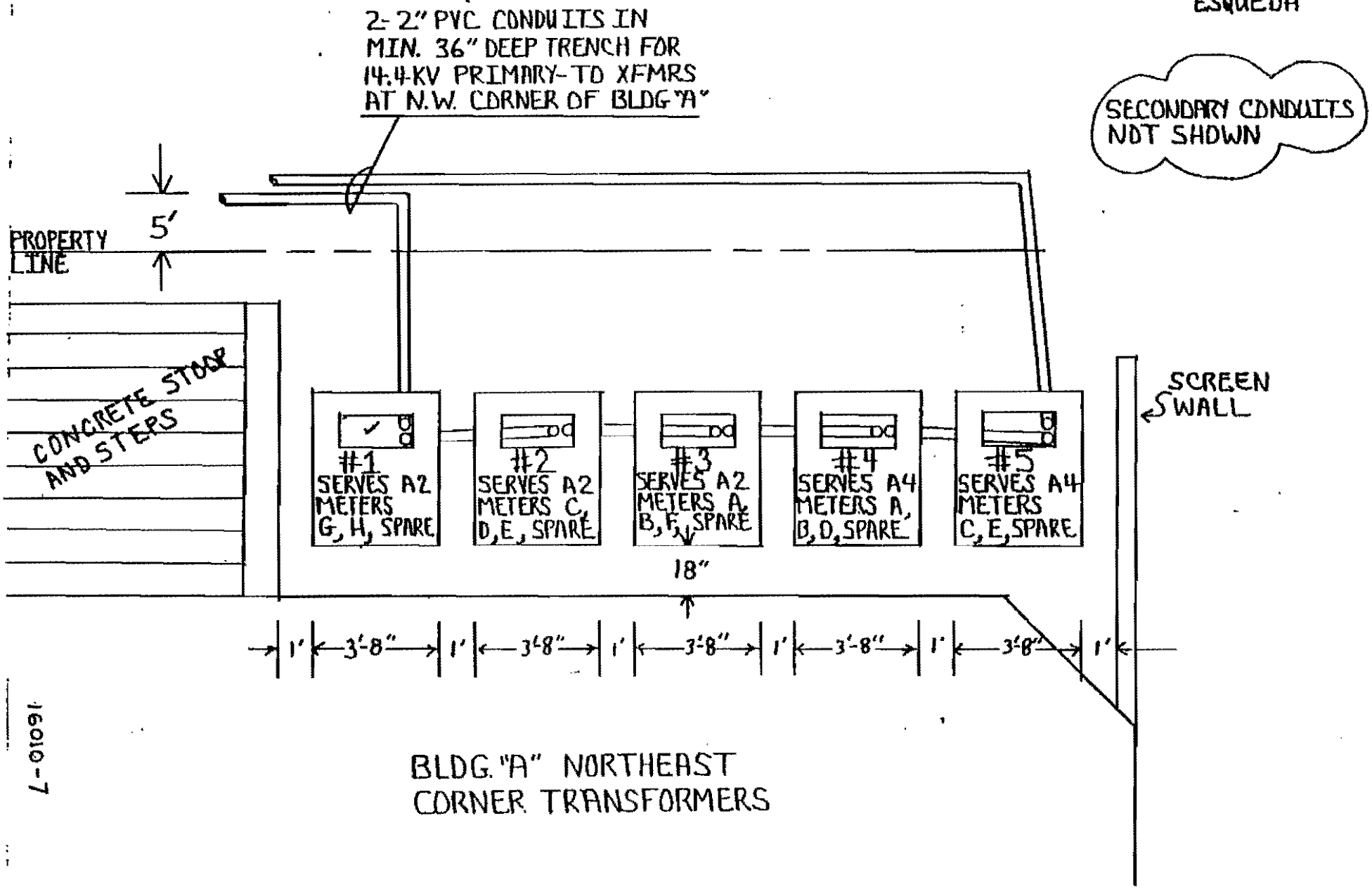
B. Test Dates. Schedule final acceptance tests sufficiently in advance of the contract date to permit completion of any necessary adjustment or alterations within the number of days allotted for completion of the contract.

C. Retests. Conduct retests as directed by the Owner's representative of such time duration as may be necessary to assure proper functioning of adjusted or altered parts or items of equipment. Any resultant delay as a result of such necessary retests does not relieve the Contractor of his responsibility under this contract.

FOR END OF SECTION
SEE PAGE 16010-9

BLDG. "A" NORTHEAST CORNER TRANSFORMERS

4-24-96
ESQUEDA



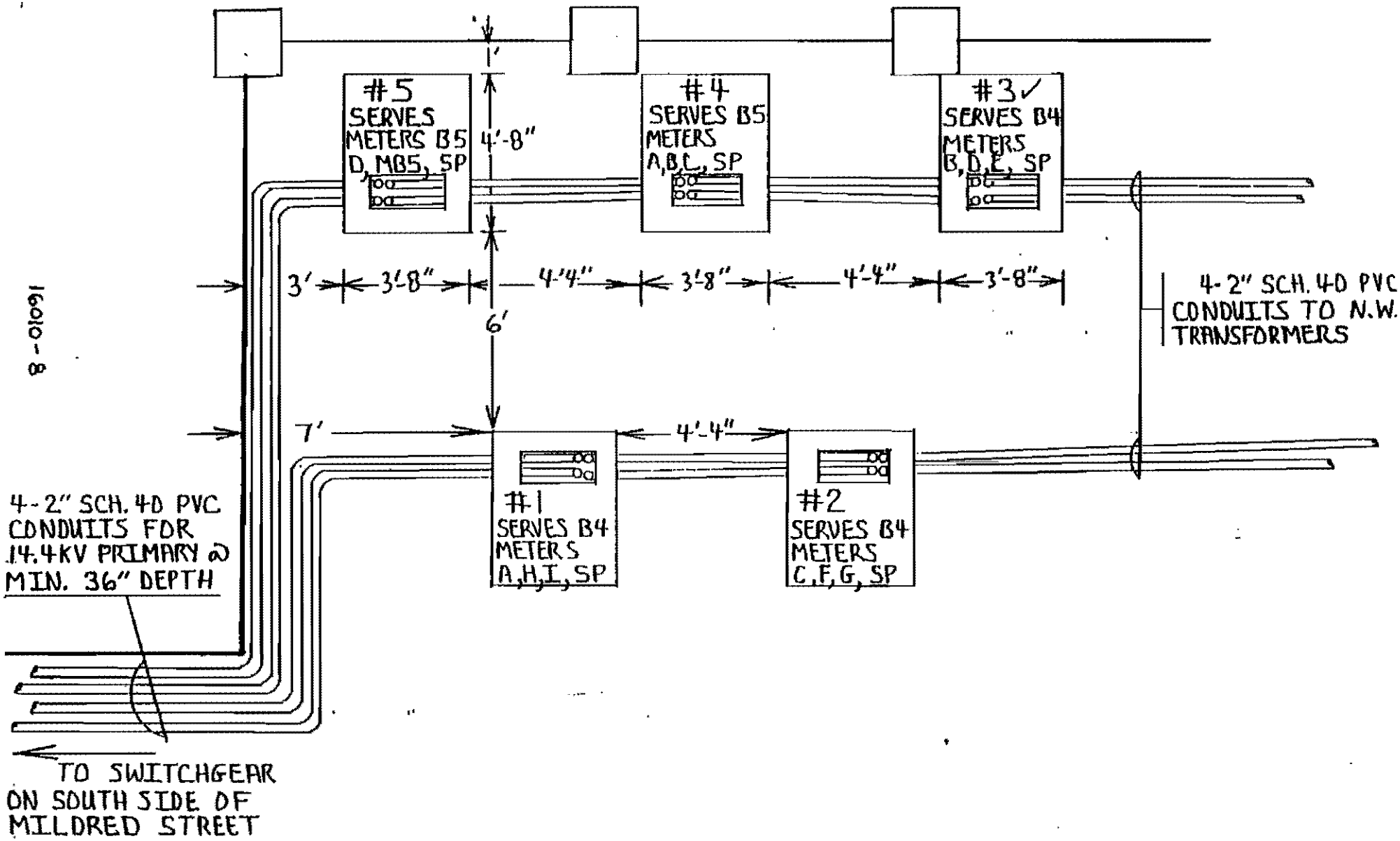
1610-7

BLDG. "A" NORTHEAST CORNER TRANSFORMERS

BLDG "B" S.W. SIDE TRANSFORMERS

SP= 3" SPARE CONDUIT

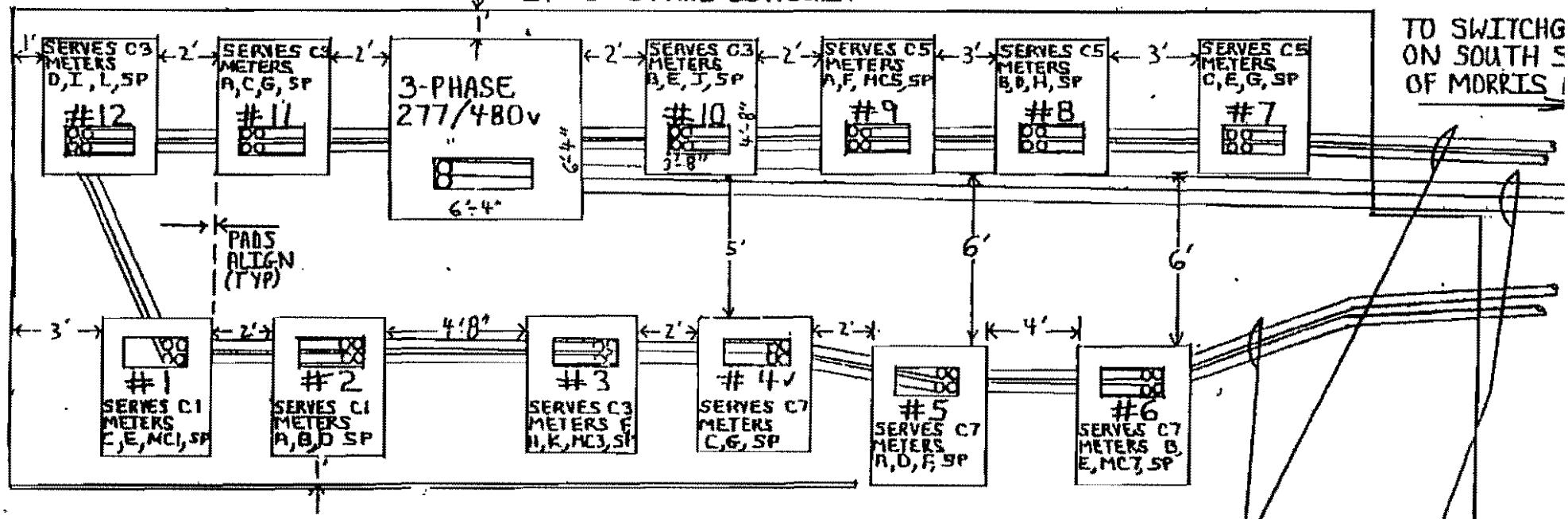
2-16-96
ESQUEDA



8-16010

BLDG. "C" TRANSFORMERS
PRIMARY CONDUIT LAYOUT

SP= 3" SPARE CONDUIT



3-13-96 ESQUEDA

MOTOR COURT

4-2" SCH. 40 PVC CONDUITS FOR 14.4KV PRIMARY @ MIN. 36" DEPTH.

2-4" SCH. 40 PVC CONDUITS FOR 3-PHASE 25 KV PRIMARY @ MIN. 36" DEPTH.

1601-9

SECTION 16110 - RACEWAYS

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies the furnishing and installation of electrical raceway systems.

1.2 REFERENCE STANDARDS

A. ANSI C80.1 - Rigid Steel Conduit - Zinc-Coated.

B. ANSI C80.3 - Electrical Metallic Tubing - Zinc-Coated.

C. NEMA FB1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies

D. NEMA TC 2 - Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).

E. NEMA TC 3 - PVC Fittings for use with Rigid PVC Conduit and Tubing

F. UL 6 - Rigid Metal Conduit.

G. UL 360 - Liquid-tight Flexible Steel Conduit.

H. UL 467 - Electrical Grounding and Bonding Equipment.

I. UL 651 - Schedule 40 and 80 Rigid PVC Conduit.

J. UL 797 - Electrical Metallic Tubing.

K. UL 1242 - Intermediate Metal Conduit.

PART 2 - PRODUCTS

2.1 CONDUIT AND FITTINGS

A. Rigid Steel Conduit.

1. Conduit. Rigid hot-dipped galvanized steel (RGS) conduit with zinc-coated threads and an outer coating of zinc chromate.

2. Fittings. Threaded steel or malleable iron, either cadmium plated or hot-dipped galvanized.

B. Intermediate Metal Conduit (IMC).

1. Conduit. Galvanized intermediate steel conduit with zinc-coated threads and an outer coating of zinc chromate.

2. Fittings. Threaded steel or malleable iron either cadmium plated or hot-dipped galvanized.

C. Electrical Metallic Tubing (EMT).

1. Conduit. Galvanized electrical steel tubing.

2. Fittings. Steel compression type, either cadmium plated or hot-dipped galvanized. Connectors shall have insulated throat bushings. Set screw fittings are not acceptable.

D. Rigid Nonmetallic Conduit.

1. Conduit. Schedule 40 polyvinyl chloride (PVC).

2. Fittings. Solvent weld socket type.

E. Liquid-tight Flexible Steel Conduit.

1. Conduit. Spiral-wound, square-locked, hot-dipped galvanized steel strip plus a bonded outer jacket of PVC.

2. Fittings. Compression type, malleable iron, with insulated throat, either cadmium plated or hot-dipped galvanized.

PART 3 - EXECUTION

3.1 CONDUIT AND FITTINGS

A. Minimum Trade Size. 3" inch, except that 3/4-inch liquid tite flexible steel conduit may be used for tap conductors supplying tree well receptacles.

B. Types According to Use. Use rigid steel conduit throughout the project except as specified below.

1. Use PVC-coated rigid galvanized steel (RGS) where exposed to rain, condensation, moisture, constant high humidity or corrosive atmospheres.

2. Use EMT in interior walls or ceiling spaces and where exposed when installed more than 8 feet above finished floor in open work areas, mechanical rooms or electrical rooms. Conduit which enters or leaves the top of panelboards or enclosures may be EMT, provided the top of the panelboards or enclosures are a minimum of 5 feet above finished floor and such panelboards and enclosures are located in mechanical or electrical rooms.

3. Use RGS or rigid nonmetallic conduit encased in concrete with minimum 3-inch-thick walls, where installed below grade. Concrete encasement may be omitted when conduit is installed below concrete or pavement a minimum of 4 inches thick. All horizontal to vertical transitions shall be made using RGS elbows and RGS conduit stub-ups.

4. Connect all electrical receptacles in tree wells with liquid-tight flexible metal conduit, 42 inches minimum length.

5. Transitions.

   a. Continue the heavier, more protective type conduit application not less than 4 inches into the area where lighter, less protective type conduit is permitted.

   b. For feeder conduits below-grade to above-grade outdoor locations, extend concrete encasement around conduit 4 inches above finished grade and slope top away from conduit with a 6-inch-per-foot slope.

   c. For below-grade to above-grade locations using PVC to metal conduit, make the transition from PVC to metal conduit before turning up with RGS elbow.

C. Preparation. Place sleeves in walls and floor slabs for the free passage of conduits. Set sleeves in place a sufficient time ahead of concrete placement so as not to delay the work. Seal all openings and voids around sleeves through floors and walls. Be sure that plugs or caps are installed before concrete placement begins.

D. Installation Requirements.

1. Metallic conduits must be continuous between enclosures such as junction and pull boxes, panels, cabinets, etc. The conduit must enter and be secured to enclosures so that each system is electrically continuous throughout. For EMT terminations, provide insulated throat bushings and on rigid metallic conduits, provide nonmetallic insulating bushings for conductor protection. Where conduits 1-1/2 inches and larger terminate in equipment having a ground bus, such as in panelboards, provide conduit with an insulated grounding bushing and extend a suitable grounding wire to the ground bus.

2. Have rigid nonmetallic conduit adequately solvent welded at joints to form a tight, waterproof connection.

3. Run exposed conduit parallel or at right angles to building or other construction lines in a neat and orderly manner. Conceal conduit in finished areas. Unless otherwise shown, remaining conduit may be exposed.

E. Installation Methods.

1. Install each entire conduit system complete before pulling in any conductors. Clean the interior of every run of conduit before pulling in conductors.

2. Cut all joints square, then thread and ream smooth. Coat cuts, threads or scratches on steel conduit with an approved zinc chromate or with a 90 percent zinc paint. When dry, draw up tight.

3. Make bends with standard ells or conduit bent in accordance with the NEC. Make field bends using equipment designed for the particular conduit material and size involved. Bends must be free from dents or flattening. Use no more than the equivalent of four 90-degree bends in any run between terminals and cabinets, or between outlets and junction boxes or pull boxes.

4. Conduit bodies may be used in lieu of conduit ells where ease of installation and appearance warrants their use. Conduit bodies larger than 1 inch may be used only where approved.

5. Securely fasten and support conduit to structure or metal framing using hot-dipped galvanized, malleable iron pipe straps or other approved means. Wires of any type may not be used for securing conduits.

6. Suitably cap conduit during construction to avoid water, dirt and trash entrance.

7. Use expansion-deflection fittings on conduit crossing structural expansion joints and on exposed conduit runs where necessary. Provide bonding jumpers across fittings in metal raceway systems.

8. With a coupling, terminate concealed conduit for future use at structural surfaces. Install a pipe plug flush with the surface.

9. Openings around electrical penetrations of fire-resistance rated walls, partitions, floors or ceilings shall be firestopped to maintain the fire resistance rating using approved methods.

10. Install insulated throat threaded hubs on conduits entering enclosures without threaded hubs.

11. Install and neatly rack conduits parallel with and/or perpendicular to building walls. Do not install conduits diagonal to building walls.

END OF SECTION

SECTION 16120 - INSULATED CONDUCTORS

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies the furnishing and installation of insulated conductors.

1.2 REFERENCE STANDARDS.

A. ICEA S-61-402 (NEMA WC 5) - Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.

B. ICEA S-68-516 (NEMA WC 8) - Ethylene-Propylene-Rubber-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.

C. IEEE 404 - Standard for Cable Joints.

D. UL 83 - Thermoplastic-Insulated Wires and Cables.

PART 2 - PRODUCTS

2.1 GENERAL

A. Provide new insulated conductors of the types, sizes, and ratings specified herein or indicated on the drawings. Installation shall include all connectors, termination kits, and other accessories necessary for a complete cable system. Insulated conductors shall be marked according to NEC Article 310.

2.2 600-VOLT INSULATED CONDUCTORS

A. Construction. Conductors shall be 98 percent conductivity, soft-drawn, annealed copper. Unless otherwise noted on the drawings, conductor insulation shall be THHN/THWN for general wiring.

B. Use. For general wiring use No. 12 minimum. Use a nonmetallic sheath that is moisture, sunlight and corrosion resistant and flame retardant, specifically approved for this purpose.

C. Terminations. The conductor sizes shown on the drawings are based on 75°C ratings. Provide terminations which are UL listed for 75°C.

D. Listing.

1. Single Conductor. UL 83.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Protection. Unless otherwise indicated, mechanically protect conductors for systems by installing in raceways. Do not install the conductors until raceway system is complete and properly cleaned. Use Polywater J cable lubricant when pulling conductors. Do not bend any conductor either permanently or temporarily during installation to radii less than four times the outer diameter of 600-volt insulated conductors. Do not exceed manufacturer's recommended values for maximum pulling tension or sidewall pressure.

B. Splices and Terminations. Use pressure-type lugs or connectors for terminations or splices of all stranded conductors. Use ring-tongue type terminators on all control wiring.

C. Appearance. Neatly and securely bundle or cable all conductors in an enclosure using nylon straps with a locking hub or head on one end and a taper on the other.

3.2 600-VOLT INSULATED CONDUCTORS

A. Size. Install conductor sizes as indicated.

B. Color Code. Use factory-colored insulated conductors for No. 10 and smaller conductors and color code larger insulated conductors with an approved field-applied tape. Use different colors for control wiring. Follow the color scheme below.

Line	240/120	208/120	480/277
A or L1	Black	Black	Brown
B or L2	Orange	Red	Orange
C or L3	Blue	Blue	Yellow
Neutral	White	White	Gray
Ground	Green	Green	Green
Switch Leg	Purple	Purple	Purple

Where more than one conductor of the same phase or more than one neutral conductor occur at the same outlet or junction box, these conductors shall be identifiable from each other by use of stripes or distinguishing markings.

C. Phasing. Phasing shall be consistent throughout each installation from the service connection to every device connection and outlet. Where interface is made to an existing system, the existing phasing configuration shall be maintained.

D. Field Testing. Insulation resistance of all feeder conductors served by a protective device rated 200A or higher shall be tested. Each conductor shall have its insulation resistance tested after the installation is completed and all splices, taps and connections are made except connection to or into its source and point (or points) of termination. Insulation resistance of conductors which are to operate at 600 volts or less shall be tested by using a Biddle Megger of not less than 1000 volts d-c. Insulation resistance of conductors rated at 600 volts shall be free of shorts and grounds and have a minimum resistance phase-to-

phase and phase-to-ground of at least 10 megohms. Conductors that do not exceed insulation resistance values listed above shall be removed at Contractor's expense and replaced and test repeated. The Contractor shall furnish all instruments and personnel required for tests, shall tabulate readings observed, and shall forward copies of the test readings to the Owner in accordance with Section 16010. These test reports shall identify each conductor tested, date and time of test and weather conditions. Each test shall be signed by the party making the test.

END OF SECTION

SECTION 16122 - GROUNDING

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies the furnishing and installation of grounding and bonding equipment for electrical systems.

1.2 REFERENCE STANDARDS

A. IEEE 142 - Recommended Practice for Grounding of Industrial and Commercial Power Systems.

B. UL 83 - Thermoplastic-Insulated Wires and Cables.

C. UL 467 - Grounding and Bonding Equipment.

PART 2 - PRODUCTS

2.1 GROUND RODS

A. Materials. Provide 3/4-inch by 10-foot long, copper-clad, steel grounding electrodes. Supply a rod to which the copper cladding is permanently and inseparably bonded to a high strength steel core.

