

Memorandum



Date: June 4, 2019

To: Honorable Chairwoman Audrey M. Edmonson
and Members, Board of County Commissioners

Agenda Item No. 8(N)(8)

From: Carlos A. Gimenez
Mayor

A handwritten signature in black ink, appearing to read "Carlos A. Gimenez".

Subject: Resolution Approving Recommendation for Award of an Emergency Miscellaneous Construction Contract 7360 Plan - RPQ Number: 394585-B for Emergency Acoustical Barrier Replacement - Phase 2 Removal Project, to Ebsary Foundation Co., in the Amount of \$2,448,000.00 and Authorizing the Use of People's Transportation Plan Bond Program Funds For Such Purposes

Recommendation

This Recommendation for Award of an Emergency Miscellaneous Construction Contract (MCC) 7360 Plan - RPQ Number: 394585-B for Emergency Acoustical Barrier Replacement - Phase 2 Removal Project, to Ebsary Foundation Co., in the amount of \$2,448,000.00, has been prepared by the Department of Transportation and Public Works (DTPW) and is recommended for approval pursuant to Section 2-8.2.7.01 of the Miami-Dade County (County) Code.

This contract award recommendation is placed for Board of County Commissioners (Board) review pursuant to County Code Section 29-124(f). This request may only be considered by the Board if the Citizens' Independent Transportation Trust (CITT) has forwarded a recommendation to the Board prior to the date scheduled for Board consideration or 45 days have elapsed since the filing with the Clerk of the Board of this contract award recommendation. If the CITT has not forwarded a recommendation and 45 days have not elapsed since the filing of this award recommendation, I will request a withdrawal of this item.

Delegated Authority

The authority of the County Mayor or County Mayor's designee to execute and implement this contract is consistent with those authorities granted under the County Code. No further delegation is necessary for this contract.

Scope

PROJECT NAME: Emergency Acoustical Barrier Replacement - Phase 2 Removal

PROJECT NO: CIP168

CONTRACT NO: Emergency MCC 7360 Plan - RPQ Number: 394585-B

PROJECT

DESCRIPTION: DTPW solicited emergency construction services through the County's Emergency Response Team (ERT) Pool under the MCC Program to remove all concrete hollow core Type "B" acoustical panels attached to the drip line of the Miami Metrorail Guideway from Span 901, which is west of the Earlington Heights Station to abutment AB-1381-NS, which is east of the SR-826/Palmetto Expressway. This does not include the Metrorail extension to the Miami International Airport.

This emergency solicitation complies with Implementing Order 3-53 Section 2(D) as an unforeseen or unanticipated urgent and immediate need for construction services where the protection of life, health, safety, welfare of the community or the preservation of public property would not be possible using any of the County's standard contracting methods.

PROJECT LOCATION: Span 901, which is west of the Earlington Heights Station to abutment AB-1381-NS, which is east of the SR-826/Palmetto Expressway

PRIMARY COMMISSION DISTRICT: Various Districts

PROJECT SITES:	<u>SITE #</u>	<u>LOCATION</u>	<u>DISTRICT</u>	<u>AMOUNT</u>
	3001335	Various	Various	\$2,448,000.00

APPROVAL PATH: Board of County Commissioners

USING DEPARTMENT: Department Transportation and Public Works

MANAGING DEPARTMENT: Department Transportation and Public Works

Fiscal Impact/Funding Source

FUNDING SOURCES: People's Transportation Plan Bond Program

OPERATIONS COST IMPACT/FUNDING: N/A

MAINTENANCE COST IMPACT/FUNDING: N/A

PTP FUNDING: Yes

GOB FUNDING: No

CAPITAL BUDGET PROJECTS:	<u>CAPITAL BUDGET PROJECT # - PROJECT NAME</u>	<u>AMOUNT</u>
	CAPITAL BUDGET PROJECT NO. 6710900 METRORAIL – TRACK AND GUIDEWAY PROJECTS FY 2018-19 Adopted Budget and Multi-Year Capital Plan, Vol 2. Transportation and Public Works	\$2,448,000.00

**SUSTAINABLE
BUILDINGS ORDINANCE:** N/A
(I.O NO. 8-8)

**TOTAL CONTRACT
PERIOD:** 220 Calendar Days

**ESTIMATED
NOTICE TO PROCEED:** 06/10/2019

**IG FEE INCLUDED IN
BASE CONTRACT:** Yes

ART IN PUBLIC PLACES: No

BASE ESTIMATE: \$2,249,095.48

**BASE CONTRACT
AMOUNT:** \$2,180,000.00

CONTINGENCY ALLOWANCE (SECTION 2-8.1 MIAMI DADE COUNTY CODE):	TYPE	PERCENT	AMOUNT
	Renovation	10%	\$218,000.00

**DEDICATED ALLOWANCE
FOR POTENTIAL
STRUCTURAL
DAMAGE REPAIRS:** \$ 50,000.00

TOTAL AMOUNT: \$2,448,000.00

Track Record/Monitor

**SBD HISTORY OF
VIOLATIONS:** None

EXPLANATION: The DTPW contacted contractors through the County's ERT Pool under the MCC Program for emergency construction services to remove the remaining concrete hollow core Type "B" acoustical panels attached to the drip line of the Miami Metrorail Guideway on April 30, 2019.

