

April 19, 2005

In regards to: Arbor Woods

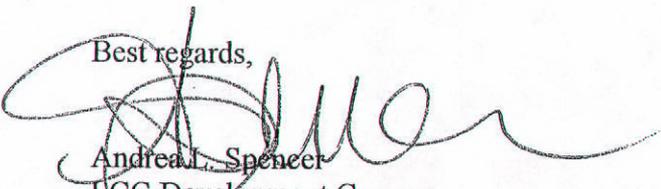
Chris Martin
Affordable Housing Construction
5910 North Central Expressway #1145
Dallas, TX 75206

Subject: Buildings 8 & 9 walkways

Dear Chris,

In order to achieve the broom finish required at the walkways on buildings 8 & 9, we intend on using Shep-Patch Plus manufactured by Lyons Manufacturing, Inc. Attached is a material spec sheet detailing the products applications and features. If you have any questions, please call.

Best regards,



Andrea L. Spence
LCG Development Group
469-826-6337

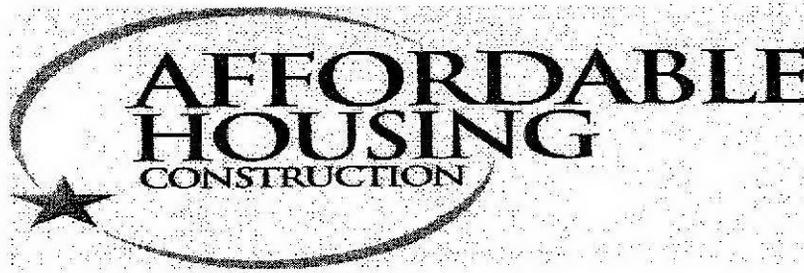
cc: Ron-Slo, Inc; Ron Slovacek

GOVERNMENT
EXHIBIT

1910

3:07-CR-0289-M

SWH 006037



5-5-05

To : LCG DEVELOPMENT
From : JOHNNY JOHNSON at the ARBOR WOODS job site.

To Whom It May Concern:

I have talked to RON SLOVACEK on several occasions about the clean up of materials on site along with areas used for the wash out of concrete trucks. This is a matter that needs to be addressed immediately. We have received a visit from the CITY OF DALLAS, Public Works & Transportation, Storm Water Management Section, and Enforcement Team. We have been given 48 hours to clean the areas noted on their report as of 5-3-05.

It is now 5-5-05 and these areas have not been addressed to date. This matter is of the utmost importance and I hope they will be handled as such. If there are any fines incurred LCG will be held as the responsible party, either partially or entirely for the sum of the amount noted.

Thank you for your attention

JOHNNY JOHNSON

SWH 006040

**TWO COMPONENT ACRYLIC POLYMER MODIFIED
REPAIR AND TOPPING / UNDERLAYMENT MATERIAL**

Shep-Patch Plus

***Bonds to Virtually Any Surface**

***Light Gray to Blend with Existing Concrete**

***Improved Bond and Compressive Strength**

PRODUCT DESCRIPTION

SHEP-PATCH PLUS is a two component polymer modified concrete repair and underlayment material. The **SHEP-PATCH PLUS** liquid is a high solids content acrylic polymer. The **SHEP-PATCH PLUS** Powder #205 is a portland cement based mix with graded silica and special chemical additives. Polymer modified concrete gives improved bonding, improved chemical resistance, improved water resistance and improved tensile, compressive and flexural strength.

This high strength portland cement/acrylic polymer combination provides a smooth durable semi-resilient surface which can be used as a finished floor in most applications. **SHEP-PATCH PLUS** is easy to mix and apply, requiring no special tools. It is suitable for use as a flowable topping and underlayment, or as a floor, wall or overhead repair material when mixed to a stiffer trowelable consistency. **SHEP-PATCH PLUS** has been approved by the USDA for use in most processing plants and may be used where there is exposure to potable water.

PRODUCT APPLICATIONS

SHEP-PATCH PLUS is designed to be used horizontally as a topping or underlayment when mixed to thick pancake batter consistency. When mixed to a stiffer consistency, **SHEP-PATCH PLUS** can be used for walls, or other vertical and overhead applications. Use **SHEP-PATCH PLUS** to level and smooth rough or rained on concrete. **SHEP-PATCH PLUS** may be used to level low areas inside or outside. It will bond to and may be used to level virtually any concrete surface.

Mixed as a repair material, **SHEP-PATCH PLUS** may be used to repair walls, floors, tilt panels, driveways, sidewalks, precast members, etc. **SHEP-PATCH PLUS** may be applied from featheredge to 2-1/2 inches. Suitable for interior or exterior applications. Suitable for application where there is rubber tired forklift and vehicle traffic.

PRODUCT FEATURES

- Outstanding Bonding
- Improved Water Resistance
- Interior or Exterior Use
- From Featheredge to 2-1/2 Inches
- May Be Used as Screedable Underlayment
- May Be Used as a Trowelable Repair Material
- Improved Compressive Strength
- No Moist Curing Required
- High Solids Acrylic Polymer
- May Be Stained or Used with Integral Color
- May Be Used for Stenciled or Patterned Concrete

PRODUCT TEST RESULTS (TYPICAL)

WORKING TIME:	Approximately 25 minutes
COLOR:	Light Gray, Available in White
INITIAL SET:	4 Hours
FLOWABLE CONSISTENCY: (1 Bag to 1 Gallon)	
Compressive Strength (ASTM C-109, Air Cured)	
7 Days - 4120 PSI	28 Days - 5500 PSI
Flexural Strength (ASTM C-348, Air Cured)	
7 Days - 1260 PSI	28 Days - 1535 PSI
Slant Shear Bond (ASTM C-1042, Air Cured)	
28 Days - 1250 PSI	
TROWELABLE CONSISTENCY: (1 Bag to .8 Gallon)	
Compressive Strength (ASTM C-109, Air Cured)	
7 Days - 4550 PSI	28 Days - 6000 PSI
Flexural Strength (ASTM C-348, Air Cured)	
7 Days - 1360 PSI	28 Days - 1720 PSI
Slant Shear Bond (ASTM C-1042, Air Cured)	
28 Days - 1550 PSI	

SURFACE PREPARATION - All surfaces must be clean and structurally sound; free of dust, grease, oil, paint, sealers, etc. Pores of the concrete surface must be open to permit proper bonding. Any necessary surface preparation may be done by shotblasting, scarifying, sandblasting or acid etching. If acid etch is used, be sure to neutralize surface, clean and brush thoroughly. For heavy traffic applications, mechanical abrasion of the surface is recommended. Concrete surfaces should be kept damp for 1/2 hour prior to installation, but no standing water should remain.

Do not bridge cracks with **SHEP-PATCH PLUS**. They will "telegraph" through. Fill cracks prior to placement of **SHEP-PATCH PLUS**. Expansion joints should be extended through the **SHEP-PATCH PLUS**.

MIXING - SHEP-PATCH PLUS may be mixed in a mortar mixer, with a heavy duty low-to-medium speed drill or by hand. Always use a clean mixing container. Place **SHEP-PATCH PLUS** Acrylic Polymer #201 in container and add **SHEP-PATCH PLUS** Powder #205, mixing while adding powder. **DO NOT ADD WATER**. Added water will reduce strength and bonding. Mix for 2 to 3 minutes until a smooth, lump-free mixture is obtained. Mixing time should not exceed 3 minutes. **DO NOT OVERMIX** and **DO NOT** entrap air while mixing.

USE OF AGGREGATE - For areas with a thickness over 1/2", aggregate should be added to **SHEP-PATCH PLUS**. Add 1 part by volume of 3/8" pea gravel to 2 parts by volume of **SHEP-PATCH PLUS**. **DO NOT ADD WATER**.

USE AS UNDERLAYMENT OR TOPPING - For use as an underlayment, mix to desired flowable consistency, no more liquid than 1 bag to 1 gallon of polymer. As an underlayment, apply from featheredge to 2-1/2". Material may be screeded for low places or spread into place with a squeegee. When using as a wearing surface topping and for deeper fills, mix to a stiffer consistency (about 7/8 of gallon to a bag of powder) and install at least 3/8" thick. **DO NOT FEATHEREDGE** as a wearing surface topping.

USE AS A TROWELABLE NON-SAG REPAIR MATERIAL- For floor, wall and overhead repairs, mix about 3/4 to 7/8 of liquid polymer to a bag of powder to get a stiffer, trowelable non-sag consistency. Make a trial batch to get desired consistency. Lubricate trowel with polymer to prevent dragging.

INSTALLATION - To insure proper bonding, use **P-100 PRIMER** or apply a bond slurry coat scrubbed into the surface. The **P-100 PRIMER** will give more reliable and consistent results. Allow the primer to dry (30-45 minutes) and install **SHEP-PATCH PLUS** material. Material may be applied up to 24 hours after the primer. The primer will re-emulsify one time and may be used for inside and outside applications.

CONTAINS PORTLAND CEMENT. Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling. In case of eye contact, flush with plenty of water for at least 15 minutes. Consult a physician immediately. Keep out of the reach of children.

LIMITED WARRANTY

Lyons Manufacturing, Inc. warrants the high quality of its products. However, because of many factors beyond our control in its use, such as job conditions, workmanship, etc., the liability of all parties making and selling this product is expressly limited to the refund of the purchase price or replacement of this material used. Lyons Manufacturing, Inc. will replace any product proven to have a manufacturing defect, FOB Factory, provided Lyons Manufacturing, Inc. is notified of such defect within six (6) months from the date of shipment from the factory. This warranty is in lieu of all other warranties, expressed or implied. Lyons Manufacturing, Inc. makes no warranty of suitability of its products for any particular application and sells its products upon the condition that customer shall conduct their own test to determine the suitability of the product for their purposes. Under no circumstances will Lyons Manufacturing, Inc. be liable for economic, special, incidental or consequential damages or losses of any kind.

Manufactured for **SHEPLER'S** by **LYONS MANUFACTURING, INC.**



www.sheplers.cc

Texas: 800-729-1150 • Florida: 800-825-0250 • South Carolina: 803-779-4116

07/02

SWH 006039 004

The bond slurry coat is a syrup-like consistency mix of **SHEP-PATCH PLUS** Powder and **SHEP-PATCH PLUS** Acrylic Polymer. Scrub the slurry coat into the moist surface. Place **SHEP-PATCH PLUS** in place and smooth and spread while slurry coat is still damp. **DO NOT LET SLURRY COAT DRY**. Screed off to get a smooth flat surface. Use a trowel for touch-up and featheredging. **DO NOT OVERTROWEL**. Lubricate trowel with polymer to prevent dragging. The #201 polymer makes the materials darker. Less polymer will give a lighter finished surface. For best results, smooth and spread into place and touch-up as needed. A latex film will form when **SHEP-PATCH PLUS** begins to set. This is normal and will disappear.

Normally floor coverings may be applied the next day. With thick applications or cold or damp weather, another day may be required. No heavy traffic should be permitted for 4 to 5 days. When used as an underlayment, always follow the directions of floor covering manufacturers concerning maximum moisture content and perform required tests.

Paints and coatings may be applied over **SHEP-PATCH PLUS** as you would over concrete. For wall applications such as coating or filling concrete block, **SHEP-PATCH PLUS** may be applied with a hopper gun and then floated smooth.

PRECAUTIONS - Do not use below 40°F. The best temperature to use is 60°-90°F. **DO NOT LET SHEP-PATCH PLUS ACRYLIC POLYMER #201 FREEZE**. Always make a trial installation first under actual job conditions to be sure you get the desired results before using on larger areas.

CONTAINS SILICA SAND AND FREE SILICA. Do not breathe dust. Avoid inhalation by wearing respirator. Continuous exposure and inhalation may cause silicosis and crystalline silica is classified as a known human carcinogen.

SHEP-PATCH PLUS Acrylic Polymer is resistant to most petroleum solvents, sealers, and cure'n seal products. **SHEP-PATCH PLUS** may soften slightly, but will harden after evaporation of solvent. Wait 4 to 5 days after **SHEP-PATCH PLUS** installation before applying a sealer. Always do a sample area first.

Areas subject to fast drying and outside applications should be covered with damp burlap or plastic for 48 hours. Weathering and surface oxidation may cause a bonding problem with exterior applications. Exterior surfaces should be scarified or sand-blasted prior to application of **SHEP-PATCH PLUS**.

COVERAGE - One 45 lb. bag of **SHEP-PATCH PLUS** Powder #205 and one gallon of **SHEP-PATCH PLUS** Acrylic Polymer #201 will cover 45 sq. ft. at 1/8" thickness.

PACKAGING - **SHEP-PATCH PLUS** Powder #205 is packaged in 45 lb. moisture resistant bags. **SHEP-PATCH PLUS** Acrylic Polymer #201 is packaged in 1 gallon jugs, 4 to a carton.

Draw Date _____

or Woods

Draw Date _____

5/25/05

Date Rec.	Subcontractor Name	Lien	Supt. Int.	PM Int.	Amount	Sub. Signature for Check
	All Texas Decks					
	Advanced Concrete Surfaces	IN			7,110	
	Alpha Testing	IN			6,100	
	B&B Enterprises (Final Clean)					
	B&B Enterprises (Window Blinds)					
	Blaze X	IN			14,760	
	Buddy Martin					
	C&D Services (Insulation)					
	C&D Services Sheetrock					
	Cabinet Installation Group					
	CWT Contractors, Inc.					
	D.R. Kitchen Co. Roofing	id	73		71,280 ⁰⁵	
	Dan Mar Plumbing	IN	79		62,900 ⁰⁵	
	Double D Fire Alarm Inc.	IN			6,390	
	Duo-Mark Framing	IN			119,010	
	Elite Door and Trim					
	Engineered Retaining Wall					
	Flying Expressions, Inc					
	Garrett Iron, Inc.	IN			45,990	
	GE Appliances					
	HH Distributors	IN			6,100	
	Huhes Supply	IN			6,000	
	K & A Wolfe Masonry, Ltd	IN			44,010	
	King's Construction Clean	IN			13,050	
	Krestmark	IN			35,000	
	LCG Developmen (Sidewalks)	IN	79		44,110 ⁰⁵	
	LCG Development (Foundations)	IN			21,970	
	Mammen Glass & Iron					
	Martin Excavation					
	Mid America					
	Pearson Mech.	IN			17,820	
	Playground Installers of Texas, Inc.					
	Pleasure Pools					
	Premiercrete Products	IN			32,148	
	Prime Pest					
	R&S Commercial Services					
	Rumsey Development					
	S&S Tile					
	SBC Datacomm					
	Spoor Electric, Inc.	IN	73		58,320 ⁰⁵	
	Superior Striping Services					
	Survey Consultants					

SW/H 006041

005

Draw _____

Harbor Woods

Draw Date _____

	Trinity 3 Construction Carports					
	Trinity 3 Construction Trim					
	Trinity 3 L.P. (Lumber)	IN			436/50	
	Trussway					
	Varateck, LLC					
	Bestman Energy check	IN			300	

SWH 006042

Date Rec.	Subcontractor Name	Lien	Supt. Int.	PM Int.	Amount	Sub. Signature for Check
	All Texas Decks					
	Advanced Concrete Surfaces					
4-25	Alpha Testing	INT		CAN	5,700 ⁰⁰	
	B&B Enterprises (Final Clean)					
	B&B Enterprises (Window Blinds)					
	Blaze X					
	Buddy Martin					
	C&D Services (Insulation)					
	C&D Services Sheetrock					
	Cabinet Installation Group					
	CWT Contractors, Inc.					
	D.R. Kitchen Co. Roofing					
	Dan Mar Plumbing					
	Double D Fire Alarm Inc.					
4-25	Duo-Mark Framing	INT	SI	CAN	43,830 ⁰⁰	Hyle D
	Elite Door and Trim					
	Engineered Retaining Wall					
	Flying Expressions, Inc					
	Garrett Iron, Inc.					
	GE Appliances					
4-25	HH Distributors	INT	SI		4,007 ⁰⁰	Deanna Stort
	K & A Wolfe Masonry, Ltd					
4-25	King's Construction Clean	INT	SI		14,850 ⁰⁰	James King
	Krestmark					
4-25	LCG Developmen (Sidewalks)	INT	SI	CAN	299,900 ⁰⁰	John Dean
	LCG Development (Foundations)	INT	SI		288,910 ⁰⁰	
	Mammen Glass & Iron					
	Martin Excavation					
	Mid America					
	Pearson Mech.					
	Playground Installers of Texas, Inc.					
	Pleasure Pools					
4-25	Premiercrete Products	INT	SI	CAN	30,800 ⁰⁰	Quidley
	Prime Pest					
	R&S Commercial Services					
	Rumsey Development					
	S&S Tile					
	Spoor Electric, Inc.					
4-25	Survey Consultants	INT		CAN	3,500 ⁰⁰	R. Hodely
	Trinity 3 Construction Carports					
	Trinity 3 Construction Trim					

Received 39,970⁰⁰

Draw # _____

Arbor Woods

Draw Date _____

4-29	Trinity 3 L.P. (Lumber)	500	#	17.1	350,500	<i>Edmund King</i>
	Trussway					
	Varateck, LLC					

Received *220,200*

SWH 006044

Date Rec.	Subcontractor Name	Lien	Supt. Int.	PM Int.	Amount	Sub. Signature for Check
3/25	All Texas Decks					
	Alpha Testing	I&P	CA	M	\$14,200	<i>[Signature]</i>
	B&B Enterprises (Final Clean)					
	B&B Enterprises (Window Blinds)					
3/25	Blaze X	Condit.	CA	M	6,840	<i>[Signature]</i>
	Buddy Martin					
	C&D Services					
	C&D Services (Insulation)					
	D.R. Kitchen Co. Roofing					
	Dan Mar Plumbing					
	Double D Fire Alarm Inc.					
	Duo-Mark Framing					
	Engineered Retaining Wall					
	Flying Expressions, Inc					
	GE Appliances					
	HH Distributors					
	K & A Wolfe Masonry, Ltd					
	King's Construction Clean					
	Krestmark					
	LCG Developmen (Sidewalks)					
3/25	LCG Development (Foundations)	I&P	CA	M	106,470	<i>Andrea Spence</i>
	Martin Excavation					
	Pearson Mech.					
	Playground Installers of Texas, Inc.	Top	CA	M	36,000	<i>Riedel Stuhl</i>
	Prime Pest					
	R&S Commercial Services	I&P	CA	M	111,438	
3/25	Rumsey Development	I&P	CA	M	111,438	<i>Brandi Watson</i>
	S&S Tile					
	Spoor Electric, Inc.					
3/25	Survey Consultants	I&P	CA	M	4,915	<i>R. Hobbie</i>
	Trinity 3 L.P. (Lumber)					
	Trussway					
	Cabinet Installation Group					
	Elite Door and Trim					
	Mid America					
	Pleasure Pools					
	Premiercrete Products					
	Varateck, LLC					
	Advanced Concrete Surfaces					
	Garrett Iron, Inc.					
	Mammen Glass & Iron					

SWH 006045

Draw # _____

Arbor Woods

Draw Date _____

	CWT Contractors, Inc.	±4P CAP		13,590	13,590
	Trinity 3 Construction				

SWH 006046

Draw # _____

Arbor Woods

Draw Date 12/25

Date Rec.	Subcontractor Name	Lien	Supt. Int.	PM Int.	Amount	Sub. Signature for Check
	All Texas Decks					
	Alpha Testing					
	Article IV Development					
	Article IV Development (Sidewalks)					
	B&B Enterprises (Final Clean)					
	B&B Enterprises (Window Blinds)					
	Blaze X					
	Buddy Martin					
	C&D Services					
	C&D Services (Insulation)					
	D.R. Kitchen Co. Roofing					
	Dan Mar Plumbing					
	Double D Fire Alarm Inc.					
	Duo-Mark Framing					
	Engineered Retaining Wall					
	Flying Expressions, Inc					
	GE Appliances					
	HH Distributors					
	K & A Wolfe Masonry, Ltd					
	King's Construction Clean					
	Krestmark					
	Martin Excavation				158,310.00	<i>Charles Martin</i>
	Pearson Mech.					
	Playground Installers of Texas, Inc.					
	Prime Pest					
	R&S Commercial Services					
	Rumsey Development					

SWH 006047

Draw # _____

Arbor Woods

Draw Date ²⁵ ~~1-28-05~~

Date Rec.	Subcontractor Name	Lien	Supt. Int.	PM Int.	Amount	Sub. Signature for Check
	All Texas Decks					
	Alpha Testing					
2/28	Article IV Development L.C.G.	I+P	CAM	M	\$192,780	E. R. Slup
	Article IV Development (Sidewalks)					
	B&B Enterprises (Final Clean)					
	B&B Enterprises (Window Blinds)					
	Blaze X					
	Buddy Martin					
	C&D Services					
	C&D Services (Insulation)					
	D.R. Kitchen Co. Roofing					
2/25	Dan Mar Plumbing	I+P	CAM	M	\$61,200	Dan Mar
	Double D Fire Alarm Inc.					
	Duo-Mark Framing					
	Engineered Retaining Wall	I+P	CAM	M	\$24,750	D. H. Schubert
	Flying Expressions, Inc					
	GE Appliances					
	HH Distributors					
	K & A Wolfe Masonry, Ltd					
	King's Construction Clean					
	Krestmark					
2/24	Martin Excavation	I+P	CAM	M	17,820	C. Martin
	Pearson Mech.					
	Playground Installers of Texas, Inc.					
	Prime Pest					
	R&S Commercial Services					
2/28	Rumsey Development	I+P	CAM	M	115,020	R. Kirk Woolheart

SWH 006049

Draw # _____

Arbor Woods

Draw Date 1/25

Date Rec.	Subcontractor Name	Lien	Supt. Int.	PM Int.	Amount	Sub. Signature for Check
	All Texas Decks					
	Alpha Testing					
3/1/05	Article IV Development - LCA Dev. Group				57,690	<i>[Signature]</i>
	Article IV Development (Sidewalks)					
	B&B Enterprises (Final Clean)					
	B&B Enterprises (Window Blinds)					
	Blaze X					
	Buddy Martin					
	C&D Services					
	C&D Services (Insulation)					
	D.R. Kitchen Co. Roofing					
3-1-05	Dan Mar Plumbing				81,900	<i>[Signature]</i>
	Double D Fire Alarm Inc.					
	Duo-Mark Framing					
	Engineered Retaining Wall					
	Flying Expressions, Inc					
	GE Appliances					
	HH Distributors					
	K & A Wolfe Masonry, Ltd					
	King's Construction Clean					
	Krestmark					
3-1-05	Martin Excavation				75,240 ⁰⁰	<i>[Signature]</i>
	Pearson Mech.					
	Playground Installers of Texas, Inc.					
	Prime Pest					
	R&S Commercial Services					
	Rumsey Development					

SWH 006051

**AFFORDABLE
HOUSING
CONSTRUCTION**

STANDARD FORM CONSTRUCTION SUBCONTRACT

This Subcontract is effective as of the 22nd day of December, 2004 by and between: Affordable Housing Construction, Inc. hereinafter referred to as the "Contractor" and ~~Article IV-Development~~ hereinafter referred to as the "Subcontractor."

LCG Development Group

WITNESSETH: The following terms and conditions are hereby mutually agreed to by and between the Contractor and the Subcontractor:

ARTICLE I DEFINITION OF SUBCONTRACT TERMS	
PROJECT: Arbor Woods Villas # 04-0320 3030 N. Hampton Rd. Dallas, TX 75212 Voice: 214 819-9755 Fax: 214 819-9758	SUBCONTRACTOR: Article IV-Development. <i>LCG Development Group</i> 13232 Fall Manor Drive Dallas, Texas 75243 Voice: 214 641-0905 Mbl Vendor #: 3337 Fax: 469 330-9108 (&
OWNER: Arbor Woods Housing, L.P. 5910 North Central Expressway, Suite 1145 Dallas, TX 75206 Voice: (214) 891-1402 Fax: (214) 987-3477	ARCHITECT: Beeler, Guest, Owens, Architects, LP 4245 North Central Expressway, Suite 300 Dallas, TX 75205 Voice: (214) 520-8878 Fax: (214) 520-8879
CONTRACTOR: Affordable Housing Construction, Inc. 5910 North Central Expressway, Suite 1145 Dallas, TX 75206 Voice: (214) 891-1402 Fax: (214) 987-3477	PAYMENT APPLICATION DATE: Payment Application Due to Project: 25th day of the month Time of Payment: On or about 30 days following the above date. Contract Number: AWV 017

CONTRACT: The Contractor has made a Contract for construction dated December 22nd, 2004, with the owner of the Project.

SUBCONTRACT AGREEMENT: The Subcontract Agreement is this standard form construction subcontract, identified as SUBCONTRACT AGREEMENT # AWV 017 and which forms a part of the Subcontract Documents.

SUBCONTRACT: The Subcontract is the entire and integrated agreement between the Contractor and the Subcontractor.

SUBCONTRACT WORK: Concrete

Subcontractor: *[Signature]*
 Contractor: *[Signature]*

ARTICLE 2
SUBCONTRACT PRICE

As full compensation for performance of the Subcontract, Contractor agrees to pay Subcontractor in current funds the Subcontract price for the performance of the Subcontract Work, in the manner described below, subject to all applicable provisions of the Subcontract.

- (a) The firm fixed-price of **\$741,000.00** subject to additions and deductions as provided for in the Subcontract Documents.
- (b) Subcontract price is broken down in to the following cost codes:

cc: 2750	\$321,000	Paving
cc: 2750	\$10,500	Approches
cc: 2750	\$900	Curb & Gutter
cc: 2750	\$2,300	Gate Tracks
cc: 2814	\$3,600	Monument Sign
cc: 2827	\$7,000	Columns
cc: 3330	\$395,700	Foundations

ARTICLE 3
SUBCONTRACT DOCUMENTS

3.1 The Subcontract Documents consist of this **SUBCONTRACT AGREEMENT # AWV 017** and the

following-listed documents, schedules and attachments, which are all incorporated by reference and made a part hereof:

- Exhibit "A" - Scope of Work
- Exhibit "B" - Insurance Certificate sample
- Exhibit "C" - Subcontract Docs/Plan List (from Planwell)
- Exhibit "D" - Jobsite Rules & Requirements
- Exhibit "E" - Schedule of Values

3.2 The Subcontract Documents, which are binding on the Subcontractor, are set forth in Paragraph 3.1. The Contractor shall make available to the Subcontractor, prior to the execution of the Subcontract Agreement, copies of the Subcontract Documents to which the Subcontractor will be bound. The Subcontractor similarly shall make copies of applicable portions of the Subcontract Documents available to its proposed subcontractors and suppliers. Nothing herein shall prohibit the Subcontractor from obtaining copies of the Subcontract Documents from the Contractor at any time after the Subcontract Agreement is executed. Where any provision of the documents listed in Article 3 hereof, is inconsistent with a provision of this Subcontract Agreement, this Subcontract Agreement shall govern. Nothing in the Subcontract Documents shall be construed to create a contractual relationship between persons or entities other than the Contractor and Subcontractor.

ARTICLE 4
SCOPE OF SUBCONTRACT WORK

4.1 The Contractor has retained the Subcontractor to provide the labor, materials, equipment and services referred to herein, and to perform the Subcontract Work as an independent contractor. The Subcontractor shall perform such work (hereinafter called the "Subcontract Work") under the general direction of the Contractor and in accordance with this Subcontract.

4.2 The scope of the Subcontract Work shall consist of all work necessary to complete the: **Concrete** work for the Project in accordance with the Subcontract Documents and as more particularly, specified in: **Exhibit "A"- Scope of Work**

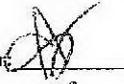
4.3 **TEMPORARY SERVICES.** The Contractor will provide to the Subcontractor the following temporary services at the Project site during the performance of this Subcontract at no charge to the Subcontractor: Temporary electrical power, non-potable water for construction, and material testing.

ARTICLE 5
SURETY BONDING
(NOT REQUIRED)

ARTICLE 6
PERFORMANCE OF WORK

6.1 **DATE OF COMMENCEMENT.** The Date of Commencement is the effective date of this Subcontract Agreement as first written above unless otherwise set forth below:

6.2 **SCHEDULE OF WORK.** In a timely fashion, the Subcontractor shall provide the Contractor with any scheduling information proposed by the Subcontractor for the Subcontract Work. In consultation with the Subcontractor, the Contractor shall prepare the schedule for performance of the contract (hereinafter called the "Schedule of Work") and shall revise and update such schedule, as necessary, as the work progresses. Both the Contractor and the Subcontractor shall be bound by the Schedule of Work. The Schedule of Work and all subsequent changes and additional details thereto shall be submitted to the Subcontractor promptly and reasonably in advance of the required performance. The Contractor shall have the right to determine and, if necessary, order and priority in which the various portions of the work shall be performed and all other matters relative to the timely and orderly conduct of the Subcontract Work. Should Subcontractor's performance of the work be delayed by any acts of Contractor and/or suppliers,

Subcontractor: 

Contractor: 

other subcontractor's, Subcontractor shall receive an equitable extension of time but shall not be entitled to any increase in the Contract price or to damages or additional compensation as a consequence of such delays. Subcontractor hereby waives any claim for any such increase, damages or additional compensation. Any extension of time shall be made in writing to Contractor not more than (10) days after the commencement of the delay, otherwise it is waived.

6.3 SUBCONTRACT PERFORMANCE. The Subcontractor shall use care, skill and diligence in supervising and directing the Subcontract Work. The Subcontractor shall have responsibility and control over the performance of the Subcontract Work, including the construction methods, techniques, means and sequences for coordinating and completing the various portions of the Subcontract Work, unless the Subcontract gives other specific instructions concerning these matters.

6.4 SUBCONTRACT TIME. The Subcontract Work shall be substantially complete, per the Contractors schedule of production, subject to adjustments in the Subcontract Time as provided for in the Subcontract Documents.

6.5 TIME IS OF THE ESSENCE. Time is of the essence for both parties, and they mutually agree to see to the performance of their respective work and the work of their subcontractors and suppliers so that the entire Project may be completed in accordance with the Contract and the Schedule of Work.

ARTICLE 7 SUBCONTRACT INTERPRETATION

7.1 INCONSISTENCIES AND OMISSIONS. Should inconsistencies or omissions appear in the Subcontract Documents, it shall be the duty of the Subcontractor to so notify the Contractor in writing within three (3) working days of the Subcontractor's discovery thereof. Upon receipt of said notice, the Contractor shall instruct the Subcontractor as to the measures to be taken and the Subcontractor shall comply with the Contractor's instructions. If the Subcontractor performs work knowing it to be contrary to any applicable laws, statutes, ordinances, building codes, rules or regulations without notice to the Contractor and advance approval by appropriate authorities, including the Contractor, then the Subcontractor shall assume full responsibility for such work and shall bear all associated costs, charges, fees and expenses necessarily incurred to remedy the violation.

7.2 LAW AND EFFECT. This Subcontract shall be governed by the law of the State in which the Project is located.

7.3 SEVERABILITY AND WAIVER. The partial or complete invalidity of any one or more provisions of this

Subcontract shall not affect the validity or continuing force and effect of any other provision. The failure of either party hereto to insist, in any one or more instances, upon the performance of any of the terms, covenants or conditions of this Subcontract, or to exercise any right herein, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right as respects further performance.

7.4 ATTORNEY'S FEES. Should either party employ an attorney to institute suit or demand arbitration to enforce any of the provisions hereof, to protect its interest in any manner arising under this Subcontract, or to recover on a surety bond furnished by a party to this Subcontract, the prevailing party shall be entitled to recover reasonable attorney's fees, costs, charges, and expenses expended or incurred therein.

7.5 TITLES. The titles given to the Articles of this Subcontract Agreement are for ease of reference only and shall not be relied upon or cited for any other purposes.

7.6 ENTIRE AGREEMENT. This Subcontract and attachments are solely for the benefit of the signatories hereto and represents the entire and integrated agreement between the parties hereto and, unless specifically referenced herein, supersedes all prior negotiations, representations, plans, documents or agreements, either written or oral.

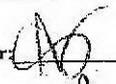
ARTICLE 8 CONTRACTOR'S OBLIGATIONS

8.1 AUTHORIZED REPRESENTATIVE. The Contractor shall designate one or more persons who shall be the Contractor's authorized representative(s) on-site and off-site. Such authorized representative(s) shall be the only person(s) the Subcontractor shall look to for instructions, orders and/or directions, except in an emergency.

8.2 STORAGE. Unless otherwise specified in Article 4, the Contractor shall make available to the Subcontractor suitable and reasonable areas for storage of the Subcontractor's material and equipment during performance of the Subcontract work.

8.3 TIMELY COMMUNICATION. The Contractor, with reasonable promptness, shall transmit to the appropriate parties all submittals, transmittals, and written approval relating to the Subcontract Work. Unless otherwise specified in the Subcontract Documents, communications by and with the Subcontractor's subcontractors, material suppliers and suppliers shall be through the Subcontractor.

8.4 LAYOUT RESPONSIBILITY AND LEVELS. The Contractor shall establish reliable principal axis lines of the building and site whereupon the Subcontractor shall layout and be strictly responsible for the accuracy of the Subcontract Work

Subcontractor: 

Contractor: 

and for any loss or damage to the Contractor or others by reason of the Subcontractor's failure to set out or perform its work correctly. The Subcontractor shall exercise prudence so that the actual final conditions and details of its Subcontract Work shall result in alignment of finish surfaces.

ARTICLE 9
SUBCONTRACTOR'S OBLIGATIONS

9.1 RESPONSIBILITIES. The Subcontractor shall furnish all of the labor, materials, fees, taxes, equipment, and services, including, but not limited to, competent supervision, shop drawings, samples, tools, and scaffolding as are necessary for the proper performance of the Subcontract Work in accordance with the Subcontract Documents. The Subcontractor shall provide to the Contractor a list of its proposed subcontractors and suppliers, and be responsible for taking field dimensions, providing tests, ordering of materials and all other actions as required to perform the Subcontract Work and to comply with the Schedule of Work.

9.2 SUBCONTRACTOR'S OBLIGATIONS FOR SITE VISITATION. The Subcontractor acknowledges that it has visited the Project site and visually inspected the general and local conditions, which could affect the Subcontract Work. Any failure of the Subcontract to reasonably ascertain from a visual inspection of the site, the general and local conditions which could affect the Subcontract Work, will not relieve the Subcontractor from its responsibility to properly complete the Subcontract Work without additional expense to the Contractor.

9.3 SHOP DRAWINGS, SAMPLES, PRODUCT DATA AND MANUFACTURERS' LITERATURE. The Subcontractor promptly shall submit for approval to the Contractor all shop drawings, samples, product data, manufacturers' literature and similar submittals required by the Subcontract Documents. The Subcontractor shall be responsible to the Contractor for the accuracy and conformity of its submittals to the Subcontract Documents. The Subcontractor shall prepare and deliver its submittals to the Contractor in a manner consistent with the Schedule of Work and in such time and sequence so as not to delay the Contractor or others in the performance of the Contract work. The approval of any Subcontractor submittal shall not be deemed to authorize deviations, substitutions or changes in the requirements of the Subcontract Documents unless express written approval is obtained from the Contractor and Owner authorizing such deviations, substitutions or change. In the event that the Subcontract Documents do not contain submittal requirements pertaining to the Subcontract Work, the Subcontractor agrees upon request to submit in a timely fashion to the Contractor for approval any shop drawings, samples, product data, manufacturers' literature or similar submittals as may reasonably be required by the Contractor, Owner or Architect.

9.3.1 The Contractor, Owner, and Architect are entitled to rely on the accuracy and completeness of any professional certifications required by the Subcontract Documents concerning the performance criteria of systems, equipment or materials, including all calculations relating thereto and any governing performance requirements.

9.4 COORDINATION AND COOPERATION. The Subcontractor shall: cooperate with the Contractor and all others whose work may interfere with the Subcontract Work; specifically note and immediately advise the Contractor of any interference with the Subcontract Work; and participate in the preparation of coordination drawings and work schedules involving the Subcontract Work.

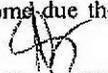
9.5 AUTHORIZED REPRESENTATIVE. The Subcontractor shall designate one or more persons who shall be the authorized Subcontractor's representative(s) on-site and off-site. Such authorized representative(s) shall be the only person(s) to whom the Contractor shall issue instructions, orders or directions, except in an emergency.

9.6 COMMUNICATIONS. Unless otherwise provided in the Subcontract Documents, Subcontractor communications by and with the Owner, Architect, separate contractors and/or other subcontractors and suppliers of Contractor, regardless of tier, shall be through the Contractor.

9.7 TESTS AND INSPECTIONS. The Subcontractor shall schedule all required tests, approvals and inspections of the Subcontract Work or portions thereof at appropriate times so as not to delay the progress of the work. The Subcontractor shall bear all expenses associated with tests, inspections and approvals required of the Subcontractor by the Subcontract Documents which, unless otherwise agreed to, shall be conducted by an independent testing laboratory or entity approved by the Contractor and Owner. Required certificates of testing, approval or inspection shall, unless otherwise required by the Subcontract Documents, be secured by the Subcontractor and promptly delivered to the Contractor.

9.8 WORKMANSHIP. Every part of the Subcontract Work shall be executed in accordance with the Subcontract Documents in a workmanlike and substantial manner. All materials used in the Subcontract work shall be furnished in sufficient quantities to facilitate the proper and expeditious execution of the work.

9.9 MATERIALS FURNISHED BY OTHERS. In the event the scope of the Subcontract Work includes installation of materials or equipment furnished by others, it shall be the responsibility of the Subcontractor to examine the items so provided and thereupon handle, store and install the items, with such skill and care as to ensure a satisfactory and proper installation. Loss or damage due to acts of the Subcontractor shall be deducted from any amounts due or to become due the Subcontractor under this Subcontract.

Subcontractor: 

Contractor: 

9.10 SUBSTITUTIONS. No substitutions shall be made in the Subcontract Work unless permitted in the Subcontract Documents and only then upon the Subcontractor first receiving all approvals required under the Subcontract Documents for substitutions.

9.11 WARRANTY. The Subcontractor warrants its work against all deficiencies and defects in materials and/or workmanship and as called for in the Subcontract Documents. The Subcontractor agrees to satisfy such warranty obligations, which appear within the warranty period established in the Subcontract Documents without cost to the Owner or the Contractor. Unless otherwise specified in the Subcontract Documents, *the Subcontractor shall warrant its work as described above for a period of one (1) year from the date of completion of all of the Subcontractors Scope of Work.* The Subcontractor further agrees to furnish any special warranties that shall be required in accordance with the Subcontract Documents for the Subcontract Work prior to final payment. Insurance must be maintained current throughout this warranty period.

9.12 UNCOVERING/CORRECTION OF WORK.

9.12.1 UNCOVERING OF WORK. If required in writing by the Contractor, the Subcontractor must uncover any portion of the Subcontract Work which has been covered by the Subcontractor in Violation of the Subcontract Documents or contrary to a directive issued to the Subcontractor by the Contractor. Upon receipt of a written directive from the Contractor, the Subcontractor shall uncover such work for the Contractor or Owner's inspection and then restore the work to its original condition at the Subcontractor's time and expense.

9.12.2 The Contractor may direct the Subcontractor to uncover portions of the Subcontract Work for the inspection by the Owner or Contractor at any time. The Subcontractor is required to uncover such work whether or not the Contractor or Owner had requested to inspect the work prior to it being uncovered. Except as provided in paragraph 9.12.1, the Subcontractor shall be adjusted by change order for the cost and time of uncovering and restoring any work which is uncovered for inspection and proves to be installed in accordance with the Subcontract Documents, provided the Contractor had not previously instructed the Subcontractor to leave the work uncovered. If the Subcontractor uncovers work pursuant to a directive issued by the Contractor, and such work upon inspection does not compile with the Subcontract Documents, then the Subcontractor shall be responsible for all costs and time of uncovering, correcting and restoring the work so as to make it conform to the Subcontract Documents.

9.12.3 CORRECTION OF WORK. The Subcontractor is required to correct in a timely fashion any Subcontract Work rejected by the Contractor, Owner or any Governing Authority having jurisdiction over the Subcontract Work for failing to comply with the Subcontract Documents whether observed

prior to commencement of the warranty period(s) or during the warranty period(s) established under Paragraph 9.11. The Subcontractor shall correct at its own cost and time and bear the expense of additional services for any nonconforming Subcontract Work for which it is responsible.

9.13 CLEANUP. The Subcontractor shall follow the Contractor's cleanup directions, and at all times keep the units, buildings and premises free from debris resulting from the Subcontract Work; and clean each work area prior to discontinuing work in each area. If the Subcontractors fails to immediately commence compliance with cleanup duties within twenty-four (24) hours after written notifications from the Contractor of noncompliance, the Contractor may implement appropriate cleanup measures without further notice and deduct the cost thereof from any amounts due or to become due the Subcontractor under this Subcontract.

9.14 SAFETY. The Subcontractor is required to perform the Subcontract Work in a safe and reasonable manner. The Subcontractor shall seek to avoid injury, loss or damage to persons or property by taking reasonable steps to protect: (a) Employees and other persons on the site; (b) Materials and equipment stored at the site or at off-site locations for use in performance of the Contract Work; and (c) all property and structures located at the site and adjacent to work areas, whether or not said property or structures are part of the Project or involved in the Contract Work.

9.14.1 The Subcontractor shall give all required notices and comply with all applicable rules, regulations, orders and other lawful requirements established to prevent injury, loss or damage to persons or property.

9.14.2 The Subcontractor shall implement appropriate safety measures, in strict compliance to OSHA pertaining to the Subcontract Work, including establishing safety rules, posting appropriate warnings and notices, erecting safety barriers, and establishing proper notice procedures to protect persons and property at the site and adjacent thereto from injury, loss or damage.

9.14.3 The Subcontractor is required to promptly remedy any loss or damage caused to the work, materials, equipment and property referred to in clauses 9.14.1.b and 9.14.1.c, if said loss or damage is not covered by insurance required under the Contract, but only to the extent caused in whole or in part by the Subcontractor and/or persons or entities performing work for or on behalf of the Subcontractor, regardless of tier, who have furnished labor, material or services relating to the Subcontract and for whose acts the Subcontractor may be liable. The Subcontractor shall not be required to remedy any loss or damage, which is not attributable to the fault or negligence of the Subcontractor, or of any person or entity for whose acts the Subcontractor may be liable.

Subcontractor: 

Contractor: 

9.14.4 The Subcontractor is required to designate an individual at the site in the employ of the Subcontractor who shall act as the Subcontractor's designated safety representative with a duty to prevent accidents. Unless otherwise identified by the Subcontractor in writing to the Contractor, the designated safety representative shall be the Subcontractor's project superintendent.

9.14.5 The Subcontractor has an affirmative duty not to overload the structures or conditions at the site and shall take reasonable steps not to load any part of the structures, or site so as to give rise to an unsafe condition or create an unreasonable risk of personal injury or property damage. The Subcontractor shall have the right to request, in writing, from the Contractor loading information concerning the structures at the site.