B. Listing. UL 467.

2.2 CONNECTIONS

A. Materials. Unless otherwise noted, provide exothermic welded type connections below grade. For above grade connections, or where connections are accessible in ground wells or boxes, provide either exothermic welded connections or approved copper or bronze mechanical compression connectors or clamps meeting the requirements of IEEE 837 and UL 467. Where required, provide plated connectors which will not cause electrolytic action between the conductor and the connector.

B. Listing. UL 467.

2.3 WIRING

A. Materials. Provide bare conductors for bonding jumpers. Provide 600-volt insulated conductors having a green-colored insulation for grounding electrode and equipment grounding conductors.

B. Listing. UL 83.

PART 3 - EXECUTION

3.1 SYSTEM GROUND

A. System Neutral. Where a system neutral is used, ground the system neutral as required by NEC Article 250. Ground the system neutral only at the point of service and isolate it from ground at all other points in the system.

B. Size. Size the system grounding electrode conductors to comply with NEC Table 250-94, unless shown larger on the drawings.

C. Testing. Test the completed grounding system. If the resistance of the grounding system is more than 25 ohms, add ground rods to until the resistance is 25 ohms or less.

3.2 EQUIPMENT GROUND

A. Raceway Systems and Equipment Enclosures.

1. Ground cabinets, junction boxes, outlet boxes, raceways, fittings, devices, other electrical equipment and metallic enclosures. Ground equipment and enclosures to the continuous-grounded, metallic raceway system in addition to any other specific grounding shown.

2. Provide bonding jumpers and ground wire throughout to ensure electrical continuity of the grounding system.

3. Provide grounding-type insulated bushings for metal conduits 1-1/2 inches and larger terminating in equipment enclosures containing a ground bus and connect the bushing to the ground bus.

4. Provide a green insulated equipment grounding conductor for each feeder, branch circuit.

B. Size. When grounding and bonding conductors are not sized on drawings, size the grounding conductors in accordance with NEC Table 250-95. Size bonding jumper so that minimum cross-sectional area is greater than or equal to that of the equivalent grounding conductor as determined from NEC Table 250-95.

3.3 INSTALLATION

A. Provide a grounding system that includes all connections and testing of ground rods, grounding cables, ground buses, conduits, fittings, anchors, supports, exothermic welds, and other materials necessary for a complete installation.

B. Provide grounding cables continuous between connections. Where grounding cables pass through floor slabs, building walls, or roofs and are not in metallic enclosures, provide sleeves of approved nonmetallic material and seal openings watertight after installation.

C. Provide one No. 6 insulated grounding conductor in 1" PVC conduit from each telephone equipment room to the power system grounding electrode. Provide 48 inches of coiled spare grounding conductor at each telephone backboard.

D. Ground conductor connections from ground mounted pull boxes to tree wells shall be made with high compression cable connections using hydraulic connector press.

END OF SECTION

SECTION 16130 - BOXES

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies the furnishing and installation of outlet boxes, floor boxes, junction boxes and pull boxes.

1.2 REFERENCE STANDARDS

A. NEMA Publication No. OS 1 - Sheet-steel Outlet Boxes, Device Boxes, Covers and Box Supports.

B. UL 514A - Metallic Outlet Boxes.

C. UL 514B - Fittings for Conduit and Outlet Boxes.

PART 2 - PRODUCTS

2.1 OUTLET BOXES

A. Exposed Device Boxes. Provide FS or FD cast boxes for surface mounting in areas having exposed rigid metal conduit systems. Provide galvanized steel boxes for surface mounting in areas having exposed EMT.

2.2 JUNCTION, PULL AND SPLICE BOXES

A. Construction. Provide galvanized steel boxes conforming to NEC Article 370.

B. Interior Spaces. Provide NEMA 1 type boxes at least 2 1/8 inches deep unless noted otherwise.

C. Exterior Spaces. Provide NEMA 4X type boxes at least 4 inches deep unless noted otherwise.

PART 3 - EXECUTION

3.1 OUTLET BOXES

A. Mounting Height. Mounting height of a wall-mounted outlet box means the height from finished floor to horizontal center line of the cover plate. Where outlets are indicated adjacent to each other, mount these outlets in a symmetrical pattern with all tops at the same elevation. Where outlets are indicated adjacent, but with different mounting heights, line up outlets to form a symmetrical vertical pattern on the wall. Verify the final location of each outlet with Owner's representative before rough-in. Remove and relocate any outlet box placed in an unsuitable location.

B. Box Openings. Provide only the conduit openings necessary to accommodate the conduits at the individual location. Install knockout closures for unused openings.

3.2 JUNCTION AND PULL BOXES

A. Installation. Install boxes as required to facilitate cable installation in raceway systems. Install pull boxes in interior conduit runs at not more than 100 feet intervals when conduit runs are not broken by junction or outlet boxes. Use separate pull boxes and junction boxes for electric power, control, communication and data systems.

B. Covers. Provide boxes so that covers are readily accessible and easily removable after completion of the installation. Include suitable access doors for boxes above inaccessible ceilings. Select a practical size for each box and cover. Provide hinged cover for enclosures larger than 12 inches in any dimension.

END OF SECTION

SECTION 16140 - WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies the furnishing and installation of wiring devices and device plates. All devices shall be standard products of a single manufacturer.

1.2 REFERENCE STANDARDS

A. Americans with Disabilities Act (ADA).

B. Federal Specification W-C-596.

C. Federal Specification W-S-896.

D. IEEE 62.41 - Guide for Surge Voltages in Low-Voltage AC Power Circuits.

E. UL 498 - Attachment Plugs and Receptacles.

F. UL 943 - Ground Fault Circuit Interrupters.

G. NEMA WD 1 - General Requirements for Wiring Devices.

H. NEMA WD 6 - Wiring Devices, Dimensional Requirements.

I. UL 1449 - Transient Voltage Surge Suppressors.

PART 2 - PRODUCTS

2.1 RECEPTACLES

A. Provide specification grade back and side wired receptacles with NEMA configurations as shown on the drawings. Unless otherwise noted, duplex receptacles shall be NEMA 5-20R with double wipe, corrosion resistant contacts and self-grounding clamps mounted to the mounting strap. Receptacles shall incorporate ground fault sensing and clearing (GFI). Where more than one GFI device is shown on a common circuit, provide GFI devices at each location. Feed-through connections are not acceptable for ground fault protection downstream of a GFI device.

2.2 DEVICE PLATES

A. Provide weatherproof cast plates with gasketed spring door covers for protection of devices.

2.3 DEVICE COLOR

A. Supply wiring devices in manufacturer's standard color, unless otherwise noted.

2.4 ACCEPTABLE MANUFACTURERS

Devices and device plates shall be supplied by Arrow-Hart, Hubbell, Leviton, or Pass & Seymour.

PART 3 - EXECUTION

3.1 DEVICE COORDINATION

A. Where items of equipment are provided under other sections of this specification or by the Owner, provide a compatible receptacle for the cap or plug and cord of the equipment.

3.2 RECEPTACLES

A. Location. Mount receptacles in a suitable cast metal outlet box centered at the height of 18 inches above finished grade or as shown on the drawings. Install receptacles at each tree well location. Verify all receptacle locations with Owner's Representative prior to installation.

B. Position. Install receptacles vertically with the ground on top. For horizontally mounted receptacles, the ground should be on left.

3.3 DEVICE PLATES

A. Type. Provide device plates for each outlet of the type required for service and device involved.

B. Ganged Devices. Mount ganged devices under a single, one-piece, device plate.

C. Engraving. Engrave plates with 1/8-inch-high black letters, if designated for engraving.

END OF SECTION

SECTION 16190 - METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies the furnishing and installation of metal framing and supporting devices for electrical equipment including channels, fittings, clamps, hardware, electrical accessories and brackets.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Make channels, fittings, clamps, electrical accessories and brackets of sheet steel or of malleable cast iron. Fabricate threaded fasteners of carbon steel.

2.2 COATINGS

A. Galvanizing. Hot-dip galvanize all steel components.

B. PVC. At the factory, apply a minimum 10-mil-thick PVC coating, bonded to metal.

C. Electroplating. Electroplate threaded steel fasteners with cadmium.

2.3 SIZES

A. Provide continuous slotted channel fabricated from not less than 12-gage sheet steel, 1-5/8 inches wide and not less than 1-5/8 inches deep.

PART 3 - EXECUTION

3.1 APPLICATION

A. Use hot-dipped galvanized steel components in all areas. Use PVC-coated components when exposed to the weather or when located in a corrosive atmosphere.

3.2 TOUCH-UP

A. Touch up all scratches, cuts, breaks, welds and other points where the rust inhibiting coating of metal components is damaged with an approved zinc chromate or a 90 percent zinc paint. Use a PVC compound on PVC-coated components.

3.3 INSTALLATION

A. Securely fasten and support conduits and raceways to the building structure.

B. Fasten single runs of conduit to the structure with one-hole pipe straps and beam clamps or hang on rod hangers.

C. Support multiple runs of conduit and raceways from continuous slotted channel inserts or from trapeze hangers constructed of rod hangers and continuous slotted channel.

D. Fasten conduits to channels with pipe channel straps.

E. Support conduits and raceways within 3 feet of each bend, of each termination, and at other intervals to maintain horizontal and vertical alignment without sag and deformation.

F. Do not use cable, strap, or wire hangers and fasteners.

G. Provide riser clamps for conduits at floor lines. Provide wire and cable supports in pull boxes for risers.

H. Install supports to permit equally distributed expansion and contraction of conduits and raceways with expansion joints. Use guides consisting of saddles, U-bolts and anchors designed for equal effectiveness for both longitudinal and transverse thrusts.

I. Do not support conduits and raceways from equipment connections.

J. Provide hangers, racks, cable cleats, and supports for wires and cables in cable chambers and other locations to make a neat and substantial installation.

K. Provide supports sized to accommodate a minimum of three times the ultimate load to be imposed.

L. Anchor supporting devices with:

1. Wood screws on wood.

2. Toggle bolts on hollow masonry.

3. Bolts and expansion anchors in concrete or brick.

4. Machine screws, threaded rods and clamps on steel.

5. 4" x 4" redwood (or penta-treated pine) installed in pitch pans filled with hot pitch at 5 feet 0 inch intervals on roof.

END OF SECTION

SECTION 16470 - PANELBOARDS - DISTRIBUTION AND BRANCH CIRCUIT

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies the furnishing and installation of distribution and branch circuit panelboards.

1.2 REFERENCE STANDARDS

A. UL 50 - Cabinets and Boxes.

B. UL 67 - Electric Panelboards.

C. NEMA AB 1 - Molded Case Circuit Breakers and Molded Case Switches.

D. NEMA AB 3 - Molded Case Circuit Breakers and Their Application.

E. NEMA PB 1 - General Instructions for Proper Handling, Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less.

F. Submitted panelboard schedules must also contain confirmation of panelboard characteristics.

PART 2 - PRODUCTS

2.1 ENCLOSURE

A. Cabinet. Construct cabinets in accordance with UL 50. Use not less than 16-gauge galvanized sheet steel. Provide a minimum 4-inch gutter wiring space on each side. Reinforce cabinets and securely support bus bars and overcurrent devices to prevent vibration and breakage in handling. Provide surface-mounted cabinets without conduit knockouts. Surface-mounted panelboards in finished spaces shall have cabinet finishes to match doors and trim as specified below. In unfinished areas such as mechanical and electrical rooms, galvanized sheet steel cabinets are sufficient, provided galvanizing occurs after components are cut or sheared.

B. Doors and Trim. Fabricate doors and trim of cold-rolled sheet steel. Equip doors with flush-type combination catch and key lock. Key all locks alike. Fasten trim for panelboards to cabinets by an approved means which permits both horizontal and vertical adjustment. Trim for surface-mounted panelboards must fit the cabinet with no overhang. Apply a finish to trim and doors consisting of two coats of enamel over a rust-inhibiting prime coat.

2.2 BUS

A. Fabricate phase, neutral and ground buses of 98 percent IACS conductivity copper with rounded edges. Size bars to withstand symmetrical fault current as indicated on panel schedules. All busses shall be fully rated for symmetrical fault current withstand, series rated busses are not acceptable. Install buses in allotted spaces so that devices can be added without additional machining, drilling or tapping. Use buses with silver-plated contact surfaces. Include copper ground buses rated not less than the phase bus ampacity and isolated copper neutral buses rated not less than twice the phase bus ampacity.

2.3 PROTECTIVE DEVICES

A. Provide "switching duty" circuit breakers for the specified service with the number of poles and ampere ratings indicated on panel schedules and one-line diagrams.

B. Provide breakers which are quick-make and quick-break on both manual and automatic operation. Use a trip-free breaker which is trip indicating. Incorporate inverse time characteristic by bimetallic overload elements and instantaneous characteristic by magnetic trip. Where indicated, provide ground fault interrupters (GFCI).

C. For 2-pole and 3-pole breakers, use the common-trip type so that an overload or fault on one pole will trip all poles simultaneously. Handle ties are not acceptable.

D. All circuit breakers shall be fully rated for symmetrical fault current interrupting, series rated devices are not acceptable. Unless otherwise indicated on panel schedules or one-line diagrams, provide circuit breakers with the following interrupting ratings:

1. RMS symmetric ampere rating for breakers 120/240 volts, single pole, or 240 volts, multipole, shall meet or exceed the available AIC shown on the drawings.

E. Connect breakers to the main bus by means of a solidly bolted connection. Use breakers which are interchangeable, capable of being operated in any position within the panel. Independently mount breakers so that a single unit can be removed from the front of the panel without disturbing or removing main bus, other units or other branch circuit connections.

F. Cable lugs shall be copper or bronze.

2.4 REMOTE CONTROL SWITCHES

A. Provide ASCO or Russelectric electrically operated, electrically held lighting contactor of indicated ratings, mounted in panelboards as shown. Derive power for the switch operating coil from line side of switched bus through a set of in-line fuses. Switch must be UL 508 listed.

2.5 CIRCUIT IDENTIFICATION

A. For each panelboard, provide a steel directory frame mounted inside the door with a heat-resistant transparent face and a directory card for identifying the loads served. Panelboard schedules must be identical to the schedules in the project documents unless there is a technical reason there must be a deviation.

2.6 LISTING

A. UL 67 - Electric Panelboards.

2.7 ACCEPTABLE MANUFACTURERS

A. Acceptable manufacturers are Cutler-Hammer, General Electric, Siemens, and Square D.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install panelboards in the locations as shown and as recommended in NEMA PB1.

3.2 MOUNTING HEIGHT

A. Install the panelboards such that the center of the switch or circuit breaker in the highest position will not be more than 6-1/2 feet above the floor or working platform.

3.3 PROTECTION

A. Temporary Doors. Panelboard cabinets shall be protected by a temporary door until the panelboard is energized. Temporary doors shall be 1/4-inch-thick plywood or equivalent rigid material. Temporary doors shall be installed when the cabinet is installed and shall remain closed at all times except when work is being performed inside the panelboard.

B. Permanent Doors and Trim. Permanent doors and trim shall be installed immediately before panelboards are energized. Permanent doors and trim shall be maintained in factory condition after installation. Doors shall remain closed at all times except when the panelboard is deenergized and work is taking place within the panelboard.

C. Cabinets. Cabinet interiors shall be maintained "white glove" clean at all times. Cabinet exteriors shall be maintained free of mud, spray-on insulation, paint spray and all substances not placed on the exterior surface by the panelboard manufacturer.

3.4 LOAD BALANCING

A. Where field measurements demonstrate a load imbalance in phase-to-neutral loads exceeding ten percent when the panelboard is operating at full demand, relocate and reconnect circuit breakers to achieve load balance within ten percent. If load balance within ten percent appears impractical to achieve, request direction from the Owner's Representative regarding final circuit configuration.

END OF SECTION

SECTION 16475 - FUSES - 600 VOLT AND BELOW

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies the furnishing and installation of low voltage fuses rated 600 volts and below, 6000 amperes and below.

1.2 REFERENCE STANDARDS

A. NEMA FU 1 - Low Voltage Cartridge Fuses.

B. UL 198C - High-Interrupting-Capacity Fuses, Current-Limiting Type.

C. UL 198D - Class K Fuses.

D. UL 198E - Class R Fuses.

PART 2 - PRODUCTS

2.1 VOLTAGE

A. Provide fuses with a voltage rating suitable for the nominal voltage of the system in which they are to be applied.

2.2 TYPES

A. Non-Time Delay Fuses. Fuses are UL Class RK-1 non-time delay having 200,000 rms symmetrical amperes interrupting rating. Use on all 600-ampere or smaller circuits supplying branch circuit panelboards, resistance heating and where otherwise indicated.

2.3 MANUFACTURER

A. Low voltage fuses must be products of a single manufacturer.

2.4 ACCEPTABLE MANUFACTURERS

A. Acceptable manufacturers are Bussman, Gould-Shawmut, and Littelfuse.

PART 3 - PRODUCTS

3.1 INSTALLATION

A. Instructions. Follow the manufacturer's installation instructions.

B. Fuse Clips. Check fasteners on fuse clips for tightness when installing fuses.

C. Labels. Install fuses so label is in an upright, readable position. Fuses without labels are not acceptable.

3.2 SPARE FUSES

A. As spares, provide the greater amount of either three fuses or 10 percent of each size and type installed. Deliver the spare fuses to the Owner at the time of final acceptance of the project. Neatly encase the spare fuses in suitable containers or cabinets.

END OF SECTION

SECTION 16490 - ENCLOSED SAFETY SWITCHES

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies the furnishing and installation of enclosed safety switches.

1.2 REFERENCE STANDARDS

A. UL 98 - Enclosed and Dead-Front Switches.

B. NEMA KS 1 - Enclosed and Miscellaneous Distribution Equipment Switches.

PART 2 - PRODUCTS

2.1 CHARACTERISTICS

A. Voltage. Provide switches with a voltage rating of 250 volts d-c, 240 volts or 600 volts a-c, as required for the installed system voltage.

B. Type. Provide switches conforming to NEMA KS 1 standard for Type HD (heavy duty).

C. Contacts. Provide switches with quick-make, quick-break contacts, rated minimum 30-ampere at designated voltage, unless noted otherwise.

D. Poles. Unless otherwise shown, provide 3-wire, 2 pole, S/N, visible blade switches.

2.2 CONSTRUCTION

A. Enclosure. Provide NEMA 1 switch enclosures for indoor dry locations and NEMA 4X for outdoor locations unless otherwise shown.

B. Operating Handle. Provide a handle suitable for padlocking in the OFF position with as many as three padlocks of 5/16-inch diameter shank. Use a defeatable, front accessible, coin-proof door interlock to prevent opening the door when the switch is in the ON position and to prevent turning the switch ON when the door is open.

C. Terminal Shield. Provide incoming line terminals with an insulated shield so that no live parts are exposed when the door is open.

D. Neutral. Provide each switch with an isolated, fully rated neutral block. Make provisions for bonding the block to the enclosure.

E. Ground. Provide each switch with a ground lug.

F. Fuse Holders. Where fusible switches are shown, provide switches with rejection-type fuse holders which are suitable for use with fuses specified.

G. Nameplates. Provide metal nameplates, front cover mounted, that indicates the switch type, catalog number and horsepower rating (with both standard and time delay fuses).

H. Service Entrance. Safety switches furnished as service entrance switches shall be suitable for such use. Provide each switch with a neutral bus and SE label.

2.3 LISTING

A. L 98 - Safety Standard for Enclosed Switches.

2.4 ACCEPTABLE MANUFACTURERS

A. Acceptable manufacturers are Cutler-Hammer, General Electric, Siemens, and Square D.

PART 3 - EXECUTION

A. Install switches where indicated on drawings. In general, mount so that operating handle is approximately 60 inches above finished floor. Where grouped, align tops of switches.

END OF SECTION

HUITT-ZOLLARS

Huitt-Zollars, Inc. / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214/871-3311 / FAX 214-0737

July 11, 1996

Mr. Dan Shipp
Southwestern Bell Telephone
275 N. Greenville Ave.
Richardson, TX 75081

RE: Addison Circle Phase I Public Infrastructure
Southwestern Bell Telephone Alignment and Schedule
HZI Project No. 01-2013-01

Dear Mr. Shipp:

Thank you for your schedule of bidding and construction for the above referenced project. As discussed previously, there will be other utility construction taking place in the roundabout area during your construction time frame. Please have your contractor contact Mr. Mark Person with Gibson and Associates to coordinate construction in the critical areas. Mr. Person can be reached at the following:

Gibson & Associates, Inc.
11210 Rylie Crest Drive
Balch Springs, TX 75180
Phone: 557-1199 Fax: 557-1552
Mobile: 532-9684 Pager: 204-4110

Thank you for your assistance in this matter.

Sincerely,

HUITT-ZOLLARS, INC.

David E. Meyers

David E. Meyers

cc: Bryant Nail, Columbus Realty Trust
Mark Brandenburg, Columbus Realty Trust
Mark Person, Gibson and Associates
John Baumgartner, Town of Addison 931-6643
Jerry Morgan, Construction Management & Consulting

1 Page Only

RECD MAY 13 1996

HUITT-ZOLLARS, INC.
3131 McKinney Avenue, Suite 600
DALLAS, TEXAS 75204

(214) 871-3311

LETTER OF TRANSMITTAL

DATE 5/9/96	JOB NO. 01201301
ATTENTION Bryant Nail	
RE: Addison Circle Phase I Public Infrastructure	

TO Columbus Realty Trust
15851 N. Dallas Pkwy Suite 890
Dallas, Tx. 75248

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via Mail the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of letter ☐ Change order ☒ Concrete Mix Designs

COPIES	DATE	NO.	DESCRIPTION
1			- Approved Concrete Mix Designs.

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
CC: Town of Addison; John Baumgartner - 1 copy
Fuzzo-McClelland; Skip Mazan - 1 copy
Gibson & Associates; Mark Olson - 2 copies

COPY TO H2I File w/ enclosure list

SIGNED: David Meyers

If enclosures are not as noted, kindly notify us at once.