Two bids were received on May 3, 2019. DTPW staff reviewed the bids for responsibility and responsiveness. It was determined that Ebsary Foundation Co., was the lowest responsive and responsible bidder with a bid submittal amount of \$2,448,000.00 (inclusive of a 10 percent contingency allowance account in the amount of \$218,000.00 and a dedicated allowance account in the amount of \$50,000.00 for potential structural damage repairs).

The contractor's bid was reviewed by the DTPW staff and Atkins North America, Inc. (Atkins), the Engineer of Record and it was determined that the low bid was fair and reasonable. Finally, as part of the award process, the DTPW staff compiled information regarding the Contractor's past experience with the County. Ebsary Foundation Co. has ten evaluations in the Capital Improvements Information System with an average rating of 3.9 points out of a possible 4.0 points. Therefore, the DTPW recommends that this contract be awarded to Ebsary Foundation Co.

SUBMITTAL DATE: May 3, 2019

CONTRACTOR: Ebsary Foundation Co.

COMPANY EMAIL ADDRESS: scott@ebsaryfoundationco.com

COMPANY STREET ADDRESS: 2154 NW North River Drive

COMPANY CITY-STATE-ZIP: Miami, FL 33125

YEARS IN BUSINESS: 88

PREVIOUS CONTRACTS WITH COUNTY IN THE LAST FIVE YEARS: According to the Firm History Report provided by the Internal Services Department, within the last five years, Ebsary Foundation Co. has held 11 contracts with Miami-Dade County (County) with a total value of \$29,585,470.57.

DUE DILIGENCE: Due diligence was conducted in accordance with the Internal Services Department's Procurement Guidelines to determine contractor responsibility, including verifying corporate status. There were no adverse findings related to contractor responsibility. This information is being provided pursuant to Resolution No. R-187-12.

In addition, due diligence was conducted in accordance with Directive No. 182536 by the DTPW's Office of Safety and Security to determine contractor responsibility, including verifying corporate safety records. There were no adverse findings related to contractor responsibility. This information is being provided pursuant to Resolution No. R-1181-18.

MINIMUM QUALIFICATIONS EXCEED LEGAL REQUIREMENTS: N/A

**APPLICABLE
WAGES
(RESOLUTION
NO. R-54-10):**

Yes - Building Construction

**REVIEW
COMMITTEE
ASSIGNED
CONTRACT
MEASURES:**

<u>TYPE</u>	<u>GOAL</u>
SBE-Construction	N/A
CWP	Not Applicable

**MANDATORY
CLEARING
HOUSE:**

Yes

**CONTRACT
MANAGER:**

Leticia Smith (786) 469-5291 lcsmith@miamidadade.gov

**PROJECT
MANAGER:**

Ronald Wilson (305) 889-6704 rwilson@miamidadade.gov

BACKGROUND:

The Type "B" acoustical barriers have deteriorated through the years and are nearing the end of their life expectancy. Additionally, Type "B" barrier construction material issues have been recently reported by DTPW's consultant, Atkins North America, Inc. (Atkins) to have low concrete strengths that may cause horizontal cracking (weak axis) to the point of triggering sudden failures due to stresses even within their expected design loading capacity; particularly during/after severe weather events.

DTPW has removed hundreds of barriers within the last several years when signs of possible failure were found (horizontal cracking). There have also been a few incidents related to this condition, one on July 2018, in which a Type "B" acoustical barrier failed and leaned towards the train tracks, where it was struck by a rail vehicle causing vehicle damage and system delays. This incident's location was just south of the Metrorail Vizcaya Station. An evaluation of the incident by Atkins concluded that failures of these panels is difficult to predict and can be sudden (see attached).

As a result, the DTPW recommended that all Type "B" acoustical barriers be removed as quickly as possible. Subsequently, on July 2018 a declaration of emergency was issued, for the immediate removal of all Metrorail Type "B" (concrete) acoustical barriers system-wide. Phase 1 work awarded to Maytin Engineering Corp. is ongoing for removal of the Type "B" panels from the Metrorail guideway that runs mostly along US-1 (SR-5) from AB-1-NS (beginning of Metrorail system at Dadeland South Station) to abutment AB-555-NS (north of the Metrorail Viscaya Station).

Most recently in April 2019, while DTPW continued removal of these barriers, another incident occurred similar to that of 2018 described above. It is important to note that Type "B" acoustical barriers will continue to fail imminently and without any particular pattern. In order to continue removing these barriers in an expedited manner and with

multiple crews working concurrently, Phase 2 was divided in two subphases "A" and "B" which will cover the remaining metrorail legacy guideway starting at Brickell, moving north through Downtown Miami and all the way to the northern terminus of the Metrorail system east of the SR-826 Palmetto expressway. The award of these subphases "A" and "B" completes the final phase for removal of the Type "B" panels system-wide.

