

PROJECT: Sumter Town Green

OWNER: City of Sumter
303 E. Liberty Street
Sumter, SC 29150

ENGINEER: The LandPlan Group South, Inc.
1621 Pickens Street
Columbia, SC 29201

PROJECT #: 0649B

ADDENDUM NO. 2 – January 24, 2014

TO: All holders of contract documents
Acknowledge receipt of this Addendum by inserting its number and date in Document 01140 *BID*, page 2 in the space provided for acknowledging ADDENDA. Failure to do so may subject BIDDER to disqualification. Print this addendum on **GREEN** paper. This addendum forms a part of the Contract Documents.

SPECIFICATIONS:

- **Section 01140- Bid:**
Delete and replace with the attached section dated January 24, 2014, addendum #2.
SECTIONS 3, 7e, 12b, and 19b changed in the schedule of prices.
ITEMS 7e and 19b were increased to account for possible overages.
SECTION 22 was added

- **Section 1250- Measurement and Payment**
Delete in its entirety and replace with the attached section dated January 24, 2014 addendum #2. (The changes listed below were made to this section)

On page 01250-2 in ITEM NO. 3 DEMOLITION “waterproofing” has been removed.

On page 01250-7 and 8 ITEM NO. 22 WATERPROOFING has been added.

- **Section ----- Bituthene 3000 Specification**
This specification has been added to the specifications.

DRAWINGS:

- **Plans:**

On Sheet 3 – Ex Conditions and Demolition Plan:

Demolition of sidewalk along the building on the South side of the project has been modified. Contractor to saw out sidewalk 2' from the building face and remove a portion of the sidewalk. The 2' of sidewalk adjacent to the building is to remain. Building on the north side of the town green to be waterproofed along the full length of the building to a depth of 3' using Bituthene 3000 waterproofing membrane or approved equal. Revised Sheet not included.

Sheet 9 – Grading and Drainage Plan:

A junction box will be installed in place of the 45 degree bend on the 10" drain line near the intersection of Main St. and Liberty St. Revised sheet not included.

On sheet 18- Details:

The 4 brick details on sheet 18 should reference the following brick type to match the existing brick on Main Street. Revised Sheet not included.

Pine Hall, Old Series
OLD TOWNE
Pine Hall Brick Company, Inc.
2701 Shorefair Drive
Winston-Salem, NC 27116-1044
1-800-334-8689
www.pinehallbrick.com

Dale Sistare (local sales representative)
Palmetto Brick Company
P.O. Box 430
Cheraw, SC 29520
843-537-7861
dsistare@palmettobrick.com

AGENDA:

See the attached agenda for the mandatory prebid meeting from January 15, 2014

LIST OF CONTRACTORS:

See the attached list of contractors that were present at the mandatory prebid meeting from January 15, 2014

End of Addendum No. 2

TO: CITY OF SUMTER (hereinafter called "Owner")

FROM: _____

Phone - _____

of the City of _____ County of _____

and State of _____, hereinafter called "Bidder".

PROJECT: ITB #5-13/14
Sumter – Town Green
City of Sumter, SC

Gentlemen:

The Bidder, in compliance with your Advertisement for Bids for the construction of above-referenced project, having examined the Drawings and Specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the Contract Documents, within the time set forth therein, and the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

The Bidder declares that he has carefully examined the site of the proposed Work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed Work, and the difficulties attendant upon its execution, and that he has carefully read and examined the Drawings, the annexed proposed Agreement, and the Specifications and other Contract Documents therein referred to, and knows and understands the terms and provisions thereof.

Bidder understands that information relative to existing structures, apparent and latent conditions, and natural phenomena, as furnished to him on the Drawings, in the Contract Documents, or by the Owner or the Engineer, carries no guarantee expressed or implied as to its completeness or accuracy, and he has made due allowance therefore.

He further understands that the quantities of work tabulated in the Bid are only approximate and are subject to increase or decrease as deemed necessary to the performance of the work by the Engineer; and that these quantities as shown will be used in arriving at the total Contract Price and determination of the lowest Bidder.

TIME FOR COMPLETION AND LIQUIDATED DAMAGES: Bidder hereby agrees to commence work under this contract within 15 days of receipt of the Notice to Proceed and to fully complete the project within 90 consecutive calendar days thereafter.

Bidder also agrees to pay \$250/day as liquidated damages for each consecutive calendar day thereafter as hereinafter provided in the General Conditions.