9.14.6 The Subcontractor shall give prompt written notice to the Contractor of any accident involving personal injury requiring a physician's care, any property damage exceeding Five Hundred Dollars (\$500.00) in value, or any failure that could have resulted in serious personal injury, whether or not such an injury was sustained.

9.14.7 Prevention of accidents at the site is the responsibility of the Contractor, Subcontractor, and all other subcontractors, persons and entities at the site. Establishment of a safety program by the Contractor shall not relieve the Subcontractor or other parties of their safety responsibilities. The Subcontractor shall establish its own safety program implementing safety measures, policies and standards conforming to those required by governmental and quasigovernmental authorities having jurisdiction and by the Contractor and Owner, including, but not limited to, requirements imposed by the Subcontract Documents. The Subcontractor shall comply with the reasonable recommendations of insurance companies having an interest in the Project, and shall stop any part of the Subcontract Work which the Contractor deems unsafe until corrective measures satisfactory to the Contractor shall have been taken. The Contractor's failure to stop the Subcontractor's unsafe practices shall not release the Subcontractor of the responsibility therefore. The Subcontractor shall notify the Contractor immediately following an accident and promptly confirm the notice in writing. A detailed written report shall be furnished if requested by the Contractor. The Subcontractor shall indemnify the Contractor for fines, or penalties imposed on the Contractor as a result of safety violations, but only to the extent that such fines, or penalties are caused by the Subcontractor's failure to comply with applicable safety requirements.

9.14.8 Subcontractor shall conduct safety meetings with all its employees, agents and lower tier subcontractors prior to and throughout construction of the project while subcontractor is performing work on site, copies of which shall be provided to AHC. Subcontractor shall maintain and provide AHC

with a written health and safety program and a written hazard communication program.

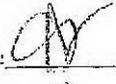
9.14.9 Subcontractor agrees to indemnify, defend and hold harmless Contractor from any and all liability and damages, fines, costs and attorney's fees incurred by Contractor on account of Subcontractor's failure to comply with all safety standards, laws and governmental regulations applicable to the work.

9.15 PERMITS, FEES AND LICENSES. The Subcontractor shall give adequate notices to authorities pertaining to the Subcontract Work and secure and pay for all permits, fees, licenses, assessments, and inspections and taxes necessary to complete the Subcontract Work in accordance with the Subcontract Documents.

9.16 DELEGATION OR SUBCONTRACTING OF DUTIES. The Subcontractor is prohibited from delegating, transferring, conveying, subcontracting, relinquishing or otherwise disposing of the whole or any part of its duties under this Subcontract without the prior written approval of the Contractor. The Contractor's approval shall not be unreasonably withheld. Lower-tier subcontractors and suppliers approved by the Contractor on or before the effective date of this subcontract Agreement may be listed below:

9.17 MATERIAL SAFETY. Material Safety Data (MSD) sheets as required by law and pertaining to materials or substances used or consumed in the performance of the Subcontract Work shall be submitted to the Contractor by the Subcontractor. MSD sheet obtained by the Contractor from other subcontractors or sources shall be made available to the Subcontractor by the Contractor.

9.18 PERFORMANCE. Subcontractor shall perform the work in a good and workmanlike manner and in strict compliance with the Contract Documents and all applicable laws, ordinances, rules, regulations, restrictions, public orders of local, state and federal laws. Should subcontractor at any time refuse or neglect to supply a sufficient number of properly skilled workmen or materials of proper quantity or fail in any respect to prosecute the work with promptness or diligence or any other requirements of the Contract Documents, Contractor shall have the right, but not obligation, after two (2) days written notice to Subcontractor, to provide such labor, materials or remedy any such failure and to deduct the cost from any money then due or to become due Subcontractor under this Subcontract. If Contractor must extend the cost of supervision and overhead for such remedy, Subcontractor shall be charged for the costs. Contractor may take over any Subcontractors outstanding contracts and purchase orders and take

Subcontractor: 

Contractor: 

possession of tools, equipment, materials and supplies which are on the Project site, in transit or specifically manufacture goods for the work for use in completion of the project. Contractor is hereby granted a lien on all such property to secure performance.

9.19 TERMINATION. Contractor may terminate the Subcontract if Subcontractor for any one of the items (a) fails to fully and punctually perform any of the terms and conditions and fails to remedy within (3) business days after written notification (b) refuses or fails to supply enough properly skilled workers or materials (c) fails to make payment to subcontractors, laborers or material suppliers (d) fails to strictly abide by laws, ordinances, rules, regulations or public authorities (e) becomes insolvent or makes a transfer in fraud of creditors or makes assignment for the benefit of creditors (f) abandons or notifies Contractor of intent to abandon, actually or constructively (g) guilty of substantial breach of any provision of the Contract Documents (h) fails to provide the insurance coverage and certificates or acts fraudulently in submitting coverage or certificates.

When any of the above reasons exist, Contractor may, without prejudice to any other rights or remedies, and after giving Subcontractor three (3) business days written notice, terminate Subcontractor and may take possession on site of all materials, equipment, tools, machinery owned by Subcontractor and finish the Work by whatever method Contractor deems expedient. Subcontract shall not be entitled to receive further payment until the Work is finished. If such costs exceed the unpaid balance of the Contract price, Subcontractor shall pay the difference to the Contractor upon demand. Contractor shall not be required to assume any of Subcontractors outstanding obligations. Warranties and obligations set forth herein performed by Subcontractor in no manner shall be altered, limited or extinguished as a result of such termination. The performance of the Work may also be terminated by the Contractor for any reason whenever Contractor determines such termination is in Contractors best interest. Such termination shall be effected by written notice specifying date such termination is effective. In this event of termination for convenience, Subcontractor shall be entitled to its actual costs incurred to the effective date. Subcontractor shall not be entitled to anticipated profit or damages for any termination. In no event shall Subcontractor be entitled to such claim and waives any such claim.

ARTICLE 10 INSURANCE

10.1 SUBCONTRACTOR'S INSURANCE. Prior to start of the Subcontract Work, the Subcontractor shall procure for the Subcontract Work and maintain in force Workers' Compensation Insurance, Employer's Liability Insurance, Comprehensive or Commercial General Liability Insurance on an occurrence basis, Comprehensive Automobile Liability Insurance and any other insurance required of Subcontractor

under the Subcontract. If required by the Subcontract Documents, the Contractor, Owner and other parties as required shall be named as additional insured's on each of these policies except for Workers Compensation. The Subcontractor's insurance shall include contractual liability insurance covering the Subcontractor's obligations under this Subcontract. Subcontractors insurance is primary for losses due to the acts of Subcontractor scope of work. Waiver of subrogation is in favor of the certificate holder.

10.2 MINIMUM LIMITS OF LIABILITY: The Subcontractor's Workers' Compensation Insurance, Employer's Liability Insurance, Comprehensive of Commercial General Liability Insurance and Comprehensive Automobile Liability Insurance, as required by Paragraph 10.1, shall be written with limits of liability not less than the following:

Workers Compensation: Statutory Limits

Employers Liability: 100,000 Each Accident
100,000 Disease Each Employee
500,000 Disease Policy Limit

General Liability: 2,000,000 General Aggregate
1,000,000 Products-Comp/Op Agg
1,000,000 Personal & Adv Injury
1,000,000 Each Occurrence
50,000 Fire Damage

Coverage to include, but not limited to:

Assault/Battery
Punitive Damages

Automobile Liability: 1,000,000 Single Limit
1,000,000 Non-Owned Autos

10.3 NUMBER OF POLICIES. Comprehensive or Commercial General Liability Insurance and other liability insurance may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability Policy.

10.4 CANCELLATION, RENEWAL OR MODIFICATION. The Subcontractor shall maintain in effect all insurance coverage required under this Subcontract at the Subcontractor's sole expense and with insurance companies mutually agreeable to the Contractor and Subcontractor.

All insurance policies shall contain a provision that the coverages afforded thereunder shall not be canceled or not renewed, nor restrictive modifications added, until at least thirty (30) calendar days' prior written notice has been given to the Contractor, unless otherwise specifically required in the Subcontract Documents. Notice of cancellation for non-payment of premium is ten (10) days.

Certificates of Insurance, or certified copies of policies reasonably acceptable to the Contractor, shall be filed with the Contractor prior to the commencement of the Subcontract Work.

Subcontractor: _____

Contractor: _____

- c) withhold payment of moneys due the Subcontractor in accordance with Subparagraph 13.2.3 of this Subcontract Agreement; and
- d) in the event of an emergency affecting the safety of persons or property, the Contractor may proceed to commence and continue satisfactory correction of such default, without first giving two (2) working days' written notice to the Subcontractor, but shall give prompt written notice of such action to the Subcontractor.

This Agreement is entered into as of the date first written above.

Contractor:

AFFORDABLE HOUSING CONSTRUCTION

By: Kent Plemons
Kent Plemons, Sr. Vice President - Operations

Date: 1 28 05

Subcontractor:

LCG Development Group
Article IV - Development

By: Andrea Spencer - general pres.
Signature & Title

By: Andrea Spencer
Type / Print

Date: 12/27/04

14.1.2 NONWAIVER AND OFFSET. Any failure by Contractor at any time to enforce the strict performance of any terms shall not affect the Contractors right to avail itself of all remedies for subsequent breach of terms. Subcontractor's rights are subject to the right of Contractor to offset any claims has against Subcontractor whether or not arising under this Subcontract including attaching all contracts & amounts on multiple AHC projects to satisfy or remedy one project.

14.1.3 TERMINATION BY CONTRACTOR. If the Subcontractor fails to commence and satisfactorily continue correction of a default within two (2) working days after written notification issued under Subparagraph 14.1.1, then the Contractor may, in lieu of or in addition to the remedies set forth in Subparagraph 14.1.1, issue a second written notification to the Subcontractor and the Subcontractor's surety, if any. Such notice shall state that if the Subcontractor fails to commence and continue correction of the default within two (2) working days of the second written notification, the Subcontract may be terminated and the Contractor may use any materials, implements, equipment, appliance or tools furnished by or belonging to the Subcontractor to complete the Subcontract Work. The Contractor shall issue a written notice of termination to the Subcontractor at the time the Subcontract is terminated.

The Contractor also may furnish those materials, equipment and/or employ such workers subcontractors as the Contractor deems necessary to maintain the orderly progress of the work.

All costs incurred by the Contractor in performing the Subcontract Work, including reasonable overhead, profit and attorneys' fees, shall be deducted from any moneys due or to become due the Subcontractor under this Subcontract. The Subcontractor shall be liable for the payment and any amount by which such expense may exceed the unpaid balance of the Subcontract Price.

Scope of Work

2750 - Concrete Paving

Work included under this subcontract agreement shall include but not be limited to all necessary supervision, labor, materials, equipment, fuel and lubricants, temporary structures (including all scaffolding and planking in accordance with OSHA standards, temporary cribbing and bracing), small tools, consumables, safety equipment, freight and mobilization costs, labor burdens, sales and use taxes and other incidentals necessary for the completion of all Concrete Paving furnished by the Subcontractor in strict accordance with this Subcontract Agreement and all related documents contained herein. Without limiting anything contained within this Subcontract Agreement, the following is a specific listing of scope items:

1. Scope of Work under this Subcontract includes the furnishing of all concrete parking, fire lanes, drive approaches, city streets, monolithic concrete curbs, construction joints, expansion joints, and joint filler, rebar, and chairs in the concrete work, as required, concrete cutting at joint and City curbs, bulkheads and screeds, cushion sand, layout work and apply the specified broom finishes. Subcontractor acknowledges that he is responsible for all material shortages or overruns and Contractor and Owner accept no responsibility for supplying additional material, any receiving, inventory, storage or handling of any material required for this Scope of Work.
2. Fine (hand) grade to assure proper thickness of concrete.
3. Material overruns are the expense of trade contractor.
4. Clean any exposed concrete surfaces.
5. Remove all excess concrete resulting from the placement.
6. Provide formwork:
 - a. Excavate any soils needed to install forms and place concrete in this work. Subgrade to be below the proposed paving thickness +/- .10'
 - b. Prepare forms to ensure proper quantity of concrete is used.
 - c. Erect and remove all formwork.
 - d. Tool finish all exposed edges.
7. All Concrete Paving work is to be installed under "Industry Standards" and practices prescribed by the manufacturer(s) which may deviate from what is shown in the Subcontract Documents. Subcontractor acknowledges that the Contractor has acted in reliance of the Subcontractor's expertise in completing this Scope of Work. Therefore, Subcontractor shall notify Contractor of any areas where "Industry Standard" may deviate from what is shown in the Subcontract Documents prior to beginning effected work.
8. Complete installation of all embedded items furnished by others but required for a complete Concrete Paving system including fabricated steel or sleeving if required.
9. Subcontractor shall clean work area and remove all debris occasioned by this scope of work and place all debris in dumpsters supplied by the Contractor in accordance with the following guidelines:
 - A. Subcontractor shall promptly remove all debris that poses a safety hazard to the employees, subcontractors or agents of the Subcontractor or to any other persons within the effected area.
 - B. Work areas shall be cleaned as directed by the Contractor and / or at the completion of each building or area of operation.
10. Clean all excess concrete spillage and place in dumpsters provided by others.
11. All work is to be plumb, level and square within the tolerances defined by the "Industry Standards". Temporary bracing and / or cribbing to prevent distortion of newly installed work shall be utilized under this Subcontract Agreement until such time that the structural integrity of the Concrete Paving system has been achieved and all work is self supporting without significant deformation. All temporary materials shall removed, consolidated and moved forward by the subcontractor for his use in the execution of his work or removed from the project site.
12. Turn in copies of all transit mix delivery tickets to the project superintendent daily.
13. Do not add more than 5 gallon of water to each cubic yard of concrete without prior approval of Project Superintendent or Material Testing Supervisor present during placement of concrete.

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Subcontractor: 

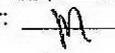
Contractor: 

Exhibit A

SWH 006065

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Scope of Work
2750 - Paving - Concrete

14. Clean up all materials from the work areas to a location designated by the project superintendent. Dispose of excess spoil material in an area designated by the project superintendent.
15. Save all trees and brush, except those designated for removal. Take special care not to damage any trees designated to be saved by the Contractor.
16. Remove all stumps, root systems, brush, vegetation, and tree debris within the construction limits or as directed by the Contractor.
17. Provide adequate protection of all existing streets, curbs and utility services during the course of this work. Any damage incurred during the performance of this work shall be the responsibility of the Subcontractor to repair at no additional cost to the Subcontract Amount. In the event that existing streets, curbs and utility services interfere with the permanent facilities being constructed, immediately notify the Contractor and secure his instructions.
18. All building foundations, paving, and other required work shall be coordinated by the Subcontractor to ensure proper transition between elements and be completed to within one tenth (0.1) of a foot shown by the lines, grades and elevations as specified on the drawings and contract documents.
19. Where rocks, boulders, granite or similar materials are encountered, remove such materials by means which will neither cause additional cost to the Subcontract Amount nor endanger buildings, structures or utility services either on or off the project site.
20. Forming and concrete placement work shall be completed in such a manner and in such sequence that will provide proper drainage at all times.
21. In areas where this scope of work directly impacts existing controls, Subcontractor shall maintain all erosion control devices and silt fences required by governmental authorities having jurisdiction and as shown on the drawings or as may exist on the project site.
22. Provide any surveying necessary to bring the site to the specified grades as established by the Contractor. Protect the benchmarks and property lines set by the Contractor. Excessive restaking of Contractor established benchmarks and property lines will become the responsibility of the Subcontractor at no additional cost the Subcontract Amount.
23. Protect all adjacent work and / or property from damage resulting from this work.
24. Scope of Work under this Subcontract includes the furnishing of all routing of joint materials, cleaning of joints and sealing of all pavement joints in accordance with city standards for all drive lanes and parking areas. Subcontractor acknowledges that he is responsible for all material shortages or overruns and Contractor and Owner accept no responsibility for supplying additional material, any receiving, inventory, storage or handling of any material required for this Scope of Work.
 - Route and remove all existing redwood joint materials or premanufactured rubber sealant strips.
 - Blow out or remove all debris or remaining dust or materials that will prevent correct adhesion of the sealant materials within the joint.
 - Install sealant materials immediately after joint prep in such quantities to completely prevent moisture from entering the joint. Use chemical sealants as manufactured by Pecora NR 200 SL (Gray) 1 1/2" x 1 1/2" or approved equal.

Exclusions:

End Of Section
AHC 02750 Concrete Paving

Subcontractor: _____
Contractor: _____

Exhibit A

Scope of Work

2827 – Masonry Fences, Columns & Signs

Work included under this subcontract agreement shall include but not be limited to all necessary supervision, labor, materials, equipment, fuel and lubricants, temporary structures (including all scaffolding and planking in accordance with OSHA standards, temporary cribbing and bracing), small tools, consumables, safety equipment, freight and mobilization costs, labor burdens, sales and use taxes and other incidentals necessary for the completion of all Masonry Fences Columns & Signs furnished by the Subcontractor in strict accordance with this Subcontract Agreement and all related documents contained herein. Without limiting anything contained within this Subcontract Agreement, the following is a specific listing of scope items:

1. Scope of Work under this Subcontract includes the furnishing of all smooth and split faced CMU (concrete masonry units), simulated stone, stucco, cast caps, bond beams and lintel block including all concrete fill, lintels, mortar and additives, all in-wall concrete for filled cells (every-other cell or as required for corners and openings) and insulation, horizontal and vertical wall ties, CMU columns and pilasters Excess materials shall be consolidated and moved forward by the subcontractor for his use in the execution of his work or removed from the project site. Subcontractor acknowledges that he is responsible for all material shortages or overruns and Contractor and Owner accept no responsibility for supplying additional material, any receiving, inventory, storage or handling of any material required for this Scope of Work.
2. All Masonry Fences Columns & Signs work is to be installed under "Industry Standards" and practices prescribed by the manufacturer(s) which may deviate from what is shown in the Subcontract Documents. Subcontractor acknowledges that the Contractor has acted in reliance of the Subcontractor's expertise in completing this Scope of Work. Therefore, Subcontractor shall notify Contractor of any areas where "Industry Standard" may deviate from what is shown in the Subcontract Documents prior to beginning effected work.
3. Complete installation of all embedded items furnished by others but required for a complete Masonry Fences Columns & Signs including fabricated steel or sleeving if required.
4. Subcontractor shall clean work area and remove all debris occasioned by this scope of work and place all debris in dumpsters supplied by the Contractor in accordance with the following guidelines:
 - A. Subcontractor shall promptly remove all debris that poses a safety hazard to the employees, subcontractors or agents of the Subcontractor or to any other persons within the effected area.
 - B. Work areas shall be cleaned as directed by the Contractor and / or at the completion of each building or area of operation.
5. Clean all excess concrete spillage and place in dumpsters provided by others.
6. All work is to be plumb, level and square within the tolerances defined by the "Industry Standards". Temporary bracing and / or cribbing to prevent distortion of newly installed work shall be utilized under this Subcontract Agreement until such time that the structural integrity of the Masonry Fences Columns & Signs system has been achieved and all work is self supporting without significant deformation. All temporary materials shall removed, consolidated and moved forward by the subcontractor for his use in the execution of his work or removed from the project site.
7. Clean up all materials from the work areas to a location designated by the project superintendent. Dispose of excess spoil material in an area designated by the project superintendent.
8. Save all trees and brush, except those designated for removal. Take special care not to damage any trees designated to be saved by the Contractor.
9. Provide adequate protection of all existing streets, curbs and utility services during the course of this work. Any damage incurred during the performance of this work shall be the responsibility of the Subcontractor to repair at no additional cost to the Subcontract Amount. In the event that existing streets, curbs and utility services interfere with the permanent facilities being constructed, immediately notify the Contractor and secure his instructions.

10. All Masonry Fences Columns & Signs or other required work shall be coordinated by the Subcontractor to ensure proper transition between elements and be completed to within one tenth (0.1) of a foot shown by the lines, grades and elevations as specified on the drawings and contract documents.
11. In areas where this scope of work directly impacts existing controls, Subcontractor shall maintain all erosion control devices and silt fences required by governmental authorities having jurisdiction and as shown on the drawings or as may exist on the project site.
12. Protect all adjacent work and / or property from damage resulting from this work.

Clarifications:

1. Monument signs are figured with 2 each 3'0" square columns x 7'0", 13'0" x 6'0" monument wall; template provided by the sign company.

Exclusions:

1. None

End Of Section

AHC 02775 Concrete Flatwork

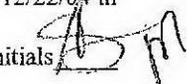


Exhibit A

Scope of Work

3330 - Concrete Foundations

Work included under this subcontract agreement shall include but not be limited to all necessary supervision, labor, materials, equipment, fuel and lubricants, temporary structures (including all scaffolding and planking in accordance with OSHA standards, temporary cribbing and bracing), small tools, consumables, safety equipment, freight and mobilization costs, labor burdens, sales and use taxes and other incidentals necessary for the completion of all Concrete Foundations furnished by the Subcontractor in strict accordance with this Subcontract Agreement and all related documents contained herein. Without limiting anything contained within this Subcontract Agreement, the following is a specific listing of scope items:

1. Scope of Work under this Subcontract includes the furnishing of all monolithic concrete building foundations, construction joints, expansion joints, and joint filler, rebar, and chairs in the concrete work, as required, concrete cutting, bulkheads and screeds, cushion sand, layout work and apply the specified finishes. Subcontractor acknowledges that he is responsible for all material shortages or overruns and Contractor and Owner accept no responsibility for supplying additional material, any receiving, inventory, storage or handling of any material required for this Scope of Work.
 - a. Post tension cables and related accessories, including partial and final tensioning of cables, cutting of cables and grouting.
 - b. Vapor barriers, cushion sand, rebar. (inserts, anchors, and connecting devices in the concrete associated with this work will be furnished for an additional cost).
 - c. Control joints, construction joints, and expansion joints in the work
 - d. Layout work.
 - e. Blockouts in walls, if required.
 - f. Excavation of elevator pit, wall forms and waterproofing material.
2. Square buildings and check all dimensions. Do not measure just the sides and diagonals.
3. Rub and smooth all exposed vertical concrete and fill voids.
4. Provide formwork:
 - a. Excavate any soils needed to install forms and place concrete in this work. Subgrade to be below the proposed paving thickness +/- .10'
 - b. Prepare forms to ensure proper quantity of concrete is used.
 - c. Erect and remove all formwork.
 - d. Tool finish all exposed edges.
5. All Concrete Foundation work is to be installed under "Industry Standards" and practices prescribed by the manufacturer(s) which may deviate from what is shown in the Subcontract Documents. Subcontractor acknowledges that the Contractor has acted in reliance of the Subcontractor's expertise in completing this Scope of Work. Therefore, Subcontractor shall notify Contractor of any areas where "Industry Standard" may deviate from what is shown in the Subcontract Documents prior to beginning effected work.
6. Complete installation of all embedded items furnished by others but required for a complete Concrete Foundation system including fabricated steel if required.
7. Subcontractor shall clean work area and remove all debris occasioned by this scope of work and place all debris in dumpsters supplied by the Contractor in accordance with the following guidelines:
 - A. Subcontractor shall promptly remove all debris that poses a safety hazard to the employees, subcontractors or agents of the Subcontractor or to any other persons within the effected area.
 - B. Work areas shall be cleaned as directed by the Contractor and / or at the completion of each building or area of operation.
8. Clean all excess concrete spillage and place in dumpsters provided by others.

Contractor: 

Subcontractor: 

9. All work to install elevator pits shall be plumb, level and square within the tolerances defined by the elevator manufacture. All other work under this Subcontract Agreement shall be completed within the same tolerances as defined by "Industry Standard". Temporary bracing and / or cribbing to prevent distortion of newly installed work shall be utilized under this Subcontract Agreement until such time that the structural integrity of the Concrete Foundation system has been achieved and all work is self supporting without significant deformation. All temporary materials shall removed, consolidated and moved forward by the subcontractor for his use in the execution of his work or removed from the project site.
10. Turn in copies of all transit mix delivery tickets to the project superintendent daily.
11. Do not add more than 5 gallon of water to each cubic yard of concrete without prior approval of Project Superintendent or Material Testing Supervisor present during placement of concrete.
12. Clean up all materials from the work areas to a location designated by the project superintendent. Dispose of excess spoil-material in an area designated by the project superintendent.
13. Save all trees and brush, except those designated for removal. Take special care not to damage any trees designated to be saved by the Contractor.
14. Remove all stumps, root systems, brush, vegetation, and tree debris within the construction limits or as directed by the Contractor.
15. Provide adequate protection of all existing streets, curbs and utility services during the course of this work. Any damage incurred during the performance of this work shall be the responsibility of the subcontractor to repair at no additional cost the Subcontract Amount. In the event that existing streets, curbs and utility services interfere with the permanent facilities being constructed, immediately notify the Contractor and secure his instructions.
16. All building foundations and other required work shall be coordinated by the Subcontractor to ensure proper transition between elements and be completed to within one tenth (0.1) of a foot shown by the lines, grades and elevations as specified on the drawings and contract documents.
17. Where rocks, boulders, granite or similar materials are encountered, remove such materials by means which will neither cause additional cost to the Subcontract Amount nor endanger buildings, structures or utility services either on or off the project site.
18. Forming and concrete placement work shall be completed in such a manner and in such sequence that will provide proper drainage at all times.
19. In areas where this scope of work directly impacts existing controls, Subcontractor shall maintain all erosion control devices and silt fences required by governmental authorities having jurisdiction and as shown on the drawings or as may exist on the project site.
20. Provide any surveying necessary to bring the site to the specified grades as established by the Contractor. Protect the benchmarks and property lines set by the Contractor. Excessive restaking of Contractor established benchmarks and property lines will become the responsibility of the Subcontractor at no additional cost the Subcontract Amount.
21. Protect all adjacent work and / or property from damage resulting from this work.

Exclusions:

1. Project benchmarks and initial grades.
2. Fine grading (included in Site Landscape)
3. Backfilling of curbs at paving (included in fine grading)
4. Rock excavation beyond the capacity of a Davis 300 ditching machine.

End Of Section

AHC 03250 Concrete Foundations

Contractor: _____
Subcontractor: _____

PRODUCER (214)265-9020 FAX (214)265-1428 Champion Commercial Insurance 3025 Commerce Street Dallas, TX 75226	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.												
INSURED LCG Development 13232 Fall Manor Dr. Dallas, TX 75243	<table border="1"> <tr> <th>INSURERS AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> <tr> <td>INSURER A: First Mercury Insurance Company</td> <td></td> </tr> <tr> <td>INSURER B: Progressive</td> <td></td> </tr> <tr> <td>INSURER C: Texas Mutual Ins. Co.</td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> </table>	INSURERS AFFORDING COVERAGE	NAIC #	INSURER A: First Mercury Insurance Company		INSURER B: Progressive		INSURER C: Texas Mutual Ins. Co.		INSURER D:		INSURER E:	
INSURERS AFFORDING COVERAGE	NAIC #												
INSURER A: First Mercury Insurance Company													
INSURER B: Progressive													
INSURER C: Texas Mutual Ins. Co.													
INSURER D:													
INSURER E:													

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADDL LTR	INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS
A		GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	FMTX000420	01/10/2005	01/10/2006	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO REV'ED PREMISES (Per occurrence) \$ 50,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 1,000,000
B		AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input checked="" type="checkbox"/> Additional Insured	08418252-0	01/17/2005	06/17/2005	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ AUTO ONLY - EA ACCIDENT \$ OTHER THAN AUTO ONLY EAACC \$ AGG \$
		GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$
		EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE DEDUCTIBLE RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$
C		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? * Yes, describe under SPECIAL PROVISIONS below	TBD	01/19/2005	01/19/2006	WC STATUTORY LIMITS <input type="checkbox"/> OTH-ER <input type="checkbox"/> E.L. EACH ACCIDENT \$ 100,000 E.L. DISEASE - EA EMPLOYEE \$ 100,000 E.L. DISEASE - POLICY LIMIT \$ 500,000
		OTHER				

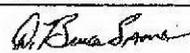
- DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS
1. Policy is endorsed to name Affordable Housing Construction, Inc. and Arbor Woods Housing, L.P. as additional insured's.
 2. Policy is primary over any applicable insurance for the insureds acts and scope of work only.
 3. Waiver of subrogation in favor of certificate holder in relation to General Liability.
 4. Notice of cancellation is (10) days for non-payment of premium.

CERTIFICATE HOLDER

Affordable Housing Construction, Inc.
 Arbor Woods Housing, L.P.
 Attn: Andrea
 5910 N. Central Expressway
 Suite 1145
 Dallas, TX 75206

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
 Bruce Sams/KATHYH 



Current Set Listing As Of 12/01/2004 11:17:00AM

Issue(s) : ALL

Discipline(s) : ALL

Requested By : Matt Martin



Project Information

Project Name : Arbor Woods
Project : TRID_03-320
Project Type : Private

Project Hosted By :

Affordable Housing Construction
5910 N. Central Expressway Suite 1145
Dallas Texas USA 75206
214.891.1402

Ordinal	Sheet Name	Sheet Size	Description	Issue Name	Issue Date	Discipline
1	COVER	24X36	Cover Sheet	Construction Issue	09/13/2004	Architectural
2	1.0	24X36	Index	Construction Issue	09/13/2004	Architectural
3	1.0A	24X36	TAS Requirements	Construction Issue	09/13/2004	Architectural
4	1.0B	24X36	TAS Requirements	Construction Issue	09/13/2004	Architectural
5	1.0C	24X36	Specifications	Construction Issue	09/13/2004	Architectural
6	1.1	24X36	Site Plan	Construction Issue	09/13/2004	Architectural
7	1.2	24X36	Address Plan	Construction Issue	09/13/2004	Architectural
8	2.0	24X36	Schedule	Construction Issue	09/13/2004	Architectural
9	2.1	24X36	Unit B1	Construction Issue	09/13/2004	Architectural
10	2.1A	24X36	Unit B1-HC	Construction Issue	09/13/2004	Architectural
11	2.1B	24X36	Unit B1-Alt	Construction Issue	09/13/2004	Architectural
12	2.2	24X36	Unit B2	Construction Issue	09/13/2004	Architectural
13	2.3	24X36	Unit C1	Construction Issue	09/13/2004	Architectural
14	2.3A	24X36	Unit C1-HC	Construction Issue	09/13/2004	Architectural
15	2.4	24X36	Unit C2	Construction Issue	09/13/2004	Architectural
16	2.5	24X36	Unit D1	Construction Issue	09/13/2004	Architectural
17	2.5A	24X36	Unit D1-HC	Construction Issue	09/13/2004	Architectural
18	2.6	24X36	Unit Finish	Construction Issue	09/13/2004	Architectural
19	3.1	24X36	Bldg. A	Construction Issue	09/13/2004	Architectural
20	3.2	24X36	Bldg. A	Construction Issue	09/13/2004	Architectural
21	3.3	24X36	Bldg. A	Construction Issue	09/13/2004	Architectural
22	3.4	24X36	Bldg. A	Construction Issue	09/13/2004	Architectural
23	3.5	24X36	Elev. A	Construction Issue	09/13/2004	Architectural

SWH 006072

036



Current Set Listing As Of 12/01/2004 11:17:00AM

Issue(s) : ALL

Discipline(s) : ALL

Ordinal	Sheet Name	Sheet Size	Description	Issue Name	Issue Date	Discipline
24	3.5A	24X36	Elev. A	Construction Issue	09/13/2004	Architectural
25	3.5B	24X36	Elev. B	Construction Issue	09/13/2004	Architectural
26	3.5C	24X36	Elev. A	Construction Issue	09/13/2004	Architectural
27	5.1	24X36	Bldg. C	Construction Issue	09/13/2004	Architectural
28	5.2	24X36	Bldg. C	Construction Issue	09/13/2004	Architectural
29	5.3	24X36	Elev. C	Construction Issue	09/13/2004	Architectural
30	6.1	24X36	Bldg. D	Construction Issue	09/13/2004	Architectural
31	6.2	24X36	Bldg. D	Construction Issue	09/13/2004	Architectural
32	6.3	24X36	Bldg. D	Construction Issue	09/13/2004	Architectural
33	6.4	24X36	Bldg. D	Construction Issue	09/13/2004	Architectural
34	6.5	24X36	Elev. D	Construction Issue	09/13/2004	Architectural
35	7.1	24X36	Bldg. E	Construction Issue	09/13/2004	Architectural
36	7.2	24X36	Bldg. E	Construction Issue	09/13/2004	Architectural
37	7.3	24X36	Bldg. E	Construction Issue	09/13/2004	Architectural
38	7.4	24X36	Elev. E	Construction Issue	09/13/2004	Architectural
39	8.1	24X36	Bldg. F	Construction Issue	09/13/2004	Architectural
40	8.2	24X36	Bldg. F	Construction Issue	09/13/2004	Architectural
41	8.3	24X36	Elev. F	Construction Issue	09/13/2004	Architectural
42	10.1	24X36	Stair	Construction Issue	09/13/2004	Architectural
43	10.2	24X36	Stair	Construction Issue	09/13/2004	Architectural
44	10.3	24X36	Stair	Construction Issue	09/13/2004	Architectural
45	10.4	24X36	Stair	Construction Issue	09/13/2004	Architectural
46	10.5	24X36	Stair	Construction Issue	09/13/2004	Architectural
47	11.1	24X36	Int. Wall Sect.	Construction Issue	09/13/2004	Architectural
48	11.2	24X36	Int. Wall Sect.	Construction Issue	09/13/2004	Architectural
49	11.3	24X36	Ext. Wall Sect.	Construction Issue	09/13/2004	Architectural
50	11.4	24X36	Ext. Wall Sect.	Construction Issue	09/13/2004	Architectural
51	12.1	24X36	Details	Construction Issue	09/13/2004	Architectural
52	12.2	24X36	Details	Construction Issue	09/13/2004	Architectural
53	12.3	24X36	Details	Construction Issue	09/13/2004	Architectural
54	12.4	24X36	Details	Construction Issue	09/13/2004	Architectural

SWH 006073

037



Current Set Listing As Of 12/01/2004 11:17:00AM

Issue(s) : ALL

Discipline(s) : ALL

Ordinal	Sheet Name	Sheet Size	Description	Issue Name	Issue Date	Discipline
55	12.5	24X36	Details	Construction Issue	09/13/2004	Architectural
56	12.6	24X36	Waterproofing Details	Construction Issue	09/13/2004	Architectural
57	12.7	24X36	Waterproofing Details	Construction Issue	09/13/2004	Architectural
58	13.1	24X36	Club Schd.	Construction Issue	09/13/2004	Architectural
59	13.2	24X36	Club Plan	Construction Issue	09/13/2004	Architectural
60	13.3	24X36	Club Plan	Construction Issue	09/13/2004	Architectural
61	13.4	24X36	Club Elev.	Construction Issue	09/13/2004	Architectural
62	13.5	24X36	Club Elev.	Construction Issue	09/13/2004	Architectural
63	13.5A	24X36	Club Elev.	Construction Issue	09/13/2004	Architectural
64	13.6	24X36	Club Int.	Construction Issue	09/13/2004	Architectural
65	13.6A	24X36	Club Sect.	Construction Issue	09/13/2004	Architectural
66	13.7	24X36	Club Wall	Construction Issue	09/13/2004	Architectural
67	13.8	24X36	Club Wall	Construction Issue	09/13/2004	Architectural
68	13.9	24X36	Club Details	Construction Issue	09/13/2004	Architectural
69	13.10	24X36	Club Details	Construction Issue	09/13/2004	Architectural
70	14.1	24X36	Trash	Construction Issue	09/13/2004	Architectural
71	FP-1	24X36	Fire Protection	Construction Issue	09/13/2004	Fire Protection
72	FP-2	24X36	Fire Protection	Construction Issue	09/13/2004	Fire Protection
73	FP-3	24X36	Fire Protection	Construction Issue	09/13/2004	Fire Protection
74	FP-4	24X36	Fire Protection	Construction Issue	09/13/2004	Fire Protection
75	FP-5	24X36	Fire Protection	Construction Issue	09/13/2004	Fire Protection
76	S1	24X36	Dimension Control Plan - Building Type 'A'	Construction Issue	09/13/2004	Structural
77	S1.0	24X36	Foundation Plan - Building Type 'A'	Construction Issue	09/13/2004	Structural
78	S1.1	24X36	Second Floor Framing Plan - Building Type 'A'	Construction Issue	09/13/2004	Structural
79	S1.2	24X36	Third Floor Framing Plan - Building Type 'A'	Construction Issue	09/13/2004	Structural
80	S1.3	24X36	Roof Framing Plan - Building Type 'A'	Construction Issue	09/13/2004	Structural
81	S1.4	24X36	First Floor Shearwall Plan - Building Type 'A'	Construction Issue	09/13/2004	Structural

SW/H 006074



Current Set Listing As Of 12/01/2004 11:17:00AM

Issue(s) : ALL

Discipline(s) : ALL

Ordinal	Sheet Name	Sheet Size	Description	Issue Name	Issue Date	Discipline
82	S1.5	24X36	Second Floor Shearwall Plan - Building Type 'A'	Construction Issue	09/13/2004	Structural
83	S1.6	24X36	Third Floor Shearwall Plan - Building Type 'A'	Construction Issue	09/13/2004	Structural
84	S2	24X36	Dimension Control Plan - Building Type 'C'	Construction Issue	09/13/2004	Structural
85	S2.0	24X36	Foundation Plan - Building Type 'C'	Construction Issue	09/13/2004	Structural
86	S2.1	24X36	Second Floor Framing Plan - Building Type 'C'	Construction Issue	09/13/2004	Structural
87	S2.2	24X36	Roof Framing Plan - Building Type 'C'	Construction Issue	09/13/2004	Structural
88	S2.3	24X36	First Floor Shearwall Plan - Building Type 'C'	Construction Issue	09/13/2004	Structural
89	S2.4	24X36	Second Floor Shearwall Plan - Building Type 'C'	Construction Issue	09/13/2004	Structural
90	S3	24X36	Dimension Control Plan - Building Type 'D'	Construction Issue	09/13/2004	Structural
91	S3.0	24X36	Foundation Plan - Building Type 'D'	Construction Issue	09/13/2004	Structural
92	S3.1	24X36	Second Floor Framing/First Floor Shearwall Plan - Building Type 'D'	Construction Issue	09/13/2004	Structural
93	S3.2	24X36	Third Floor Framing/Second Floor Shearwall - Building Type 'D'	Construction Issue	09/13/2004	Structural
94	S3.3	24X36	Roof Framing/Third Floor Shearwall Plan - Building Type 'D'	Construction Issue	09/13/2004	Structural
95	S4	24X36	Dimension Control Plan - Building Type 'E'	Construction Issue	09/13/2004	Structural
96	S4.0	24X36	Foundation Plan - Building Type 'E'	Construction Issue	09/13/2004	Structural
97	S4.1	24X36	Second Floor Framing Plan - Building Type 'E'	Construction Issue	09/13/2004	Structural
98	S4.2	24X36	Roof Plan - Building Type 'E'	Construction Issue	09/13/2004	Structural

SWH 006075



Current Set Listing As Of 12/01/2004 11:17:00AM

Issue(s) : ALL

Discipline(s) : ALL

Original	Sheet Name	Sheet Size	Description	Issue Name	Issue Date	Discipline
99	S4.3	24X36	First Floor Shearwall Plan - Building Type 'E'	Construction Issue	09/13/2004	Structural
100	S4.4	24X36	Second Floor Shearwall Plan - Building Type 'E'	Construction Issue	09/13/2004	Structural
101	S5	24X36	Dimension Control Plan - Building Type 'F'	Construction Issue	09/13/2004	Structural
102	S5.0	24X36	Foundation Plan - Building Type 'F'	Construction Issue	09/13/2004	Structural
103	S5.1	24X36	Second Floor Framing Plan - Building Type 'F'	Construction Issue	09/13/2004	Structural
104	S5.2	24X36	Roof Framing Plan - Building Type 'F'	Construction Issue	09/13/2004	Structural
105	S5.3	24X36	First Floor Shearwall Plan - Building Type 'F'	Construction Issue	09/13/2004	Structural
106	S5.4	24X36	Second Floor Shearwall Plan - Building Type 'F'	Construction Issue	09/13/2004	Structural
107	S6	24X36	Dimension Control Plan - Clubhouse	Construction Issue	09/13/2004	Structural
108	S6.0	24X36	Foundation Plan - Clubhouse	Construction Issue	09/13/2004	Structural
109	S6.1	24X36	Roof Framing Plan - Clubhouse	Construction Issue	09/13/2004	Structural
110	S6.2	24X36	Shearwall Plan - Clubhouse	Construction Issue	09/13/2004	Structural
111	S7.0	24X36	Sections	Construction Issue	09/13/2004	Structural
112	S7.1	24X36	Details	Construction Issue	09/13/2004	Structural
113	S7.2	24X36	Details	Construction Issue	09/13/2004	Structural
114	S7.3	24X36	Wall Sections	Construction Issue	09/13/2004	Structural
115	S7.4	24X36	Wall Sections	Construction Issue	09/13/2004	Structural
116	S7.5	24X36	Shearwall Sections	Construction Issue	09/13/2004	Structural
117	S8.0	24X36	General Notes and Specifications	Construction Issue	09/13/2004	Structural
118	MP-1	24X36	Site Plan - Mechanical & Plumbing	Construction Issue	09/13/2004	M.E.P
119	MP-2	24X36	Building A - 1 Floor - Mech / Plbg	Construction Issue	09/13/2004	M.E.P
120	MP-3	24X36	Building A - 3 Floor - Mech / Plbg	Construction Issue	09/13/2004	M.E.P

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Current Set Listing As Of 12/01/2004 11:17:00AM

Issue(s) : ALL

Discipline(s) : ALL

Original	Sheet Name	Sheet Size	Description	Issue Name	Issue Date	Discipline
121	MP-4	24X36	Building C - 1 & 2 Floor - Mech / Plbg	Construction Issue	09/13/2004	M.E.P
122	MP-5	24X36	Building D - 1 & 2 Floor - Mech / Plbg	Construction Issue	09/13/2004	M.E.P
123	MP-6	24X36	Building D - 3 Floor - Mech / Plbg	Construction Issue	09/13/2004	M.E.P
124	MP-7	24X36	Building E - 1 & 2 Floor - Mech / Plbg	Construction Issue	09/13/2004	M.E.P
125	MP-8	24X36	Building F - 1 & 2 Floor - Mech / Plbg	Construction Issue	09/13/2004	M.E.P
126	M-9	24X36	Units B1, B1-Alt, B1-HC & B2 - Mechanical	Construction Issue	09/13/2004	M.E.P
127	M-10	24X36	Units C1, C1-HC & C2 - Mechanical	Construction Issue	09/13/2004	M.E.P
128	M-10A	24X36	Units D1 & D1-HC - Mechanical	Construction Issue	09/13/2004	M.E.P
129	M-11	24X36	Club Plan - Mechanical	Construction Issue	09/13/2004	M.E.P
130	M-12	24X36	HVAC Symbols, Schedules and Details	Construction Issue	09/13/2004	M.E.P
131	E-1	24X36	Site Plan - Electrical	Construction Issue	09/13/2004	M.E.P
132	E-2	24X36	Building A - 1 & 2 Floor - Electrical	Revision 1 - Lighting Coordination	11/22/2004	M.E.P
133	E-3	24X36	Building A - 3 Floor - Electrical	Revision 1 - Lighting Coordination	11/22/2004	M.E.P
134	E-4	24X36	Building C - 1 & 2 Floor - Electrical	Revision 1 - Lighting Coordination	11/22/2004	M.E.P
135	E-5	24X36	Building D - 1 & 2 Floor - Electrical	Revision 1 - Lighting Coordination	11/22/2004	M.E.P
136	E-6	24X36	Building D - 3 Floor - Electrical	Revision 1 - Lighting Coordination	11/22/2004	M.E.P
137	E-7	24X36	Building E - 1 & 2 Floor - Electrical	Revision 1 - Lighting Coordination	11/22/2004	M.E.P

