MAYOR
SYLVESTER TURNER

CITY COUNCIL MEMBERS
AMY PECK
JERRY DAVIS
ABBIE KAMIN
CAROLYN EVANS-SHABAZZ
DAVE MARTIN
TIFFANY THOMAS
GREG TRAVIS
KARLA CISNEROS

HOUSTON AIRPORT SYSTEM

CONTROLLER
CHRIS B. BROWN

CITY COUNCIL MEMBERS
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EDWARD POLLARD
MARTHA CASTEX-TATUM
MIKE KNOX
DAVID ROBINSON
MICHAEL KUBOSH
LETITIA PLUMMER
SALLIE ALCORN

PLANS FOR CONSTRUCTION

OF

WILL CLAYTON / JFK FLYOVER BRIDGE RECONSTRUCTION

AT

GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON

PROJECT NO. 931
TIP-20-52-IAH

PREPARED BY

ATKINS

JUNE 26, 2020
100% SUBMITTAL

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
COVER SHEET

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	G-001

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION INDEX OF DRAWINGS

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9	GC-104	PHASING – PHASE 2
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PROJECT SCOPE:

THE WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PROJECT CONSISTS OF THE FOLLOWING MAJOR WORK ELEMENTS:

1. REMOVE EXISTING ALUMINUM GUARDRAIL AND RETROFIT THE EXISTING CONCRETE PARAPET RAILING WITH TXDOT SSTR STYLE RAILING.
2. REMOVE EXISTING SIDEWALK AND CURB, AND RESTORE DECK SURFACE.
3. REMOVE EXISTING SIDEWALK AND CURB, AND INSTALL ROADWAY PAVEMENT.
4. INSTALL CRASH CUSHION ATTENUATORS ON BRIDGE END ABUTMENTS.
5. REMOVE EXISTING CONCRETE PARAPET RAILING AND REPLACE WITH TXDOT SSTR STYLE RAILING.
6. MILL EXISTING BRIDGE DECK AND REPLACE WITH LATEX MODIFIED CONCRETE OVERLAY.
7. MODIFY EXISTING, AND PROVIDE NEW TRAFFIC SIGNAGE.
8. REMOVE AND RESTORE EXISTING CENTERPOINT LIGHTS. (TO BE DONE BY CENTERPOINT.)

ABBREVIATIONS:

BP	BASE POINT
EB	EASTBOUND
EP	END POINT
JFK	JOHN F. KENNEDY
OH	OVERHEAD
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PIP	PROTECT IN PLACE
PT	POINT OF TANGENCY
RD	ROAD
SB	SOUTHBOUND
TYP	TYPICAL
WB	WESTBOUND
NB	NORTHBOUND
TCP	TRAFFIC CONTROL PLAN

Will Cayton/JFK Flyover Bridge Reconstruction
Summary of Bid Quantites

Item Number	Spec. Number	Description	Unit	Estimated Quantities
1	TxDOT-500-6001	Mobilization and Demobilization	LS	1
2	TxDOT-100-6001	Ireparing Right of Way	AC	0.5
3	01572	Erosion Control	LS	1
4	TxDOT-104-6015	Concrete Removal - Sidewalk	SY	946
5	TxDOT-104-6021	Concrete Removal - Curb	LF	3400
6	TxDOT-105-6008	Remove Stabilized Base - 6-Inch	SY	175
7	TxDOT-275-6003	Cement Treated Base - 6-Inch	SY	175
8	TxDOT-360-6002	Concrete Pavement - Joint Reinforcement - 8 Inches	SY	175
9	TxDOT-422-6015	Approach Slab	CY	60
10	TxDOT-429-6007	Concrete Structure Repair (Vertical and Overead)	SF	60
11	TxDOT-439-6008	latex - Modified Concrete Overlay - 2.5-Inch	SY	4350
12	TxDOT 446-6028	Cleaning and Painting Existing Structure	LS	1
13	TxDOT-451-6024	Retrofit Railing	LF	3204
14	TxDOT-483-6017	Milling Concrete Slab - 2-Inch	SY	4350
15	TxDOT-495-6001	Raising Existing Structure - Span (6 Spans)	LS	1
16	TxDOT-496-6025	Remove STR (Approach Slab)	EA	2
17	TxDOT-502-6001	Barricades, Signs and Traffic Handling	MONTH	4
18	TxDOT-512-6005	Portable Concrete Safety Barrier (F-Shape) - Type I	LF	1700
19	TxDOT-512-6025	Portable Concrete Safety Barrier (Move)(SGL SLP)(TY 1)	LF	1700
20	TxDOT-512-6049	Portable Concrete Safety Barrier (Remove)(SGL SLP)(TY 1)	LF	1700
21	TxDOT-S56056-6001	Rh-Lane/Transverse Rumble Strips	LF	160
22	TxDOT-544-6001	Guardrail End Treatment (Install)	EA	1
23	TxDOT-545-6001	Crash Cushion Attenuators	EA	1
24	TxDOT-618-6025	Conduit (PVC) (Sch 40) (2") (CONC ENCSE)	LF	3204
25	TxDOT-636-6001	Aluminum Signs - Type A	EA	30
26	TxDOT-636-6007	Replace Existing Aluminum Signs - Type A	EA	5
27	TxDOT-644-6078	Remove Small Road Sign (Sign Only)	EA	13
28	TxDOT-672-6007	Raised Pavement Markers - Reflective Pavement Marker, Type I-C	EA	250
29	TxDOT-666-6167	Reflective Pavement Marker, Type II - 4-inch White Lane Line	LF	1700
30	TxDOT-666-6170	Pavement Marker, Type II - 4-Inch White Edge Line	LF	3400
31	TxDOT-678-6001	Pavement Surface Preparation for Markings	LF	5100
32	TxDOT-685-6004	Traffic Signal - Radar Speed Sign (Solar)	EA	1
33	TxDOT-738-6001	Cleaning and Sweeping Highways	LS	1
34	TxDOT-780-6002	Concrete Crack Repair (Discrete Inject)	LF	25
35	TxDOT-785-6010	Bridge Joint Repair (Armor)	LF	543
36	TxDOT-4002-6001	Replace Elastomeric Bearing Pad - Per Span	EA	6
Cash Allowance:		Debris Shield/Netting	LS	1
Cash Allowance:		Centerpoint (Lightpole Removal and Replacement)	LS	1
Electives:				
TxDOT-3037-6001		High Friction Surface Course	SY	4350

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REVISIONS

NO.	DESCRIPTION	DATE	BY

CITY OF HOUSTON – HOUSTON AIRPORTS SYSTEM
Recommended
Approved
Director, Houston Airport System
Date
Director or Designated Representative

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION INDEX OF DRAWINGS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS – REGISTERED – EDMOND S. WOODS – 122123 – LICENSED – PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	G-002

HAS FILE:
PLOT DATE:

GENERAL NOTES

1. THE EXISTING CONDITIONS ILLUSTRATED WITHIN THESE PROJECT PLANS ARE DEVELOPED FROM AS-BUILT INFORMATION SUPPLEMENTED BY A PROJECT SITE VISIT. THE DESIGNER DOES NOT WARRANT THIS EXISTING CONDITIONS INFORMATION AS ALL-INCLUSIVE OR EXACT BUT RATHER AS THE BEST AVAILABLE KNOWLEDGE TRANSFER AT THE TIME OF PROJECT DEVELOPMENT. THE SOURCE OF AS-BUILT INFORMATION IS PROJECT NO: 159, KENNEDY-JETERO INTERCHANGE MODIFICATIONS.

2. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. SHOULD THE CONTRACTOR DISCOVER ANY CONDITIONS NOT REFLECTED WITHIN THE PROJECT DOCUMENTS, HE SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY.

3. THE PROJECT PAY ITEMS PROVIDED SHALL BE INCLUSIVE OF ALL WORK TO BE PERFORMED AS SHOWN IN THESE PROJECT PLANS. WORK NOT IDENTIFIED WITH A SPECIFIC PAY ITEMS SHALL BE INCLUDED IN THE COST OF THE PROJECT PAY ITEMS OF WHICH IT IS A COMPONENT.

4. THE LOCATION FOR THE CONTRACTOR'S STAGING AREA IS INDICATED ON DRAWING G-005. THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL UTILITY CONNECTIONS AND SERVICES TO AND WITHIN THE STAGING AREA AS MAY BE NECESSARY. THE CONTRACTOR SHALL PROVIDE SECURITY FENCING AROUND THE STAGING AREA(S). THE CONTRACTOR SHALL RESTORE THE STAGING AREA UPON PROJECT COMPLETION, INCLUDING REPAIR OF EXISTING FACILITIES, REMOVAL OF INSTALLED UTILITIES, REGRADING, TOP SOILING AND RESEEDING, COMPLETE AND TO THE SATISFACTION OF THE ENGINEER AND AIRPORT MANAGER. THE WORK ASSOCIATED WITH ESTABLISHING, MAINTAINING, DEMOBILIZING AND RESTORING THE CONTRACTOR'S STAGING AREA IS NOT MEASURED FOR SEPARATE PAYMENT.

5. ACCESS TO THE PROJECT SITE TO/FROM THE STAGING AREA SHALL BE AS SHOWN ON DRAWING G-005.

6. THE CONTRACTOR SHALL SECURE MATERIALS STOCKPILED WITHIN THE CONSTRUCTION AND STAGING AREAS TO PREVENT THEIR MOVEMENT OR EROSION RESULTING FROM WIND CONDITIONS AND/OR RAINFALL. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS ON THE PAVEMENT WITHIN THE PROJECT WORK AREA. THE CONTRACTOR SHALL SWEEP AND/OR VACUUM ALL ACTIVE PAVEMENT AREAS AFFECTED BY THE WORK ON A DAILY BASIS. IN ADDITION, THE CONTRACTOR SHALL SWEEP/CLEAN PAVED ROADWAYS ALONG THE PROJECT HAUL ROUTES AND IMMEDIATELY CLEAN UP MUD FALLING ON ANY PAVEMENTS OUTSIDE OF THE LIMITS OF CONSTRUCTION OR RESULTING FROM HIS HAULING ACTIVITIES. MECHANICAL SWEEPER AND VACUUM TRUCK SHALL BE ON-SITE AT ALL TIMES TO CLEAN ANY DEBRIS OFF THE ROADWAY PAVEMENTS FOR THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

7. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS THAT ARE PERTINENT TO THIS WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, MAINTAIN AND PAY ALL COSTS ASSOCIATED WITH ANY PERMITS AND LICENSES REQUIRED TO ACCOMPLISH THE WORK. THESE COSTS ARE INCIDENTAL TO THE WORK AND WILL NOT BE PAID FOR SEPARATELY. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR THE CONSTRUCTION OF THE PROJECT.

8. MATERIALS PRODUCED AS A RESULT OF THE CONTRACTOR'S OPERATIONS THAT ARE NOT OTHERWISE USEABLE BY THE AIRPORT SHALL BE DISPOSED OF OFF AIRPORT PROPERTY IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. THERE WILL BE NO SEPARATE PAY ITEM FOR WASTE MATERIAL DISPOSAL.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ACTIVITIES WITH THE APPROPRIATE ENTITY, INCLUDING BUT NOT LIMITED TO HAS, CITY OF HOUSTON, AND CENTERPOINT.

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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CITY OF HOUSTON
HOUSTON AIRPORTS SYSTEM
Recommended
Approved
Director or Designated Representative
DATE

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

GENERAL NOTES

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	G-003

SECURITY REQUIREMENTS

1. GENERAL INTENT: IT IS INTENDED THAT THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE AIRPORT SECURITY PLAN AND WITH THE SECURITY REQUIREMENTS SPECIFIED HEREIN BY HOUSTON AIRPORT SYSTEM (HAS) OPERATIONS. THE CONTRACTOR SHALL DESIGNATE TO THE ENGINEER AND AIRPORT OPERATIONS, IN WRITING, THE NAME OF HIS "CONTRACTOR SECURITY AND SAFETY OFFICER (CSSO)." THE CSSO SHALL REPRESENT THE CONTRACTOR ON THE SECURITY REQUIREMENTS FOR THE CONTRACT.

2. CONTRACTOR PERSONNEL SECURITY ORIENTATION: THE CSSO SHALL BE RESPONSIBLE FOR BRIEFING ALL CONTRACTOR PERSONNEL ON SECURITY REQUIREMENTS. ALL CONTRACTOR EMPLOYEES SHALL BE BRIEFED ON SECURITY REQUIREMENTS PRIOR TO WORKING IN THE CONSTRUCTION AREA.

3. ACCESS TO THE SITE: CONTRACTOR'S ACCESS TO THE SITE SHALL BE AS SHOWN ON THE PLANS. NO OTHER ACCESS POINTS SHALL BE ALLOWED UNLESS APPROVED BY AIRPORT OPERATIONS. ALL CONTRACTOR TRAFFIC AUTHORIZED TO ENTER THE SITE SHALL BE EXPERIENCED IN THE ROUTE OR GUIDED BY CONTRACTOR PERSONNEL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL TO AND FROM THE CONSTRUCTION AREA. THE CONTRACTOR SHALL NOT PERMIT ANY UNAUTHORIZED CONSTRUCTION PERSONNEL OR TRAFFIC ON THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS DEPOSITED ALONG THE ACCESS ROUTE AS A RESULT OF THE CONSTRUCTION TRAFFIC.

4. MATERIALS DELIVERY TO THE SITE: ALL CONTRACTOR'S MATERIAL ORDERS FOR DELIVERY TO THE WORK SITE WILL USE A DELIVERY ADDRESS, THE STREET NAME ASSIGNED TO THE ACCESS POINT AT THE CONTRACTOR'S STAGING SITE. THE NAME "GEORGE BUSH INTERCONTINENTAL AIRPORT" SHALL NOT BE USED IN THE DELIVERY ADDRESS AT ANY TIME. HAS WILL NOT BE RESPONSIBLE FOR ACCEPTING OR DIRECTING CONTRACTOR MATERIAL DELIVERIES. CONSTRUCTION ACCESS SHALL BE ONLY VIA DESIGNATED ROUTING AND LOCATIONS.

5. CONSTRUCTION AREA LIMITS: FOR THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL ERECT AND MAINTAIN AROUND THE PERIMETER OF THESE AREAS, SUITABLE FENCING, MARKING AND/OR WARNING DEVICES VISIBLE FOR DAY/NIGHT USE. TEMPORARY BARRICADES, FLAGGING AND FLASHING WARNING LIGHTS, WILL BE REQUIRED AT CRITICAL ACCESS POINTS. TYPE OF MARKING AND WARNING DEVICES SHALL BE APPROVED BY AIRPORT OPERATIONS.

AIRPORT SAFETY REQUIREMENTS

1. THE CONTRACTOR SHALL CONDUCT THE CONSTRUCTION ACTIVITIES TO CONFORM TO ALL ROUTINE EMERGENCY REQUIREMENTS AND GUIDELINES ON SAFETY.

2. STOCKPILE EROSION AND DUST CONTROL – STOCKPILED MATERIAL AND OPEN EXCAVATIONS SHALL BE TREATED IN SUCH A MANNER AS TO PREVENT MOVEMENT RESULTING FROM WIND CONDITIONS IN EXCESS OF 10 KNOTS.

3. PRIOR TO OPENING FOR PUBLIC TRANSIT USE, THE OWNER'S AUTHORIZED REPRESENTATIVE WILL ARRANGE FOR INSPECTION BY HAS OPERATIONS OF ANY PAVEMENT THAT HAS BEEN CLOSED FOR WORK, OR THAT HAS BEEN USED FOR A CROSSING POINT OR HAUL ROUTE BY THE CONTRACTOR. THIS AREA MUST COMPLY WITH THE SAFETY REQUIREMENTS, AND BE APPROVED BY THE DESIGNATED OPERATION'S INSPECTOR, BEFORE PERMISSION FOR THE CONTRACTOR'S WORK CREWS TO DEPART WILL BE GRANTED.

4. THE CONTRACTOR SHALL SUBMIT A DESTRUCTIVE/INCLEMENT WEATHER PLAN TO SET FORTH GENERAL GUIDANCE AND INFORMATION FOR THE CONTRACTOR TO COORDINATE PREPAREDNESS PLANS WHEN DESTRUCTIVE WEATHER THREATENS THE IAH AIRPORT ENVIRONMENT.

5. MATERIALS STORED OR STOCKPILED ON THE SITE SHALL BE SO PLACED, AND THE WORK SHALL, AT ALL TIMES, BE SO CONDUCTED AS TO CAUSE NO GREATER OBSTRUCTION TO THE TRAFFIC THAN IS CONSIDERED NECESSARY BY THE OWNER'S REPRESENTATIVE.

6. THE CONTRACTOR SHALL CONFINE HIS/HER PERSONNEL, EQUIPMENT, OPERATIONS AND TRAVEL, TO THE AREA WITHIN THE DEFINED WORK LIMITS SHOWN ON THE PLANS.

7. THE CONTRACTOR SHALL INFORM ALL CONSTRUCTION PERSONNEL AS TO THE PROPER ROUTES, SPEEDS, AND PROCEDURES, FOR TRANSPORTING EQUIPMENT AND MATERIALS TO THE CONSTRUCTION SITE. DELIVERIES SHALL BE AS SHOWN IN THE PLANS.

8. MEASURES SHALL BE ADOPTED TO PREVENT POTENTIAL POLLUTANTS FROM ENTERING ANY DRAINAGE SYSTEM OR WATERWAY. MATERIALS AND DEBRIS SHALL NOT BE STORED IN THE WORK AREA IN A MANNER THAT WOULD ALLOW THEM TO ENTER THE DRAINAGE SYSTEM AS A RESULT OF SPILLAGE, NATURAL RUNOFF OR FLOODING. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMMEDIATELY NOTIFY THE SPONSOR SHOULD THERE BE A SPILLAGE OF MATERIAL WHICH MIGHT CONTAMINATE THE DRAINAGE SYSTEM. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND CLEAR UP SUCH SPILLAGE IN A MANNER ACCEPTABLE TO THE SPONSOR. MATERIAL SHALL BE SECURED SO THAT IT WILL NOT BE BLOWN BY THE WIND ONTO THE ADJACENT ROADWAYS.