Last, DTPW is working on replacing the acoustical barriers with lighter materials to avoid similar issues in the future. A consultant work order is being processed for the final design, testing and prototype of the new acoustical barrier system.

DEPARTMENT
FINANCE:



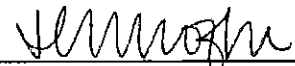
DTPW FINANCE OFFICER

5/6/19
DATE

INDEX CODE(S):

MTCIP168ACOU

BUDGET
APPROVAL *AK*
FUNDS AVAILABLE: *AK*



OMB DIRECTOR

5/6/19
DATE

APPROVED AS TO
LEGAL
SUFFICIENCY:



COUNTY ATTORNEY

5/6/19
DATE

DEPARTMENT OF TRANSPORTATION
AND PUBLIC WORKS CONCURRENCE:



DIRECTOR, DTPW

5-7-19
DATE

APPROVED PURSUANT TO
SECTION 2-8.1 OF THE
MIAMI-DADE COUNTY
CODE:



DEPUTY MAYOR

5-8-19
DATE

CLERK:

DATE



MEMORANDUM
(Revised)

TO: Honorable Chairwoman Audrey M. Edmonson
and Members, Board of County Commissioners

DATE: June 4, 2019

FROM: Abigail Price-Williams
County Attorney

SUBJECT: Agenda Item No. 8(N)(8)

Please note any items checked.

- "3-Day Rule" for committees applicable if raised
- 6 weeks required between first reading and public hearing
- 4 weeks notification to municipal officials required prior to public hearing
- Decreases revenues or increases expenditures without balancing budget
- Budget required
- Statement of fiscal impact required
- Statement of social equity required
- Ordinance creating a new board requires detailed County Mayor's report for public hearing
- No committee review
- Applicable legislation requires more than a majority vote (i.e., 2/3's present ____, 2/3 membership ____, 3/5's ____, unanimous ____, CDMP 7 vote requirement per 2-116.1(3)(h) or (4)(c) ____, CDMP 2/3 vote requirement per 2-116.1(3)(h) or (4)(c) ____, or CDMP 9 vote requirement per 2-116.1(4)(c)(2) ____) to approve
- Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required

Approved _____ Mayor
Veto _____
Override _____

Agenda Item No. 8(N)(8)
6-4-19

RESOLUTION NO. _____

RESOLUTION APPROVING AWARD OF EMERGENCY MISCELLANEOUS CONSTRUCTION CONTRACT 7360 PLAN – RPQ NUMBER: 394585-B FOR THE EMERGENCY ACOUSTICAL BARRIER REPLACEMENT – PHASE 2 REMOVAL PROJECT, TO EBSARY FOUNDATION CO. IN THE AMOUNT OF \$2,448,000.00 AND AUTHORIZING THE USE OF PEOPLE’S TRANSPORTATION PLAN BOND PROGRAM FUNDS FOR SUCH PURPOSES

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board approves the award of Emergency Miscellaneous Construction Contract (MCC) 7360 Plan – RPQ Number: 394585-B for the Emergency Acoustical Barrier Replacement – Phase 2 Removal Project to Ebsary Foundation Co. in the amount of \$2,448,000.00 and authorizes the use of People’s Transportation Plan Bond Program funds for such purposes. A copy of the contract documents is on file with and available upon request from the Manager of the Capital Improvements Section of the Department of Transportation and Public Works.

The foregoing resolution was offered by Commissioner _____, who moved its adoption. The motion was seconded by Commissioner _____ and upon being put to a vote, the vote was as follows:

Audrey M. Edmonson, Chairwoman

Rebeca Sosa, Vice Chairwoman

Esteban L. Bovo, Jr.

Jose "Pepe" Diaz

Eileen Higgins

Joe A. Martinez

Dennis C. Moss

Xavier L. Suarez

Daniella Levine Cava

Sally A. Heyman

Barbara J. Jordan

Jean Monestime

Sen. Javier D. Souto

The Chairperson thereupon declared this resolution duly passed and adopted this 4th day of June, 2019. This resolution shall become effective upon the earlier of (1) 10 days after the date of its adoption unless vetoed by the County Mayor, and if vetoed, shall become effective only upon an override by this Board, or (2) approval by the County Mayor of this resolution and the filing of this approval with the Clerk of the Board.

MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By: _____
Deputy Clerk

Approved by County Attorney as
to form and legal sufficiency.