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Current Set Listing As Of 12/01/2004 11:17:00AM

Issue(s) : ALL

Discipline(s) : ALL

Original	Sheet Name	Sheet Size	Description	Issue Name	Issue Date	Discipline
138	E-8	24X36	Building F - 1 & 2 Floor - Electrical	Revision 1 - Lighting Coordination	11/22/2004	M.E.P
139	E-9	24X36	Unit Plan B1, B1-Alt, B1-HC & B2 - Electrical	Construction Issue	09/13/2004	M.E.P
140	E-10	24X36	Unit Plan C1, C1-HC & C2 - Electrical	Permit Submittal Set	05/05/2004	M.E.P
141	E-10A	24X36	Unit Plan D1 & D1-HC - Electrical	Permit Submittal Set	05/05/2004	M.E.P
142	E-11	24X36	Club Plan - Lighting	Construction Issue	09/13/2004	M.E.P
143	E-12	24X36	Club Plan - Power	Construction Issue	09/13/2004	M.E.P
144	E-13	24X36	Compactor & Mail Kiosk - Electrical	Permit Submittal Set	05/05/2004	M.E.P
145	E-14	24X36	Unit Load Analysis	Construction Issue	09/13/2004	M.E.P
146	E-15	24X36	Load Center Schedules	Construction Issue	09/13/2004	M.E.P
147	E-16	24X36	Electrical Riser Diagrams	Construction Issue	09/13/2004	M.E.P
148	E-17	24X36	Electrical Symbols Legend	Construction Issue	09/13/2004	M.E.P
149	P-9	24X36	Unit Plan B1, B1-Alt, B1-HC & B2 - Plumbing	Construction Issue	09/13/2004	M.E.P
150	P-10	24X36	Unit Plan C1, C1-HC & C2 - Plumbing	Construction Issue	09/13/2004	M.E.P
151	P-10A	24X36	Unit Plan D1 & D1-HC - Plumbing	Construction Issue	09/13/2004	M.E.P
152	P-11	24X36	Club Plan - Plumbing	Construction Issue	09/13/2004	M.E.P
153	P-12	24X36	Plumbing Symbols and Fixture Schedules	Construction Issue	09/13/2004	M.E.P
154	P-13	24X36	Plumbing Riser Diagrams	Construction Issue	09/13/2004	M.E.P
155	C0	24X36	Civil Cover and Index	Civil Issue	05/04/2004	Civil
156	C1A	24X36	Plat	Civil Issue	05/04/2004	Civil
157	C1B	24X36	Plat	Civil Issue	05/04/2004	Civil
158	C02	24X36	Demolition Plan	Civil Issue	05/04/2004	Civil
159	C03	24X36	Paving Plan	Civil Issue	05/04/2004	Civil
160	C04	24X36	Grading Plan	Civil Issue	05/04/2004	Civil
161	C05	24X36	Drainage Area Map	Civil Issue	05/04/2004	Civil

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Current Set Listing As Of 12/01/2004 11:17:00AM

Issue(s) : ALL

Discipline(s) : ALL

Ordinal	Sheet Name	Sheet Size	Description	Issue Name	Issue Date	Discipline
162	C06	24X36	Storm Sewer Plan	Civil Issue	05/04/2004	Civil
163	C07	24X36	Storm Sewer Profiles	Civil Issue	05/04/2004	Civil
164	C08	24X36	Storm Sewer Profiles	Civil Issue	05/04/2004	Civil
165	C09	24X36	Storm Sewer Profiles	Civil Issue	05/04/2004	Civil
166	C10	24X36	Erosion Control	Civil Issue	05/04/2004	Civil
167	C11	24X36	Details	Civil Issue	05/04/2004	Civil
168	C12	24X36	Water and Wastewater Plan	Civil Issue	05/04/2004	Civil
169	C13	24X36	Wastewater Profiles	Civil Issue	05/04/2004	Civil
170	1LS	24X36	Landscape Submittal	Permit Submittal Set	05/05/2004	Landscape
171	1C OF 6	24X36	Construction	Revision 2 - Landscape	08/04/2004	Landscape
172	2C OF 6	24X36	Construction	Revision 2 - Landscape	08/04/2004	Landscape
173	3C OF 6	24X36	Construction	Revision 2 - Landscape	08/04/2004	Landscape
174	4C OF 6	24X36	Pool Construction	Revision 2 - Landscape	08/04/2004	Landscape
175	5C OF 6	24X36	Construction Details	Revision 2 - Landscape	08/04/2004	Landscape
176	6C OF 6	24X36	Construction Details	Revision 2 - Landscape	08/04/2004	Landscape
177	1L OF 5	24X36	Landscape	Revision 2 - Landscape	08/04/2004	Landscape
178	2L OF 5	24X36	Landscape	Revision 2 - Landscape	08/04/2004	Landscape
179	3L OF 5	24X36	Landscape	Revision 2 - Landscape	08/04/2004	Landscape
180	4L OF 5	24X36	Pool Landscape	Revision 2 - Landscape	08/04/2004	Landscape
181	5L OF 5	24X36	Landscape	Revision 2 - Landscape	08/04/2004	Landscape

End of Report

SWH 006079

Affordable Housing Construction, Inc.
JOB-SITE RULES & GENERAL REQUIREMENTS

- 1 Radios will be allowed. However, there shall not be excessive volume, (as determined by AHC Personnel). Radios must not be played in any building during the time that the building is being inspected by Municipal Inspectors, Lenders, Architect, Engineers Consultants, or any employees of AHC Construction Inc. and Southwest Housing.
- 2 There will be **NO CONSUMPTION OF ALCOHOL OR USE OF ANY DRUGS** before or during work hours. Any person deemed to be under the influence of ANY mind altering drug will be barred from the job-site.
- 3 All Safety Rules must be obeyed. Compliance of all OSHA Regulations and Guidelines will be the responsibility of the subcontractors. All Subcontractors are required to have a copy of their Safety Program on file with the Project Superintendent. AHC reserves the right to issue safety violations and levy fines.
- 4 **NO** material shall be taken from the job-site at any time.
- 5 All food debris (cans, milk/juice cartons, paper wrappers, etc.) must be placed in trash bins **immediately** at the conclusion of break time. A back-charge of **\$100 per incident** will be applied if trash is not picked up. One (1) warning will be faxed to your office prior to initiating the back-charge.
- 6 Fighting, horseplay, scuffling, will not be tolerated at any time
- 7 There will be not unsafe driving or handling of vehicles on the job-site.
- 8 Intentional abuse or waste of materials, whether belonging to you or others, will not be tolerated.
- 9 No children OR pets will be allowed on the job-site at any time for any reason.
- 10 All visitors must check in with the project trailer. No touring without AHC escort
- 11 All unnecessary vehicles will be parked off-site, per direction of the Project Superintendent.
- 12 Only Foreman are authorized to enter job-site trailer, and only on business relating to the project.
- 13 No plastic gas containers allowed.
- 14 It is mandatory that all Subcontractors working on site or preparing to perform work on site within the following week, have a representative in attendance at the weekly meeting.
- 15 No solicitation of other personnel and no advertising or distributing of material.
- 16 Enforcement of the above rules shall be the responsibility of the Subcontractor in regards to his employees. Failure to comply may cause immediate expulsion from the Project.
- 17 Clothing must be adequate for the job and for safety and includes pants & shirts and footwear that provides protection from the hazards. No tennis or soft soled shoes.
- 18 Daily reports are required to be completed with the project Superintendent.
- 19 AHC is not responsible for any tools, equipment, material, etc of subcontractor on/off site
- 20 Safety is a primary concern in all operations. Subcontractors must provide their own safety program. AHC will enforce but is not responsible for all aspects including hard hats, clothing, fall protection, safe electrical devices, scaffolding, cutting, ladders, trenches, guardrails, etc
- 21 **ALL SUBCONTRACTORS ARE RESPONSIBLE FOR THEIR OWN CLEAN-UP ON A DAILY BASIS.** Trash, debris, and unusable construction material or packing, must be placed in the appropriate container.

AFFORDABLE HOUSING CONSTRUCTION

STANDARD FORM CONSTRUCTION SUBCONTRACT

This Subcontract is effective as of the 7th day of January, 2005 by and between: Affordable Housing Construction, Inc. hereinafter referred to as the "Contractor" and ~~Article IV Development~~ *ICG Development Group* hereinafter referred to as the "Subcontractor."

WITNESSETH: The following terms and conditions are hereby mutually agreed to by and between the Contractor and the Subcontractor:

ARTICLE I DEFINITION OF SUBCONTRACT TERMS	
PROJECT: Arbor Woods Villas # 04-0320 3030 N. Hampton Rd. Dallas, TX 75212 Voice: 214 819-9755 Fax: 214 819-9758	SUBCONTRACTOR: <i>ICG Development Group</i> Article IV Development 13232 Fall Manor Drive Dallas, Texas 75243 Voice: 214 641-0905 Mbl Vendor #: <i>3337</i> N/A Fax: 469 330-9108 (&
OWNER: Arbor Woods Housing, L.P. 5910 North Central Expressway, Suite 1145 Dallas, TX 75206 Voice: (214) 891-1402 Fax: (214) 987-3477	ARCHITECT: Beeler, Guest, Owens, Architects, LP 4245 North Central Expressway, Suite 300 Dallas, TX 75205 Voice: (214) 520-8878 Fax: (214) 520-8879
CONTRACTOR: Affordable Housing Construction, Inc. 5910 North Central Expressway, Suite 1145 Dallas, TX 75206 Voice: (214) 891-1402 Fax: (214) 987-3477	PAYMENT APPLICATION DATE: Payment Application Due to Project: 25th day of the month Time of Payment: On or about 30 days following the above date. Contract Number: AWV 022

CONTRACT: The Contractor has made a Contract for construction dated January 7th, 2005, with the owner of the Project.

SUBCONTRACT AGREEMENT: The Subcontract Agreement is this standard form construction subcontract, identified as SUBCONTRACT AGREEMENT # AWV 022 and which forms a part of the Subcontract Documents.

SUBCONTRACT: The Subcontract is the entire and integrated agreement between the Contractor and the Subcontractor.

SUBCONTRACT WORK: Sidewalks

Subcontractor: *[Signature]*
 Contractor: *[Signature]*

ARTICLE 2
SUBCONTRACT PRICE

As full compensation for performance of the Subcontract, Contractor agrees to pay Subcontractor in current funds the Subcontract price for the performance of the Subcontract Work, in the manner described below, subject to all applicable provisions of the Subcontract.

- (a) The firm fixed-price of \$58,500.00 subject to additions and deductions as provided for in the Subcontract Documents.
- (b) Subcontract price is broken down in to the following cost codes:

cc: 2775	\$48,700	Sidewalks
cc: 2775	\$4,900	Fumes
cc: 2775	\$4,900	Light Pole Bases

ARTICLE 3
SUBCONTRACT DOCUMENTS

3.1 The Subcontract Documents consist of this **SUBCONTRACT AGREEMENT # AWV 022** and the

following listed documents, schedules and attachments, which are all incorporated by reference and made a part hereof:

- Exhibit "A" - Scope of Work
- Exhibit "B" - Insurance Certificate sample
- Exhibit "C" - Subcontract Docs/Plan List (from Planwell)
- Exhibit "D" - Jobsite Rules & Requirements
- Exhibit "E" - Schedule of Values

3.2 The Subcontract Documents, which are binding on the Subcontractor, are set forth in Paragraph 3.1. The Contractor shall make available to the Subcontractor, prior to the execution of the Subcontract Agreement, copies of the Subcontract Documents to which the Subcontractor will be bound. The Subcontractor similarly shall make copies of applicable portions of the Subcontract Documents available to its proposed subcontractors and suppliers. Nothing herein shall prohibit the Subcontractor from obtaining copies of the Subcontract Documents from the Contractor at any time after the Subcontract Agreement is executed. Where any provision of the documents listed in Article 3 hereof, is inconsistent with a provision of this Subcontract Agreement, this Subcontract Agreement shall govern. Nothing in the Subcontract Documents shall be construed to create a contractual relationship between persons or entities other than the Contractor and Subcontractor.

ARTICLE 4
SCOPE OF SUBCONTRACT WORK

4.1 The Contractor has retained the Subcontractor to provide the labor, materials, equipment and services referred to herein, and to perform the Subcontract Work as an independent contractor. The Subcontractor shall perform such work (hereinafter called the "Subcontract Work") under the general direction of the Contractor and in accordance with this Subcontract.

4.2 The scope of the Subcontract Work shall consist of all work necessary to complete the: **Sidewalks** work for the Project in accordance with the Subcontract Documents and as more particularly, specified in: **Exhibit "A"- Scope of Work**

4.3 **TEMPORARY SERVICES.** The Contractor will provide to the Subcontractor the following temporary services at the Project site during the performance of this Subcontract at no charge to the Subcontractor: Temporary electrical power, non-potable water for construction, and material testing.

ARTICLE 5
SURETY BONDING
(NOT REQUIRED)

ARTICLE 6
PERFORMANCE OF WORK

6.1 **DATE OF COMMENCEMENT.** The Date of Commencement is the effective date of this Subcontract Agreement as first written above unless otherwise set forth below:

6.2 **SCHEDULE OF WORK.** In a timely fashion, the Subcontractor shall provide the Contractor with any scheduling information proposed by the Subcontractor for the Subcontract Work. In consultation with the Subcontractor, the Contractor shall prepare the schedule for performance of the contract (hereinafter called the "Schedule of Work") and shall revise and update such schedule, as necessary, as the work progresses. Both the Contractor and the Subcontractor shall be bound by the Schedule of Work. The Schedule of Work and all subsequent changes and additional details thereto shall be submitted to the Subcontractor promptly and reasonably in advance of the required performance. The Contractor shall have the right to determine and, if necessary, order and priority in which the various portions of the work shall be performed and all other matters relative to the timely and orderly conduct of the Subcontract Work. Should Subcontractor's performance of the work be delayed by any acts of Contractor and/or suppliers,

Subcontractor: _____

Contractor: _____

other subcontractor's, Subcontractor shall receive an equitable extension of time but shall not be entitled to any increase in the Contract price or to damages or additional compensation as a consequence of such delays. Subcontractor hereby waives any claim for any such increase, damages or additional compensation. Any extension of time shall be made in writing to Contractor not more than (10) days after the commencement of the delay, otherwise it is waived.

6.3 SUBCONTRACT PERFORMANCE. The Subcontractor shall use care, skill and diligence in supervising and directing the Subcontract Work. The Subcontractor shall have responsibility and control over the performance of the Subcontract Work, including the construction methods, techniques, means and sequences for coordinating and completing the various portions of the Subcontract Work, unless the Subcontract gives other specific instructions concerning these matters.

6.4 SUBCONTRACT TIME. The Subcontract Work shall be substantially complete, per the Contractors schedule of production, subject to adjustments in the Subcontract Time as provided for in the Subcontract Documents.

6.5 TIME IS OF THE ESSENCE. Time is of the essence for both parties, and they mutually agree to see to the performance of their respective work and the work of their subcontractors and suppliers so that the entire Project may be completed in accordance with the Contract and the Schedule of Work.

ARTICLE 7 SUBCONTRACT INTERPRETATION

7.1 INCONSISTENCIES AND OMISSIONS. Should inconsistencies or omissions appear in the Subcontract Documents, it shall be the duty of the Subcontractor to so notify the Contractor in writing within three (3) working days of the Subcontractor's discovery thereof. Upon receipt of said notice, the Contractor shall instruct the Subcontractor as to the measures to be taken and the Subcontractor shall comply with the Contractor's instructions. If the Subcontractor performs work knowing it to be contrary to any applicable laws, statutes, ordinances, building codes, rules or regulations without notice to the Contractor and advance approval by appropriate authorities, including the Contractor, then the Subcontractor shall assume full responsibility for such work and shall bear all associated costs, charges, fees and expenses necessarily incurred to remedy the violation.

7.2 LAW AND EFFECT. This Subcontract shall be governed by the law of the State in which the Project is located.

7.3 SEVERABILITY AND WAIVER. The partial or complete invalidity of any one or more provisions of this

Subcontract shall not affect the validity or continuing force and effect of any other provision. The failure of either party hereto to insist, in any one or more instances, upon the performance of any of the terms, covenants or conditions of this Subcontract, or to exercise any right herein, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right as respects further performance.

7.4 ATTORNEY'S FEES. Should either party employ an attorney to institute suit or demand arbitration to enforce any of the provisions hereof, to protect its interest in any manner arising under this Subcontract, or to recover on a surety bond furnished by a party to this Subcontract, the prevailing party shall be entitled to recover reasonable attorney's fees, costs, charges, and expenses expended or incurred therein.

7.5 TITLES. The titles given to the Articles of this Subcontract Agreement are for ease of reference only and shall not be relied upon or cited for any other purposes.

7.6 ENTIRE AGREEMENT. This Subcontract and attachments are solely for the benefit of the signatories hereto and represents the entire and integrated agreement between the parties hereto and, unless specifically referenced herein, supersedes all prior negotiations, representations, plans, documents or agreements, either written or oral.

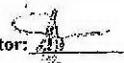
ARTICLE 8 CONTRACTOR'S OBLIGATIONS

8.1 AUTHORIZED REPRESENTATIVE. The Contractor shall designate one or more persons who shall be the Contractor's authorized representative(s) on-site and off-site. Such authorized representative(s) shall be the only person(s) the Subcontractor shall look to for instructions, orders and/or directions, except in an emergency.

8.2 STORAGE. Unless otherwise specified in Article 4, the Contractor shall make available to the Subcontractor suitable and reasonable areas for storage of the Subcontractor's material and equipment during performance of the Subcontract work.

8.3 TIMELY COMMUNICATION. The Contractor, with reasonable promptness, shall transmit to the appropriate parties all submittals, transmittals, and written approval relating to the Subcontract Work. Unless otherwise specified in the Subcontract Documents, communications by and with the Subcontractor's subcontractors, material suppliers and suppliers shall be through the Subcontractor.

8.4 LAYOUT RESPONSIBILITY AND LEVELS. The Contractor shall establish reliable principal axis lines of the building and site whereupon the Subcontractor shall layout and be strictly responsible for the accuracy of the Subcontract Work

Subcontractor: 
Contractor: 

and for any loss or damage to the Contractor or others by reason of the Subcontractor's failure to set out or perform its work correctly. The Subcontractor shall exercise prudence so that the actual final conditions and details of its Subcontract Work shall result in alignment of finish surfaces.

ARTICLE 9
SUBCONTRACTOR'S OBLIGATIONS

9.1 RESPONSIBILITIES. The Subcontractor shall furnish all of the labor, materials, fees, taxes, equipment, and services, including, but not limited to, competent supervision, shop drawings, samples, tools, and scaffolding as are necessary for the proper performance of the Subcontract Work in accordance with the Subcontract Documents. The Subcontractor shall provide to the Contractor a list of its proposed subcontractors and suppliers, and be responsible for taking field dimensions, providing tests, ordering of materials and all other actions as required to perform the Subcontract Work and to comply with the Schedule of Work.

9.2 SUBCONTRACTOR'S OBLIGATIONS FOR SITE VISITATION. The Subcontractor acknowledges that it has visited the Project site and visually inspected the general and local conditions, which could affect the Subcontract Work. Any failure of the Subcontractor to reasonably ascertain from a visual inspection of the site, the general and local conditions which could affect the Subcontract Work, will not relieve the Subcontractor from its responsibility to properly complete the Subcontract Work without additional expense to the Contractor.

9.3 SHOP DRAWINGS, SAMPLES, PRODUCT DATA AND MANUFACTURERS' LITERATURE. The Subcontractor promptly shall submit for approval to the Contractor all shop drawings, samples, product data, manufacturers' literature and similar submittals required by the Subcontract Documents. The Subcontractor shall be responsible to the Contractor for the accuracy and conformity of its submittals to the Subcontract Documents. The Subcontractor shall prepare and deliver its submittals to the Contractor in a manner consistent with the Schedule of Work and in such time and sequence so as not to delay the Contractor or others in the performance of the Contract work. The approval of any Subcontractor submittal shall not be deemed to authorize deviations, substitutions or changes in the requirements of the Subcontract Documents unless express written approval is obtained from the Contractor and Owner authorizing such deviations, substitutions or change. In the event that the Subcontract Documents do not contain submittal requirements pertaining to the Subcontract Work, the Subcontractor agrees upon request to submit in a timely fashion to the Contractor for approval any shop drawings, samples, product data, manufacturers' literature or similar submittals as may reasonably be required by the Contractor, Owner or Architect.

9.3.1 The Contractor, Owner, and Architect are entitled to rely on the accuracy and completeness of any professional certifications required by the Subcontract Documents concerning the performance criteria of systems, equipment or materials, including all calculations relating thereto and any governing performance requirements.

9.4 COORDINATION AND COOPERATION. The Subcontractor shall cooperate with the Contractor and all others whose work may interfere with the Subcontract Work; specifically note and immediately advise the Contractor of any interference with the Subcontract Work; and participate in the preparation of coordination drawings and work schedules involving the Subcontract Work.

9.5 AUTHORIZED REPRESENTATIVE. The Subcontractor shall designate one or more persons who shall be the authorized Subcontractor's representative(s) on-site and off-site. Such authorized representative(s) shall be the only person(s) to whom the Contractor shall issue instructions, orders or directions, except in an emergency.

9.6 COMMUNICATIONS. Unless otherwise provided in the Subcontract Documents, Subcontractor communications by and with the Owner, Architect, separate contractors and/or other subcontractors and suppliers of Contractor, regardless of tier, shall be through the Contractor.

9.7 TESTS AND INSPECTIONS. The Subcontractor shall schedule all required tests, approvals and inspections of the Subcontract Work or portions thereof at appropriate times so as not to delay the progress of the work. The Subcontractor shall bear all expenses associated with tests, inspections and approvals required of the Subcontractor by the Subcontract Documents which, unless otherwise agreed to, shall be conducted by an independent testing laboratory or entity approved by the Contractor and Owner. Required certificates of testing, approval or inspection shall, unless otherwise required by the Subcontract Documents, be secured by the Subcontractor and promptly delivered to the Contractor.

9.8 WORKMANSHIP. Every part of the Subcontract Work shall be executed in accordance with the Subcontract Documents in a workmanlike and substantial manner. All materials used in the Subcontract work shall be furnished in sufficient quantities to facilitate the proper and expeditious execution of the work.

9.9 MATERIALS FURNISHED BY OTHERS. In the event the scope of the Subcontract Work includes installation of materials or equipment furnished by others, it shall be the responsibility of the Subcontractor to examine the items so provided and thereupon handle, store and install the items, with such skill and care as to ensure a satisfactory and proper installation. Loss or damage due to acts of the Subcontractor shall be deducted from any amounts due or to become due the Subcontractor under this Subcontract.

Subcontractor: 

Contractor: 

9.10 SUBSTITUTIONS. No substitutions shall be made in the Subcontract Work unless permitted in the Subcontract Documents and only then upon the Subcontractor first receiving all approvals required under the Subcontract Documents for substitutions.

9.11 WARRANTY. The Subcontractor warrants its work against all deficiencies and defects in materials and/or workmanship and as called for in the Subcontract Documents. The Subcontractor agrees to satisfy such warranty obligations, which appear within the warranty period established in the Subcontract Documents without cost to the Owner or the Contractor. Unless otherwise specified in the Subcontract Documents, *the Subcontractor shall warrant its work as described above for a period of one (1) year from the date of completion of all of the Subcontractors Scope of Work.* The Subcontractor further agrees to furnish any special warranties that shall be required in accordance with the Subcontract Documents for the Subcontract Work prior to final payment. Insurance must be maintained current throughout this warranty period.

9.12 UNCOVERING/CORRECTION OF WORK.

9.12.1 UNCOVERING OF WORK. If required in writing by the Contractor, the Subcontractor must uncover any portion of the Subcontract Work which has been covered by the Subcontractor in Violation of the Subcontract Documents or contrary to a directive issued to the Subcontractor by the Contractor. Upon receipt of a written directive from the Contractor, the Subcontractor shall uncover such work for the Contractor or Owner's inspection and then restore the work to its original condition at the Subcontractor's time and expense.

9.12.2 The Contractor may direct the Subcontractor to uncover portions of the Subcontract Work for the inspection by the Owner or Contractor at any time. The Subcontractor is required to uncover such work whether or not the Contractor or Owner had requested to inspect the work prior to it being uncovered. Except as provided in paragraph 9.12.1, the Subcontractor shall be adjusted by change order for the cost and time of uncovering and restoring any work which is uncovered for inspection and proves to be installed in accordance with the Subcontract Documents, provided the Contractor had not previously instructed the Subcontractor to leave the work uncovered. If the Subcontractor uncovers work pursuant to a directive issued by the Contractor, and such work upon inspection does not compile with the Subcontract Documents, then the Subcontractor shall be responsible for all costs and time of uncovering, correcting and restoring the work so as to make it conform to the Subcontract Documents.

9.12.3 CORRECTION OF WORK. The Subcontractor is required to correct in a timely fashion any Subcontract Work rejected by the Contractor, Owner or any Governing Authority having jurisdiction over the Subcontract Work for failing to comply with the Subcontract Documents whether observed

prior to commencement of the warranty period(s) or during the warranty period(s) established under Paragraph 9.11. The Subcontractor shall correct at its own cost and time and bear the expense of additional services for any nonconforming Subcontract Work for which it is responsible.

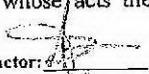
9.13 CLEANUP. The Subcontractor shall follow the Contractor's cleanup directions, and at all times keep the units, buildings and premises free from debris resulting from the Subcontract Work; and clean each work area prior to discontinuing work in each area. If the Subcontractors fails to immediately commence compliance with cleanup duties within twenty-four (24) hours after written notifications from the Contractor of noncompliance, the Contractor may implement appropriate cleanup measures without further notice and deduct the cost thereof from any amounts due or to become due the Subcontractor under this Subcontract.

9.14 SAFETY. The Subcontractor is required to perform the Subcontract Work in a safe and reasonable manner. The Subcontractor shall seek to avoid injury, loss or damage to persons or property by taking reasonable steps to protect: (a) Employees and other persons on the site; (b) Materials and equipment stored at the site or at off-site locations for use in performance of the Contract Work; and (c) all property and structures located at the site and adjacent to work areas, whether or not said property or structures are part of the Project or involved in the Contract Work.

9.14.1 The Subcontractor shall give all required notices and comply with all applicable rules, regulations, orders and other lawful requirements established to prevent injury, loss or damage to persons or property.

9.14.2 The Subcontractor shall implement appropriate safety measures, in strict compliance to OSHA pertaining to the Subcontract Work, including establishing safety rules, posting appropriate warnings and notices, erecting safety barriers, and establishing proper notice procedures to protect persons and property at the site and adjacent thereto from injury, loss or damage.

9.14.3 The Subcontractor is required to promptly remedy any loss or damage caused to the work, materials, equipment and property referred to in clauses 9.14.1.b and 9.14.1.c, if said loss or damage is not covered by insurance required under the Contract, but only to the extent caused in whole or in part by the Subcontractor and/or persons or entities performing work for or on behalf of the Subcontractor, regardless of tier, who have furnished labor, material or services relating to the Subcontract and for whose acts the Subcontractor may be liable. The Subcontractor shall not be required to remedy any loss or damage, which is not attributable to the fault or negligence of the Subcontractor, or of any person or entity for whose acts the Subcontractor may be liable.

Subcontractor: 

Contractor: 

9.14.4 The Subcontractor is required to designate an individual at the site in the employ of the Subcontractor who shall act as the Subcontractor's designated safety representative with a duty to prevent accidents. Unless otherwise identified by the Subcontractor in writing to the Contractor, the designated safety representative shall be the Subcontractor's project superintendent.

9.14.5 The Subcontractor has an affirmative duty not to overload the structures or conditions at the site and shall take reasonable steps not to load any part of the structures, or site so as to give rise to an unsafe condition or create an unreasonable risk of personal injury or property damage. The Subcontractor shall have the right to request, in writing, from the Contractor loading information concerning the structures at the site.

9.14.6 The Subcontractor shall give prompt written notice to the Contractor of any accident involving personal injury requiring a physician's care, any property damage exceeding Five Hundred Dollars (\$500.00) in value, or any failure that could have resulted in serious personal injury, whether or not such an injury was sustained.

9.14.7 Prevention of accidents at the site is the responsibility of the Contractor, Subcontractor, and all other subcontractors, persons and entities at the site. Establishment of a safety program by the Contractor shall not relieve the Subcontractor or other parties of their safety responsibilities. The Subcontractor shall establish its own safety program implementing safety measures, policies and standards conforming to those required by governmental and quasigovernmental authorities having jurisdiction and by the Contractor and Owner, including, but not limited to, requirements imposed by the Subcontract Documents. The Subcontractor shall comply with the reasonable recommendations of insurance companies having an interest in the Project, and shall stop any part of the Subcontract Work which the Contractor deems unsafe until corrective measures satisfactory to the Contractor shall have been taken. The Contractor's failure to stop the Subcontractor's unsafe practices shall not release the Subcontractor of the responsibility therefore. The Subcontractor shall notify the Contractor immediately following an accident and promptly confirm the notice in writing. A detailed written report shall be furnished if requested by the Contractor. The Subcontractor shall indemnify the Contractor for fines, or penalties imposed on the Contractor as a result of safety violations, but only to the extent that such fines, or penalties are caused by the Subcontractor's failure to comply with applicable safety requirements.

9.14.8 Subcontractor shall conduct safety meetings with all its employees, agents and lower tier subcontractors prior to and throughout construction of the project while subcontractor is performing work on site, copies of which shall be provided to AHC. Subcontractor shall maintain and provide AHC

with a written health and safety program and a written hazard communication program.

9.14.9 Subcontractor agrees to indemnify, defend and hold harmless Contractor from any and all liability and damages, fines, costs and attorney's fees incurred by Contractor on account of Subcontractor's failure to comply with all safety standards, laws and governmental regulations applicable to the work.

9.15 PERMITS, FEES AND LICENSES. The Subcontractor shall give adequate notices to authorities pertaining to the Subcontract Work and secure and pay for all permits, fees, licenses, assessments, and inspections and taxes necessary to complete the Subcontract Work in accordance with the Subcontract Documents.

9.16 DELEGATION OR SUBCONTRACTING OF DUTIES. The Subcontractor is prohibited from delegating, transferring, conveying, subcontracting, relinquishing or otherwise disposing of the whole or any part of its duties under this Subcontract without the prior written approval of the Contractor. The Contractor's approval shall not be unreasonably withheld. Lower-tier subcontractors and suppliers approved by the Contractor on or before the effective date of this subcontract Agreement may be listed below:

9.17 MATERIAL SAFETY. Material Safety Data (MSD) sheets as required by law and pertaining to materials or substances used or consumed in the performance of the Subcontract Work shall be submitted to the Contractor by the Subcontractor. MSD sheet obtained by the Contractor from other subcontractors or sources shall be made available to the Subcontractor by the Contractor.

9.18 PERFORMANCE. Subcontractor shall perform the work in a good and workmanlike manner and in strict compliance with the Contract Documents and all applicable laws, ordinances, rules, regulations, restrictions, public orders of local, state and federal laws. Should subcontractor at any time refuse or neglect to supply a sufficient number of properly skilled workmen or materials of proper quantity or fail in any respect to prosecute the work with promptness or diligence or any other requirements of the Contract Documents, Contractor shall have the right, but not obligation, after two (2) days written notice to Subcontractor, to provide such labor, materials or remedy any such failure and to deduct the cost from any money then due or to become due Subcontractor under this Subcontract. If Contractor must extend the cost of supervision and overhead for such remedy, Subcontractor shall be charged for the costs. Contractor may take over any Subcontractors outstanding contracts and purchase orders and take

Subcontractor: 

Contractor: 

possession of tools, equipment, materials and supplies which are on the Project site, in transit or specifically manufacture goods for the work for use in completion of the project. Contractor is hereby granted a lien on all such property to secure performance.

9.19 TERMINATION. Contractor may terminate the Subcontract if Subcontractor for any one of the items (a) fails to fully and punctually perform any of the terms and conditions and fails to remedy within (3) business days after written notification (b) refuses or fails to supply enough properly skilled workers or materials (c) fails to make payment to subcontractors, laborers or material suppliers (d) fails to strictly abide by laws, ordinances, rules, regulations or public authorities (e) becomes insolvent or makes a transfer in fraud of creditors or makes assignment for the benefit of creditors (f) abandons or notifies Contractor of intent to abandon, actually or constructively (g) guilty of substantial breach of any provision of the Contract Documents (h) fails to provide the insurance coverage and certificates or acts fraudulently in submitting coverage or certificates.

When any of the above reasons exist, Contractor may, without prejudice to any other rights or remedies, and after giving Subcontractor three (3) business days written notice, terminate Subcontractor and may take possession on site of all materials, equipment, tools, machinery owned by Subcontractor and finish the Work by whatever method Contractor deems expedient. Subcontract shall not be entitled to receive further payment until the Work is finished. If such costs exceed the unpaid balance of the Contract price, Subcontractor shall pay the difference to the Contractor upon demand. Contractor shall not be required to assume any of Subcontractors outstanding obligations. Warranties and obligations set forth herein performed by Subcontractor in no manner shall be altered, limited or extinguished as a result of such termination. The performance of the Work may also be terminated by the Contractor for any reason whenever Contractor determines such termination is in Contractors best interest. Such termination shall be effected by written notice specifying date such termination is effective. In this event of termination for convenience, Subcontractor shall be entitled to its actual costs incurred to the effective date. Subcontractor shall not be entitled to anticipated profit or damages for any termination. In no event shall Subcontractor be entitled to such claim and waives any such claim.

ARTICLE 10 INSURANCE

10.1 SUBCONTRACTOR'S INSURANCE. Prior to start of the Subcontract Work, the Subcontractor shall procure for the Subcontract Work and maintain in force Workers' Compensation Insurance, Employer's Liability Insurance, Comprehensive or Commercial General Liability Insurance on an occurrence basis, Comprehensive Automobile Liability Insurance and any other insurance required of Subcontractor

under the Subcontract. If required by the Subcontract Documents, the Contractor, Owner and other parties as required shall be named as additional insured's on each of these policies except for Workers Compensation. The Subcontractor's insurance shall include contractual liability insurance covering the Subcontractor's obligations under this Subcontract. Subcontractors insurance is primary for losses due to the acts of Subcontractor scope of work. Waiver of subrogation is in favor of the certificate holder.

10.2 MINIMUM LIMITS OF LIABILITY. The Subcontractor's Workers' Compensation Insurance, Employer's Liability Insurance, Comprehensive of Commercial General Liability Insurance and Comprehensive Automobile Liability Insurance, as required by Paragraph 10.1, shall be written with limits of liability not less than the following:

Workers Compensation: Statutory Limits

Employers Liability: 100,000 Each Accident
100,000 Disease Each Employee
500,000 Disease Policy Limit

General Liability: 2,000,000 General Aggregate
1,000,000 Products-Comp/Op Agg
1,000,000 Personal & Adv Injury
1,000,000 Each Occurrence
50,000 Fire Damage

Coverage to include, but not limited to:

Assault/Battery
Punitive Damages

Automobile Liability: 1,000,000 Single Limit
1,000,000 Non-Owned Autos

10.3 NUMBER OF POLICIES. Comprehensive or Commercial General Liability Insurance and other liability insurance may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability Policy.

10.4 CANCELLATION, RENEWAL OR MODIFICATION. The Subcontractor shall maintain in effect all insurance coverage required under this Subcontract at the Subcontractor's sole expense and with insurance companies mutually agreeable to the Contractor and Subcontractor.

All insurance policies shall contain a provision that the coverages afforded thereunder shall not be canceled or not renewed, nor restrictive modifications added, until at least thirty (30) calendar days' prior written notice has been given to the Contractor, unless otherwise specifically required in the Subcontract Documents. Notice of cancellation for non-payment of premium is ten (10) days.

Certificates of Insurance, or certified copies of policies reasonably acceptable to the Contractor, shall be filed with the Contractor prior to the commencement of the Subcontract Work.

Subcontractor: _____

Contractor: _____

ARTICLE 11
INDEMNIFICATION

In the event the Subcontractor fails to obtain or maintain any insurance coverage or is fraudulent in obtaining a certificate any insurance required under this Subcontract, the Contractor may purchase such coverage and charge the expense thereof to the Subcontractor, or terminate this Subcontract, owing only installed materials.

The Subcontractor shall maintain completed operations liability insurance for one year after acceptance of the Subcontract Work, substantial completion of the Project, or to the time required by the Subcontract Documents, whichever is longer. The Subcontractor shall furnish the Contractor evidence of such insurance at the time of completion of the Subcontract Work.

10.5 WAIVER OF RIGHTS. The Contractor and Subcontractor waive all rights against each other and the Owner, the Architect, the architect's consultants and agents or employees of any of them, separate contractors, and all other subcontractors for loss or damage to the extent covered by Builder's Risk or any other property of equipment insurance, except such rights as they may have to the proceeds of such insurance; provided, however, that such waiver shall not extend to the acts or omissions of the architect, the Architect's consultants, and the agents or employees of any of them as listed in Paragraph 11.3.

10.6 BUILDER'S RISK INSURANCE.

10.6.1 Upon written request of the Subcontractor, the Contractor shall provide the Subcontractor with a copy of the Builder's Risk policy of insurance or any other property or equipment insurance in force for the Project and procured by the Contractor. The Contractor will advise the Subcontractor if a Builder's Risk policy of insurance is not in force.

10.6.2 If the Owner or Contractor has not purchased Builder's Risk insurance for the full insurable value of the Subcontract Work, less a reasonable deductible, then the Subcontractor may procure such insurance as will protect the interest of the Subcontractor, its subcontractors and their subcontractors in the Subcontract Work, and, by appropriate Subcontract change order, the cost of such additional insurance shall be reimbursed to the Subcontractor.

10.6.3 If not covered under the Builder's Risk policy of insurance or any other property or equipment insurance required by the Contract or Subcontract, the Subcontractor shall procure and maintain at the Subcontractor's own expense property and equipment insurance for portions of the Work stored off the site or in transit, when such portions of the Subcontract Work are to be included in an application for payment under Article 13.

10.7 ENDORSEMENT. If the policies of insurance referred to in this Article require an endorsement to provide for continued coverage where there is a waiver of subrogation, the owners of such policies will cause them to be so endorsed.

11.1 INDEMNIFICATION. The Subcontractor shall indemnify and hold the Contractor, Owner, Architect, their agents, consultants and employees harmless from and against all claims, losses, costs and damages, including but not limited to attorney's fees, pertaining to the performance of the Subcontract and involving personal injury, sickness, death or property damage, including loss of use of property resulting therefrom but not damage to the work itself, but only to the extent caused in whole or in part by the negligent acts or omissions of the Subcontractor, or any of the Subcontractors' subcontractors, suppliers, manufacturers, or other persons or entities for whose acts the Subcontractor may be liable. This indemnification agreement is binding on the Subcontractor, to the fullest extent permitted by law, regardless of whether any or all of the persons and entities indemnified hereunder are responsible in part for the claims, damages, losses or expenses for which the Subcontractor is obligated to provide indemnification. This indemnification provision does not negate, abridge or reduce any other rights or obligations of the persons and entities described herein with respect to indemnity.

11.2 NO LIMITATION UPON LIABILITY. To the fullest extent permitted by law, in any and all claims against the Owner, Architect, Architect's consultants, agents and employees, the Contractor (including its affiliates, parents and subsidiaries) and other contractors or subcontractors, or any of their agents or employees, by any employee of the Subcontractor, anyone directly or indirectly employed by the Subcontractor or anyone for whose acts the Subcontractor may be liable, the indemnification obligation under this Article 11 shall not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for the Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefits acts.

11.3 ARCHITECT EXCLUSION. The obligations of the Subcontractor under this Article 11 shall not extend to the liability of the architect, the Architect's consultants, agents or employees of any of them, arising out of:

- a) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or
- b) the giving of or the failure to give directions or instructions by the Architect, the Architect's consultants, and agents or employees of any of them provided such giving or failure to give is the primary cause of the injury or damage.

11.4 COMPLIANCE WITH LAWS. The Subcontractor agrees to be bound by, and at its own cost, comply with all federal, state and local laws, ordinances and regulations

Subcontractor: _____

Contractor: _____

(hereinafter collectively referred to as "laws") applicable to the Subcontract Work including, but not limited to, equal employment opportunity, minority business enterprise, women's business enterprise, disadvantage business enterprise, and all other laws with which the Subcontractor must comply according to the Subcontract Documents. The Subcontractor shall be liable to the Contractor and the Owner for all loss, cost and expense attributable to any acts of commission or omission by the Subcontractor, its employees and agents resulting from the failure to comply therewith, including, but not limited to, any fines, penalties or corrective measures.

ARTICLE 12
CHANGES, CLAIMS AND DELAYS

12.1 CHANGES.

12.1.1 SUBCONTRACT CHANGE. A Subcontract Change is any approved change in the Subcontract Work within the general scope of the Subcontract including a change in the drawings, specifications or technical requirements of the Subcontract and/or a change in the Schedule of Work affecting the performance of the Subcontract.

12.1.2 CHANGE ORDER. When the Contractor orders in writing, the Subcontractor, without nullifying this Subcontract, shall make any and all changes in the Subcontract Work which are within the general scope of this Subcontract. Adjustments in the Subcontract Price or Subcontract Time, if any, resulting from such changes shall be set forth in a Subcontract Change Order pursuant to the Subcontract Documents. No such adjustments shall be made for any changes performed by the Subcontractor that have not been ordered by the Contractor. A Subcontract Change Order is a written instrument prepared by the Contractor and signed by the Contractor and Subcontractor stating their agreement upon the change in the scope of the Subcontract Work, adjustment in the Subcontract Price and/or Subcontract Time. All change orders must be signed by an authorized Contractor representative. Subcontractor has risk of non-payment of work without a signed authorization.

