

CITY OF HOUSTON (H - TOWN)



MAIN PURPOSE OF THE PRESENTATION

TO EXPLAIN AND DISCUSS HOW CITY
OF HOUSTON MAINTAINS ITS OFF-
SYSTEM BRIDGES

**PRESENTATION INVITATION BY
MR. STEVEN AUSTIN, PE
TxDOT MAINTENANCE DIRECTOR**

**DUE TO OUR HIGH RATE OF SUCCESS
AND TEAMWORK WITH TxDOT
HOUSTON DISTRICT FOR MAINTAINING
OVER 1100 LONG SPAN (>20') BRIDGES**

TO IDENTIFY OUR BRIDGES, WE HAVE ESTABLISHED
THE FOLLOWINGS

BRIDGE ROUT BOOKS

- **BY COH NUMBERS**
- **BY COH STREETS**

BRIDGE ROUT BOOK BY COH STREETS

CITY OF HOUSTON ROUTE BOOK BY STREET									KEY MAP #
QUAD	BRDG #	PG #	CD	TYPE	BLOCK	STREET	LOC	CROSS	
SE	1041	6	E		1300	2ND	&	DRAIN DITCH	619S
SE	29	2	I		400	75TH ST	&	BRAYS BAYOU	495W
SE	727	2	I	UP	200	75TH STREET	UNDER	RR @ RUSK	495W
NE	1538	8	E	CUL	22000	ACCESS RD.	&	DRAIN DITCH	295V
NE	1541	8	E	CUL	22000	ACCESS RD.	&	DRAIN DITCH	295Z
NW	446	6	A		1200	ADKINS	N OF	I-10	450Y
SE	216	7	I		4800	AHRENS	&	BERRY CREEK	535R
NW	1158	3	H	CUL	4400	AIRLINE	&	LWO BAYOU	453K
NW	737	3	H	OP	3400	AIRLINE	&	STOKES	453P
SE	1207	2	D	CUL	3000	AIRPORT BLVD	&	BUFFUM	573F
SE	1208	2	D	CUL	2900	AIRPORT BLVD	E OF	288	573F
SW	1033	9	D		1900	AIRPORT BLVD EB	&	DRAIN DITCH	573E
SE	539	2	D		3600	AIRPORT BLVD EB	&	SCOTT	573G
SE	831	3	D		3900	AIRPORT BLVD EB	E OF	SOUTHVIEW	573G
SW	1034	9	D		1900	AIRPORT BLVD WB	&	DRAIN DITCH	573E
SE	552	2	D		3600	AIRPORT BLVD WB	&	SCOTT	573G
SE	858	2	D		3900	AIRPORT BLVD WB	E OF	SOUTHVIEW	573G
SE	634	3	D		5300	AIRPORT BLVD. EB	W OF	MLK	574E
SE	830	4	E		8700	AIRPORT	&	BERRY CREEK	575C
SE	908	2	D		3100	AKARD	&	DULCIMER	573F
NW	657	4	A		6900	ALABONSON RD	&	WHITE OAK BAYOU	411T
NE	391	5	B		6000	ALBERT	&	KURT	375S
NE	1264	4	H	CUL	10400	ALDINE-WFIELD	&	GOODLOE	413Z
NE	545	5	H		12300	ALDINE-WFIELD	&	HALLS BAYOU	413M
NE	546	5	H		13900	ALDINE-WFIELD	&	STRAWN	413D
NE	527	5	B		15200	ALDINE-WFIELD	&	GREENS BAYOU	373V
SW	315	3	F		11800	ALIEF CLODINE	&	BRAYS BAYOU	529A
SW	79	1	H	FB	800	ALLEN PKWY	OVER	ALLEN PKWY	493K
SW	54	1	H	BLK	1800	ALLEN PKWY	&	TAFT	493K
SW	706	1	H	UP	2900	ALLEN PKWY	UNDER	MONTROSE	493J
SW	724	1	H	UP	2900	ALLEN PKWY	UNDER	WAUGH DR.	492M
SW	763	1	H	OP	2900	ALLEN PKWY	@	WAUGH DR TA	492M
SE	338	7	E		5100	ALLENDALE EB	&	BERRY CREEK	536N
SE	344	7	E		5100	ALLENDALE WB	&	BERRY CREEK	536N
SE	397	3	E		4900	ALLISON	&	HENDRICKSEN	574N
SE	396	3	E		5200	ALLISON	&	KIER RD.	574P
NE	437	4	H		10000	ALLWOOD	S OF	PATE	454D
SW	38	10	D		6100	ALMEDA	&	BRAYS BAYOU	533F
SE	1579	5	E		11600	ALMEDA GENOA	&	DRAIN DITCH	576Q
SE	1561	5	E	CUL	10600	ALMEDA GENOA	&	DRAIN DITCH	576P
SW	95	9	D	FB	2700	ALMEDA PLAZA	W OF	ALMEDA	572L
SW	1591	8	D	CUL	2920	ALMEDA PLAZA	&	DRAIN DITCH	572L
SW	1592	8	D	FB	2920	ALMEDA PLAZA	&	DRAIN DITCH	572L
SE	1325	5	E	CUL	3000	ALMOND CREEK	@	DRAIN DITCH	578W
NW	361	2	H		100	ANABEL LANE	&	CORTLANDT	453A