ADDENDA: Bidder acknowledges receipt of the following Addenda:

Addendum No. _____ Date _____

SCHEDULE OF PRICES – Sumter Town Green Improvements

Item	Description	Quantity	Unit	Unit Price	Price
1	Mobilization	1	LS		
2	Traffic control	1	LS		
3	Demolition	290	SY		
4	Remove and Replace Existing Fill	20	CY		
5	Top Soil	320	CY		
6	Grading, Erosion Control & Inspections	1	LS		
7	Concrete Work				
	a) 4" Concrete Sidewalk	230	SY		
	b) Curb & Gutter	10	LF		
	c) 6" Curb	150	LF		
	d) Flush Curb	230	LF		
	e) 4" Concrete Foundation for Brick Paving	140	SY		

Item	Description	Quantity	Unit	Unit Price	Price
8	4" Thick Granite Fines & Base	475	SY		
9	Recycle Asphalt Surface	840	SY		
10	Concrete Parking Stops	28	EA		
11	Storm Drain Pipe				
	a) 12" RCP	71	LF		
	b) 15" RCP	55	LF		
	c) 10" PVC	228	LF		
12	Drainage Structures				
	a) Drop Inlet Frame & Grate	4	LF		
	b) Junction Box	2	EA		
	c) Conflict Box (if needed)	1	EA		
13	Utility Work (Coordination)	1	LS		
14	Ornamental Lighting with Receptacle Systems	1 1	LS LS		
15	Receptacle System	1	LS		
16	Asphalt Patch	55	SY		
17	Striping	1	LS		
18	Tree Grate and Frame	12	EA		
19	Brick Work				
	a) Single Brick Border	360	LF		
	b) Brick Paving	120	SY		
20	Planting				
	a) Willow Oak	12	EA		
	b) Allee Chinese Elm	6	EA		
	c) Chinese Pistache	4	EA		
	d) Dwarf Buford Holly	37	EA		
	e) Pink Muhly Grass	17	EA		
	f) Forest Pansy Redbud	1	EA		
	g) Centipede/St. Augustine Blend	11,000	SF		
21	Irrigation	1	LS		
22	Waterproofing	410	SF		

TOTAL BASE BID ITEMS 1-21 INCLUSIVE \$

BID ALTERNATE 1

1	2" Type C Asphalt Surface Course	840	SY		
2	Painted Striping	1	LS		
3	Deduct Flush Curb	230	LF		

TOTAL BID ALTERNATE 1 BID ITEMS 1-3 INCLUSIVE \$

Additions to work and deletions from work shall be paid in accordance with these unit prices.

The above unit prices shall include all labor, materials, de-watering, shoring, removal, overhead, profit, insurance, taxes, fees, etc., to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding. The Bidder agrees that this Bid shall be good and may not be withdrawn for a period of 90 calendar days after the scheduled closed time for receiving bids.

Upon receipt of written notice of the acceptance of this Bid, Bidder will execute the formal Agreement attached within 10 days, and deliver Surety Bonds as required by the General Conditions. The bid security attached in the sum of _____ (\$_____) is to become the property of the Owner in the event the Agreement and Bond are not executed within the time above set forth as liquidated damages for the delay and additional expense to the Owner caused thereby.

The undersigned declares that his firm is (delete those not applicable):

A corporation organized and existing under the laws of the State of _____.

A partnership consisting of _____.

The undersigned declares that the person or person signing this proposal is fully authorized to sign the proposal on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof.

It is agreed that no person or persons or company other than the firm listed below or as otherwise indicated hereinafter has any interest whatsoever in this proposal or the contract that may be entered into as a result thereof, and that in all respects the proposal is legal and fair, submitted in good faith, without collusion or fraud.

Respectfully Submitted:

(SEAL - if bid is by a
Corporation)

Contractor

By: _____

(Type/Print Name)

(Title)

(Street Address)

(City, State, Zip)

S.C. General Contractor's License No. _____

(End of Section 01140)

SECTION 01250**MEASUREMENT AND PAYMENT**

GENERAL: The following paragraph establishes the basis for Measurement and payment for the Work to be performed under the respective Bid items listed in the BID, Section 01140UP.

The Bid Price shall constitute full compensation for doing each item of work including all activities and incidentals required for the installation and completion of each item and accordance with the Contract Drawings, Specifications and requirements.

The Bid Price for each item shall be full compensation for the following activities: Furnishing and installing all materials and equipment, including excavation, disposal of surplus excavated or material, backfill, compaction, all necessary sheeting and bracing, dewatering, handling water flows, removing and replacing base and pavement outside the limits of demolition, property corners, signs, fences, shrubs, lawns, water lines, gas lines, storm drain lines and storm drainage structures, maintenance of drives and streets and protection of power and communication lines. The price shall also constitute full compensation for all barricades, lighting and flagmen as required for the protection of the public and public property.

Each price stated in the BID shall constitute full compensation for each completed item of work.

SUMTER – TOWN GREEN**ITEM NO. 1 MOBILIZATION**

The Lump Sum Bid for mobilization shall include:

- 1) The establishment of all temporary offices, buildings, fencing, staging areas, haul routes, and other facilities necessary for the work on the project;
- 2) Surveying and construction staking;
- 3) Performance bond, labor and materials bond;
- 4) General Liability Insurance; and
- 5) All other work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site.

The mobilization cost will be paid with the first pay request and shall be limited to 7% of the total contract amount.

Payment, at the amount stated, will be full compensation for the work satisfactorily completed.

ITEM NO. 2 TRAFFIC CONTROL

The Lump Sum Bid for traffic control shall include all costs for material, labor, coordination with City of Sumter to provide traffic control throughout the life of the project in accordance with SCDOT standards.

The traffic control cost shall be pro-rated equally, by month, over the length of the project.

Payment, at the pro-rated amount, will be full compensation for the work satisfactorily completed.