9. SPECIAL ATTENTION TO DUST CONTROL WILL BE REQUIRED WHEN EARTHWORK OR HAULING OPERATIONS ARE IN PROGRESS OR WHEN WIND AND WEATHER CONDITIONS CAUSE EXCESSIVE BLOWING OF DUST. IN THIS REGARD, THE CONTRACTOR SHALL APPLY WATER TO THE AFFECTED SITES AS DIRECTED.

10. THE CONTRACTOR SHALL SUBMIT A SAFETY AND SECURITY PLAN TO THE HAS PROJECT MANAGER FOR REVIEW AND APPROVAL BY THE AIRPORT PRIOR TO CONSTRUCTION COMMENCING.

11. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SHEETING, SHORING AND BRACING IS DONE IN ACCORDANCE WITH CURRENT O.S.H.A REGULATIONS AND REQUIREMENTS. SHEETING, SHORING AND BRACING (EXCEPT TRENCH SAFETY), IS CONSIDERED TO BE AS AN INCIDENTAL PART OF THE WORK AND NO SEPARATE PAYMENT WILL BE ALLOWED.

UTILITY NOTES

3. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INVOLVED, A MINIMUM OF 72 HOURS IN ADVANCE OF ANY EXCAVATION OR BORINGS, TO HAVE THEIR UTILITIES LOCATED AND MARKED IN THE FIELD.

   A. THE CONTRACTOR SHALL CONTACT TEXAS ONE CALL (811) AND THE FOLLOWING LOCAL UTILITY OWNERS (LIST NOT INCLUSIVE OF ALL POTENTIAL UTILITY OWNERS) TO VERIFY ALL UNDERGROUND UTILITY LOCATIONS IN THE VICINITY OF THE PROPOSED WORK:

CABLE OWNER	CONTACT PERSON	PHONE NUMBER
HOUSTON AIRPORT SYSTEM	OPERATIONS	281-233-1131
CENTERPOINT ENERGY SYSTEM	UTILITY COORDINATION	713-207-1111

   B. ALL UNDERGROUND UTILITIES SHALL THEN BE LOCATED BY THE CONTRACTOR TO VERIFY LOCATION AND ELEVATION PRIOR TO COMMENCING CONSTRUCTION OPERATIONS.

   C. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY OWNER IF A UTILITY INSPECTOR MUST BE ON SITE WHEN LOCATING OR EXCAVATING NEAR UTILITIES.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING UP HIS/HER OWN WATER SOURCES WITH THE CITY. ALL CONSTRUCTION WATER WILL BE METERED BY THE CITY-OWNED METERS AND ONLY THOSE METERS. THE CONTRACTOR WILL BE RESPONSIBLE FOR PAYING ALL RELATED FEES TO THE CITY.

3. THE CONTRACTOR SHALL TAKE ALL STEPS TO PROTECT ALL COMMERCIAL AND AIRPORT UTILITIES DURING CONSTRUCTION IN ORDER TO ENSURE CONTINUOUS OPERATION WHEN NEEDED. THE CONTRACTOR SHALL, AT HIS/HER OWN EXPENSE, MAINTAIN IN PROPER WORKING ORDER AND WITHOUT INTERRUPTION OF SERVICE ALL EXISTING UTILITIES AND SERVICES WHICH MAY BE ENCOUNTERED IN THE WORK. WITH THE CONSENT OF THE OWNER'S REPRESENTATIVE, ENGINEER, AND/OR UTILITY OWNER, AS APPROPRIATE, SUCH SERVICE CONNECTIONS MAY BE TEMPORARILY INTERRUPTED TO PERMIT THE CONTRACTOR TO REMOVE DESIGNATED LINES OR TO MAKE TEMPORARY CHANGES IN THE LOCATIONS OF SERVICES. THE COST OF MAKING CHANGES SHALL BE AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIFICATIONS.

4. ALL DAMAGED UTILITIES SHALL BE REPAIRED EXPEDITIOUSLY AT NO ADDITIONAL EXPENSE TO THE OWNER.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INSPECTIONS, AS NECESSARY, OF ANY UTILITY WORK BY THE UTILITY OWNER THROUGHOUT THE PROJECT. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE PROJECT.

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WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

SAFETY SECURITY AND UTILITY NOTES

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
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DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
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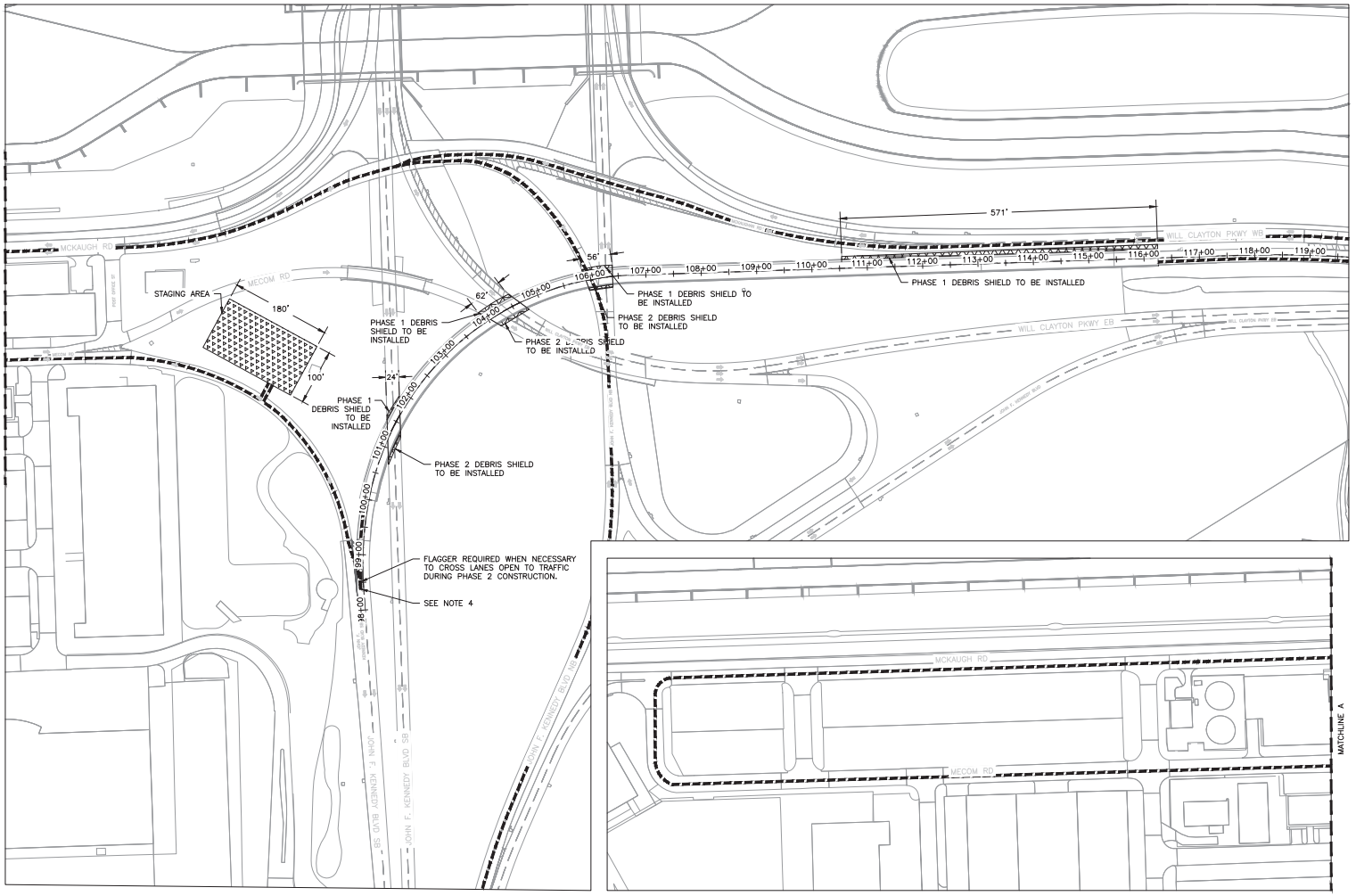
H.A.S. NO.	931
SHEET NO.	G-004



ACCESS ROUTES:

WILL CLAYTON PKWY – WB

JOHN F. KENNEDY BLVD. – NB TO MCKAUGH RD. TO MECOM RD.

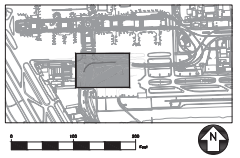
JOHN F. KENNEDY BLVD. NB TO WILL CLAYTON PKWY – EB TO WILL CLAYTON PKWY – WB

LEGEND

- STAGING AREA
- DEBRIS SHIELDS
- ACCESS ROUTE

NOTES

1. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. SEE SHEETS CP–501 THROUGH CP–510 FOR TRAFFIC CONTROL DETAILS AND NOTES.
3. DEBRIS SHIELDS SHALL BE INSTALLED BY THE CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. THE DEBRIS SHIELD SHALL EXTEND BEYOND THE EDGE OF PAVEMENT LIMITS OF THE ROADWAY BELOW FOR EXTENSIVE SAFETY MEASURES.
4. CONTRACTOR MUST BACK ALL VEHICLES ONTO BRIDGE WHEN ACCESSING FROM STAGING AREA. VEHICLE TURNING MOVEMENTS THAT UNNECESSARILY STOP PUBLIC TRAFFIC WILL NOT BE ALLOWED.
5. CONTRACTOR SHALL PROVIDE FLAG PERSON AS NEEDED FOR CONSTRUCTION VEHICLES TO ACCESS BRIDGE FOR JFK BLVD AND MECOM RD.
6. INSTALL DEBRIS SHIELDS IN LOCATIONS AS SHOWN ON THE PLANS, PROVIDE DUST AND PARTICULATE CONTROLS DURING DEMOLITION, OR OTHER MEASURES AS NECESSARY TO PREVENT DEMOLITION OR CONSTRUCTION DEBRIS OR TOOLS OR MATERIALS FROM FALLING ONTO SURFACE OF ROADWAYS LOCATED BENEATH OR ADJACENT TO THE BRIDGE.
7. CONTRACTOR SHALL ENGAGE A QUALIFIED AND COMPETENT FIRM TO DESIGN, INSTALL, MAINTAIN AND REMOVE THE DEBRIS SHIELDS. PLANS SHALL BE STAMPED AND SEALED BY A CURRENTLY LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, AND SUBMITTED FOR REVIEW.
8. DEBRIS SHIELDS SHALL NOT EXTEND BELOW THE LOWEST EXISTING GIRDER OR REDUCE EXISTING ROAD CLEARANCES UNDER BRIDGE. MATERIAL, MOUNTING SUPPORTS, ETC. SHALL BE AT THE CONTRACTOR'S DESIGN ENGINEER'S DISCRETION, AND MUST BE REMOVED FULLY AT THE END OF THE PROJECT.
9. THE MINIMUM LIMITS OF DEBRIS SHIELDS SHALL BE AS SHOWN ON PLANS. IF ADDITIONAL LENGTH AND WIDTH OF DEBRIS SHIELD IS NECESSARY TO MEET NOTE 6 PERFORMANCE REQUIREMENT, IT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
10. SUBMIT TRAFFIC CONTROL PLANS FOR INSTALLATION OF DEBRIS SHIELDS.



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION SAFETY AND ACCESS PLAN

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

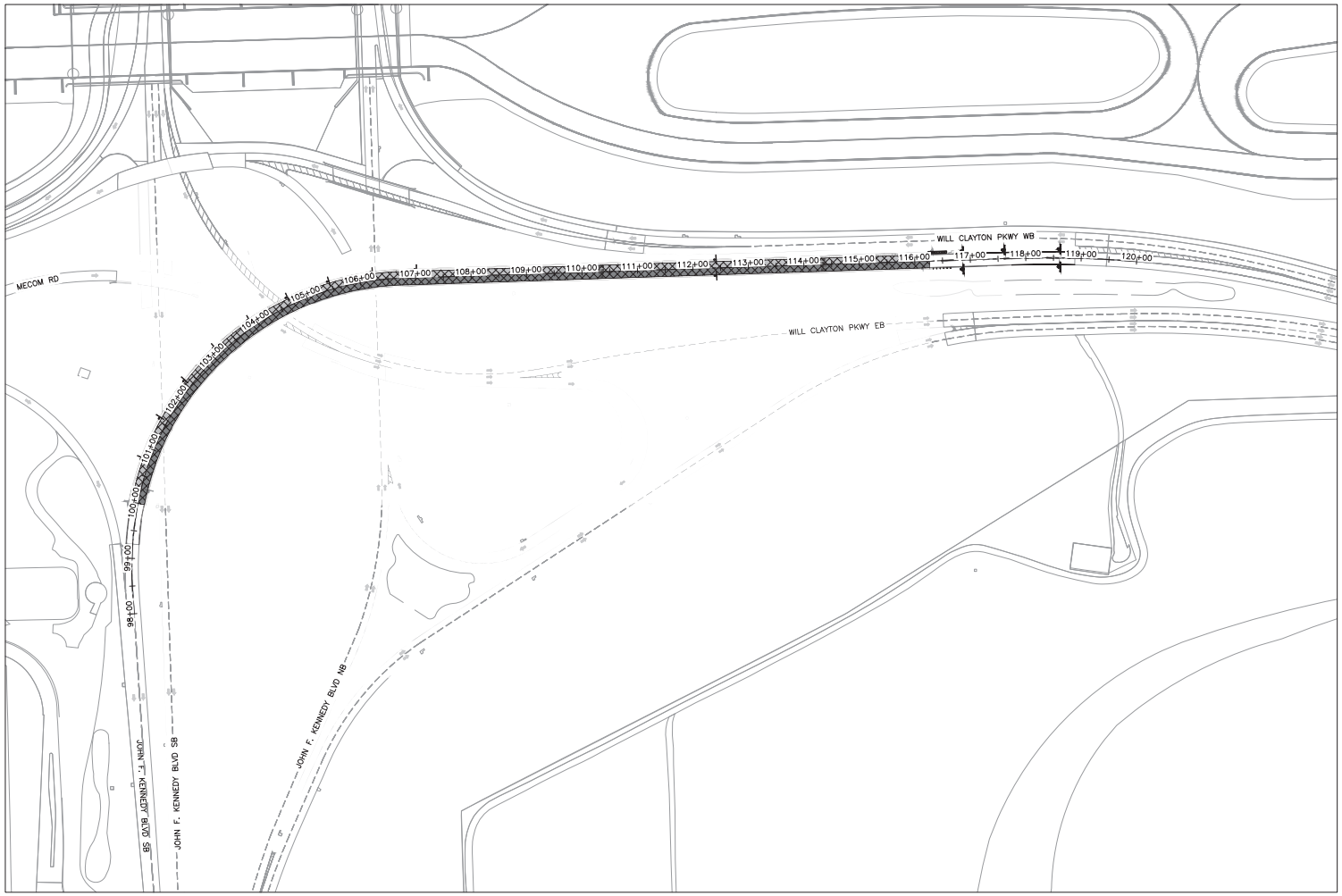
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO. 100066296
A.I.P. NO.
C.I.P. NO.
H.A.S. NO. 931
SHEET NO. G-005

HAS FILE:
PLOT DATE:



LEGEND

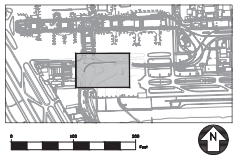
- WORK ZONE – PHASE 1
- WORK ZONE – PHASE 2
- WORK ZONE – PHASE 3

NOTES

1. THE CONSTRUCTION PHASING IS BROKEN INTO MULTIPLE PHASES OF WORK. DUE TO THE IMPORTANCE OF MAINTAINING UNINTERRUPTED FLOW OF TRAFFIC DURING CONSTRUCTION WITHIN THE PROJECT WORK AREA, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE AWARE/KNOWLEDGEABLE OF AND IMPLEMENT THE GUIDELINES ESTABLISHED IN THE SAFETY AND SECURITY NOTES AND ELSEWHERE THROUGHOUT THE PLANS AND PROJECT MANUAL.
2. THE CONTRACTOR SHALL AT ALL TIMES COORDINATE THEIR WORK EFFORTS WITH THE OWNER'S REPRESENTATIVE AND AIRPORT OPERATIONS IF ANY PROBLEMS OR CHANGES ARISE DURING CONSTRUCTION SEQUENCING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE REQUESTING ACTIONS TO RESOLVE SAID PROBLEMS PRIOR TO CONTINUING THE WORK.
3. THE CONTRACTOR SHALL PROVIDE AT LEAST ONE DESIGNATED FLAGMAN AT ANY LOCATION WHERE CONSTRUCTION TRAFFIC CAUSES AN TEMPORARY INTERRUPTION TO THE FLOW OF TRAFFIC IN ORDER TO GUIDE CONSTRUCTION EQUIPMENT TO THE PROJECT WORK AREA.
4. THE CONTRACTOR SHALL CONTINUOUSLY CLEAN DURING EACH PHASE OF THE PROJECT AND SHALL PERFORM FINAL CLEAN UP WORK PRIOR TO A FINAL INSPECTION. THE CONTRACTOR SHALL SWEEP ON A DAILY BASIS AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL AND TAKE APPROPRIATE MEASURES AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE TO MITIGATE ANY CURRENT OR POTENTIAL DUST ISSUES.
6. THE COMPLETION OF ANY PHASE OF WORK AND SUBSEQUENT USAGE BY THE OWNER DOES NOT DEFINE FINAL ACCEPTANCE OF THE WORK IN THAT PHASE. WHEN ALL PHASES ARE COMPLETE, A FINAL INSPECTION OF THE ENTIRE PROJECT HAS OCCURRED ALL ASSOCIATED PUNCH LIST ITEMS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE AIRPORT MANAGEMENT AND OWNER'S REPRESENTATIVE, THEN THE ENTIRE PROJECT WILL BE ACCEPTED.
7. THE INSTALLATION OF THE TRAFFIC CONTROLS, DEBRIS SHIELD, AND THE SWPPP CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO ANY WORK IS TO COMMENCE DURING ALL PHASES.