BRIDGE ROUT BOOK BY COH

BRIDGE NUMBERS

CITY OF HOUSTON

ROUTE BOOK BY NUMBER

Revised 3/13/2012

QUAD	BRDG #	PG #	CD	TYPE	BLOCK	STREET	LOC	CROSS	KEY MAP #
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SE	1579	5	E		11600	ALMEDA GENOA	&	DRAIN DITCH	576Q

CITY OF HOUSTON BRIDGE REPAIR AND MAINTENANCE METHODS



OVERVIEW OF THE CITY OF HOUSTON BRIDGES:

- A) OVERALL NUMBER OF BRIDGES
- B) LONG SPAN BRIDGES- OFF SYSTEM
- C) SHORT SPAN BRIDGES – LOCAL BRIDGES (VEHICLE & SHORT/LONG SPAN PEDESTRIANS)
- D) RAILROAD BRIDGES WHITIN THE MANUCIPALITY
- E) REPAIR AND MAINTENACE PROCESS
- F) REVISING AND MAINTAINING COH NBI DATABASE
- G) REVISING AND MAINTAINING COH BRIDGE DATABASE



CITY OF HOUSTON BRIDGES

APPROXIMETLY 1400 BRIDGES

A) 1100+ - *LONG SPAN BRIDGES*


B) 300 + - SHORT SPAN & PED.
BRIDGES

LONG SPAN BRIDGES ARE INSPECTED
AND REPORTED TO THE CITY BY
TXDOT HOUSTON DISTRICT FOR
REPAIR/MAINTENANCE/FEEDBACK
(TXDOT REVISES CITY'S NBI)

SHORT PAN BRIDGES ARE INSPECTED
BY THE CITY PERSONNEL FOR
REPAIR/MAINT.
(COH STAFF REVISES BR. DATABASE)