Bruce Libhaber

Department of
Transportation and Public
Works
701 NW 1st CT
Miami, FL 33136



MIAMI-DADE COUNTY, FLORIDA
REQUEST FOR PRICE QUOTATION (RPQ)
Contract No: MCC 7040 Plan - CICC 7040-0/07
RPQ No: 394585-B

RPQ BID FORM – ATTACHMENT 5A

RPQ Project Name: Acoustical Barrier Replacement - Phase 2 – Removal

Price Proposal (Cost to Perform the work must be stated here. State 'No Bid' if not submitting a price proposal)

Base Bid Amount: \$ 2,130,000

Contingency Allowance Amount: \$ 218,000

Dedicated Allowance Amount for potential structural damage repairs \$ 50,000

TOTAL BID AMOUNT: \$ 2,448,000

Bidder's Company Name: EBSARY FOUNDATION COMPANY

Company Address: 2154 NW NORTH RIVER DRIVE

City: MIAMI

State: FL

Zip: 33125

Telephone No: 305-325-0530 Fax No: 305-325-8684 E-Mail: MAT@EBSARYFOUNDATION.COM

THE EXECUTION OF THIS FORM CONSTITUTES THE UNEQUIVOCAL OFFER OF PROPOSER TO BE BOUND BY THE TERMS OF ITS PROPOSAL. FAILURE TO SIGN THIS SOLICITATION WHERE INDICATED BELOW BY AN AUTHORIZED REPRESENTATIVE SHALL RENDER THE PROPOSAL NON-RESPONSIVE. THE COUNTY MAY, HOWEVER, IN ITS SOLE DISCRETION, ACCEPT ANY PROPOSAL THAT INCLUDES AN EXECUTED DOCUMENT WHICH UNEQUIVOCALLY BINDS THE PROPOSER TO THE TERMS OF ITS OFFER.

Name of Person Submitting Quote (Print): MATT SHIRING, VP

Number of Addendums received: DONE (if none' write "None")

Signature: [Handwritten Signature]

Date: 5/3/2019

Note: Quotes must be submitted on this form. Quote envelope must state RPQ Number, date and time due and the Bidder's Name. Use of any other form for submission of the price quotation shall result in the rejection of the price quotation. Late bids will not be opened. *Low bidder will be notified, in the*

Recommendation of Award, of the requirements to submit current copies of insurance certificates in accordance with the Contract Documents. By signature, the CONTRACTOR agrees to be bound by the terms set forth in the MCC 7040 Plan.

In accordance with Miami-Dade County Implementing Order 3-9, Accounts Receivable Adjustments, if money is owed by the Contractor to the County, whether under this Contract or for any other purpose, the County reserves the right to retain such amount from payment due by County to the Contractor under this Contract. Such retained amount shall be applied to the amount owed by the Contractor to the County. The Contractor shall have no further claim to such retained amounts which shall be deemed full accord and satisfaction of the amount due by the County to the Contractor for the applicable payment due herein.

Appendix 5A

Acoustical Barrier Replacement - Phase 2
 RPQ NO.: 394585-B
 BID FORM

OPTION B

TO BE COMPLETED BY THE CONTRACTOR AT BID SUBMISSION

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	TOTAL
1	Mobilization (inclusive of insurance and bonding)	LS	1	100,000
2	Removal and disposal of existing acoustical wall panel and hardware**	LF	26,000*	2,080,000
TOTAL BASE BID				\$ 2,180,000

*Quantities are based on maximum estimates for this project

**Inclusive of all permits, MOT, Police Officers

DESCRIPTION	UNIT	TOTAL
01010.01 Allowance Account for Unforeseen Changes - 10 % of Base Bid	LS	\$ 218,000

DESCRIPTION	UNIT	TOTAL
01010.02 Dedicated allowance for potential structural damage repairs	LS	\$ 50,000.00

BID TOTAL INCLUDING (Base bid total, plus Allowance Account for Unforeseen Changes, plus Dedicated Allowance for potential structural damage repairs):

\$ 2,448,000

TOTAL BID PRICE for THE SUM OF TWO MILLION FOUR HUNDRED FORTY EIGHT THOUSAND Dollars and L Cents
 Acoustical Barrier Replacement - Phase 2
 RPQ NO.: 394585-B
 BID FORM

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(PRINT DOLLAR AMOUNT)

THE BIDDER UNDERSTANDS AND AGREES THAT THE ABOVE GRAND TOTAL IS INCLUSIVE OF ALL WORK NECESSARY TO COMPLETE THE WORK AS DESCRIBED IN THE CONTRACT DOCUMENTS, AND IF THIS PROPOSAL IS ACCEPTED, THE UNDERSIGNED BIDDER AGREES TO ENTER INTO AND EXECUTE THE CONTRACT WITH THE NECESSARY BOND AND ACCEPT THE ABOVE TOTAL PRICE AS FULL COMPENSATION FOR THE WORK PERFORMED UNDER THIS CONTRACT.

YOU ARE REQUIRED TO TRANSFER TOTALS TO FORM APPENDIX 5A. FAILURE TO COMPLY WITH THIS REQUEST MAY RENDER THE PROPOSAL NON-RESPONSIVE.