NOTES (CONTINUED)

8. THE CONTRACTOR SHALL PROCURE BARRICADES AND OTHER SAFETY ITEMS AND VERIFY SUFFICIENT QUANTITIES TO SETUP THE PROPER TRAFFIC CONTROL IN ACCORDANCE WITH THE PLANS.
9. WORK IN PHASE 1 WILL BE PERFORMED DURING THE DAYTIME. THE CONTRACTOR HAS THE ABILITY TO PERFORM THIS PHASE OF WORK DURING THE NIGHT AT THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
10. WORK IN PHASE 2 WILL BE PERFORMED DURING THE DAYTIME. THE CONTRACTOR HAS THE ABILITY TO PERFORM THIS PHASE OF WORK DURING THE NIGHT AT THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
11. WORK IN PHASE 3 WILL BE PERFORMED DURING THE NIGHTTIME ONLY. BRIDGE CLOSURE IS REQUIRED FOR PHASE 3 WORK. AT THE BEGINNING OF THE PROJECT, PHASE 1 AND PHASE 3 WILL BE DURING THE SAME TIME PERIOD. PHASE 1 WILL STRICTLY BE DAYTIME WORK, AND PHASE 3 WILL STRICTLY BE NIGHTTIME WORK. NEITHER PHASE CAN BE PERFORMED SIMULTANEOUSLY. THE TRAFFIC CONTROL PLAN FOR PHASE 3 MUST BE RESTORED TO PHASE 1 TRAFFIC CONTROL PLAN BEFORE THE OPENING UP TO TRAFFIC ON THE BRIDGE.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PHASING - OVERALL

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	GC-101

Major Work Item	Construction Time Allowable - Phase 1: 56 Calendar Days
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
Mobilization	
Install and Maintain TCP	
Install Debris Sheild and SWPPP	
Concrete Removal (Approach)	
Removing Stabilized Base (Approach)	
Cement Stabilize Subgrade Construction	
Concrete Pavement - Construction (Approach)	
Concrete Removal (Milling - Bridge Deck)	
Concrete Pavement - Overlay Construction	
Install SSTR Barricade	
Install Crash Cushion Attenuator	
Signage and Markings Installation	

LEGEND

WORK ZONE – PHASE 1

NOTES

1. THE CONSTRUCTION PHASING IS BROKEN INTO MULTIPLE PHASES OF WORK. DUE TO THE IMPORTANCE OF MAINTAINING UNINTERRUPTED FLOW OF TRAFFIC DURING CONSTRUCTION WITHIN THE PROJECT WORK AREA, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE AWARE/KNOWLEDGEABLE OF AND IMPLEMENT THE GUIDELINES ESTABLISHED IN THE SAFETY AND SECURITY NOTES AND ELSEWHERE THROUGHOUT THE PLANS AND PROJECT MANUAL.
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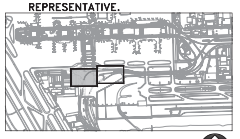
NOTES (CONTINUED)

10. SEE THE CONSTRUCTION LIST–SCHEDULE ON THIS SHEET FOR MAJOR WORK ITEMS AND CONSTRUCTION TIME DURATIONS FOR THIS PHASE.



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PHASING - PHASE 1

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

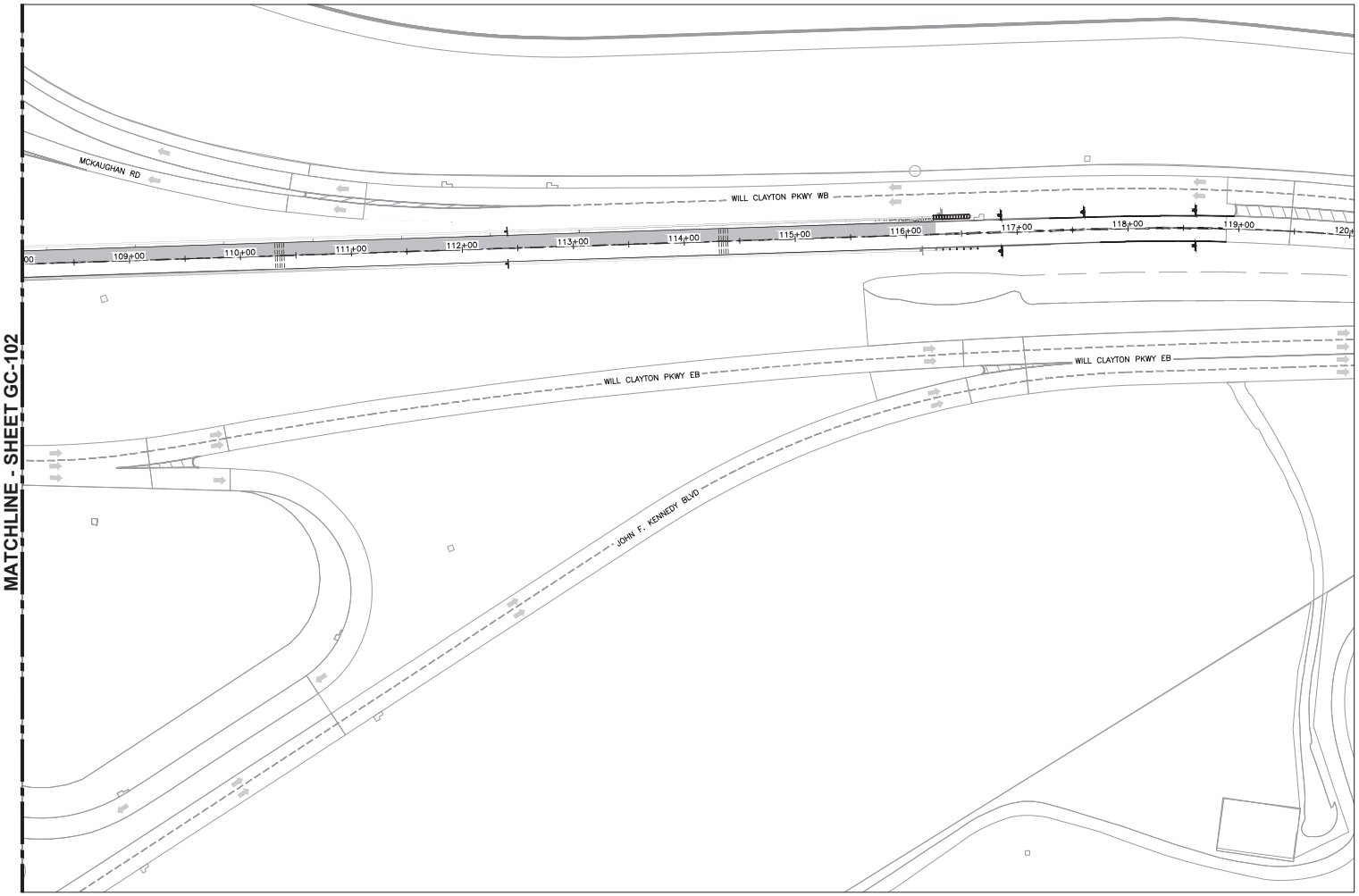
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	GC-102

HAS FILE:
PLOT DATE:



MATCHLINE - SHEET GC-102

Major Work Item	Construction Time Allowable - Phase 1: 56 Calendar Days
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Mobilization	
Install and Maintain TCP	
Install Debris Sheild and SWPPP	
Concrete Removal (Approach)	
Removing Stabilized Base (Approach)	
Cement Stabilize Subgrade Construction	
Concrete Pavement - Construction (Approach)	
Concrete Removal (Milling - Bridge Deck)	
Concrete Pavement - Overlay Construction	
Install SSTR Barricade	
Install Crash Cushion Attenuator	
Signage and Markings Installation	

HAS FILE:
PLOT DATE:

LEGEND

WORK ZONE – PHASE 1

NOTES

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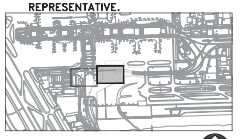
NOTES (CONTINUED)

10. SEE THE CONSTRUCTION LIST–SCHEDULE ON THIS SHEET FOR MAJOR WORK ITEMS AND CONSTRUCTION TIME DURATIONS FOR THIS PHASE.



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PHASING - PHASE 1

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	GC-103

Major Work Item	Construction Time Allowable - Phase 2: 60 Calendar Days
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
Mobilization	
Install and Maintain TCP	
Install Debris Sheild and SWPPP	
Concrete Removal (Approach)	
Removing Stabilized Base (Approach)	
Cement Stabilize Subgrade Construction	
Concrete Pavement - Construction (Approach)	
Concrete Removal (Milling - Bridge Deck)	
Concrete Pavement - Overlay Construction	
Install SSTR Barricade	
Install Crash Cushion Attenuator	
Reinstall Lighting (Centerpoint)	
Signage and Markings Installation	
Demobilization	

HAS FILE:
PLOT DATE:

LEGEND

WORK ZONE – PHASE 2

NOTES

1. THE CONSTRUCTION PHASING IS BROKEN INTO MULTIPLE PHASES OF WORK. DUE TO THE IMPORTANCE OF MAINTAINING UNINTERRUPTED FLOW OF TRAFFIC DURING CONSTRUCTION WITHIN THE PROJECT WORK AREA, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE AWARE/KNOWLEDGEABLE OF AND IMPLEMENT THE GUIDELINES ESTABLISHED IN THE SAFETY AND SECURITY NOTES AND ELSEWHERE THROUGHOUT THE PLANS AND PROJECT MANUAL.
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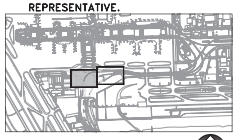
9. WORK IN PHASE 2 WILL BE PERFORMED DURING THE DAYTIME. THE CONTRACTOR HAS THE ABILITY TO PERFORM THIS PHASE OF WORK DURING THE NIGHT AT THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

NOTES (CONTINUED)

10. SEE THE CONSTRUCTION LIST–SCHEDULE ON THIS SHEET FOR MAJOR WORK ITEMS AND CONSTRUCTION TIME DURATIONS FOR THIS PHASE.



0 50 100 Feet

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

CITY OF HOUSTON
HOUSTON AIRPORTS SYSTEM
Recommended
Approved
Director
Houston Airport System
Date

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PHASING - PHASE 2

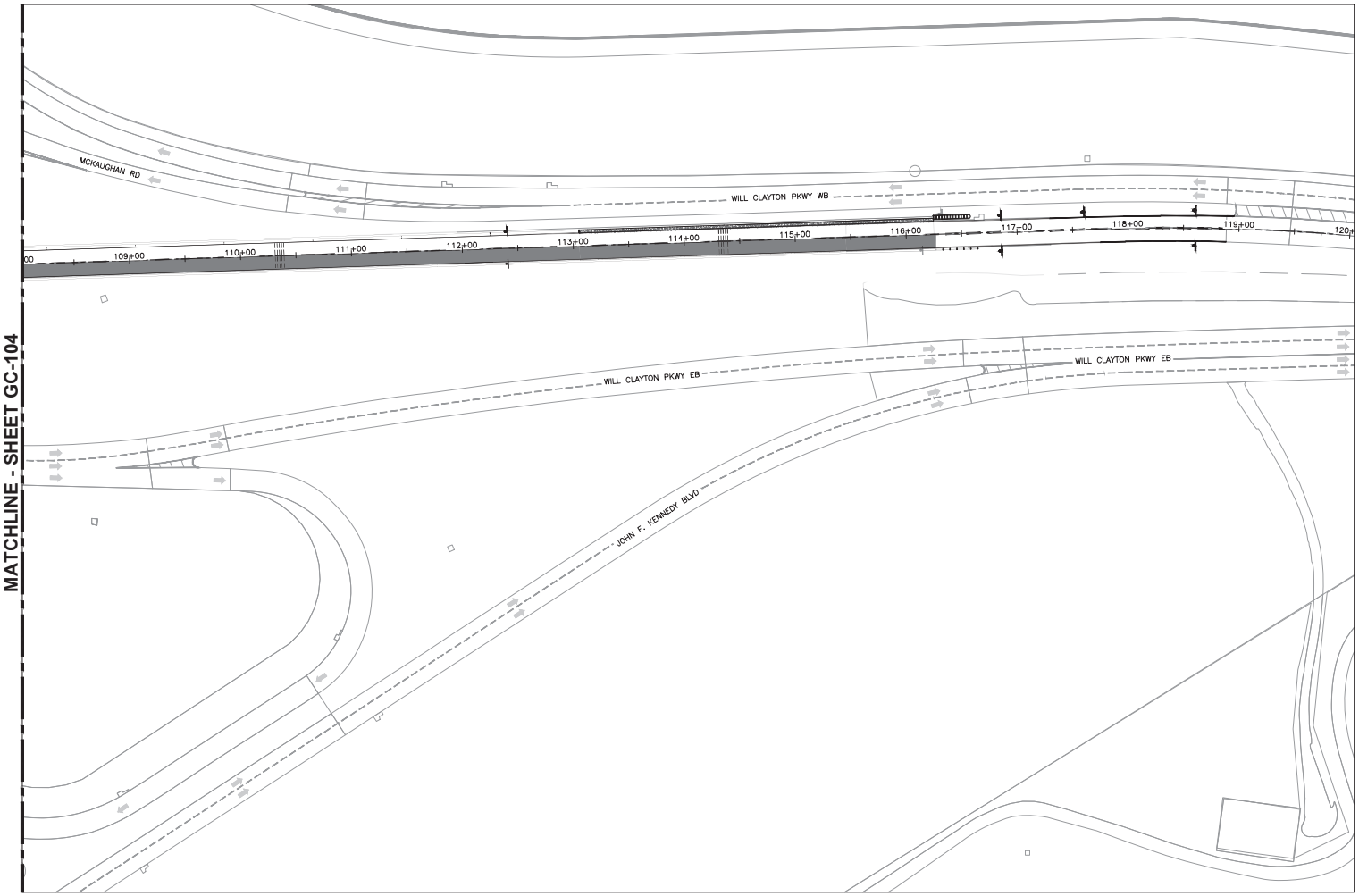
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	GC-104



MATCHLINE - SHEET GC-104

Major Work Item	Construction Time Allowable - Phase 2: 60 Calendar Days
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
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Cement Stabilize Subgrade Construction	
Concrete Pavement - Construction (Approach)	
Concrete Removal (Milling - Bridge Deck)	
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Install SSTR Barricade	
Install Crash Cushion Attenuator	
Reinstall Lighting (Centerpoint)	
Signage and Markings Installation	
Demobilization	

NOTES (CONTINUED)

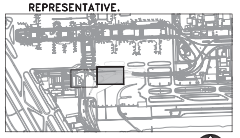
10. SEE THE CONSTRUCTION LIST–SCHEDULE ON THIS SHEET FOR MAJOR WORK ITEMS AND CONSTRUCTION TIME DURATIONS FOR THIS PHASE.

LEGEND

WORK ZONE – PHASE 2

NOTES

1. THE CONSTRUCTION PHASING IS BROKEN INTO MULTIPLE PHASES OF WORK. DUE TO THE IMPORTANCE OF MAINTAINING UNINTERRUPTED FLOW OF TRAFFIC DURING CONSTRUCTION WITHIN THE PROJECT WORK AREA, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE AWARE/KNOWLEDGEABLE OF AND IMPLEMENT THE GUIDELINES ESTABLISHED IN THE SAFETY AND SECURITY NOTES AND ELSEWHERE THROUGHOUT THE PLANS AND PROJECT MANUAL.
2. THE CONTRACTOR SHALL AT ALL TIMES COORDINATE THEIR WORK EFFORTS WITH THE OWNER'S REPRESENTATIVE AND AIRPORT OPERATIONS IF ANY PROBLEMS OR CHANGES ARISE DURING CONSTRUCTION SEQUENCING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE REQUESTING ACTIONS TO RESOLVE SAID PROBLEMS PRIOR TO CONTINUING THE WORK.
3. THE CONTRACTOR SHALL PROVIDE AT LEAST ONE DESIGNATED FLAGMAN AT ANY LOCATION WHERE CONSTRUCTION TRAFFIC CAUSES AN TEMPORARY INTERRUPTION TO THE FLOW OF TRAFFIC IN ORDER TO GUIDE CONSTRUCTION EQUIPMENT TO THE PROJECT WORK AREA.
4. THE CONTRACTOR SHALL CONTINUOUSLY CLEAN DURING EACH PHASE OF THE PROJECT AND SHALL PERFORM FINAL CLEAN UP WORK PRIOR TO A FINAL INSPECTION. THE CONTRACTOR SHALL SWEEP ON A DAILY BASIS AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL AND TAKE APPROPRIATE MEASURES AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE TO MITIGATE ANY CURRENT OR POTENTIAL DUST ISSUES.
6. THE COMPLETION OF ANY PHASE OF WORK AND SUBSEQUENT USAGE BY THE OWNER DOES NOT DEFINE FINAL ACCEPTANCE OF THE WORK IN THAT PHASE. WHEN ALL PHASES ARE COMPLETE, A FINAL INSPECTION OF THE ENTIRE PROJECT HAS OCCURRED ALL ASSOCIATED PUNCH LIST ITEMS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE AIRPORT MANAGEMENT AND OWNER'S REPRESENTATIVE, THEN THE ENTIRE PROJECT WILL BE ACCEPTED.
7. THE INSTALLATION OF THE TRAFFIC CONTROL PLAN, DEBRIS SHIELD, AND THE SWPPP CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO ANY WORK IS TO COMMENCE DURING ALL PHASES.
8. THE CONTRACTOR SHALL PROCURE BARRICADES AND OTHER SAFETY ITEMS AND VERIFY SUFFICIENT QUANTITIES TO SETUP THE PROPER TRAFFIC CONTROL PLANS.
9. WORK IN PHASE 2 WILL BE PERFORMED DURING THE DAYTIME. THE CONTRACTOR HAS THE ABILITY TO PERFORM THIS PHASE OF WORK DURING THE NIGHT AT THE APPROVAL OF THE OWNER'S REPRESENTATIVE.