DAILY BRIDGE RELATED MAINTENACE SCHEDULE FOR REPORTED PROBLES

DAILY ROUTE									
CITY OF HOUSTON DEPARTMENT OF HOUSTON PUBLIC WORKS TRANSPORTATION & DRAINAGE OPERATIONS				Bridge	Weather: Manager: Assistant Manager: Section Chief:	Cloudy - -	Ivan Marquez Vincent Wells Tom Towery	DATE: Monday, November 4, 2024	
Tree Crew - Jerlene Nunn									
Job #:	Location			Type of Work (Description)	Co. Dist.	Keymap Location	Employee Name		
			Scheduled Off-day				Connell Lee	Arthur Myers	Gerald Page
			Scheduled Off-day				Algeria Allen		
Iron Worker - Carlos Lopez									
Job #:	Location			Type of Work (Description)	Co. Dist.	Keymap Location	Employee Name		
1	Bridge & Barricade # / Street	149	900	N. Durham	Repairing Guardrail	C	492C	Lavender Aubrey	John Wiley
2			2778	Kingwood Dr.	Remove Handrail	E	337B	Russell Childress	Juan Rodriguez
3			2701	Dalton	Training	I	535K	Ryan Norfleet	
Painters and Semi-Skilled Laborer - Federico Greeno									
Job #:	Location			Type of Work (Description)	Co. Dist.	Keymap Location	Employee Name		
	Bridge & Barricade # / Street			Scheduled Off-day			Charles Brown		
Operators - George Davilla									
Job #:	Location			Type of Work (Description)	Co. Dist.	Keymap Location	Employee Name		
1	Bridge & Barricade # / Street	2248		Bissonnet	Remove Tree	C	492Y	Wanda Deiter	Norberto Garcia
2									Hector Garza
3	149	900		Durham	Repairing Guardrail	C	492C	Dontate Myles	Reinaldo Soto
Carpenters - Luis Ramirez									
Job #:	Location			Type of Work (Description)	Co. Dist.	Keymap Location	Employee Name		
1	Bridge & Barricade # / Street	132	400	Montrose	Piling Repair	H	493J	Johnny Juarez	Daniel Ellis
2		476	10100	Hirsch	Piling Repairs	H	454C	Mark Oack	Steven Franklin
3							Robert Taylor	Oscar Velasquez	Ulysses Donovan
Grass Cut & Clean - Quentin Pett & Reginald Johniken									
Job #:	Location			Type of Work (Description)	Co. Dist.	Keymap Location	Employee Name		
	Bridge & Barricade # / Street			Scheduled Off-day			Charles Mathis	Johnathan McKenzie	Stephen Rodgers
				Scheduled Off-day			Damion Blackmon	Joe Mercado	Robert Maldin
				Scheduled Off-day			William Craig	Xavier Albert	Juan Dias
Supply Room - Vincent Walls									
Job #:	Location			Type of Work (Description)	Co. Dist.	Keymap Location	Employee Name		
1			2701	Dalton	Tools and Supplies Warehouse	I	535K	Douglas Arrington	
	Employee Name								W C T D
1	Carlos Medina			City Business	Vacation / Personal	Sick	FMLA	Floating Holiday	Funeral Leave
2				Parental Leave					AWOL

A large, solid red oval shape centered on a black background. Inside the oval, white text is arranged in five lines, centered horizontally. The text reads: 'SAMPLE OF HOUSTON', 'LONG AND SHORT', 'SPAN BRIDGES', 'MAINTAINED BY COH', and 'WORKFORCE'. The word 'MAINTAINED' is underlined with a thin white line.