12.1.3 INCIDENTAL CHANGES IN THE SUBCONTRACT WORK. The Contractor may direct the Subcontractor to perform incidental changes in the Subcontract Work which do not involve adjustments in the Subcontract Price or Subcontract Time. Incidental changes shall be consistent with the scope and intent of the Subcontract Documents. The Contractor shall initiate an incidental change in the Subcontract Work by issuing a written order to the Subcontractor. Such written orders shall be carried out promptly and are binding on the parties.

12.2 CLAIMS.

12.2.1 CLAIM. A claim is a demand or assertion made in writing by the Contractor or the Subcontractor seeking an adjustment in the Subcontract Price and/or Subcontract Time,

an adjustment or interpretation of the Subcontract terms, or other relief arising under or relating to this Subcontract, including the resolution of any matters in dispute between the Contractor and Subcontractor in connection with the Project.

12.3.1 DELAY. If the Subcontractor is delayed in the performance of the Subcontract Work for any reason beyond the Subcontractor's control, and without the Subcontractor's fault or negligence, including delays caused in whole or in part by the Contractor, Owner, Architect or any other persons, entities or events, or if the Subcontract Work is delayed by order of the Contractor, Owner or an authorized representative of either, or if the Subcontract Work is delayed for any reason or cause for which the Contractor, Owner, or Architect concludes has resulted in excusable delay, then the Subcontractor is entitled to an extension of the Subcontract Time in which to complete its work. Said extension shall be set forth in a Subcontract Change Order for such time as the parties may agree is reasonable.

12.3.2 Arbitration. All claims or disputes between Contractor and Subcontractor, arising out of or relating to the Contract Documents must be in writing with supporting details, calculations and documentation. Contractor shall review and advise of its decision within (35) days. If claims or disputes involving \$100,000 or less cannot be resolved amicably, it will be decided in accordance with the Construction Industry Arbitration Rules of American Arbitration Association unless mutually agreed otherwise. Notice of demand for arbitration shall be filed in writing with other party and the American Arbitration Association within a reasonable time after the dispute. Discovery will be limited to the production by each party of all relevant and non-privileged documents and the depositions of expert witnesses and a maximum of two other depositions. Additional discovery shall be only as allowed by the Arbitrator(s) for good cause shown. The arbitration hearing shall occur at a mutually agreed location or as the American Arbitration Association directs, either in the city of the project or in Dallas County, Texas. The award rendered by the arbitration shall be final and judgment entered in accordance to applicable law in court having jurisdiction. This agreement to arbitrate shall be specifically enforceable. Claims or disputes in excess of \$100,000 shall, at Contractors option, be decided by arbitration as set forth above or by litigation.

ARTICLE 13
PAYMENT

13.1 GENERAL PROVISIONS

13.1.1 SCHEDULE OF VALUES. At the time of execution of this Subcontract Agreement, the Subcontractor shall have prepared and submitted to the Contractor a Schedule of Values apportioned to the various divisions, phases and buildings,

Subcontractor: 

Contractor: 

whole dollars only, for the subcontract Work. Each line item contained in the Schedule of Values shall be assigned a monetary price (whole dollar only) such that the total of all such items shall equal the Subcontract Price. The Schedule of Values shall be prepared in such detail as may be required by the Owner and, in addition thereto, the Contractor and Subcontractor may agree on the extent of the detail to be included in the Schedule of Values, which must be supported by such documents and proof as the Contractor may require. See Exhibit D.

13.1.2 PAYMENT USE AND VERIFICATION. The Subcontractor is required to pay for labor, materials and equipment used in the performance of the Subcontract Work through the most current period applicable to progress payments received from the Contractor. Reasonable evidence, satisfactory to the Contractor, may be required to show that all obligations relating to the Subcontract Work are current before releasing any payment due on the Subcontract Work. If required by the Contractor, before any payment is made for the Subcontract Work, the Subcontractor shall submit evidence satisfactory to the Contractor, such as lien waivers (signed by an officer of the company), accounting records from suppliers, that all payrolls, bills for materials and equipment, and all known indebtedness connected with the Subcontract Work, have been paid or otherwise satisfied as set forth in paragraph 13.2.3. Without prejudice to any other rights specified herein, the Contractor reserves the right to issue joint checks to Subcontractor and Creditors, Suppliers and/or Subcontractors, whether claiming a right to a mechanics lien or not. Contractor reserves the right to issue direct payments to Subcontractors and Creditors, Suppliers and/or Subcontractors who may claim a right to a mechanics lien to avoid mechanics liens and deduct any costs from any amounts due from Contractor. The reservation of right to make direct payments shall constitute no obligation on the part of the Contractor to do so.

13.1.3 SUBCONTRACTOR ASSIGNMENT OF RECEIVABLES. The Subcontractor shall advise the Contractor prior to entering into this Subcontract Agreement of the existence of any assignments or security interest granted by the Subcontractor to any general creditor, bank, lender, surety, factor or other entity in receivables or monies that may become due the Subcontractor under this Subcontract and shall give the Contractor prompt written notice of any such assignments or security interests granted by the Subcontractor after entering into this Subcontract Agreement.

13.1.4 PAYMENT NOT ACCEPTANCE. Payment to the Subcontractor does not constitute or imply acceptance of any portion of the Subcontract Work.

13.2 PROGRESS PAYMENTS.

13.2.1 APPLICATIONS. Subcontractor's applications for payment shall be itemized and supported by the Subcontractor's Schedule of Values and any other substantiating data as required in the Contract for the Contractor's payment applications. Subcontractor's payment applications shall be notarized if required. The Subcontractor's progress payment application for work performed in the preceding payment period shall be submitted to the Contractor in accordance with the terms of this Subcontract Agreement for approval by the Contractor. The Contractor shall incorporate the approved amount of the Subcontractor's progress payment application into the Contractor's payment application to the Owner for the same period and submit it to the Owner in a timely fashion.

13.2.2 PARTIAL LIEN WAIVERS AND AFFIDAVITS. As a prerequisite for payment, the Subcontractor shall provide, in a form satisfactory to the Owner and Contractor, partial lien or claim waivers in the amount of the application for payment and affidavits from the Subcontractor, and its subcontractors, material suppliers and vendors for the completed Subcontract Work. Such waivers may be conditional upon payment application submittal and unconditional upon receipt of payment. In no event shall the Contractor require the Subcontractor to sign an unconditional waiver of lien or claim, either partial or final, prior to receiving payment or in an amount in excess of what it has been paid. Lien waiver signatures must be by an officer of the company.

13.2.3 REJECTION OF SUBCONTRACTOR'S PAYMENT APPLICATION. The Contractor may reject a Subcontractor payment application or nullify a previously approved Subcontract payment application, in whole or in part, as may be reasonably necessary to protect the Contractor from loss or damage based upon:

- a) the Subcontractor's repeated failure to perform the Subcontract Work as required by the Subcontract;
- b) loss or damage arising out of or relating to the Subcontract and caused by the Subcontractor to the Owner, Contractor or others to whom the Contractor may be liable;
- c) the subcontractor's failure to properly pay for labor, materials, equipment or supplies furnished in connection with the Subcontract Work;
- d) rejected, non-conforming or defective Subcontract Work which has not been corrected in a timely fashion;
- e) reasonable evidence of delay in performance of the Subcontract Work such that the work will not be completed within the Subcontract Time, and that the unpaid balance of the Subcontract Price is not sufficient to offset the liquidated damages or actual damages that may be sustained by the Contractor as a result of the anticipated delay caused by the Subcontractor.

Subcontractor: _____

Contractor: _____

- f) reasonable evidence demonstrating that the unpaid balance of the Subcontract Price is insufficient to cover the cost to complete the Subcontract Work;
- g) third party claims involving the Subcontractor of reasonable evidence demonstrating that third party claims are likely to be filed unless and until the Subcontractor furnishes the Contractor with adequate security in the form of a surety bond, letter of credit or other collateral or commitment which are sufficient to discharge such claims if established.

The Contractor shall give written notice to the Subcontractor, at the time of disapproving or nullifying an application for payment, of the specific reasons therefore. When the above reasons for disapproving or nullifying an application for payment are removed, payment will be made for amounts previously withheld.

13.2.4 RETAINAGE / SECURITY. The rate of retainage shall be equal to *ten (10) percent*. If the Subcontractor furnishes a bond or other security to the satisfaction of the Contractor, the rate of retainage may be set at a lower rate or zero. Subcontractor may not apply for retainage payment until (30) days following the completion of the "scope of work" and final application has been previously submitted.

13.2.5 TIME OF APPLICATION. For each progress payment period, the Subcontractor shall submit its progress payment application to the Contractor for the Subcontract Work performed to date no later than the day of each month noted on the front page. The original pay application is to be delivered to the project.

13.2.6 TIME OF PAYMENT. *Progress payments to the Subcontractor for performance of the Subcontract Work shall be made on or about 30 days after the pay application submittal date.* If payment from the Owner for such Subcontract Work is not received by the Contractor, through no fault of the Subcontractor, the Contractor will make payment to the Subcontractor within a reasonable time for the Subcontract Work performed.

13.3 FINAL PAYMENT.

13.3.1 APPLICATION. Upon completion of the Subcontract Work by the Contractor, and upon the Subcontractor furnishing evidence of fulfillment of the Subcontractor's obligations in accordance with the Subcontract Documents, the Contractor shall incorporate the Subcontractor's application for final payment into the Contractor's next application for payment to the Owner without delay, or notify the Subcontractor if there is a delay and the reasons therefore.

13.3.2 REQUIREMENTS. Before the Contractor shall be required to incorporate the Subcontractor's application for final payment into the Contractor's next application for payment to the Owner; the Subcontractor shall furnish to the Contractor:

- a) if required by the Subcontract, an affidavit that all payrolls, bills for materials and equipment, and other

indebtedness connected with the Subcontract Work for which the Owner or its property of the Contractor of the Contractor's surety might in any way be liable, have been paid or otherwise satisfied;

- b) consent of the Subcontractor's surety to final payment, if required;
- c) satisfaction of close-out procedures as may be required by the Subcontract;
- d) certification that insurance required by the Subcontract remain in effect beyond final payment is in effect and will not be canceled or allowed to expire without at least thirty (30) calendar days' written notice to the Contractor, unless a longer period is stipulated in the Subcontract Documents; and
- e) other data if required by the Owner, such as receipts, releases, and waivers of liens effective upon payment to the extent and in such form as may be designated by the Owner. Acceptance of final payment by the Subcontractor shall constitute a waiver of claims by the Subcontractor except those previously made in writing and identified by the Subcontractor as unsettled at the time of final application for payment.

ARTICLE 14

RECOURSE BY CONTRACTOR

14.1 FAILURE OF PERFORMANCE.

14.1.1 NOTICE TO CURE. If the Subcontractor refuses or fails to supply enough properly skilled workers, proper materials, or maintain the Schedule of Work, or it fails to make prompt payment to its workers, subcontractors or suppliers, disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a material breach of a provision of this Subcontract, the Subcontractor may be deemed in default of this Subcontract. If the Subcontractor fails within one (1) working day after written notification to commence and continue satisfactory correction of such default, with diligence and promptness, then the contractor without prejudice to any other rights or remedies, shall have the right to any or all of the following remedies:

- a) supply each number of workers and quantity of materials, equipment and other facilities as the Contractor deems necessary for the satisfactory correction of such default, which the Subcontractor has failed to complete or perform after the aforesaid notice, and charge the cost thereof to the Subcontractor, who shall be liable for the payment of same including reasonable overhead, profit and attorneys' fees;
- b) contract with one or more additional contractors, to perform such part of the Subcontract Work as the Contractor shall determine will provide the most expeditious correction of the default and charge the cost thereof to the Subcontractor;

Subcontractor: _____
 Contractor: _____

- c) withhold payment of moneys due the Subcontractor in accordance with Subparagraph 13.2.3 of this Subcontract Agreement; and
- d) in the event of an emergency affecting the safety of persons or property, the Contractor may proceed to commence and continue satisfactory correction of such default, without first giving two (2) working days' written notice to the Subcontractor, but shall give prompt written notice of such action to the Subcontractor.

14.1.2 NONWAIVER AND OFFSET. Any failure by Contractor at any time to enforce the strict performance of any terms shall not affect the Contractor's right to avail itself of all remedies for subsequent breach of terms. Subcontractor's rights are subject to the right of Contractor to offset any claims against Subcontractor whether or not arising under this Subcontract including attaching all contracts & amounts on multiple AHC projects to satisfy or remedy one project.

14.1.3 TERMINATION BY CONTRACTOR. If the Subcontractor fails to commence and satisfactorily continue correction of a default within two (2) working days after written notification issued under Subparagraph 14.1.1, then the Contractor may, in lieu of or in addition to the remedies set forth in Subparagraph 14.1.1, issue a second written notification to the Subcontractor and the Subcontractor's surety, if any. Such notice shall state that if the Subcontractor fails to commence and continue correction of the default within two (2) working days of the second written notification, the Subcontract may be terminated and the Contractor may use any materials, implements, equipment, appliance or tools furnished by or belonging to the Subcontractor to complete the Subcontract Work. The Contractor shall issue a written notice of termination to the Subcontractor at the time the Subcontract is terminated.

The Contractor also may furnish those materials, equipment and/or employ such workers subcontractors as the Contractor deems necessary to maintain the orderly progress of the work.

All costs incurred by the Contractor in performing the Subcontract Work, including reasonable overhead, profit and attorneys' fees, shall be deducted from any moneys due or to become due the Subcontractor under this Subcontract. The Subcontractor shall be liable for the payment and any amount by which such expense may exceed the unpaid balance of the Subcontract Price.

This Agreement is entered into as of the date first written above.

Contractor:

AFFORDABLE HOUSING CONSTRUCTION

By: Kent Plemons, Sr. Vice President - Operations

Date: 1 28 05

Subcontractor:

LEG Development Group
Article IV Development

By: And Bruce, president
Signature & Title

By: Andrea Spencer
Type / Print

Date: January 19, 2005

Scope of Work
02775 - Concrete Flatwork

Work included under this subcontract agreement shall include but not be limited to all necessary supervision, labor, materials, equipment, fuel and lubricants, temporary structures (including all scaffolding and planking in accordance with OSHA standards, temporary cribbing and bracing), small tools, consumables, safety equipment, freight, sales and use taxes, labor burdens and other incidentals necessary for the complete and proper installation of Concrete Flatwork Systems including sidewalks, concrete step, concrete column footers, and concrete air conditioner pads furnished by the Subcontractor in strict accordance with this Subcontract Agreement and all related documents contained herein. . Without limiting anything contained within this Subcontract Agreement, the following is a specific listing of scope items:

1. Furnish and install all sidewalks required for a complete project. The extent of this work shall consist of all sidewalks (public and private) as indicated on plans.
2. All measurements to be field verified.
3. Form material waste or excess concrete and debris from truck washouts shall be accumulated and placed in onsite dumpster provided by GC - do not overload dumpsters.
4. Form material is included with installation of sidewalks. Sub is not responsible for removal of dirt spoils.
5. Provide all a/c pads, coordinate size and location with HVAC contractor and affordable housing.
6. All handicap concrete ramps must meet city of Austin building requirements and follow the specifications on plans.
7. All sidewalks must comply with the ACI 316 installation requirements.
8. All formed concrete surfaces which will be exposed in finished structure must have a "rubbed" finish on all exposed surfaces or tooled edges to be sound and visually acceptable to the architect.
9. Use one brand of cement throughout the project, unless otherwise acceptable to architect or owner.
10. Installation of welded wire fabric must be installed in as long of lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire.
11. Apply non-slip broom finish to exterior concrete platforms, steps, ramps and sidewalks.
12. Check all sidewalk elevations with grading plan to allow for designed drainage. Any changes in elevation must be approved by architect. Sub is responsible for installing sidewalks per the grading plan. Removal of sidewalks due to improper grade is at the subs expense.
13. All sidewalks must be set using a surveyor's level to ensure the slopes are being installed per plan. Anything installed incorrectly without affordable housing approval will have to be removed and replaced @ subs expense.
14. Subcontractor shall remove concrete formwork from sidewalks in a timely manner to assist the GC in establishing rough and finish grades. If subcontractor does not remove formwork within 48 hours after pour, Affordable Housing Construction will perform the duties at a rate of \$30.00 per hour to complete the work.

EXHIBIT A

1 of 3

Contractor

Subcontractor




SWH 006095

Scope of Work
02775 - Concrete Flatwork

15. Add/ alternates to this contract will be taken care of through change order. Potential items to include:
 - a. Concrete bridge used for drainage
 - b. Concrete picnic table pads, plus additional sidewalks to them
 - c. Concrete retaining walls
 - d. Fence column pads
 - e. Concrete steps are included in this contract amount.
16. All handicap ramps will be installed per ADA specs using brick pavers.
17. Punch-out to owners' satisfaction and acceptance
18. Coordinate inspection/testing related to this scope of work.
19. There will be a mandatory sub safety and coordination meeting held every week during your scope of work. There will be a \$250.00 fine for every meeting missed. See project superintendent for date and time.
20. Subcontractor shall clean work area daily and remove all debris occasioned by this scope of work and place all debris in dumpsters supplied by the Contractor in accordance with the following guidelines:
 - a. Work shall be cleaned immediately to remove all debris that, at the discretion of the Contractor, poses a safety hazard to the employees, subcontractors or agents of the Subcontractor or to any other persons within the effected area.
 - b. Work areas shall be completely cleaned of subcontractor's debris prior to moving to the next building or area of operation.
21. Clean all excess concrete spillage and place in dumpsters provided by others.
22. All work is to be plumb, level and square within the tolerances defined by the "Industry Standards". Temporary bracing and / or cribbing to prevent distortion of newly installed work shall be utilized under this Subcontract Agreement until such time that the structural integrity of the Concrete Flatwork system has been achieved and all work is self supporting without significant deformation. All temporary materials shall removed, consolidated and moved forward by the subcontractor for his use in the execution of his work or removed from the project site.
23. All Concrete Flatwork or other required work shall be coordinated by the Subcontractor to ensure proper transition between elements and be completed to within one tenth (0.1) of a foot shown by the lines, grades and elevations as specified on the drawings and contract documents.
24. Shop drawings and/or submittals for all materials and equipment as applicable to be submitted to general contractor's field office within 14 days of contract receipt.
25. Provide full time English speaking superintendent and/or foreman.
26. Provide adequate manpower to meet Affordable Housing Construction's schedule.
27. It is understood that no deviations whatsoever from plans will be made without approval.
28. Clean up all materials from the work areas to a location designated by the project superintendent. Dispose of excess spoil material in an area designated by the project superintendent.

EXHIBIT A

Contractor _____

2 of 3

Subcontractor _____

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SWH 006096

060

Scope of Work

02775 - Concrete Flatwork

29. Save all trees and brush, except those designated for removal. Take special care not to damage any trees designated to be saved by the Contractor.
30. Provide adequate protection of all existing streets, curbs and utility services during the course of this work. Any damage incurred during the performance of this work shall be the responsibility of the subcontractor to repair at no additional cost the Subcontract Amount. In the event that existing streets, curbs and utility services interfere with the permanent facilities being constructed, immediately notify the Contractor and secure his instructions.
31. Protect all adjacent work and / or property from damage resulting from this work.
32. In areas where this scope of work directly impacts existing controls, Subcontractor shall maintain all erosion control devices and silt fences required by governmental authorities having jurisdiction and as shown on the drawings or as may exist on the project site.
33. Monthly draws to be for completed work only, no stored material or partial work will be accepted. This lump sum contract will be rounded to the nearest "hundred" and draw schedule is to be broken down by completed buildings.

Clarifications:

Exclusions:

EXHIBIT A

3 of 3

S:\1-AHC FOLDERS\AHC - Scopes of Work\02775 Concrete Flatwork.doc

Contractor _____

Subcontractor _____

SWH 006097

PRODUCER (214)265-9020 FAX (214)265-1428 Champion Commercial Insurance 3025 Commerce Street Dallas, TX 75226	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.												
INSURED LCG Development 13232 Fall Manor Dr. Dallas, TX 75243	<table border="1"> <tr> <th>INSURERS AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> <tr> <td>INSURER A: First Mercury Insurance Company</td> <td></td> </tr> <tr> <td>INSURER B: Progressive</td> <td></td> </tr> <tr> <td>INSURER C: Texas Mutual Ins. Co.</td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> </table>	INSURERS AFFORDING COVERAGE	NAIC #	INSURER A: First Mercury Insurance Company		INSURER B: Progressive		INSURER C: Texas Mutual Ins. Co.		INSURER D:		INSURER E:	
INSURERS AFFORDING COVERAGE	NAIC #												
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INSURER D:													
INSURER E:													

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADDL TR INSR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS								
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR	FMTX000420	01/10/2005	01/10/2006	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Per occurrence) \$ 50,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 1,000,000								
	GENL AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC												
B	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input checked="" type="checkbox"/> Additional Insured	0841B252-0	01/17/2005	06/17/2005	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$								
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC \$ AUTO ONLY AGG \$								
	EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$								
C	WORKERS COMPENSATION AND EMPLOYERS LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/EMBER EXCLUDED <small>* as described under SPECIAL PROVISIONS below</small>	TBD	01/19/2005	01/19/2006	<table border="1"> <tr> <td>WC STATUTORY LIMITS</td> <td>OTHER</td> </tr> <tr> <td>EL EACH ACCIDENT</td> <td>\$ 100,000</td> </tr> <tr> <td>EL DISEASE - EA EMPLOYEE</td> <td>\$ 100,000</td> </tr> <tr> <td>EL DISEASE - POLICY LIMIT</td> <td>\$ 500,000</td> </tr> </table>	WC STATUTORY LIMITS	OTHER	EL EACH ACCIDENT	\$ 100,000	EL DISEASE - EA EMPLOYEE	\$ 100,000	EL DISEASE - POLICY LIMIT	\$ 500,000
WC STATUTORY LIMITS	OTHER												
EL EACH ACCIDENT	\$ 100,000												
EL DISEASE - EA EMPLOYEE	\$ 100,000												
EL DISEASE - POLICY LIMIT	\$ 500,000												
	OTHER												

- DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS
1. Policy is endorsed to name Affordable Housing Construction, Inc. and Arbor Woods Housing, L.P. as additional insured's.
 2. Policy is primary over any applicable insurance for the insureds acts and scope of work only.
 3. Waiver of subrogation in favor of certificate holder in relation to General Liability.
 4. Notice of cancellation is (10) days for non-payment of premium.

CERTIFICATE HOLDER Affordable Housing Construction, Inc. Arbor Woods Housing, L.P. Attn: Andrea 5910 N. Central Expressway Suite 1145 Dallas, TX 75206	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT. BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE Bruce Sams/KATHYH <i>Bruce Sams</i>
---	--

ACORD 25 (2001/08) FAX: (214)485-9497

©ACORD CORPORATION 1988

Affordable Housing Construction, Inc.
JOB-SITE RULES & GENERAL REQUIREMENTS

- 1 Radios will be allowed. However, there shall not be excessive volume, (as determined by AHC Personnel). Radios must not be played in any building during the time that the building is being inspected by Municipal Inspectors, Lenders, Architect, Engineers Consultants, or any employees of AHC Construction Inc. and Southwest Housing.
- 2 There will be **NO CONSUMPTION OF ALCOHOL OR USE OF ANY DRUGS** before or during work hours. Any person deemed to be under the influence of ANY mind altering drug will be barred from the job-site.
- 3 All Safety Rules must be obeyed. Compliance of all OSHA Regulations and Guidelines will be the responsibility of the subcontractors. All Subcontractors are required to have a copy of their Safety Program on file with the Project Superintendent. AHC reserves the right to issue safety violations and levy fines.
- 4 **NO** material shall be taken from the job-site at any time.
- 5 All food debris (cans, milk/juice cartons, paper wrappers, etc.) must be placed in trash bins **immediately** at the conclusion of break time. A back-charge of \$100 per incident will be applied if trash is not picked up. One (1) warning will be faxed to your office prior to initiating the back-charge.
- 6 Fighting, horseplay, scuffling, will not be tolerated at any time
- 7 There will be not unsafe driving or handling of vehicles on the job-site.
- 8 Intentional abuse or waste of materials, whether belonging to you or others, will not be tolerated.
- 9 No children OR pets will be allowed on the job-site at any time for any reason.
- 10 All visitors must check in with the project trailer. No touring without AHC escort
- 11 All unnecessary vehicles will be parked off-site, per direction of the Project Superintendent.
- 12 Only Foreman are authorized to enter job-site trailer, and only on business relating to the project.
- 13 No plastic gas containers allowed.
- 14 It is mandatory that all Subcontractors working on site or preparing to perform work on site within the following week, have a representative in attendance at the weekly meeting.
- 15 No solicitation of other personnel and no advertising or distributing of material.
- 16 Enforcement of the above rules shall be the responsibility of the Subcontractor in regards to his employees. Failure to comply may cause immediate expulsion from the Project.
- 17 Clothing must be adequate for the job and for safety and includes pants & shirts and footwear that provides protection from the hazards. No tennis or soft soled shoes.
- 18 Daily reports are required to be completed with the project Superintendent.
- 19 AHC is not responsible for any tools, equipment, material, etc of subcontractor on/off site
- 20 Safety is a primary concern in all operations. Subcontractors must provide their own safety program. AHC will enforce but is not responsible for all aspects including hard hats, clothing, fall protection, safe electrical devices, scaffolding, cutting, ladders, trenches, guardrails, etc
- 21 **ALL SUBCONTRACTORS ARE RESPONSIBLE FOR THEIR OWN CLEAN-UP ON A DAILY BASIS.** Trash, debris, and unusable construction material or packing, must be placed in the appropriate container.

Exhibit E - Jobsite Rules

Subcontractor 

Contractor 

SWH 006099

LEAD Development Group
 Project: Arbor Woods Villas
 Subcontractor: Article IV Development
 Contract No: AWV 022
 Draw Date: 15th

Draw Schedule (Sitework)

Job #: 04-0210
 Vendor: NTK 3337

Category: Sidewalks													TOTAL	
Cost Code	2775		1775		2775									
Item	Sidewalks		Flutes		Light Pole Bases									
Original Contract \$	\$48,700		4900		4900							\$0	\$0	\$ 58,500
Change Order														\$ -
Revised Contract \$	\$48,700		\$4,900		\$4,900		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 58,500
Monthly Submittal														\$ -
12/25/04														\$ -
1/25/05														\$ -
2/25/05														\$ -
3/25/05														\$ -
4/25/05														\$ -
5/25/05														\$ -
6/25/05														\$ -
7/25/05														\$ -
8/25/05														\$ -
9/25/05														\$ -
10/25/05														\$ -
11/25/05														\$ -
12/25/05														\$ -
1/25/06														\$ -
2/25/06														\$ -
3/25/06														\$ -
Light pole bases 1					1,300									\$ 1,300
Light pole bases 2					1,300									\$ 1,300
Light pole bases 3					1,300									\$ 1,300
Light pole bases 4					1,000									\$ 1,000
TOTAL					4,900									\$ 4,900
Previously Drawn														\$ -
THIS DRAW														\$ -
Balance	48,700		4,900		4,900		0	0	0	0	0	0	0	58,500

* Whole Dollars ONLY - Round to the nearest \$100 minimum *

Draw Number: 1
 Draw Date: _____
 Monthly Draw Submittal

Cost Code	GROSS Amount	Less: Retainage	NET Amount
2775	-	0	-
2775	-	-	-
2775	-	-	-
0	-	-	-
0	-	-	-
0	-	-	-
0	-	-	-
	50	0	50

Subcontractor: *Indegman* Date: 01-19-2005
 Superintendent: _____ Date: _____
 Project Manager: _____ Date: _____
 Vice President: _____ Date: _____
 Accounting Entry: _____ Date: _____

COMMENTS:

RAI-AFC FOLDER/ABC - PROJECT FILES/Draws-Fl Worth/Arbor Woods - AWV 304-0320/Subcontractor/AWV 022 Article IV Devnl. (Sidewalks)/Article IV Devnl. (Sidewalks) Subcontractor/BOV-by sitework

Subcontractor
 Contractor

[Signature]

SIWH 006100

**Go Crete
Concrete Mix Design**

JANUARY 11, 2005

Customer/Project: Ron Slo Inc.
Harbor Wood Apartments
Hampton & Singleton
Dallas, Texas

Concrete Application: APPROACHS
Design Specifications: 4500 PSI/6.5 SACK/CS/AD/AIR
SLUMP 4" +/- 1"

Mix Name	4500 PSI	MIX # GC-365C
#Total cementitious material	611	pounds
% fly ash (by wt. of total)	0	%
Pounds coarse agg./yd.	1850	pounds
% coarse agg. #1 of total c.a.	100	%
% coarse agg. #2 of total c.a.	0	%
Air content +/- 1.5% (including entrapped air)	6.0	%
Gallons water /cu. yd. (s.s.d.)	31.0	gallons
Water reducer dosage /cwt	8.0	ounces/cwt

Materials	Specific Gravities	Weight #	Abs. Vol.
		1 Cu. Yd. SSD	1 Cu. Yd.
Cement ASTM C150 Type I/II	3.15	611	3.108
Fly Ash ASTM C618	2.7	0	0.000
#1) 1.0" to #4 Crushed Limestone	2.68	1850	11.062
#2) 3/8" to #8 Pea Gravel	2.65	0	0.000
Natural Sand	2.64	1165	7.071
Water 31.00 gal.	1	258.2	4.138
Admixture: Plastimix Type A or D		48.9 oz.	0.000
Admixture: ProAir 260		3.0 oz.	0.000
* Includes entrapped air		6.0 %	1.620
Admixture		0.0 oz.	0.000
		0.0 oz.	0.000

Total 3884 lbs. 27.000

Gal. Water / Sack 4.77
 Fresh Unit Weight 143.85
 Water Cement Ratio ## 0.42
 Coarse agg. as % total agg. 0.61
 Temperature Range 40 to 100 degrees

Perry Kakara
 Submitted by: Perry Kakara, Technical Services Manager (972)224-5525 ext. 815
We would appreciate receiving the test results from this project.

SWH 006101



Southern Star Concrete, Inc.
 8500 Freeport Parkway N., Suite 200
 Irving, Texas 75063 U.S.A.
 Phone: (972) 621-0999 Fax: (972) 621-3351
Quality Services Department
 240 Singleton Boulevard Dallas, Texas 75212
 Phone: (214) 651-8020 Fax: (214) 651-1810

MIX DESIGN SUBMITTAL for READY-MIXED CONCRETE

Contractor:	Ron Slo, Inc.	Date:	January 17, 2005
Project:	Arbor Village Apartments		
Mix Design #:	9329		
Specific Use:	Slab on Grade		

MIX DESIGN PARAMETERS			
Minimum Compressive Strength:	3000 psi @ 28 Days	Sack Content:	4.50
Air Content:	1.5% +/- 1%	Fly Ash Content:	20%
Slump Range (inches):	5 " Maximum		
W/Cm Ratio (lb/lb):	0.61 (6.88 gal/sk)	Theoretical Plastic Unit Weight:	149.3 pcf
Max. / Min. Concrete Temp.:	Ref: ACI 305 / 306		

Southern Star Concrete guarantees this mix design will achieve the specified compressive strength when tested and evaluated in accordance with ASTM C 172, C 31, C 39, C 94 and ACI 318, and when the recommended procedures for placement and curing in ACI 304, 305 / 306 are followed. When used for acceptance testing, strength specimens must be cured in strict accordance with Section 10 of ASTM C 31-03.

MATERIAL REQUIREMENTS					
Materials	ASTM Standards			Weights per Cubic Yard, SSD	
Cement	ASTM C 150	Type	I / II	338	lbs.
Fly Ash	ASTM C 618	Class	C	85	lbs.
				0	lbs.
				0	lbs.
Coarse Aggregate	ASTM C 33	Grade 57	1"	1840	lbs.
				0	lbs.
				0	lbs.
				0	lbs.
Fine Aggregate	ASTM C 33		Sand	1510	lbs.
				0	lbs.
				0	lbs.
Admixture	ASTM C 494	Type	A or D	12.7	oz. WR
				0	oz.
				0.0	oz.
				0.0	oz.
Water	ASTM C 94			258	lbs.

In accordance with ACI 318, please forward copies of all concrete test reports to the Quality Services Department at the above address so that we can monitor mix performance and provide data for future projects. Thank you.

 Tim Kaiser
 Manager of Quality Services



Field Test Data

Mix No. 9329

Basis for Selection

Contractor: Various
Project: Various 2004

Design Strength: 3000 psi
Data Represents: 59 Tests
Data Updated: 01/17/2005

ACI 318, Section 5.3.2.1 (5-1)
Standard Deviation: 480 psi
Required Strength: 3643 psi
Average Strength: 3980 psi

Laboratory: Various

#	Date	Slump	Conc.		7 Day Compressive			28 Day Compressive Strength Data						
			Temp	Air%	Cyl. 1	Cyl. 2	7 Day Avg.	Cyl. 1	Cyl. 2	SetAvg	Avg./3	Range	St. Dev.	RunAvg
20	05/13/2004	4.50	82	1.7	3150	3030	3090	3860	4290	4080	3480	430	472	3990
21	05/14/2004	5.00	78		2250	2230	2240	3310	3410	3360	3410	100	480	3960
22	05/17/2004	5.50	80		2710	2940	2830	3660	3860	3760	3730	200	471	3950
23	05/17/2004	3.75	85		2460	2480	2470	3870	3760	3820	3650	110	461	3950
24	05/18/2004	5.00	81		3920	4010	3970	5400	5090	5250	4280	310	523	4000
25	05/19/2004	5.00	81		2960	3100	3030	3990	4190	4090	4390	200	513	4000
26	05/19/2004	3.00	84		3080	3030	3060	4030	4100	4070	4470	70	502	4010
27	05/20/2004	4.75	86	1.6	2320	2450	2390	4930	4830	4880	4350	100	521	4040
28	05/25/2004	4.00	82	2.0	3010		3010	4330	4460	4400	4450	130	515	4050
29	05/25/2004	5.00	86	1.8	3070		3070	4430	4220	4330	4540	210	509	4060
30	05/25/2004	5.00	87	2.2	2680		2680	4200	3890	4050	4260	310	500	4060
31	05/25/2004	4.75	84		3320	3280	3300	4480	4650	4570	4320	170	500	4080
32	06/21/2004	5.00	90	2.9	3160		3160	4480	4480	4480	4370	0	497	4090
33	06/23/2004	5.00	90	1.8	2980		2980	4480	4550	4520	4520	70	495	4100
34	07/19/2004	5.50	82		2430		2430	3530	3720	3630	4210	190	494	4090
35	07/19/2004	5.00	93		2050		2050	3280	3200	3240	3800	80	507	4060
36	08/09/2004	5.00	92		2310		2310	3540	3570	3560	3480	30	507	4050
37	08/10/2004	4.50	92		2720		2720	3780	3840	3810	3540	60	502	4040
38	08/11/2004	5.00	84		2510		2510	3660	3510	3590	3650	150	500	4030
39	08/12/2004	5.00	88		1990		1990	3130	3350	3240	3550	220	510	4010
40	08/23/2004	5.00	89		2190	2300	2250	3290	3130	3210	3350	160	519	3990
41	08/27/2004	4.00	95		2810		2810	4280	4200	4240	3560	80	514	4000
42	08/31/2004	4.75	91		2900	2860	2880	3710	3800	3760	3740	90	509	3990
43	09/01/2004	5.00	93		3610	3670	3640	4360	4330	4350	4120	30	506	4000
44	09/02/2004	5.00	96		3730	3800	3770	4740	4770	4760	4290	30	513	4020
45	09/09/2004	6.75	92	0.8	2630	2620	2630	3480	3510	3500	4200	30	513	4010
46	09/09/2004	5.00	87		2800	2730	2770	3660	3600	3630	3960	60	510	4000
47	09/10/2004	5.50	90		3050	2980	3020	3520	3490	3510	3550	30	509	3990
48	10/08/2004	5.00	86	1.4	2150		2150	3250	3290	3270	3470	40	514	3970
49	10/12/2004	4.75	74	1.6	3240		3240	4330	4420	4380	3720	90	512	3980
50	10/13/2004	4.75	76	1.4	2490		2490	3660	3540	3600	3750	120	510	3970
51	10/14/2004	5.00	60	2.2	2830		2830	4200	4050	4130	4040	150	505	3980
52	10/15/2004	5.00	79	1.9	2850		2850	3860	3900	3880	3870	40	500	3970
53	10/18/2004	4.50	70	2.0	3130		3130	4640	4710	4680	4230	70	505	3990
54	10/19/2004	5.00	74	1.6	2800		2800	3980	3850	3920	4160	130	500	3990
55	10/20/2004	5.00	77	1.9	2690		2690	3930	3810	3870	4160	120	496	3980
56	10/21/2004	5.00	88		3070		3070	3950	4020	3990	3930	70	491	3980
57	10/22/2004	5.00	76	2.1	2530		2530	3810	3550	3680	3850	260	489	3980
58	10/28/2004	5.00	84	2.3	3100		3100	3980	4000	3990	3890	20	484	3980
59	11/09/2004	5.50	72	0.6	2600		2600	3890	4030	3960	3880	140	480	3980



Southern Star Concrete, Inc.
 8500 Freeport Parkway N., Suite 200
 Irving, Texas 75063 U.S.A.
 Phone: (972) 621-0999 Fax: (972) 621-3351
Quality Services Department
 240 Singleton Boulevard Dallas, Texas 75212
 Phone: (214) 651-8020 Fax: (214) 651-1810

MIX DESIGN SUBMITTAL for READY-MIXED CONCRETE

Contractor:	Ron Slo, Inc.	Date:	January 17, 2005
Project:	Arbor Village Apartments		
Mix Design #:	9341		
Specific Use:	Slab on Grade		

MIX DESIGN PARAMETERS			
Minimum Compressive Strength:	3000 psi @ 28 Days	Sack Content:	5.00
Air Content:	1.5% +/- 1%	Fly Ash Content:	20%
Slump Range (inches):	5 " Maximum		
W/Cm Ratio (lb/lb):	0.56 (6.29 gal/sk)	Theoretical Plastic Unit Weight:	149.3 pcf
Max. / Min. Concrete Temp.:	Ref: ACI 305 / 306		

Southern Star Concrete guarantees this mix design will achieve the specified compressive strength when tested and evaluated in accordance with ASTM C 172, C 31, C 39, C 94 and ACI 318, and when the recommended procedures for placement and curing in ACI 304, 305 / 306 are followed. When used for acceptance testing, strength specimens must be cured in strict accordance with Section 10 of ASTM C 31-03.

MATERIAL REQUIREMENTS					
Materials	ASTM Standards		Weights per Cubic Yard, SSD		
Cement	ASTM C 150	Type	I / II	376	lbs.
Fly Ash	ASTM C 618	Class	C	94	lbs.
				0	lbs.
				0	lbs.
Coarse Aggregate	ASTM C 33	Grade 57	1"	1840	lbs.
				0	lbs.
				0	lbs.
				0	lbs.
Fine Aggregate	ASTM C 33		Sand	1459	lbs.
				0	lbs.
				0	lbs.
Admixture	ASTM C 494	Type	A or D	14.1	oz. WR
				0	oz.
				0.0	oz.
				0.0	oz.
Water	ASTM C 94			262	lbs.

In accordance with ACI 318, please forward copies of all concrete test reports to the Quality Services Department at the above address so that we can monitor mix performance and provide data for future projects. Thank you.