GIBSON & ASSOCIATES, INC.

Engineers and Contractors

11210 Rylieorest
P.O. Box 800579
Balch Springs, Texas
75180-0579
214/557-1199
FAX 557-1552

April 25, 1996

Mr. David Meyers
Huitt-Zollars, Inc.
3131 McKinney Avenue
Suite 600
Dallas, Texas 75204

Re: Addison Circle - Phase I
Public Infrastructure

Dear Sir:

Enclosed please find the resubmitted concrete batch designs and test results for the concrete we propose to use on the above referenced project.

Please review and return two approved copies for our files. If there are any questions regarding this matter, please call me.

Very truly yours,

GIBSON & ASSOCIATES, INC.

Mark Person
Project Manager

MP/ms

encl:

☒ NO EXCEPTION TAKEN ☐ REJECTED ☐ REVISE AND RESUBMIT ☐ MAKE CORRECTIONS NOTED

Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of contsruction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

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

Date: 5/9/96

By: David Meyer

RECEIVED
MAY 01 1996
Huitt-Zollars

TEXAS INDUSTRIES, INC.
1341 W. MOCKINGBIRD LANE • DALLAS, TEXAS 75247-6913 • (214) 647-6700

April 24, 1996

Gibson & Associates
P.O. Box 800579
Balch Springs, Tx 751800579

Attention Mr. Tony Johnston

RE: Addison Circle
8274 8272

Gentlemen:

The attached concrete mix designs utilizing the appropriate ASTM C-33 or ASTM C-330 aggregate are proposed for use on the above referenced project for ready mix concrete to be furnished by TXI.

To ensure that the correct mix is delivered to your project, please order by the mix design number which appears in the upper left hand corner of the mix design.

Texas Industries certifies that the above mix designs, when ordered by specified design identity, will meet or exceed the indicated design strength at the designated age when tested in accordance with the applicable and current ASTM Standards C 31, C 39, C 78, C 172, C 293, applicable provisions of C 94, and evaluated in accordance with applicable provisions of ACI Building Code.

TXI would like to be included on your mailing list to receive all test reports. ASTM C 94, Section 14 entitles a manufacturer to receive copies of all test reports when strength of concrete is used as a basis for acceptance.

Please contact us if you have any questions or require any additional information. Please notify TXI of approval of the proposed mix designs prior to their use. Failure to notify us prior to first placement shall constitute acceptance. To ensure that the proper mix designs are ordered please send a copy of this letter, after approval, to the above referenced project to be used by the person ordering the concrete for this job.

Sincerely,

TEXAS INDUSTRIES, INC.

Michael A. Caldarone, P.E.
Manager-Q.A./Q.C.

Post-it® Fax Note 7671 | Date 4/24 | # of pages ▶ 8
To Tony Johnston | From Mike
Co. Gibson & Assoc. | Co. TXI
Phone # | Phone # 647-3362
Fax # 557-1552 | Fax # 647-3321

MIX # 8274 6.00SK ADMIX/AEA 1"CS 650 PSI @ 28 Days

PAVING

Maximum Coarse Aggregate Size: ASTM C 33 1''- #4 Crushed Stone
Maximum Water/Cement Ratio: 5.17 gal/sk .457 lb/lb
Minimum Cement Content per Cubic Yard: 6.00 sacks
Maximum Placement Slump: 4.0 inches
Admixture ASTM C-494: Type A or D
Air Entraining Agent ASTM C-260: 4.5% - 7.5%

MATERIAL QUANTITIES PER 1 CUBIC YARD AT S.S.D.

564 lbs. or 6.00 sacks ASTM C 150 Type I Cement
1840 lbs. ASTM C 33 1''- #4 Crushed Stone
1295 lbs. ASTM C 33 Concrete Sand
258 lbs. or 31.0 gallons of Water
2.0 to 4.0 oz/cwt of ASTM C-494 Type A
Specified Air Content: 4.5% - 7.5%
Placement Slump: 3.0 + or - 1 inches

All available flexural strength data is attached.

MIX # 8272 5.00SK ADMIX/AEA 1"CS 3000 PSI @ 28 Days

AS REQUIRED

Maximum Coarse Aggregate Size: ASTM C 33 1''- #4 Crushed Stone
Maximum Water/Cement Ratio: 6.20 gal/sk .549 lb/lb
Minimum Cement Content per Cubic Yard: 5.00 sacks
Maximum Placement Slump: 4.0 inches
Admixture ASTM C-494: Type A or D
Air Entraining Agent ASTM C-260: 4.5% - 7.5%

MATERIAL QUANTITIES PER 1 CUBIC YARD AT S.S.D.

470 lbs. or 5.00 sacks ASTM C 150 Type I Cement
1840 lbs. ASTM C 33 1''- #4 Crushed Stone
1374 lbs. ASTM C 33 Concrete Sand
258 lbs. or 31.0 gallons of Water
2.0 to 4.0 oz/cwt of ASTM C-494 Type A
Specified Air Content: 4.5% - 7.5%
Placement Slump: 3.0 + or - 1 inches

PUMPING RECOMMENDATIONS:

1. 5" minimum diameter lines with no reduction to smaller lines.
2. Keep rubber hose to absolute minimum length and plan pipe with as few 90 degree angles as possible.
3. Slumps and test cylinders should be taken at discharge end of hose for strength guarantee to be valid.
4. To prime pump lines, a minimum of 8.0 sack grout should be used for lubrication. In the case of strength concrete, equivalent strength grout should be used if the grout remains in the placement.
5. Pump mixes are based on minimum cement control content pumped at ground level. As pump line increases in length or height and/or layout configuration changes, additional cement may be required to assure strength and pumpability at additional cost to the contractor.
6. TXI cannot control, and is therefore not responsible for excessive loss of entrained air when loss occurs due to pressure differentials created as a result of boom configuration or free fall discharge of concrete from end of hose.

We are enclosing all available back up data for the attached referenced mix design. If the strength information is not available or is not sufficient, confirmation cylinders may have to be made by your testing laboratory.

Cement, aggregate, and admixture certification have already been submitted.

Hooper Engineering Laboratories, Inc.

Construction Materials Testing

REPORT OF CONCRETE TESTS JOB NO.:

CLIENT: North Texas Contracting, Inc. DATE: 1 December 1995

PROJECT: Wendy's Towne Center, Coppell, TX SUPPLIER: TXI

LOCATION OF POUR SET 1: Right turn lane off Denton Tap into Wendy's parking lot, and manhole at line A, Station 10+58

LOCATION OF POUR SET 2:

SAMPLE DATA:	SET 1	SET 2	MIX NO. 8274
Truck No.	451		Cement
Ticket No.	501446		Flyash
Time Batched	1:05pm		Sand
Time Sampled	2:00pm		in.
Concrete Temp. (ASTM C1064)	67°F		1.0 in.
Air Content (ASTM C231)	5.1%		Water
Unit Weight (ASTM C138)			Admix #1
			Admix #2
			AEA

FLEXURAL STRENGTH TESTS (AASHO T97) (Standard 6 inch x 6 inch x 20 inch beam)

Beam Number	Slump Inches (ASTM C143)	Age Days	Test Date	Total Load Pounds	Flexural Strength psi	Required 7-Day Strength
5	4.00	7	12/08/95	9,800	805	
6	4.00	28	12/29/95	11,200	905	
7	4.00	28	12/29/95	11,150	905	
				28-Day Average	**905**	**650**

Michael T. Mata

TECHNICIAN: JWD (12:30pm-3:00pm)

DISTRIBUTION: (1) North Texas Contracting, Inc.
(1) City of Coppell, Larry Davis

REPORT OF CONCRETE FLEXURAL STRENGTH

HBC
ENGINEERING, INC.
4141 Irving Boulevard, Suite 206
Dallas, Texas 75247

Date of Service: 12-14-95 | Report No. 956892

Client No. | Project No. 43-1421-95

Client: Izzarelli Construction Co. | Project: BAS Realty

Page: 1 of 2

Placement Location: Left hand turn lanes - south bound

PROJECT DATA

CONTRACTOR: Bowman Construction
CONCRETE SUPPLIER: TXI
PLANT: 43
SPECIFICATION REQUIREMENTS:
STRENGTH: 650 Flex @ 28 Days
SLUMP: 3"
AIR: 3 - 6%
TEST METHOD: ASTM C-39, C-172, C-143

CONCRETE CLASS: 8274
PLACEMENT DATE: 12-14-95
TIME - Sampled: 9:15am Batched: 8:24am
TEMPERATURE (F) - AIR: 67° CONCRETE: 76°
TRUCK NO: 387 TICKET NO: 508097
AIR CONTENT (%): 3.5% UNIT WT. (pcf): N/A
SAMPLE LOCATION: North section

MATERIALS USED/SSD WEIGHT/CU. YD.: *AS REPORTED BY BATCH PLANT

* CEMENT/FLY ASH:	lbs.	* ADMIXTURE:	oz/cwt
* FINE AGGREGATE:	lbs.	* ADMIXTURE:	oz/cwt
* COARSE AGGREGATE:	lbs.	TOTAL WATER:	lbs.

REPORT OF TESTS

BEAMS MARKED SET	BEAMS MARKED NO.	MEASURED SLUMP (Inches)	AGE (Days)	DATE TESTED	MAXIMUM LOAD (lbs. force)	FLEXURAL STRENGTH (psi)	FRACTURE TYPE
1	1	1.0	7	12-21-95	8,480	685	b=6.2,L=18,d=6.0
1	2	1.0	28	1-11-96			
1	3	1.0	28	1-11-96			

Average 28 Days

REPORT OF CONCRETE FLEXURAL STRENGTH

HBC
ENGINEERING, INC.
4747 Irving Boulevard, Suite 206
Dallas, Texas 75247

Date of Service: 12-14-95 | Report No. 956892
Client No. | Project No. 43-1421-95
Client: Izzarelli Construction Co. | Project: BAS Realty
Page: 2 of 2
Placement Location: Left hand turn lanes - south bound

PROJECT DATA

CONTRACTOR: Bowman Construction
CONCRETE SUPPLIER: TXI
PLANT: 43
SPECIFICATION REQUIREMENTS:
STRENGTH: 650 Flex @ 28 Days
SLUMP: 3"
AIR: 3 - 6%
TEST METHOD: ASTM C-39, C-172, C-143

CONCRETE CLASS: 8274
PLACEMENT DATE: 12-14-95
TIME - Sampled: 1:30pm Batched: 12:35pm
TEMPERATURE (F) - AIR: 77° CONCRETE: 78°
TRUCK NO: 382 TICKET NO: 508477
AIR CONTENT (%): 4.0% UNIT WT. (pcf): N/A
SAMPLE LOCATION: South end

MATERIALS USED/SSD WEIGHT/CU. YD.: *AS REPORTED BY BATCH PLANT

* CEMENT/FLY ASH:	lbs.	* ADMIXTURE:	oz/cwt
* FINE AGGREGATE:	lbs.	* ADMIXTURE:	oz/cwt
* COARSE AGGREGATE:	lbs.	TOTAL WATER:	lbs.

REPORT OF TESTS

BEAMS MARKED SET	BEAMS MARKED NO.	MEASURED SLUMP (Inches)	AGE (Days)	DATE TESTED	MAXIMUM LOAD (lbs. force)	FLEXURAL STRENGTH (psi)	FRACTURE TYPE
2	1	3.0	7	12-21-95	8,000	645	b=6.18,L=18,d=6.0
2	2	3.0	28	1-11-96			
2	3	3.0	28	1-11-96			

Average 28 Days

Technician: D. Taylor
Started: 8:00am 12:00pm
Stopped: 10:00am 2:00pm

Report Distribution:
1) Izzarelli Construction Co.
1) Reibenstein & Associates
1) Nova Construction
1) Andy Hlavaty Engineers
1) BAS Realty
(1) TXI

HBC Engineering, Inc.

E. Eugene Harbour
Vice President

301ss

TEXAS INDUSTRIES, INC.
CONCRETE DESIGN EVALUATION

Date: 04/17/96 ** Statistics Compiled From Independent Laboratory Test Specimens **

Mix No. 28272 Strength 3000 psi @ 28 Days
28 Day Test Data

Test No.	Date	Plant No.	Temperature Amb	Temperature Con	Placement Slump	Percent of Air	28 Day PSI 1	28 Day PSI 2	28 Day PSI Avg	Cum Avg	Moving Avg of 3	Range
1	10/17/95	25	60	78	4.5	N/A	4490	4340	4415	4415	4415	150
2	10/17/95	25	62	78	5.0	N/A	4130	4160	4145	4280	4280	30
3	10/17/95	25	65	81	4.7	N/A	4030	3920	3975	4178	4178	110
4	10/17/95	25	75	83	4.5	N/A	4100	3790	3945	4120	4022	310
5	10/20/95	25	52	55	4.5	N/A	4790	4590	4690	4234	4203	200
6	10/20/95	25	57	60	4.0	N/A	4650	4540	4595	4294	4410	110
7	10/20/95	25	59	60	5.0	N/A	3270	3550	3410	4168	4232	280
8	10/20/95	25	48	50	4.5	N/A	4390	4280	4335	4189	4113	110
9	10/23/95	43	N/A	78	4.2	5.3	4050	3860	3955	4163	3900	190
10	10/23/95	43	N/A	81	4.0	N/A	4080	4310	4195	4166	4162	230
11	10/24/95	43	N/A	72	5.5	5.1	3620	3600	3610	4115	3920	20
12	10/24/95	43	N/A	75	3.0	4.7	4220	4280	4250	4127	4018	60
13	10/25/95	43	N/A	78	5.0	5.0	3590	3860	3725	4096	3862	270
14	10/25/95	43	N/A	71	3.7	5.2	3720	3950	3835	4077	3937	230
15	10/26/95	43	N/A	83	5.0	N/A	3710	3560	3635	4048	3732	150
16	10/27/95	43	N/A	81	5.0	N/A	3870	3940	3905	4039	3792	70
17	11/02/95	43	N/A	71	4.2	5.8	5010	5100	5055	4099	4198	90
18	11/03/95	43	N/A	67	4.2	N/A	5250	5340	5295	4165	4752	90
19	11/07/95	25	63	73	4.2	N/A	4180	4150	4165	4165	4838	30
20	11/09/95	43	N/A	71	3.5	N/A	4970	5250	5110	4212	4857	280
21	11/09/95	43	N/A	70	3.7	4.5	5080	4980	5030	4251	4768	100
22	11/09/95	43	N/A	70	3.5	4.7	5310	5200	5255	4297	5132	110
23	11/10/95	43	N/A	79	5.0	4.4	3920	3970	3945	4282	4743	50
24	11/10/95	25	70	76	5.0	N/A	4030	3900	3965	4268	4388	130
25	11/10/95	25	65	74	4.2	N/A	4330	4400	4365	4272	4092	70
26	11/10/95	25	66	75	5.0	N/A	4060	3960	4010	4262	4113	100
27	11/20/95	43	N/A	75	3.5	4.5	3560	3670	3615	4238	3997	110
28	11/21/95	43	N/A	74	6.0	6.8	4080	4090	4085	4233	3903	10
29	11/28/95	43	N/A	59	5.0	4.7	4770	4800	4785	4252	4162	30
30	11/30/95	43	N/A	59	5.7	5.9	4080	4150	4115	4247	4328	70
***	Averages	***	62	72	4.5	5.1						

COMMENTARY OF STATISTICAL EVALUATION OF CONCRETE DESIGN RESULTS

Mix No. E8272 Strength 3000 psi @ 28 Days

Paragraph 5.5 of ACI 318-89 provides that as data becomes available during construction, the amount by which (f'_{cr}) must exceed the specified value of (f'_c) may be reduced, provided:

(a) 30 or more test results are available and average of test results exceeds that required by Section 5.3.2.1, using a standard deviation calculated in accordance with Section 5.3.1.1, or

(b) 15 to 29 test results are available and average of test results exceeds that required by Section 5.3.2.1, using a standard deviation calculated in accordance with Section 5.3.1.2.

The required average compressive strength has been calculated using a standard deviation calculated in accordance with ACI 318-89 Section 5.3.1.1 or Section 5.3.1.2 and is the larger value of these calculations

$$f'_{cr} = f'_c + 1.34(SD)$$
$$= 3000 + 1.34(00517)$$
$$= 3693$$

$$f'_{cr} = f'_c + 2.33(SD) - 500$$
$$= 3000 + 2.33(00517) - 500$$
$$= 3705$$

SUMMARY OF STATISTICAL ANALYSIS
28 Day Test Data

Number of Tests	30
Maximum Value	5295 psi
Minimum Value	3410 psi
Range	1885 psi
Average Strength	4247 psi
Standard Deviation	517 psi
Required Average Strength to satisfy minimum probability conditions of ACI 318-89 Section 5.3.2.1	3705 psi
Design excess beyond code requirements	542 psi

txi MATERIAL SAFETY DATA SHEET

TEXAS INDUSTRIES, INC.

QUICK IDENTIFIER (IN PLANT COMMON NAME)

CONCRETE READY-MIX	
HEALTH	2
FLAMMABILITY	0
REACTIVITY	1
PERSONAL PROTECTION	X

WARNING! CAUSES IRRITATION — Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Exposure may result in irritation of the skin or eyes from alkali in Portland cement.

SECTION 1 — IDENTITY

NAME	ADDRESS
Texas Industries, Inc.	8100 Carpenter Freeway, Dallas, Texas 75247

EMERGENCY TELEPHONE NUMBER	PERSON RESPONSIBLE FOR PREPARATION	DATE PREPARED
(214) 637-3100	Environmental Manager	November, 1985

COMMON NAME (USED ON LABEL)	FORMULA
Ready-Mix Concrete	Mixture of Portland cement, water, aggregate and/or sand.

CHEMICAL NAME	CHEMICAL FAMILY	
Does not apply	Does not apply	Other agents may also be added to control setting properties.

TRADE NAME & SYNONYMS
Ready-Mix, concrete mix, concrete, wet concrete

SECTION 2 — HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENT	CAS #	% (TYPICAL)	TLV (UNITS)	PEL (UNITS)
Aggregate/sand:				
Quartz	14808-60-7	*	See below	See below
Cristobalite	14464-46-1	*	See below	See below
Portland cement	65997-15-1	*	10 mg/m³	15 mg/m³

*Varies depending on product

$$\text{TLV (quartz)} = \frac{10\ \text{mg/m}^3}{\%\ \text{respirable quartz} + 2} = \text{PEL (quartz)}$$

TLV (cristobalite) = one-half of TLV for quartz = PEL (cristobalite)

TLV: Threshold Limit Value established by the American Conference of Governmental Industrial Hygienists, 1985-86.

SECTION 3 — PHYSICAL DATA

BOILING POINT	SPECIFIC GRAVITY ($H_2O = 1$)	VAPOR PRESSURE (mm Hg)
Does not apply	Approximately 2.4	Does not apply

PERCENT VOLATILE BY VOLUME (%)	VAPOR DENSITY (AIR = 1)	EVAPORATION RATE (BUTYL ACETATE = 1)
Essentially 0	Does not apply	Does not apply

SOLUBILITY IN WATER	REACTIVITY IN WATER
Slight (0.1 - 1.0%)	Will not evolve flammable or toxic gases

APPEARANCE AND ODOR
Gray, mud-like, viscous substance. No odor

SECTION 4 — FIRE AND EXPLOSION DATA

FLASH POINT	FLAMMABLE LIMITS IN AIR (% BY VOLUME)
Will not ignite	LOWER: Does not apply UPPER: Does not apply

EXTINGUISHING MEDIA
Does not apply

SPECIAL FIRE FIGHTING PROCEDURES
None

UNUSUAL FIRE AND EXPLOSION HAZARDS	AUTO IGNITION TEMPERATURE
None	Does not apply

Continued on Reverse Side

TEXAS INDUSTRIES, INC.
QUALITY CONTROL DEPT.
AGGREGATE SIEVE ANALYSIS

Date: 02/07/96 #ALL Tests Production Facility: AMBROSE(LATTIMORE)

Size #: 33 Grading Designation: ASTM C-33 FINE AGG.

Project: ***** ALL JOBS ***** Sample Location: _____

Sieve Size	Cumulative Wt. Retained	Cumulative % Retained	Cumulative % Passing	Required Specification % Retained	% Passing
2.0''					
1.5''					
1.0''					
3/4''					
1/2''					
3/8''					
#4		1.83	98.17	0 - 5	95 - 100
#8		12.62	87.38	0 - 20	80 - 100
#10					
#16		22.25	77.75	15 - 50	50 - 85
#30		45.85	54.15	40 - 75	25 - 60
#40					
#50		80.27	19.73	70 - 90	10 - 30
#100		97.74	2.26	90 - 98	2 - 10
#200		99.57	0.43		
Pan Wt.		2.61 Fineness Modulus			

M.C. 5.3%
Decant .25% < 3%
S.E. 95.26

Sampled By: Michael A. Calderone

Tested By: Michael A. Calderone

100% of 126 tests: Size 33 Plant: AMBROSE(LATTIMORE) Job: ***** ALL JOBS *****

TEXAS INDUSTRIES, INC.
QUALITY CONTROL DEPT.
AGGREGATE SIEVE ANALYSIS

Date: 02/07/96 #ALL Tests Production Facility: MERIDIAN

Size #: 57 Grading Designation: ASTM C-33 1'' - #4

Project: ***** ALL JOBS ***** Sample Location: _____

Sieve Size	Cumulative Wt. Retained	Cumulative % Retained	Cumulative % Passing	Required Specification % Retained	% Passing
2.0''					
1.5''					
1.0''	GRADE 3 (MAX 1" SIZE)	.80	99.20	0 - 5	95 - 100 ✓
3/4''		20.55	79.45		60-90 ✓
1/2''		56.41	43.59	40 - 75	25 - 60 ✓
3/8''		77.69	22.31		
#4		97.41	2.59	90 - 100	0 - 5/10 ✓
#8		99.86	0.14	95 - 100	0 - 5
#10					
#16					
#30					
#40					
#50					
#100					
#200					
Pan Wt.					