SAMPLE OF HOUSTON
LONG AND SHORT
SPAN BRIDGES
MAINTAINED BY COH
WORKFORCE

PEDESTRAIN BRIDGE SPANNING OVER RAILROAD AND ROADWAYS CONNECTING COMMUNITIES



LAND BRIDGE INSPECTION AND MAINTENANCE



LAND BRIDGE INSPECTION AND MAINTENANCE



WALKING, JOGING & HIKE AND BIKE TRAIL TUNNELS



LOVE LOCK HEADACHE

PEDESTRIAN BRIDGE MAINTENANCE



YALE STREET BRIDGE MAINTENANCE
IT WAS INSPECTED AND MAINTAINED
FOR TWO YEARS TO AVOID CLOSURE



VIEW OF YALE STREET BRIDGE



YALE STREET BRIDGE INSPECTION

COMPARISON

DEC. 30, 2015

MARCH 30, 2016



DEC. 30, 2015



03/24/2016



YALE STREET BRIDGE INSPECTION COMPARISON

DEC. 30, 2015

MARCH 30, 2016



YALE STREET BRIDGE INSPECTION COMPARISON

DEC. 30, 2015

MARCH 30, 2016



YALE STREET BRIDGE INSPECTION COMPARISON

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YALE STREET BRIDGE INSPECTION COMPARISON