D. C. CERTIFICATE OF COMPETENCY NO. E-502 BIDDER'S NAME: ESSARY FOUNDATION Co.

BIDDER'S TELEPHONE NUMBER (305) 325-0530 BIDDER'S ADDRESS 2654 NW NORTH RIVER DR.
MIAMI FL 33125

WE CAN PROVIDE THE BOND IN ONE WEEK
WE CAN PROVIDE A MAXIMUM OF TWO CREWS
ESTIMATED DURATION IS APPROX. 16 WEEKS
WE CAN ONLY CONTRACT FOR OPTION A OR OPTION B UNLESS THE
CONTRACTS DO NOT NEED TO BE PERFORMED CONCURRENTLY

FY 2018 - 19 Proposed Budget and Multi-Year Capital Plan

METRO RAIL - TRACK AND GUIDEWAY PROJECTS

PROJECT #: 6710900

DESCRIPTION: Rehabilitate existing track and guideway equipment and fixtures; replace safety items for rail to include coverboard, fasteners, insulated joints, metal acoustical barriers, drains, equipment, and materials as needed

LOCATION: Metrorail District Located: 2, 3, 5, 6, 7, 12, 13
 Various Sites District(s) Served: Countywide

REVENUE SCHEDULE:	PRIOR	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	FUTURE	TOTAL
People's Transportation Plan Bond Program	50,487	25,333	19,990	17,837	14,500	14,500	40,500	5,242	188,389
TOTAL REVENUES:	50,487	25,333	19,990	17,837	14,500	14,500	40,500	5,242	188,389
EXPENDITURE SCHEDULE:	PRIOR	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	FUTURE	TOTAL
Construction	12,952	500	500	500	500	500	500	5,242	21,194
Furniture Fixtures and Equipment	85	0	0	0	0	0	0	0	85
Major Machinery and Equipment	7,642	15,583	9,900	8,450	6,500	6,500	12,000	0	66,575
Planning and Design	83	0	0	0	0	0	0	0	83
Project Administration	29,725	9,250	9,590	8,887	7,500	7,500	28,000	0	100,452
TOTAL EXPENDITURES:	50,487	25,333	19,990	17,837	14,500	14,500	40,500	5,242	188,389

METRO RAIL - VEHICLE REPLACEMENT

PROJECT #: 6733001

DESCRIPTION: Overhaul and modernize existing fleet and purchase 136 new heavy rail vehicles

LOCATION: Metrorail District Located: Countywide
 Throughout Miami-Dade County District(s) Served: Countywide

REVENUE SCHEDULE:	PRIOR	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	FUTURE	TOTAL
People's Transportation Plan Bond Program	198,661	90,886	77,731	1,709	1,574	697	713	8,933	380,904
TOTAL REVENUES:	198,661	90,886	77,731	1,709	1,574	697	713	8,933	380,904
EXPENDITURE SCHEDULE:	PRIOR	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	FUTURE	TOTAL
Furniture Fixtures and Equipment	106	0	0	0	0	0	0	0	106
Major Machinery and Equipment	141,634	78,281	70,413	250	100	100	100	8,370	299,248
Other Capital	15,300	1,000	1,251	0	0	0	0	0	17,551
Project Administration	34,321	6,571	2,202	1,297	1,312	597	613	563	47,476
Project Contingency	7,300	5,034	3,865	162	162	0	0	0	16,523
TOTAL EXPENDITURES:	198,661	90,886	77,731	1,709	1,574	697	713	8,933	380,904

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Atkins
3250 West Commercial Boulevard
Suite 120
Ft Lauderdale FL 33309
Tel: +1 954 733 7233
Direct: +1 954 903 3611
glenn.myers@atkinsglobal.com

atkinsglobal.com
snclavalin.com

Your reference CIP135-CT1-TR15-WO11 0

German Arenes, PE
Assistant Director for Engineering, Planning and Development

Miami-Dade Department of Transportation and Public Works
Engineering Planning and Development
Overtown Transit Village
701 N.W. 1st Court Suite 1500, Miami, FL 33136

13 July 2013

Dear German:

At your request, Atkins has reviewed relevant data from the recent failure of a Type "B" acoustical barrier panel. This letter documents our review of this recent failure and comparison with the results of prior studies of the integrity of this type of barrier, providing recommendations for further actions.

Atkins developed a performance specification for acoustical barrier replacement in 2012-2013 under the Program Management Consulting for the People's Transportation Plan, Work Order 8-08, Acoustical Barrier RFP Support. During the preparation of these specifications, a Metrorail train struck an inward leaning Type "B" acoustical barrier panel on the North Corridor. In August of 2012, Atkins prepared a detailed report on the structural integrity and long-term durability of these Type "B" panels. This report is included as an attachment to this letter and is hereinafter referred to as the Atkins Report. It should be noted that more than 100 Type "B" acoustical barrier panels had been removed prior to the Atkins Report due to concerns with structural integrity.