- NO L.A. ABRASION TEST RESULTS PROVIDED (ITEM 2.1.1.C.(3)) MAX 45
- NO DECANT TEST RESULTS PROVIDED (ITEM 2.1.1.C.(2)) MAX 1%

Sampled By: Michael A. Calderone

Tested By: Michael A. Calderone

100% of 8 tests: Size 57 Plant: MERIDIAN Job: ***** ALL JOBS *****

GRACE

Grace Construction Products

W.R. Grace & Co. - Conn.
4323 Crites Street
P.O. Box 2585-77252
Houston, TX 77003

March 29, 1996

Texas Industries
1341 W. Mockingbird Lane
Dallas, TX 75247

Gentlemen:

This is to certify that Daravair 1000, an air-entraining admixture, as manufactured and supplied by the Construction Products Division, W.R. Grace & Co.-Conn., is formulated to comply with Specification for Air-Entraining Admixtures for Concrete, ASTM Designation: C260 (AASHTO M154). ITEM 2.2.2.b

Daravair 1000 does not contain calcium chloride containing compounds as a functional ingredient. Chloride ions may be present in trace amounts contributed from the domestic water supply used during the manufacturing process.

Material supplied for the above referenced project is identical in all respects, including concentration, to the one originally submitted to and approved by the State of Texas, Dept. of Transportation.

The foregoing is in addition to and not in substitution for our standard Conditions of Sales printed on the reverse side hereof.

Sincerely,

Tom C Henson

Tom C. Henson
District Manager

Subscribed and sworn to, before me,
this 29th day of March, 1996 A.D.

Dolly J. Wachel

Notary Public

DOLLY J. WACHEL
Notary Public, State of Texas
My Commission Expires
10-20-97

If we don't deliver value, we haven't delivered.

GRACE

Grace Construction Products

W.R. Grace & Co. - Conn.
4323 Crites Street
P.O. Box 2585-77252
Houston, TX 77003

March 29, 1996

Texas Industries
1341 W. Mockingbird Lane
Dallas, TX 75247

Gentlemen:

This is to certify that WRDA with HYCOL, a water-reducing admixture, as manufactured and supplied by the Construction Products Division, W.R. Grace & Co.-Conn., is formulated to comply with Specifications for Chemical Admixtures for Concrete, ASTM Designation: C-494, Type A (AASHTO M194, Type A). MEM 2.2.2.a

No chlorides or halogens are added to WRDA with HYCOL as functional ingredients during manufacture.

Material supplied for the above referenced project is identical in all respects, including concentration, to the one originally submitted to and approved by the State of Texas, Dept. of Transportation.

The above is in addition to and not in substitution for our standard Conditions of Sale printed on the reverse side hereof.

Sincerely,

Tom C Henson

Tom C. Henson
District Manager

Subscribed and sworn to, before me,
this 29th day of March, 1996 A.D.

Dolly J. Wachel
Notary Public

DOLLY J. WACHEL
Notary Public, State of Texas
My Commission Expires
10-20-97

If we don't deliver value, we haven't delivered.

GRACE

Grace Construction Products

W.R. Grace & Co. - Conn.
4323 Crites Street
P.O. Box 2585-77252
Houston, TX 77003

March 29, 1996

Texas Industries
1341 Mockingbird Lane
Dallas, TX 75247

Gentlemen:

This is to certify that DARATARD-17, a water-reducing set-retarding admixture, supplied by the Construction Products Division, W.R. Grace & Co.-Conn., is formulated to comply with Specifications for Chemical Admixtures for Concrete, ASTM Designation: C-494, as a Type B & (D) admixture; and the Standard Specifications of the Texas Highway Department.
ITEM 2.2.2.a

No chlorides or halogens are added to DARATARD-17 as functional ingredients during manufacture.

Material supplied for the above referenced project is identical in all respects, including concentration, to the one originally submitted to and approved by the State of Texas, Dept. of Transportation.

The above is in addition to and not in substitution for our standard Conditions of Sale printed on the reverse side hereof.

Sincerely,

Tom C. Henson

Tom C. Henson
District Manager

Subscribed and sworn to, before me,
this 29th day of March, 1996 A.D.

Dolly J. Wachel
Notary Public

DOLLY J. WACHEL
Notary Public, State of Texas
My Commission Expires
10-20-97

If we don't deliver value, we haven't delivered.

TEXAS INDUSTRIES, INC.

CEMENT DIVISION, 245 Ward Road Midlothian, Texas 76085

SPECIFICATIONS
Portland Cement
Type I/II (Low Alkali)
A.S.T.M. C150-95
A.A.S.H.T.O. M 85-91I

Bin Number	
Car Number	
Tons	
Date of Sampling	January 1996 Monthly Average

		SPECIFICATIONS		TEST
		ASTM	AASHTO	RESULTS
CHEMICAL REQUIREMENTS				
Silica Oxide, Minimum Percent		20.0	20.0	20.3
Alumina Oxide, Maximum Percent		6.0	6.0	4.5
Iron Oxide, Maximum Percent		6.0	6.0	3.7
Magnesia Oxide, Maximum Percent		6.0	6.0	1.2
SO3 (C3A less than 8%), Maximum Percent		*	*	3.5
Loss on Ignition, Maximum Percent		3.0	3.0	1.0
Insoluble residue, Maximum Percent		0.75	0.75	0.21
Tricalcium Aluminate, Maximum Percent		8	8	6
OPTIONAL CHEMICAL REQUIREMENTS				
Total Alkalies, Max. % (Na20 equiv.)		0.60	0.60	0.38
PHYSICAL REQUIREMENTS				
Specific surface, Blaine	Minimum (M^2/Kg)	280	280	
	Maximum (M^2/Kg)		400	363
Gillmore, Initial Set, Minimum (Minutes)		60	60	164
Gillmore, Final Set, Maximum (Minutes)		600	600	289
Vicat, Initial Set	Minimum (Minutes)	45	45	
	Maximum (Minutes)	375	375	101
Air Content, Volume Maximum Percent		12	12	5
Autoclave Expansion, Maximum Percent		0.80	0.80	0.01
3 Day Minimum Compressive Strength, PSI		1800	1800	3471
7 Day Minimum Compressive Strength, PSI		2800	2800	4489

STATE OF TEXAS ELLIS COUNTY

J.R. Owens, being duly sworn deposes and says; that he is Chief Chemist of Texas Industries, Inc., Cement Division, who prepared the above report of tests and that the same is true and correct.

Subscribed and sworn to before me this 12th day of February, 1996.

K. C. Coker
Notary Public

J. R. Owens
Chief Chemist

*See ASTM C150 Table 1, Footnote B.

NOTARY PUBLIC STATE OF TEXAS
K. C. COKER
Notary Public
STATE OF TEXAS
My Comm. Exp. 10/22/98

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

January 8, 1996

Mr. John Baumgartner, P.E.
Director of Public Works
Town of Addison
16801 Westgrove Drive
PO Box 144
Addison, Texas 75001

Re: Addison Circle Phase I Public Infrastructure
Huitt-Zollars Project No. 01-1822-04

Dear John:

With this letter we are transmitting three sets of issued for bid construction drawings, bid documents and your mark up set of Addison Circle Phase I. In addition please find responses to your written comments dated December 29, 1996.

Please call if you need additional information.

Sincerely,

HUITT-ZOLLARS, INC.
Engineering/Architecture

Kenneth A. Roberts, P.E.
Associate

Enclosures

ADDISON CIRCLE

RESPONSE TO CITY REVIEW COMMENTS IN MEMO DATED DECEMBER 29, 1995 FROM JOHN BAUMGARTNER

General:

1. *Provide plans prepared by a Texas Registered Professional Engineer.*

   Plans submitted.

2. *What is the status of the integration of the private utility companies with this project, i.e.: Cable T.V., Lone Star Gas, Southwestern Bell?*

   We have received no response from cable television or Lone Star Gas. Southwestern Bell has made us aware of their easement requirements and we should have a better understanding of the underground system they need by the end of this week.

3. *Provide copy of final plat for review.*

   The final plat will be modified and submitted this week.

4. *Provide a copy of a dimensional site plan for review. of the proposed development.*

   Dimensional site plan was submitted on December 29, 1995.

5. *Add note as indicated on sheet 2.*

   Done.

6. *Construction Sequencing:*

   A. *Add note: Water line relocation shall take place prior to May 1, or after September 30, unless otherwise authorized by the Town of Addison's Director of Public Works.*

      Done.

   B. *Revise notes 3, 7, and 8 as indicated.*

      Done.

   C. *On sheet 7, how will two way access be maintained? Recommend closing Mildred for a very limited time to eastbound traffic. Need specific performance/penalty requirements. I would suggest 14 days, possibly 21.*

      We have added temporary asphalt to provide the proper driving width for two way traffic.

7. *Typical Sections-Sheet 9:*

A. *Revise typical sections to correspond to actual construction from right-of-way line to right-of-way line.*

Done.

B. *The mews street shall be designed to support vehicular traffic from right-of-way line to right-of-way line, or bollards/curb placed to preclude vehicular traffic from parking, loading or unloading from the sidewalk.*

The mews streets have been revised to be 8" reinforced concrete sub-base for the full right-of-way width.

C. *Provide dowel detail for full depth saw cut.*

Added longitudinal butt joint to the paving details.

8. *Signage Plan-Sheet 11:*

A. *Provide signage installation details.*

Noted in specifications as "Unistrut Telespar" sign support system per conversation with Robin Jones, Town of Addison Street Director.

B. *Provide signage size details.*

It is not necessary to provide details. The number designation on the signage plan for each sign indicates a particular size pre the Texas M.U.T.C.D.

C. *Add the identifier street, lane, road after the mews streets.*

Mews is the identifier.

D. *Street name signs required at all intersections. Identify locations.*

Locations identified on the signage plan.

E. *No parking this street required for mews. Multiple signs appear necessary.*

Added to signage plan.

F. *No parking within 15 feet of fire hydrants. Provide signage as necessary.*

Fire hydrants have been relocated to avoid additional signs.

G. *Provide stop bars on the mews.*

Added to the signage plan.

H. *Additional notes on the plans and additional review being provided by police and Barton-Aschman.*

Acknowledged.

I. *Provide striping plan for designated parking. Lines shall be 4" white thermal plastic.*

Added to striping plan and detail sheet.

9. *Demolition Plan-Sheet 12:*

A. *Provide details for fence installation. Include post (gauge), bury depth, concrete, location detail, ties, etc. I assume they will reuse fabric or buy comparable weight new fabric.*

Added to specifications. Fence specifications provided by Keith Thompson, Town of Addison Utility Foreman.

B. *Is the relocation of existing light's, power, telephone, required for the water tower? Provide details.*

Relocation of a power pole will be necessary and TUE has been made aware of this relocation and it is noted on the plans.

10. *Paving Plan & Profiles:*

A. *See Plans for miscellaneous comments.*

Done.

B. *All inlets shall be recessed.*

Done. We have proposed a modified recessed inlet to be used where a standard recessed inlet will not work, which addresses your concern over the depression being in the parking lane and provides the most flexibility during construction.

C. *Show location of all expansion joints on paving plan or joint plan.*

Added to paving plans.

D. *Provide expansion joint details--brick and no brick.*

Expansion joints are shown on the paving plans. The joints do not change at locations where there is brick.

E. *Provide roadway pavement sections on the sidewalk portion of the curbless intersections.*

Done.

F. *Sidewalk width at mews intersections shall meet ordinance requirement. Corner clip may be necessary.*

Extra sidewalk width and sidewalk easements have been added.

G. *Provide for the completion of Paschal Mews Street.*

Done.

11. *Paving Details:*

A. *See notes on plans.*

Done.

B. *Identify on plans all known, or potential utility conflicts. Contact all utility companies.*

Done.

12. *Sleeving Plan-Sheet 35.*

A. *Identify the proposed uses of all sleeves in a sleeving plan schedule. incorporate into the plans.*

Done.

13. *Surface Patterning Plan:*

A. *Mews streets shall have a cross section and materials suitable for vehicular traffic from right-of-way line to right-of-way line.*

Vehicular section incorporated in the mews.

B. *What is the purpose for the brick leave outs?*

Brick leave outs are provided for planting.

C. *See plans for additional notes.*

Done.

14. *Streetscape Plan:*

A. *Provide for the replacement of existing street electrical circuit for power along Mildred and the street lights on Mildred.*

This will be noted on the upcoming electrical plans.

B. *Existing benches and lights that are removed shall be delivered in good condition to the Town of Addison.*

Acknowledged.

15. *Drainage Area Map-Sheet 52 & 53*

A. *Revise as noted.*

Not revised for bid sets.

16. *Drainage:*

A. *Provide restoration notes/details. Address soil preparation, seeding and temporary irrigation for swales/channels.*

Noted on plans.

B. *See plan sheets for miscellaneous comments.*

Done.

17. *Utilities:*

A. *All meters located within the mews streets shall have traffic safe covers or be protected wit bollards.*

Traffic safe covers have been noted on the plans.

B. *Insufficient detail is provided for water services.*

We have added pay limits to the details and referred to the Town of Addison's general requirements.

C. *All water service installations require testable antisiphon-backflow prevention devices.*

Acknowledged and noted in the Town's general requirements which we have referred to on the plans.

D. Manholes in excess of 12 feet shall be 5 foot diameter.

Acknowledged and revised on the plans.

18. Pollution Control Plan:

A. Add the following note: The contractor shall keep Mildred and Quorum free of all dirt sediment and construction debris. The Contractor shall have the street swept as needed, or at least once a week.

Done.

B. Provide for spoils disposal, i.e.: add note: All excess material shall be removed from the Town of Addison and properly disposed of.

We have provided additional space for spoils disposal along the outfall channel and noted in the specifications that spoils shall be disposed of on Columbus Realty or Gaylord property.

19. See plan sheets for miscellaneous comments.

Done.

20. Resubmittal required.

Acknowledged.

21. Return plans with submittal.

Done.

HUITT-ZOLLARS

Engineering / Architecture

Dallas • Fort Worth • Houston • El Paso • Phoenix • Orange County

FACSIMILE TRANSMITTAL

Date: 1/9/95 Fax No.: 931-6643

H-Z Proj. No. 0182204 No. of Pages: 4 (Including Cover Sheet)

TO: TOWN OF ADDISON

ATTN: JOHN BAUMGARTNER

☐ URGENT ☒ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

JOHN,

THE FOLLOWING ARE THE EASEMENT REQUESTS FROM SOUTHWESTERN BELL TELEPHONE. (DAN SHIPP)

FROM: David Meyers

SENT BY: _____ TIME: _____ DATE: _____

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

File 01182204

Southwestern Bell Telephone

January 5, 1996

Mr. David Meyers
Huitt-Zollars Inc.
3131 McKinney Avenue
Suite 600
Dallas, Texas 75204-2416

Re: Addison Circle
Quorum Drive and Mildred Street
Town of Addison
Huitt-Zollars Project No. 01-1822-04

Dear Mr. Meyers:

This is relative to our telephone conversation reguarding easements Southwestern Bell Telephone Company will need for telephone equipment to serve this area.

Herewith is a copy of the Preliminary Plat of the referenced project on which I have sketched proposed easement locations. The sites can be moved and sizes can be modifided when I know the ultimate telephone requirements. Please advise me if the proposed easements are acceptable or let me know where space would be better suited for easement sites.

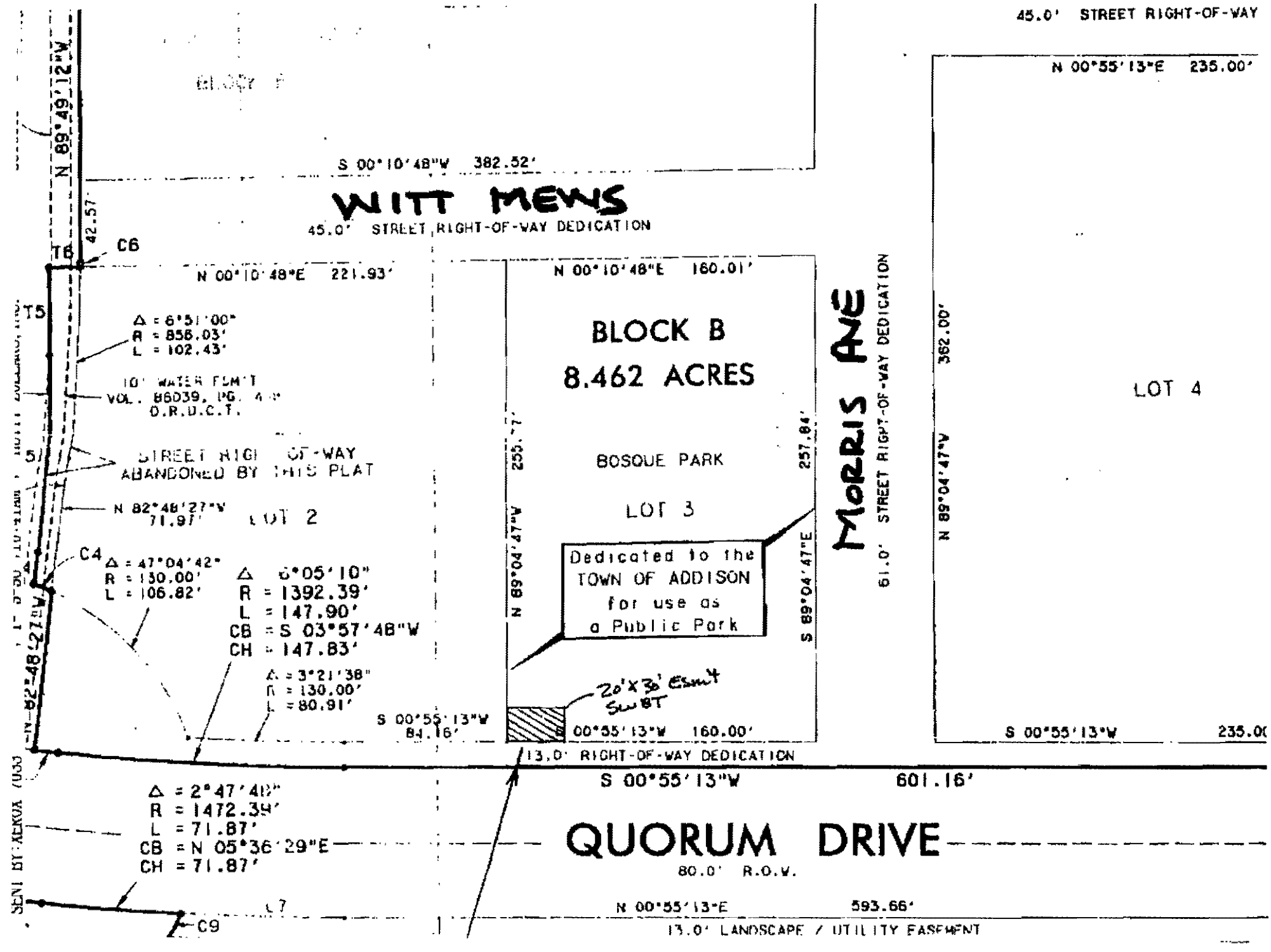
If you have any questions please call me at 214-234-7084.