Tim Kaiser
 Manager of Quality Services



Field Test Data

Mix No. **9341**

Basis for Selection

Contractor: **Turner Construction (Wrangler Concrete)**
 Project: **Jesse Owens Memorial Complex**
Dallas ISD
 Laboratory: **Rone Engineers**

Design Strength: **3000 psi**
 Data Represents: **42 Tests**
 Data Updated: **01/17/2005**

ACI 318, Section 5.3.2.1 (5-1)
 Standard Deviation: **481 psi**
 Required Strength: **3644 psi**
 Average Strength: **4650 psi**

#	Date	Slump	Conc.	Temp	Air%	7 Day Compressive			28 Day Compressive Strength Data						56 Day	
						Cyl. 1	Cyl. 2	7 Day Avg	Cyl. 1	Cyl. 2	SetAvg	Avg./3	Range	St. Dev.		RunAvg
1	04/19/2004	5.00	78			4000		4000	5580	5420	5500		160		5500	
2	04/20/2004	5.50	74			3650		3650	4900	5010	4960		110	382	5230	
3	04/21/2004	6.25	80			3510		3510	4660	4560	4610	5020	100	448	5020	
4	04/22/2004	5.75	80			3930		3930	5020	4980	5000	4860	40	366	5020	
5	04/23/2004	7.00	80			3030		3030	4820	4680	4750	4790	140	339	4960	
6	04/27/2004	7.00	76			3500		3500	5200	5150	5180	4980	50	316	5000	
7	04/28/2004	5.75	76			3340		3340	4880	4650	4770	4900	230	301	4970	
8	04/30/2004	5.75	82			2790		2790	4230	4400	4320	4760	170	361	4890	
9	05/03/2004	5.00	72			3800		3800	5090	5020	5060	4720	70	342	4910	
10	05/04/2004	4.00	78			3730		3730	4980	4940	4960	4780	40	323	4910	
11	05/05/2004	5.00	82			3630		3630	4520	4720	4620	4880	200	319	4880	
12	05/06/2004	6.75	80			3150		3150	4600	4700	4650	4740	100	311	4870	5500
13	05/07/2004	5.00	80			3700		3700	4870	4940	4910	4730	70	298	4870	
14	05/10/2004	7.00	85			3240		3240	4450	4280	4370	4640	170	316	4830	
15	05/11/2004	7.00	83			3620		3620	4760	4870	4820	4700	110	305	4830	
16	05/11/2004	6.00				3670		3670	5040	4970	5010	4730	70	298	4840	
17	05/13/2004	6.00	83			3610		3610	5060	5240	5150	4990	180	298	4860	
18	05/17/2004	6.50	80			3650		3650	4850	5160	5010	5060	310	291	4870	
19	05/17/2004	6.50	87			3600		3600	4990	4920	4960	5040	70	284	4870	
20	05/18/2004	5.00	90			3270		3270	4520	4520	4520	4830	0	287	4860	
21	05/19/2004	5.25	86			3250		3250	4700	4570	4640	4710	130	284	4850	
22	05/19/2004	3.75	89			3760		3760	5190	5320	5260	4810	130	291	4870	
23	05/20/2004	2.50	89			3330		3330	4340	4530	4440	4780	190	297	4850	
24	05/20/2004	7.00	88			1840		1840	2630	3010	2820	4170	380	506	4760	
25	05/21/2004	6.25	89			2510		2510	3740	3730	3740	3670	10	536	4720	
26	05/24/2004	4.25	90			3350		3350	4940	4910	4930	3830	30	526	4730	
27	05/25/2004	6.25	88			3180		3180	4300	4210	4260	4310	90	524	4710	
28	05/26/2004	6.75	85			3210		3210	4170	4300	4240	4480	130	522	4700	
29	05/27/2004	6.25	82			3180		3180	4350	4530	4440	4310	180	515	4690	
30	06/01/2004	5.00	89			3480		3480	4510	4600	4560	4410	90	506	4680	
31	06/07/2004	6.00	83			2720		2720	4020	4050	4040	4350	30	511	4660	
32	06/11/2004	5.00	82			3210		3210	4740	4680	4710	4440	60	503	4660	
33	06/12/2004	5.00				3110		3110	4240	4470	4360	4370	230	498	4650	
34	06/14/2004	6.50	87			2850		2850	4510	4150	4330	4470	360	493	4640	
35	06/15/2004	5.50	80			3330		3330	4590	4670	4630	4440	80	486	4640	
36	06/16/2004	7.00	83			3020		3020	4230		4230	4400	4230	484	4630	
37	06/17/2004	6.50	87			2930		2930	4100		4100	4320	4100	485	4620	
38	06/21/2004	5.00	94			3180		3180	4450		4450	4260	4450	479	4610	
39	06/22/2004	6.00	89			3460		3460	4840		4840	4460	4840	474	4620	
40	06/23/2004	7.00	83			3660		3660	5120		5120	4800	5120	475	4630	
41	06/24/2004	5.00	86			3320		3320	4650		4650	4870	4650	469	4630	
42	06/25/2004	6.50	85			3910		3910	5470		5470	5080	5470	481	4650	



Concrete Mix Design - City of Dallas

Contractor: Ron Slo, Inc.
Project: Arbor Village Apartments

Date: 1/17/2005
Design #: 9375
Use: Hand Paving

Design Requirements

Mix Description: 6.5 Sack 0 % Fly Ash
Compressive Strength: 4500 psi @ 28 Days **Slump:** 4" +/- 1" **Air:** 3 - 6% Max

Material Sources

<u>Materials:</u>	<u>ASTM</u>	<u>Category</u>	<u>Vendor</u>	<u>Location</u>
Cement:	C 150	Type I/II	Ash Grove Cement	Midlothian, TX
Fly Ash:	C 618	Class C	ISG Resources	Newark, AR
Coarse Aggregate:	C 33	Grade 57 (1"-#4)	Hanson Aggregates	Chico, TX
Fine Aggregate:	C 33	Concrete Sand	Hanson Aggregates	Arena, TX
 <u>Additives:</u>				
AEA:	C 260	Daravair 1000	W.R. Grace	Houston, TX
Water Reducer:	C 494	WRDA w/ Hycol	W.R. Grace	Houston, TX
Retarder:	C 494	Daratard 17	W.R. Grace	Houston, TX

Batch Proportions (One Cubic Yard)

<u>Materials</u>	<u>SSD Weight</u>	<u>Absolute Volume</u>	
Cement	<u>611 lbs</u>	<u>3.11 c.f.</u>	
Fly Ash	<u>0 lbs</u>	<u>0.00 c.f.</u>	1.25:1 Replacement
Coarse Aggregate	<u>1840 lbs</u>	<u>11.04 c.f.</u>	60% Coarse Agg.
Natural Sand	<u>1219 lbs</u>	<u>7.46 c.f.</u>	40% Fine Agg.
Manufactured Sand	<u>0</u>		
Water	<u>252 lbs</u>	<u>4.04 c.f.</u>	0.41 W/Cm Ratio
Water Reducer	<u>19.5 ozs</u>		
AEA	<u>4.2 ozs</u>	<u>1.35 c.f.</u>	
Theo. Unit Weight	<u>145.28 pcf</u>	Total <u>27.00 c.f.</u>	

Confirmation Tests

<u>Plastic Properties</u>		<u>Compressive Strength (psi)</u>	
		<u>7 Day</u>	<u>28 Day</u>
<u>Slump:</u>	<u>4.09"</u>	Cylinder 1	psi
<u>Air Content:</u>	<u>4.1%</u>	Cylinder 2	psi
<u>Unit Weight:</u>	<u>145.28 pcf</u>	Cylinder 3	psi
83	Field Test Results -	Cylinder Average:	4280 psi
			5330 psi



Sieve Analysis

Contractor: Ron Slo, Inc.

Date: 1/17/2005

Project: Arbor Village Apartments

Summary of Results

<u>Fine Aggregate:</u>	<u>Hanson Aggregates from Arena, TX</u>	<u>Tested:</u>	<u>12/07/2004</u>
<u>Sieve Size</u>	<u>* Percent Passing</u>		<u>Specifications</u>
<u>3/8"</u>	<u>100</u>		<u>100</u>
<u>#4</u>	<u>99</u>		<u>95 - 100</u>
<u>#8</u>	<u>86</u>		<u>80 - 100</u>
<u>#16</u>	<u>64</u>		<u>50 - 85</u>
<u>#30</u>	<u>35</u>		<u>25 - 60</u>
<u>#50</u>	<u>12</u>		<u>10 - 30</u>
<u>#100</u>	<u>3</u>		<u>0 - 10</u>
<u>% Passing #200</u>	<u>0.2</u>	<u>by Decantation Method</u>	<u>3.0% Maximum</u>
<u>** Fineness Modulus:</u>	<u>3.02</u>		<u>2.3 - 3.1</u>
<u>Insoluble Residue in Carbonate aggregates:</u>	<u>85</u>		<u>28 Minimum</u>
<u>Specific Gravity (SSD):</u>	<u>2.62</u>		
<u>Absorption:</u>	<u>0.8</u>		

* The difference between the percent passing any two consecutive sieve sizes shall not exceed 45%.

** Maxium variation during production: 0.2%

<u>Coarse Aggregate:</u>	<u>Hanson Aggregates from Chico, TX</u>	<u>Tested:</u>	<u>12/13/2004</u>
<u>Seive Size</u>	<u>% Passing</u>	<u>Grade 3</u>	<u>ASTM C 33: Specifications</u>
<u>1/1/2"</u>	<u>100</u>		<u>100</u>
<u>1"</u>	<u>97</u>		<u>95 - 100</u>
<u>1/2"</u>	<u>32</u>		<u>25 - 60</u>
<u>#4</u>	<u>4</u>		<u>0 - 10</u>
<u>#8</u>	<u>1</u>		<u>0 - 5</u>
<u>Specific Gravity (SSD):</u>	<u>2.68</u>		
<u>Absorption:</u>	<u>0.8%</u>		
<u>L.A. Abrasion % Loss:</u>	<u>26.1</u>		<u>45% Maximum</u>
<u>% Passing # 200:</u>	<u>0.88</u>		



Field Test Data

Mix No. 9375

Basis for Selection

Contractor: Various
 Project: City of Dallas Public Works / Water Dep't.
 Laboratory: HBC Terracon

Avg. Slump: 4.09 Avg. Air: 4.14%
 Design Strength: 4500 psi
 Data Represents: 83 Tests
 Data Updated: 01/17/2005

ACI 318, Section 5.3.2.1 (5-2)
 Standard Deviation: 537 psi
 Required Strength: 5250 psi
 Average Strength: 5330 psi

#	Date	Slump	Conc.		7 Day Compressive			28 Day Compressive Strength Data							56 Day
			Temp	Air%	Cyl. 1	Cyl. 2	7 Day Avg	Cyl. 1	Cyl. 2	SetAvg	Avg./3	Range	St. Dev.	RunAvg	
54	02/03/2004	4.50	58	4.6	4140		4140	5050	5110	5080	5460	60	551	5320	
55	02/17/2004	2.50	66	6.0	4170	4260	4220	5400	5270	5340	5300	130	546	5320	
56	02/27/2004	4.00	66	3.5	4310	4290	4300	5450	5420	5440	5290	30	541	5330	
57	02/27/2004	7.50	61		4030	3580	3810	4790	4770	4780	5190	20	541	5320	
58	02/28/2004	5.50	60	5.5	4270	4370	4320	5120	4840	4980	5070	280	538	5310	
59	03/08/2004	4.50	73	6.4	3990	4030	4010	4840	4490	4670	4810	350	540	5300	
60	03/08/2004	2.50	77	3.6	4690	4740	4720	5860	5770	5820	5160	90	540	5310	
61	03/10/2004	3.25	74	3.5	4070		4070	5020	5240	5130	5210	220	536	5310	5540
62	03/15/2004	4.75	76	5.3	3730		3730	4610	4740	4680	5210	130	537	5300	5130
63	03/17/2004	4.50	73	4.2	3690	3850	3770	4910	4980	4950	4920	70	535	5290	
64	03/25/2004	4.50	66	6.6	3930	4090	4010	5120	5130	5130	4920	10	531	5290	
65	04/01/2004	5.00	85	3.6	3710		3710	4600	4740	4670	4920	140	532	5280	
66	04/09/2004	5.00	90	4.0	3200		3200	4520	4530	4530	4780	10	536	5270	
67	04/13/2004	4.00	72	7.2	3520	3570	3550	4490	4540	4520	4570	50	540	5260	
68	05/12/2004	5.00	90	6.0	4260	4380	4320	5380	5480	5430	4830	100	536	5260	
69	05/13/2004	3.00	88	4.5	4760	4570	4670	5840	5520	5680	5210	320	535	5260	
70	05/14/2004	4.00	83	4.5	4860	5040	4950	6000	6240	6120	5740	240	540	5280	
71	05/15/2004	4.00	82	1.7	3540	3530	3540	4600	4770	4690	5500	170	541	5270	
72	05/17/2004	5.00	82	6.2	4210	4480	4350	5150	5330	5240	5350	180	537	5270	
73	05/17/2004	2.50	87	2.7	4330	4390	4360	5710	5510	5610	5180	200	535	5270	
74	05/19/2004	4.50	95	4.4	4650	4690	4670	5740	5690	5720	5520	50	534	5280	
75	05/28/2004	4.00	90	1.0	4710	4640	4680	5670	5860	5770	5700	190	533	5280	
76	06/02/2004	4.00	89	0.8	4930	4560	4750	5990	6160	6080	5860	170	538	5300	
77	06/10/2004	4.00	83	1.8	3920	4060	3990	5330	5300	5320	5720	30	534	5300	
78	06/11/2004	4.50	92	3.7	4460	4380	4420	5520	5880	5700	5700	360	532	5300	
79	06/17/2004	3.50	88	0.8	5120	5240	5180	5770	6280	6030	5680	510	535	5310	
80	08/04/2004	3.00	93	4.1	4740	4740	4740	5620	5610	5620	5780	10	533	5310	
81	08/06/2004	1.00	92	4.2	5080	4900	4990	6190	6140	6170	5940	50	538	5320	
82	08/09/2004	3.75	98	3.1	4550	4290	4420	5470	5620	5550	5780	150	535	5330	
83	08/10/2004	3.00	95	3.8	4480	4580	4530	5930	5960	5950	5890	30	537	5330	

ASH GROVE TEXAS L.P.



900 Gifco Road
Post Office Box 520
Midlothian, Texas 76065

Phone: 972-723-2301
Fax: 972-299-5127

Cement Type: I/II

Production Period: November 1, 2004 - November 30, 2004

Date: 12/6/2004

STANDARD REQUIREMENTS ASTM C150-04a

CHEMICAL			PHYSICAL		
Item	Spec. Limit	Test Result	Item	Spec. Limit	Test Result
SiO ₂ (%)	A	20.22	Air content of mortar (volume %)	12 max	7.2
Al ₂ O ₃ (%)	6.0 max	4.75	Fineness (cm ² /g)		
Fe ₂ O ₃ (%)	6.0 max	4.09	(Air permeability)	2800 min	3629
CaO (%)	A		Autoclave expansion (%)	0.80 max	0.00
MgO (%)	6.0 max	1.17	Compressive strength (psi)	Min:	
SO ₃ (%)	3.0 max	2.59	1 Day	A	1867
Loss on ignition (%)	3.0 max	0.94	3 Days	1740	3380
Na ₂ O (%)	A		7 Days	2760	4471
K ₂ O (%)	A		28 Days	A	
Insoluble Residue (%)	0.75 max	0.21	Time of setting (minutes)		
Potential compounds (%)			(Vicat)		
C ₃ S	A	60	Initial	Not less than 45	90
C ₂ S	A	13	Final	Not more than 375	220
C ₃ A	8 max	6			
C ₄ AF	A				
C ₄ AF+2(C ₃ A)	A				

OPTIONAL REQUIREMENTS ASTM C150-04a Tables 2 and 4

CHEMICAL			PHYSICAL		
Item	Spec. Limit	Test Result	Item	Spec. Limit	Test Result
C ₃ S + C ₃ A (%)	A		False set (%)	A	A
Equivalent alkalis (%)	0.60	0.55	Heat of hydration (kJ/kg)		
A = Not applicable.			7 days	A	A
B = Limit not specified by purchaser, test result provided for information only.			Heat of hydration (kJ/kg)		
C = Test results for this period not available.			28 Days	A	A

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirement of the ASTM C150-04a or (other) _____ specification.

Signature: _____
Todd O. Hinton
 Title: Quality Control Manager



Headwaters Resources, Inc. certifies that, to the best of its knowledge, the test data listed herein was generated by applicable ASTM methods and meets requirements of ASTM C-618 and AASHTO M-295 and TX. DOT DMS-8900

Report of Fly Ash Independence Plant, Newark, Arkansas Unit #1

DATE: December 1, 2004

LABORATORY NUMBER: ISES-10/11/04
MTRF #22611D

COMPOSITE DATE

9/23/04 - 10/11/04

ASTM C-618-03 SPECIFICATIONS **TX. DOT DMS-8900 SPECIFICATIONS**

CHEMICAL ANALYSIS

		CLASS C	CLASS F	CLASS C	CLASS F
Silicon Dioxide (SiO ₂)	36.85				
Aluminum Oxide (Al ₂ O ₃)	20.69				
Iron Oxide (Fe ₂ O ₃)	5.77				
Sum of SiO ₂ , Al ₂ O ₃ , & Fe ₂ O ₃	63.31	50 Min.	70 Min.	50 Min	70 Min.
Magnesium Oxide (MgO)	5.62				
Sulfur Trioxide (SO ₃)	1.20	5.0 Max.	5.0 Max.	5.0 Max.	5.0 Max.
Moisture Content	0.10	3.0 Max.	3.0 Max.	2.0 Max.	2.0 Max.
Loss On Ignition	0.07	6.0 Max.	6.0 Max.	3.0 Max.	3.0 Max.
Available Alkalies as Na ₂ O	1.33			▲ 1.5Max.	▲ 1.5Max.
Calcium Oxide (CaO)	23.34				

PHYSICAL ANALYSIS

Fineness: Amount retained on 325 sieve %	17.58	34% Max.	34% Max.	30%Max.	30%Max.
Water Requirement, % Control	95%	105%Max	105%Max	100%Max	100%Max
Specific Gravity	2.65				
Autoclave Expansion, %	+ 0.02	0.8% Max	0.8% Max	0.8% Max	0.8% Max
Strength Activity Index With Portland Cement, 7 Day	96%	75% Min.	75% Min.	75% Min.	75% Min.

▲ Applicable only when required by purchaser.

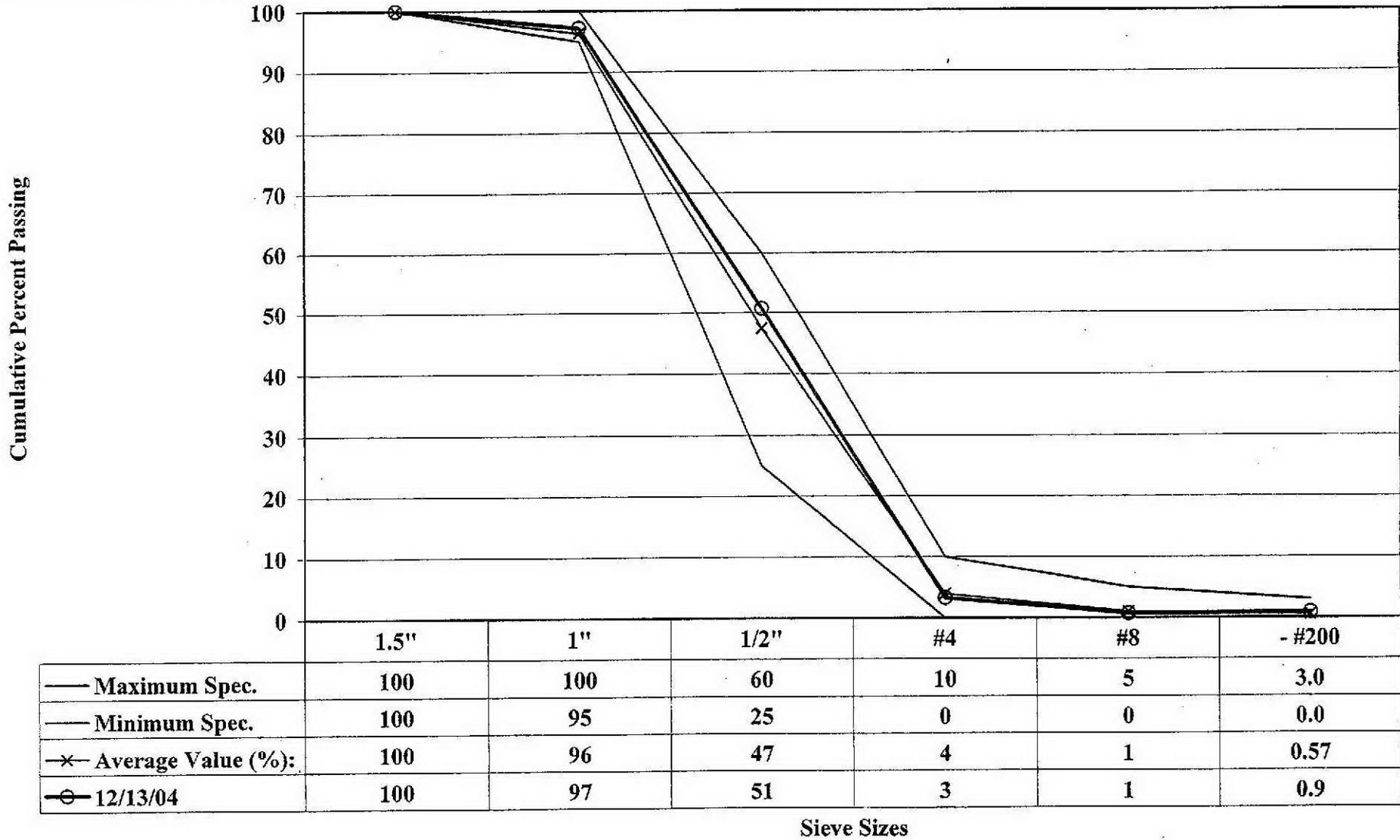
AUTHORIZED SIGNATURE:

A HEADWATERS Company

P.O. Box 38, Thompsons, TX 77491-0038
Phone: (281) 343-0079 Fax: (281) 343-0872



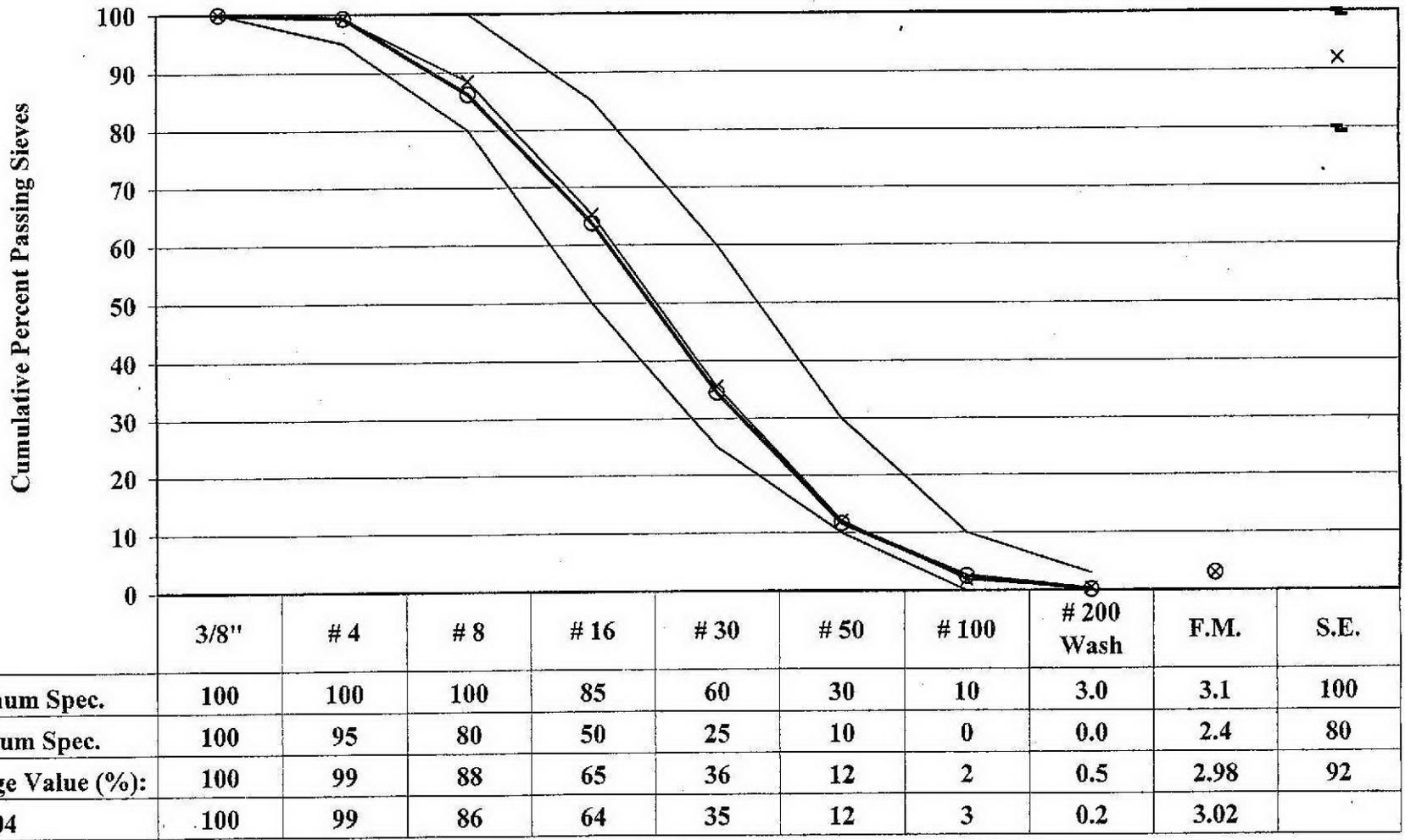
Coarse Aggregate Sieve Analysis 1" Perch Hill



SW/H 006111



Fine Aggregate Sieve Analysis Hanson - Arena



Percent Passing Sieves, Compared to Specification

GRACE

Grace Construction Products

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

713-223-8353
<http://www.gcp-grace.com>

January 8, 2004

Southern Star
240 Singleton Blvd
Dallas, TX 75212

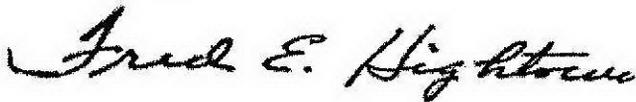
To Whom It May Concern:

This is to certify that **DARAVAIR® 1000**, an air-entraining admixture, as manufactured and supplied by Grace Construction Products, W. R. Grace & Co.-Conn., is formulated to comply with the Specification for Air-Entraining Admixtures for Concrete, ASTM: C 260 (AASHTO M 154).

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

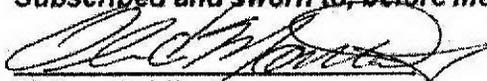
The foregoing is in addition to and not in substitution for our standard Conditions of Sale printed on the reverse side hereof.

Sincerely,



Fred Hightower
Technical Services

Subscribed and sworn to, before me, this 8th day of January, 2004.


Notary Public

My commission expires: 10/12/07



GRACE

Grace Construction Products

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

713-223-8353
<http://www.gcp-grace.com>

January 8, 2004

Southern Star
240 Singleton Blvd
Dallas, TX 75212

To Whom It May Concern:

This is to certify **WRDA[®] with HYCOL[®]**, a water-reducing admixture, as manufactured and supplied by Grace Construction Products, W. R. Grace & Co.-Conn., is formulated to comply with the Specification for Chemical Admixtures for Concrete, ASTM: C 494, Type A (AASHTO M 194, Type A).

WRDA[®] with HYCOL[®] does not contain calcium chloride or chloride containing compounds as a functional ingredient. Chloride ions may be present in trace amounts contributed from the process water used in the manufacturing.

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

Sincerely,



Fred Hightower
Technical Services

Subscribed and sworn to, before me, this 8th day of January, 2004.


Notary Public

My commission expires: 10/12/07



SWH 006114

GRACE

Grace Construction Products

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

713-223-8353
<http://www.gcp-grace.com>

January 8, 2004

Southern Star
240 Singleton Blvd
Dallas, TX 75212

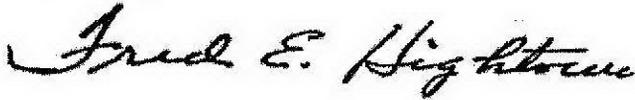
To Whom It May Concern:

This is to certify that **DARATARD® 17**, a water-reducing and retarding admixture, as manufactured and supplied by Grace Construction Products, W. R. Grace & Co.-Conn., is formulated to comply with the Specification for Chemical Admixtures for Concrete, ASTM: C 494, Type D (AASHTO M 194, Type D).

DARATARD® 17 does not contain calcium chloride or chloride containing compounds as a functional ingredient. Chloride ions may be present in trace amounts contributed from the process water used in the manufacturing.

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

Sincerely,



Fred Hightower
Technical Services

Subscribed and sworn to, before me, this 8th day of January, 2004.


Notary Public

My commission expires: 10/12/07



SWH 006115



Material Safety Data Sheet

SECTION 1 COMPANY AND PRODUCT IDENTIFICATION	
PRODUCT NAME Ready-mix Concrete	Revised: August 2004
SYNONYMS Concrete, cement, mud, & ready-mix	
MANUFACTURER Southern Star Concrete Inc. 8500 Freeport Parkway Suite 200 Irving, Tx 75063	EMERGENCY PHONE NUMBER 972.621.0999 == office 972-342-5511 == 24 hrs

SECTION 2 COMPOSITION & INFORMATION ON INGREDIENTS		
OSHA REGULATORY STATUS N/A		
HAZARDOUS COMPONENTS N/A	CAS NUMBER	% BY WEIGHT
OTHER SIGNIFICANT COMPONENTS	CAS NUMBER	% BY WEIGHT
Aggregate*	Mixture	60-100
Limestone (Calcium Carbonate)	1317-65-3	0-100
Crystalline Silica	14808-60-7	> 1
Portland Cement	65997-15-1	3-40

SECTION 3 HAZARDS IDENTIFICATION
EMERGENCY OVERVIEW Remove all concrete upon contact and flush affected areas with clean water. Seek medical attention if irritation occurs.
PHYSICAL HAZARDS Concentrations of 1% or more of cement, flyash, and silica sand.
PRIMARY ROUTES OF EXPOSURE

Inhalation & Skin Contact

POTENTIAL EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE

Eye Contact: Direct contact with dust may cause irritation by mechanical abrasion.
Skin Contact: Wet concrete in plastic state can dry the skin and cause alkali irritation. Direct contact in dry state may cause irritation by mechanical abrasion.
Skin Absorption: Not expected to be a significant exposure route.
Ingestion: Ingestion of large amounts may cause gastrointestinal irritation and blockage.
Inhalation: Dust may irritate the nose, throat, and respiratory tract by mechanical abrasion. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure levels.

POTENTIAL EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE

Chronic exposure to respirable limestone dust in excess of appropriate exposure limits may cause lung disease. Silicosis may result from excessive exposure to respirable silica dust for prolonged periods. Not all individuals with silicosis will exhibit symptoms. Silicosis is progressive and symptoms can appear at any time, even after exposure has ceased. Symptoms may include shortness of breath, coughing, or right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Tobacco smoking may increase the risk of developing lung disorders, including emphysema and lung cancer.

CARCINOGENICITY

Ready-mix concrete is not listed as a carcinogen by the National Toxicology Program (NTP), OSHA or the International Agency for Research on Cancer (IARC). However, crystalline silica is now classified by the IARC as a known human carcinogen (Group 1). The NTP has characterized respirable silica as "reasonably anticipated to be [a] carcinogen" (Group 2). Prolonged and repeated breathing of silica may cause lung cancer.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Inhaling respirable dust may aggravate existing respiratory system disease(s) and/or dysfunctions such as emphysema or asthma. Exposure may aggravate existing skin and/or eye conditions.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

EYE CONTACT

Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

SKIN CONTACT

Wash skin with soap and water. Contact a physician if irritation persists or later develops.

INGESTION

If person is conscious, give large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Get immediate medical attention.

SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT

N/A

FLAMMABLE LIMITS

N/A

EXTINGUISHING AGENTS

None

UNUSUAL FIRE AND EXPLOSION HAZARDS

Contact with powerful oxidizing agents may cause fire and/or explosions (see Section 9 of this MSDS).

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Spills should be contained and not allowed to enter public waterways. Wet concrete should be removed from roads immediately. Follow personnel protective equipment recommendations in Section 8 of the MSDS sheet.

SPILL AND LEAK PROCEDURES

Spilled materials, where dust can be generated, may overexpose cleanup personnel to respirable silica and dust. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Do not dry sweep spilled material. Flush away with water or break up into manageable sized units.

SECTION 7 HANDLING AND STORAGE

HANDLING PRECAUTIONS

Respirable silica and dust may be generated during processing, handling, and storage. The personal protection and controls identified in Section 8 of the MSDS should be applied as appropriate.

RECOMMENDED STORAGE CONDITIONS

Do not store or handle near food and beverages or smoking materials.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS AND GUIDELINES

COMPONENT & CAS #	OSHA TWA	ACGIH TLV
Calcium Carbonate	5 mg/m ³ , (respirable fraction) 15 mg/m ³ (total dust)	10 mg/m ³ (total dust)
Crystalline Silica SiO ₂	(respirable) 10 mg/m ³ ÷ (% SiO ₂ +2), (total dust) 30 mg/m ³ ÷ (% SiO ₂ +2)	10 mg/m ³ ÷ (% SiO ₂ +2)

Portland Cement:	(respirable) 5 mg/m ³ , (total dust) 15 mg/m ³	10 mg/m ³
Other Particulates:	(total particulate, not otherwise regulated) 15 mg/m ³ , (respirable particulate, not otherwise regulated) 5 mg/m ³	10 mg/m ³ (nuisance particulates) 10 mg/m ³ .

ENGINEERING CONTROLS

Ventilation: Local exhaust or general ventilation adequate to maintain exposures below appropriate exposure limits.

RESPIRATORY PROTECTION

When dust or silica levels exceed or are likely to exceed appropriate exposure limits, follow MSHA or OSHA regulations, as appropriate, for use of NIOSH-approved respiratory protection equipment.

EYE PROTECTION

Eyeglasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessive (visible) dust conditions are present or anticipated. Contact lenses should not be worn when working with this product.

SKIN PROTECTION

Protective gloves, shoes and protective clothing should be worn to avoid contact with skin.

ADDITIONAL PROTECTIVE MEASURES

Hygiene: Wash dust-exposed skin with soap and water before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use.
Respirable dust and silica levels should be monitored regularly. Dust and silica levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Light grey viscous semi-solid with dispersed aggregates	SPECIFIC GRAVITY 2.6 - 2.75 H ₂ O = 1.0
COLOR Light grey	EVAPORATION RATE N/A
ODOR N/A	VAPOR DENSITY (AIR = 1) N/A
BOILING POINT N/A	pH 12.0

VAPOR PRESSURE	SOLUBILITY IN WATER
N/A	Not Soluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY

Stable, but reaction with acid will liberate heat. Contact with hydrochloric acid will liberate chlorine gas. Avoid contact with incompatible materials.

INCOMPATIBILITY

Contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride and oxygen difluoride may cause fire and/or explosion. Silica dissolves in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride. Avoid direct contact with strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Respirable dust particles may be generated when ready-mix concrete is sawed or ground.

HAZARDOUS POLYMERIZATION

Will not occur. No conditions to avoid.

CONDITIONS TO AVOID

Powerful oxidizing agents and acid. Extreme heat causes concrete to spall molten particles.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA

Wet concrete is not known to be toxic. Toxicity related to major components of concrete: cement, fly ash, and silica sand are negated in wet concrete form. The matrix precludes the inhalation of these constituents which could normally be of an occupational safety concern. The admixture and air entraining agents are sulfonate solutions which are not considered toxic.

SECTION 12 ECOLOGICAL INFORMATION

ECOLOGICAL DATA

Wet concrete is not considered toxic to the environment. However, negative impact can occur due to hardening concrete and disruption of biological processes if spilled into public waterways. Negative impact can also occur if wet concrete is spilled into sewer or drainage conduits where it can harden and clog the system.

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

SECTION 14 TRANSPORT INFORMATION	
<i>DOT HAZARD CLASS</i>	
None	
<i>DOT PLACARD</i>	
N/A	

SECTION 15 REGULATORY INFORMATION	
<i>US FEDERAL REGULATIONS</i>	
<i>SARA 313</i>	
None	
<i>CERCLA 103</i>	
None	
<i>RCRA HAZARDOUS WASTE</i>	
None	
<i>STATE REGULATIONS COMPONENT</i>	<i>STATE REGULATORY LIST</i>
N/A	N/A

SECTION 16 OTHER INFORMATION	
<i>FOR FURTHER INFORMATION, CONTACT:</i>	
Divisional Environmental or Safety Manager	

NOTICE: Based on research of available data, Southern Star Concrete Inc. believes that the information contained in this Material Safety Data Sheet is accurate. The suggested procedures are based on data and experience as of the date of preparation of the MSDS. The suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements. Southern Star concrete Inc.'s voluntary preparation of this MSDS should not be construed, in any way, as an agreement to be subject to OSHA jurisdiction.

**Go Crete
Concrete Mix Design**

JANUARY 10, 2005

Customer/Project: Ron Slo Inc.
Harbor Wood Apartments
Hampton & Singleton
Dallas, Texas

Concrete Application: SLAB
Design Specifications: 3000 PSI/4.5 SACK/CS/AD
SLUMP 4" +/- 1"

3000 PSI MIX # GC-230

#Total cementitious material	423 pounds
% fly ash (by wt. of total)	0 %
Pounds coarse agg./yd.	1800 pounds
% coarse agg. #1 of total c.a.	100 %
% coarse agg. #2 of total c.a.	0 %
Air content +/- 1% (including entrapped air)	1.5 %
Gallons water /cu. yd. (s.s.d.)	30.5 gallons
Water reducer dosage /cwt	8.0 ounces/cwt

APPROVED
 APPROVED AS NOTED
 REVISE AND RESUBMIT

CHECKING IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND CONFORMANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFORMED AND COMPLIANCE WITH THE PERMITS FOR INFORMATION THAT PERTAINS TO THE CONSTRUCTION PROCESS OR TO TECHNIQUES OF CONSTRUCTION, AND PER COORDINATION OF THE WORK OF ALL TRADES.

JERALD W. KUNKEL CONSULTING ENGINEERS, INC.

DATE 1.17.05

BY *[Signature]*
FOR FOUNDATIONS ONLY

Materials	Specific Gravities	Weight #		Abs. Vol.
		1 Cu. Yd.	SSD	1 Cu. Yd.
Cement ASTM C150	3.15	423		2.152
Fly Ash ASTM C618	2.7	0		0.000
#1) 1.0" to #4 Crushed Limestone	2.678	1800		10.772
#2) 3/8" to #8 Pea Gravel	2.65	0		0.000
Natural Sand	2.64	1581		9.600
Water 30.50 gal.	1	254.1		4.072
Admixture: Plastimix Type A or D		33.8	oz.	0.000
Admixture:		0.0	oz.	0.000
* Includes entrapped air		1.5	%	0.405
Admixture		0.0	oz.	0.000
		0.0	oz.	0.000
Total		4059	lbs.	27.000

Gal. Water / Sack 6.78
Fresh Unit Weight 150.32
Water Cement Ratio ### 0.60
Coarse agg. as % total agg. 0.53
Temperature Range 40 to 95 degrees

Submitted by: *Perry Kakara*
Perry Kakara, Technical Services Manager (972)224-5525 ext. 815
We would appreciate receiving the test results from this project.

SWH 006122

CONCRETE MIX DESIGN EVALUATION REPORT (ACI 214) - 28 DAYS

SPECIFIED: 3000 PSI IN 28 DAYS										MIX # GC-230		
TOTAL AVERAGE: 4278					STANDARD DEVIATION: 414							
TEST	DATE	SLUMP	% AIR	CONC TEMP	AIR TEMP	DAY 7 AVG.	DAY 28 A	DAY 28 B	28 DAY AVG	MOVING AVG	3 TEST MEAN	STD DEV
1	03/02/04	5.00		63	70	3040	4300	4200	4250			
2	03/02/04	5.00		65	72	2980	4060	4070	4065	4158		131
3	03/02/04	5.50		68	70	2620	4570	4670	4620	4312	4312	283
4	03/02/04	3.50		68	72	2910	4230	4420	4325	4315	4337	231
5	03/02/04	5.50		65	69	3040	4200	4150	4175	4287	4373	209
6	03/02/04	4.00		65	70	3110	5080	5140	5110	4424	4537	385
7	03/02/04	4.00		63	68	3320	4460	4530	4495	4434	4593	352
8	03/02/04	4.00		65	67	3780	5000	4910	4955	4499	4853	374
9	03/16/04	3.25		74	-	3540	4730	4610	4670	4518	4707	355
10	03/16/04	5.50		69	-	3030	4100	4010	4055	4472	4560	365
11	03/16/04	6.50		67	-	3070	4280	4090	4185	4446	4303	357
12	03/16/04	2.50		67	-	3390	4470	4390	4430	4445	4223	341
13	04/01/04	5.50		72	67	3140	4180	4180	4180	4424	4265	334
14	04/01/04	5.75		68	64	3210	4210	4110	4160	4405	4257	329
15	04/02/04	4.00		80	78	3190	4400	4330	4365	4403	4235	317
16	04/05/04	5.00		73	-	2185	3420	3360	3390	4339	3972	397
17	04/21/04	5.00		84	72	2870	3750	3780	3765	4306	3840	409
18	06/04/04	5.50		84	86	2880	3630	3970	3800	4278	3652	414
19												
20												
21												
22					1.12	x	414	=	464			
23												
24												
25												
26												
27												
28												
29												
30												

ACI - 318
 1.34 x 464 = 622
 3000 + 622 = 3622 PSI
 AVERAGE REQUIRED STRENGTH

**Go Crete
Concrete Mix Design**

JANUARY 10, 2005

Customer/Project: Ron Slo Inc.
Harbor Wood Apartments
Hampton & Singleton
Dallas, Texas

Concrete Application: PAVING
Design Specifications: 3000 PSI/4.5 SACK/CS/AD/AIR
SLUMP: 4" +/-1"

Mix Name	3000 PSI MIX # GC-231	
#Total cementitious material	423	pounds
% fly ash (by wt. of total)	0	%
Pounds coarse agg./yd.	1800	pounds
% coarse agg. #1 of total c.a.	100	%
% coarse agg. #2 of total c.a.	0	%
Air content +/-1% (including entrapped air)	5.0	%
Gallons water /cu. yd. (s.s.d.)	30.5	gallons
Water reducer dosage /cwt	8.0	ounces/cwt

Materials	Specific Gravities	Weight #	Abs. Vol.
		1 Cu. Yd. SSD	1 Cu. Yd.
Cement ASTM C150 Type I/II	3.15	423	2.152
Fly Ash ASTM C618	2.7	0	0.000
#1)1.0" to #4 Crushed Limestone	2.678	1800	10.772
#2)3/8" to #8 Pea Gravel	2.65	0	0.000
Natural Sand	2.64	1426	8.655
Water 30.50 gal.	1	254.1	4.072
Admixture: Plastimix Type A or D		33.8 oz.	0.000
Admixture: ProAir 260		1.0 oz.	0.000
* Includes entrapped air		5.0 %	1.350
Admixture		0.0 oz.	0.000
Admixture		0.0 oz.	0.000

Total		3903 lbs.	27.000
Gal. Water / Sack		6.78	
Fresh Unit Weight		144.55	
Water Cement Ratio ##		0.60	
Coarse agg. as % total agg.		0.56	
Temperature Range		40 to 100 degrees	

Submitted by: *Perry Kakara*
Perry Kakara, Technical Services Manager (972)224-5525 ext. 815
We would appreciate receiving the test results from this project.

SWH 006124

CONCRETE MIX DESIGN EVALUATION REPORT (ACI 214) - 28 DAYS

SPECIFIED: **3000 PSI IN 28 DAYS**

MIX # **GC-231**

TEST	DATE	TOTAL AVERAGE: 3864				STANDARD DEVIATION: 344						STD DEV
		SLUMP	% AIR	CONC TEMP	AIR TEMP	DAY 7	DAY 28 A	DAY 28 B	28 DAY AVG	MOVING AVG	3 TEST MEAN	
1	04/04	6.25	5.8	76	-	2620	3720	3790	3755	3880	3880	####
2	05/04	5.00	6.8	-	-	3160	3940	4070	4005	3667	3667	177
3	05/04	6.00	8.0	-	-	2470	3250	3230	3240	3846	3846	390
4	05/04	4.50	6.0	-	-	3380	4410	4360	4385	3823	3840	480
5	05/04	5.00	6.5	-	-	2890	3690	3770	3730	3781	3731	419
6	05/04	6.00	7.2	-	-	2690	3510	3630	3570	3718	3756	389
7	05/04	5.50	6.7	-	-	2730	3310	3370	3340	3774	3701	392
8	05/04	6.00	5.6	74	60	2760	4520	3810	4165	3815	3805	396
9	05/04	5.00	5.8	71	62	2820	4200	4090	4145	3835	3916	390
10	05/04	5.00	4.2	77	62	2830	4130	3900	4015	3848	4075	373
11	05/04	5.50	5.1	74	64	2650	3970	3980	3975	3874	4074	357
12	05/04	4.75	5.0	75	68	3160	3790	4530	4160	3864	3975	352
13	05/04	6.00	5.3	75	65	2580	3650	3850	3750	3868	3949	339
14	05/04	6.00	4.8	76	73	2580	3900	3920	3910	3900	4045	326
15	05/04	5.00	5.3	74	75	3060	4380	4340	4360	3900	3979	339
16	05/04	5.25	4.9	75	68	2540	3930	3860	3895	3879	3926	327
17	06/04	5.00	4.8	89	79	2740	3510	3570	3540	3865	3855	329
18	06/04	4.75	4.9	88	78	2850	3610	3640	3625	3873	3769	324
19	06/04	4.50	5.1	85	78	3050	4100	3930	4015	3833	3565	317
20	07/04	5.00	6.2	93	97	2490	2970	3190	3080	3824	3590	356
21	07/04	5.00	6.2	88	75	2890	3590	3690	3640	3838	3718	349
22	08/04	5.75	5.0	91	82	3110	4070	4200	4135	3853	3761	347
23	08/04	6.00	4.5	91	90	3150	4240	4140	4190	3871	4059	347
24	08/04	5.75	4.9	93	96	3370	4340	4200	4270	3864	4074	350
25	08/04	6.25	5.2	98	100	3130	3710	3690	3700	3864	4053	344
26												
27				1.03	x	344	=	355				
28												
29												
30												

ACI - 318
 1.34 x 355 = 475
 3000 + 475 = 3475 PSI
AVERAGE REQUIRED STRENGTH

MILL CERTIFICATION REPORT

Buzzi Unicem USA, INC

FOR:

ASTM C 150-98
PORTLAND CEMENT
TYPE I /II

Tests of Buzzi Unicem USA TYPE I/II made at our mill laboratory at Maryneal, TX

BIN NO.	12	CONTAINS	
BILL OF LADING		DATE OF MANUFACTURE	12/07/04
		DATE OF SHIPMENT	

PARAMETER	ASTM SPECIFICATION		MILL TEST
CHEMICAL			
SiO2	20.0%	min	21.6
Al2O3	6.0%	max	3.7
Fe2O3	6.0%	max	3.8
MgO	6.0%	max	2.2
SO3	3.0%	max	2.60
LOSS	3.0%	max	0.74
INSOL.RES.	0.75%	max	0.42
C3A	8.0%	max	3.3
Equiv. Alk.	0.6%	max	0.56
PHYSICAL			
3-DAY [psi(MPa)]	1740 (12.0)	min	3276
7-DAY [psi(MPa)]	2760 (19.0)	min	3893
EXPANSION	0.80%	max	0.001
BLAINE (m2/kg)	280	min	362
AIR ENTRAINED	12%	max	6.9
TIME OF SETTING			
VICAT	initial	45 min	min
	final	375 min	max
			135
			240

ADDITIONAL

COMMENTS: Type I/II cement manufactured at Buzzi Unicem USA, Inc. Maryneal plant meets ASTM C150 and Type I AASHTO M-85 specifications.