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PHASING - PHASE 2

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

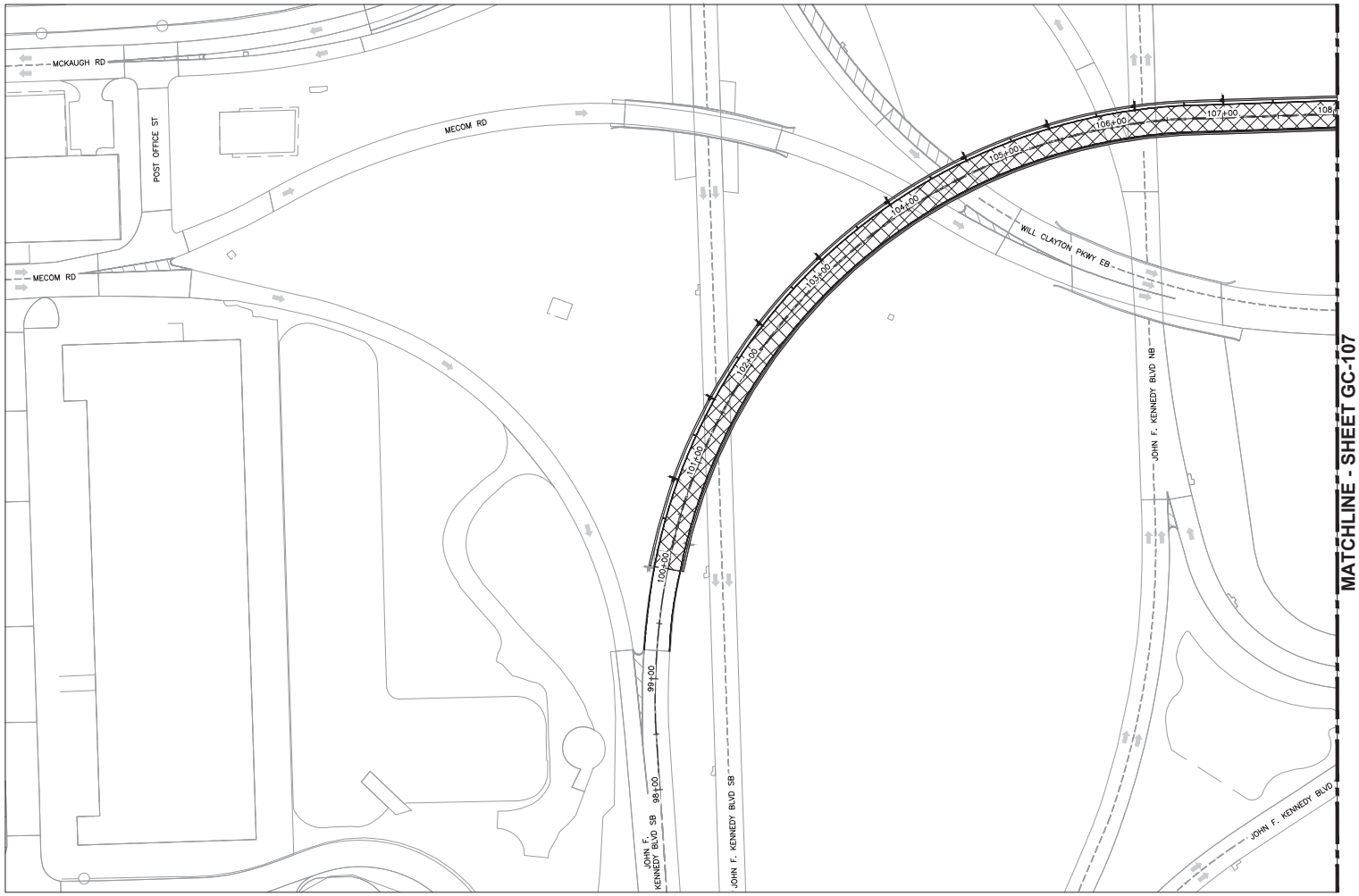
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO. 100066296
A.I.P. NO.
C.I.P. NO.
H.A.S. NO. 931
SHEET NO. GC-105

HAS FILE:
PLOT DATE:



Major Work Item	Construction Time Allowable - Phase 3: 6 Calendar Days (Work done concurrently with Phase 1)
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
Elastomeric Bearing Pad Replacement	

LEGEND

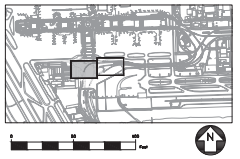
WORK ZONE – PHASE 3

NOTES

1. THE CONSTRUCTION PHASING IS BROKEN INTO MULTIPLE PHASES OF WORK. DUE TO THE IMPORTANCE OF MAINTAINING UNINTERRUPTED FLOW OF TRAFFIC DURING CONSTRUCTION WITHIN THE PROJECT WORK AREA, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE AWARE/KNOWLEDGEABLE OF AND IMPLEMENT THE GUIDELINES ESTABLISHED IN THE SAFETY AND SECURITY NOTES AND ELSEWHERE THROUGHOUT THE PLANS AND PROJECT MANUAL.
2. THE CONTRACTOR SHALL AT ALL TIMES COORDINATE THEIR WORK EFFORTS WITH THE OWNER'S REPRESENTATIVE AND AIRPORT OPERATIONS IF ANY PROBLEMS OR CHANGES ARISE DURING CONSTRUCTION SEQUENCING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE REQUESTING ACTIONS TO RESOLVE SAID PROBLEMS PRIOR TO CONTINUING THE WORK.
3. THE CONTRACTOR SHALL PROVIDE AT LEAST ONE DESIGNATED FLAGMAN AT ANY LOCATION WHERE CONSTRUCTION TRAFFIC CAUSES AN TEMPORARY INTERRUPTION TO THE FLOW OF TRAFFIC IN ORDER TO GUIDE CONSTRUCTION EQUIPMENT TO THE PROJECT WORK AREA.
4. THE CONTRACTOR SHALL CONTINUOUSLY CLEAN DURING EACH PHASE OF THE PROJECT AND SHALL PERFORM FINAL CLEAN UP WORK PRIOR TO A FINAL INSPECTION. THE CONTRACTOR SHALL SWEEP ON A DAILY BASIS AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL AND TAKE APPROPRIATE MEASURES AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE TO MITIGATE ANY CURRENT OR POTENTIAL DUST ISSUES.
6. THE COMPLETION OF ANY PHASE OF WORK AND SUBSEQUENT USAGE BY THE OWNER DOES NOT DEFINE FINAL ACCEPTANCE OF THE WORK IN THAT PHASE. WHEN ALL PHASES ARE COMPLETE, A FINAL INSPECTION OF THE ENTIRE PROJECT HAS OCCURRED ALL ASSOCIATED PUNCH LIST ITEMS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE AIRPORT MANAGEMENT AND OWNER'S REPRESENTATIVE, THEN THE ENTIRE PROJECT WILL BE ACCEPTED.
7. THE INSTALLATION OF THE TRAFFIC CONTROL PLAN, DEBRIS SHIELD, AND THE SWPPP CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO ANY WORK IS TO COMMENCE DURING ALL PHASES.
8. THE CONTRACTOR SHALL PROCURE BARRICADES AND OTHER SAFETY ITEMS AND VERIFY SUFFICIENT QUANTITIES TO SETUP THE PROPER TRAFFIC CONTROL PLANS.

NOTES (CONTINUED)

9. WORK IN PHASE 3 WILL BE PERFORMED DURING THE NIGHTTIME ONLY. PHASE 3 REQUIRES THE CLOSURE OF THE BRIDGE TO PERFORM THE SCOPE OF WORK FOR PHASE 3. PHASE 3 WILL BE PERFORMED CONCURRENTLY WITH PHASE 1. PHASE 1 CAN NOT BE PERFORMED AT THE SAME TIME AS PHASE 3. THE TRAFFIC CONTROL PLAN FOR PHASE 3 MUST BE RESTORED TO PHASE 1 TRAFFIC CONTROL PLAN BEFORE THE OPENING UP TO TRAFFIC ON THE BRIDGE.
10. SEE THE CONSTRUCTION LIST–SCHEDULE ON THIS SHEET FOR MAJOR WORK ITEMS AND CONSTRUCTION TIME DURATIONS FOR THIS PHASE.



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PHASING - PHASE 3

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

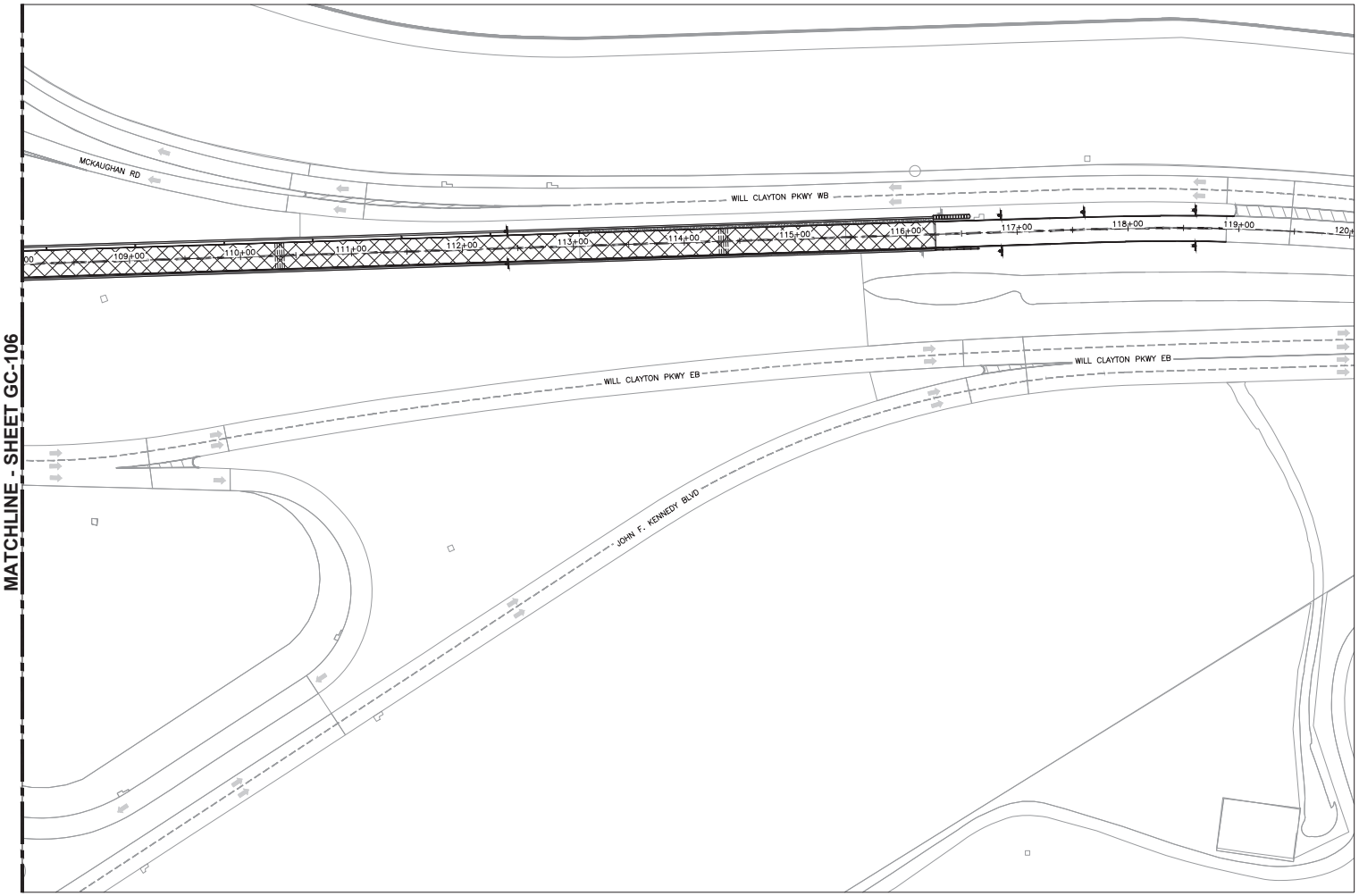
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	GC-106

HAS FILE:
PLOT DATE:



MATCHLINE - SHEET GC-106

Major Work Item	Construction Time Allowable - Phase 3: 6 Calendar Days (Work done concurrently with Phase 1)
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
Elastomeric Bearing Pad Replacement	

LEGEND

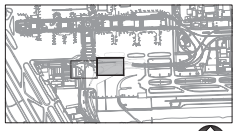
WORK ZONE – PHASE 3

NOTES

1. THE CONSTRUCTION PHASING IS BROKEN INTO MULTIPLE PHASES OF WORK. DUE TO THE IMPORTANCE OF MAINTAINING UNINTERRUPTED FLOW OF TRAFFIC DURING CONSTRUCTION WITHIN THE PROJECT WORK AREA, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE AWARE/KNOWLEDGEABLE OF AND IMPLEMENT THE GUIDELINES ESTABLISHED IN THE SAFETY AND SECURITY NOTES AND ELSEWHERE THROUGHOUT THE PLANS AND PROJECT MANUAL.
2. THE CONTRACTOR SHALL AT ALL TIMES COORDINATE THEIR WORK EFFORTS WITH THE OWNER'S REPRESENTATIVE AND AIRPORT OPERATIONS IF ANY PROBLEMS OR CHANGES ARISE DURING CONSTRUCTION SEQUENCING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE REQUESTING ACTIONS TO RESOLVE SAID PROBLEMS PRIOR TO CONTINUING THE WORK.
3. THE CONTRACTOR SHALL PROVIDE AT LEAST ONE DESIGNATED FLAGMAN AT ANY LOCATION WHERE CONSTRUCTION TRAFFIC CAUSES AN TEMPORARY INTERRUPTION TO THE FLOW OF TRAFFIC IN ORDER TO GUIDE CONSTRUCTION EQUIPMENT TO THE PROJECT WORK AREA.
4. THE CONTRACTOR SHALL CONTINUOUSLY CLEAN DURING EACH PHASE OF THE PROJECT AND SHALL PERFORM FINAL CLEAN UP WORK PRIOR TO A FINAL INSPECTION. THE CONTRACTOR SHALL SWEEP ON A DAILY BASIS AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL AND TAKE APPROPRIATE MEASURES AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE TO MITIGATE ANY CURRENT OR POTENTIAL DUST ISSUES.
6. THE COMPLETION OF ANY PHASE OF WORK AND SUBSEQUENT USAGE BY THE OWNER DOES NOT DEFINE FINAL ACCEPTANCE OF THE WORK IN THAT PHASE. WHEN ALL PHASES ARE COMPLETE, A FINAL INSPECTION OF THE ENTIRE PROJECT HAS OCCURRED ALL ASSOCIATED PUNCH LIST ITEMS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE AIRPORT MANAGEMENT AND OWNER'S REPRESENTATIVE, THEN THE ENTIRE PROJECT WILL BE ACCEPTED.
7. THE INSTALLATION OF THE TRAFFIC CONTROL PLAN, DEBRIS SHIELD, AND THE SWPPP CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO ANY WORK IS TO COMMENCE DURING ALL PHASES.
8. THE CONTRACTOR SHALL PROCURE BARRICADES AND OTHER SAFETY ITEMS AND VERIFY SUFFICIENT QUANTITIES TO SETUP THE PROPER TRAFFIC CONTROL PLANS.

NOTES (CONTINUED)

9. WORK IN PHASE 3 WILL BE PERFORMED DURING THE NIGHTTIME ONLY. PHASE 3 REQUIRES THE CLOSURE OF THE BRIDGE TO PERFORM THE SCOPE OF WORK FOR PHASE 3. PHASE 3 WILL BE PERFORMED CONCURRENTLY WITH PHASE 1. PHASE 1 CAN NOT BE PERFORMED AT THE SAME TIME AS PHASE 3. THE TRAFFIC CONTROL PLAN FOR PHASE 3 MUST BE RESTORED TO PHASE 1 TRAFFIC CONTROL PLAN BEFORE THE OPENING UP TO TRAFFIC ON THE BRIDGE.
10. SEE THE CONSTRUCTION LIST–SCHEDULE ON THIS SHEET FOR MAJOR WORK ITEMS AND CONSTRUCTION TIME DURATIONS FOR THIS PHASE.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

CITY OF HOUSTON
HOUSTON AIRPORTS SYSTEM
Recommended
Approved
Director or Designated Representative
DATE