Type "B" acoustical barrier panels were fabricated as a precast prestressed hollow core concrete panel using sand lightweight aggregate. No mild reinforcement was provided in these panels. The prestressing steel reinforces the section in the longitudinal direction parallel to the guideway; however, the vertical direction is unreinforced. It should be noted that the primary stresses in the panel due to wind are in this unreinforced vertical direction. An external unbonded steel strap is also included as part of the installation of these panels. The strap is part of the connection of the panel to the supporting angle and extends close to the top of the panel where it is attached with a 1/2 inch bolt. This steel strap is only located on the guideway side of the panel. Since the steel strap is not bonded to the panel, it provides little or no resistance to prevent cracking of the panel due to wind loads.

Compressive tests of the concrete from failed panels at the time of the Atkins Report indicated that there is the potential for low concrete strengths. The structural analysis documented in the report indicated that under design wind conditions, the panel stresses will exceed design criteria. It is

expected that panels with concrete in the lower range of acceptable concrete strengths will fail under Category 1 Hurricane conditions or possibly in a storm with strong microbursts. This conclusion appeared to be consistent with panel failures that have occurred during Hurricane Wilma and during strong thunderstorms.

The recommendations of the Atkins Report stated *The disposition of these panels must assess the risks associated with keeping the panels in place. Inasmuch as these panels may fail in weather events with a low mean recurrence interval, it is imperative to either replace or strengthen these panels in a reasonable period of time to maintain the safety of the traveling public. Based on a review of the stresses ... it is recommended that any panel that exhibits a crack within 2 feet of the upper bracket bolted connection should be removed immediately. The remaining panels may remain in place until replacement/strengthening scenarios are developed under this work order and implemented. Miami-Dade Transit [now Miami-Dade Department of Transportation and Public Works] should further evaluate the risks associated with keeping these remaining panels with a reasonable schedule for budgeting and implementation to determine whether these panels should also be removed*

On July 3 2018 another Type B acoustical barrier panel was struck by an oncoming train just south of Viscaya Station. The impacted panel is shown in Figure 1. The remains of the panel wrap across the