Hanson Aggregates
 South Central Region
 Technical Services Lab
 1000 N. MacArthur Blvd.
 Grand Prairie, TX 75050
 Tel. 972-260-3646
 Fax. 972-260-3655
 www.hansonplc.com

MATERIALS EVALUATION

Coarse Aggregates

Source: Hanson @ Chico Plant Plant#708 Technical Services
 Type: ASTM #57 (1" - #4) Crushed Lime Stone Report: 2004-5
 Lab NO: TS-Weekly-04 Date: 08-01-04
 Date: Received 07-30-04

ASTM METHOD	TEST DESCRIPTION	TEST RESULTS	ASTM C-33 Specification
C-136	2" Sieve	100 % Passing	-----
C-136	1-1/2" Sieve	100 % Passing	100
C-136	1" Sieve	98 % Passing	95-100
C-136	3/4" Sieve	83 % Passing	-----
C-136	1/2" Sieve	56 % Passing	25-60
C-136	3/8" Sieve	40 % Passing	-----
C-136	#4 Sieve	8 % Passing	0-10
C-136	#8 Sieve	5 % Passing	0-5
C-136	#16 Sieve	3 % Passing	-----
C-117	Decant (- #200 Sieve Washed)	0.54 % Passing	1.5% Max.
C-127	Bulk Specific Gravity, SSD	2.664	
C-127	Absorption,	1.0 %	
C-29	Unit Weight (Dry Rodded),	102.5 Lbs/Cu.Ft.	
C-29	Unit Weight (Dry Loose),	92.6 Lbs/Cu.Ft.	
C-29	Voids Content (Dry Rodded),	38.4 %	
C-131	L.A. Abrasion,	24.8 % Loss	50% Max.
C-88	Soundness by Sodium Sulfate (5 cycles),	2.85 % Loss	12% Max.
C-88	Soundness by Magnesium Sulfate (5 cycles),	2.65 % Loss	18% Max.
C-123	Light Weight Pieces,	0.01 %	0.5% Max.
C-142	Clay Lumps and Friable Particles,	0.01 %	3.0% Max.
C-25	Calcium Carbonate EQV,	95.5 %	
C-25	Acid Insoluble Residue;	4.5 %	



Vartan Babakhanian

Vartan Babakhanian, P.E.
 Technical Services Lab Manager



Go-Crete Concrete
 Technical Services Dept.
 P. O. Box 888
 DeSoto, Tx. 75123-0888
 Tel. 972-224-5525 ext. 815

MATERIALS EVALUATION

Fine Aggregates

Source:	Go-Crete @ Chatfield	Technical Services
Type:	ASTM Natural River Sand	Report: 2004-5
Date:	Received 12/04/04	Date: 12/07/04

ASTM METHOD	TEST DESCRIPTION	TEST RESULTS		ASTM C-33 Specification %Passing	TX DOT Spec ITEM 421 %Passing
		%Retained	%Passing		
C-136 3/8"	(9.50 mm) Sieve	0	100	100	100
C-136 #4	(4.74 mm) Sieve	2	98	95-100	95-100
C-136 #8	(2.36 mm) Sieve	15	83	80-100	80-100
C-136 #16	(1.18 mm) Sieve	15	68	50-85	50-85
C-136 #30	(0.60 mm) Sieve	14	55	25-60	25-65
C-136 #50	(0.30 mm) Sieve	29	26	10-30	10-35
C-136 #100	(0.15 mm) Sieve	22	3	2-10	0-10
C-136	Fineness Modulus		2.7	2.3 - 3.1	
C-117	Decant (#200 Sieve Washed)		0.52 %Passing	3.0% Max.	
C-128	Bulk Specific Gravity, SSD		2.64		
C-128	Absorption,		0.80%		
C-29	Unit Weight (Dry Rodded),				
C-29	Unit Weight (Dry Loose),				
C-40	Organic Impurities			Lighter Than Standard	

Roger Gonzalez
 Roger Gonzalez
 Technical Services Department

PRO MIX technologies

STATE OF TEXAS

COUNTY OF COLLIN

TO WHOM IT MAY CONCERN:

This is to certify that **Plastimix MRx** is manufactured under strict quality control conditions by Pro Mix Technologies, P.O. Box 6, Allen, Texas 75013, and that it meets the physical requirements of:

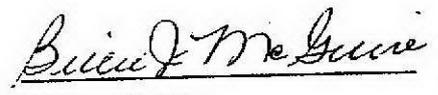
ASTM C-494	Type A
AASHTO M-194	Type A
CRD C-87	Type A

This is also to certify that no chlorides are added during the manufacture of **Plastimix MRx**.

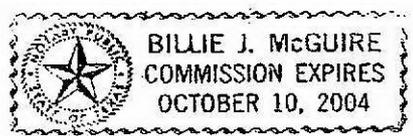


Lew Cook
President

Sworn and subscribed to before me this 16th day of August, 2004.



Notary Public



PRO MIX technologies

STATE OF TEXAS

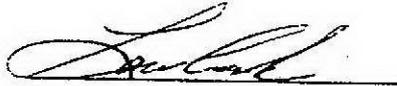
COUNTY OF COLLIN

TO WHOM IT MAY CONCERN:

This is to certify that **ProAir-260** is manufactured under strict quality control conditions by Pro Mix Technologies, P.O. Box 6, Allen, Texas 75013, and that it meets the physical requirements of:

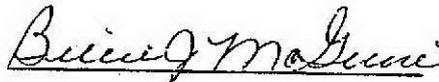
ASTM C-260
AASHTO M-154
CRD C-13

This is also to certify that no chlorides are added during the manufacture of **ProAir-260**.

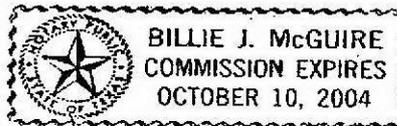


Lew Cook
President

Sworn and subscribed to before me this 16th day of August, 2004.



Notary Public





**MATERIAL SAFETY DATA SHEET
(MSDS)**

Section I – MATERIAL IDENTIFICATION AND USE

Material name:	Portland Cement Concrete
Chemical Name:	Not applicable
Chemical Family:	Portland Cement Product
Chemical Formula:	Mixture cementitious material aggregates and water
Trade Name & Synonyms:	Ready mixed concrete; concrete
Molecular Weight:	Not applicable
Material Use:	Construction materials

Section II – HAZARDOUS INGREDIENTS OF MATERIAL

Concrete is a mixture of inert gravel or rock, sand, Portland Cement and water. It may also contain chemical admixtures and/or fly ash and/or granulated slag and/or silica fume, which have no effect on the hazards associated with the use of the product. The chemical admixtures are present in quantities comprising less than 1% of the material.

Hazardous ingredients:	%
Portland Cement (CAS 65997-15-1)	10 – 20
Quartz (SiO ₂) (CAS 14808-60-7)	3 – 7
Portlandite (Ca(OH) ₂) (CAS 1305-62-0)	2 – 4

The hazardous ingredients in plastic (wet) concrete cannot become airborne. However, water added to the materials reacts with some of the ingredients to form calcium hydroxide, a corrosive chemical which will irritate the eyes and skin upon contact. Concrete dust from dried Portland Cement Concrete may also contain hazardous ingredients in sufficient concentrations to cause skin, eye, or respiratory irritation.

Section III – PHYSICAL DATA FOR MATERIAL

Physical State:	Plastic until it becomes solid upon setting
Order and Appearance:	Odorless, gray, plastic, flowable and granular
Odor Threshold:	None
Specific Gravity:	Normal range 1.5 to 2.9
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Evaporation Rate:	Not applicable
Boiling Point:	Not applicable
Freezing Point:	(0 degrees C)
Solubility in Water:	0.1%
PH:	pH12 – pH13

Section IV – FIRE AND EXPLOSION HAZARD OF MATERIAL

Not applicable

Section V – REACTIVITY DATA

Not applicable

Section VI – TOXICOLOGICAL PROPERTIES OF MATERIAL

(a) Plastic Concrete
Toxicological Properties
Plastic concrete has an alkalinity level of pH12 to pH13 which can cause skin and eye irritation.

Route Entry:	Skin contact, eye contact, ingestion
Effects of Acute Exposure:	Plastic concrete can cause alkali burns and eye irritation and burns. Ingestion may cause irritation of the throat
Effects of Chronic Exposure:	Damage to the epidermis and dermis (outer layers of skin).

(b) Hardened or "Set" Concrete
Sawing or other demolition techniques may result in exposure to dust which may contain hazardous ingredients of the constituent products as follows:

Section VI – TOXICOLOGICAL PROPERTIES OF MATERIAL – Cont'd

(i) Portland Cement and Portlandite

Toxicological Properties:

The hazardous ingredients when in contact with water produce calcium hydroxide, with an alkalinity level of pH12 or pH13. This level of alkalinity can cause skin and eye irritation.

Route of Entry:

Skin contact, eye contact, inhalation, and ingestion.

Effects of Acute Exposure:

Cement and wet cement mixtures can dry skin; cause alkali burns and irritates the eyes and the upper respiratory tract. Ingestion can cause inflammation of the throat.

Effects of Chronic Exposure:

Cement dust cause inflammation of the tissue lining, the interior of the nose and the cornea (white) of the eye. Hypersensitive people may develop allergic dermatitis.

Exposure Limits:

O. Reg. 654/86 (8hr TWAEV)*	10 mg/m3 (total dust)
ACGIH (TLV-8hr TWA)	10 mg/m3 (total dust)
MSHA (8hr – TWA)	50 mppcf**
OSHA (PEL 8hr TWA)	50 mppcf**
*	Time Weighted Average Exposure Value	(for 8hr day – 40hr week)
**	Million particles per cubic foot	

Portland Cement and Portlandite are not known to constitute a carcinogenic, reproductive, teratogenic, or mutagenic hazards.

(ii) Quartz (SiO2)

Route of Entry:

Skin contact, eye contact, and inhalation chronic.

Effects of Acute Exposure:

- (1) Chronic exposure to respirable dust at levels exceeding exposure limits has caused pneumoconiosis.
- (2) Chronic exposure to respirable sand and gravel dust containing quartz at levels exceeding exposure limits has caused silicosis, a serious and progressive pneumoconiosis which can be disabling, and in extreme time, even years after exposure has ceased. Symptoms of silicosis may include shortness of breath, difficulty in breathing, coughing, diminished work capacity, diminished chest expansion, reduction of lung volume and right heart enlargement and/or failure. The only reliable method of detecting silicosis is through a chest X-ray. Silicosis may aggravate other chronic pulmonary conditions and may increase the risk of pulmonary tuberculosis infection. Smoking aggravates the effects of silica exposure.

LD50 of Material (Species and Route):	Not applicable
LC50 of Material (Species and Route):	Not applicable

Exposure Limits:

Respirable silica dust – 0.2 mg/meter3 (TWAEV)

TWAEV – Time Weighted Average Exposure Values

For additional information on the above exposure limits, consult Ontario Regulations 654/86 and 769/83, amended 23/87.

Irritancy of Material:

Respiratory system, eyes, skin.

Carcinogenicity, Reproductive Effects, Teratogenicity, Mutagenicity:

As of the date of preparation of the MSDS:

- (1) Sand and gravel is not included on the ACGIH, IARC, NTP or OSHA lists of potential carcinogens.
- (2) Silica, in the form of crystalline Quartz and as a component of this material, is listed as a potential carcinogen by IARC, but not by ACGIH, NTP or OSHA. IARC (International Agency for Research on Cancer) has determined that there is sufficient evidence of carcinogenicity to humans. Limited evidence of carcinogenicity indicates that casual interpretation is credible, but alternate explanations such as chance, bias, or confounding factors could not adequately be excluded. There is no evidence that sand and gravel is a teratogen, mutagen or has a reproductive effect.

Section VI1 – PREVENTATIVE MEASURES

Personal Equipment:

Use gloves, boots and clothing to prevent skin contact. Wear safety glasses or goggles to prevent contact with eyes. Wear an approved respirator if exposed to dust from hardened concrete when sawing or using other demolition methods.

Engineering Controls (specify):

Provide ventilation when sawing or using other demolition techniques to maintain dust concentrations below exposure limits listed in Section VI. Sweep and shovel into waste disposal containers. Flush with water hose for final clean up of floors, walkways, etc.

Leak and Spill Procedure:

As above.

Handling Procedures and Equipment:

Not applicable

Storage Requirements:

Not applicable

Special Shipping Information:

Section VI11 – FIRST AID MEASURES

Wash exposed areas of the body with soap and water. Irrigate eyes with large amounts of water; consult a physician in cases of severe exposure; In case of accidental ingestion, drink two or three glasses of milk, call a physician and do not induce vomiting.

Section IX – PREPARATION DATE OF MSDS

Prepared by:

Ready Mixed Concrete Association of Ontario
325 Eddystone Avenue
Downsview, Ontario M3N 1H8

Updated:

September 2003

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The information contained on this Material Data Safety Sheet is based on hazard information from sources considered technically reliable and has been prepared in good faith in accordance with available information. No warranty, expressed or implied, is made and the supplier will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein.



Southern Star Concrete, Inc.
 8500 Freeport Parkway N., Suite 200
 Irving, Texas 75063 U.S.A.
 Phone: (972) 621-0999 Fax: (972) 621-3351
Quality Services Department
 240 Singleton Boulevard Dallas, Texas 75212
 Phone: (214) 651-8020 Fax: (214) 651-1810

MIX DESIGN SUBMITTAL for READY-MIXED CONCRETE

Contractor:	Ron Slo, Inc.	Date:	January 17, 2005
Project:	Arbor Village Apartments		
Mix Design #:	9329		
Specific Use:	Slab on Grade		

MIX DESIGN PARAMETERS			
Minimum Compressive Strength:	3000 psi @ 28 Days	Sack Content:	4.50
Air Content:	1.5% +/- 1%	Fly Ash Content:	20%
Slump Range (inches):	5" Maximum		
W/Cm Ratio (lb/lb):	0.61 (6.88 gal/sk)	Theoretical Plastic Unit Weight:	149.3 pcf
Max. / Min. Concrete Temp.:	Ref: ACI 305 / 306		

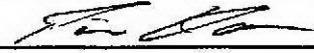
Southern Star Concrete guarantees this mix design will achieve the specified compressive strength when tested and evaluated in accordance with ASTM C 172, C 31, C 39, C 94 and ACI 318, and when the recommended procedures for placement and curing in ACI 304, 305 / 306 are followed. When used for acceptance testing, strength specimens must be cured in strict accordance with Section 10 of ASTM C 31-03.

MATERIAL REQUIREMENTS

Materials	ASTM Standards			Weights per Cubic Yard, SSD	
Cement	ASTM C 150	Type	I / II	338	lbs.
Fly Ash	ASTM C 618	Class	C	85	lbs.
				0	lbs.
				0	lbs.
Coarse Aggregate	ASTM C 33	Grade 57	1"	1840	lbs.
				0	lbs.
				0	lbs.
				0	lbs.
Fine Aggregate	ASTM C 33		Sand	1510	lbs.
				0	lbs.
				0	lbs.
Admixture	ASTM C 494	Type	A or D	12.7	oz. WR
				<input checked="" type="checkbox"/> APPROVED	oz.
				<input type="checkbox"/> APPROVED AS NOTED	oz.
				<input type="checkbox"/> REJECT AND RESUBMIT	oz.
Water	ASTM C 94			258	lbs.

CHECKING IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND DOES NOT CONSTITUTE A GUARANTEE OF THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. CONSULTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND CORRECTED AT THE SOURCE FOR INFORMATION THAT PERTAINS TO THE WORK AND FOR CORRECTING THE WORK OF ALL TRADES.

In accordance with ACI 318, please forward copies of all concrete test reports to the Quality Services Department at the above address so that we can monitor mix performance and provide data for future projects. Thank you.



 Tim Kaiser
 Manager of Quality Services

JERALD W. KUNKEL CONSULTING ENGINEERS, INC.
 BY  DATE 1/24/05
 FOR SLAB DESIGN ONLY



Field Test Data

Mix No. 9329

Basis for Selection

Contractor: Various
 Project: Various 2004
 Laboratory: Various

Design Strength: 3000 psi
 Data Represents: 59 Tests
 Data Updated: 01/17/2005

ACI 318, Section 5.3.2.1 (5-1)
 Standard Deviation: 480 psi
 Required Strength: 3643 psi
 Average Strength: 3980 psi

#	Date	Slump	Conc.	Temp	Air%	7 Day Compressive			28 Day Compressive Strength Data						
						Cyl. 1	Cyl. 2	7 Day Avg.	Cyl. 1	Cyl. 2	SetAvg	Avg./3	Range	St. Dev.	RunAvg
20	05/13/2004	4.50	82	1.7	3150	3030	3090	3860	4290	4080	3480	430	472	3990	
21	05/14/2004	5.00	78		2250	2230	2240	3310	3410	3360	3410	100	480	3960	
22	05/17/2004	5.50	80		2710	2940	2830	3660	3860	3760	3730	200	471	3950	
23	05/17/2004	3.75	85		2460	2480	2470	3870	3760	3820	3650	110	461	3950	
24	05/18/2004	5.00	81		3920	4010	3970	5400	5090	5250	4280	310	523	4000	
25	05/19/2004	5.00	81		2960	3100	3030	3990	4190	4090	4390	200	513	4000	
26	05/19/2004	3.00	84		3080	3030	3060	4030	4100	4070	4470	70	502	4010	
27	05/20/2004	4.75	86	1.6	2320	2450	2390	4930	4830	4880	4350	100	521	4040	
28	05/25/2004	4.00	82	2.0	3010		3010	4330	4460	4400	4450	130	515	4050	
29	05/25/2004	5.00	86	1.8	3070		3070	4430	4220	4330	4540	210	509	4060	
30	05/25/2004	5.00	87	2.2	2680		2680	4200	3890	4050	4260	310	500	4060	
31	05/25/2004	4.75	84		3320	3280	3300	4480	4650	4570	4320	170	500	4080	
32	06/21/2004	5.00	90	2.9	3160		3160	4480	4480	4480	4370	0	497	4090	
33	06/23/2004	5.00	90	1.8	2980		2980	4480	4550	4520	4520	70	495	4100	
34	07/19/2004	5.50	82		2430		2430	3530	3720	3630	4210	190	494	4090	
35	07/19/2004	5.00	93		2050		2050	3280	3200	3240	3800	80	507	4060	
36	08/09/2004	5.00	92		2310		2310	3540	3570	3560	3480	30	507	4050	
37	08/10/2004	4.50	92		2720		2720	3780	3840	3810	3540	60	502	4040	
38	08/11/2004	5.00	84		2510		2510	3660	3510	3590	3650	150	500	4030	
39	08/12/2004	5.00	88		1990		1990	3130	3350	3240	3550	220	510	4010	
40	08/23/2004	5.00	89		2190	2300	2250	3290	3130	3210	3350	160	519	3990	
41	08/27/2004	4.00	95		2810		2810	4280	4200	4240	3560	80	514	4000	
42	08/31/2004	4.75	91		2900	2860	2880	3710	3800	3760	3740	90	509	3990	
43	09/01/2004	5.00	93		3610	3670	3640	4360	4330	4350	4120	30	506	4000	
44	09/02/2004	5.00	96		3730	3800	3770	4740	4770	4760	4290	30	513	4020	
45	09/09/2004	6.75	92	0.8	2630	2620	2630	3480	3510	3500	4200	30	513	4010	
46	09/09/2004	5.00	87		2800	2730	2770	3660	3600	3630	3960	60	510	4000	
47	09/10/2004	5.50	90		3050	2980	3020	3520	3490	3510	3550	30	509	3990	
48	10/08/2004	5.00	86	1.4	2150		2150	3250	3290	3270	3470	40	514	3970	
49	10/12/2004	4.75	74	1.6	3240		3240	4330	4420	4380	3720	90	512	3980	
50	10/13/2004	4.75	76	1.4	2490		2490	3660	3540	3600	3750	120	510	3970	
51	10/14/2004	5.00	60	2.2	2830		2830	4200	4050	4130	4040	150	505	3980	
52	10/15/2004	5.00	79	1.9	2850		2850	3860	3900	3880	3870	40	500	3970	
53	10/18/2004	4.50	70	2.0	3130		3130	4640	4710	4680	4230	70	505	3990	
54	10/19/2004	5.00	74	1.6	2800		2800	3980	3850	3920	4160	130	500	3990	
55	10/20/2004	5.00	77	1.9	2690		2690	3930	3810	3870	4160	120	496	3980	
56	10/21/2004	5.00	88		3070		3070	3950	4020	3990	3930	70	491	3980	
57	10/22/2004	5.00	76	2.1	2530		2530	3810	3550	3680	3850	260	489	3980	
58	10/28/2004	5.00	84	2.3	3100		3100	3980	4000	3990	3890	20	484	3980	
59	11/09/2004	5.50	72	0.6	2600		2600	3890	4030	3960	3880	140	480	3980	



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MIX DESIGN SUBMITTAL for READY-MIXED CONCRETE

Contractor:	Ron Slo, Inc.	Date:	January 17, 2005
Project:	Arbor Village Apartments		
Mix Design #:	9341		
Specific Use:	Slab on Grade		

MIX DESIGN PARAMETERS			
Minimum Compressive Strength:	3000 psi @ 28 Days	Sack Content:	5.00
Air Content:	1.5% +/- 1%	Fly Ash Content:	20%
Slump Range (inches):	- 5 " Maximum		
W/Cm Ratio (lb/lb):	0.56 (6.29 gal/sk)	Theoretical Plastic Unit Weight:	149.3 pcf
Max. / Min. Concrete Temp.:	Ref: ACI 305 / 306		

Southern Star Concrete guarantees this mix design will achieve the specified compressive strength when tested and evaluated in accordance with ASTM C 172, C 31, C 39, C 94 and ACI 318, and when the recommended procedures for placement and curing in ACI 304, 305 / 306 are followed. When used for acceptance testing, strength specimens must be cured in strict accordance with Section 10 of ASTM C 31-03.

MATERIAL REQUIREMENTS					
Materials	ASTM Standards			Weights per Cubic Yard, SSD	
Cement	ASTM C 150	Type	I / II	376	lbs.
Fly Ash	ASTM C 618	Class	C	94	lbs.
				0	lbs.
				0	lbs.
Coarse Aggregate	ASTM C 33	Grade 57	1"	1840	lbs.
				0	lbs.
				0	lbs.
				0	lbs.
Fine Aggregate	ASTM C 33		Sand	1459	lbs.
				0	lbs.
				0	lbs.
Admixture	ASTM C 494	Type	A or D	14.1	oz. WR
				0	oz.
				0.0	oz.
				0.0	oz.
Water	ASTM C 94			262	lbs.

In accordance with ACI 318, please forward copies of all concrete test reports to the Quality Services Department at the above address so that we can monitor mix performance and provide data for future projects. Thank you.

 Tim Kaiser
 Manager of Quality Services



Field Test Data

Mix No. 9341

Basis for Selection

Contractor: Turner Construction (Wrangler Concrete)
 Project: Jesse Owens Memorial Complex
 Dallas ISD
 Laboratory: Rone Engineers

Design Strength: 3000 psi
 Data Represents: 42 Tests
 Data Updated: 01/17/2005

ACI 318, Section 5.3.2.1 (5-1)
 Standard Deviation: 481 psi
 Required Strength: 3644 psi
 Average Strength: 4650 psi

#	Date	Slump	Conc. Temp	Air%	7 Day Compressive			28 Day Compressive Strength Data							56 Day	
					Cyl. 1	Cyl. 2	7 Day Avg.	Cyl. 1	Cyl. 2	SetAvg	Avg./3	Range	St. Dev.	RunAvg		
1	04/19/2004	5.00	78		4000		4000	5580	5420	5500			160		5500	
2	04/20/2004	5.50	74		3650		3650	4900	5010	4960			110	382	5230	
3	04/21/2004	6.25	80		3510		3510	4660	4560	4610	5020	100	448	5020		
4	04/22/2004	5.75	80		3930		3930	5020	4980	5000	4860	40	366	5020		
5	04/23/2004	7.00	80		3030		3030	4820	4680	4750	4790	140	339	4960		
6	04/27/2004	7.00	76		3500		3500	5200	5150	5180	4980	50	316	5000		
7	04/28/2004	5.75	76		3340		3340	4880	4650	4770	4900	230	301	4970		
8	04/30/2004	5.75	82		2790		2790	4230	4400	4320	4760	170	361	4890		
9	05/03/2004	5.00	72		3800		3800	5090	5020	5060	4720	70	342	4910		
10	05/04/2004	4.00	78		3730		3730	4980	4940	4960	4780	40	323	4910		
11	05/05/2004	5.00	82		3630		3630	4520	4720	4620	4880	200	319	4880		
12	05/06/2004	6.75	80		3150		3150	4600	4700	4650	4740	100	311	4870	5500	
13	05/07/2004	5.00	80		3700		3700	4870	4940	4910	4730	70	298	4870		
14	05/10/2004	7.00	85		3240		3240	4450	4280	4370	4640	170	316	4830		
15	05/11/2004	7.00	83		3620		3620	4760	4870	4820	4700	110	305	4830		
16	05/11/2004	6.00			3670		3670	5040	4970	5010	4730	70	298	4840		
17	05/13/2004	6.00	83		3610		3610	5060	5240	5150	4990	180	298	4860		
18	05/17/2004	6.50	80		3650		3650	4850	5160	5010	5060	310	291	4870		
19	05/17/2004	6.50	87		3600		3600	4990	4920	4960	5040	70	284	4870		
20	05/18/2004	5.00	90		3270		3270	4520	4520	4520	4830	0	287	4860		
21	05/19/2004	5.25	86		3250		3250	4700	4570	4640	4710	130	284	4850		
22	05/19/2004	3.75	89		3760		3760	5190	5320	5260	4810	130	291	4870		
23	05/20/2004	2.50	89		3330		3330	4340	4530	4440	4780	190	297	4850		
24	05/20/2004	7.00	88		1840		1840	2630	3010	2820	4170	380	506	4760		
25	05/21/2004	6.25	89		2510		2510	3740	3730	3740	3670	10	536	4720		
26	05/24/2004	4.25	90		3350		3350	4940	4910	4930	3830	30	526	4730		
27	05/25/2004	6.25	88		3180		3180	4300	4210	4260	4310	90	524	4710		
28	05/26/2004	6.75	85		3210		3210	4170	4300	4240	4480	130	522	4700		
29	05/27/2004	6.25	82		3180		3180	4350	4530	4440	4310	180	515	4690		
30	06/01/2004	5.00	89		3480		3480	4510	4600	4560	4410	90	506	4680		
31	06/07/2004	6.00	83		2720		2720	4020	4050	4040	4350	30	511	4660		
32	06/11/2004	5.00	82		3210		3210	4740	4680	4710	4440	60	503	4660		
33	06/12/2004	5.00			3110		3110	4240	4470	4360	4370	230	498	4650		
34	06/14/2004	6.50	87		2850		2850	4510	4150	4330	4470	360	493	4640		
35	06/15/2004	5.50	80		3330		3330	4590	4670	4630	4440	80	486	4640		
36	06/16/2004	7.00	83		3020		3020	4230		4230	4400	4230	484	4630		
37	06/17/2004	6.50	87		2930		2930	4100		4100	4320	4100	485	4620		
38	06/21/2004	5.00	94		3180		3180	4450		4450	4260	4450	479	4610		
39	06/22/2004	6.00	89		3460		3460	4840		4840	4460	4840	474	4620		
40	06/23/2004	7.00	83		3660		3660	5120		5120	4800	5120	475	4630		
41	06/24/2004	5.00	86		3320		3320	4650		4650	4870	4650	469	4630		
42	06/25/2004	6.50	85		3910		3910	5470		5470	5080	5470	481	4650		



Concrete Mix Design - City of Dallas

Contractor: Ron Slo, Inc.
 Project: Arbor Village Apartments

Date: 1/17/2005
 Design #: 9375
 Use: Hand Paving

Design Requirements

Mix Description: 6.5 Sack 0 % Fly Ash
 Compressive Strength: 4500 psi @ 28 Days Slump: 4" +/- 1" Air: 3 - 6% Max

Material Sources

<u>Materials:</u>	<u>ASTM</u>	<u>Category</u>	<u>Vendor</u>	<u>Location</u>
Cement:	<u>C 150</u>	<u>Type I/II</u>	<u>Ash Grove Cement</u>	<u>Midlothian, TX</u>
Fly Ash:	<u>C 618</u>	<u>Class C</u>	<u>ISG Resources</u>	<u>Newark, AR</u>
Coarse Aggregate:	<u>C 33</u>	<u>Grade 57 (1"-#4)</u>	<u>Hanson Aggregates</u>	<u>Chico, TX</u>
Fine Aggregate:	<u>C 33</u>	<u>Concrete Sand</u>	<u>Hanson Aggregates</u>	<u>Arena, TX</u>
<u>Additives:</u>				
AEA:	<u>C 260</u>	<u>Daravair 1000</u>	<u>W.R. Grace</u>	<u>Houston, TX</u>
Water Reducer:	<u>C 494</u>	<u>WRDA w/ Hycol</u>	<u>W.R. Grace</u>	<u>Houston, TX</u>
Retarder:	<u>C 494</u>	<u>Daratard 17</u>	<u>W.R. Grace</u>	<u>Houston, TX</u>

Batch Proportions (One Cubic Yard)

<u>Materials</u>	<u>SSD Weight</u>	<u>Absolute Volume</u>	
Cement	<u>611 lbs</u>	<u>3.11 c.f.</u>	
Fly Ash	<u>0 lbs</u>	<u>0.00 c.f.</u>	<u>1.25:1 Replacement</u>
Coarse Aggregate	<u>1840 lbs</u>	<u>11.04 c.f.</u>	<u>60% Coarse Agg.</u>
Natural Sand	<u>1219 lbs</u>	<u>7.46 c.f.</u>	<u>40% Fine Agg.</u>
Manufactured Sand	<u>0</u>		
Water	<u>252 lbs</u>	<u>4.04 c.f.</u>	<u>0.41 W/Cm Ratio</u>
Water Reducer	<u>19.5 ozs</u>		
AEA	<u>4.2 ozs</u>	<u>1.35 c.f.</u>	
Theo. Unit Weight	<u>145.28 pcf</u>	<u>Total 27.00 c.f.</u>	

Confirmation Tests

<u>Plastic Properties</u>		<u>Compressive Strength (psi)</u>	
		<u>7 Day</u>	<u>28 Day</u>
Slump:	<u>4.09"</u>	Cylinder 1	psi
Air Content:	<u>4.1%</u>	Cylinder 2	psi
Unit Weight:	<u>145.28 pcf</u>	Cylinder 3	psi
83 Field Test Results - <u>Cylinder Average:</u>		<u>4280 psi</u>	<u>5330 psi</u>



Sieve Analysis

Contractor: Ron Slo, Inc.

Date: 1/17/2005

Project: Arbor Village Apartments

Summary of Results

<u>Fine Aggregate:</u>	<u>Hanson Aggregates from Arena, TX</u>	<u>Tested:</u>	<u>12/07/2004</u>
<u>Sieve Size</u>	<u>* Percent Passing</u>		<u>Specifications</u>
<u>3/8"</u>	<u>100</u>		<u>100</u>
<u>#4</u>	<u>99</u>		<u>95 - 100</u>
<u>#8</u>	<u>86</u>		<u>80 - 100</u>
<u>#16</u>	<u>64</u>		<u>50 - 85</u>
<u>#30</u>	<u>35</u>		<u>25 - 60</u>
<u>#50</u>	<u>12</u>		<u>10 - 30</u>
<u>#100</u>	<u>3</u>		<u>0 - 10</u>
<u>% Passing #200</u>	<u>0.2</u>	<u>by Decantation Method</u>	<u>3.0% Maximum</u>
<u>** Fineness Modulus:</u>	<u>3.02</u>		<u>2.3 - 3.1</u>
<u>Insoluble Residue in Carbonate aggregates:</u>	<u>85</u>		<u>28 Minimum</u>
<u>Specific Gravity (SSD):</u>	<u>2.62</u>		
<u>Absorption:</u>	<u>0.8</u>		

* The difference between the percent passing any two consecutive sieve sizes shall not exceed 45%.

** Maximum variation during production: 0.2%

Coarse Aggregate: Hanson Aggregates from Chico, TX Tested: 12/13/2004

<u>Sieve Size</u>	<u>% Passing</u>	<u>ASTM C 33:</u>	<u>Grade 3</u>	<u>Specifications</u>
<u>1 1/2"</u>	<u>100</u>			<u>100</u>
<u>1"</u>	<u>97</u>			<u>95 - 100</u>
<u>1/2"</u>	<u>32</u>			<u>25 - 60</u>
<u>#4</u>	<u>4</u>			<u>0 - 10</u>
<u>#8</u>	<u>1</u>			<u>0 - 5</u>
<u>Specific Gravity (SSD):</u>	<u>2.68</u>			
<u>Absorption:</u>	<u>0.8%</u>			
<u>L.A. Abrasion % Loss:</u>	<u>26.1</u>			<u>45% Maximum</u>
<u>% Passing # 200:</u>	<u>0.88</u>			



Field Test Data

Mix No. 9375

Basis for Selection

Contractor: Various
 Project: City of Dallas Public Works / Water Dep't.
 Laboratory: HBC Terracon

Avg. Slump: 4.09 Avg. Air: 4.14%
 Design Strength: 4500 psi
 Data Represents: 83 Tests
 Data Updated: 01/17/2005

ACI 318, Section 5.3.2.1 (5-2)
 Standard Deviation: 537 psi
 Required Strength: 5250 psi
 Average Strength: 5330 psi

#	Date	Slump	Conc.	Temp	Air%	7 Day Compressive			28 Day Compressive Strength Data						56 Day
						Cyl. 1	Cyl. 2	7 Day Avg	Cyl. 1	Cyl. 2	SetAvg	Avg./3	Range	St. Dev.	
54	02/03/2004	4.50	58	4.6	4140		4140	5050	5110	5080	5460	60	551	5320	
55	02/17/2004	2.50	66	6.0	4170	4260	4220	5400	5270	5340	5300	130	546	5320	
56	02/27/2004	4.00	66	3.5	4310	4290	4300	5450	5420	5440	5290	30	541	5330	
57	02/27/2004	7.50	61		4030	3580	3810	4790	4770	4780	5190	20	541	5320	
58	02/28/2004	5.50	60	5.5	4270	4370	4320	5120	4840	4980	5070	280	538	5310	
59	03/08/2004	4.50	73	6.4	3990	4030	4010	4840	4490	4670	4810	350	540	5300	
60	03/08/2004	2.50	77	3.6	4690	4740	4720	5860	5770	5820	5160	90	540	5310	
61	03/10/2004	3.25	74	3.5	4070		4070	5020	5240	5130	5210	220	536	5310	5540
62	03/15/2004	4.75	76	5.3	3730		3730	4610	4740	4680	5210	130	537	5300	5130
63	03/17/2004	4.50	73	4.2	3690	3850	3770	4910	4980	4950	4920	70	535	5290	
64	03/25/2004	4.50	66	6.6	3930	4090	4010	5120	5130	5130	4920	10	531	5290	
65	04/01/2004	5.00	85	3.6	3710		3710	4600	4740	4670	4920	140	532	5280	
66	04/09/2004	5.00	90	4.0	3200		3200	4520	4530	4530	4780	10	536	5270	
67	04/13/2004	4.00	72	7.2	3520	3570	3550	4490	4540	4520	4570	50	540	5260	
68	05/12/2004	5.00	90	6.0	4260	4380	4320	5380	5480	5430	4830	100	536	5260	
69	05/13/2004	3.00	88	4.5	4760	4570	4670	5840	5520	5680	5210	320	535	5260	
70	05/14/2004	4.00	83	4.5	4860	5040	4950	6000	6240	6120	5740	240	540	5280	
71	05/15/2004	4.00	82	1.7	3540	3530	3540	4600	4770	4690	5500	170	541	5270	
72	05/17/2004	5.00	82	6.2	4210	4480	4350	5150	5330	5240	5350	180	537	5270	
73	05/17/2004	2.50	87	2.7	4330	4390	4360	5710	5510	5610	5180	200	535	5270	
74	05/19/2004	4.50	95	4.4	4650	4690	4670	5740	5690	5720	5520	50	534	5280	
75	05/28/2004	4.00	90	1.0	4710	4640	4680	5670	5860	5770	5700	190	533	5280	
76	06/02/2004	4.00	89	0.8	4930	4560	4750	5990	6160	6080	5860	170	538	5300	
77	06/10/2004	4.00	83	1.8	3920	4060	3990	5330	5300	5320	5720	30	534	5300	
78	06/11/2004	4.50	92	3.7	4460	4380	4420	5520	5880	5700	5700	360	532	5300	
79	06/17/2004	3.50	88	0.8	5120	5240	5180	5770	6280	6030	5680	510	535	5310	
80	08/04/2004	3.00	93	4.1	4740	4740	4740	5620	5610	5620	5780	10	533	5310	
81	08/06/2004	1.00	92	4.2	5080	4900	4990	6190	6140	6170	5940	50	538	5320	
82	08/09/2004	3.75	98	3.1	4550	4290	4420	5470	5620	5550	5780	150	535	5330	
83	08/10/2004	3.00	95	3.8	4480	4580	4530	5930	5960	5950	5890	30	537	5330	

ASH GROVE TEXAS L.P.

ASH GROVE

900 Gifco Road
Post Office Box 520
Midlothian, Texas 76065

Phone: 972-723-2301
Fax: 972-299-5127

Cement Type: I/II

Production Period: November 1, 2004 - November 30, 2004

Date: 12/6/2004

STANDARD REQUIREMENTS ASTM C150-04a

CHEMICAL			PHYSICAL		
Item	Spec. Limit	Test Result	Item	Spec. Limit	Test Result
SiO ₂ (%)	A	20.22	Air content of mortar (volume %)	12 max	7.2
Al ₂ O ₃ (%)	6.0 max	4.75	Fineness (cm ² /g)		
Fe ₂ O ₃ (%)	6.0 max	4.09	(Air permeability)	2800 min	3629
CaO (%)	A		Autoclave expansion (%)	0.80 max	0.00
MgO (%)	6.0 max	1.17	Compressive strength (psi)	Min:	
SO ₃ (%)	3.0 max	2.59	1 Day	A	1867
Loss on ignition (%)	3.0 max	0.94	3 Days	1740	3380
Na ₂ O (%)	A		7 Days	2760	4471
K ₂ O (%)	A		28 Days	A	
Insoluble Residue (%)	0.75 max	0.21	Time of setting (minutes)		
Potential compounds (%)			(Vicat)		
C ₃ S	A	60	Initial	Not less than 45	90
C ₂ S	A	13	Final	Not more than 375	220
C ₃ A	8 max	6			
C ₄ AF	A				
C ₄ AF+2(C ₃ A)	A				

OPTIONAL REQUIREMENTS ASTM C150-04a Tables 2 and 4

CHEMICAL			PHYSICAL		
Item	Spec. Limit	Test Result	Item	Spec. Limit	Test Result
C ₃ S + C ₃ A (%)	A		False set (%)	A	A
Equivalent alkalis (%)	0.60	0.55	Heat of hydration (kJ /kg)		
A = Not applicable.			7 days	A	A
B = Limit not specified by purchaser, test result provided for information only.			Heat of hydration (kJ /kg)		
C = Test results for this period not available.			28 Days	A	A

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirement of the ASTM C150-04a or (other) _____ specification.

Signature: _____
Todd O. Hinton
Title: Quality Control Manager

SWH 006141



Headwaters Resources, Inc. certifies that, to the best of its knowledge, the test data listed herein was generated by applicable ASTM methods and meets requirements of ASTM C-618 and AASHTO M-295 and TX. DOT DMS-8900.

Report of Fly Ash Independence Plant, Newark, Arkansas Unit #1

DATE: December 3, 2004

LABORATORY NUMBER: ISES-10/11/04
MTRF #22611D

COMPOSITE DATE
9/23/04 - 10/11/04

ASTM C-618-03 TX. DOT DMS-8900
SPECIFICATIONS SPECIFICATIONS

CHEMICAL ANALYSIS

		CLASS C	CLASS F	CLASS C	CLASS F
Silicon Dioxide (SiO ₂)	36.85				
Aluminum Oxide (Al ₂ O ₃)	20.69				
Iron Oxide (Fe ₂ O ₃)	5.77				
Sum of SiO ₂ , Al ₂ O ₃ , & Fe ₂ O ₃	63.31	50 Min.	70 Min.	50 Min.	70 Min.
Magnesium Oxide (MgO)	5.62				
Sulfur Trioxide (SO ₃)	1.20	5.0 Max.	5.0 Max.	5.0 Max.	5.0 Max.
Moisture Content	0.10	3.0 Max.	3.0 Max.	2.0 Max.	2.0 Max.
Loss On Ignition	0.07	6.0 Max.	6.0 Max.	3.0 Max.	3.0 Max.
Available Alkalies as Na ₂ O	1.33			1.5Max.	1.5Max.
Calcium Oxide (CaO)	23.34				

PHYSICAL ANALYSIS

Fineness: Amount retained on 325 sieve %	17.58	34% Max.	34% Max.	30%Max.	30%Max.
Water Requirement, % Control	95%	105%Max	105%Max	100%Max	100%Max
Specific Gravity	2.65				
Autoclave Expansion, %	+ 0.02	0.8% Max	0.8% Max	0.8% Max	0.8% Max
Strength Activity Index With Portland Cement, 7 Day	96%	75% Min.	75% Min.	75% Min.	75% Min.