ITEM NO. 3 DEMOLITION

The Unit Price Bid for demolition shall include, but not be limited to), all costs for furnishing labor and equipment for the complete removal, salvage, and disposal of existing material necessary for the installation of concrete sidewalk, tree grates, granite fines, drainage, water and sewer work, recycle asphalt parking, and brick paving. Demolition work includes removal and disposal of misc. items, concrete sidewalk, asphalt paving, brick paving, structures, drainage grates, posts, poles, trees, shrubs, and incidental items necessary to install new work. Demolition work shall be performed in accordance with Specification Section 02050, DEMOLITION AND REMOVAL. This item does not cover (minor demolition) preparing areas that are currently grassed or planted that will eventually have pavement. Preparing these areas should be included in the Unit Price for the finished surfaces.

Measurement will be on a square yard basis of the demolition work accomplished at each location.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEM NO. 4 REMOVE AND REPLACE EXISTING FILL

The Unit Price Bid shall include all costs for furnishing all materials, labor and equipment to remove and replace existing dirt in isolated areas deemed not acceptable by a geotechnical engineer. The bid price is for removal of existing material on site. Placement of dirt shall be placed per the plans and specifications. Also included in this unit price will be for geotechnical services to verify unsuitable areas and compaction reports for replaced fill material.

Measurement will be on a cubic yard basis of material removed and placed using same material in compacted lifts.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEM NO. 5 TOP SOIL

The Unit Price Bid shall be full compensation for the cost of off-site top soil borrow and hauling to stockpiles on-site. Sub-grade preparation, placing and rolling of topsoil as required by the plans and specifications in all landscape areas shall be included in Lump Sum Bid Item No. 4.

Topsoil borrow measurement shall be made by the cubic yard, truckload volume, of topsoil delivered to the site. Topsoil shall be a minimum of 6" thick uniformly placed.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEM NO. 6 GRADING EROSION CONTROL AND INSPECTIONS

The Lump Sum Bid for grading, erosion control and SCDHEC required inspections shall include all costs for furnishing all materials, labor, and equipment to grade the existing site to install the work shown at the location shown on the drawings, provide erosion control, compaction testing and inspections as required by the SCDHEC and maintenance of erosion control measures until the SCDHEC Notice of Termination is accepted. The Bid Price shall also include all preparation costs, including but not necessarily limited to compaction, and disposal of any excess materials.

Payment, at the prorated amount, will be full compensation for the work satisfactorily completed.

ITEM NO. 7 (a-e) CONCRETE WORK

The Unit Price Bid for concrete work shall include all costs for furnishing all materials, labor, and equipment to install concrete slab at the locations on the drawings and in CAST-IN-PLACE CONCRETE. The Bid Price shall also include all preparation costs, including but not necessarily limited to, excavation, grading, forming, reinforcing, compaction, and disposal of any excess materials.

Measurement will be on a square yard or linear basis of the completed concrete work.

Payment at the Unit Price Bid will be full compensation for the work satisfactorily completed.

ITEM NO. 8 GRANITE FINES

The Unit Price Bid for granite fines shall include all costs for furnishing all materials, labor, and equipment to install granite fines and base at the locations on the drawings. The Bid Price shall also include all preparation costs, including but not necessarily limited to, excavation, base compaction, grading, top course compaction, and disposal of any excess materials.

Measurement will be on a square yard basis of the completed granite fine surface.

Payment at the Unit Price Bid will be full compensation for the work satisfactorily completed.

ITEM NO. 9 RECYCLED ASPHALT PARKING

The Unit Price Bid for recycled asphalt parking shall include all costs for installing (city will supply material, but contractor must pick up material from city facility), and furnishing all other materials, labor, and equipment to install recycled asphalt and base at the locations on the drawings. The Bid Price shall also include all preparation costs, including but not necessarily limited to, excavation, base compaction, grading, top course compaction, and disposal of any excess materials.

Measurement will be on a square yard basis of the completed recycled asphalt parking.

Payment at the Unit Price Bid will be full compensation for the work satisfactorily completed.

ITEM NO. 10 CONCRETE PARKING STOPS

The Unit Price Bid for Concrete Parking Stops shall include all costs for furnishing labor, equipment, materials and maintenance for installation as indicated on the drawings and in accordance with the specifications.

Measurement will be for concrete parking stops in place, and accepted.

Payment, at the Unit Price bid, will be full compensation for the work satisfactorily completed.

ITEM NO. 11 (a,b & c) STORM DRAIN PIPE

The Unit Price Bid for installing drain pipes indicated on the drawings shall include the costs for furnishing and installing the drain pipe lines as well as the costs of trench excavation, disposal of excess excavated material off-site, sheeting and bracing, dewatering, removal and disposal of existing storm drainage pipes indicated in the drawing, locating, avoiding, and working around existing utilities. The Contractor shall also include the cost for coordination of relocating utilities with utility owners and other associated administrative expenses. Hauling of fill materials, filling of ditches as shown in details, backfilling, compaction, grading, drain line bends, and all other work associated with the requirements for the pipe installation shall also be included.

Measurement for drain pipe lines shall be in linear feet along the center line of the pipe as measured horizontally from the inside face of the outlet drainage structure to the inside face of the inlet drainage structure. This will reflect the actual length of pipe installed. Drain pipe lines without drainage structure inlet or outlet shall be measured to the end of the pipe.