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MARCH 30, 2016



BRIDGE INSPECTION COMPARISON

DEC. 30, 2015



MARCH 30, 2016



BRIDGE INSPECTION COMPARISON

DEC. 30, 2015

MARCH 30, 2016

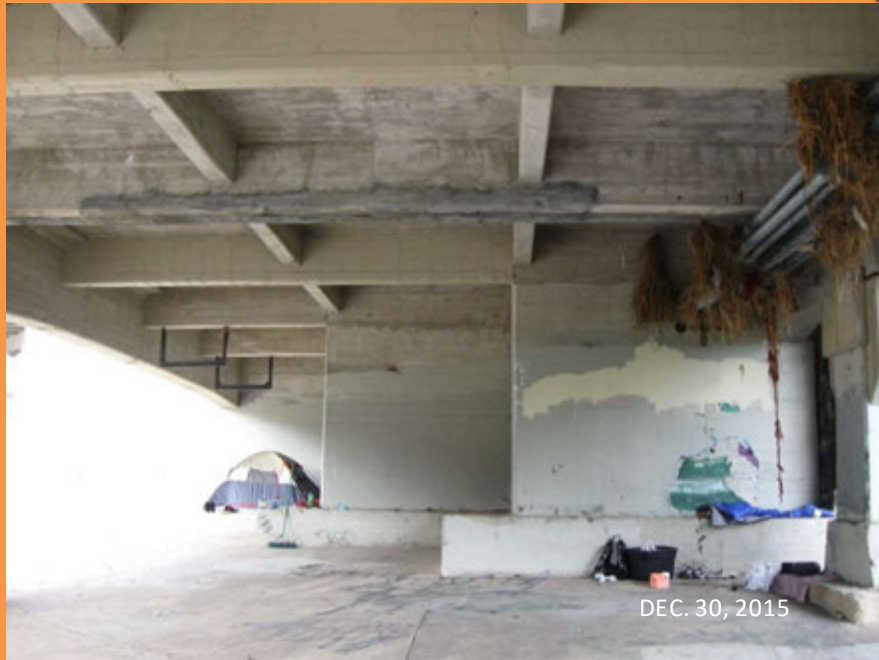


BRIDGE INSPECTION COMPARISON

DEC. 30, 2015



MARCH 30, 2016



YALE STREET BRIDGE INSPECTION COMPARISON

DEC. 30, 2013



MARCH 31, 2014



BRIDGE INSPECTION COMPARISON

DEC. 30, 2015



MARCH 30, 2016



YALE STREET BRIDGE INSPECTION COMPARISON

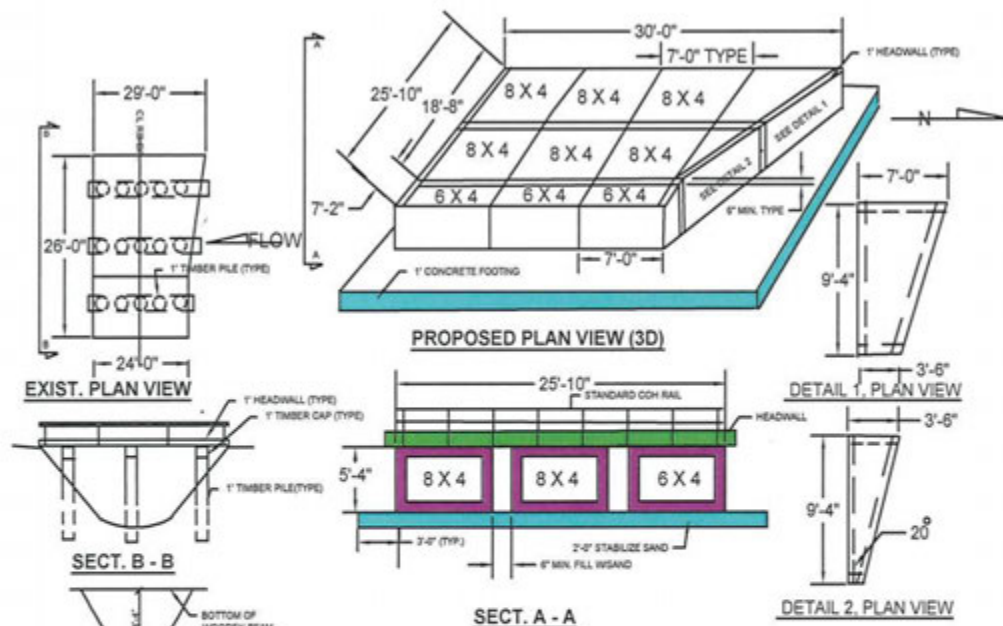
DEC. 30, 2013



MARCH 31, 2014



SAMPLE OF
MAINTENANCE
DESIGN BY CITY
PERSONNEL



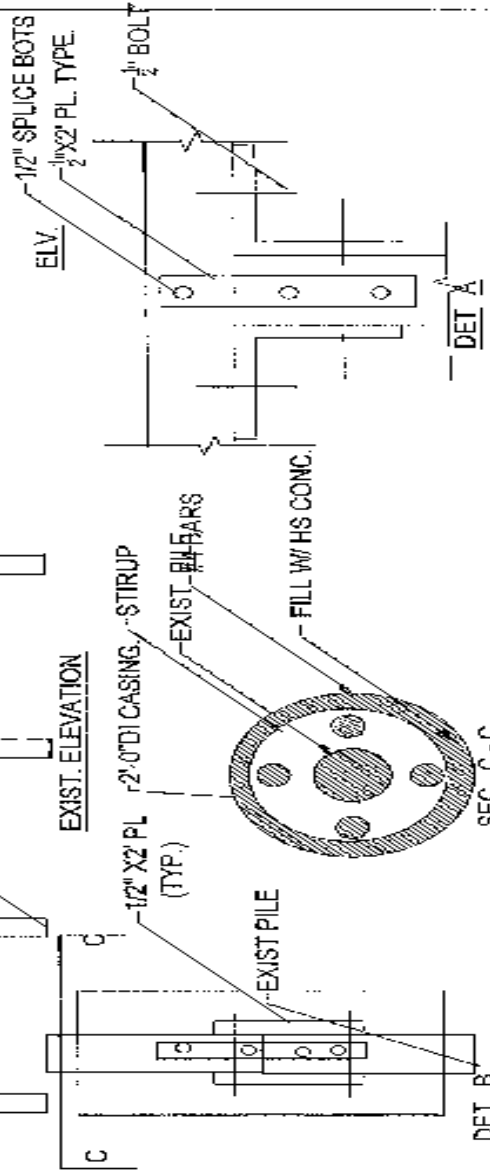
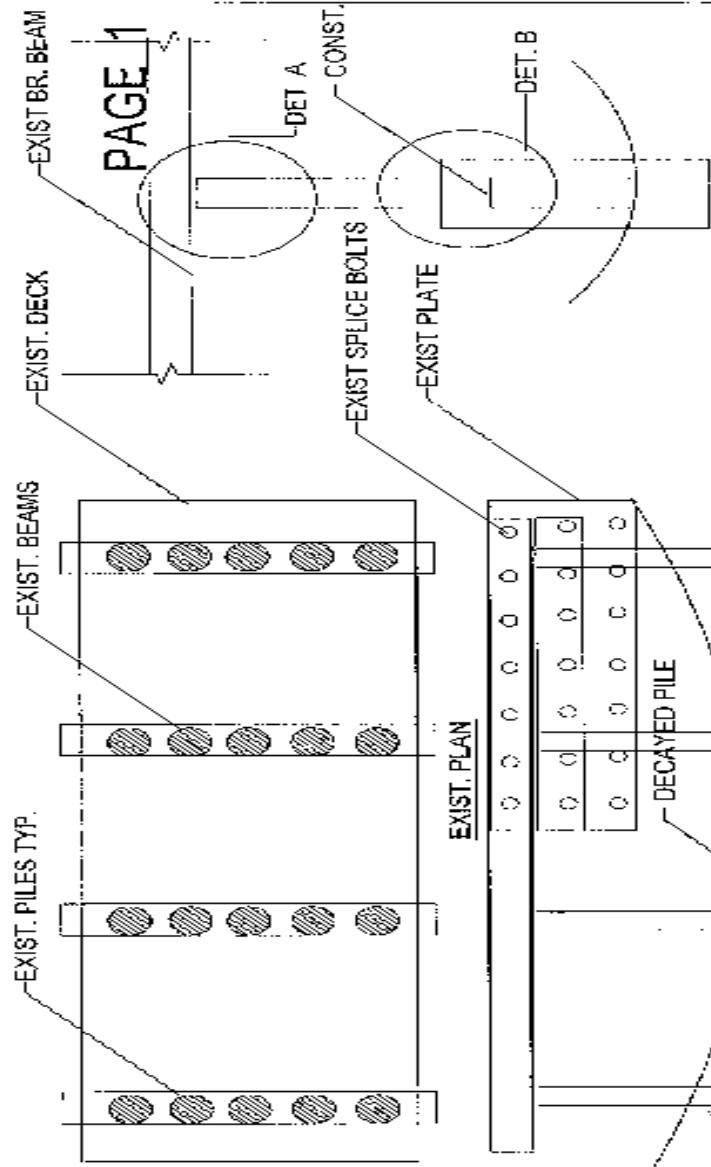
EXIST. DITCH PROFILE
EXISTING TIMBER BRIDGE (COH #62)
BR. LOCATION: 7200 BOYCE STREET