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PHASING - PHASE 3

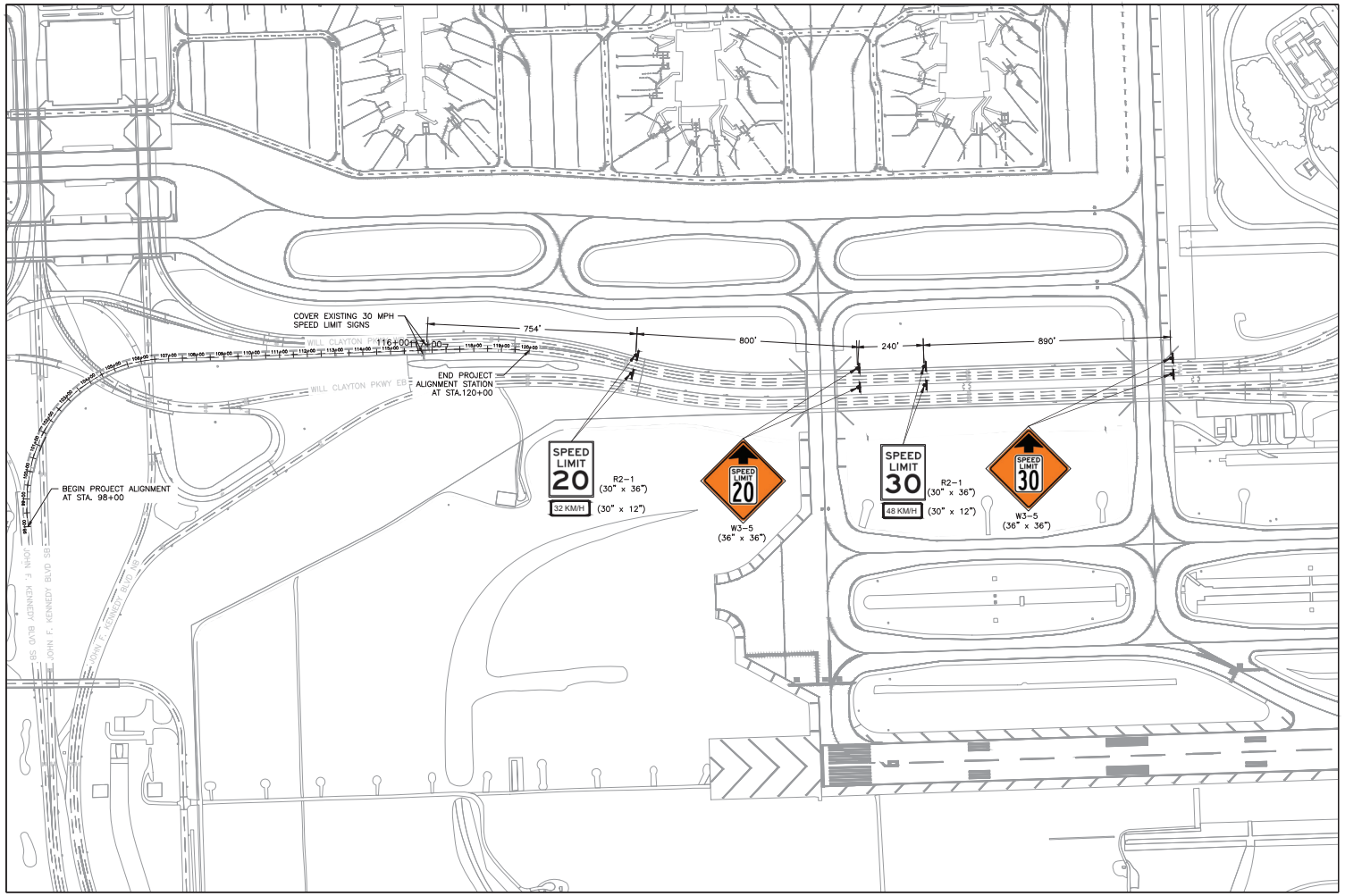
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	GC-107

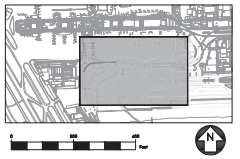


LEGEND

TRAFFIC CONTROL SIGN

NOTES

1. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL UNIFORM OF TRAFFIC CONTROL DEVICES (MUTCD).
2. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
3. SEE SHEETS CP-501 THROUGH CP-510 FOR TRAFFIC CONTROL DETAILS AND NOTES.
4. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TEXAS MUTCD, MOST RECENT EDITION WITH REVISIONS) DURING CONSTRUCTION.
5. CONTRACTOR SHALL MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS.
6. FLAGGERS(S) IS/ARE REQUIRED TO DIRECT TRAFFIC WHEN THE LANES ARE BLOCKED.
7. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, HE/SHE SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING AN ALTERNATE SET OF PLANS TO THE HAS TRAFFIC ENGINEER FOR APPROVAL 14 WORKING DAYS PRIOR TO IMPLEMENTATION.
8. APPROVED COPIES OF TRAFFIC CONTROL PLANS AND MOBILITY PERMITS SHALL BE MADE AVAILABLE FOR INSPECTION AT THE JOB SITE AT ALL TIMES. CONTRACTORS MUST SECURE MOBILITY PERMITS FROM THE CITY'S TRAFFIC MANAGEMENT AND MAINTENANCE BRANCH BEFORE CLOSING A LANE/SIDEWALK. THE REQUEST MUST BE MADE AT LEAST 10 DAYS IN ADVANCE OF THE CLOSURE. NOTE THAT WORKING HOURS MAY BE RESTRICTED OR THE REQUEST MAY BE DENIED. CALL 832-395-3020 FOR AN APPLICATION OR LOG ON TO WWW.GIMS.HOUSTONTX.GOV.



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
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200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION TRAFFIC CONTROL PLAN - TEMPORARY SPEED REDUCTION

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

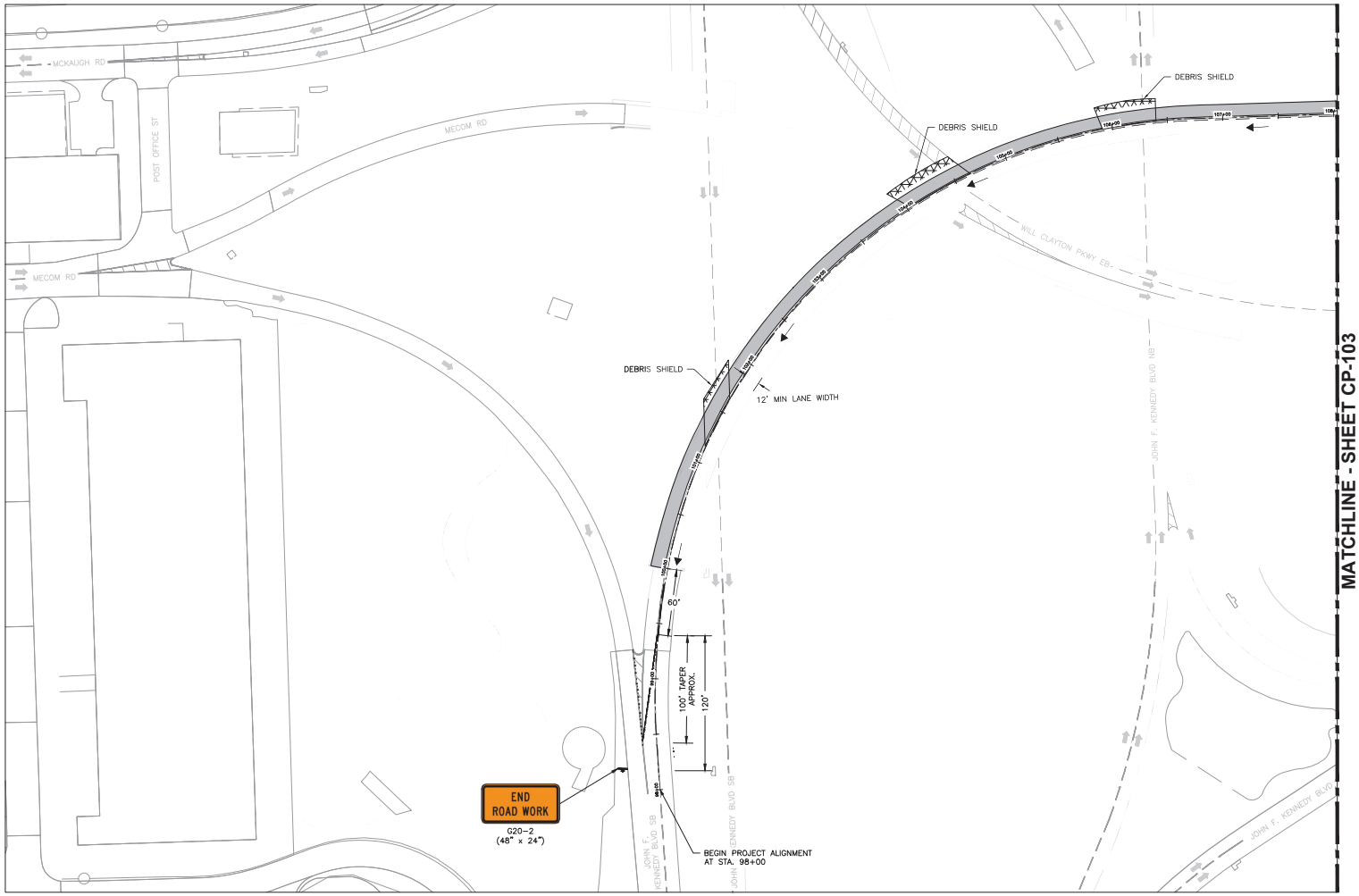
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-101

HAS FILE:
PLOT DATE: DWGNAME
DATE



MATCHLINE - SHEET CP-103

LEGEND

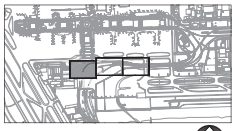
- WORK ZONE–PHASE 1
- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- PAVEMENT MARKING STRIPE
- DEBRIS SHIELD
- TRAFFIC FLOW

NOTES

1. AT THE COMMENCEMENT OF THE PROJECT, ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCEPTABLE CONDITION AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AS PER GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES AND FEATURES.
2. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. NOTIFY THE HAS PROJECT ENGINEER IN WRITING ONCE ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS PER PLANS ON THE PROJECT SO THAT THE DEPARTMENT'S RESPONSIBLE PERSON ACCOMPANIED BY THE CONTRACTOR'S RESPONSIBLE PERSON CAN CONDUCT A NIGHT INSPECTION OF THE SAID TCP AND TRAFFIC CONTROL DEVICES. COMMENCEMENT OF WORK WILL NOT BE AUTHORIZED NOR ALLOWED UNTIL THE HAS PROJECT ENGINEER GIVES THE APPROVAL TO PROCEED WITH THE WORK.
4. CONTRACTOR SHALL HAVE A SUFFICIENT AMOUNT OF TRAFFIC CONTROL DEVICES IN ACCEPTABLE CONDITION TO REPLACE ANY DAMAGED TRAFFIC CONTROL DEVICE WITHIN 24 HOURS OF NOTIFICATION.
5. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY. THESE ADDITIONAL SIGNS WILL BE CONSIDERED SUBSIDIARY TO ITEM 502 IN THE TXDOT SPECIFICATIONS.
6. COORDINATE THE TRAFFIC CONTROL PLAN AND THE VARIOUS SEQUENCES OF CONSTRUCTION WITH ADJACENT CONSTRUCTION PROJECTS IF APPLICABLE, TO ENSURE THE UNINTERRUPTED AND SAFE FLOW OF TRAFFIC.
7. REMOVE OR COMPLETELY COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
8. NOTIFY THE HAS PROJECT ENGINEER WHEN MAJOR TRAFFIC CHANGES ARE TO BE MADE. NOTIFICATIONS MUST BE GIVEN A MINIMUM OF THREE WORKING DAYS PRIOR TO THE CHANGE.
9. PHASE 1 INCLUDES THE RIGHT LANE CLOSURE AND DIVERGING ALL THROUGH TRAFFIC INTO THE LEFT LANE OF THE PROJECT AREA.

NOTES (CONTINUED)

10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
11. SEE SHEETS CP-501 THROUGH CP-509 FOR TRAFFIC CONTROL DETAILS AND NOTES.
12. DEBRIS SHIELD SHALL BE INSTALLED BY CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. SEE SHEET G-005 FOR MORE INFORMATION.
13. CONCRETE SAFETY BARRIERS SHALL ACT AS BRIDGE RAILING DURING CONSTRUCTION, EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC. SEE SHEET CP-503 FOR CONCRETE SAFETY BARRIERS DETAILS AND NOTES.
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

TRAFFIC CONTROL PLAN - PHASE 1

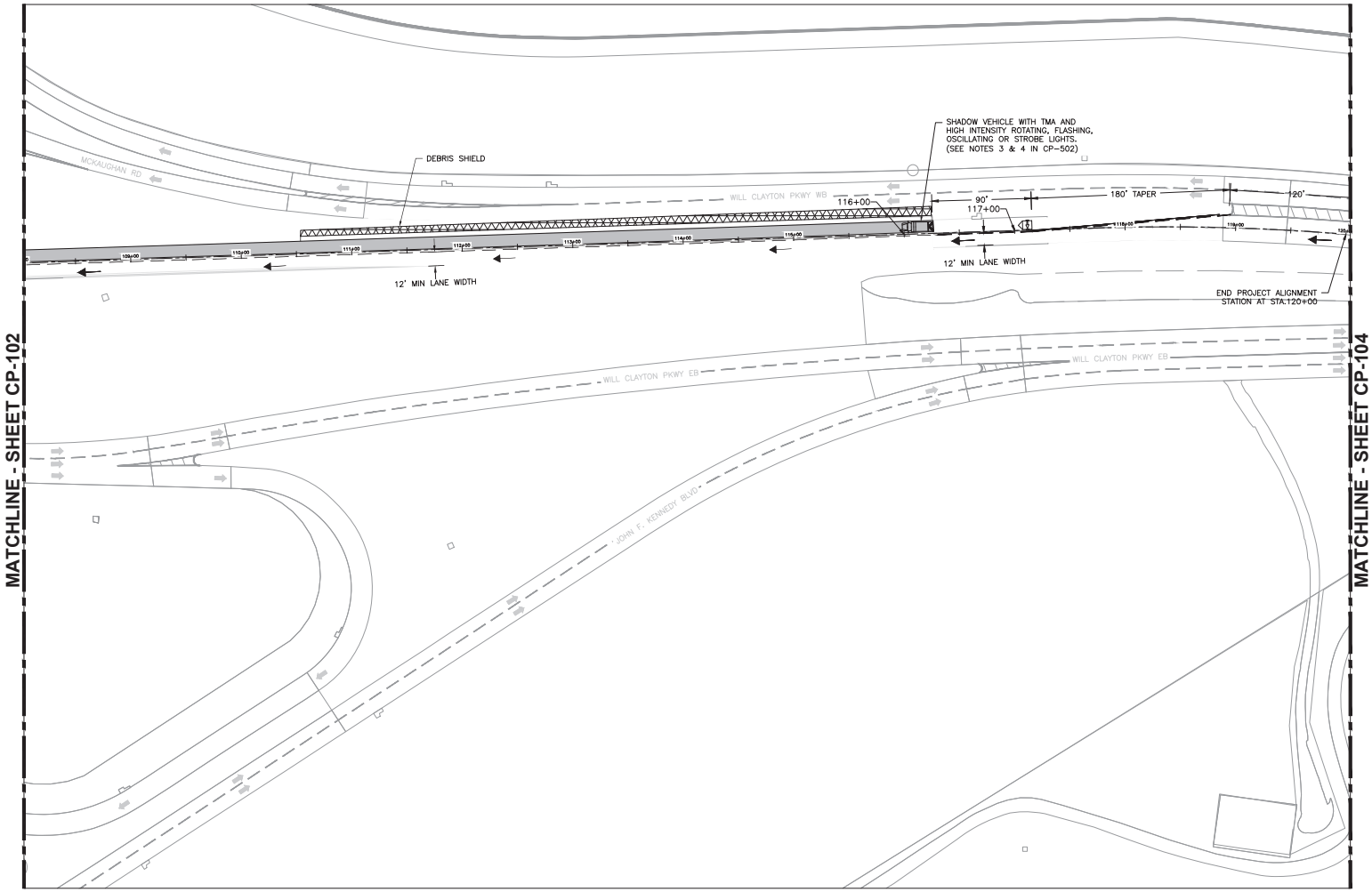
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-102



LEGEND

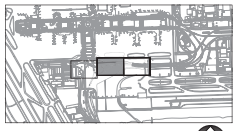
- WORK ZONE–PHASE 1
- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- PAVEMENT MARKING STRIPE
- DEBRIS SHIELD
- TRAFFIC FLOW

NOTES

1. AT THE COMMENCEMENT OF THE PROJECT, ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCEPTABLE CONDITION AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AS PER GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES AND FEATURES.
2. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. NOTIFY THE HAS PROJECT ENGINEER IN WRITING ONCE ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS PER PLANS ON THE PROJECT SO THAT THE DEPARTMENT'S RESPONSIBLE PERSON ACCOMPANIED BY THE CONTRACTOR'S RESPONSIBLE PERSON CAN CONDUCT A NIGHT INSPECTION OF THE SAID TCP AND TRAFFIC CONTROL DEVICES. COMMENCEMENT OF WORK WILL NOT BE AUTHORIZED NOR ALLOWED UNTIL THE HAS PROJECT ENGINEER GIVES THE APPROVAL TO PROCEED WITH THE WORK.
4. CONTRACTOR SHALL HAVE A SUFFICIENT AMOUNT OF TRAFFIC CONTROL DEVICES IN ACCEPTABLE CONDITION TO REPLACE ANY DAMAGED TRAFFIC CONTROL DEVICE WITHIN 24 HOURS OF NOTIFICATION.
5. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY. THESE ADDITIONAL SIGNS WILL BE CONSIDERED SUBSIDIARY TO ITEM 502 IN THE TXDOT SPECIFICATIONS.
6. COORDINATE THE TRAFFIC CONTROL PLAN AND THE VARIOUS SEQUENCES OF CONSTRUCTION WITH ADJACENT CONSTRUCTION PROJECTS IF APPLICABLE, TO ENSURE THE UNINTERRUPTED AND SAFE FLOW OF TRAFFIC.
7. REMOVE OR COMPLETELY COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
8. NOTIFY THE HAS PROJECT ENGINEER WHEN MAJOR TRAFFIC CHANGES ARE TO BE MADE. NOTIFICATIONS MUST BE GIVEN A MINIMUM OF THREE WORKING DAYS PRIOR TO THE CHANGE.
9. PHASE 1 INCLUDES THE RIGHT LANE CLOSURE AND DIVERGING ALL THROUGH TRAFFIC INTO THE LEFT LANE OF THE PROJECT AREA.