Payment at the Unit Price Bid will be full compensation for the work satisfactorily completed.

ITEM NO. 12 (a-c) DRAINAGE STRUCTURES

The Unit Price Bid for drainage structures shall include furnishing the materials, labor and equipment, as well as the cost, including but not necessarily limited to, for excavation, tie-ins of shoring, dewatering, backfilling, compaction, and disposal of any excess material, in the installation of drop inlets and junction boxes at the locations specified on the drawings and in accordance with Specification Section 02454, STRUCTURES and SCDOT standards. Frames and covers are to be included in the Unit Bid price.

The method of measurement will be the number of catch basins, drop inlets, and junction boxes installed.

Payment, at the Unit Price Bid, will be full compensation for each item of work satisfactorily completed.

ITEM NO. 13 UTILITY WORK COORDINATION

The Lump Sum Bid for utility work shall include (but not be limited to), all cost for coordinating the installation of utility work with The City of Sumter Utilities Department staff and Duke Power. Work shall also include adjusting tops of clean outs, water meters, backflow preventers, etc., power meter, conduits, hand holes, etc. to match proposed grades. Water meters and backflow preventers are to be provided by the city.

Payment, at the amount stated, will be full compensation for the work satisfactorily completed.

ITEM NO. 14 ORNAMENTAL LIGHTING WITH RECEPTACLE SYSTEMS

The Lump Sum bid for installation of ornamental lights with electrical outlets, poles, bases, conduit and electrical wiring to the existing electrical pedestal and receptacles at the locations shown and in accordance with the National Electric Code. The City shall provide the pole and fixture. The bidder shall include all costs for electrical design, trenching, conduit, wiring, pole-mounted GFI receptacles, raceway conduit, service, foundation, extra circuit wire, millbank, power pedestal, coordination with duke power for connections, equipment, surface restorations, and ancillary items associated with a fully functioning lighting and receptacle system and in coordination with Duke Power.

Measurement will be on a lump sum basis of the lighting and receptacle installed.

Payment, at the lump sum bid, will represent full compensation for the satisfactory completion of the work.

ITEM NO. 15 RECEPTACLE SYSTEM

The Lump Sum bid for installation of electrical poles, bases, conduit and electrical wiring to the existing electrical pedestal and receptacles at the locations shown and in accordance with the National Electric Code. The bidder shall include all costs for electrical design, trenching, conduit, wiring, GFI receptacles, raceway conduit, service, foundation, extra circuit wire, power pedestal, coordination with Duke Power for connections, equipment, surface restorations, and ancillary items associated with a fully functioning lighting and receptacle system and in coordination with Duke Power.

Measurement will be on a lump sum basis of the lighting and receptacle installed.

Payment, at the lump sum bid, will represent full compensation for the satisfactory completion of the work.

ITEM NO. 16 ASPHALT PATCH

The Unit Price Bid for asphalt paving patch shall include all costs for furnishing labor, equipment, and materials for saw cutting, excavating, grading, preparing the subsurface, installing new stabilized aggregate base material, flowable fill, prime coat, asphaltic concrete binder, tack coat, and asphaltic concrete surface course as indicated on the drawings and in accordance with the specifications.

Measurement will be on a square yard basis of the asphalt patch.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed

ITEM NO. 17 STRIPING

The Unit Price Bid for this item shall include costs for pavement striping and marking, to include but is not limited to parking lines, handicap markings, directional arrows, crosswalks, stop lines and lane striping on the new pavement as shown and as directed by SCDOT and the Owner.

Measurement will be on completed striping installed.

Payment at the Unit Price Bid will be full compensation for satisfactorily installing striping.

ITEM NO. 18 TREE GRATE AND FRAME

The Unit Price Bid for Tree Frame and Grate shall include all costs for furnishing labor, equipment, materials and maintenance for installation as indicated on the drawings and in accordance with the specifications.

Measurement will be for tree frame and grates in place, and accepted.

Payment, at the Unit Price bid, will be full compensation for the work satisfactorily completed.

ITEM NO. 19 (a-b) BRICK WORK

The Unit Price Bid for all brick work shall include (but not limited to), all cost for furnishing all material, labor and equipment required for the installation of brick in accordance with the drawings and specifications including detailing as shown in the drawings. The price shall also include the installation of the sand cement setting bed and sand swept joints.

Measurement will be on a linear foot basis for single brick border course and square yard basis for brick paving.

Payment will constitute full compensation for the work satisfactorily completed and accepted.

ITEM NO. 20 (a-g) PLANTING

The Unit Price Bid for planting shall include costs for furnishing all labor, equipment and materials including planting mixtures for providing and installing the plant material at the locations shown on the drawings and in accordance with the specifications. The Contractor also shall include topsoil, planting mix, weed fabric and hardwood mulch in the bid price. Top soil and mulch shall be added to areas shown and labeled as mulch.

Measurement will be on an each basis for plant material installed.

Payment, at the Unit Price Bid, will be full compensation for the work satisfactorily completed.