PROPOSED REPLACEMENT OF BOYCE ST. BRIDGE (COH # 62)
BRIDGE LOCATION: 7204 BOYCE STREET, HOUSTON, TEXAS

GENERAL NOTES

- 1) DIMENSIONS ARE NOT TO SCALE, USE THEM AS SHOWN
- 2) ALL DIMENSIONS ARE FIELD MEASUREMENTS; ADJUST THEM IF NECESSARY
- 3) CONTACT THE ENGINEER FOR ANY ISSUES AND PROBLEMS
- 4) REMOVE/RELOCATE ALL EXISTING UTILITY LINES PRIOR TO CONSTRUCTION
- 5) INFORM AND COORDINATE WITH HCFCO IF WORKING IN THEIR ROW LIMITS
- 6) USE COH/TxDOT STANDARDS TO CONSTRUCT HEADWALLS, WINGWALLS, RAIL, ETC.
- 7) INSTALL ALL WARNING, REGULATORY, AND OTHER REQUIRED SIGNS PRIOR TO CONSTRUCTION ACTIVITIES. REMOVE ALL THE SIGNS AND CLEAN-UP AFTER BRIDGE CONSTRUCTION IS COMPLETED.
- 8) MAXIMUM DECK FILL IS 2' OR LESS (SEE TxDOT STANDARD)

PREPARED BY: J. TASHI, P.E.



REPAIR OF HUENI RD. BRIDGE (#9901)