NOTES (CONTINUED)

10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
11. SEE SHEETS CP-501 THROUGH CP-509 FOR TRAFFIC CONTROL DETAILS AND NOTES.
12. DEBRIS SHIELD SHALL BE INSTALLED BY CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. SEE SHEET G-005 FOR MORE INFORMATION.
13. CONCRETE SAFETY BARRIERS SHALL ACT AS BRIDGE RAILING DURING CONSTRUCTION, EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC. SEE SHEET CP-503 FOR CONCRETE SAFETY BARRIERS DETAILS AND NOTES.
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

CITY OF HOUSTON
HOUSTON AIRPORTS SYSTEM
Recommended
Approved
Director or Designated Representative
DATE

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
TRAFFIC CONTROL PLAN - PHASE 1

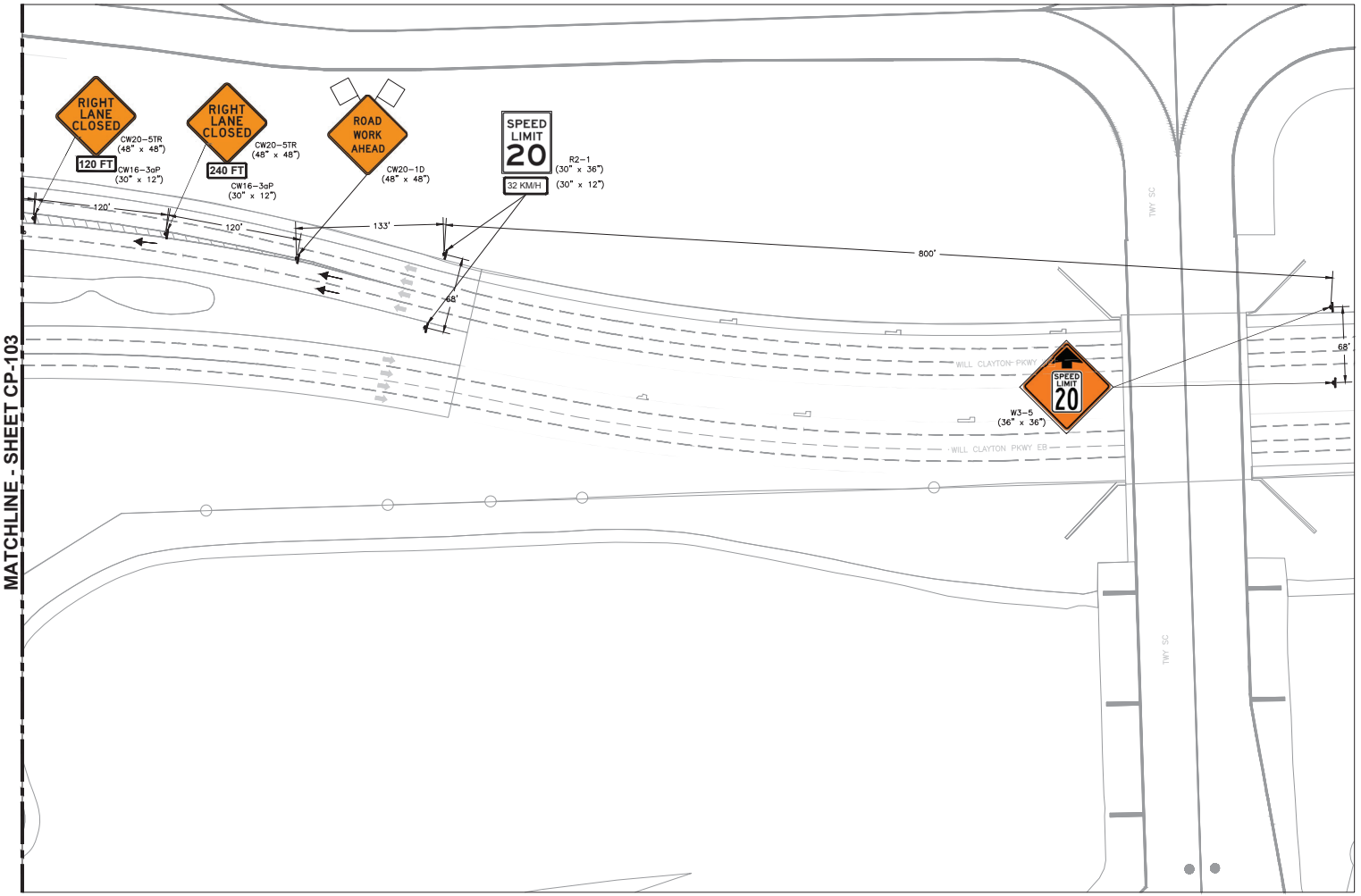
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-103



LEGEND

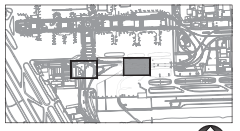
- WORK ZONE–PHASE 1
- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- PAVEMENT MARKING STRIPE
- DEBRIS SHIELD
- TRAFFIC FLOW

NOTES

1. AT THE COMMENCEMENT OF THE PROJECT, ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCEPTABLE CONDITION AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AS PER GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES AND FEATURES.
2. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. NOTIFY THE HAS PROJECT ENGINEER IN WRITING ONCE ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS PER PLANS ON THE PROJECT SO THAT THE DEPARTMENT'S RESPONSIBLE PERSON ACCOMPANIED BY THE CONTRACTOR'S RESPONSIBLE PERSON CAN CONDUCT A NIGHT INSPECTION OF THE SAID TCP AND TRAFFIC CONTROL DEVICES. COMMENCEMENT OF WORK WILL NOT BE AUTHORIZED NOR ALLOWED UNTIL THE HAS PROJECT ENGINEER GIVES THE APPROVAL TO PROCEED WITH THE WORK.
4. CONTRACTOR SHALL HAVE A SUFFICIENT AMOUNT OF TRAFFIC CONTROL DEVICES IN ACCEPTABLE CONDITION TO REPLACE ANY DAMAGED TRAFFIC CONTROL DEVICE WITHIN 24 HOURS OF NOTIFICATION.
5. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY. THESE ADDITIONAL SIGNS WILL BE CONSIDERED SUBSIDIARY TO ITEM 502 IN THE TXDOT SPECIFICATIONS.
6. COORDINATE THE TRAFFIC CONTROL PLAN AND THE VARIOUS SEQUENCES OF CONSTRUCTION WITH ADJACENT CONSTRUCTION PROJECTS IF APPLICABLE, TO ENSURE THE UNINTERRUPTED AND SAFE FLOW OF TRAFFIC.
7. REMOVE OR COMPLETELY COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
8. NOTIFY THE HAS PROJECT ENGINEER WHEN MAJOR TRAFFIC CHANGES ARE TO BE MADE. NOTIFICATIONS MUST BE GIVEN A MINIMUM OF THREE WORKING DAYS PRIOR TO THE CHANGE.
9. PHASE 1 INCLUDES THE RIGHT LANE CLOSURE AND DIVERGING ALL THROUGH TRAFFIC INTO THE LEFT LANE OF THE PROJECT AREA.

NOTES (CONTINUED)

10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
11. SEE SHEETS CP-501 THROUGH CP-509 FOR TRAFFIC CONTROL DETAILS AND NOTES.
12. DEBRIS SHIELD SHALL BE INSTALLED BY CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. SEE SHEET G-005 FOR MORE INFORMATION.
13. CONCRETE SAFETY BARRIERS SHALL ACT AS BRIDGE RAILING DURING CONSTRUCTION, EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC. SEE SHEET CP-503 FOR CONCRETE SAFETY BARRIERS DETAILS AND NOTES.
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

TRAFFIC CONTROL PLAN - PHASE 1

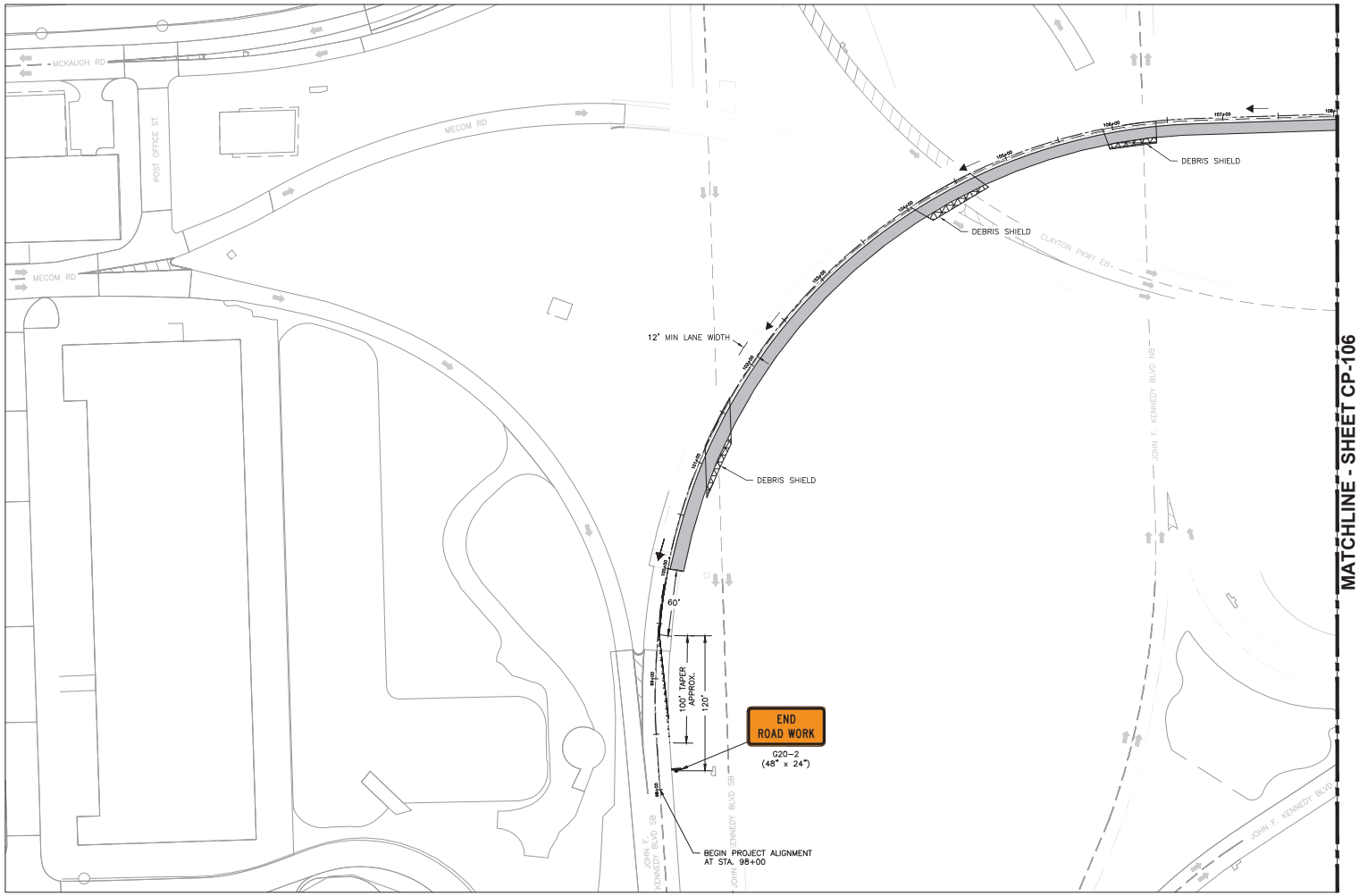
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-104



MATCHLINE - SHEET CP-106

LEGEND

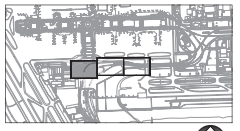
- WORK ZONE–PHASE 2
- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- PAVEMENT MARKING STRIPE
- DEBRIS SHIELD
- TRAFFIC FLOW

NOTES

1. AT THE COMMENCEMENT OF THE PROJECT, ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCEPTABLE CONDITION AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AS PER GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES AND FEATURES.
2. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. NOTIFY THE HAS PROJECT ENGINEER IN WRITING ONCE ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS PER PLANS ON THE PROJECT SO THAT THE DEPARTMENT'S RESPONSIBLE PERSON ACCOMPANIED BY THE CONTRACTOR'S RESPONSIBLE PERSON CAN CONDUCT A NIGHT INSPECTION OF THE SAID TCP AND TRAFFIC CONTROL DEVICES. COMMENCEMENT OF WORK WILL NOT BE AUTHORIZED NOR ALLOWED UNTIL THE HAS PROJECT ENGINEER GIVES THE APPROVAL TO PROCEED WITH THE WORK.
4. CONTRACTOR SHALL HAVE A SUFFICIENT AMOUNT OF TRAFFIC CONTROL DEVICES IN ACCEPTABLE CONDITION TO REPLACE ANY DAMAGED TRAFFIC CONTROL DEVICE WITHIN 24 HOURS OF NOTIFICATION.
5. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY. THESE ADDITIONAL SIGNS WILL BE CONSIDERED SUBSIDIARY TO ITEM 502 IN THE TXDOT SPECIFICATIONS.
6. COORDINATE THE TRAFFIC CONTROL PLAN AND THE VARIOUS SEQUENCES OF CONSTRUCTION WITH ADJACENT CONSTRUCTION PROJECTS IF APPLICABLE, TO ENSURE THE UNINTERRUPTED AND SAFE FLOW OF TRAFFIC.
7. REMOVE OR COMPLETELY COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
8. NOTIFY THE HAS PROJECT ENGINEER WHEN MAJOR TRAFFIC CHANGES ARE TO BE MADE. NOTIFICATIONS MUST BE GIVEN A MINIMUM OF THREE WORKING DAYS PRIOR TO THE CHANGE.
9. PHASE 2 INCLUDES THE LEFT LANE CLOSURE AND DIVERGING ALL THROUGH TRAFFIC INTO THE RIGHT LANE OF THE PROJECT AREA.

NOTES (CONTINUED)

10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
11. SEE SHEETS CP-501 THROUGH CP-509 FOR TRAFFIC CONTROL DETAILS AND NOTES.
12. DEBRIS SHIELD SHALL BE INSTALLED BY CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. SEE SHEETS G-005 FOR MORE INFORMATION.
13. CONCRETE SAFETY BARRIERS SHALL ACT AS BRIDGE RAILING DURING CONSTRUCTION, EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC. SEE SHEET CP-503 FOR CONCRETE SAFETY BARRIERS DETAILS AND NOTES.
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

TRAFFIC CONTROL PLAN - PHASE 2

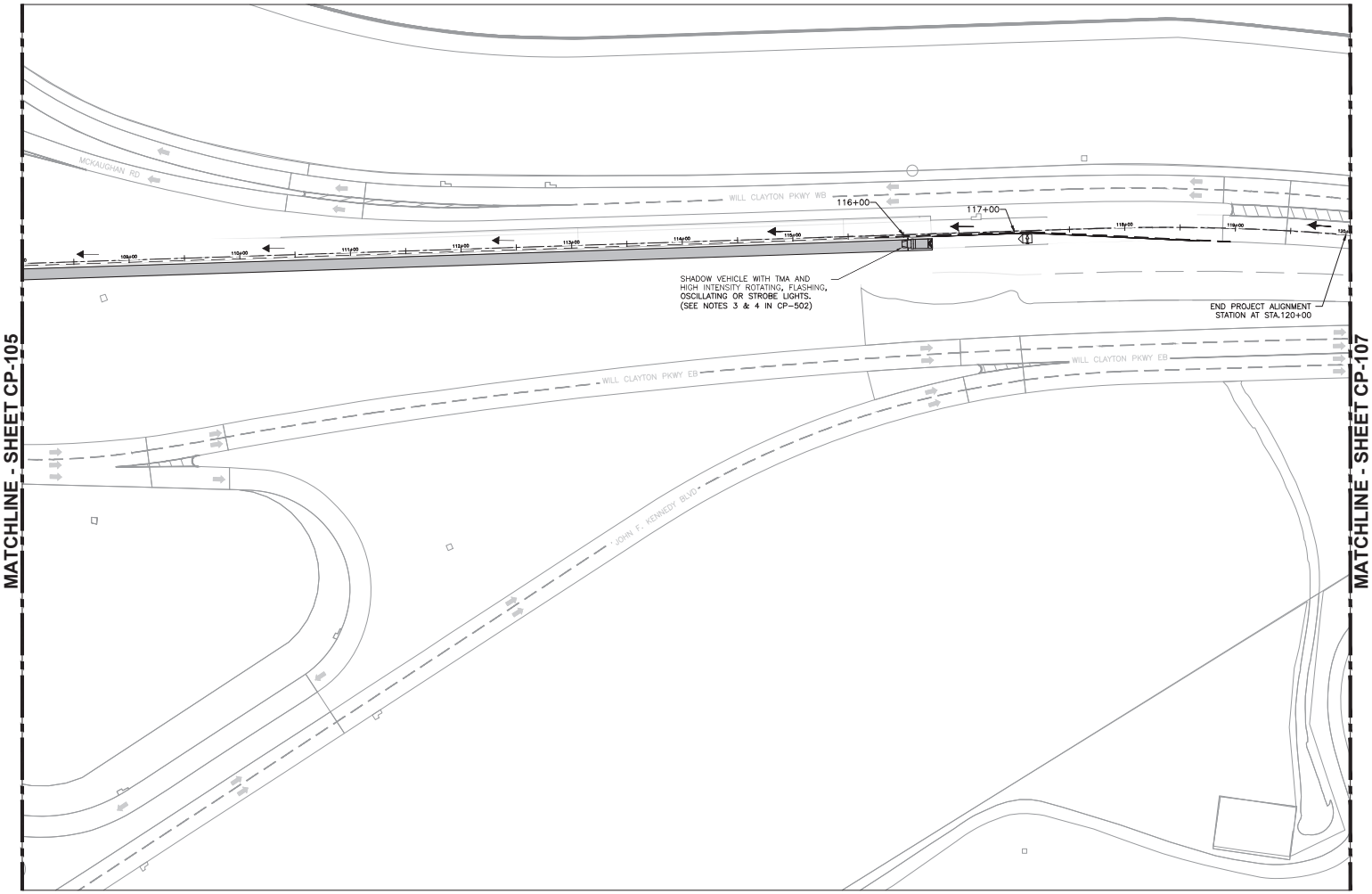
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-105



LEGEND

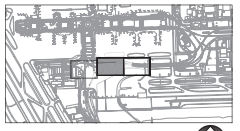
- WORK ZONE–PHASE 2
- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- PAVEMENT MARKING STRIPE
- DEBRIS SHIELD
- TRAFFIC FLOW

NOTES

1. AT THE COMMENCEMENT OF THE PROJECT, ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCEPTABLE CONDITION AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AS PER GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES AND FEATURES.
2. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. NOTIFY THE HAS PROJECT ENGINEER IN WRITING ONCE ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS PER PLANS ON THE PROJECT SO THAT THE DEPARTMENT'S RESPONSIBLE PERSON ACCOMPANIED BY THE CONTRACTOR'S RESPONSIBLE PERSON CAN CONDUCT A NIGHT INSPECTION OF THE SAID TCP AND TRAFFIC CONTROL DEVICES. COMMENCEMENT OF WORK WILL NOT BE AUTHORIZED NOR ALLOWED UNTIL THE HAS PROJECT ENGINEER GIVES THE APPROVAL TO PROCEED WITH THE WORK.
4. CONTRACTOR SHALL HAVE A SUFFICIENT AMOUNT OF TRAFFIC CONTROL DEVICES IN ACCEPTABLE CONDITION TO REPLACE ANY DAMAGED TRAFFIC CONTROL DEVICE WITHIN 24 HOURS OF NOTIFICATION.
5. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY. THESE ADDITIONAL SIGNS WILL BE CONSIDERED SUBSIDIARY TO ITEM 502 IN THE TXDOT SPECIFICATIONS.
6. COORDINATE THE TRAFFIC CONTROL PLAN AND THE VARIOUS SEQUENCES OF CONSTRUCTION WITH ADJACENT CONSTRUCTION PROJECTS IF APPLICABLE, TO ENSURE THE UNINTERRUPTED AND SAFE FLOW OF TRAFFIC.
7. REMOVE OR COMPLETELY COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
8. NOTIFY THE HAS PROJECT ENGINEER WHEN MAJOR TRAFFIC CHANGES ARE TO BE MADE. NOTIFICATIONS MUST BE GIVEN A MINIMUM OF THREE WORKING DAYS PRIOR TO THE CHANGE.
9. PHASE 2 INCLUDES THE LEFT LANE CLOSURE AND DIVERGING ALL THROUGH TRAFFIC INTO THE RIGHT LANE OF THE PROJECT AREA.