ITEM NO. 21 IRRIGATION

The Lump Sum Bid for items under irrigation shall include costs for all labor, equipment, and material for installing the individual items at the locations on the Drawings and in accordance with the details and specifications. The price shall also include the service line to the irrigation system and backflow preventer using the existing water line and meter provided by the city.

Payment, at the Lump Sum Bid, will be full compensation for all work satisfactorily completed.

ITEM NO. 22 WATERPROOFING

The Unit Price Bid for items under waterproofing shall include costs for all labor, equipment, and material for installing the individual items at the locations on the Drawings and in accordance with the details and specifications. The waterproofing material to be Bituthene 3000 Waterproofing membrane or approved equal.

Measurement will be on a square foot basis of the completed waterproofing of the northern building adjacent to the town green.

Payment at the Unit Price Bid will be full compensation for the work satisfactorily completed.

The City of Sumter has the right to delete this item of work from scope of the project.

BID ALTERNATE 1 (1-3)

The Unit Price Bid for asphalt surface course shall include all costs for installing and furnishing all other materials, labor, and equipment to install asphalt surface course at the parking lot. The Bid Price shall also include all preparation costs, including but not necessarily limited to, surface course compaction and disposal of any excess materials.

The Unit Price Bid for this item shall include costs for pavement striping and marking, to include but is not limited to parking lines.

The Unit Price Bid for deduct of flush curb shall include all costs for installing and furnishing all other materials, labor, and equipment to install flush curb at the parking lot. The Bid Price shall also include all preparation costs, including but not necessarily limited to, disposal of excess material.

Measurement for asphalt surface course will be on a square yard basis of the completed asphalt surface course.

Measurement for painted striping will be on a lump sum basis of the completed work.

Measurement for deduct of flush curb will be on a linear foot basis of the completed work.

Payment at the Unit Price Bid for each item will be full compensation for the work satisfactorily completed.

BITUTHENE® 3000 AND BITUTHENE LOW TEMPERATURE

Self-adhesive, rubberized asphalt/polyethylene waterproofing membranes for basements and sub-structures

Description

Bituthene® 3000 and Bituthene Low Temperature are self-adhesive, rubberized asphalt/polyethylene waterproofing membranes used in basements and sub-structures.

Advantages

- **Waterproof**—high hydrostatic head resistance
- **Cross laminated film**—provides dimensional stability, high tear strength, puncture and impact resistance
- **Cold applied**—no flame hazard; self-adhesive overlaps ensure continuity
- **Chemically resistant**—provides effective external protection against aggressive soils and ground water
- **Flexible**—accommodates minor settlement and shrinkage movement
- **Controlled thickness**—factory made sheet ensures constant, non-variable site application
- **Wide application window**—
 - Bituthene Low Temperature surface and ambient temperatures between 25°F (-4°C) and 60°F (16°C)
 - Bituthene 3000 surface and ambient temperatures at 40°F (5°C) or above

- **Ripcord® split release on demand**—faster application in the straight-aways, ease of membrane positioning in detailed areas

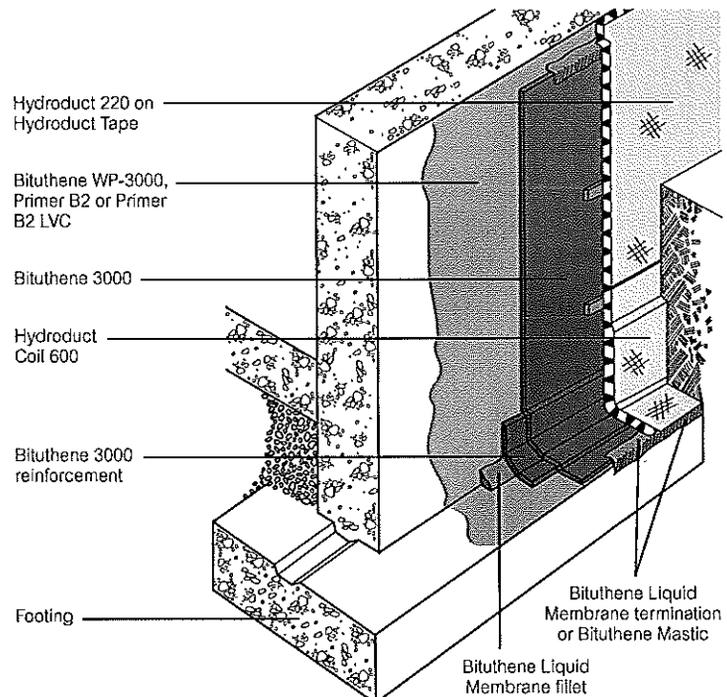
Use

Bituthene is ideal for waterproofing concrete, masonry and wood surfaces where in-service temperatures will not exceed 130°F (54°C). It can be applied to foundation walls, tunnels, earth sheltered structures and split slab construction, both above and below grade. (For above grade applications, see *Above Grade Waterproofing Bituthene 3000 and Bituthene Low Temperature.*)

Bituthene is 1/16 in. (1.5 mm) thick, 3 ft (0.9 m) wide and 66.7 ft (20 m) long and is supplied in rolls. It is unrolled sticky side down onto concrete slabs or applied onto vertical concrete faces primed with Bituthene Primer WP-3000, Primer B2 or Primer B2 LVC. Continuity is achieved by overlapping a minimum 2 in. (50 mm) and firmly rolling the joint.