^A Applicable only when required by purchaser.

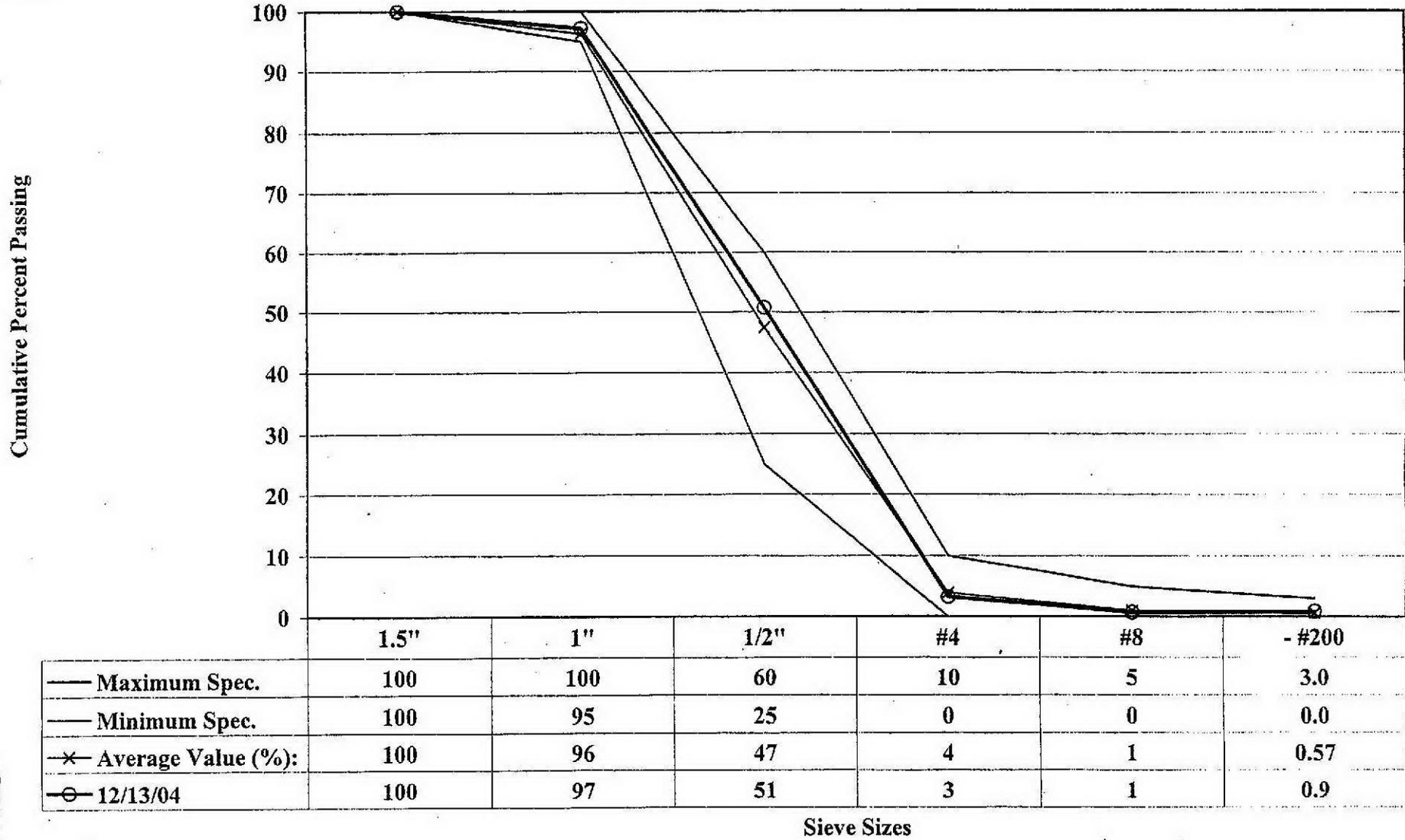
AUTHORIZED SIGNATURE:

A HEADWATERS Company

P.O. Box 38, Thompsons, TX 77481-0038
Phone: (281) 343-0079 Fax: (281) 343-0872



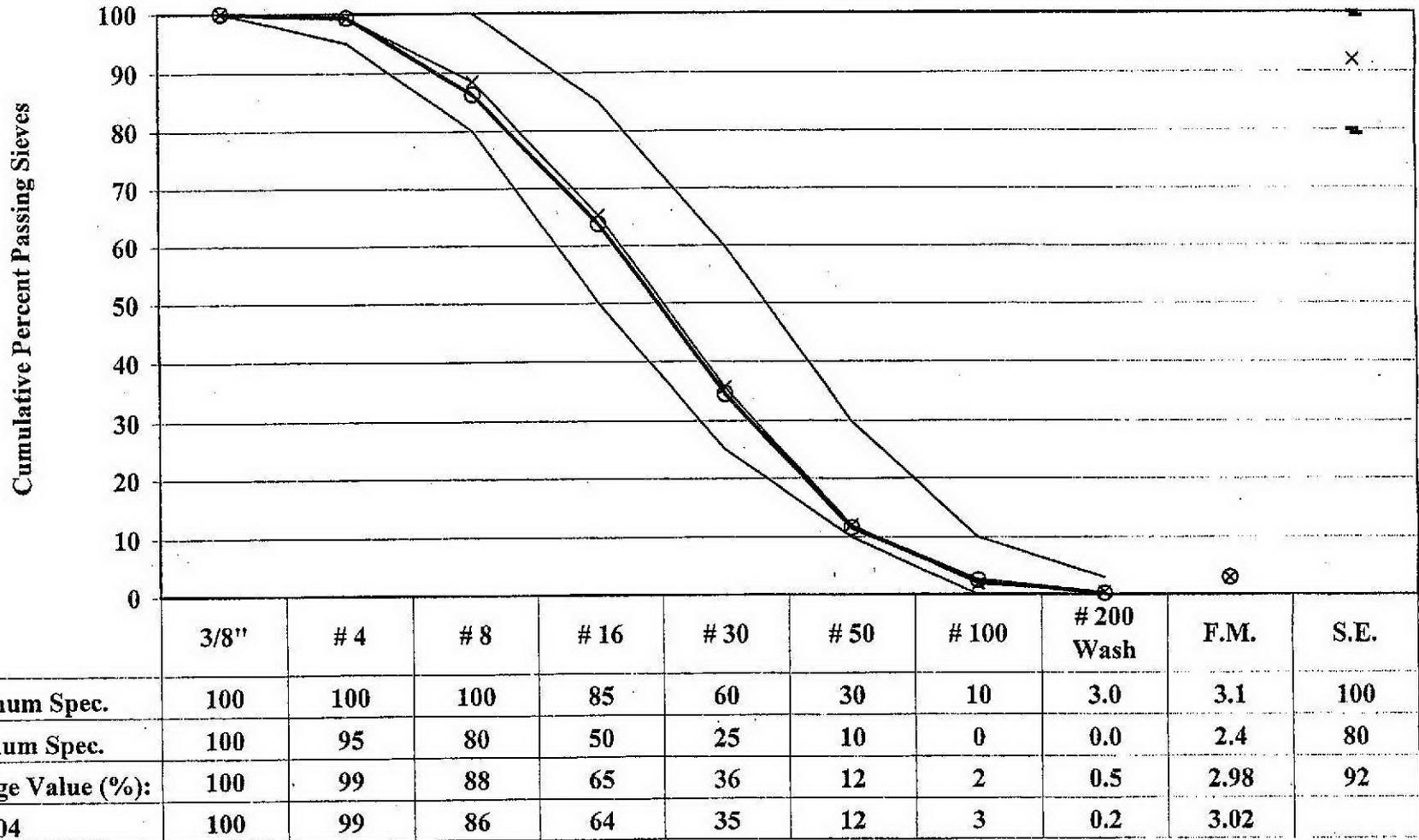
Coarse Aggregate Sieve Analysis 1" Perch Hill



SWH 006143



Fine Aggregate Sieve Analysis Hanson - Arena



Percent Passing Sieves, Compared to Specification

GRACE

Grace Construction Products

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

713-223-8353
<http://www.gcp-grace.com>

January 8, 2004

Southern Star
240 Singleton Blvd
Dallas, TX 75212

To Whom It May Concern:

This is to certify that **DARAVAIR® 1000**, an air-entraining admixture, as manufactured and supplied by Grace Construction Products, W. R. Grace & Co.-Conn., is formulated to comply with the Specification for Air-Entraining Admixtures for Concrete, ASTM: C 260 (AASHTO M 154).

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

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

Sincerely,



Fred Hightower
Technical Services

Subscribed and sworn to, before me, this 8th day of January, 2004.



Notary Public

My commission expires: 10/12/07



SWH 006145

GRACE

Grace Construction Products

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

713-223-8353
<http://www.gcp-grace.com>

January 8, 2004

Southern Star
240 Singleton Blvd
Dallas, TX 75212

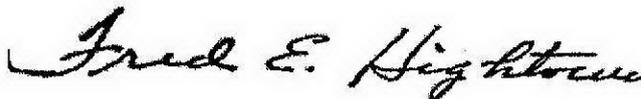
To Whom It May Concern:

This is to certify WRDA[®] with HYCOL[®], a water-reducing admixture, as manufactured and supplied by Grace Construction Products, W. R. Grace & Co.-Conn., is formulated to comply with the Specification for Chemical Admixtures for Concrete, ASTM: C 494, Type A (AASHTO M 194, Type A).

WRDA[®] with HYCOL[®] does not contain calcium chloride or chloride containing compounds as a functional ingredient. Chloride ions may be present in trace amounts contributed from the process water used in the manufacturing.

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

Sincerely,



Fred Hightower
Technical Services

Subscribed and sworn to, before me, this 8th day of January, 2004.


Notary Public

My commission expires: 10/12/07.



SWH 006146

GRACE

Grace Construction Products

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

713-223-8353
<http://www.gcp-grace.com>

January 8, 2004

Southern Star
240 Singleton Blvd
Dallas, TX 75212

To Whom It May Concern:

This is to certify that **DARATARD[®] 17**, a water-reducing and retarding admixture, as manufactured and supplied by Grace Construction Products, W. R. Grace & Co.-Conn., is formulated to comply with the Specification for Chemical Admixtures for Concrete, ASTM: C 494, Type D (AASHTO M 194, Type D).

DARATARD[®] 17 does not contain calcium chloride or chloride containing compounds as a functional ingredient. Chloride ions may be present in trace amounts contributed from the process water used in the manufacturing.

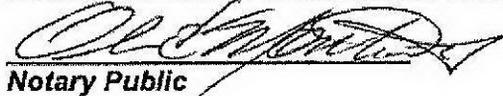
The above is in addition to and not in substitution for our standard Conditions of Sale printed on the reverse side hereof.

Sincerely,



Fred Hightower
Technical Services

Subscribed and sworn to, before me, this 8th day of January, 2004.


Notary Public

My commission expires: 10/12/07



SWH 006147



Material Safety Data Sheet

SECTION 1 COMPANY AND PRODUCT IDENTIFICATION

PRODUCT NAME Ready-mix Concrete		Revised: August 2004
SYNONYMS Concrete, cement, mud, & ready-mix		
MANUFACTURER Southern Star Concrete Inc. 8500 Freeport Parkway Suite 200 Irving, Tx 75063	EMERGENCY PHONE NUMBER 972.621.0999 == office 972-342-5511 == 24 hrs	

SECTION 2 COMPOSITION & INFORMATION ON INGREDIENTS

OSHA REGULATORY STATUS N/A		
HAZARDOUS COMPONENTS N/A	CAS NUMBER	% BY WEIGHT
OTHER SIGNIFICANT COMPONENTS	CAS NUMBER	% BY WEIGHT
Aggregate*	Mixture	60-100
Limestone (Calcium Carbonate)	1317-65-3	0-100
Crystalline Silica	14808-60-7	> 1
Portland Cement	65997-15-1	3-40

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW Remove all concrete upon contact and flush affected areas with clean water. Seek medical attention if irritation occurs.
PHYSICAL HAZARDS Concentrations of 1% or more of cement, flyash, and silica sand.
PRIMARY ROUTES OF EXPOSURE

Inhalation & Skin Contact

POTENTIAL EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE

Eye Contact: Direct contact with dust may cause irritation by mechanical abrasion.
Skin Contact: Wet concrete in plastic state can dry the skin and cause alkali irritation. Direct contact in dry state may cause irritation by mechanical abrasion.
Skin Absorption: Not expected to be a significant exposure route.
Ingestion: Ingestion of large amounts may cause gastrointestinal irritation and blockage.
Inhalation: Dust may irritate the nose, throat, and respiratory tract by mechanical abrasion. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure levels.

POTENTIAL EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE

Chronic exposure to respirable limestone dust in excess of appropriate exposure limits may cause lung disease. Silicosis may result from excessive exposure to respirable silica dust for prolonged periods. Not all individuals with silicosis will exhibit symptoms. Silicosis is progressive and symptoms can appear at any time, even after exposure has ceased. Symptoms may include shortness of breath, coughing, or right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Tobacco smoking may increase the risk of developing lung disorders, including emphysema and lung cancer.

CARCINOGENICITY

Ready-mix concrete is not listed as a carcinogen by the National Toxicology Program (NTP), OSHA or the International Agency for Research on Cancer (IARC). However, crystalline silica is now classified by the IARC as a known human carcinogen (Group 1). The NTP has characterized respirable silica as "reasonably anticipated to be [a] carcinogen" (Group 2). Prolonged and repeated breathing of silica may cause lung cancer.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Inhaling respirable dust may aggravate existing respiratory system disease(s) and/or dysfunctions such as emphysema or asthma. Exposure may aggravate existing skin and/or eye conditions.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

EYE CONTACT

Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

SKIN CONTACT

Wash skin with soap and water. Contact a physician if irritation persists or later develops.

INGESTION

If person is conscious, give large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Get immediate medical attention.

SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT

N/A

FLAMMABLE LIMITS

N/A

EXTINGUISHING AGENTS

None

UNUSUAL FIRE AND EXPLOSION HAZARDS

Contact with powerful oxidizing agents may cause fire and/or explosions (see Section 9 of this MSDS).

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Spills should be contained and not allowed to enter public waterways. Wet concrete should be removed from roads immediately. Follow personnel protective equipment recommendations in Section 8 of the MSDS sheet.

SPILL AND LEAK PROCEDURES

Spilled materials, where dust can be generated, may overexpose cleanup personnel to respirable silica and dust. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Do not dry sweep spilled material. Flush away with water or break up into manageable sized units.

SECTION 7 HANDLING AND STORAGE

HANDLING PRECAUTIONS

Respirable silica and dust may be generated during processing, handling, and storage. The personal protection and controls identified in Section 8 of the MSDS should be applied as appropriate.

RECOMMENDED STORAGE CONDITIONS

Do not store or handle near food and beverages or smoking materials.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS AND GUIDELINES

COMPONENT & CAS #

OSHA TWA

ACGIH TLV

Calcium Carbonate

5 mg/m³, (respirable fraction) 15 mg/m³ (total dust)

10 mg/m³ (total dust)

Crystalline Silica SiO₂

(respirable) 10 mg/m³ ÷ (% SiO₂+2), (total dust) 30 mg/m³ ÷ (% SiO₂+2)

10 mg/m³ ÷ (% SiO₂+2)

Portland Cement:	(respirable) 5 mg/m ³ , (total dust) 15 mg/m ³	10 mg/m ³
Other Particulates:	(total particulate, not otherwise regulated) 15 mg/m ³ , (respirable particulate, not otherwise regulated) 5 mg/m ³	10 mg/m ³ (nuisance particulates) 10 mg/m ³ .

ENGINEERING CONTROLS

Ventilation: Local exhaust or general ventilation adequate to maintain exposures below appropriate exposure limits.

RESPIRATORY PROTECTION

When dust or silica levels exceed or are likely to exceed appropriate exposure limits, follow MSHA or OSHA regulations, as appropriate, for use of NIOSH-approved respiratory protection equipment.

EYE PROTECTION

Eyeglasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessive (visible) dust conditions are present or anticipated. Contact lenses should not be worn when working with this product.

SKIN PROTECTION

Protective gloves, shoes and protective clothing should be worn to avoid contact with skin.

ADDITIONAL PROTECTIVE MEASURES

Hygiene: Wash dust-exposed skin with soap and water before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use.
Respirable dust and silica levels should be monitored regularly. Dust and silica levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Light grey viscous semi-solid with dispersed aggregates	SPECIFIC GRAVITY 2.6 - 2.75 H ₂ O = 1.0
COLOR Light grey	EVAPORATION RATE N/A
ODOR N/A	VAPOR DENSITY (AIR = 1) N/A
BOILING POINT N/A	pH 12.0

VAPOR PRESSURE	SOLUBILITY IN WATER
N/A	Not Soluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY

Stable, but reaction with acid will liberate heat. Contact with hydrochloric acid will liberate chlorine gas. Avoid contact with incompatible materials.

INCOMPATIBILITY

Contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride and oxygen difluoride may cause fire and/or explosion. Silica dissolves in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride. Avoid direct contact with strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Respirable dust particles may be generated when ready-mix concrete is sawed or ground.

HAZARDOUS POLYMERIZATION

Will not occur. No conditions to avoid.

CONDITIONS TO AVOID

Powerful oxidizing agents and acid. Extreme heat causes concrete to spall molten particles.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA

Wet concrete is not known to be toxic. Toxicity related to major components of concrete: cement, fly ash, and silica sand are negated in wet concrete form. The matrix precludes the inhalation of these constituents which could normally be of an occupational safety concern. The admixture and air entraining agents are sulfonate solutions which are not considered toxic.

SECTION 12 ECOLOGICAL INFORMATION

ECOLOGICAL DATA

Wet concrete is not considered toxic to the environment. However, negative impact can occur due to hardening concrete and disruption of biological processes if spilled into public waterways. Negative impact can also occur if wet concrete is spilled into sewer or drainage conduits where it can harden and clog the system.

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

SECTION 14 TRANSPORT INFORMATION
<i>DOT HAZARD CLASS</i>
None
<i>DOT PLACARD</i>
N/A

SECTION 15 REGULATORY INFORMATION	
<i>US FEDERAL REGULATIONS</i>	
<i>SARA 313</i>	
None	
<i>CERCLA 103</i>	
None	
<i>RCRA HAZARDOUS WASTE</i>	
None	
<i>STATE REGULATIONS COMPONENT</i>	<i>STATE REGULATORY LIST</i>
N/A	N/A

SECTION 16 OTHER INFORMATION
<i>FOR FURTHER INFORMATION, CONTACT:</i>
Divisional Environmental or Safety Manager

NOTICE: Based on research of available data, Southern Star Concrete Inc. believes that the information contained in this Material Safety Data Sheet is accurate. The suggested procedures are based on data and experience as of the date of preparation of the MSDS. The suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements. Southern Star concrete Inc.'s voluntary preparation of this MSDS should not be construed, in any way, as an agreement to be subject to OSHA jurisdiction.

**JERALD W. KUNKEL
CONSULTING ENGINEERS, INC.**

1170 CORPORATE DRIVE, SUITE 210
ARLINGTON, TEXAS 76006
(817) 640-3811 0 FAX (817) 633-6320
www: jkunkel.com

TRANSMITTAL

To: **AFFORDABLE HOUSING CONSTRUCTION
5910 N. CENTRAL EXPRESSWAY
SUITE 1145
DALLAS, TX. 75206**

Date: 01/17/05

ATTENTION: **JOSHUA GRIDER**

Project: **02331**

RE: **ARBOR WOODS**

WE ARE SENDING YOU:

Shop drawings XX
Specifications
Copy of letter Report

Attached
Prints Plans

COPIES	DESCRIPTION
2	SLAB CONCRETE MIX DESIGN

THESE ARE TRANSMITTED as checked below:

For approval	Approved as submitted
For your use	Approved as noted XX
As requested	Return for corrections
For review and comment:	

REMARKS:

COPY: FILE

SIGNED: J. KUNKEL

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

SWH 006154

**Go Crete
Concrete Mix Design**

JANUARY 10, 2005

Customer/Project: Ron Slo Inc.
Harbor Wood Apartments
Hampton & Singleton
Dallas, Texas

Concrete Application: SLAB
Design Specifications: 3000 PSI/4.5 SACK/CS/AD
SLUMP 4" +/- 1"

3000 PSI MIX # GC-230

#Total cementitious material	423	pounds
% fly ash (by wt. of total)	0	%
Pounds coarse agg./yd.	1800	pounds
% coarse agg. #1 of total c.a.	100	%
% coarse agg. #2 of total c.a.	0	%
Air content +/- 1% (including entrapped air)	1.5	%
Gallons water /cu. yd. (s.s.d.)	30.5	gallons
Water reducer dosage /cwt	8.0	ounces/cwt

APPROVED
 APPROVED AS NOTED
 REVISE AND RESUBMIT

I HEREBY APPROVE THIS MIXTURE WITH THE DESIGN CONCEPT OF THE CONTRACT AND I AGREE TO HOLD THE CONTRACTOR HARMLESS IN THE CONTRACT DOCUMENTS, CONDITIONS AND SPECIFICATIONS FOR WORKERS TO BE CONSTRUCTION OF THIS PROJECT. I AGREE TO HOLD THE CONTRACTOR HARMLESS FOR THE WORK OF ALL TRADES.

JERALD W. KUNDEL CONSULTING ENGINEERS, INC.
BY: *[Signature]* DATE: 1/17/05
FOR FOUNDATIONS ONLY.

Materials	Specific Gravities	Weight #		Abs. Vol. 1 Cu. Yd.
		1 Cu. Yd.	SSD	
Cement ASTM C150	3.15	423		2.152
Fly Ash ASTM C618	2.7	0		0.000
#1) 1.0" to #4 Crushed Limestone	2.678	1800		10.772
#2) 3/8" to #8 Pea Gravel	2.65	0		0.000
Natural Sand	2.64	1581		9.600
Water 30.50 gal.	1	254.1		4.072
Admixture: Plastimix Type A or D		33.8	oz.	0.000
Admixture:		0.0	oz.	0.000
* Includes entrapped air		1.5	%	0.405
Admixture		0.0	oz.	0.000
Admixture		0.0	oz.	0.000
Total		4059	lbs.	27.000

Gal. Water / Sack	6.78
Fresh Unit Weight	150.32
Water Cement Ratio ##	0.60
Coarse agg. as % total agg.	0.53
Temperature Range	40 to 95 degrees

Submitted by: *Perry Kakafa*, Technical Services Manager (972)224-5525 ext. 815
We would appreciate receiving the test results from this project.

SWH 006155

CONCRETE MIX DESIGN EVALUATION REPORT (ACI 214) - 28 DAYS

SPECIFIED: **3000 PSI IN 28 DAYS**

MIX # **GC-230**

TEST	DATE	SLUMP	TOTAL AVERAGE: 4278				STANDARD DEVIATION: 414					3 TEST MEAN	STD DEV
			% AIR	CONC TEMP	AIR TEMP	DAY 7 AVG.	DAY 28 A	DAY 28 B	28 DAY AVG	MOVING AVG			
1	03/02/04	5.00		63	70	3040	4300	4200	4250				
2	03/02/04	5.00		65	72	2980	4060	4070	4065	4158			131
3	03/02/04	5.50		68	70	2620	4570	4670	4620	4312	4312	4312	283
4	03/02/04	3.50		68	72	2910	4230	4420	4325	4315	4337	4337	231
5	03/02/04	5.50		65	69	3040	4200	4150	4175	4287	4373	4373	209
6	03/02/04	4.00		65	70	3110	5080	5140	5110	4424	4537	4537	385
7	03/02/04	4.00		63	68	3320	4460	4530	4495	4434	4593	4593	352
8	03/02/04	4.00		65	67	3780	5000	4910	4955	4499	4853	4853	374
9	03/16/04	3.25		74	-	3540	4730	4610	4670	4518	4707	4707	355
10	03/16/04	5.50		69	-	3030	4100	4010	4055	4472	4560	4560	365
11	03/16/04	6.50		67	-	3070	4280	4090	4185	4446	4303	4303	357
12	03/16/04	2.50		67	-	3390	4470	4390	4430	4445	4223	4223	341
13	04/01/04	5.50		72	67	3140	4180	4180	4180	4424	4265	4265	334
14	04/01/04	5.75		68	64	3210	4210	4110	4160	4405	4257	4257	329
15	04/02/04	4.00		80	78	3190	4400	4330	4365	4403	4235	4235	317
16	04/05/04	5.00		73	-	2185	3420	3360	3390	4339	3972	3972	397
17	04/21/04	5.00		84	72	2870	3750	3780	3765	4306	3840	3840	409
18	06/04/04	5.50		84	86	2880	3630	3970	3800	4278	3652	3652	414
19													
20													
21													
22					1.12	x	414	=	464				
23													
24													
25													
26													
27													
28													
29													
30													

$$\begin{aligned}
 & 1.34 \times \text{ACI - 318} \\
 & \quad \quad \quad 464 = 622 \\
 & 3000 + 622 = 3622 \text{ PSI} \\
 & \text{AVERAGE REQUIRED STRENGTH}
 \end{aligned}$$

**Go Crete
Concrete Mix Design**

JANUARY 10, 2005

Customer/Project: Ron Slo Inc.
Harbor Wood Apartments
Hampton & Singleton
Dallas, Texas

Concrete Application: PAVING
Design Specifications: 3000 PSI/4.5 SACK/CS/AD/AIR
SLUMP: 4" +/-1"

Mix Name	3000 PSI MIX # GC-231	
#Total cementitious material	423	pounds
% fly ash (by wt. of total)	0	%
Pounds course agg./yd.	1800	pounds
% coarse agg. #1 of total c.a.	100	%
% coarse agg. #2 of total c.a.	0	%
Air content +/-1% (including entrapped air)	5.0	%
Gallons water /cu. yd. (s.s.d.)	30.5	gallons
Water reducer dosage /cwt	8.0	ounces/cwt

Materials	Specific Gravities	Weight #	Abs. Vol.
		1 Cu. Yd. SSD	1 Cu. Yd.
Cement ASTM C150 Type I/II	3.15	423	2.152
Fly Ash ASTM C618	2.7	0	0.000
#1)1.0" to #4 Crushed Limestone	2.678	1800	10.772
#2)3/8" to #8 Pea Gravel	2.65	0	0.000
Natural Sand	2.64	1426	8.655
Water 30.50 gal.	1	254.1	4.072
Admixture: Plastimix Type A or D		33.8 oz.	0.000
Admixture: ProAir 260		1.0 oz.	0.000
* Includes entrapped air		5.0 %	1.350
Admixture		0.0 oz.	0.000
Admixture		0.0 oz.	0.000

Total 3903 lbs. 27.000

Gal. Water / Sack 6.78
Fresh Unit Weight 144.55
Water Cement Ratio ### 0.60
Coarse agg. as % total agg. 0.56
Temperature Range 40 to 100 degrees

Submitted by: *Perry Kakara*
Perry Kakara, Technical Services Manager (972)224-5525 ext. 815
We would appreciate receiving the test results from this project.

SWH 006157

CONCRETE MIX DESIGN EVALUATION REPORT (ACI 214) - 28 DAYS

SPECIFIED:		3000 PSI IN 28 DAYS						MIX # GC-231					
TOTAL AVERAGE:		3864				STANDARD DEVIATION:							344
TEST	DATE	SLUMP	% AIR	CONC TEMP	AIR TEMP	DAY 7	DAY 28 A	DAY 28 B	28 DAY AVG	MOVING AVG	3 TEST MEAN	STD DEV	
1	04/04	6.25	5.8	76	-	2620	3720	3790	3755	3880	3880	####	
2	05/04	5.00	6.8	-	-	3160	3940	4070	4005	3667	3667	177	
3	05/04	6.00	8.0	-	-	2470	3250	3230	3240	3846	3846	390	
4	05/04	4.50	6.0	-	-	3380	4410	4360	4385	3823	3840	480	
5	05/04	5.00	6.5	-	-	2890	3690	3770	3730	3781	3731	419	
6	05/04	6.00	7.2	-	-	2690	3510	3630	3570	3718	3756	389	
7	05/04	5.50	6.7	-	-	2730	3310	3370	3340	3774	3701	392	
8	05/04	6.00	5.6	74	60	2760	4520	3810	4165	3815	3805	396	
9	05/04	5.00	5.8	71	62	2820	4200	4090	4145	3835	3916	390	
10	05/04	5.00	4.2	77	62	2830	4130	3900	4015	3848	4075	373	
11	05/04	5.50	5.1	74	64	2650	3970	3980	3975	3874	4074	357	
12	05/04	4.75	5.0	75	68	3160	3790	4530	4160	3864	3975	352	
13	05/04	6.00	5.3	75	65	2580	3650	3850	3750	3868	3949	339	
14	05/04	6.00	4.8	76	73	2580	3900	3920	3910	3900	4045	326	
15	05/04	5.00	5.3	74	75	3060	4380	4340	4360	3900	3979	339	
16	05/04	5.25	4.9	75	68	2540	3930	3860	3895	3879	3926	327	
17	06/04	5.00	4.8	89	79	2740	3510	3570	3540	3865	3855	329	
18	06/04	4.75	4.9	88	78	2850	3610	3640	3625	3873	3769	324	
19	06/04	4.50	5.1	85	78	3050	4100	3930	4015	3833	3565	317	
20	07/04	5.00	6.2	93	97	2490	2970	3190	3080	3824	3590	356	
21	07/04	5.00	6.2	88	75	2890	3590	3690	3640	3838	3718	349	
22	08/04	5.75	5.0	91	82	3110	4070	4200	4135	3853	3761	347	
23	08/04	6.00	4.5	91	90	3150	4240	4140	4190	3871	4059	347	
24	08/04	5.75	4.9	93	96	3370	4340	4200	4270	3864	4074	350	
25	08/04	6.25	5.2	98	100	3130	3710	3690	3700	3864	4053	344	
26													
27				1.03	x	344	=	355					
28													
29													
30													

ACI - 318
 1.34 x 355 = 475
 3000 + 475 = 3475 PSI
AVERAGE REQUIRED STRENGTH

MILL CERTIFICATION REPORT

Buzzi Unicem USA, INC

FOR:

ASTM C 150-98
PORTLAND CEMENT
TYPE I /II

Tests of Buzzi Unicem USA TYPE I/II made at our mill laboratory at Maryneal, TX

BIN NO.	12	CONTAINS	
BILL OF LADING		DATE OF MANUFACTURE	12/07/04
		DATE OF SHIPMENT	

PARAMETER	ASTM SPECIFICATION		MILL TEST
CHEMICAL			
SiO2	20.0%	min	21.6
Al2O3	6.0%	max	3.7
Fe2O3	6.0%	max	3.8
MgO	6.0%	max	2.2
SO3	3.0%	max	2.60
LOSS	3.0%	max	0.74
INSOLRES.	0.75%	max	0.42
C3A	8.0%	max	3.3
Equiv. Alk.	0.6%	max	0.56
PHYSICAL			
3-DAY [psi(MPa)]	1740 (12.0)	min	3276
7-DAY [psi(MPa)]	2760 (19.0)	min	3893
EXPANSION	0.80%	max	0.001
BLAINE (m2/kg)	280	min	362
AIR ENTRAINED	12%	max	6.9
TIME OF SETTING			
VICAT	initial	45 min	min
	final	375 min	max
			135
			240

ADDITIONAL

COMMENTS: Type III cement manufactured at Buzzi Unicem USA, Inc. Maryneal plant meets ASTM C150 and Type I AASHTO M-85 specifications.



Go-Crete Concrete
 Technical Services Dept.
 P. O. Box 888
 DeSoto, Tx. 75123-0888
 Tel. 972-224-5525 ext. 815

MATERIALS EVALUATION

Fine Aggregates

Source:	Go-Crete @ Chatfield	Technical Services
Type:	ASTM Natural River Sand	Report: 2004-5
Date:	Received 12/04/04	Date: 12/07/04

ASTM METHOD	TEST DESCRIPTION	TEST RESULTS		ASTM C-33 Specification	TX DOT Spec ITEM 421
		%Retained	%Passing	%Passing	%Passing
C-136	3/8" (9.50 mm) Sieve	0	100	100	100
C-136	#4 (4.74 mm) Sieve	2	98	95-100	95-100
C-136	#8 (2.36 mm) Sieve	15	83	80-100	80-100
C-136	#16 (1.18 mm) Sieve	15	68	50-85	50-85
C-136	#30 (0.60 mm) Sieve	14	55	25-60	25-65
C-136	#50 (0.30 mm) Sieve	29	26	10-30	10-35
C-136	#100 (0.15 mm) Sieve	22	3	2-10	0-10
C-136	Fineness Modulus		2.7	2.3 - 3.1	
C-117	Decant (#200 Sieve Washed)		0.52 %Passing	3.0% Max.	
C-128	Bulk Specific Gravity, SSD		2.64		
C-128	Absorption,		0.80%		
C-29	Unit Weight (Dry Rodded),				
C-29	Unit Weight (Dry Loose),				
C-40	Organic Impurities		Lighter Than Standard		

Roger Gonzalez
 Roger Gonzalez
 Technical Services Department

PRO MIX technologies

STATE OF TEXAS

COUNTY OF COLLIN

TO WHOM IT MAY CONCERN:

This is to certify that **Plastimix MRx** is manufactured under strict quality control conditions by Pro Mix Technologies, P.O. Box 6, Allen, Texas 75013, and that it meets the physical requirements of:

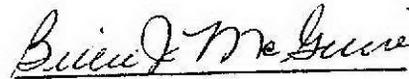
ASTM C-494	Type A
AASHTO M-194	Type A
CRD C-87	Type A

This is also to certify that no chlorides are added during the manufacture of **Plastimix MRx**.

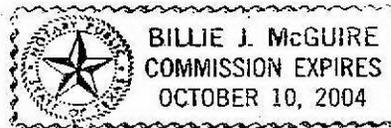


Lew Cook
President

Sworn and subscribed to before me this 16th day of August, 2004.



Notary Public



Pro Mix Technologies

P.O. Box 6, Allen, Texas 75013
www.promixtech.com

1-800-936-7553

SWH 006162

PRO MIX technologies

STATE OF TEXAS

COUNTY OF COLLIN

TO WHOM IT MAY CONCERN:

This is to certify that **ProAir-260** is manufactured under strict quality control conditions by Pro Mix Technologies, P.O. Box 6, Allen, Texas 75013, and that it meets the physical requirements of:

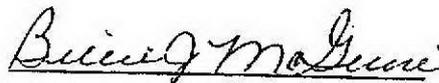
ASTM C-260
AASHTO M-154
CRD C-13

This is also to certify that no chlorides are added during the manufacture of ProAir-260.

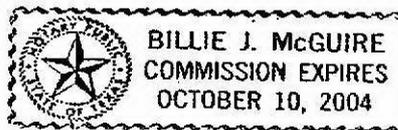


Lew Cook
President

Sworn and subscribed to before me this 16th day of August, 2004.



Notary Public



Pro Mix Technologies P.O. Box 6, Allen, Texas 75013 1-800-936-7553
www.promixtech.com

SWH 006163



**MATERIAL SAFETY DATA SHEET
(MSDS)**

Section I – MATERIAL IDENTIFICATION AND USE

Material name:	Portland Cement Concrete
Chemical Name:	Not applicable
Chemical Family:	Portland Cement Product
Chemical Formula:	Mixture cementitious material aggregates and water
Trade Name & Synonyms:	Ready mixed concrete; concrete
Molecular Weight:	Not applicable
Material Use:	Construction materials

Section II – HAZARDOUS INGREDIENTS OF MATERIAL

Concrete is a mixture of inert gravel or rock, sand, Portland Cement and water. It may also contain chemical admixtures and/or fly ash and/or granulated slag and/or silica fume, which have no effect on the hazards associated with the use of the product. The chemical admixtures are present in quantities comprising less than 1% of the material.

<u>Hazardous ingredients:</u>	<u>%</u>
Portland Cement (CAS 65997-15-1)	10 – 20
Quartz (SiO ₂) (CAS 14808-60-7)	3 – 7
Portlandite (Ca(OH) ₂) (CAS 1305-62-0)	2 – 4

The hazardous ingredients in plastic (wet) concrete cannot become airborne. However, water added to the materials reacts with some of the ingredients to form calcium hydroxide, a corrosive chemical which will irritate the eyes and skin upon contact. Concrete dust from dried Portland Cement Concrete may also contain hazardous ingredients in sufficient concentrations to cause skin, eye, or respiratory irritation.

Section III – PHYSICAL DATA FOR MATERIAL

Physical State:	Plastic until it becomes solid upon setting
Order and Appearance:	Odorless, gray, plastic, flowable and granular
Odor Threshold:	None
Specific Gravity:	Normal range 1.5 to 2.9
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Evaporation Rate:	Not applicable
Boiling Point:	Not applicable
Freezing Point:	(0 degrees C)
Solubility in Water:	0.1%
PH:	pH12 – pH13

Section IV – FIRE AND EXPLOSION HAZARD OF MATERIAL

Not applicable

Section V – REACTIVITY DATA

Not applicable

Section VI – TOXICOLOGICAL PROPERTIES OF MATERIAL

(a) Plastic Concrete
Toxicological Properties
Plastic concrete has an alkalinity level of pH12 to pH13 which can cause skin and eye irritation.

Route Entry:	Skin contact, eye contact, ingestion
Effects of Acute Exposure:	Plastic concrete can cause alkali burns and eye irritation and burns. Ingestion may cause irritation of the throat
Effects of Chronic Exposure:	Damage to the epidermis and dermis (outer layers of skin)

(b) Hardened or "Set" Concrete
Sawing or other demolition techniques may result in exposure to dust which may contain hazardous ingredients of the Constituent products as follows:

Section VI - TOXICOLOGICAL PROPERTIES OF MATERIAL - Cont'd

(i) Portland Cement and Portlandite

Toxicological Properties:

The hazardous ingredients when in contact with water produce calcium hydroxide, with an alkalinity level of pH12 or pH13. This level of alkalinity can cause skin and eye irritation.

Route of Entry:

Skin contact, eye contact, inhalation, and ingestion.

Effects of Acute Exposure:

Cement and wet cement mixtures can dry skin; cause alkali burns and irritates the eyes and the upper respiratory tract. Ingestion can cause inflammation of the throat.

Effects of Chronic Exposure:

Cement dust cause inflammation of the tissue lining, the interior of the nose and the cornea (white) of the eye. Hypersensitive people may develop allergic dermatitis.

Exposure Limits:

O. Reg. 654/86 (8hr TWAEV)*	.10 mg/m3 (total dust)
ACGIH (TLV-8hr TWA)	.10 mg/m3 (total dust)
MSHA (8hr - TWA)	.50 mppcf**
OSHA (PEL 8hr TWA)	.50 mppcf**
* Time Weighted Average Exposure Value (for 8hr day - 40hr week)	
** Million particles per cubic foot	

Portland Cement and Portlandite are not known to constitute a carcinogenic, reproductive, teratogenic, or mutagenic hazards.

(ii) Quartz (SiO₂)

Route of Entry:

Skin contact, eye contact, and inhalation chronic.

Effects of Acute Exposure:

- (1) Chronic exposure to respirable dust at levels exceeding exposure limits has caused pneumoconiosis.
- (2) Chronic exposure to respirable sand and gravel dust containing quartz at levels exceeding exposure limits has caused silicosis, a serious and progressive pneumoconiosis which can be disabling, and in extreme time, even years after exposure has ceased. Symptoms of silicosis may include shortness of breath, difficulty in breathing, coughing, diminished work capacity, diminished chest expansion, reduction of lung volume and right heart enlargement and/or failure. The only reliable method of detecting silicosis is through a chest X-ray. Silicosis may aggravate other chronic pulmonary conditions and may increase the risk of pulmonary tuberculosis infection. Smoking aggravates the effects of silica exposure.

LD50 of Material (Species and Route):	Not applicable
LC50 of Material (Species and Route):	Not applicable

Exposure Limits:

Respirable silica dust - 0.2 mg/meter³ (TWAEV)

TWAEV - Time Weighted Average Exposure Values

For additional information on the above exposure limits, consult Ontario Regulations 654/86 and 769/83, amended 23/87.

Irritancy of Material:

Respiratory system, eyes, skin.

Carcinogenicity, Reproductive Effects, Teratogenicity, Mutagenicity:

As of the date of preparation of the MSDS:

- (1) Sand and gravel is not included on the ACGIH, IARC, NTP or OSHA lists of potential carcinogens.
- (2) Silica, in the form of crystalline Quartz and as a component of this material, is listed as a potential carcinogen by IARC, but not by ACGIH, NTP or OSHA. IARC (International Agency for Research on Cancer) has determined that there is sufficient evidence of carcinogenicity to humans. Limited evidence of carcinogenicity indicates that casual interpretation is credible, but alternate explanations such as chance, bias, or confounding factors could not adequately be excluded. There is no evidence that sand and gravel is a teratogen, mutagen or has a reproductive effect.

Section VII - PREVENTATIVE MEASURES

Personal Equipment:

Use gloves, boots and clothing to prevent skin contact. Wear safety glasses or goggles to prevent contact with eyes. Wear an approved respirator if exposed to dust from hardened concrete when sawing or using other demolition methods.

Engineering Controls (specify):

Provide ventilation when sawing or using other demolition techniques to maintain dust concentrations below exposure limits listed in Section VI. Sweep and shovel into waste disposal containers. Flush with water hose for final clean up of floors, walkways, etc.

Leak and Spill Procedure:

As above.

Handling Procedures and Equipment:

Not applicable

Storage Requirements:

Not applicable

Special Shipping Information:

Section VIII - FIRST AID MEASURES

Wash exposed areas of the body with soap and water. Irrigate eyes with large amounts of water; consult a physician in cases of severe exposure; In case of accidental ingestion, drink two or three glasses of milk, call a physician and do not induce vomiting.

Section IX - PREPARATION DATE OF MSDS

Prepared by:

Ready Mixed Concrete Association of Ontario
325 Eddystone Avenue
Downsview, Ontario M3N 1H8

Updated:

September 2003

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The information contained on this Material Data Safety Sheet is based on hazard information from sources considered technically reliable and has been prepared in good faith in accordance with available information. No warranty, expressed or implied, is made and the supplier will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein.