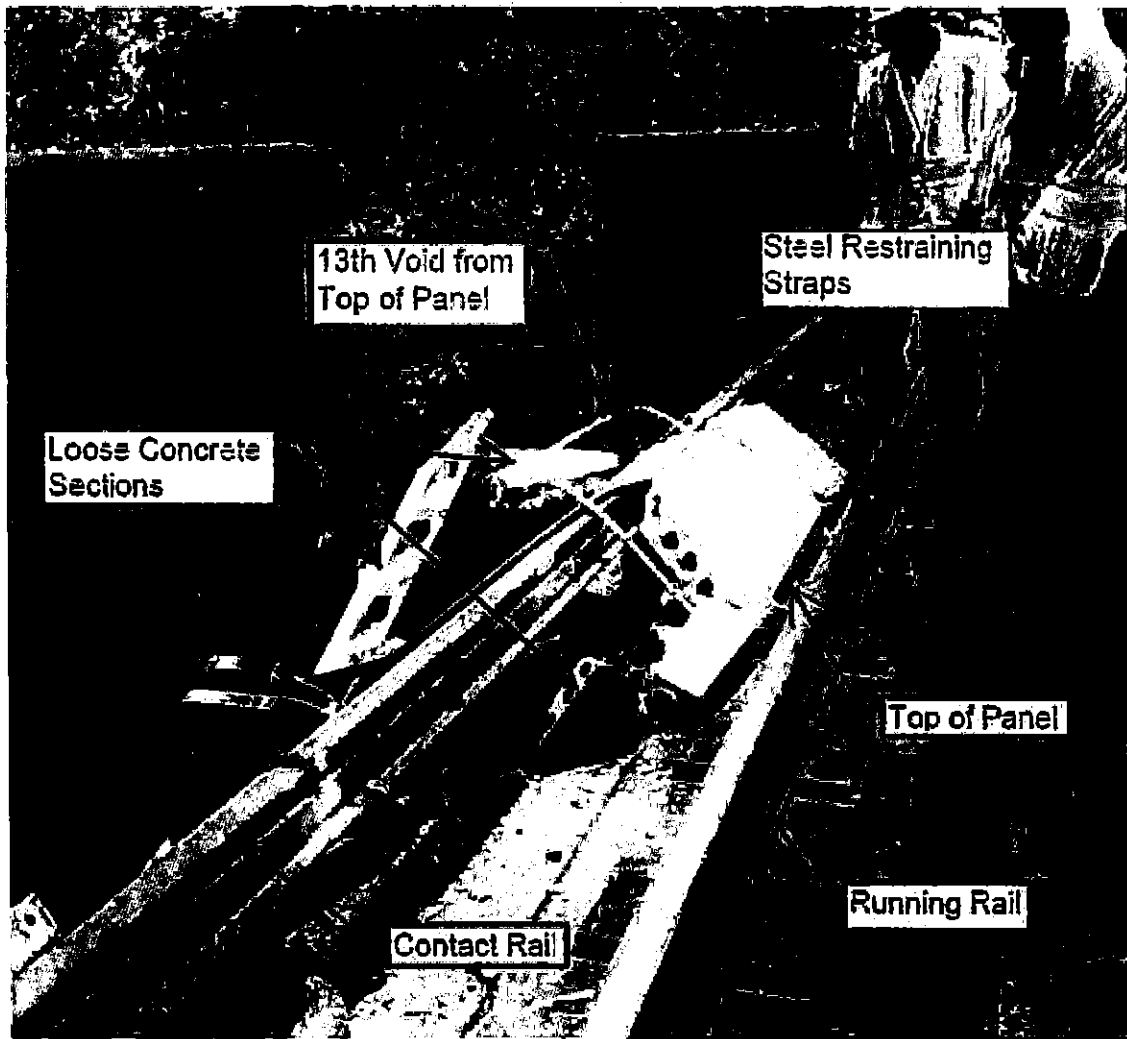


Figure 1: Impacted Type "B" Acoustical Barrier Panel

contact rail. There are several pieces of loose concrete noted in Figure 1. The steel restraining straps are also noted in Figure 1. Notice that the top of the panel is located very close to the running rail. The importance of identifying the 13" void from the top of panel is that this location was identified in the Atkins Report as one of the weak planes of anticipated failure. Pieces of loose concrete were also found on the ground shown in Figure 2, near the M-Path.



Figure 2: Type "B" Acoustical Barrier Panel Pieces on Ground

Figure 3 shows the failed panel after the clean-up operation removing the loose and connected concrete chunks. The failure plane is consistent with the findings of the Atkins Report at the 13" void from the top of panel. The additional crack is also located close to the critical section. It is unknown whether the first crack in the section that lead to failure was on the inside of the panel or the outside of the panel. However, once the panel cracks on one side, the other side, in an unreinforced section, will also become a weak plane and crack.



Figure 3: Type "B" Acoustical Barrier Panel Failure Plane

Figure 4 shows what is believed to be the point of contact of the train components with the concrete panel. This figure shows the concrete dust caused by contact of the vehicle's sliding shoe with the concrete panel. Note the location of the joint between panels as this defines the location of the panel edge. Also noted in the figure the severed sliding shoe which also shows the concrete contact mark