Product Advantages

- Waterproof
- Cross laminated film
- Cold applied
- Chemically resistant
- Flexible
- Controlled thickness
- Wide application window
- Ripcord split release on demand



Drawings are for illustration purposes only.
Please refer to graceconstruction.com for specific application details.

Bituthene is extremely flexible. It is capable of bridging shrinkage cracks in the concrete and will accommodate minor differential movement throughout the service life of the structure.

Application Procedures

Safety, Storage and Handling Information

Bituthene products must be handled properly. Vapors from solvent-based primers and mastic are harmful and flammable. For these products, the best available information on safe handling, storage, personal protection, health and environmental considerations has been gathered. Material Safety Data Sheets (MSDS) are available at graceconstruction.com and users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and the MSDS before use.

Surface Preparation

Surfaces should be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions. Remove contaminants such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Concrete must be properly dried (minimum 7 days for normal structural concrete and 14 days for lightweight structural concrete).

If time is critical, Bituthene Primer B2 or Bituthene Primer B2 LVC may be used to allow priming and installation of membrane on damp surfaces or green concrete. Priming may begin in this case as soon as the concrete will maintain structural integrity. Use form release agents which will not transfer to the concrete. Remove forms as soon as possible from below horizontal slabs to prevent entrapment of excess moisture. Excess moisture may lead to blistering of the membrane. Cure concrete with clear, resin-based curing compounds which do not contain oil, wax or pigment. Except with Primer B2 or Primer B2 LVC, allow concrete to thoroughly dry following rain. Do not apply any products to frozen concrete.

Repair defects such as spalled or poorly consolidated areas. Remove sharp protrusions and form match lines. On masonry surfaces, apply a parge coat to rough concrete block and brick walls or trowel cut mortar joints flush to the face of the concrete blocks.

Temperature

- Apply Bituthene 3000 Membrane only in dry weather and at air and surface temperatures of 40°F (5°C) and above.
- Apply Bituthene Low Temperature Membrane only in dry weather and when air and surface temperatures are between 25°F (-4°C) and 60°F (16°C).
- Apply Bituthene Primer WP-3000 in dry weather above 40°F (5°C).

- Apply Bituthene Primer B2 in dry weather above 25°F (-4°C). (See separate product information sheet.)

Priming

- Apply Bituthene Primer WP-3000 by spray or roller at a coverage rate of 500–600 ft²/gal (12–15 m²/L). Allow to dry one hour or until concrete returns to original color.
- Apply Bituthene Primer B2 by a lamb's wool roller at a coverage rate of 250–350 ft²/gal (6–8 m²/L). Allow primer to dry one hour or until tack-free.
- Apply Bituthene Primer B2 LVC by a lamb's wool roller at a coverage rate of 325–425 ft²/gal (7.5–10 m²/L). Allow primer to dry one hour or until tack free.
- Dry time may be longer in cold temperatures. Reprime areas if contaminated by dust. If the work area is dusty, apply membrane as soon as the primer is dry.
- **Do not apply any primer to Bituthene membrane.**

Corner Details

The treatment of corners varies depending on the location of the corner. For detailed information on Bituthene Liquid Membrane, see separate product information sheet.

- At wall to footing inside corners—
 - Option 1:** Apply membrane to within 1 in. (25 mm) of base of wall. Treat the inside corner by installing a ¾ in. (20 mm) fillet of Bituthene Liquid Membrane. Extend Bituthene Liquid Membrane at least 2½ in. (65 mm) onto footing, and 2½ in. (65 mm) onto wall membrane.
 - Option 2:** Treat the inside corner by installing a ¾ in. (20 mm) fillet of Bituthene Liquid Membrane. Apply 12 in. (300 mm) wide strip of sheet membrane centered over fillet. Apply wall membrane over inside corner and extend 6 in. (150 mm) onto footing. Apply 1 in. (25 mm) wide troweling of Bituthene Liquid Membrane over all terminations and seams within 12 in. (300 mm) of corner.
- At footings where the elevation of the floor slab is 6 in. (150 mm) or more above the footing, treat the inside corner either by the above two methods or terminate the membrane at the base of the wall. Seal the termination with Bituthene Liquid Membrane.

Joints

Properly seal all joints with waterstop, joint filler and sealant as required. Bituthene membranes are not intended to function as the primary joint seal. Allow sealants to fully cure. Pre-strip all slab and wall cracks over ¼ in. (1.5 mm) wide and all construction and control joints with 9 in. (230 mm) wide sheet membrane strip.

Application on Horizontal Surfaces

(Note: Preprufe[®] pre-applied membranes are strongly recommended for below slab or for any application where the membrane is applied before concreting. See Preprufe product information sheets.)