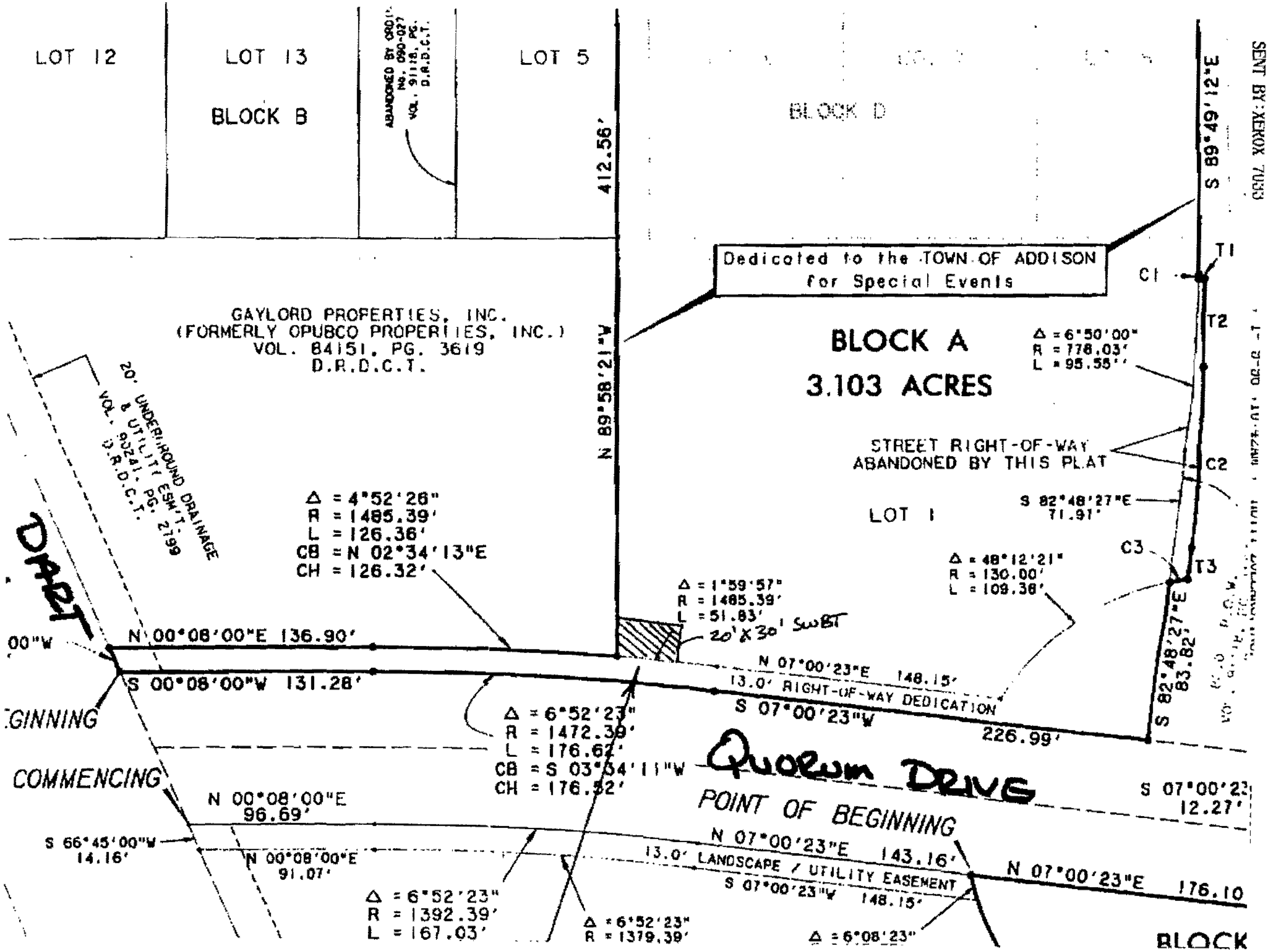
Sincerely,

Dan Shipp

Dan Shipp
Manager-Engineering Design

275 N. Greenville Avenue
2nd Floor
Richardson, Texas 75081


45.0' STREET RIGHT-OF-WAY
N 00°55'13"E 235.00'
N 89°49'12"W
S 00°10'48"W 382.52'
WITT MEWS
45.0' STREET RIGHT-OF-WAY DEDICATION
42.57'
T6
C6
N 00°10'48"E 221.93'
N 00°10'48"E 160.01'
T5
Δ = 6°51'00"
R = 856.03'
L = 102.43'
10' WATER ESM'T
VOL. 86039, PG. 4
O.R.D.C.T.
STREET RIGHT-OF-WAY
ABANDONED BY THIS PLAT
N 82°48'27"W
71.97'
LOT 2
BLOCK B
8.462 ACRES
BOSQUE PARK
LOT 3
MORRIS AVE
61.0' STREET RIGHT-OF-WAY DEDICATION
LOT 4
362.00'
N 89°04'47"W
255.77'
257.84'
S 89°04'47"E
C4
Δ = 47°04'42"
R = 130.00'
L = 106.82'
Δ = 6°05'10"
R = 1392.39'
L = 147.90'
CB = S 03°57'48"W
CH = 147.83'
Dedicated to the
TOWN OF ADDISON
for use as
a Public Park
Δ = 3°21'38"
R = 130.00'
L = 80.91'
20'x30' Esmt
S 00°55'13"W
84.16'
00°55'13"W 160.00'
S 00°55'13"W 235.00'
13.0' RIGHT-OF-WAY DEDICATION
S 00°55'13"W 601.16'
Δ = 2°47'48"
R = 1472.39'
L = 71.87'
CB = N 05°36'29"E
CH = 71.87'
QUORUM DRIVE
80.0' R.O.W.
C9
N 00°55'13"E 593.66'
13.0' LANDSCAPE / UTILITY EASEMENT



LOT 12
LOT 13
BLOCK B
ABANDONED BY ORDI. NO. 090-027 VOL. 91118, PG. D.R.D.C.T.
LOT 5
BLOCK D
412.56'
S 89°49'12"E
SENT BY:XEROX 7033
Dedicated to the TOWN OF ADDISON for Special Events
T1
C1
T2
GAYLORD PROPERTIES, INC.
(FORMERLY OPUBCO PROPERTIES, INC.)
VOL. 84151, PG. 3619
D.R.D.C.T.
N 89°58'21"W
BLOCK A
3.103 ACRES
Δ = 6°50'00"
R = 778.03'
L = 95.55''
20' UNDERGROUND DRAINAGE & UTILITY ESM'T. VOL. 93241, PG. 2799 D.R.D.C.T.
STREET RIGHT-OF-WAY ABANDONED BY THIS PLAT
C2
Δ = 4°52'26"
R = 1485.39'
L = 126.36'
CB = N 02°34'13"E
CH = 126.32'
S 82°48'27"E
71.91'
LOT 1
DART
C3
T3
Δ = 48°12'21"
R = 130.00'
L = 109.38'
Δ = 1°59'57"
R = 1485.39'
L = 51.83'
20' X 30' SWBT
N 00°08'00"E 136.90'
00"W
N 07°00'23"E 148.15'
S 00°08'00"W 131.28'
13.0' RIGHT-OF-WAY DEDICATION
S 07°00'23"W
S 82°48'27"E
83.82'
EGINNING
Δ = 6°52'23"
R = 1472.39'
L = 176.62'
CB = S 03°34'11"W
CH = 176.52'
226.99'
QUORUM DRIVE
COMMENCING
N 00°08'00"E
96.69'
S 07°00'23
12.27'
POINT OF BEGINNING
S 66°45'00"W
14.16'
N 00°08'00"E
91.07'
N 07°00'23"E 143.16'
13.0' LANDSCAPE / UTILITY EASEMENT
N 07°00'23"E 176.10
S 07°00'23"W 148.15'
Δ = 6°52'23"
R = 1392.39'
L = 167.03'
Δ = 6°52'23"
R = 1379.39'
Δ = 6°08'23"
BLOCK

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

January 11, 1996

Mr. John R. Baumgartner, P.E.
Director of Public Works
Town of Addison
16801 Westgrove Drive
Addison, Texas 75001

Re: Addison Circle Apartments - Phase I
Huitt-Zollars Project No. 01-1932-01

Dear John:

We are transmitting herewith for your approval five signed and sealed sets of construction plans for the Addison Circle Apartments - Phase I private development which address your review comments dated January 3, 1996. Your comments are listed below in italics and the action we have taken is noted.

General:

1. *Provide plans prepared by a Texas Registered Professional Engineer.*

   Done.

2. *Plat:*

   A. *Provide for separate instrument dedication of easement on property owned by others. Submit formal request for easement on property owned by the Town of Addison.*

   Separate exhibits and legal descriptions for a drainage easement and a T.U. Electric easement on Town owned property are currently being prepared by a Texas Licensed Professional Surveyor and will be submitted to you for approval upon their completion.

   B. *Clearly provide for easement dedications on this plat.*

   We have added "by this plat" to the description of all of the easements to be dedicated by the filing of the plat. We have also deleted the temporary construction easement on the water tower site per your phone conversation with David Meyers on 1/8/96.

C. *Provide the street, lane, road identifier for Witt Mews and Paschal Mews.*

Mews is the identifier.

D. *Dedicatory language requires the review of the City Attorney's office.*

Acknowledged. Per your phone conversation with David Meyers on 1/8/96 the plat submittal will be reviewed by the City Attorney's office and a separate submittal by Huitt-Zollars will not be required.

E. *Provide survey prepared by a Texas Licensed Professional Surveyor.*

The plat submitted was prepared by a Texas Licensed Professional Surveyor in the State of Texas. The plat is currently being revised and will be signed and sealed by the surveyor when it is submitted in a few days. The plat will also be stamped preliminary. When the plat is ready to be filed, the preliminary stamp will be removed and all of the necessary signatures and seals for filing will be added to the plat.

F. *Provide dimensional ties across the public roadway in and adjacent to the plat.*

Done.

G. *Coordinate additional easements required in conjunction with the public infrastructure plans reviewed on 12/28/95. Contact Ken Roberts with Huitt-Zollars for specific locations.*

Done.

3. *Drainage Plans:*

A. *A license agreement is necessary for all private improvements that encroach into the public right-of-way.*

A license agreement is being prepared by and between the Town Attorney's office and Mike McWilliams who represents Columbus Realty Trust in this matter.

B. *The location of the drainage system located on Conference Centre property has not been approved by Council. A formal easement request is required.*

We have revised the easement per your requests to minimize the encumbrance on the Town's property. The easement request will be made when the exhibits and legal descriptions are complete.

C. *For private drainage improvements proposed to be located on public property provide the following typical details:*

1. *Typical trench showing the specific PVC product proposed, pipe bedding, backfill material, and performance testing, ie: mandrel test, air tests required.*

   We have added the Town's typical trench detail for the installation of SDR35 sewer pipe to be used in the Mew's streets only. Testing will be in accordance with NCTCOG requirements found in Part III - Construction Methods, Division 6 - Underground Conduit Construction, Item 6.7.2 - Sanitary Sewer.

2. *Provide cleanout detail for roadway/sidewalk installation and detail/notes on how this is accomplished in conjunction with the public infrastructure installation. (perhaps manholes on +/- 300 foot centers would be a better application.)*

   We have added the Town's cleanout detail to the plans and added a note about coordination between the private and public contractor.

3. *Provide connection details.*

   All connections to the PVC drains will be made with factory wyes and bends. A detail has been added to the drainage plans for the buildings.

D. *Provide material cut sheet for pipe with manufacturer's recommendation for use in this application, ie: sanitary sewer product used as for stormwater runoff.*

PVC sewer pipe should be more than adequate for the private stormwater drains based upon information found in three manufacturer's brochures for PVC sewer pipe. Brochures from Diamond Plastics Corporation, CertainTeed Corporation, and Contech Construction Products describe PVC pipe as follows:

1. "PVC pipe is tough, economical, resilient, and corrosion resistant both inside and out. It's ideal for just about any underground pipe application or any fluid transfer system. And once it's in the ground, You can forget about it, because the joint has the strength and built-in flexibility to 'give' with underground shifts and surface shock loads without cracking or breaking the watertight seal."

2. "PVC sewer piping systems meet the needs for low installed cost and minimum operating costs because it offers light weight, long lengths, smooth and uniform interior with a low Manning Factor of n = 0.0009 for PVC, and tight all-weather FLUID-TITE single gasketed jointed system."

3. "PVC provides excellent durability and resistance to abrasion and scouring, as well as corrosive attack from both acidic and alkaline soils. More importantly, PVC has proven itself in the trenches in a variety of applications for sanitary sewers, storm sewers, and subdrainage systems."

E. *Show dimensional offset to the property line. Recommend a minimum 3.0 foot setback where possible.*

We have added typical sections showing the recommended locations of the private building drains and have also provided for the flexibility to change the horizontal location on private property to avoid conflicts during construction.

F. *From the typical section proposed, there appears to be a conflict with proposed utilities. Illustrate on the plans, and in a cross section where the proposed storm sewer is going in relation to the other utilities and improvements for the mews streets.*

A typical section has been added which demonstrates no conflict with other utilities in the streets and mews.

Please feel free to call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.
Engineering/Architecture

Kenneth A. Roberts, P.E.
Associate

cc: Bryant Nail

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

January 15, 1996

Mr. John R. Baumgartner, P.E.
Director of Public Works
Town of Addison
P.O. Box 144
Addison, Texas 75001

RE: Addison Circle Public Infrastructure
Response to Letter Dated December 26, 1995
H-Z Project No. 01-1822-04

Dear John:

With respect to the items in your December 26th letter, I would like to respond in letter form rather than issuing separate design reports for these relatively minor items.

A. Bricks

Bricks have been used in streets and sidewalks successfully for centuries and are used without undue concern or incident by most municipalities in this area. There is no engineering justification for their use. They are simply an attractive alternative to concrete pavement. It is, however, important to choose the right kind of brick for each application and to install them properly. The bricks selected for use in the sidewalk areas of the Addison Circle project conform to the ASTM C902 standard for light vehicular loading as evidenced by the test results we have previously submitted to you. (Copy enclosed) They are to be set on a concrete base equal to your standard sidewalk and are sufficiently regular to fit snugly together in the patterns we have indicated with the edge restraints specified. They will not be perfectly uniform and there will be some variation in the walking surface. However, it will be much more uniform than Uptown Village and roughly equivalent in texture to the effect created by many of the concrete pavestone patterns that are commonly used in sidewalks.

Certain limited vehicular areas will receive brick accents (crosswalks and patterns in mews and roundabout) to be placed on a concrete base equal to your standard pavement requirements. These bricks will be set on a layer of asphalt with a tack coat for adhesion. The bricks will have a lug on the side to create a joint to allow cement stabilized sand to be swept between them and to keep the pointed corners of the brick from chipping when traffic loading pushes them together. Bricks installed in this manner have performed in State-Thomas for over five years without any maintenance. We do not yet have test information for a heavy vehicular rated brick similar in

appearance to the "Old Virginia" sidewalk brick to be used on this project. However, the "Acme" lugged brick used in State-Thomas is available and meets the specifications for heavy vehicular loading if no other product can be found.

The bricks specified for this project are dense, hard fired products that should not be adversely affected by contact with stormwater or irrigation runoff. The few areas in the mews streets where bricks are indicated in the invert of the street (and the gutterline crossing the mews at the intersecting streets) should be of no particular concern. As long as the concrete base is intact, the entire pavement section, including the brick, will be serviceable. The joints in the invert and gutterline are just as likely to collect dirt due to their location as they are to have their joint material washed out. The dimensions and uniformity of the bricks will hold them in place and their materials properties will keep them whole.

The presence of runoff on the brick, as with any surface, will adversely affect its skid resistance. However, nuisance flows will be confined to the gutter and the mews centerline invert, neither of which are in the normal path of a vehicle's wheels. When crossing these flow areas, vehicular speeds will be extremely slow due to the confined space. If sufficient runoff is present to expand into the driving path, it is most likely that all of the pavement will be wet and motorists will respond accordingly.

In summary, if the brick pavement is installed as detailed in our plans and specifications, it will provide a safe, serviceable pedestrian and vehicular surface that is as durable as any surface the Town of Addison is currently using for streets and sidewalks. I am enclosing several technical publications on the use of bricks in pavement for your reference.

B. Curbless Street/Mews Intersection

The current version of the intersection of mews streets with other streets employs a curbed radius into the mews. Due to the street profile, this curb, as a vertical element, disappears in the barrier-free ramp and is only a horizontal band as it continues into the mews to the tangent point. The introduction of this curb and banding element as well as the ramp with its detectable surface are, we believe, sufficient warning to pedestrians of a change in the sidewalk condition. Conflicts between vehicles and pedestrians are an accepted element of true urban living. Just as in any other environment, they both adapt their behavior to fit the prevailing conditions. Vehicles move more slowly. They creep carefully out of garages and alleys where sidewalks cross. Pedestrians look before crossing such entrances and they function without incident every day with far less physical warning and sight distance than we have provided at Addison Circle.

Signage will be placed outside of the travel lanes, in some cases behind the curb. There is no more reason to believe these signs are at risk than are the signs at any intersection,

especially those with depressed curbs and barrier-free ramps. Actually, because we have a 30 foot radius at these intersections, I believe the signs will be less likely to be hit than most other locations. We therefore have no reservations about the safety or operation of these intersections as designed.

C. Mid-block Crosswalks on Quorum Drive

Though we have checked the sight distance in the field and found it to be more than adequate, we have deleted the crosswalk at the railroad based on input from Bryant Nail and Carmen Moran.

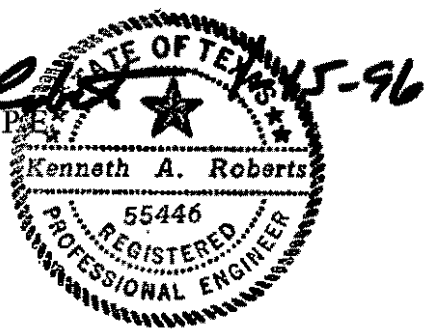
The crosswalks at sta. 20+51 are at the intersection of Quorum Drive and McKamy Avenue and are not, in our opinion, mid-block crossings even though there is no median opening or continuation of McKamy east of Quorum. In a highly urbanized pedestrian environment, frequent street crossings are essential. The small-block concept of Addison Circle reflects this premise. Once the project is built out, people will be crossing Quorum Drive frequently. If we don't put crosswalks on the extension of approaching sidewalks, people will cross there anyway. The crosswalks provide a warning to the driver and a safer situation for the pedestrians. These crosswalks could be delayed until Phase II (and might be if dictated by budget) but we would like to build them now while traffic is lighter and we are removing pavement in the vicinity anyway. If, in the future, conditions warrant it, pedestrian crossing signals could be introduced. In summary, we have no reservations about the appropriateness of this crosswalk as designed.

Sincerely,

HUITT-ZOLLARS, INC.
Engineering/Architecture

Andrew C. Oakley, P.E.
Senior Vice President

Kenneth A. Roberts, P.E.
Associate



cc: Bryant Nail

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Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 106 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

January 18, 1996

Mr. John Baumgartner
Director of Public Works
Town of Addison
P.O. Box 144
16801 Westgrove Drive
Addison, Texas 75001

RE: Addison Circle Phase I
HZI Project No. 01-1822-04

Dear John:

I am in receipt of the memo from Nancy Armstrong of Sasaki, Associates which indicates that the specified pedestrian brick does not meet ASTM C902. Referring to the copy of C902-92 attached to the memo, I direct your attention to paragraph 4.8 Molded Brick, as follows:

> *4.8 Molded Brick (Soft Mud, Semi-Dry Pressed, and Dry Pressed Brick) - The requirements listed in Table 1 shall be changed for molded brick to permit maximum absorption of 16% average and 18% individual, and minimum compressive strengths of 4000 psi (27.6 MPa) average and 3500 PSI (24.1 MPa) individual for Class SX, provided that the requirements for saturation coefficient of Table 1 are met.*

The proposed Old Virginia brick is a wood molded product that meets these requirements based on the independent test results supplied to you. While its average saturation coefficient of 0.71 is near the maximum of 0.80, its performance under all other criteria is significantly better than the specified limits. It is not necessary for a product to significantly exceed all standards in a specification for it to perform adequately. The fact that it is within the parameters should be sufficient. Unless I am misinterpreting either the standard or the test results, this product is within the established parameters. If the Town chooses to impose a stricter standard or simply does not feel comfortable with this product, that is your prerogative which will most likely be reflected in a higher cost for the project.

Sincerely,

HUITT-ZOLLARS, INC.
Engineering/Architecture

Andrew C. Oakley, P.E.
Senior Vice President

ACO/psp

cc: Nancy Armstrong
Bryant Nail

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

January 18, 1996

Ms. Carmen Moran
Director of Development Services
Town of Addison
P.O. Box 144
5300 Belt Line Road
Addison, Texas 75001

RE: Final Plat/Addison Circle Phase I
HZI Project No. 01-1932-01

Dear Ms. Moran:

I have received the staff report dated January 18, 1996 which recommends that the referenced plat be tabled pending resolution of the three items on Mr. John Baumgartner's memo to you of the same date. Those items are noted below, followed by our response and/or proposed action.

1. *The geometrics for the roundabout at Mildred and Quorum are subject to the final design. This may necessitate an enlargement of the right-of-way provided.*

   Given the criteria for the design of the modern roundabout which were imposed on us by the Town of Addison (e.g., the traffic volumes to be expected on Mildred and Quorum), there are no circumstances under which additional right-of-way will be needed for the roundabout (A separate response covering all roundabout issues is forthcoming).

2. *Add the following note to sheet one:*

   The use of the "private utility easements" shown on this plat are subject to the terms and conditions set forth in the street license/rental agreement between the Town of Addison recorded in DCDR Vol. _____ Pg. _____.

   This note will be been added to the plat as requested, however, my draft of that document does not refer to it as a "street license/rental agreement".

3. *Verify that the easements necessary for franchised and licensed utilities (Southwestern Bell, TU Electric, Lone Star Gas, Herron Cable, TCI Cable, etc.) are provided.*

   To date we have contacted every utility provider at least twice and asked them to identify for us what they will require (see attached letters). We have had no meaningful responses from any of the possible service providers except T.U. Electric. However, the following summarizes our understanding of their probable needs.

TCI & Herron Cable:

There will be no need for these facilities in Columbus's projects and therefore no need for easements in Phase I.

Southwestern Bell Telephone:

Telephone trunk lines will run in the public right-of-way as needed throughout the district. Columbus's project will have a private telephone system which will be fed by SWBT to a single point in Building A. Equipment will be inside the building, therefore, no easements should be required.

Lone Star Gas:

Gas mains will be run in the public right-of-way as needed throughout the district to provide for service to various facilities. Phase I currently indicates a single gas meter near the northeast corner of Building A. Normally Lone Star Gas does not require easements for individual service lines of this length. If one proves to be necessary, it can be documented by separate instrument.

T.U. Electric

The easements requested by T.U.E. are shown on the plat. Pending the outcome of final electrical design for street lighting, additional easement area may be needed for additional transformers. These can be handled by separate instrument or an amended plat (replat).

I have asked on several occasions what constitutes a "sign-off" by the public utilities. I cannot obtain it until I know what is expected. It is my belief that these three items can be adequately dealt with prior to the Planning and Zoning Commission meeting of January 25th, however, I will confirm the status of the plat prior to the meeting.

Sincerely,

HUITT-ZOLLARS, INC.
Engineering/Architecture

Andrew C. Oakley, P.E.
Senior Vice President

ACO/psp

cc: John Baumgartner
Bryant Nail

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HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

November 16, 1995

Ms. Jeanne Hooker
Lone Star Gas
2095 N. Collins, Suite 101
Richardson, Texas 75080

Re: Addison Circle
Quorum Drive and Mildred Street
Town of Addison
Huitt-Zollars Project No. 01-1822-04

Dear Ms. Hooker:

The Town of Addison has hired Huitt-Zollars, Inc. for the engineering design of the public infrastructure for Addison Circle (formerly the Addison Urban Center), a multi-family residential and retail development located near the intersection of Quorum Drive and Mildred Street. Enclosed please find Mapsco 4Y and conceptual drawings showing preliminary layouts of drainage, water and wastewater lines.

Please review the proposed development with respect to your facilities and indicate where the existing lines are located and where any proposed facilities may be desired. This project is scheduled for construction to commence in January 1996 making coordination with your facilities critical at this time. Upon request we can send you 20 scale drawings of the Phase I development to assist you in locating your facilities. We would be happy to meet and address your needs in person if necessary.

Thank you for your help in this matter and please feel free to call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David Meyers

David Meyers

Attachment: Conceptual Plans
Mapsco 4Y

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

November 16, 1995

Ms. Jeanne Hooker
Lone Star Gas
2095 N. Collins, Suite 101
Richardson, Texas 75080

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Quorum Drive and Mildred Street
Town of Addison
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Thank you for your help in this matter and please feel free to call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David Meyers

David Meyers

Attachment: Conceptual Plans
Mapsco 4Y

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

November 16, 1995

Mr. Berry Billington
MCI
2250 Lakside Blvd.
Richardson, Texas 75082

Re: Addison Circle
Quorum Drive and Mildred Street
Town of Addison
Huitt-Zollars Project No. 01-1822-04

Dear Mr. Billington:

The Town of Addison has hired Huitt-Zollars, Inc. for the engineering design of the public infrastructure for Addison Circle (formerly the Addison Urban Center), a multi-family residential and retail development located near the intersection of Quorum Drive and Mildred Street. Enclosed please find Mapsco 4Y and conceptual drawings showing preliminary layouts of drainage, water and wastewater lines.

