I-16 Laurens & Truetlen Counties, GA
29.727 Miles of Concrete Pavement Rehabilitation, Milling, Inlay and Ramp Reconstruction on I-16/SR 404 Beginning at SR 26 and Extending to SR 29

Bid Date: October 19, 2012
Completion Date: June 30, 2015

$55,873,422.52

1,188,466 SY of CTB & Pavement Interlayer Fabric
491,747 SY of 11” PCCP
626,000 SY of Should Paving Alternates of RCC, Asphalt & PCCP (RCC was the alternate used in our bid)
• I-16 and I-95 Main Corridors to the Port in Savannah & Brunswick
• Heavy Truck Traffic
• Major Tourist Route to the Golden Isles in the Summer
• New Distribution Centers Developing Along I-16 Corridor
10 Inch Plain Cement Concrete Pavement

1963 Plans
• Project was bid with RCC shoulders, APAC submitted a proposal to change to PCC.

• GADOT PCC Shoulder Specification used, which specifies GAB as the aggregate. Our proposal modified the specification to allow the use of recycled concrete for the GAB.
• Transverse contraction joints are un-doweled, but the construction joints are doweled.

• The RCC alternate specified un-sealed transverse joints every 30’ to match the existing inside lane. APAC proposed PCC shoulders be jointed every 15’.

• GADOT issued a change order to seal all of the shoulder joints.
• Adjoining Bleckley-Laurens Counties project completed prior to this project was 15 miles long.

• Used FDR and fabric interlayer for the first time on an Interstate.

• Shoulders were RCC.
• GADOT chose FDR with cement because they felt it would give them a good base, but they still wanted something to be a separator and slight cushion.

• GDOT used econocrete under concrete pavements in the 80’s but had some instances of cracking, so there was concern of the FDR base being too hard also.

• During Scanning Tour in Germany saw fabric used between cement treated base and slabs.
“Special” Mystery Fabric

Previous I-16 Bleckley-Laurens County Project
9" PCCP (Recycled Aggregate)

9" ROLLER COMPACTED CONCRETE

GDOT SAFETY EDGE
DETAL P-7

PAVEMENT INTERLAYER FABRIC

4-FT. ASPH SHLDR - REMOVE

NEW 10 FT INSIDE PAVED SHLDR

LANE 1
12 FT

LANE 2
12 FT

EXISTING 10 FT OUTSIDE PAVED SHLDR

2%

Slab Repair & Diamond Grinding

8" CEMENT TREATED BASE COURSE

EASTBOUND DIRECTION SHOWN
WESTBOUND DIRECTION SIMILAR

--- - EXISTING PAVEMENT
----- - NEW CONSTRUCTION
Existing 9”-10” Jointed PCCP on 6” of soil cement.

GADOT increased pavement thickness to 11” to get 40 year life.

Old soil cement was already eroded some (based on faulting seen).
Maximum closure length of 3 miles
Crushing Operation at Dykes Construction Property
(Slabs from Previous Bleckley-Laurens Project)
Crushing Operation at Plantsite No. 1
168,000 tons of concrete will be crushed and used in the shoulders.
FDR with cement had previously been used on a county road, decided to use it on the first I-16 project in Bleckley & Laurens Counties.
Original Design Required 55 LBS/SY - 8” Depth

GADOT Changed to 65 LBS/SY - 12” Depth
This is to certify that Mirafi® 1450BB Bond Breaker is a needlepunched nonwoven composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. Mirafi® 1450BB Bond Breaker is an interlayer for separating cementitious pavement layers on unbonded concrete overlays. Mirafi® 1450BB Bond Breaker is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.

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<thead>
<tr>
<th>Mechanical Properties</th>
<th>Test Code</th>
<th>Test Method</th>
<th>Minimum Average Roll Value</th>
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<td>WIDE WIDTH @ ULTIMATE (MD)</td>
<td>WWMD</td>
<td>ASTM D4595</td>
<td>684 LBS/FT 10 KN/M</td>
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<td>ALKALI RESISTANCE</td>
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11” CJA with 1-1/2” x 18” Dowels @ 12” c.c.

15-Foot Joint Spacing
Plantsite #No. 1 at Exit 49
11” Outside Lane-GADOT 430 Spec. 600 psi Flex Design & 3,000 psi Compressive Acceptance

9” PCC Shoulder GADOT 440 Spec. 400 psi Flex Design & 2,000 psi Compressive Acceptance
• Shoulder Mix Using Recycled Concrete Averaging 4,800 PSI @ 28 Days
• PCCP Mainline Mix Averaging 5,600 PSI @ 28 Days
• Outside Lane Averaging 3,500 LF/Day

• Averaging less than 1” per mile on Rainhart Profilograph
APAC-Tennessee, Inc.,
Ballenger Paving Division

Greenville, SC