Apply membrane from the low point to the high point so that laps shed water. Overlap all seams at least 2 in. (50 mm). Stagger all end laps. Roll the entire membrane firmly and completely as soon as possible. Use a linoleum roller or standard water-filled garden roller less than 30 in. (760 mm) wide, weighing a minimum of 75 lbs (34 kg) when filled. Cover the face of the roller with a resilient material such as a ½ in. (13 mm) plastic foam or two wraps of indoor-outdoor carpet to allow the membrane to fully contact the primed substrate. Seal all T-joints and membrane terminations with Bituthene Liquid Membrane at the end of the day.

Protrusions and Drains

Apply membrane to within 1 in. (25 mm) of the base of the protrusion. Apply Bituthene Liquid Membrane 0.1 in. (2.5 mm) thick around protrusion. Bituthene Liquid Membrane should extend over the membrane a minimum of 2½ in. (65 mm) and up the penetration to just below the finished height of the wearing course.

Vertical Surfaces

Apply membrane in lengths up to 8 ft (2.5 m). Overlap all seams at least 2 in. (50 mm). On higher walls apply membrane in two or more sections with the upper overlapping the lower by at least 2 in. (50 mm). Roll all membrane with a hand roller.

Terminate the membrane at grade level. Press the membrane firmly to the wall with the butt end of a hardwood tool such as a hammer handle or secure into a reglet. Failure to use heavy pressure at terminations can result in a poor seal. A termination bar may be used to ensure a tight seal. Terminate the membrane at the base of the wall if the bottom of the interior floor slab is at least 6 in. (150 mm) above the footing. Otherwise, use appropriate inside corner detail where the wall and footing meet.

Membrane Repairs

Patch tears and inadequately lapped seams with membrane. Clean membrane with a damp cloth and dry. Slit fishmouths and repair with a patch extending 6 in. (150 mm) in all directions from the slit and seal edges of the patch with Bituthene Liquid Membrane. Inspect the membrane thoroughly before covering and make any repairs.

Drainage

Hydroduct[®] drainage composites are recommended for both active drainage and protection of the membrane. See Hydroduct product information sheets.

Protection of Membrane

Protect Bituthene membranes to avoid damage from other trades, construction materials or backfill. Place protection immediately in temperatures above 77°F (25°C) to avoid potential for blisters.

- On vertical applications, use Hydroduct 220 Drainage Composite. Adhere Hydroduct 220 Drainage Composite to membrane with Hydroduct Tape. Alternative methods of protection are to use ¼ in. (6 mm) asphalt impregnated board or 1 in. (25 mm) extruded polystyrene. Such alternatives do not provide positive drainage to the system. Adhere protection board with an adhesive or Hydroduct Tape.
- In mud slab waterproofing, or other applications where positive drainage is not desired and where reinforced concrete slabs are placed over the membrane, the use of ¼ in. (6 mm) hardboard or 2 layers of ⅛ in. (3 mm) hardboard is recommended.

Insulation

Always apply Bituthene membrane directly to primed or conditioned structural substrates. Insulation, if used, must be applied over the membrane. Do not apply Bituthene membranes over lightweight insulating concrete.

Backfill

Place backfill as soon as possible. Use care during backfill operation to avoid damage to the waterproofing system. Follow generally accepted practices for backfilling and compaction. Backfill should be added and compacted in 6 in. (150 mm) to 12 in. (300 mm) lifts.

For areas which cannot be fully compacted, a termination bar is recommended across the top termination of the membrane.

Placing Steel

When placing steel over properly protected membrane, use concrete bar supports (dobies) or chairs with plastic tips or rolled feet to prevent damage from sharp edges. Use special care when using wire mesh, especially if the mesh is curled.

Approvals

- City of Los Angeles Research Report RR 24386
- U.S. Department of Housing and Urban Development (HUD) HUD Materials Release 628E

Warranty

Five year material warranties covering Bituthene and Hydroduct products are available upon request. Contact your Grace sales representative for details.

Technical Services

Support is provided by full time, technically trained Grace representatives and technical service personnel, backed by a central research and development staff.

Supply

Bituthene 3000 or Bituthene Low Temperature	3 ft x 66.7 ft roll (200 ft ²) [0.9 m x 20 m (18.6 m ²)]
Roll weight	83 lbs (38 kg) gross
Palletization	25 rolls per pallet
Storage	Store upright in dry conditions below 95°F (+35°C).
Ancillary Products	
Bituthene WP-3000	5 gal (18.9 L) pail/24 pails per pallet
Bituthene Primer B2	5 gal (18.9 L) pail/48 pails per pallet
Bituthene Primer B2 LVC	5 gal (18.9 L) pail/48 pails per pallet
Bituthene Liquid Membrane	1.5 gal (5.7 L) pail/100 pails per pallet or 4 gal (15.1 L) pail/24 pails per pallet
Hydroduct Tape	1 in. x 200 ft (2.5 cm x 61.0 m) roll/6 rolls per carton
Bituthene Mastic	Twelve 30 oz (0.9 L) tubes/carton or 5 gal (18.9 L) pail/36 pails per pallet