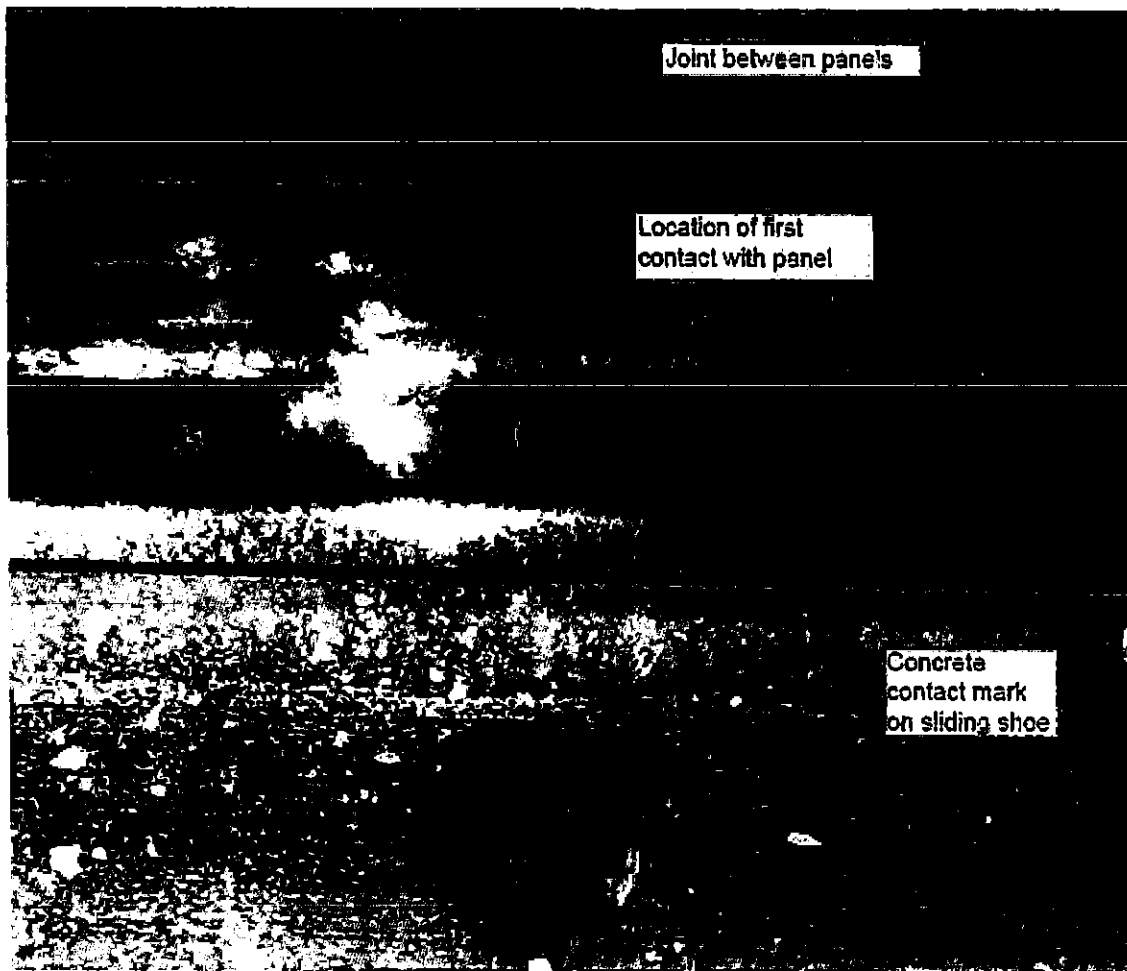


Figure 4: Sliding Shoe Contact Point

Conclusions and Recommendations:

The original recommendations for removal of cracked panels and the retention of uncracked panels was based on the expectation that the acoustical barrier replacement contract would be let in the immediate future, circa 2013. At the time, it was conceived that the removal of the panels could be delayed such that one crane mobilization per panel for removal and replacement could occur resulting in lower costs. It is now 2018 and this replacement contract has not been implemented.

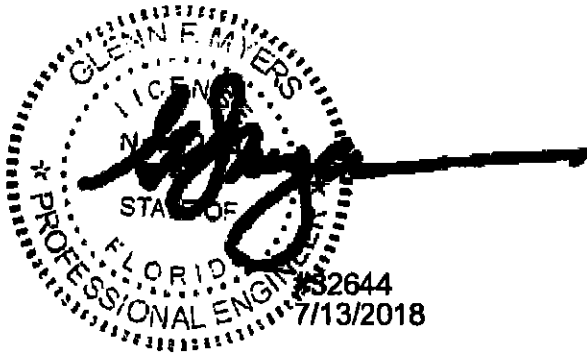
In the interest of public safety, Atkins recommends removal of all Type "B" acoustical barrier panels and the connected steel straps as quickly as possible. The steel brackets connecting these panels to the guideway girders may remain in place. The reasoning for this recommendation is as follows:

- 1 Failure of these panels is difficult to predict and can be sudden. The lack of mild reinforcement in these panels makes them fracture critical with no ductility therefore there is no advance warning, e.g., excessive deflections noted before failure.
- 2 Failure is not confined to the guideway, as chunks of concrete have fallen to the ground below. Many of these panels are suspended over public walkways and roadways, and these concrete projectiles can be a danger to the public.

3. Failure confined to the guideway also presents a danger. In the latest failure, the top of the panel fell dangerously close to the running rail. If a panel falls on the running rail, a fast-moving train can strike these panels causing a catastrophic derailment.

To reiterate it is Atkins recommendation to remove all Type "B" acoustical barrier panels and the connected steel straps from the guideway as quickly as possible.

Kind regards



Glenn F. Myers PE
Sr. Technical Director, Structural Engineering for Bridges and Ports

Attachment
Acoustical Barrier Type B Analysis Report August 2012



Memorandum



To: Honorable Chairwoman Audrey M. Edmonson
and Members, Board of County Commissioners

From: Javier A. Betancourt, Executive Director *JAB*

Date: May 24, 2019

Re: CITT AGENDA ITEM 5H:
RESOLUTION BY THE CITIZENS' INDEPENDENT TRANSPORTATION TRUST
RECOMMENDING THE BOARD OF COUNTY COMMISSIONERS (BCC) APPROVE
AWARD OF EMERGENCY MISCELLANEOUS CONSTRUCTION CONTRACT 7360
PLAN - RPQ NUMBER 394585-A FOR THE EMERGENCY ACOUSTICAL BARRIER
REPLACEMENT - PHASE 2 REMOVAL PROJECT, TO EBSARY FOUNDATION CO.
IN THE AMOUNT OF **\$2,448,000.00** AND AUTHORIZE THE USE OF PEOPLE'S
TRANSPORTATION PLAN BOND PROGRAM FUNDS FOR SUCH PURPOSES
(DTPW – BCC Legislative File No. 191252) SURTAX FUNDS REQUESTED

On May 23, 2019, the CITT voted (8-0) to forward a favorable recommendation to the Board of County Commissioners (BCC) for the approval of the above referenced item, CITT Resolution No. 19-037. The vote was as follows:

Glenn J. Downing, CFP®, Chairperson – Aye
Joseph Curbelo, 1st Vice Chairperson – Absent
Alfred Holzman, 2nd Vice Chairperson – Aye

Oscar Braynon – Aye
Prakash Kumar – Aye
Jonathan Martinez – Absent
Marilyn Smith – Aye

Evan Fancher – Absent
Hon. Anna E. Lightfoot-Ward, Ph.D. – Aye
Miles E. Moss, P.E. – Aye
L. Elijah Stiers, Esq. – Aye

cc: Alina Hudak, Deputy Mayor
Bruce Libhaber, Assistant County Attorney