SAMPLE OF
MAINTENACE
CONSTRUCTION BY
THE CITY
PERSONNEL

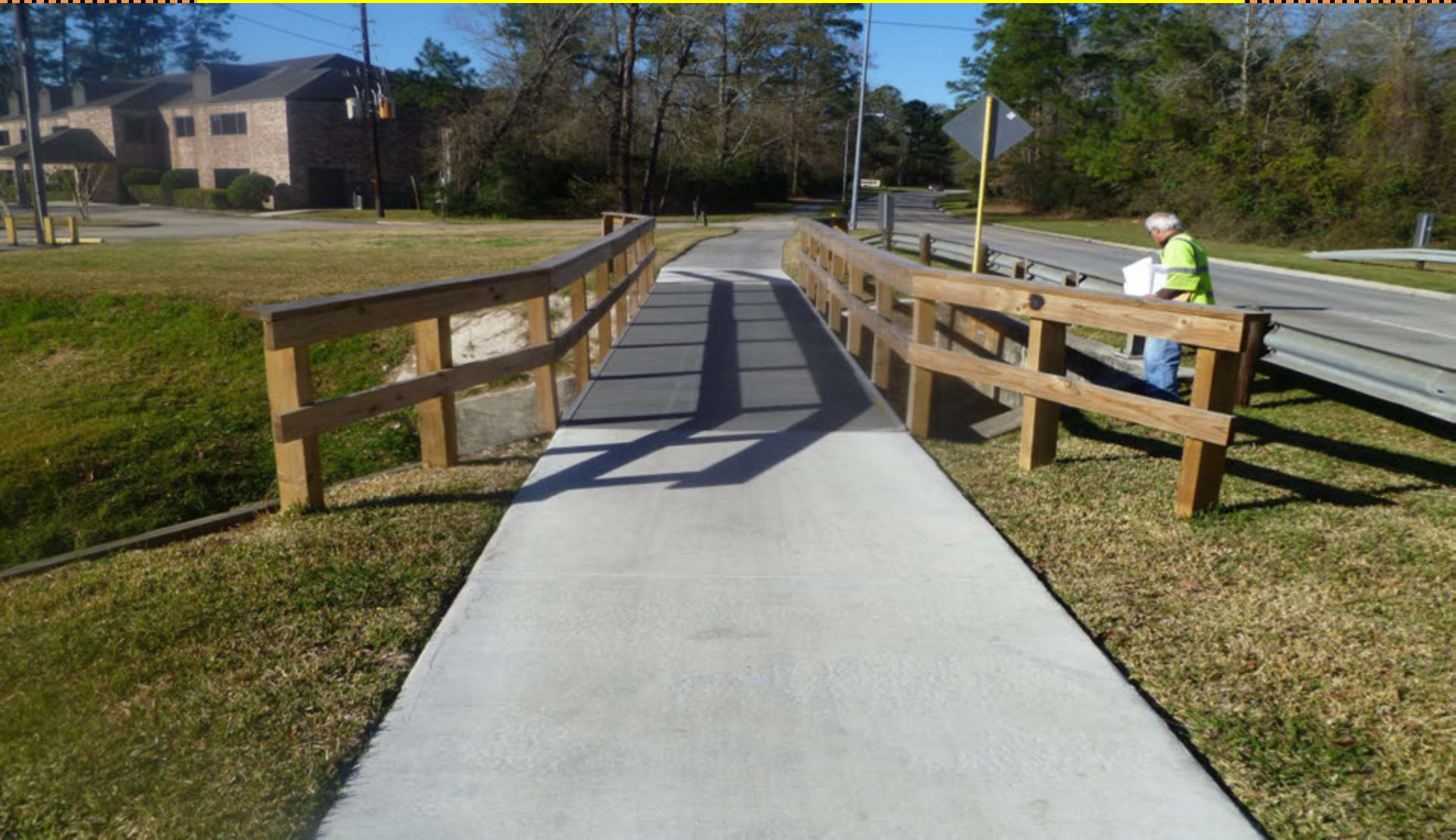
SHORT SPAN CULVERT DESIGNED AND MAINTAINED BY THE CITY



BOYCE BRIDGE STRUCTURE (DECK VIEW) IN NEED OF REPLACEMENT



TIMBER PEDESTRIAN BRIDGE



BOYCE BRIDGE (SIDE VIEW)



DEMOLISHED BOYCE BRIDGE



DEMOLISHING BOYCE BRIDGE



BOYCE BRIDGE RECONSTRUCTION



BOYCE BRIDGE RECONSTRUCTION



BOYCE BRIDGE RECONSTRUCTION



BOYCE BRIDGE NEAR COMPLETION



BOYCE BRIDGE NEAR COMPLETION



BOYCE BRIDGE CONSTRUCTION COMPLETION



BOYCE BRIDGE COMPLETION



TIMBER PEDESTRIAN BRIDGE IN NEED OF REPLACEMENT



INITIAL BRIDGE EVALUATION



DECK REPAIR



DECK AND RAIL REPAIR



TIMBER PEDESTRIAN DECK REPAIR



BRIDGE TOTAL COST RECORDS

Bridge # 62, 7200 Boyce ,

Bridge reconstruction

Total project cost: \$193,259.82

Project Duration : 11 Weeks (5/8/2023 – 7/20/2023)