NOTES (CONTINUED)

10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
11. SEE SHEETS CP-501 THROUGH CP-509 FOR TRAFFIC CONTROL DETAILS AND NOTES.
12. DEBRIS SHIELD SHALL BE INSTALLED BY CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. SEE SHEETS G-005 FOR MORE INFORMATION.
13. CONCRETE SAFETY BARRIERS SHALL ACT AS BRIDGE RAILING DURING CONSTRUCTION, EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC. SEE SHEET CP-503 FOR CONCRETE SAFETY BARRIERS DETAILS AND NOTES.
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

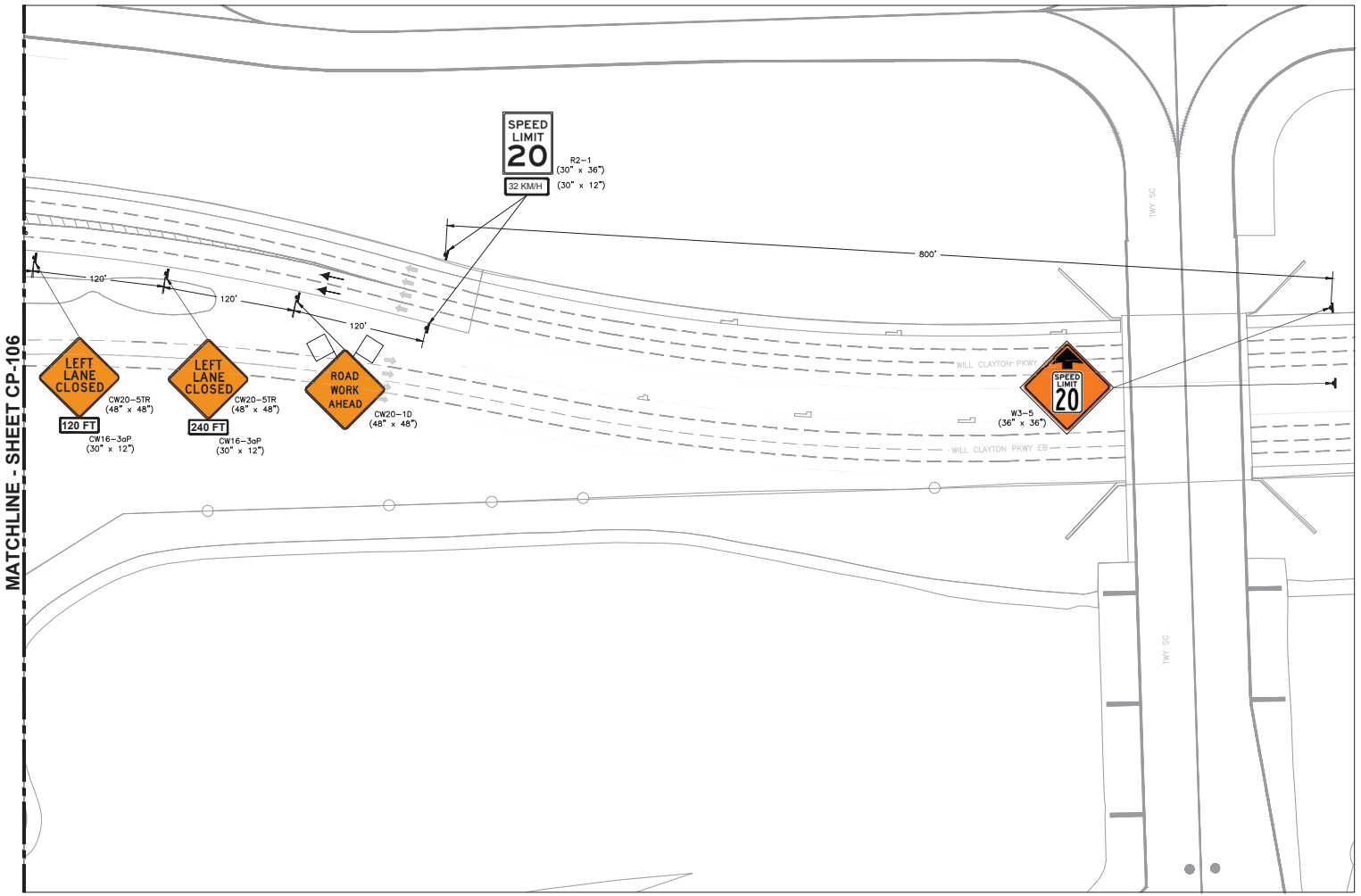
WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION TRAFFIC CONTROL PLAN - PHASE 2

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-106



LEGEND

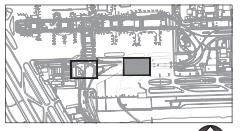
- WORK ZONE–PHASE 2
- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- PAVEMENT MARKING STRIPE
- DEBRIS SHIELD
- TRAFFIC FLOW

NOTES

1. AT THE COMMENCEMENT OF THE PROJECT, ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCEPTABLE CONDITION AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AS PER GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES AND FEATURES.
2. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. NOTIFY THE HAS PROJECT ENGINEER IN WRITING ONCE ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS PER PLANS ON THE PROJECT SO THAT THE DEPARTMENT'S RESPONSIBLE PERSON ACCOMPANIED BY THE CONTRACTOR'S RESPONSIBLE PERSON CAN CONDUCT A NIGHT INSPECTION OF THE SAID TCP AND TRAFFIC CONTROL DEVICES. COMMENCEMENT OF WORK WILL NOT BE AUTHORIZED NOR ALLOWED UNTIL THE HAS PROJECT ENGINEER GIVES THE APPROVAL TO PROCEED WITH THE WORK.
4. CONTRACTOR SHALL HAVE A SUFFICIENT AMOUNT OF TRAFFIC CONTROL DEVICES IN ACCEPTABLE CONDITION TO REPLACE ANY DAMAGED TRAFFIC CONTROL DEVICE WITHIN 24 HOURS OF NOTIFICATION.
5. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY. THESE ADDITIONAL SIGNS WILL BE CONSIDERED SUBSIDIARY TO ITEM 502 IN THE TXDOT SPECIFICATIONS.
6. COORDINATE THE TRAFFIC CONTROL PLAN AND THE VARIOUS SEQUENCES OF CONSTRUCTION WITH ADJACENT CONSTRUCTION PROJECTS IF APPLICABLE, TO ENSURE THE UNINTERRUPTED AND SAFE FLOW OF TRAFFIC.
7. REMOVE OR COMPLETELY COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
8. NOTIFY THE HAS PROJECT ENGINEER WHEN MAJOR TRAFFIC CHANGES ARE TO BE MADE. NOTIFICATIONS MUST BE GIVEN A MINIMUM OF THREE WORKING DAYS PRIOR TO THE CHANGE.
9. PHASE 2 INCLUDES THE LEFT LANE CLOSURE AND DIVERGING ALL THROUGH TRAFFIC INTO THE RIGHT LANE OF THE PROJECT AREA.

NOTES (CONTINUED)

10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
11. SEE SHEETS CP-501 THROUGH CP-509 FOR TRAFFIC CONTROL DETAILS AND NOTES.
12. DEBRIS SHIELD SHALL BE INSTALLED BY CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. SEE SHEETS G-005 FOR MORE INFORMATION.
13. CONCRETE SAFETY BARRIERS SHALL ACT AS BRIDGE RAILING DURING CONSTRUCTION, EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC. SEE SHEET CP-503 FOR CONCRETE SAFETY BARRIERS DETAILS AND NOTES.
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

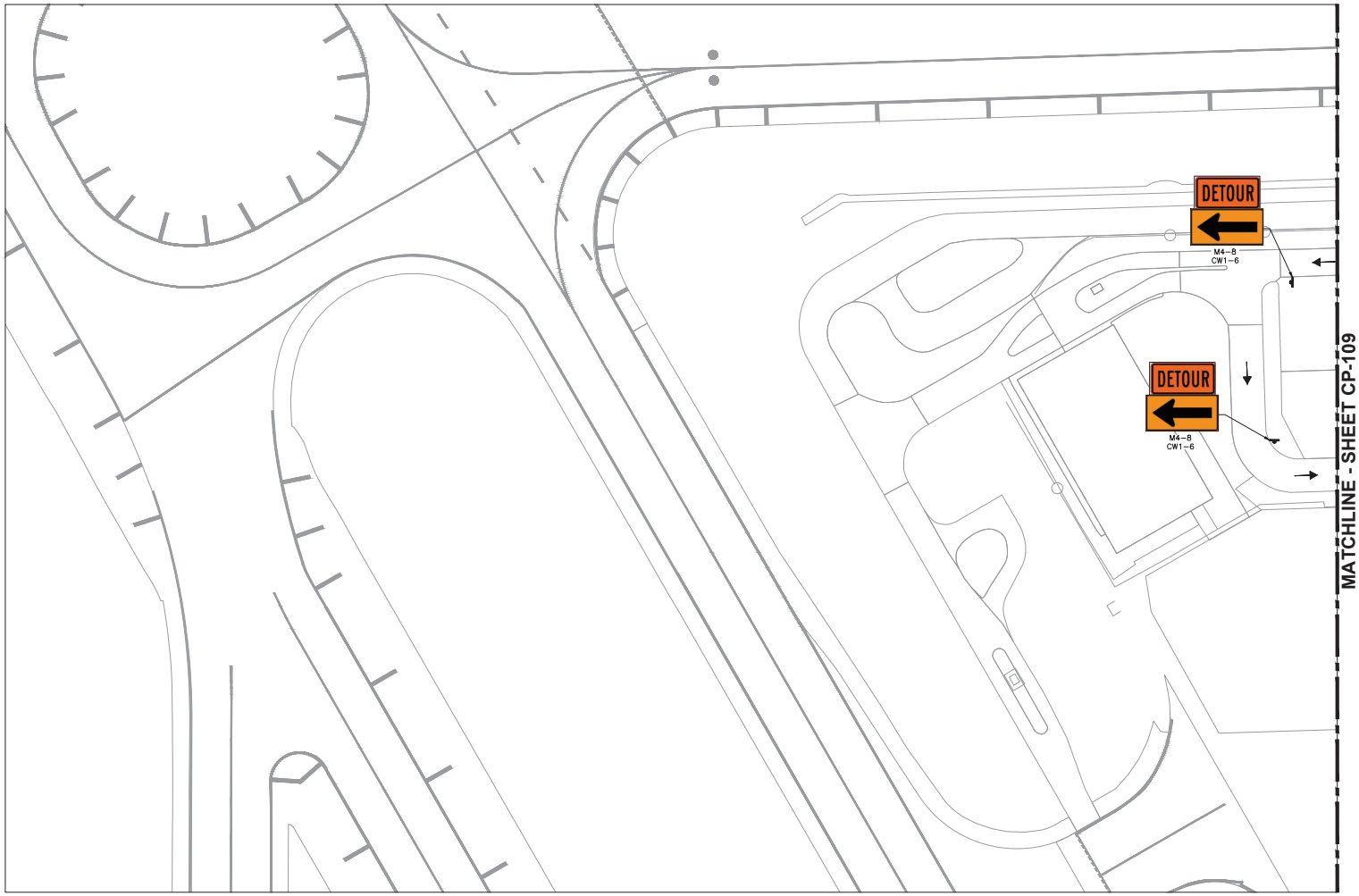
TRAFFIC CONTROL PLAN - PHASE 2

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-107



LEGEND

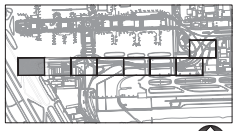
- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- LONGITUDINAL CHANNELIZED DEVICE

NOTES

1. AT THE COMMENCEMENT OF THE PROJECT, ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCEPTABLE CONDITION AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AS PER GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES AND FEATURES.
2. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. NOTIFY THE HAS PROJECT ENGINEER IN WRITING ONCE ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS PER PLANS ON THE PROJECT SO THAT THE DEPARTMENT'S RESPONSIBLE PERSON ACCOMPANIED BY THE CONTRACTOR'S RESPONSIBLE PERSON CAN CONDUCT A NIGHT INSPECTION OF THE SAID TCP AND TRAFFIC CONTROL DEVICES. COMMENCEMENT OF WORK WILL NOT BE AUTHORIZED NOR ALLOWED UNTIL THE HAS PROJECT ENGINEER GIVES THE APPROVAL TO PROCEED WITH THE WORK.
4. CONTRACTOR SHALL HAVE A SUFFICIENT AMOUNT OF TRAFFIC CONTROL DEVICES IN ACCEPTABLE CONDITION TO REPLACE ANY DAMAGED TRAFFIC CONTROL DEVICE WITHIN 24 HOURS OF NOTIFICATION.
5. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY. THESE ADDITIONAL SIGNS WILL BE CONSIDERED SUBSIDIARY TO ITEM 502 IN THE TXDOT SPECIFICATIONS.
6. COORDINATE THE TRAFFIC CONTROL PLAN AND THE VARIOUS SEQUENCES OF CONSTRUCTION WITH ADJACENT CONSTRUCTION PROJECTS IF APPLICABLE, TO ENSURE THE UNINTERRUPTED AND SAFE FLOW OF TRAFFIC.
7. REMOVE OR COMPLETELY COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
8. NOTIFY THE HAS PROJECT ENGINEER WHEN MAJOR TRAFFIC CHANGES ARE TO BE MADE. NOTIFICATIONS MUST BE GIVEN A MINIMUM OF THREE WORKING DAYS PRIOR TO THE CHANGE.
9. PHASE 3 INCLUDES THE CLOSURE OF THE BRIDGE AND A DETOUR IS USED TO REROUTE TRAFFIC FROM WILL CLAYTON TO JFK. PHASE 3 WORK IS STRICTLY NIGHT WORK AND WILL RUN CONCURRENTLY WITH PHASE 1. ALL TRAFFIC CONTROL SEQUENCES SHALL BE RESTORED TO PHASE 1 CONDITIONS PRIOR TO OPENING UP THE BRIDGE FOR THROUGH TRAFFIC DURING THE DAY DURING PHASE 1.