Equipment by others: Soft broom, utility knife, brush or roller for priming

Physical Properties for Bituthene Membrane

Property	Typical Value	Test Method
Color	Dark gray-black	
Thickness	1/16 in. (1.5 mm) nominal	ASTM D3767—method A
Flexibility, 180° bend over 1 in. (25 mm) mandrel at -25°F (-32°C)	Unaffected	ASTM D1970
Tensile strength, membrane, die C	325 lbs/in. ² (2240 kPa) minimum	ASTM D412 modified ¹
Tensile strength, film	5,000 lbs/in. ² (34.5 MPa) minimum	ASTM D882 modified ¹
Elongation, ultimate failure of rubberized asphalt	300% minimum	ASTM D412 modified ¹
Crack cycling at -25°F (-32°C), 100 cycles	Unaffected	ASTM C836
Lap adhesion at minimum application temperature	3000: 4 lbs/in. (700 N/m) Low Temp: 5 lbs/in. (880 N/m)	ASTM D1876 modified ²
Peel strength	9 lbs/in. (1576 N/m)	ASTM D903 modified ³
Puncture resistance, membrane	50 lbs (222 N) minimum	ASTM E154
Resistance to hydrostatic head	200 ft (60 m) of water	ASTM D5385
Permeance	0.05 perms (2.9 ng/m ² sPa) maximum	ASTM E96, section 12—water method
Water absorption	0.1% maximum	ASTM D570

Footnotes:

1. The test is run at a rate of 2 in. (50 mm) per minute.
2. The test is conducted 15 minutes after the lap is formed and run at a rate of 2 in. (50 mm) per minute at 40°F (5°C).
3. The 180° peel strength is run at a rate of 12 in. (300 mm) per minute.

www.graceconstruction.com

For technical assistance call toll free at 866-333-3SBM (3726)

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We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate and is offered for the users' consideration, investigation and verification, but we do not warrant the results to be obtained. Please read all statements, recommendations or suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation or suggestion is intended for any use which would infringe any patent or copyright. W. R. Grace & Co.—Conn., 62 Whittemore Avenue, Cambridge, MA 02140. In Canada, Grace Canada, Inc., 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.

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BIT-210F Printed in U.S.A. 9/08

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GRACE

Sumter Town Green
City of Sumter, SC
Pre-Bid Meeting
January 15, 2014 - 2:00 PM

- I) Introductions
- II) Sign in Sheet
- III) Review Project
 - A) Addendums – You must be on the bidder list to receive addendums
 - B) Addendum #1 (Electrical, pipe size change, etc.)
 - C) Funding Sources (Quality of Life)
 - D) Asphalt millings available at: 303 E. Liberty St
 - E) Access to the site, and preventing damage (parking lot / Main St)
 - F) Bid alternate (asphalt parking)
 - G) Lighting, City Purchase, Contractor designed and build lighting & receptacle system
 - H) Laydown yard (location?)
 - I) Utility coordination with Duke Energy
 - J) Last day for questions: Friday, January 24, 2014
- IV) Questions & Answers
- V) Schedule of Bid - bids due January 29, 2014 at 2pm, 303 E. Liberty St.
(same location as this meeting)

Plans (hardcopy) are available for \$100.00 - checks made payable to "City of Sumter"

Or, free of charge on-line at: <ftp://landplansouth.com>

User name: sumtertowngreenbid

Password: SumterITB#5 (case sensitive)

Sumter Town Green
City of Sumter, SC

Mandatory Pre-Bid Conference
January 15, 2014 - 2:00 pm

Name	Company	Phone / Fax	Email address
Mark Martin Rick Hill	Thompson Turn	803 847 4134	mmartin@thompsonind.com
Billy Carlisle	Smock Irrigation	803-773-3400	smockirrigation@fci.net
Brock McDaniel	C.O.S	803-847-7967	bmcDaniel@sumter-sc.com
Art Hill	C.O.S	803-505-2122	Ahill@sumter-sc
Teacy Smith	J. Moore Electrical	803-568-4734	
Brian Squires	J.F.	803-968-0300	bsquires@jfscontractors.com
Gene Hill	C.B.P. Inc	803-353-2861 803-353-3155	gene@CBPSC.com
Pam Cox	TCO Construction	803-495-4420	pcox@teconstruction.com
James Gregory	Cherokee Inc	803 776 4870 803 776 5507	jgregory@cherokee-sc.com
Diane Rusting	AOS	803-798-6231 fax 798-6696	dianm@aoss.org

Sumter Town Green
City of Sumter, SC

Mandatory Pre-Bid Conference
January 15, 2014 - 2:00 pm

Name	Company	Phone / Fax	Email address
✓ Josh Thompson	C.N.A	803-495-8988	Betsy@FTC-T.net
✓ Ray Goodman	C.O.S	803-983-1583	rgoodman@sumter-sc.com
Goliath Brunson	C.O.S	968-5721	gbrunson@sumter-sc.com
Rich Pring	C.O.S	803 436 2672	rpring@sumter-sc.com
Howie Owens	C.O.S.	(803)607-8222	howens@sumter-sc.com
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CRAIG SIMMONS	Charles Smith Co.	803/469-7207 469-7062	CSIMMONSE@tc.net
Charles Smith	"	"	"
RICHARD GOODWIN	L-L, INC	803 929 1181 929 7625	RGOODWIN@L-L-INC.COM
MARK SCHIMMOELLER	Southern VISTAS INC	803-256-0554 FAX 256-0554	MARK@SOUTHERN VISTASINC.COM