Bridge # 702, 500 T.C. Jester SB

Repairs to headwall, expansion joint and bridge approach

Total Project Cost: \$69,186.34

Project Duration: 5 Weeks (2/20/2024 – 3/28/2024)

Bridge # 294, 5800 Blackgum

Bridge rehabilitation

Total project cost: \$66,596.59

Project Duration: 11 Weeks (6/4/2024 – 8/22/2024)

EXPANSION JOINT REPAIR

TEMPORARY AND PERMINANT

TEMPORARY EXPANSION JOINT REPAIR



FULL EXPANSION JOINT REPAIR



EXPANSION JOINT REPAIR



EXPANSION JOINT REPAIR



EXPANSION JOINT REPAIR



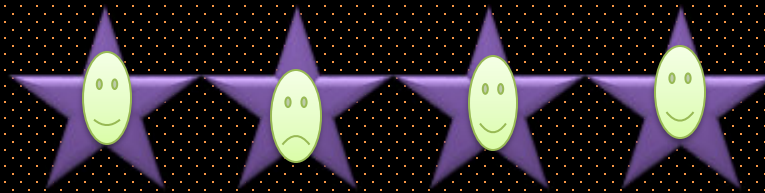
BRIDGE REPAIR AND MAINTENANCE CHALLENGES:

- A) LACK OF ADEQUATE BUDGET
- B) LACK OF ADVANCED MAINTENANCE TOOLS AND EQUIPMENT
- C) LACK OF SKILLED AND TRAINED PERSONNEL
- D) LONG HIRING PROCESS TO FILL VACANT POSITIONS
- E) DIFFICULTIES IN KEEPING TRAINED PERSONNEL
- F) LACK OF MAINTENANCE TRAINING PROGRAMS
- G) LACK OF FLEXIBILITY IN HIRING DESIGN/CONSTRUCTION CONTRACTORS
- H) LACK OF LAW ENFORCEMENT SUPPORT
- I) HOMELESS LIVING UNDER BRIDGES AND CREATING VARIOUS MAINTENANCE ISSUES
- J) EXPANSION JOINT REPAIR AND MAINTENANCE



OVERCOMING BRIDGE MAINTENANCE AND REPAIR CHALLENGES:

- A) USING OUR BUDGET IN AN EFFECTIVE AND EFFICIENT MANNER
- B) UPKEEPING AND PRESERVING OUR AVAILABLE TOOLS AND EQUIPMENT
- C) USING RENTAL TOOLS AND EQUIPMENT AS NEEDED
- D) PROVIDING JOB SATISFACTION TO KEEP TRAINED PERSONNEL
- E) USING OJT TO ENHANCE SKILL AND KNOWLEDGE OF OUR EMPLOYEES
- F) CROSS TRAINING AND ROTATING OUR PERSONNEL
- G) PROVIDING FORMAL TRAINING USING CITY'S TRAINING PROGRAMS
- H) PROVIDING EXTERNAL FREE AND PAID TRAININGS
- I) DAILY INSPECTION AND BRIDGE REPAIR/MAINTENANCE
- J) CREATING TEAMWORK AND CLOSE CONTACT WITH THE LAW ENFORCEMENT



SECRET TO OUR SUCCESS

COMBINING ENGINEERING AND MAINTENANCE

DAILY INSPECTION OF OFF SYSTEM BRIDGES

DAILY REPAIR OF REPORTED MAINTENANCE ISSUES

CONTRACTING BRIDGE MAINTENANCE WORKS THAT
ARE BEYOND OUR RESOURCES AND CAPABILITIES

PROVIDING OJT & FORMAL MAINTENANCE
TRAINING PROGRAMS

TEAMWORK WITH TxDOT HOUSTON DISTRICT AND OTHERS

QUESTIONS OR COMMENTS

Jamshid.Tashi@houstontx.gov

832-256-2289