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Sincerely,

HUITT-ZOLLARS, INC.

David Meyers

David Meyers

Attachment: Conceptual Plans
Mapsco 4Y

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

November 16, 1995

Mr. Dan Shipp
Southwestern Bell Telephone
275 N. Greenville Ave.
Richardson, Texas 75081

Re: Addison Circle
Quorum Drive and Mildred Street
Town of Addison
Huitt-Zollars Project No. 01-1822-04

Dear Mr. Shipp:

The Town of Addison has hired Huitt-Zollars, Inc. for the engineering design of the public infrastructure for Addison Circle (formerly the Addison Urban Center), a multi-family residential and retail development located near the intersection of Quorum Drive and Mildred Street. Enclosed please find Mapsco 4Y and conceptual drawings showing preliminary layouts of drainage, water and wastewater lines.

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Sincerely,

HUITT-ZOLLARS, INC.

David Meyers

David Meyers

Attachment: Conceptual Plans
Mapsco 4Y

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

November 16, 1995

Mr. George Womack
TCI Cablevision & TCG Fiber Optics
934 E. Centerville Road
Garland, Texas 75041

Re: Addison Circle
Quorum Drive and Mildred Street
Town of Addison
Huitt-Zollars Project No. 01-1822-04

Dear Mr. Womack:

The Town of Addison has hired Huitt-Zollars, Inc. for the engineering design of the public infrastructure for Addison Circle (formerly the Addison Urban Center), a multi-family residential and retail development located near the intersection of Quorum Drive and Mildred Street. Enclosed please find Mapsco 4Y and conceptual drawings showing preliminary layouts of drainage, water and wastewater lines.

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Thank you for your help in this matter and please feel free to call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David Meyers

David Meyers

Attachment: Conceptual Plans
Mapsco 4Y

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

November 16, 1995

Mr. Dennis Anderson
Herron Cablevision
5227 FM 813
Waxahachie, Texas 75165

Re: Addison Circle
Quorum Drive and Mildred Street
Town of Addison
Huitt-Zollars Project No. 01-1822-04

Dear Mr. Anderson:

The Town of Addison has hired Huitt-Zollars, Inc. for the engineering design of the public infrastructure for Addison Circle (formerly the Addison Urban Center), a multi-family residential and retail development located near the intersection of Quorum Drive and Mildred Street. Enclosed please find Mapsco 4Y and conceptual drawings showing preliminary layouts of drainage, water and wastewater lines.

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Thank you for your help in this matter and please feel free to call if you have any questions.

Sincerely,

HUITT-ZOLLARS, INC.

David Meyers

David Meyers

Attachment: Conceptual Plans
Mapsco 4Y

MCI metro
2250 Lakeside Blvd.
Richardson, TX 75082
214 918 1938

September 11, 1995

Huitt-Zollars, Inc.
3131 McKinney Avenue
Suite 600, LB 105
Dallas, TX 75204-2416

ATTN: David Meyers

RE: Addison Urban Center, Quorem Dr., Project 01-1822-04
MCIM ID NUMBER: 23087-95

Dear David Meyers:

MCI Metro, Inc., formerly known as ATS-Western Union has received your letter regarding the above referenced project. Our records indicate that MCI Metro does not maintain any facilities in this area and will not be involved with this project as defined by your letter.

If you have any questions regarding MCI Metro underground plant records or require additional information, please contact me at (214) 918-1977.

Sincerely,

Michael L. Warner
MCI Metro Documentation Division

cc: file

ILE 01182204

Sprint

2511 E. Grauwyler Road
Irving, TX 75061

Fiber Operations

October 18, 1995

Mr. David Meyers
Huitt-Zollars, Inc.
3131 McKinney Avenue
Suite 600
Dallas, TX 75204-2416

Re: Addison Urban Center
Quorum Drive and Mildred Street
Town of Addison
Huitt-Zollars Project No. 01-1822-04

Dear Mr. Meyers:

After reviewing your plans for the above proposed project it appears that there is NO CONFLICT with our facilities.

Please have your crews notify there local ONE CALL AGENCY when construction starts. If there is an emergency call our Call Before You Dig center at 1-800-521-0579.

If I can be of further assistance please call me at (214)506-1953 and thank you for notifying us of this project in advance.

Sincerely,

James B. Stuart
Cable Project Engineer
North Texas Division

FILE 01182204

EXPLORER PIPELINE COMPANY

RECEIVED
AUG3 0 1995
Huitt-Zollars

August 25, 1995

Mr. David Meyers
Huitt-Zollars
3131 Mckinney Avenue
Suite 600 LB 105
Dallas, Texas 75204-2416

Re: Construction of Addison Urban Center, Dallas County, Texas; Explorer Pipeline MP 37.8 Greenville to Carrollton Jct. 12" line, Alignment Drawing 231-AA-1010.

Dear Mr. Meyers:

Based on review of the preliminary plans of the referenced project, sent with your August 23, 1995 letter, Explorer Pipeline Company finds no conflicts between its 12-inch, high-pressure petroleum products pipeline and the proposed project.

Explorer's 12 inch pipeline lies approximately eight (8) feet inside the D.A.R.T. right-of-way. Should your plans change to include any location in the vicinity of Explorer's Pipeline, your contact for pipeline locating, flagging, and depth probing when necessary is:

Mr. Richard Allen
Greenville Area Supervisor
Rt. 1, Box 354
Caddo Mills, TX 75135
(903) 527-3151

Also, please include the following warning on all construction prints that involve Explorer's Pipeline.

"WARNING!!! Explorer's 12 Inch High Pressure Petroleum Products Pipeline. Contact Richard Allen 48 Hours Prior To Any Construction Near Pipeline."

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

January 18, 1996

Mr. John Baumgartner
Director of Public Works
Town of Addison
P.O. Box 144
16801 Westgrove Drive
Addison, Texas 75001

RE: Addison Circle Phase I
HZI Project No. 01-1822-04

Dear John:

I am in receipt of the memo from Nancy Armstrong of Sasaki, Associates which indicates that the specified pedestrian brick does not meet ASTM C902. Referring to the copy of C902-92 attached to the memo, I direct your attention to paragraph 4.8 Molded Brick, as follows:

> *4.8 Molded Brick (Soft Mud, Semi-Dry Pressed, and Dry Pressed Brick) - The requirements listed in Table 1 shall be changed for molded brick to permit maximum absorption of 16% average and 18% individual, and minimum compressive strengths of 4000 psi (27.6 MPa) average and 3500 PSI (24.1 MPa) individual for Class SX, provided that the requirements for saturation coefficient of Table 1 are met.*

The proposed Old Virginia brick is a wood molded product that meets these requirements based on the independent test results supplied to you. While its average saturation coefficient of 0.71 is near the maximum of 0.80, its performance under all other criteria is significantly better than the specified limits. It is not necessary for a product to significantly exceed all standards in a specification for it to perform adequately. The fact that it is within the parameters should be sufficient. Unless I am misinterpreting either the standard or the test results, this product is within the established parameters. If the Town chooses to impose a stricter standard or simply does not feel comfortable with this product, that is your prerogative which will most likely be reflected in a higher cost for the project.

Sincerely,

HUITT-ZOLLARS, INC.
Engineering/Architecture

Andrew C. Oakley, P.E.
Senior Vice President

ACO/psp

cc: Nancy Armstrong
Bryant Nail

Professional Service Industries, Inc.

TESTED FOR: Old Virginia Brick Company
P.O. Box 508
Salem, VA 24153

PROJECT: Laboratory Tests of
Wood Molded Paving Brick

DATE: November 14, 1995

OUR REPORT NO.: 455-50091-3

REMARKS:
Old Virginia Brick Company submitted to our laboratory the following brick to be tested in accordance with ASTM C902 and ASTM C67.

Brick Name:	Oversize, Wood Molded, Frogged Mixed Color, #2 Pavers
Nominal Size:	4 x 8 x 2-3/4 inches
Actual Size:	3-1/2 x 7-5/8 x 2-3/4 inches
Grade:	C902, Class SX, Type II

Test results are as follows:

Laboratory Number	Compressive Strength, psi	Cold Water Absorption, %	Five-Hour Boil Absorption, %	Saturation Coefficient	Abrasion Index	Efflorescence Rating
95-1696-A	5980	8.33	11.18	0.75	0.14	None
95-1696-B	5650	6.98	10.23	0.68	0.12	None
95-1696-C	9830	6.48	9.72	0.67	0.07	None
95-1696-D	6040	9.65	13.16	0.73	0.16	None
95-1696-E	5820	7.11	9.96	0.71	0.12	None
Average:	6664	7.80	10.85	0.71	0.12	
Specifications						
Avg. 5 Brick	4000 min.	16.0 max.	---	0.78	0.25	None
Individual	3500 min.	18.0 max.	---	0.80	---	None

Respectfully submitted,
Professional Service Industries, Inc.

Richard B. Crew
Department Manager
Construction Services

RBC/jv

Copies: 4 - Old Virginia Brick Company/Fletcher Smoak

HUITT-ZOLLARS

Engineering / Architecture

Dallas • Fort Worth • Houston • El Paso • Phoenix • Tustin • Ontario • San Clemente

FACSIMILE TRANSMITTAL

Date: 1/25/96 Fax No.: 931-6643

H-Z Proj. No. 01-1822-04 No. of Pages: 5 (Including Cover Sheet)

TO: John Baumgartner
Town of Addison

☐ URGENT ☐ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

John –

Here is the CA proposal. The fee amount is consistant with our original allocation in the budgets (± 3% of construction) but obviously, if the construction cost is higher, the total is over the budget.

I will be out until 9:00 AM Monday. Call Ken if you have questions or comments.

Thanks –

Audley

We will not send original until you and Columbus are in agreement on scope & fee.

FROM: Audley Oakley

SENT BY: Paula Powers TIME: 2:35 PM DATE: Jan. 25, 1996

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

PLANT: TUP 0% void 5.09 lbs 2.31 Kg RECEIVED: 2-1-93

TYPE BRICK: Solid Mod Velour REPORTED: 4-30-93

MIX: BL-2 Run 82793 F-T COMPLETED: 7-20-93

BRICK (NO.)	INITIAL RATE SUCTION (gms/min)	24 HR. WATER ABS. (%)	5 HR. BOIL ABS. (%)	SAT. COEF. (C/B)	COMPRESS. STRENGTH (psi)	COMPRESS. STRENGTH (MPa)	BODY FREEZE THAW (cy)	FAILURE MODE
1.	1.7	0.8	1.2	0.67	21,191	146.2	50	
2.	2.5	1.4	1.8	0.78	13,464	92.9	50	
3.	1.5	0.7	1.3	0.54	16,205	111.8	50	
4.	1.5	0.6	1.0	0.60	18,143	125.2	50	
5.	3.2	2.1	2.8	0.75	17,952	123.9	50	
Ave.	2.1	1.1	1.6	0.67	17,391	120.0		

	A.S.T.M. Specification				STRENGTH			
	BOIL	ABS.	SAT.	COEF	PSI		MPa	
	AVE.	IND.	AVE.	IND.	AVE.	IND.	AVE.	IND.
"SW"	17.0	20.0	0.78	0.80	3000	2500	20.7	17.2
"MW"	22.0	25.0	0.88	0.90	2500	2200	17.2	15.2

BURNING TEMPERATURE Plant EFFLORESCENCE

COMMENT Brick meet "SX" specifications according to ASTM C902-89a.

CC: Tony Neeves
Dick Lamar
Gary Paup

SUPERVISOR

PLANT: TUP

ACME BRICK COMPANY

Research and Production Services

LANT: TUP — 0% void, 6.82 lbs — RECEIVED: 4-16-92

YPE BRICK: 4x8 Velour Pavers with Lugs — REPORTED: 7-24-92

IDX: BL-2 Run 75182

BRICK (NO.)	INITIAL RATE SUCTION (gms/min)	24 HR. WATER ABS. (%)	5 HR. BOIL ABS. (%)	SAT. COEF. (C/B)	COMPRESS. STRENGTH (psi)	BODY FREEZE THAW (ey)	FAILURE MODE
1.	2.0	0.9	1.2	0.75	26,793		
2.	3.4	1.6	2.1	0.76	22,065		
3.	5.6	2.7	3.9	0.69	21,320		
4.	10.6	4.0	5.5	0.73	17,125		
5.	11.7	6.5	8.4	0.77	17,250		
Ave.	6.7	3.1	4.2	0.74	20,911		

A.S.T.M. Specification

	BOIL AVE.	ABS. IND.	SAT. AVE.	COEF IND.	STRENGTH AVE.	STRENGTH IND.
"SW"	17.0	20.0	0.78	0.80	3000	2500
"MW"	22.0	25.0	0.88	0.90	2500	2200

BURNING TEMPERATURE: Plant

EFFLORESCENCE: Not tested, insufficient samples

FREEZE-THAW: In Test

COMMENT: Brick meet "SX" specifications according to ASTM C902-89a.

CC: Tony Neeves
Dick Lamar
Gary Paup

SUPERVISOR

PLANT: TUP

HUITT-ZOLLARS

Engineering / Architecture

Dallas • Fort Worth • Houston • El Paso • Phoenix • Orange County

FACSIMILE TRANSMITTAL

Date: 1-25-96 Fax No.: 931-6643

H-Z Proj. No. 01-1822-04 No. of Pages: 10 (Including Cover Sheet)

TO: John Baumgartner

Addison Public Works

☒ URGENT ☒ For Your Review ☒ Please Call Upon Receipt ☐ Orig. To Follow By Mail

1. Please Review and let me know if you want to issue an Addendum #3.
2. Nancy Armstrong, Suzuki ... "meeting" and wait call ...
3. Restoration Grading is covered in Tech Specs "Earthwork", "Landscaping", "Lawn & Grasses"
4. ACME Test Results Attached

FROM: Ken Roberts

SENT BY: TIME: DATE:

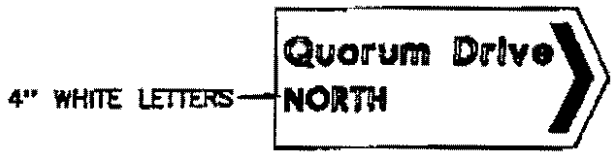
If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

749
2937

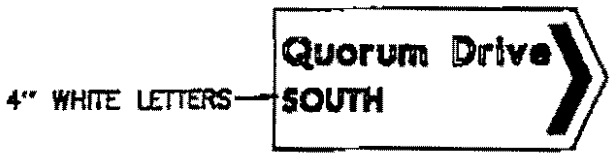
QUANTITY REVISIONS
ADDISON CIRCLE PHASE I
JANUARY 25, 1996

ITEM NO.	DESCRIPTION	UNIT	PROPOSAL QUANTITY	REVISED QUANTITY	PERCENT CHANGE
105	LIME SUBGRADE	SY	15,058	14,658	-2.66
106	HYDRATED LIME	TON	270.2	264	-2.29
107	8" CONCRETE PAVEMENT	SY	12,203	10,700	-12.32
108	8" CONCRETE DROP SLAB	SY	3,064	3,800	24.02
110	4" CONC. SIDEWALK SUBBASE	SF	57,920	62,000	7.04
117	PAVING ENHANCE. STREET	SF	21,319	34,200	60.42
118	STEEL BOLLARD	EA	54	114	111.11
124	YIELD LINE	LF	70	145	107.14
125	STREET & TRAFFIC SIGNS	EA	100	108	8.00
126	UNISTRUT POST	EA	61	67	9.84
128	BARR...TRAFFIC CONTROL	MO	15	18	20.00
134	8' x 8' SIGN	EA	6	0	-100.00
135	THERMO. MARK. "YIELD"	EA	3	8	166.67
136	8' x 7' SIGN	EA	0	2	
137	8' x 6' SIGN	EA	0	1	
138	5' x 2' SIGN	EA	0	3	
139	REMOVE EX ST. LIGHT FOUND.	EA	0	5	
140	ST. LIGHT FOUND. QUORUM	EA	0	2	
141	JIGGLE BARS	EA	0	60	
201	BRICK PAVER SIDEWALK	SF	59,725	64,109	7.34
708	10E6 DUCTBANK	LF	120	145	20.83
709	10E6 DUCTBANK BY BORE	LF	95	70	-26.32



5" U.C. WHITE LETTERS
4" L.C. WHITE LETTERS
ON GREEN BACKGROUND
5' x 2' PANEL

ST-1



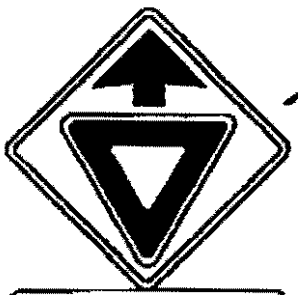
5" U.C. WHITE LETTERS
4" L.C. WHITE LETTERS
ON GREEN BACKGROUND
5' x 2' PANEL

ST-2

5" U.C. WHITE LETTERS
4" L.C. WHITE LETTERS
ON GREEN BACKGROUND
5' x 2' PANEL

ST-3

SNS.DWG



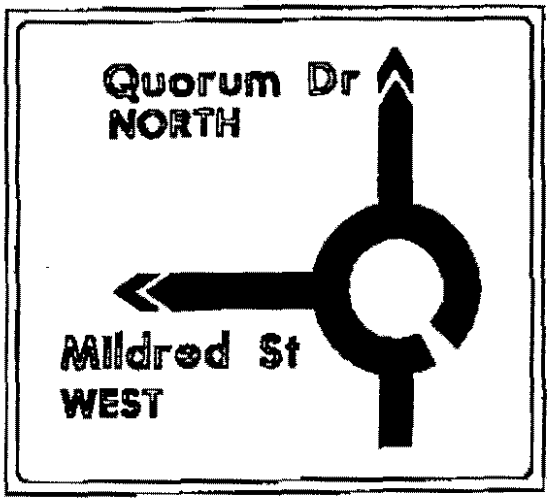
W3-2a

3' x 3' PANEL

ADW-D4

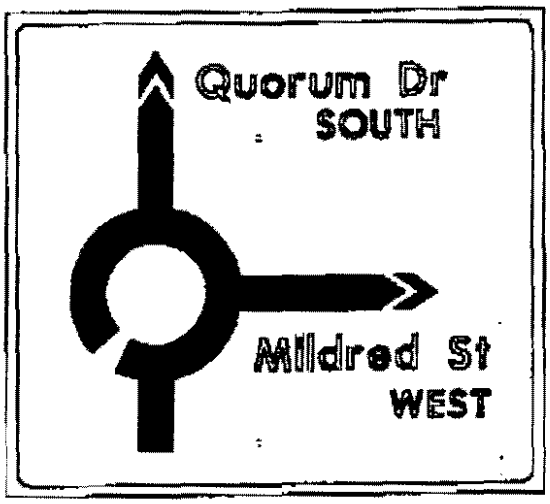
4" BLACK LETTERS
4' x 18" PANEL

ADVYIELD.DWG



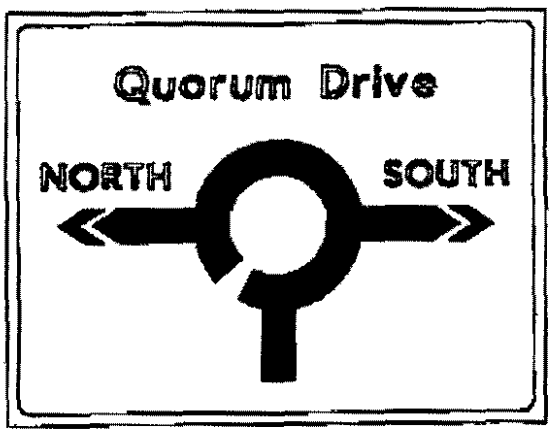
6" U.C. WHITE LETTERS
4-1/2" L.C. WHITE LETTERS
5" U.C. WHITE LETTERS (DIRECTION)
ON GREEN BACKGROUND
8' X 7' PANEL