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 Quality Services Department
 240 Singleton Boulevard Dallas, Texas 75212
 Phone: (214) 651-8020 Fax: (214) 651-1810

MIX DESIGN SUBMITTAL for READY-MIXED CONCRETE

Contractor:	Ron Slo, Inc.	Date:	January 17, 2005
Project:	Arbor Village Apartments		
Mix Design #:	9329		
Specific Use:	Slab on Grade		

MIX DESIGN PARAMETERS			
Minimum Compressive Strength:	3000	psi @ 28 Days	Sack Content: 4.50
Air Content:	1.5%	+/- 1%	Fly Ash Content: 20%
Slump Range (inches):	5	" Maximum	
W/Cm Ratio (lb/lb):	0.61	(6.88 gal/sk)	Theoretical Plastic Unit Weight: 149.3 pcf
Max. / Min. Concrete Temp.:	Ref: ACI 305 / 306		

Southern Star Concrete guarantees this mix design will achieve the specified compressive strength when tested and evaluated in accordance with ASTM C 172, C 31, C 39, C 94 and ACI 318, and when the recommended procedures for placement and curing in ACI 304, 305 / 306 are followed. When used for acceptance testing, strength specimens must be cured in strict accordance with Section 10 of ASTM C 31-03.

MATERIAL REQUIREMENTS					
Materials	ASTM Standards			Weights per Cubic Yard, SSD	
Cement	ASTM C 150	Type	I/II	338	lbs.
Fly Ash	ASTM C 618	Class	C	85	lbs.
				0	lbs.
				0	lbs.
Coarse Aggregate	ASTM C 33	Grade 57	1"	1840	lbs.
				0	lbs.
				0	lbs.
				0	lbs.
Fine Aggregate	ASTM C 33		Sand	1510	lbs.
				0	lbs.
				0	lbs.
Admixture	ASTM C 494	Type	A or D	12.7	oz. WR
				0.0	oz.
				0.0	AS NOTED
				0.0	USE APP. RESUBMIT
Water	ASTM C 94			258	lbs.

In accordance with ACI 318, please forward copies of all concrete test reports to the Quality Services Department at the above address so that we can monitor mix performance and provide data for future projects. Thank you.

Tim Kaiser
 Manager of Quality Services

JERALD W. KUMMEL CONSULTING ENGINEERS, INC.
 BY DATE 1/24/05
 FOR SLAB DESIGN ONLY



Field Test Data

Mix No. 9329

Basis for Selection

Contractor: Various
 Project: Various 2004
 Laboratory: Various

Design Strength: 3000 psi
 Data Represents: 59 Tests
 Data Updated: 01/17/2005

ACI 318; Section 5.3.2.1 (5-1)
 Standard Deviation: 480 psi
 Required Strength: 3643 psi
 Average Strength: 3980 psi

#	Date	Slump	Conc.		7 Day Compressive			28 Day Compressive Strength Data							
			Temp	Air%	Cyl. 1	Cyl. 2	7 Day Avg	Cyl. 1	Cyl. 2	SetAvg	Avg./3	Range	St. Dev.	RunAvg	56 Day
20	05/13/2004	4.50	82	1.7	3150	3030	3090	3860	4290	4080	3480	430	472	3990	
21	05/14/2004	5.00	78		2250	2230	2240	3310	3410	3360	3410	100	480	3960	
22	05/17/2004	5.50	80		2710	2940	2830	3660	3860	3760	3730	200	471	3950	
23	05/17/2004	3.75	85		2460	2480	2470	3870	3760	3820	3650	110	461	3950	
24	05/18/2004	5.00	81		3920	4010	3970	5400	5090	5250	4280	310	523	4000	
25	05/19/2004	5.00	81		2960	3100	3030	3990	4190	4090	4390	200	513	4000	
26	05/19/2004	3.00	84		3080	3030	3060	4030	4100	4070	4470	70	502	4010	
27	05/20/2004	4.75	86	1.6	2320	2450	2390	4930	4830	4880	4350	100	521	4040	
28	05/25/2004	4.00	82	2.0	3010		3010	4330	4460	4400	4450	130	515	4050	
29	05/25/2004	5.00	86	1.8	3070		3070	4430	4220	4330	4540	210	509	4060	
30	05/25/2004	5.00	87	2.2	2680		2680	4200	3890	4050	4260	310	500	4060	
31	05/25/2004	4.75	84		3320	3280	3300	4480	4650	4570	4320	170	500	4080	
32	06/21/2004	5.00	90	2.9	3160		3160	4480	4480	4480	4370	0	497	4090	
33	06/23/2004	5.00	90	1.8	2980		2980	4480	4550	4520	4520	70	495	4100	
34	07/19/2004	5.50	82		2430		2430	3530	3720	3630	4210	190	494	4090	
35	07/19/2004	5.00	93		2050		2050	3280	3200	3240	3800	80	507	4060	
36	08/09/2004	5.00	92		2310		2310	3540	3570	3560	3480	30	507	4050	
37	08/10/2004	4.50	92		2720		2720	3780	3840	3810	3540	60	502	4040	
38	08/11/2004	5.00	84		2510		2510	3660	3510	3590	3650	150	500	4030	
39	08/12/2004	5.00	88		1990		1990	3130	3350	3240	3550	220	510	4010	
40	08/23/2004	5.00	89		2190	2300	2250	3290	3130	3210	3350	160	519	3990	
41	08/27/2004	4.00	95		2810		2810	4280	4200	4240	3560	80	514	4000	
42	08/31/2004	4.75	91		2900	2860	2880	3710	3800	3760	3740	90	509	3990	
43	09/01/2004	5.00	93		3610	3670	3640	4360	4330	4350	4120	30	506	4000	
44	09/02/2004	5.00	96		3730	3800	3770	4740	4770	4760	4290	30	513	4020	
45	09/09/2004	6.75	92	0.8	2630	2620	2630	3480	3510	3500	4200	30	513	4010	
46	09/09/2004	5.00	87		2800	2730	2770	3660	3600	3630	3960	60	510	4000	
47	09/10/2004	5.50	90		3050	2980	3020	3520	3490	3510	3550	30	509	3990	
48	10/08/2004	5.00	86	1.4	2150		2150	3250	3290	3270	3470	40	514	3970	
49	10/12/2004	4.75	74	1.6	3240		3240	4330	4420	4380	3720	90	512	3980	
50	10/13/2004	4.75	76	1.4	2490		2490	3660	3540	3600	3750	120	510	3970	
51	10/14/2004	5.00	60	2.2	2830		2830	4200	4050	4130	4040	150	505	3980	
52	10/15/2004	5.00	79	1.9	2850		2850	3860	3900	3880	3870	40	500	3970	
53	10/18/2004	4.50	70	2.0	3130		3130	4640	4710	4680	4230	70	505	3990	
54	10/19/2004	5.00	74	1.6	2800		2800	3980	3850	3920	4160	130	500	3990	
55	10/20/2004	5.00	77	1.9	2690		2690	3930	3810	3870	4160	120	496	3980	
56	10/21/2004	5.00	88		3070		3070	3950	4020	3990	3930	70	491	3980	
57	10/22/2004	5.00	76	2.1	2530		2530	3810	3550	3680	3850	260	489	3980	
58	10/28/2004	5.00	84	2.3	3100		3100	3980	4000	3990	3890	20	484	3980	
59	11/09/2004	5.50	72	0.6	2600		2600	3890	4030	3960	3880	140	480	3980	



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MIX DESIGN SUBMITTAL for READY-MIXED CONCRETE

Contractor:	Ron Slo, Inc.	Date:	January 17, 2005
Project:	Arbor Village Apartments		
Mix Design #:	9341		
Specific Use:	Slab on Grade		

MIX DESIGN PARAMETERS			
Minimum Compressive Strength:	3000 psi @ 28 Days	Sack Content:	5.00
Air Content:	1.5% +/- 1%	Fly Ash Content:	20%
Slump Range (inches):	5 " Maximum		
W/Cm Ratio (lb/lb):	0.56 (6.29 gal/sk)	Theoretical Plastic Unit Weight:	149.3 pcf
Max. / Min. Concrete Temp.:	Ref: ACI 305 / 306		

Southern Star Concrete guarantees this mix design will achieve the specified compressive strength when tested and evaluated in accordance with ASTM C 172, C 31, C 39, C 94 and ACI 318, and when the recommended procedures for placement and curing in ACI 304, 305 / 306 are followed. When used for acceptance testing, strength specimens must be cured in strict accordance with Section 10 of ASTM C 31-03.

MATERIAL REQUIREMENTS					
Materials	ASTM Standards			Weights per Cubic Yard, SSD	
Cement	ASTM C 150	Type	I/II	376	lbs.
Fly Ash	ASTM C 618	Class	C	94	lbs.
				0	lbs.
				0	lbs.
Coarse Aggregate	ASTM C 33	Grade 57	1"	1840	lbs.
				0	lbs.
				0	lbs.
				0	lbs.
Fine Aggregate	ASTM C 33		Sand	1459	lbs.
				0	lbs.
				0	lbs.
Admixture	ASTM C 494	Type	A or D	14.1	oz. WR
				0	oz.
				0.0	oz.
				0.0	oz.
Water	ASTM C 94			262	lbs.

In accordance with ACI 318, please forward copies of all concrete test reports to the Quality Services Department at the above address so that we can monitor mix performance and provide data for future projects. Thank you.


Tim Kaiser
 Manager of Quality Services

SWH 006169



Field Test Data

Mix No. 9341

Basis for Selection

Contractor: Turner Construction (Wrangler Concrete)
 Project: Jesse Owens Memorial Complex
 Dallas ISD
 Laboratory: Rone Engineers

Design Strength: 3000 psi
 Data Represents: 42 Tests
 Data Updated: 01/17/2005

ACI 318, Section 5.3.2.1 (5-1)
 Standard Deviation: 481 psi
 Required Strength: 3644 psi
 Average Strength: 4650 psi

#	Date	Slump	Conc.	Temp	Air%	7 Day Compressive			28 Day Compressive Strength Data							
						Cyl. 1	Cyl. 2	7 Day Avg	Cyl. 1	Cyl. 2	SetAvg	Avg./3	Range	St. Dev.	RunAvg	56 Day
1	04/19/2004	5.00	78			4000		4000	5580	5420	5500		160		5500	
2	04/20/2004	5.50	74			3650		3650	4900	5010	4960		110	382	5230	
3	04/21/2004	6.25	80			3510		3510	4660	4560	4610	5020	100	448	5020	
4	04/22/2004	5.75	80			3930		3930	5020	4980	5000	4860	40	366	5020	
5	04/23/2004	7.00	80			3030		3030	4820	4680	4750	4790	140	339	4960	
6	04/27/2004	7.00	76			3500		3500	5200	5150	5180	4980	50	316	5000	
7	04/28/2004	5.75	76			3340		3340	4880	4650	4770	4900	230	301	4970	
8	04/30/2004	5.75	82			2790		2790	4230	4400	4320	4760	170	361	4890	
9	05/03/2004	5.00	72			3800		3800	5090	5020	5060	4720	70	342	4910	
10	05/04/2004	4.00	78			3730		3730	4980	4940	4960	4780	40	323	4910	
11	05/05/2004	5.00	82			3630		3630	4520	4720	4620	4880	200	319	4880	
12	05/06/2004	6.75	80			3150		3150	4600	4700	4650	4740	100	311	4870	5500
13	05/07/2004	5.00	80			3700		3700	4870	4940	4910	4730	70	298	4870	
14	05/10/2004	7.00	85			3240		3240	4450	4280	4370	4640	170	316	4830	
15	05/11/2004	7.00	83			3620		3620	4760	4870	4820	4700	110	305	4830	
16	05/11/2004	6.00				3670		3670	5040	4970	5010	4730	70	298	4840	
17	05/13/2004	6.00	83			3610		3610	5060	5240	5150	4990	180	298	4860	
18	05/17/2004	6.50	80			3650		3650	4850	5160	5010	5060	310	291	4870	
19	05/17/2004	6.50	87			3600		3600	4990	4920	4960	5040	70	284	4870	
20	05/18/2004	5.00	90			3270		3270	4520	4520	4520	4830	0	287	4860	
21	05/19/2004	5.25	86			3250		3250	4700	4570	4640	4710	130	284	4850	
22	05/19/2004	3.75	89			3760		3760	5190	5320	5260	4810	130	291	4870	
23	05/20/2004	2.50	89			3330		3330	4340	4530	4440	4780	190	297	4850	
24	05/20/2004	7.00	88			1840		1840	2630	3010	2820	4170	380	506	4760	
25	05/21/2004	6.25	89			2510		2510	3740	3730	3740	3670	10	536	4720	
26	05/24/2004	4.25	90			3350		3350	4940	4910	4930	3830	30	526	4730	
27	05/25/2004	6.25	88			3180		3180	4300	4210	4260	4310	90	524	4710	
28	05/26/2004	6.75	85			3210		3210	4170	4300	4240	4480	130	522	4700	
29	05/27/2004	6.25	82			3180		3180	4350	4530	4440	4310	180	515	4690	
30	06/01/2004	5.00	89			3480		3480	4510	4600	4560	4410	90	506	4680	
31	06/07/2004	6.00	83			2720		2720	4020	4050	4040	4350	30	511	4660	
32	06/11/2004	5.00	82			3210		3210	4740	4680	4710	4440	60	503	4660	
33	06/12/2004	5.00				3110		3110	4240	4470	4360	4370	230	498	4650	
34	06/14/2004	6.50	87			2850		2850	4510	4150	4330	4470	360	493	4640	
35	06/15/2004	5.50	80			3330		3330	4590	4670	4630	4440	80	486	4640	
36	06/16/2004	7.00	83			3020		3020	4230		4230	4400	4230	484	4630	
37	06/17/2004	6.50	87			2930		2930	4100		4100	4320	4100	485	4620	
38	06/21/2004	5.00	94			3180		3180	4450		4450	4260	4450	479	4610	
39	06/22/2004	6.00	89			3460		3460	4840		4840	4460	4840	474	4620	
40	06/23/2004	7.00	83			3660		3660	5120		5120	4800	5120	475	4630	
41	06/24/2004	5.00	86			3320		3320	4650		4650	4870	4650	469	4630	
42	06/25/2004	6.50	85			3910		3910	5470		5470	5080	5470	481	4650	



Concrete Mix Design - City of Dallas

Contractor: Ron Slo, Inc.
 Project: Arbor Village Apartments

Date: 1/17/2005
 Design #: 9375
 Use: Hand Paving

Design Requirements

Mix Description: 6.5 Sack 0 % Fly Ash
 Compressive Strength: 4500 psi @ 28 Days Slump: 4" +/- 1" Air: 3 - 6% Max

Material Sources

<u>Materials:</u>	<u>ASTM</u>	<u>Category</u>	<u>Vendor</u>	<u>Location</u>
Cement:	C 150	Type I/II	Ash Grove Cement	Midlothian, TX
Fly Ash:	C 618	Class C	ISG Resources	Newark, AR
Coarse Aggregate:	C 33	Grade 57 (1"-#4)	Hanson Aggregates	Chico, TX
Fine Aggregate:	C 33	Concrete Sand	Hanson Aggregates	Arena, TX
 <u>Additives:</u>				
AEA:	C 260	Daravair 1000	W.R. Grace	Houston, TX
Water Reducer:	C 494	WRDA w/ Hycol	W.R. Grace	Houston, TX
Retarder:	C 494	Daratard 17	W.R. Grace	Houston, TX

Batch Proportions (One Cubic Yard)

<u>Materials</u>	<u>SSD Weight</u>	<u>Absolute Volume</u>	
Cement	<u>611 lbs</u>	<u>3.11 c.f.</u>	
Fly Ash	<u>0 lbs</u>	<u>0.00 c.f.</u>	1.25:1 Replacement
Coarse Aggregate	<u>1840 lbs</u>	<u>11.04 c.f.</u>	60% Coarse Agg.
Natural Sand	<u>1219 lbs</u>	<u>7.46 c.f.</u>	40% Fine Agg.
Manufactured Sand	<u>0</u>		
Water	<u>252 lbs</u>	<u>4.04 c.f.</u>	0.41 W/Cm Ratio
Water Reducer	<u>19.5 ozs</u>		
AEA	<u>4.2 ozs</u>	<u>1.35 c.f.</u>	
Theo. Unit Weight	<u>145.28 pcf</u>	<u>Total 27.00 c.f.</u>	

Confirmation Tests

<u>Plastic Properties</u>		<u>Compressive Strength (psi)</u>	
		<u>7 Day</u>	<u>28 Day</u>
Slump:	<u>4.09"</u>	Cylinder 1	psi
Air Content:	<u>4.1%</u>	Cylinder 2	psi
Unit Weight:	<u>145.28 pcf</u>	Cylinder 3	psi
83 Field Test Results - <u>Cylinder Average:</u>		<u>4280</u>	<u>psi</u>
		<u>5330</u>	<u>psi</u>



Sieve Analysis

Contractor: Ron Slo, Inc. Date: 1/17/2005
 Project: Arbor Village Apartments

Summary of Results

<u>Fine Aggregate:</u>	<u>Hanson Aggregates from Arena, TX</u>	<u>Tested:</u>	<u>12/07/2004</u>
<u>Sieve Size</u>	<u>* Percent Passing</u>		<u>Specifications</u>
<u>3/8"</u>	<u>100</u>		<u>100</u>
<u>#4</u>	<u>99</u>		<u>95 - 100</u>
<u>#8</u>	<u>86</u>		<u>80 - 100</u>
<u>#16</u>	<u>64</u>		<u>50 - 85</u>
<u>#30</u>	<u>35</u>		<u>25 - 60</u>
<u>#50</u>	<u>12</u>		<u>10 - 30</u>
<u>#100</u>	<u>3</u>		<u>0 - 10</u>
% Passing #200	<u>0.2</u>	by Decantation Method	<u>3.0% Maximum</u>
** Fineness Modulus:	<u>3.02</u>		<u>2.3 - 3.1</u>
Insoluble Residue in Carbonate aggregates:	<u>85</u>		<u>28 Minimum</u>
Specific Gravity (SSD):	<u>2.62</u>		
Absorption:	<u>0.8</u>		

* The difference between the percent passing any two consecutive sieve sizes shall not exceed 45%.
 ** Maximum variation during production: 0.2%

<u>Coarse Aggregate:</u>	<u>Hanson Aggregates from Chico, TX</u>	<u>Tested:</u>	<u>12/13/2004</u>
<u>Seive Size</u>	<u>% Passing</u>	<u>Grade 3</u>	<u>ASTM C 33: Specifications</u>
<u>1 1/2"</u>	<u>100</u>		<u>100</u>
<u>1"</u>	<u>97</u>		<u>95 - 100</u>
<u>1/2"</u>	<u>32</u>		<u>25 - 60</u>
<u>#4</u>	<u>4</u>		<u>0 - 10</u>
<u>#8</u>	<u>1</u>		<u>0 - 5</u>
Specific Gravity (SSD):	<u>2.68</u>		
Absorption:	<u>0.8%</u>		
L.A. Abrasion % Loss:	<u>26.1</u>		<u>45% Maximum</u>
% Passing # 200:	<u>0.88</u>		

ASH GROVE TEXAS L.P.



900 Gifco Road
Post Office Box 520
Midlothian, Texas 76065

Phone: 972-723-2301
Fax: 972-299-5127

Cement Type: I/II

Production Period: November 1, 2004 - November 30, 2004

Date: 12/6/2004

STANDARD REQUIREMENTS ASTM C150-04a

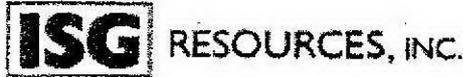
CHEMICAL			PHYSICAL		
Item	Spec. Limit	Test Result	Item	Spec. Limit	Test Result
SiO ₂ (%)	A	20.22	Air content of mortar (volume %)	12 max	7.2
Al ₂ O ₃ (%)	6.0 max	4.75	Fineness (cm ² /g)		
Fe ₂ O ₃ (%)	6.0 max	4.09	(Air permeability)	2800 min	3629
CaO (%)	A		Autoclave expansion (%)	0.80 max	0.00
MgO (%)	6.0 max	1.17	Compressive strength (psi)	Min:	
SO ₃ (%)	3.0 max	2.59	1 Day	A	1367
Loss on ignition (%)	3.0 max	0.94	3 Days	1740	3380
Na ₂ O (%)	A		7 Days	2760	4471
K ₂ O (%)	A		28 Days	A	
Insoluble Residue (%)	0.75 max	0.21	Time of setting (minutes)		
Potential compounds (%)			(Vicat)		
C ₃ S	A	60	Initial	Not less than 45	90
C ₂ S	A	13	Final	Not more than 375	220
C ₃ A	8 max	6			
C ₄ AF	A				
C ₄ AF+2(C ₃ A)	A				

OPTIONAL REQUIREMENTS ASTM C150-04a Tables 2 and 4

CHEMICAL			PHYSICAL		
Item	Spec. Limit	Test Result	Item	Spec. Limit	Test Result
C ₃ S + C ₃ A (%)	A		False set (%)	A	A
Equivalent alkalis (%)	0.60	0.55	Heat of hydration (kJ/kg)		
A = Not applicable.			7 days	A	A
B = Limit not specified by purchaser, test result provided for information only.			Heat of hydration (kJ/kg)		
C = Test results for this period not available.			28 Days	A	A

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirement of the ASTM C150-04a or (other) _____ specification.

Signature: _____
Todd O. Hinton
Title: Quality Control Manager



Headwaters Resources, Inc. certifies that, to the best of its knowledge, the test data listed herein was generated by applicable ASTM methods and meets requirements of ASTM C-618 and AASHTO M-295 and TX. DOT DMS-8900

Report of Fly Ash Independence Plant, Newark, Arkansas Unit #1

DATE: December 3, 2004

LABORATORY NUMBER: ISES-10/11/04
MTRF #2261 1D

COMPOSITE DATE
9/23/04 - 10/11/04

CHEMICAL ANALYSIS

		ASTM C-618-03 SPECIFICATIONS		TX. DOT DMS-8900 SPECIFICATIONS	
		CLASS C	CLASS F	CLASS C	CLASS F
Silicon Dioxide (SiO ₂)	36.85				
Aluminum Oxide (Al ₂ O ₃)	20.69				
Iron Oxide (Fe ₂ O ₃)	5.77				
Sum of SiO ₂ , Al ₂ O ₃ , & Fe ₂ O ₃	63.31	50 Min.	70 Min.	50 Min.	70 Min.
Magnesium Oxide (MgO)	5.62				
Sulfur Trioxide (SO ₃)	1.20	5.0 Max.	5.0 Max.	5.0 Max.	5.0 Max.
Moisture Content	0.10	3.0 Max.	3.0 Max.	2.0 Max.	2.0 Max.
Loss On Ignition	0.07	6.0 Max.	6.0 Max.	3.0 Max.	3.0 Max.
Available Alkalies as Na ₂ O	1.33			1.5 Max.	1.5 Max.
Calcium Oxide (CaO)	23.34				

PHYSICAL ANALYSIS

Fineness: Amount retained on 325 sieve %	17.58	34% Max.	34% Max.	30% Max.	30% Max.
Water Requirement, % Control	95%	105% Max.	105% Max.	100% Max.	100% Max.
Specific Gravity	2.65				
Autoclave Expansion, %	+ 0.02	0.8% Max.	0.8% Max.	0.8% Max.	0.8% Max.
Strength Activity Index With Portland Cement, 7 Day	96%	75% Min.	75% Min.	75% Min.	75% Min.

^A Applicable only when required by purchaser.

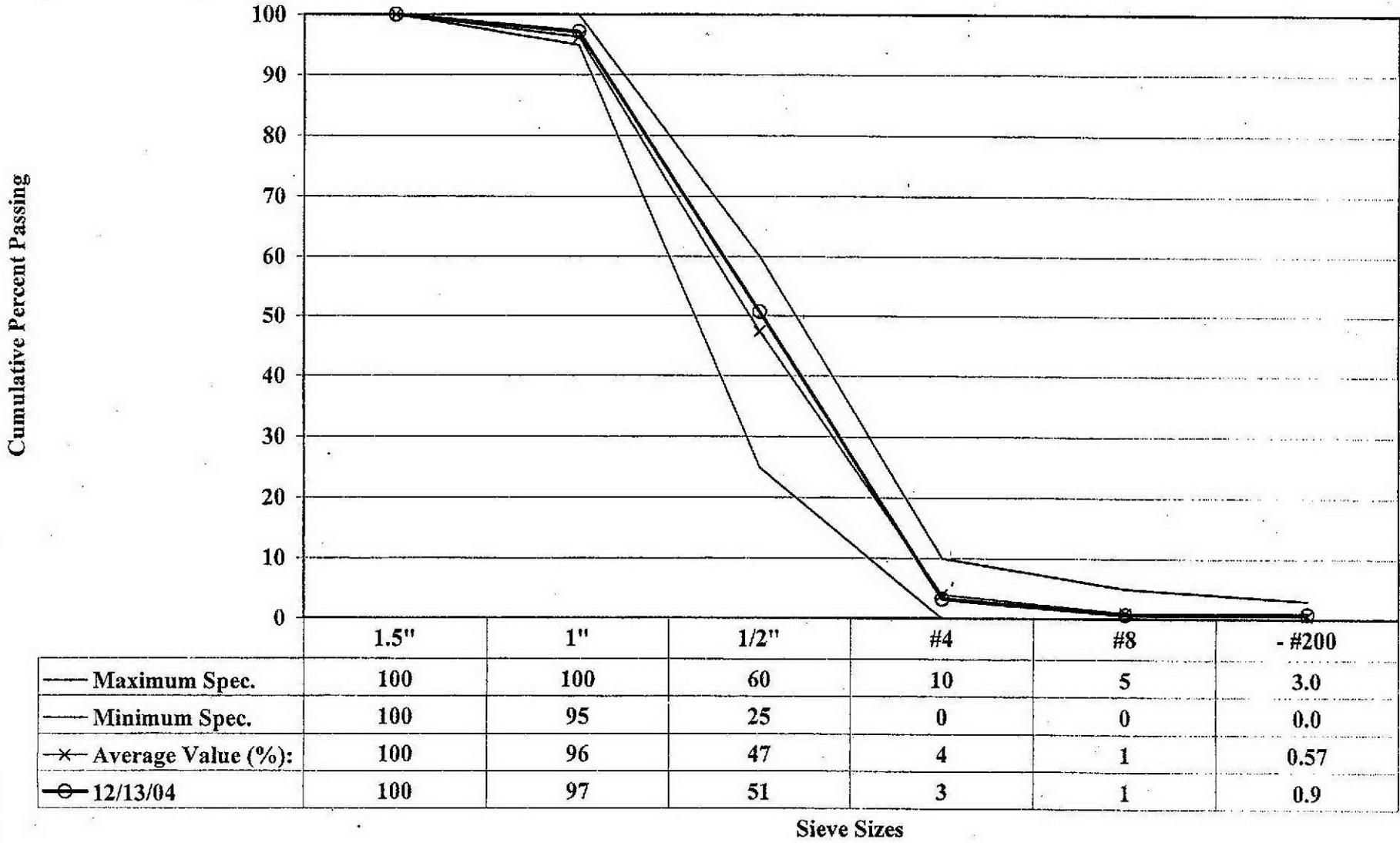
AUTHORIZED SIGNATURE:

A HEADWATERS Company

P.O. Box 38, Thompsons, TX 77481-0038
Phone: (281) 343-0079 Fax: (281) 343-0872



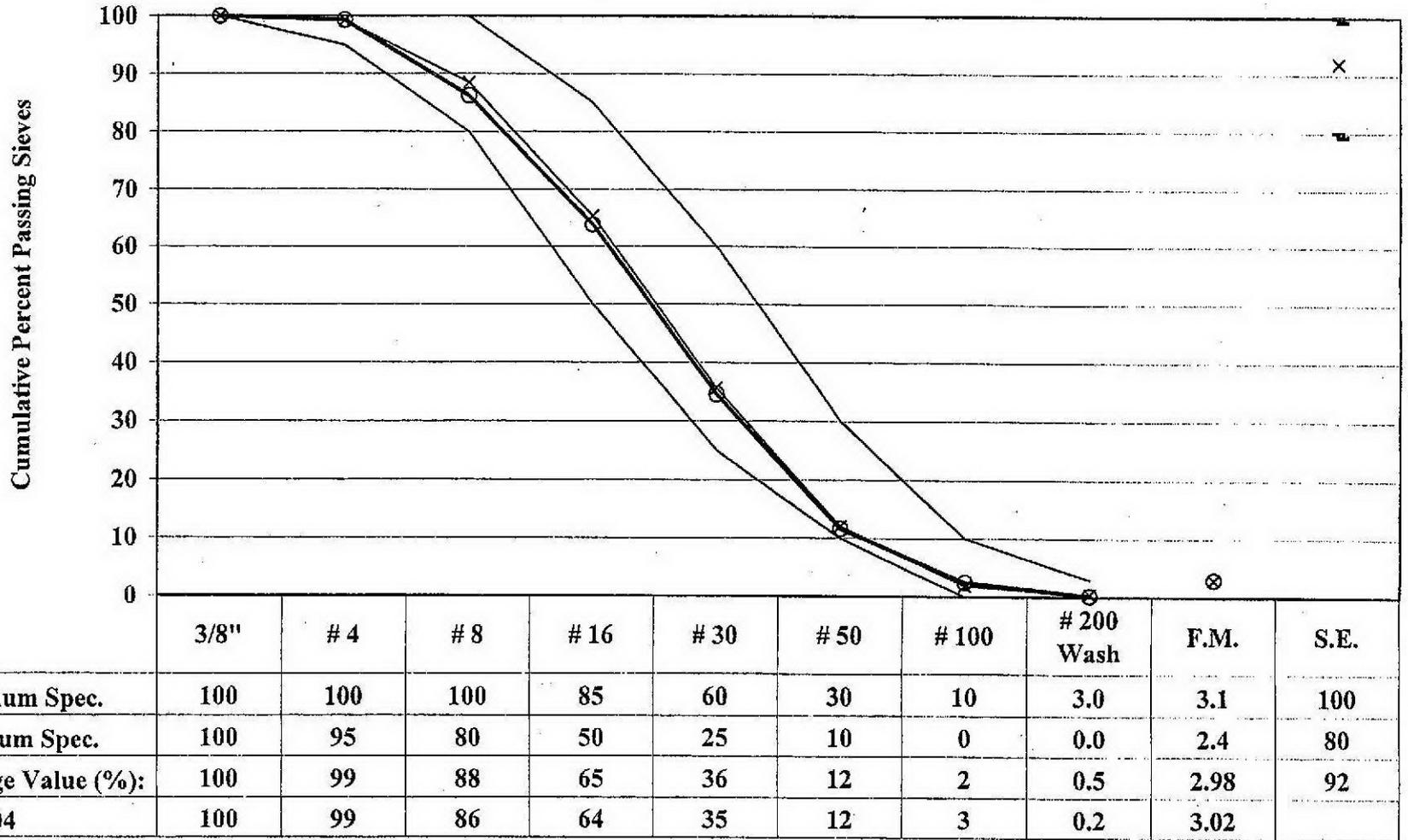
Coarse Aggregate Sieve Analysis 1" Perch Hill



SWH 006176



Fine Aggregate Sieve Analysis Hanson - Arena



Percent Passing Sieves, Compared to Specification

GRACE

Grace Construction Products

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

713-223-8353
<http://www.gcp-grace.com>

January 8, 2004

Southern Star
240 Singleton Blvd
Dallas, TX 75212

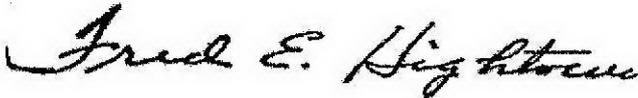
To Whom It May Concern:

This is to certify that **DARAVAIR® 1000**, an air-entraining admixture, as manufactured and supplied by Grace Construction Products, W. R. Grace & Co.-Conn., is formulated to comply with the Specification for Air-Entraining Admixtures for Concrete, ASTM: C 260 (AASHTO M 154).

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

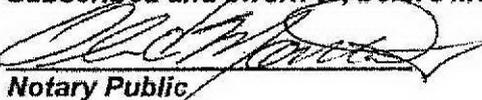
The foregoing is in addition to and not in substitution for our standard Conditions of Sale printed on the reverse side hereof.

Sincerely,



Fred Hightower
Technical Services

Subscribed and sworn to, before me, this 8th day of January, 2004.


Notary Public

My commission expires: 10/2/07



SWH 006178

GRACE

Grace Construction Products

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

713-223-8353
<http://www.gcp-grace.com>

January 8, 2004

Southern Star
240 Singleton Blvd
Dallas, TX 75212

To Whom It May Concern:

This is to certify **WRDA[®] with HYCOL[®]**, a water-reducing admixture, as manufactured and supplied by Grace Construction Products, W. R. Grace & Co.-Conn., is formulated to comply with the Specification for Chemical Admixtures for Concrete, ASTM: C 494, Type A (AASHTO M 194, Type A).

WRDA[®] with HYCOL[®] does not contain calcium chloride or chloride containing compounds as a functional ingredient. Chloride ions may be present in trace amounts contributed from the process water used in the manufacturing.

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

Sincerely,



Fred Hightower
Technical Services

Subscribed and sworn to, before me, this 8th day of January, 2004.


Notary Public

My commission expires: 10/12/07



SWH 006179

GRACE

Grace Construction Products

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

713-223-8353
<http://www.gcp-grace.com>

January 8, 2004

Southern Star
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Dallas, TX 75212

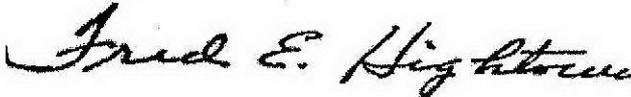
To Whom It May Concern:

This is to certify that **DARATARD[®] 17**, a water-reducing and retarding admixture, as manufactured and supplied by Grace Construction Products, W. R. Grace & Co.-Conn., is formulated to comply with the Specification for Chemical Admixtures for Concrete, ASTM: C 494, Type D (AASHTO M 194, Type D).

DARATARD[®] 17 does not contain calcium chloride or chloride containing compounds as a functional ingredient. Chloride ions may be present in trace amounts contributed from the process water used in the manufacturing.

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

Sincerely,



Fred Hightower
Technical Services

Subscribed and sworn to, before me, this 8th day of January, 2004.


Notary Public

My commission expires: 10/12/07



SWH 006180



Material Safety Data Sheet

SECTION 1 COMPANY AND PRODUCT IDENTIFICATION	
PRODUCT NAME Ready-mix Concrete	Revised: August 2004
SYNONYMS Concrete, cement, mud, & ready-mix	
MANUFACTURER Southern Star Concrete Inc. 8500 Freeport Parkway Suite 200 Irving, Tx 75063	EMERGENCY PHONE NUMBER 972.621.0999 == office 972-342-5511 == 24 hrs

SECTION 2 COMPOSITION & INFORMATION ON INGREDIENTS		
OSHA REGULATORY STATUS N/A		
HAZARDOUS COMPONENTS N/A	CAS NUMBER	% BY WEIGHT
OTHER SIGNIFICANT COMPONENTS	CAS NUMBER	% BY WEIGHT
Aggregate*	Mixture	60-100
Limestone (Calcium Carbonate)	1317-65-3	0-100
Crystalline Silica	14808-60-7	> 1
Portland Cement	65997-15-1	3-40

SECTION 3 HAZARDS IDENTIFICATION
EMERGENCY OVERVIEW Remove all concrete upon contact and flush affected areas with clean water. Seek medical attention if irritation occurs.
PHYSICAL HAZARDS Concentrations of 1% or more of cement, flyash, and silica sand.
PRIMARY ROUTES OF EXPOSURE

Inhalation & Skin Contact

POTENTIAL EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE

Eye Contact: Direct contact with dust may cause irritation by mechanical abrasion.
Skin Contact: Wet concrete in plastic state can dry the skin and cause alkali irritation. Direct contact in dry state may cause irritation by mechanical abrasion.
Skin Absorption: Not expected to be a significant exposure route.
Ingestion: Ingestion of large amounts may cause gastrointestinal irritation and blockage.
Inhalation: Dust may irritate the nose, throat, and respiratory tract by mechanical abrasion. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure levels.

POTENTIAL EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE

Chronic exposure to respirable limestone dust in excess of appropriate exposure limits may cause lung disease. Silicosis may result from excessive exposure to respirable silica dust for prolonged periods. Not all individuals with silicosis will exhibit symptoms. Silicosis is progressive and symptoms can appear at any time, even after exposure has ceased. Symptoms may include shortness of breath, coughing, or right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Tobacco smoking may increase the risk of developing lung disorders, including emphysema and lung cancer.

CARCINOGENICITY

Ready-mix concrete is not listed as a carcinogen by the National Toxicology Program (NTP), OSHA or the International Agency for Research on Cancer (IARC). However, crystalline silica is now classified by the IARC as a known human carcinogen (Group 1). The NTP has characterized respirable silica as "reasonably anticipated to be [a] carcinogen" (Group 2). Prolonged and repeated breathing of silica may cause lung cancer.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Inhaling respirable dust may aggravate existing respiratory system disease(s) and/or dysfunctions such as emphysema or asthma. Exposure may aggravate existing skin and/or eye conditions.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

EYE CONTACT

Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

SKIN CONTACT

Wash skin with soap and water. Contact a physician if irritation persists or later develops.

INGESTION

If person is conscious, give large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Get immediate medical attention.

SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT

N/A

FLAMMABLE LIMITS

N/A

EXTINGUISHING AGENTS

None

UNUSUAL FIRE AND EXPLOSION HAZARDS

Contact with powerful oxidizing agents may cause fire and/or explosions (see Section 9 of this MSDS).

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Spills should be contained and not allowed to enter public waterways. Wet concrete should be removed from roads immediately. Follow personnel protective equipment recommendations in Section 8 of the MSDS sheet.

SPILL AND LEAK PROCEDURES

Spilled materials, where dust can be generated, may overexpose cleanup personnel to respirable silica and dust. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Do not dry sweep spilled material. Flush away with water or break up into manageable sized units.

SECTION 7 HANDLING AND STORAGE

HANDLING PRECAUTIONS

Respirable silica and dust may be generated during processing, handling, and storage. The personal protection and controls identified in Section 8 of the MSDS should be applied as appropriate.

RECOMMENDED STORAGE CONDITIONS

Do not store or handle near food and beverages or smoking materials.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS AND GUIDELINES

COMPONENT & CAS #	OSHA TWA	ACGIH TLV
<u>Calcium Carbonate</u>	5 mg/m ³ , (respirable fraction) 15 mg/m ³ (total dust)	10 mg/m ³ (total dust)
<u>Crystalline Silica SiO₂</u>	(respirable) 10 mg/m ³ ÷ (% SiO ₂ +2), (total dust) 30 mg/m ³ ÷ (% SiO ₂ +2)	10 mg/m ³ ÷ (% SiO ₂ +2)

Portland Cement:	(respirable) 5 mg/m ³ , (total dust) 15 mg/m ³	10 mg/m ³
Other Particulates:	(total particulate, not otherwise regulated) 15 mg/m ³ , (respirable particulate, not otherwise regulated) 5 mg/m ³	10 mg/m ³ (nuisance particulates) 10 mg/m ³ .

ENGINEERING CONTROLS

Ventilation: Local exhaust or general ventilation adequate to maintain exposures below appropriate exposure limits.

RESPIRATORY PROTECTION

When dust or silica levels exceed or are likely to exceed appropriate exposure limits, follow MSHA or OSHA regulations, as appropriate, for use of NIOSH-approved respiratory protection equipment.

EYE PROTECTION

Eyeglasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessive (visible) dust conditions are present or anticipated. Contact lenses should not be worn when working with this product.

SKIN PROTECTION

Protective gloves, shoes and protective clothing should be worn to avoid contact with skin.

ADDITIONAL PROTECTIVE MEASURES

Hygiene: Wash dust-exposed skin with soap and water before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use.
Respirable dust and silica levels should be monitored regularly. Dust and silica levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Light grey viscous semi-solid with dispersed aggregates	SPECIFIC GRAVITY 2.6 – 2.75 H ₂ O = 1.0
COLOR Light grey	EVAPORATION RATE N/A
ODOR N/A	VAPOR DENSITY (AIR = 1) N/A
BOILING POINT N/A	pH 12.0

VAPOR PRESSURE	SOLUBILITY IN WATER
N/A	Not Soluble

SECTION 10 STABILITY AND REACTIVITY

<p>STABILITY</p> <p>Stable, but reaction with acid will liberate heat. Contact with hydrochloric acid will liberate chlorine gas. Avoid contact with incompatible materials.</p>
<p>INCOMPATIBILITY</p> <p>Contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride and oxygen difluoride may cause fire and/or explosion. Silica dissolves in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride. Avoid direct contact with strong acids.</p>
<p>HAZARDOUS DECOMPOSITION PRODUCTS</p> <p>Respirable dust particles may be generated when ready-mix concrete is sawed or ground.</p>
<p>HAZARDOUS POLYMERIZATION</p> <p>Will not occur. No conditions to avoid.</p>
<p>CONDITIONS TO AVOID</p> <p>Powerful oxidizing agents and acid. Extreme heat causes concrete to spall molten particles.</p>

SECTION 11 TOXICOLOGICAL INFORMATION

<p>ACUTE TOXICITY DATA</p> <p>Wet concrete is not known to be toxic. Toxicity related to major components of concrete: cement, fly ash, and silica sand are negated in wet concrete form. The matrix precludes the inhalation of these constituents which could normally be of an occupational safety concern. The admixture and air entraining agents are sulfonate solutions which are not considered toxic.</p>

SECTION 12 ECOLOGICAL INFORMATION

<p>ECOLOGICAL DATA</p> <p>Wet concrete is not considered toxic to the environment. However, negative impact can occur due to hardening concrete and disruption of biological processes if spilled into public waterways. Negative impact can also occur if wet concrete is spilled into sewer or drainage conduits where it can harden and clog the system.</p>
--

SECTION 13 DISPOSAL CONSIDERATIONS

<p>WASTE DISPOSAL</p> <p>Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.</p>

SECTION 14 TRANSPORT INFORMATION	
<i>DOT HAZARD CLASS</i>	
None	
<i>DOT PLACARD</i>	
N/A	

SECTION 15 REGULATORY INFORMATION	
<i>US FEDERAL REGULATIONS</i>	
<i>SARA 313</i>	
None	
<i>CERCLA 103</i>	
None	
<i>RCRA HAZARDOUS WASTE</i>	
None	
<i>STATE REGULATIONS</i>	<i>STATE REGULATORY LIST</i>
<i>COMPONENT</i>	
N/A	N/A

SECTION 16 OTHER INFORMATION	
<i>FOR FURTHER INFORMATION, CONTACT:</i>	
Divisional Environmental or Safety Manager	

NOTICE: Based on research of available data, Southern Star Concrete Inc. believes that the information contained in this Material Safety Data Sheet is accurate. The suggested procedures are based on data and experience as of the date of preparation of the MSDS. The suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements. Southern Star concrete inc.'s voluntary preparation of this MSDS should not be construed, in any way, as an agreement to be subject to OSHA jurisdiction.