ADV-D1



6" U.C. WHITE LETTERS
4-1/2" L.C. WHITE LETTERS
5" U.C. WHITE LETTERS (DIRECTION)
ON GREEN BACKGROUND
8' X 7' PANEL

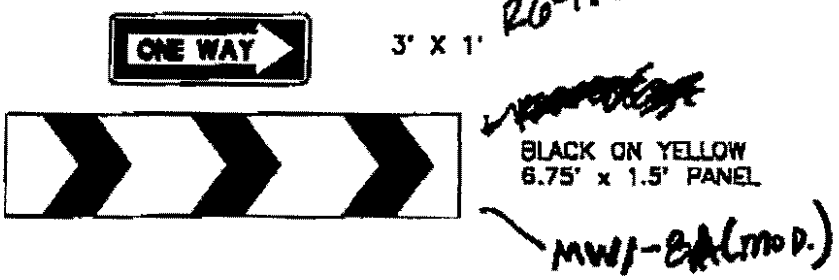
ADV-D2



6" U.C. WHITE LETTERS
4-1/2" L.C. WHITE LETTERS
5" U.C. WHITE LETTERS (DIRECTION)
ON GREEN BACKGROUND
8' X 6' PANEL

ADV-D3

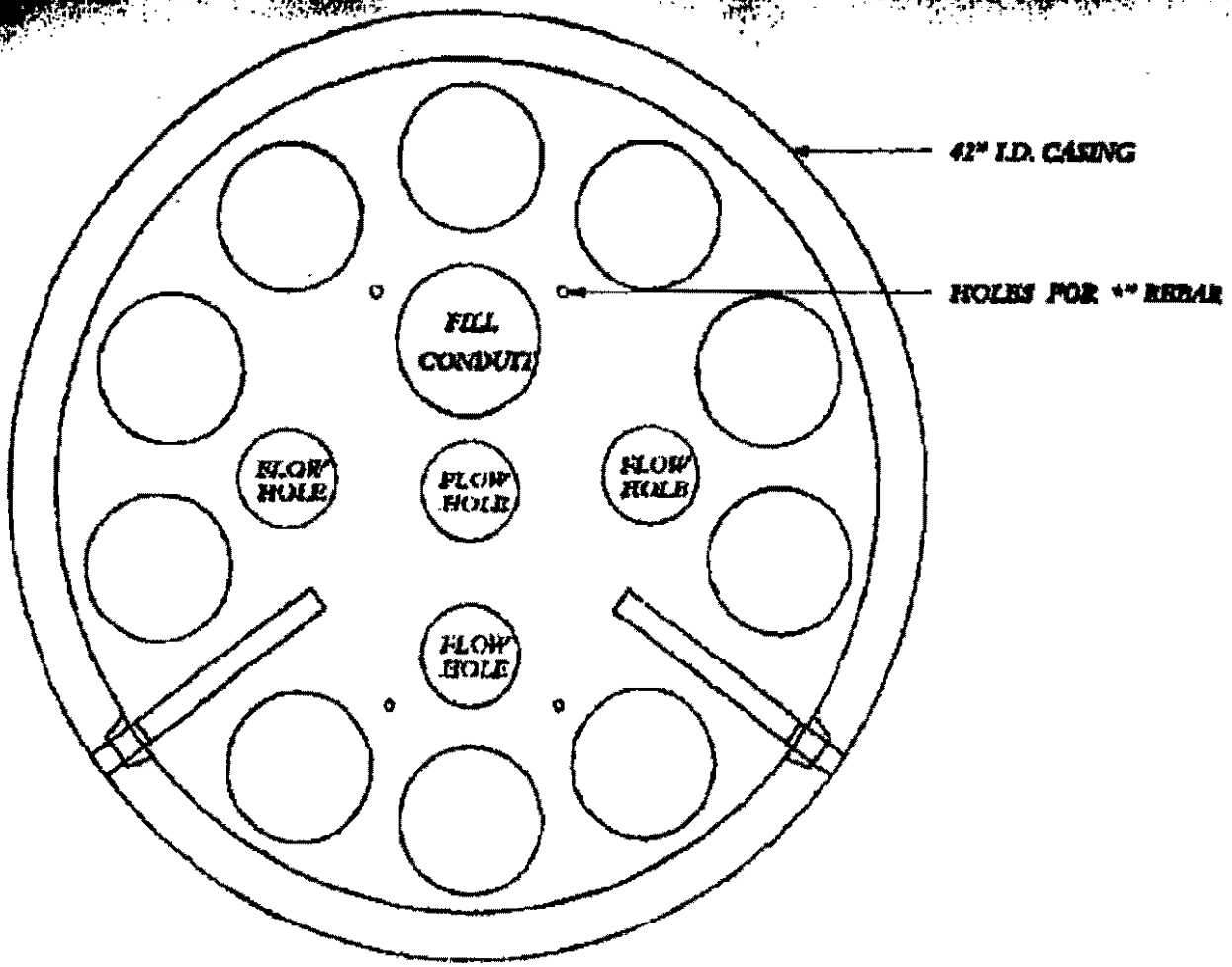
PICTDNS.DWG



W-CHEV WITH R10

ON CENTRAL ISLANDS
OPPOSITE EVERY ENTRY

ONEWAY.DWG

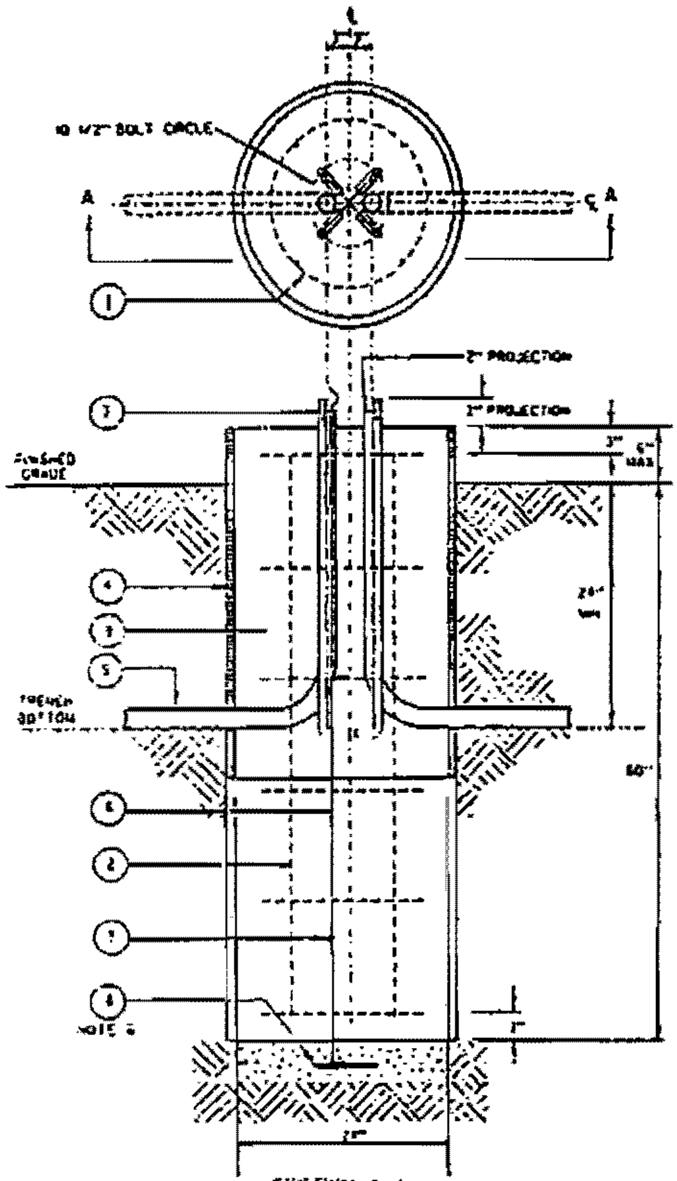


42" BORE SPACER

SECTION

T. U. Electric

STREET LIGHT FOUNDATION
22' & 27' ROUND STEEL POLE



SECTION A-A

NOTES:

1. CONCRETE TO BE MINIMUM 3000 PSI AT 28 DAYS, 4.5 SACKS MINIMUM AGGREGATE 3/4". TOP OF FOUNDATION TO BE TROWELED TO A FLAT AND LEVEL SURFACE. AVOID EXCESSIVE TROWELING. CONCRETE TO SET A MINIMUM OF 72 HOURS BEFORE POLE INSTALLATION.
2. REBAR HOOPS ARE TIED BEGINNING 3" BELOW TOP OF CONCRETE FORM AND ARE REPEATED AT APPROXIMATE [illegible] INTERVALS TO BOTTOM OF FOUNDATION.
3. ANCHOR BOLTS TO BE SUPPLIED WITH POLE. USE TEMPLATE FURNISHED BY POLE MANUFACTURER FOR ALIGNING ANCHOR BOLTS.
4. CONCRETE FORM OR SONOTUBE TO EXTEND TO BOTTOM OF TRENCH.
5. PROVIDE 24" PIGTAIL FOR CONNECTION OF GROUND WIRE TO POLE.
6. A GROUND [illegible] OF A MINIMUM OF 12' OF BARE #6 ST CU WIRE TO BE PLACED IN BOTTOM OF HOLE AND COVERED WITH 2" OF DIRT.

AU	ITEM	DESCRIPTION	QTY	STOCK NO.
SLF01	1	#3 REBAR, 18 IN. DIAMETER HOOP, 3 IN. OVERLAP	6	68-5152-4
	2	#3 REBAR, STRAIGHT, 60 IN. LONG	4	58-5225-4
	3	ANCHOR BOLT, GALV. (SUPPLIED WITH POLE)	4	
	4	CONDUIT [illegible], 24 IN. [illegible]	AS REQ	19-3670-4
	5	CONDUIT, PVC (NOT IN [illegible])	AS REQ	2" SCH 40 [illegible] PVC
	6	WIRE, #6 COPPER, SOLID	.5 LB	16-7700-8
	7	CONNECTOR, #6 COPPER	1	17-6240-8
	8	GROUND, POLE BUTT	1	13-4440-3
	9	CONCRETE	AS REQ	79-3001

APPROVED BY *TU ELECTRIC*

STREET LIGHT DETAIL

HUITT-ZOLLARS

Engineering / Architecture

Dallas • Fort Worth • Houston • El Paso • Phoenix • Orange County

FACSIMILE TRANSMITTAL

Date: 1-26-96 Fax No.: 931-6643

H-Z Proj. No. 01-1622-04 No. of Pages: 5
(Including Cover Sheet)

TO: John Baumgartner

Town of Addison Public Works

X URGENT X For Your Review X Please Call Upon Receipt ☐ Orig. To Follow By Mail

This goes to the printer in 30 minutes. Please call.

FROM: Ken Roberts

SENT BY: _____ TIME: _____ DATE: _____

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

ADDENDUM NO. 3

To The Construction Specifications And Contract Documents For

ADDISON CIRCLE
PHASE I
PUBLIC INFRASTRUCTURE

January 26, 1996

I. CONSTRUCTION SPECIFICATIONS AND CONTRACT DOCUMENTS

SECTION PF - PROPOSAL FORM

Delete **SECTION PF - PROPOSAL FORM** in its entirety (Pages PF-1 Revised thru PF-59 Revised) and replace with the revised Proposal Form (Pages PF-1 R3 thru PF-66 R3) as attached hereto. The Revised Proposal Form includes updated quantities and additional items.

SCHEDULES: ADD THE FOLLOWING NOTES AND CLARIFICATIONS TO THE APPROPRIATE SCHEDULE.

Schedule I:

1. Item No. 124 - 12" Wide Thermoplastic Yield Line
   The width of the line was changed from 24" to 12".

2. Item No. 129 - 6' Tall Black Vinyl Coated Chain Link Fence and Appurtenances
   The heighth of the fence was changed from 8 feet to 6 feet by the Town of Addison to match the existing fence at the water tower site.

3. Item No. 132 - Work on Water Tower Site Add the following:
   The restoration of the grass within the water tower site shall be done in accordance with the Technical Specifications for "Earthwork, Landscaping, and Lawns and Grasses". The temporary irrigation necessary to establish new plantings shall consist of a complete temporary irrigation system on top of the ground. Truck watering will not be accepted. Electrical and telephone service; consisting of poles, overhead lines, transformers, and underground lines located near the southeast corner of the water tower site; shall be maintained to the water tower and water tower site facilities, stone cottage (located just south of the water tower), and any other structures or facilities being served from that location throughout the duration of the contract. Coordination between the Contractor and T.U. Electric, Southwestern Bell, and the Town of Addison will be required to insure that service is not interrupted at any time during construction. The maintenance of service shall be incidental to Item No. 132.

4. Item No. 134 - 8' x 8' Square Reflectorized Diagrammatic Sign
   This item has been deleted.

5. Item No. 136 - 8' x 7' Square Reflectorized Diagrammatic Sign
This item has been added for the directional signs that will be located near the modern roundabout for directional information. This item shall include all posts, mounting hardware, foundations, and appurtenances per the details attached in Addendum No.2 for "Structural Mounting Details For Large Guide Signs".

6. Item No. 137 - 8' x 6' Square Reflectorized Diagrammatic Sign
This item has been added for the directional signs that will be located near the modern roundabout for directional information. This item shall include all posts, mounting hardware, foundations, and appurtenances per the details attached in Addendum No.2 for "Structural Mounting Details For Large Guide Signs".

7. Item No. 138 - 5' x 2' Reflectorized Street Sign
This item has been added for the directional signs that will be located near the modern roundabout for directional information. This item shall include all posts, mounting hardware, foundations, and appurtenances per the details attached in Addendum No.2 for "Structural Mounting Details For Large Guide Signs".

8. Item No. 139 - Remove Existing Street Light Foundation
This item has been added for the removal of street light foundations located in Mildred Street and Quorum Drive. T.U. Electric will remove the existing light poles prior to the removal of the foundations. The street light circuits in Mildred Street and Quorum Drive shall remain operational for the duration of the construction contract. Conduit and wiring necessary to keep the street lights operational after light poles and foundations have been removed shall be incidental to Item No. 139.

9. Item No. 140 - Street Light Foundation in Quorum Drive
This item has been added for the relocation of street lights located in Quorum Drive. T.U. Electric will reset the light poles after the foundations have been installed. This item shall include the connection of existing and/or proposed conduit to the new light foundations.

10. Item No. 141 - Jiggle Bar Tile, Class A, Type I-C
This item has been added for use in the left turn lane on Quorum Drive.

11. Item No. 142 - Longitudinal Butt Joint
This item has been added for the construction of the parallel parking adjacent to the existing Quorum Drive pavement.

12. Item No. 143 - Underground Electrical and Telephone Service to the Water Tower Site/Stone Cottage Area
This item has been added for the construction of underground electrical and telephone service to replace the existing overhead service in the Water Tower/Stone Cottage area. Upon completion of the improvements in this area and with the Town's approval the electrical and telephone services in this area shall be run underground and reconnected to the structures and facilities being served. Coordination between the Contractor and T.U. Electric, Southwestern Bell, and the Town of Addison will be required to insure that service is not interrupted at any time during construction. Questions concerning the electrical and telephone service should be directed to Jeff Curry, T.U. Electric 214-888-1317 and Dan Shipp, Southwestern Bell 214-234-7084.

Schedule II:

1. Item No. 201 - Brick Paver (Sidewalk)
The Town of Addison has rejected the "Old Virginia Brick Company Oversize, Wood Molded, Frogged Mixed Color #2 Pavers" for use in the sidewalks. Delete the paragraphs added in Addendums No. 1 & 2 and substitute the following: "This item consists of specified pedestrian brick laid per the patterns indicated on the plans. Note that many dimensions are noted in increments of brick (or "wythe"). Pedestrian bricks shall meet or exceed ASTM C67 and ASTM C902 Class SX, Type I. An acceptable material has been identified as equal to Acme "Tulsa" 2 1/4 Inch Paver. Colors should be equal to Acme color "Tulsa Blend 2, Garnet Red"; "Tulsa Blend 3, Crimson" and "Tulsa Blend 20, Amaretto".

2. Item No. 209 - Complete Irrigation System, Including Power For Controllers Add the following to the description for Item No. 209:
The construction of the complete irrigation system also includes the PVC sleeves as shown on the irrigation plans.

3. Item No. 227 - Red Oak, 200 Gal., 5"-6" Cal.,16'-18' Ht.,10'-12' Spread
The description of this item was changed due to a change in size of the tree to be planted.

4. Item No. 228 - Live Oak, 200 Gal., 5"-6" Cal.,16'-18' Ht.,10'-12' Spread
The description of this item was changed due to a change in size of the tree to be planted.

5. Item No. 257 - Nellie R. Stevens Hollies, 15 Gal., 48"-54" Ht., 30"-36" Spread, Full
This item has been added to the project.

Schedule V:

1. Item No. 510 - 12" Diameter Resilient Seat Gate Valve/Box
This item has been deleted.

2. Item No. 514 - 1/2" Water Service Line, Meter, Meter Box, Backflow Prevention Device and Vault for Public Irrigation
Item No. 515 - 2" Water Service Line, Meter, Meter Box, Backflow Prevention Device and Vault for Public Irrigation
Delete the description from Addendum No. 2 and replace with the following:
The water service descriptions noted above include the tap, copper line to the meter and backflow prevention device location, corporation stop, angle stop, meter, meter box, backflow prevention device, vault, and appurtenances.

Schedule VII:

1. Item No. 709 - By Other Than Open Cut, 10E6 Concrete Encased Ductbank In 42" Encasement Pipe Filled with Non-Sbrink Grout, 6" Dia. Type DB PVC Conduit, Including Bore Spacers, Pull Strings, Tags, Appurtenances, and Pulling a Mandrel Through Each Conduit
The description for this item was modified to include the encasement pipe and bore spacers.

Schedule VIII:

1. Item No. 801 - Complete Irrigation System, East Side of Quorum Drive Only Add the following to the description for Item No. 209:
The construction of the complete irrigation system also includes the PVC sleeves as shown on the irrigation plans. This item includes the irrigation behind the east curb line of Quorum Drive with the exception of the irrigation in the modern roundabout. The irrigation in the modern roundabout is included in Item No. 209.

Schedule IX:

1. Item No. 907 - Witt Mews Wall Mounted Clock, Including Electrical
The wall mounted clock shall be equal to Canterbury, C55 Century Style Clock, 48" diameter, Finesse Clock Hands, Arabic Numerals 1-213-936-7111.

SECTION T - TECHNICAL SPECIFICATIONS

VIII. SUPPLEMENTAL WATER LINE CONSTRUCTION SPECIFICATIONS

1. The supplemental water line construction specifications only apply to the construction of the 24" water main in Mildred Street.

II. CONSTRUCTION PLANS

1. Exhibits "3A & 3B" have been added to the plans for the additional signs which will be required near the modern roundabout.

2. Exhibits "3C, 3D & 3E" have been added to the plans for "Typical Ductbank Sections, Street Light Foundation Detail for Quorum Drive, and 42" Bore Spacer".

III. ITEMS FOR CLARIFICATION FROM PRE-BID MEETING HELD JANUARY 17, 1996

1. Special insurance will not be required when working close to the DART right-of-way. Insurance and entry permit are only required when working within the right-of-way. Additional questions related to DART should be directed to DART, Ron Webb 214-749-2895.

2. A copy of the Town of Addison's testing requirements is attached hereto to supplement the testing requirements specified by NCTCOG. The more stringent of the two testing requirements, Town of Addison and NCTCOG, will apply to this project.

END OF ADDENDUM NO. 3

HUITT-ZOLLARS

Engineering / Architecture

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FACSIMILE TRANSMITTAL

Date: 11/29/96 Fax No.: 931-6643

H-Z Proj. No. 01132210 No. of Pages: 8 (Including Cover Sheet)

TO: TOWN OF ADDISON

ATTN: MR. JOHN BAUMGARTNER

☐ URGENT ☒ For Your Review ☐ Please Call Upon Receipt ☐ Orig. To Follow By Mail

ADDISON CIRCLE:

UPDATED ESTIMATE BASED ON LATEST BID SCHEDULE.

FROM: David Meyers

SENT BY: TIME: DATE:

If you had any problems receiving the Facsimile Transmittal, please contact Ms. Janet Willis or the individual listed above at (214) 871-3311. Thank you.

3131 McKinney Avenue • Suite 600 • Dallas, Texas 75204 • (214) 871-3311 • FAX (214) 871-0757

SUMMARY

SCHEDULE I SUBTOTAL:	$1,096,977
SCHEDULE II SUBTOTAL:	$1,107,471
SCHEDULE III SUBTOTAL:	$496,898
SCHEDULE IV SUBTOTAL:	$151,071
SCHEDULE V SUBTOTAL:	$161,763
SCHEDULE VI SUBTOTAL:	$85,800
SCHEDULE VII SUBTOTAL:	$387,845
BASE BID PROJECT TOTAL:	$3,497,824
SCHEDULE VIII SUBTOTAL:	$72,975
SCHEDULE IX SUBTOTAL:	$336,300
PROJECT TOTAL W/ ALTERNATE SCHEDULES:	$3,907,099

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	COST
SCHEDULE I - PAVING IMPROVEMENTS					
101	MOBILIZATION	LS	1	$99,000.00	$99,000
102	UNCLASSIFIED STREET EXCAVATION	CY	9447	$3.00	$28,341
103	REM. & DISPOSE OF EXIST. CONC. PAVEMENT	SY	4163	$6.00	$24,978
104	REM. & DISPOSE OF EXIST. CONC. SIDEWALK	SY	1392	$1.00	$1,392
105	6" THICK LIME STAB. SUBGRADE	SY	14658	$1.40	$20,521
106	HYDRATED LIME (36 LBS/SY)	TON	264	$85.00	$22,440
107	8" 650 PSI FLEX REINF. CONC. PAVEMENT	SY	10700	$20.00	$214,000
108	8" 650 PSI FLEX REINF. CONC. DROP SLAB (STREET)	SY	3800	$20.00	$76,000
109	4" 3000 PSI COMPRESSIVE REINF. CONC. SIDEWALK	SF	16970	$3.00	$50,610
110	4" 3000 PSI COMPRESSIVE REINF. CONC. SUBBASE (SIDEWALK)	SF	62000	$2.50	$155,000
111	6" 3000 PSI COMPRESSIVE REINF. CONC. SUBBASE (SIDEWALK)	SF	2109	$3.00	$6,327
112	8" 650 PSI FLEX REINF. CONC. DRIVE	SY	69	$27.00	$1,863
113	6" 650 PSI FLEX REINF. CONC. DRIVE	SY	89	$25.00	$2,225
114	6" 650 PSI FLEX REINF. CONC INTEGRAL CURB	LF	5502	$1.00	$5,502
115	REINF. CONC. STREET HEADER	LF	348	$6.00	$2,088
116	FULL DEPTH SAWCUT EXIST. CONCRETE	LF	1200	$2.00	$2,400
117	SPECIAL PAVING ENHANCEMENTS (STREET)	SF	34200	$6.00	$205,200
118	STEEL BOLLARD	EA	114	$350.00	$39,900
119	4" THERMOPLASTIC LANE STRIPE	LF	54	$0.50	$27
120	4" NON-REFL. BUTTON, TYPE W	EA	110	$5.00	$550
121	4" REFL. BUTTON, TYPE I-W-C	EA	208	$5.00	$1,040
122	4" REFL. BUTTON, TYPE II-Y-Y	EA	48	$5.00	$240
123	24" THERMOPLASTIC STOP LINE	LF	70	$17.00	$1,190
124	12" THERMOPLASTIC YIELD LINE	LF	145	$10.00	$1,450
125	STREET AND TRAFFIC CONTROL SIGNS	EA	108	$170.00	$18,360
126	UNISTRUT TELESPAR STREET SIGN POST, FND., HARDWARE	EA	67	$150.00	$10,050
127	STREET BARRICADE	LF	75	$23.50	$1,763
128	BARRICADING, SIGNING AND TRAFFIC CONTROL	MO	18	$1,500.00	$27,000
129	6' TALL BLACK VINYL COATED CHAIN LINK FENCE	LF	200	$20.00	$4,000
130	6' TALL TEMP. CH. LINK FENCE @ W. TOWER	LF	250	$8.00	$2,000
131	1500 LF 6' CH. LINK TEMP. FENCE (SPECIAL EVENTS)	EA	2	$15.00	$30
132	WORK ON WATER TOWER SITE	LS	1	$30,500.00	$30,500
133	DOWELED ON 6" REINF. CONC. CURB	LF	8	$5.00	$40
134	ITEM DELETED	NA	NA	NA	NA
135	THERMOPLASTIC ADVISORY MARKER "YIELD"	EA	8	$100.00	$800
136	8' X 7' REFLECTORIZED DIAGRAMMATIC SIGN (ADV-D1 & ADV-D2)	EA	2	$2,000.00	$4,000
137	8' X 6' REFLECTORIZED DIAGRAMMATIC SIGN (ADV-D3)	EA	1	$2,000.00	$2,000
138	5' X 2' REFLECTORIZED STREET SIGN (ST-1,ST-2 & ST-3)	EA	3	$1,000.00	$3,000
139	REM. EX. STREET LIGHT FOUNDATION	EA	5	$1,000.00	$5,000
140	STREET LIGHT FOUND. (QUORUM)	EA	2	$500.00	$1,000
141	6" X 6" CLASS "A", TYPE I-C HIGGLE BAR TIE	EA	60	$15.00	$900
142	LONGITUDINAL BUTT JOINT	LF	925	$10.00	$9,250
143	UNDERGROUND ELEC. & TELE. SERVICE (WATER TOWER SITE)	LS	1	$5,000.00	$5,000
	SCHEDULE I SUBTOTAL:				$1,066,977

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	COST
SCHEDULE H - STREETSCAPE IMPROVEMENTS					
201	BRICK PAVER (SIDEWALK)	SF	64109	$4.50	$288,491
202	1" PVC SCH. 40 TREE LIGHT CONDUIT	LF	4056	$2.00	$8,112
203	2" PVC SCH. 40 STREET LIGHT CONDUIT	LF	5426	$3.00	$16,278
204	STREET LIGHT PULL BOX	EA	100	$200.00	$20,000
205	2" PVC SCH. 40 SLEEVE	LF	282	$3.00	$846
206	3" PVC SCH. 40 SLEEVE	LF	510	$3.50	$1,785
207	4" PVC SCH. 40 SLEEVE	LF	1613	$4.50	$7,259
208	6" PVC SCH. 40 SLEEVE	LF	827	$6.50	$5,376
209	IRRIGATION SYSTEM INCLUDING POWER FOR CONTROLLERS	LS	1	$41,500.00	$41,500
210	TREE FENCE	LF	4984	$15.00	$74,760
211	STANDARD TREE GRATE	EA	28	$650.00	$18,200
212	ITEM DELETED	NA	NA	NA	NA
213	ITEM DELETED	NA	NA	NA	NA
214	ITEM DELETED	NA	NA	NA	NA
215	ITEM DELETED	NA	NA	NA	NA
216	ITEM DELETED	NA	NA	NA	NA
217	4" PVC SCH. 40 PERFORATED DRAIN SYSTEM	LF	5370	$10.00	$53,700
218	BENCH A, CUSTOM 5' DBL. STD. BLACK BOWERY BENCH	EA	11	$2,100.00	$23,100
219	BENCH B, 5' STD. BLACK BOWERY BENCH	EA	16	$1,100.00	$17,600
220	BENCH C, 6' GLOSSY BLACK (3 SUPPORTS) EXPO BENCH	EA	13	$1,200.00	$15,600
221	BOWERY TRASH RECEPTACLE "A"	EA	8	$600.00	$4,800
222	TRASH RECEPTACLE "B", ULTRUM EXPANDED METAL POLE MOUNT	EA	3	$250.00	$750
223	TRASH RECEPTACLE "C", ULTRUM EXPANDED METAL POLE MOUNT	EA	4	$200.00	$800
224	BIKE RACK	EA	15	$350.00	$5,250
225	DBL. ARM CAST IRON METRO DRINKING FOUNTAIN	EA	2	$5,000.00	$10,000
226	GARDEN PLANTER STYLE 006	EA	10	$600.00	$6,000
227	RED OAK, 200 GAL., 5"-6" CAL., 16'-18' HT., 10'-12' SPREAD	EA	119	$1,400.00	$166,600
228	LIVE OAK, 200 GAL., 5"-6" CAL., 16'-18' HT., 10'-12' SPREAD	EA	95	$1,400.00	$133,000
229	CHANTICLEER PEAR, 4" CAL., 14'-16' HT., 6' SPREAD, FULL	EA	39	$400.00	$15,600
230	DWARF YAUPON HOLLY, 1 GAL.	EA	5198	$12.00	$62,376
231	NEW MEXICO AGAVE, 1 GAL.	EA	24	$25.00	$600
232	AUTUMN ASTER, 4" CONT.	EA	45	$4.00	$180
233	SHASTA DAISY, 4" CONT.	EA	382	$4.00	$1,528
234	RED RUM DAYLILY, 4" CONT.	EA	96	$2.00	$192
235	STELLA DE ORO DAYLILY, 4" CONT.	EA	180	$2.00	$360
236	MIXED DAYLILY, 4" CONT.	EA	146	$2.00	$292
237	RED YUCCA, 1 GAL.	EA	42	$12.00	$504
238	BEARDED IRIS PURPLE NO. 1 BULB	EA	632	$2.00	$1,264
239	BEARDED IRIS YELLOW NO. 1 BULB	EA	441	$2.00	$882
240	BEARDED IRIS WHITE NO. 1 BULB	EA	88	$2.00	$176
241	JAPANESE IRIS BLUE NO. 1 BULB	EA	46	$2.00	$92
242	SPIDER LILY, 4" CONT.	EA	256	$4.00	$1,024
243	DAFFODIL MIXED NO.1 BULB	EA	389	$2.00	$778
244	DAFFODIL 'FRB. GOLD' NO.1 BULB	EA	471	$2.00	$942
245	DAFFODIL 'PEEPING TOM' NO.1 BULB	EA	243	$2.00	$486
246	THRIFT, 4" CONT.	EA	70	$4.00	$280
247	ADAMS NEEDLE STARBURST, 1 GAL.	EA	44	$12.00	$528
248	PURPLE HEART, 4" CONT.	EA	65	$4.00	$260
249	BERMUDA SOLID SOD	SF	10800	$5.00	$54,000
250	WEEPING LOVE GRASS	SF	34500	$0.25	$8,625
251	RESTORE IRRIG. @ CONF. CENTER	LS	1	$3,000.00	$3,000
252	BALL & BURLAP EX. NELLIE R. STEVENS HOLLIES AND RPLMNT	EA	62	$200.00	$12,400
253	NELLIE R. STEVENS HOLLY, 6' CONTAINER GROWN	EA	6	$100.00	$600
254	RPR. & REINSTALL EXIST. STEEL LANDSCAPE EDGING	LS	1	$200.00	$200
255	2' WIDE X 6" THICK REINF. CONC. FLUME, 3000 PSI COMPRESIVE	LS	1	$300.00	$300
256	3" PVC SCH 40 TREE LIGHTING CONDUIT	LF	4056	$3.50	$14,196
257	NELLIE R. STEVENS HOLLY, 15 GAL., 46"-54" HT., 30"-36" SPREAD	EA	80	$75.00	$6,000
	SCHEDULE H SUBTOTAL				$1,107,471

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	COST
SCHEDULE III - STORM WATER IMPROVEMENTS					
301	18" CL. III RCP	LF	834	$25.00	$20,850
302	21" CL. III RCP	LF	541	$29.00	$15,689
303	24" CL. III RCP	LF	188	$32.00	$6,016
304	27" CL. III RCP	LF	109	$36.00	$3,924
305	30" CL. III RCP	LF	299	$41.00	$12,259
306	33" CL. III RCP	LF	64	$45.00	$2,880
307	36" CL. III RCP	LF	437	$52.00	$22,724
308	39" CL. III RCP	LF	191	$63.00	$12,033
309	42" CL. III RCP	LF	357	$68.00	$24,276
310	45" CL. III RCP	LF	351	$75.00	$26,325
311	60" CL. III RCP	LF	267	$88.00	$23,496
312	66" CL. III RCP	LF	248	$125.00	$31,000
313	72" CL. III RCP	LF	116	$145.00	$16,820
314	REMOVE & DISPOSE OF EXIST. CURB INLET	EA	10	$450.00	$4,500
315	6' REC. CURB INLET W/ REC. TOP FOR BRICK	EA	4	$1,700.00	$6,800
316	8' REC. CURB INLET W/ REC. TOP FOR BRICK	EA	3	$1,800.00	$5,400
317	8' REC. CURB INLET (EX. DEPTH) W/ REC. TOP FOR BRICK	EA	1	$1,900.00	$1,900
318	10' REC. CURB INLET W/ REC. TOP FOR BRICK	EA	2	$1,900.00	$3,800
319	10' REC. CURB INLET	EA	1	$1,700.00	$1,700
320	10' REC. CURB INLET (EXTRA DEPTH)	EA	1	$1,900.00	$1,900
321	12' REC. CURB INLET W/ REC. TOP FOR BRICK	EA	1	$2,150.00	$2,150
322	14' STANDARD CURB INLET	EA	1	$2,100.00	$2,100
323	4 GRATE INLET	EA	1	$2,100.00	$2,100
324	ITEM DELETED	NA	NA	NA	NA
325	3 GRATE COMBINATION CURB INLET	EA	4	$2,000.00	$8,000
326	5' X 5' STANDARD 'Y' INLET INCLUDING CONCRETE APRON	EA	4	$2,000.00	$8,000
327	REM. EXIST. RCP, INCLUDING HAULING	LF	1048	$10.00	$10,480
328	TYPE 'A' STORM WATER MANHOLE	EA	1	$2,000.00	$2,000
329	MODIFIED TYPE 'A' STORM WATER MANHOLE	EA	1	$2,500.00	$2,500
330	TYPE 'B' STORM WATER MANHOLE	EA	4	$3,000.00	$12,000
331	RCP 60 DEGREE FACTORY WYE CONNECTION	EA	36	$400.00	$14,400
332	RCP 45 DEGREE FACTORY WYE CONNECTION	EA	1	$400.00	$400
333	RCP 60 DEGREE FACTORY BEND CONNECTION	EA	2	$1,300.00	$2,600
334	RCP 45 DEGREE FACTORY BEND CONNECTION	EA	2	$1,300.00	$2,600
335	RCP 30 DEGREE FACTORY BEND CONNECTION	EA	4	$1,300.00	$5,200
336	PIPE TO PIPE CONNECTION	EA	14	$420.00	$5,880
337	PIPE TO INLET CONNECTION	EA	2	$500.00	$1,000
338	PRECAST CONCRETE PLUG	EA	22	$100.00	$2,200
339	UNCLASSIFIED CHANNEL EXCAVATION	CY	9495	$5.00	$47,475
340	ROCK CHANNEL EXCAVATION	CY	4511	$10.00	$45,110
341	REMOVE & DISPOSE OF EX. HDWLS. AND CONCRETE RIP-RAP	LS	1	$3,000.00	$3,000
342	2' THICK STONE RIP RAP, TXDOT TYPE 'R'	CY	238	$100.00	$23,800
343	HYDROMULCH, TOP GUN BUFFALO SEED, FERTILIZER, AND WATER	SY	1686	$3.50	$5,901
344	FIBERNETTING, NORTH AMERICAN GREEN S150BN	SY	1686	$2.00	$3,372
345	INLET PROTECTION	EA	27	$150.00	$4,050
346	SILT FENCE	LF	7735	$3.00	$23,205
347	STRAW BALE DIKE CHECK DAM	LF	200	$4.00	$800
348	ROCK BERM	CY	10	$50.00	$500
349	STAB. CONSTRUCTION ENTRANCE	SY	333	$10.00	$3,330
350	ITEM DELETED	NA	NA	NA	NA
351	TRENCH SAFETY DESIGN FOR ALL UTILITIES	LS	1	$2,000.00	$2,000
352	TRENCH SAFETY FOR CONSTRUCTION	LF	3933	$1.00	$3,933
353	REMOVE EX. INLET TOP & RECONSTRUCT W/ REC. TOP FOR BRICK	EA	1	$500.00	$500
354	10' REC. CURB INLET (EX. DEPTH) W/ REC. TOP FOR BRICK	EA	1	$2,000.00	$2,000
	SCHEDULE III SUBTOTAL:				$496,898

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	COST
SCHEDULE IV - WASTEWATER IMPROVEMENTS					
401	8" SDR 26 PVC WASTEWATER LINE INCLUDING EMBEDMENT	LF	40	$25.00	$1,000
402	8" SDR 35 PVC WASTEWATER LINE INCLUDING EMBEDMENT	LF	1639	$20.00	$32,780
403	10" SDR 35 PVC WASTEWATER LINE INCLUDING EMBEDMENT	LF	357	$30.00	$10,710
404	12" SDR 26 PVC WASTEWATER LINE INCLUDING EMBEDMENT	LF	1564	$35.00	$54,740
405	6" SDR 35 PVC WW LAT. W/ 2-WAY CLEANOUT & CAST IRON LID	EA	17	$775.00	$13,175
406	4' DIA. WASTEWATER MANHOLE	EA	3	$1,500.00	$4,500
407	5' DIA. WASTEWATER MANHOLE	EA	11	$2,100.00	$23,100
408	TV INSPECTION	LF	3527	$2.00	$7,054
409	TRENCH SAFETY FOR CONSTRUCTION	LF	4012	$1.00	$4,012
	SCHEDULE IV SUBTOTAL:				$151,071

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	COST
SCHEDULE V - WATER IMPROVEMENTS					
501	CONCRETE BLOCKING	CY	45	$100.00	$4,500
502	D.I. CL. 250 IRON FITTINGS	TON	6	$3,000.00	$18,000
503	6" DIA. PVC AWWA C900, DR 18, CL. 150 WATER PIPE, INCL. EMBED.	LF	225.5	$14.00	$3,157
504	8" DIA. PVC AWWA C900, DR 18, CL. 150 WATER PIPE, INCL. EMBED.	LF	1945	$18.00	$35,010
505	12" DIA. PVC AWWA C900, DR 18, CL. 150 WATER PIPE, INCL. EMBED.	LF	76	$22.00	$1,672
506	24" DIA. P 303 CL 150 RCCP WATER LINE, INCLUDING EMBEDMENT	LF	248	$200.00	$49,600
507	ABANDON IN PLACE & FILL EXIST. 24" RCCP WATER LINE	LF	200	$15.00	$3,000
508	6" DIA. RESILIENT SEAT GATE VALVE/BOX	EA	12	$400.00	$4,800
509	8" DIA. RESILIENT SEAT GATE VALVE/BOX	EA	11	$600.00	$6,600
510	ITEM DELETED	NA	NA	NA	NA
511	FIRE HYDRANT, INCLUDING LEAD	EA	9	$1,200.00	$10,800
512	REM., SALVAGE & DELIVER TO TOWN EXIST. FH	EA	4	$180.00	$720
513	CONN. TO EXIST. WATER MAIN (ALL SIZES)	EA	3	$500.00	$1,500
514	1.5" WATER SERV., METER, METER BOX & BACKFLOW PREV. DEVICE	EA	2	$935.00	$1,870
515	2" WATER SERV., METER, METER BOX & BACKFLOW PREV. DEVICE	EA	1	$1,000.00	$1,000
516	6" WATER SERVICE LINE FOR FIRE PROTECTION	EA	3	$1,500.00	$4,500
517	20" X 8" TAPPING SLEEVE VALVE/BOX	EA	1	$2,250.00	$2,250
518	20" X 12" TAPPING SLEEVE VALVE/BOX	EA	1	$3,050.00	$3,050
519	2000 PSI CONC. ENCASEMENT	LF	80	$10.00	$800
520	ADJUST EXIST. WATER VALVE STACK/COVER	EA	7	$135.00	$945
521	TRENCH SAFETY FOR CONSTRUCTION	LF	2494.5	$2.00	$4,989
522	WATER TEST	LS	1	$2,000.00	$2,000
523	FILL & CAP EXIST. WATER WELL IN BOSQUE PARK	LS	1	$3,000.00	$3,000
524	2" WATER SERVICE LINE	EA	18	$1,000.00	$18,000
	SCHEDULE V SUBTOTAL:				$181,763

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	COST
SCHEDULE VI - BOSQUE PARK IMPROVEMENTS					
601	CLEARING, PRUNING & GRADING	SF	37500	$2.00	$75,000
602	RES., EXIST. TREE FROM QUORUM MEDIAN	EA	18	$600.00	$10,800
603	ITEM DELETED	NA	NA	NA	NA
	SCHEDULE VI SUBTOTAL:				$85,800

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	COST
SHEDULE VII - ELECTRICAL IMPROVEMENTS					
701	6B6 CONC. ENCASED DUCTBANK, 6" DIA. TYPE DB PVC CONDUIT	LF	2795	$75.00	$209,625
702	4B6 CONC. ENCASED DUCTBANK, 6" DIA. TYPE DB PVC CONDUIT	LF	372	$60.00	$22,320
703	TUB STANDARD 4-WAY MANHOLE	EA	9	$10,000.00	$90,000
704	TUB STANDARD 2-WAY MANHOLE	EA	1	$7,500.00	$7,500
705	REINFORCED 5' X 5' X 6" CONC. PAD AROUND MH	EA	2	$200.00	$400
706	TUB STANDARD PRECAST DEEP WELL 25 KV SWITCH PAD	EA	3	$2,000.00	$6,000
707	6" DIA. TYPE DB PVC 90 DEGREE SWEEP	EA	25	$100.00	$2,500
708	10B6 CONC. ENCASED DUCTBANK, 6" DIA. TYPE DB PVC CONDUIT	LF	145	$100.00	$14,500
709	10B6 CONC. ENC. DUCTBANK IN 42" ENCASEMENT PIPE	LF	70	$500.00	$35,000
	SCHEDULE VII SUBTOTAL:				$387,845

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	COST
SCHEDULE VIII - ALTERNATE STREETSCAPE IMPROVEMENTS (PHASE II)					
801	COMPLETE IRRIGATION SYSTEM (B. SIDE QUORUM)	LS	1	$6,500.00	$6,500
802	RED OAK TREE, 200 GAL., 5"-6" CAL., 16'-18' HT., 10'-20' SPREAD	EA	41	$1,400.00	$57,400
803	4" PVC SCH. 40 PERFORATED SUBDRAIN SYSTEM	LF	770	$10.00	$7,700
804	WEEPING LOVE GRASS	SF	5500	$0.25	$1,375
	SCHEDULE VIII SUBTOTAL:				$72,975

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	COST
SCHEDULE IX - ALTERNATE STREETSCAPE IMPROVEMENTS					
901	UPGRADED TREE GRATE	EA	28	$975.00	$27,300
902	ITEM DELETED	NA	NA	NA	NA
903	PLANTER POT	EA	22	$600.00	$13,200
904	ITEM DELETED	NA	NA	NA	NA
905	DOUBLE BOWL DRINKING FOUNTAIN, INCLUDING PLUMBING	EA	1	$3,500.00	$3,500
906	SINGLE BOWL DRINKING FOUNTAIN, INCLUDING PLUMBING	EA	2	$2,800.00	$5,600
907	WITT MEWS WALL, MOUNTED CLOCK, INCLUDING ELECTRICAL	EA	1	$1,500.00	$1,500
908	STREET LIGHT FOUNDATION	EA	86	$500.00	$43,000
909	ANTIQUE STREET LIGHT, TEXAN STYLE POLE TUBE 17 MOND	EA	86	$1,700.00	$146,200
910	SQUARE CAP FOR LIGHT BASE	EA	86	$500.00	$43,000
911	GRANITE BOLLARD	EA	53	$1,000.00	$53,000
	SCHEDULE IX SUBTOTAL:				$336,300

HUITT-ZOLLARS

Huitt-Zollars, Inc. / Engineering / Architecture / 3131 McKinney Avenue / Suite 600 / LB 105 / Dallas, Texas 75204-2416 / 214-871-3311 / FAX 214-871-0757

February 1, 1996

FEB - 5 1996

Mr. Clyde Johnson, Purchasing Manager
Town of Addison Finance Building
5350 Belt Line Road
Addison, TX 75001

RE: Bids Received for Addison Circle Phase I Public Infrastructure
Huitt-Zollars Project No. 01-1822-04

Dear John:

Huitt-Zollars has tabulated and reviewed the three low bids received on January 31, 1996 at 4:00 p.m. for the Addison Circle Phase I Public Infrastructure project. With this letter we are returning to you the original bids and the bid tabulation. The three low base bids were received from Gibson & Associates for $3,425,357.64; Rebcon Inc. for $3,684,152.28; and Architectural Utilities, Inc. for $3,946,508.11 and were correctly calculated except for a $0.25 error on the bid from Architectural Utilities. The three low bidders have done quality work around the DFW Metroplex for several years and any one of them would be acceptable for this project. The apparent lowest bid is approximately $60,000 below our current cost estimate.

As we noted when initially reviewing the bids, Gibson and Associates had manually changed their bid total to increase it by $40,000 (which is reflected in the $3,425,357.64). This additional $40,000 was made in a lump sum line item on one of the two required copies of the bid that was submitted. Since they clearly intended to increase that item on both copies and did properly increase the subtotals and totals, we believe the higher price for the item should be accepted.

Huitt-Zollars, therefore, recommends that the Town of Addison award the contract for the construction of Addison Circle Phase I Public Infrastructure to the low bidder, Gibson & Associates. The award should be based on Schedules I through VIII only (the Base Bid plus the Phase II Alternate Streetscape Improvements) which total $3,465,655.24. The contractor should be notified however that certain items in Schedule IX may be added by change order if funding becomes available. Please note also that the street lights and their bases which are in Schedule IX must be constructed but not necessarily by this contractor. Therefore an allowance in the overall budget should be held out for these items. In the event that the contract is not awarded to Gibson & Associates, Huitt-Zollars recommends that the next lowest bidder, Rebcon, Inc., be awarded the contract.

Please give me a call if you should have any questions.

Sincerely,

HUITT-ZOLLARS, INC.
Engineering/Architecture

Kenneth A. Roberts

Kenneth A. Roberts, P.E.
Associate

KAR/psp

cc: John Baumgartner, P.E. - Town of Addison, Director of Public Works

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