NOTES (CONTINUED)

10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
11. SEE SHEETS CP-501 THROUGH CP-510 FOR TRAFFIC CONTROL DETAILS AND NOTES.
12. DEBRIS SHIELD SHALL BE INSTALLED BY CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. SEE SHEETS G-005, CD-101, AND CD-102 FOR MORE INFORMATION.
13. CONCRETE SAFETY BARRIERS SHALL ACT AS BRIDGE RAILING DURING CONSTRUCTION, EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC. SEE SHEET CP-503 FOR CONCRETE SAFETY BARRIERS DETAILS AND NOTES.
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
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WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

TRAFFIC CONTROL PLAN - PHASE 3

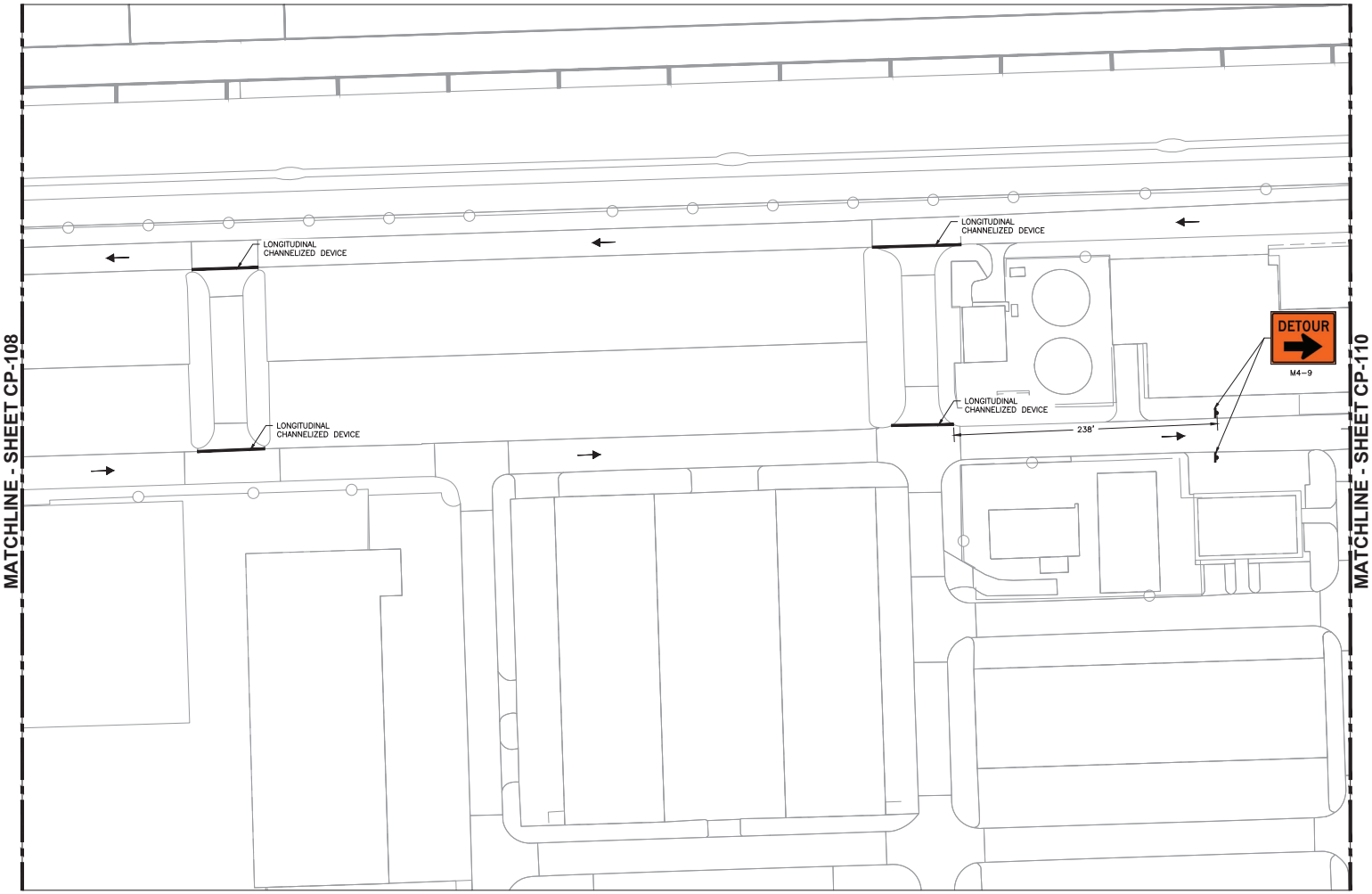
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-108



LEGEND

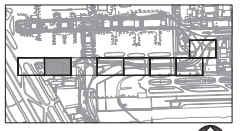
- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- LONGITUDINAL CHANNELIZED DEVICE

NOTES

1. AT THE COMMENCEMENT OF THE PROJECT, ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCEPTABLE CONDITION AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AS PER GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES AND FEATURES.
2. ALL WORK, SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS, AS WELL AS THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. NOTIFY THE HAS PROJECT ENGINEER IN WRITING ONCE ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS PER PLANS ON THE PROJECT SO THAT THE DEPARTMENT'S RESPONSIBLE PERSON ACCOMPANIED BY THE CONTRACTOR'S RESPONSIBLE PERSON CAN CONDUCT A NIGHT INSPECTION OF THE SAID TCP AND TRAFFIC CONTROL DEVICES. COMMENCEMENT OF WORK WILL NOT BE AUTHORIZED NOR ALLOWED UNTIL THE HAS PROJECT ENGINEER GIVES THE APPROVAL TO PROCEED WITH THE WORK.
4. CONTRACTOR SHALL HAVE A SUFFICIENT AMOUNT OF TRAFFIC CONTROL DEVICES IN ACCEPTABLE CONDITION TO REPLACE ANY DAMAGED TRAFFIC CONTROL DEVICE WITHIN 24 HOURS OF NOTIFICATION.
5. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY. THESE ADDITIONAL SIGNS WILL BE CONSIDERED SUBSIDIARY TO ITEM 502 IN THE TXDOT SPECIFICATIONS.
6. COORDINATE THE TRAFFIC CONTROL PLAN AND THE VARIOUS SEQUENCES OF CONSTRUCTION WITH ADJACENT CONSTRUCTION PROJECTS IF APPLICABLE, TO ENSURE THE UNINTERRUPTED AND SAFE FLOW OF TRAFFIC.
7. REMOVE OR COMPLETELY COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
8. NOTIFY THE HAS PROJECT ENGINEER WHEN MAJOR TRAFFIC CHANGES ARE TO BE MADE. NOTIFICATIONS MUST BE GIVEN A MINIMUM OF THREE WORKING DAYS PRIOR TO THE CHANGE.
9. PHASE 3 INCLUDES THE CLOSURE OF THE BRIDGE AND A DETOUR IS USED TO REROUTE TRAFFIC FROM WILL CLAYTON TO JFK. PHASE 3 WORK IS STRICTLY NIGHT WORK AND WILL RUN CONCURRENTLY WITH PHASE 1. ALL TRAFFIC CONTROL SEQUENCES SHALL BE RESTORED TO PHASE 1 CONDITIONS PRIOR TO OPENING UP THE BRIDGE FOR THROUGH TRAFFIC DURING THE DAY DURING PHASE 1.

NOTES (CONTINUED)

10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
11. SEE SHEETS CP-501 THROUGH CP-510 FOR TRAFFIC CONTROL DETAILS AND NOTES.
12. DEBRIS SHIELD SHALL BE INSTALLED BY CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. SEE SHEETS G-005, CD-101, AND CD-102 FOR MORE INFORMATION.
13. CONCRETE SAFETY BARRIERS SHALL ACT AS BRIDGE RAILING DURING CONSTRUCTION, EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC. SEE SHEET CP-503 FOR CONCRETE SAFETY BARRIERS DETAILS AND NOTES.
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

TRAFFIC CONTROL PLAN - PHASE 3

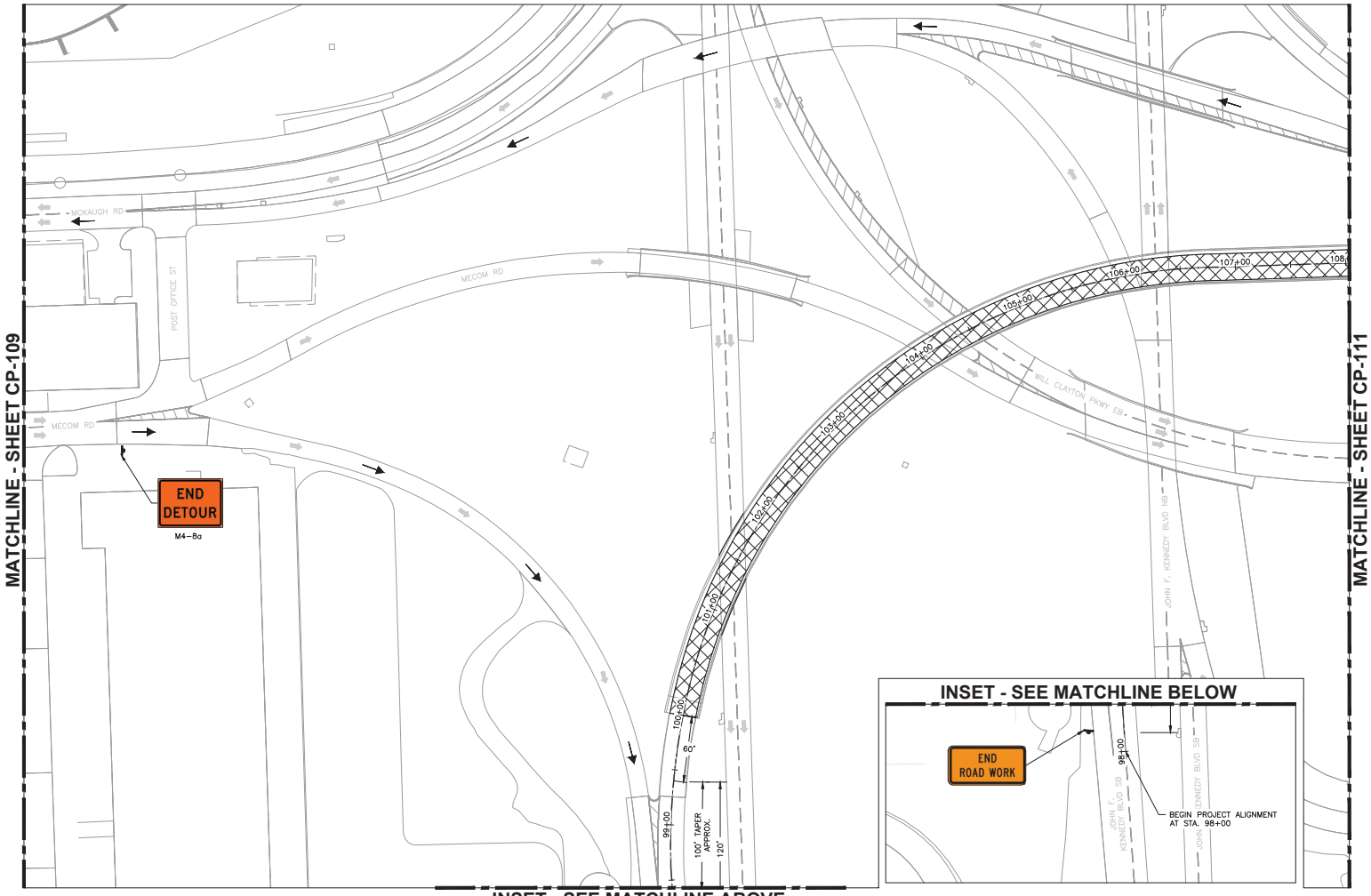
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-109



LEGEND

- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- LONGITUDINAL CHANNELIZED DEVICE

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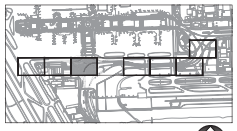
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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HOUSTON, TX 77079
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WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION TRAFFIC CONTROL PLAN - PHASE 3

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

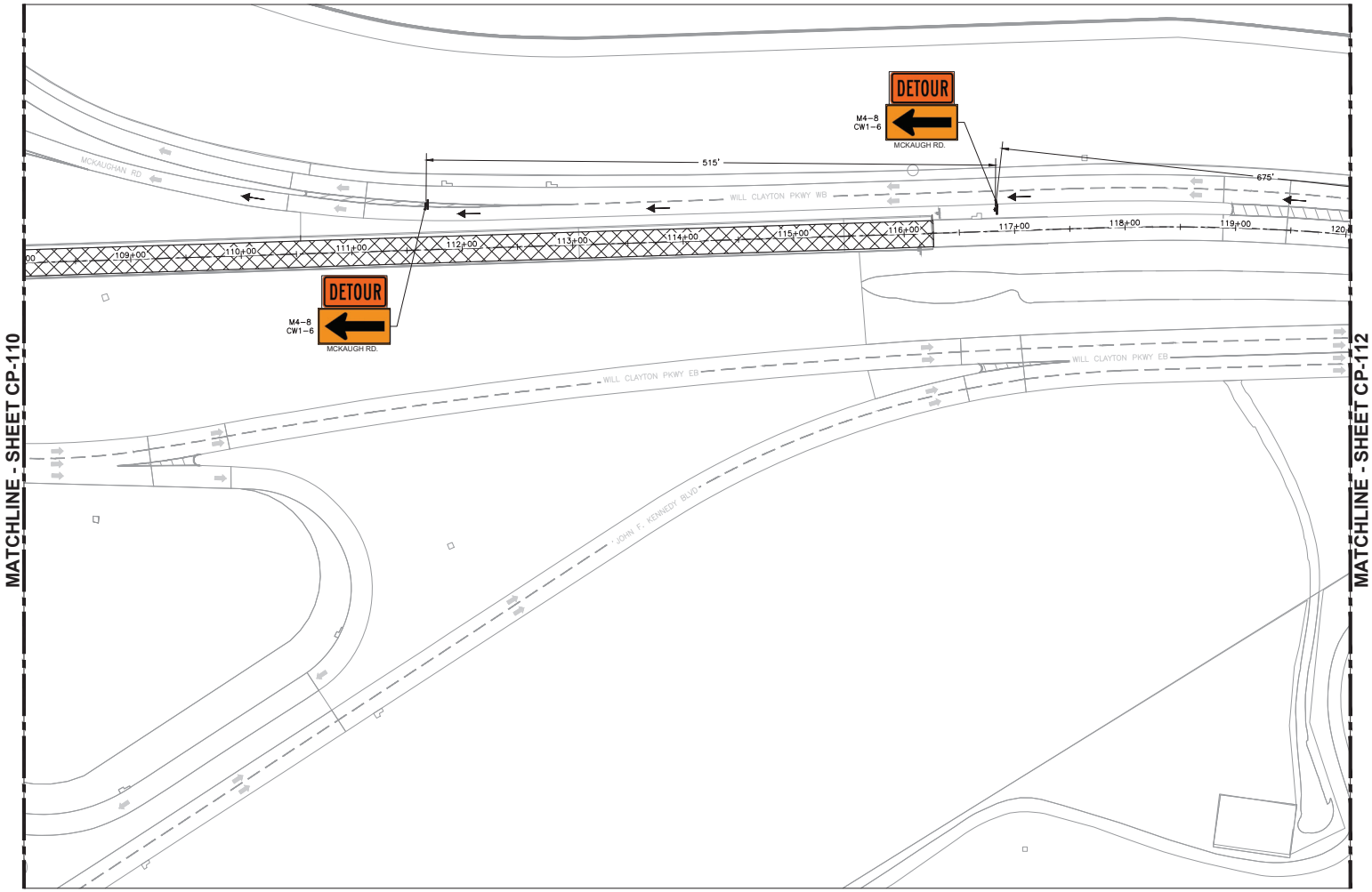
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-110

HAS FILE:
PLOT DATE:



LEGEND

- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- LONGITUDINAL CHANNELIZED DEVICE

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10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
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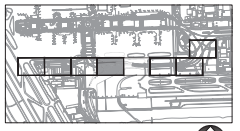
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



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PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

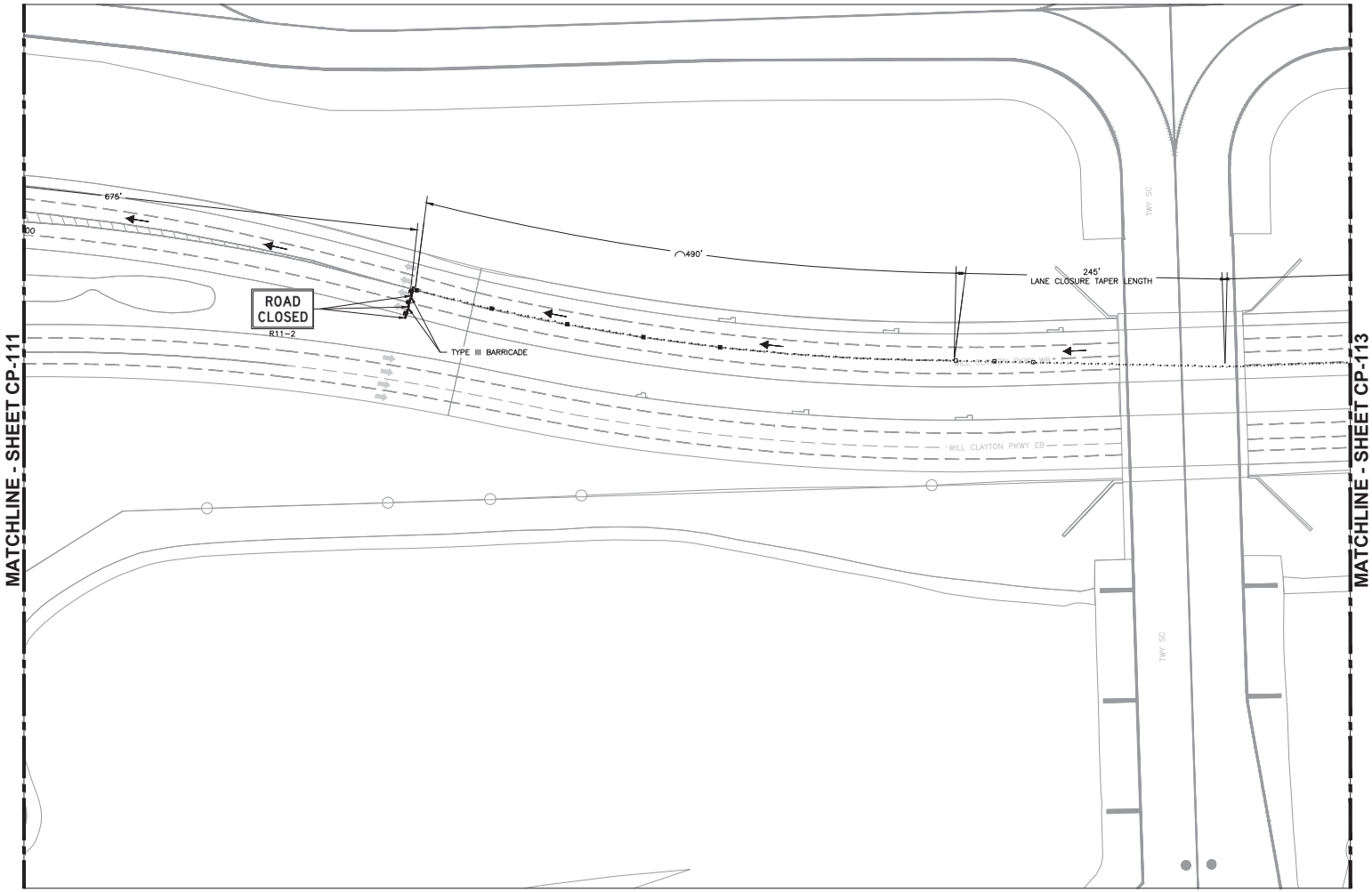
WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION TRAFFIC CONTROL PLAN - PHASE 3

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-111



LEGEND

- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- LONGITUDINAL CHANNELIZED DEVICE

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NOTES (CONTINUED)

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11. SEE SHEETS CP-501 THROUGH CP-510 FOR TRAFFIC CONTROL DETAILS AND NOTES.
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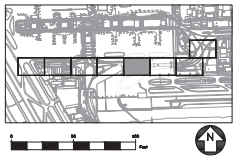
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION TRAFFIC CONTROL PLAN - PHASE 3

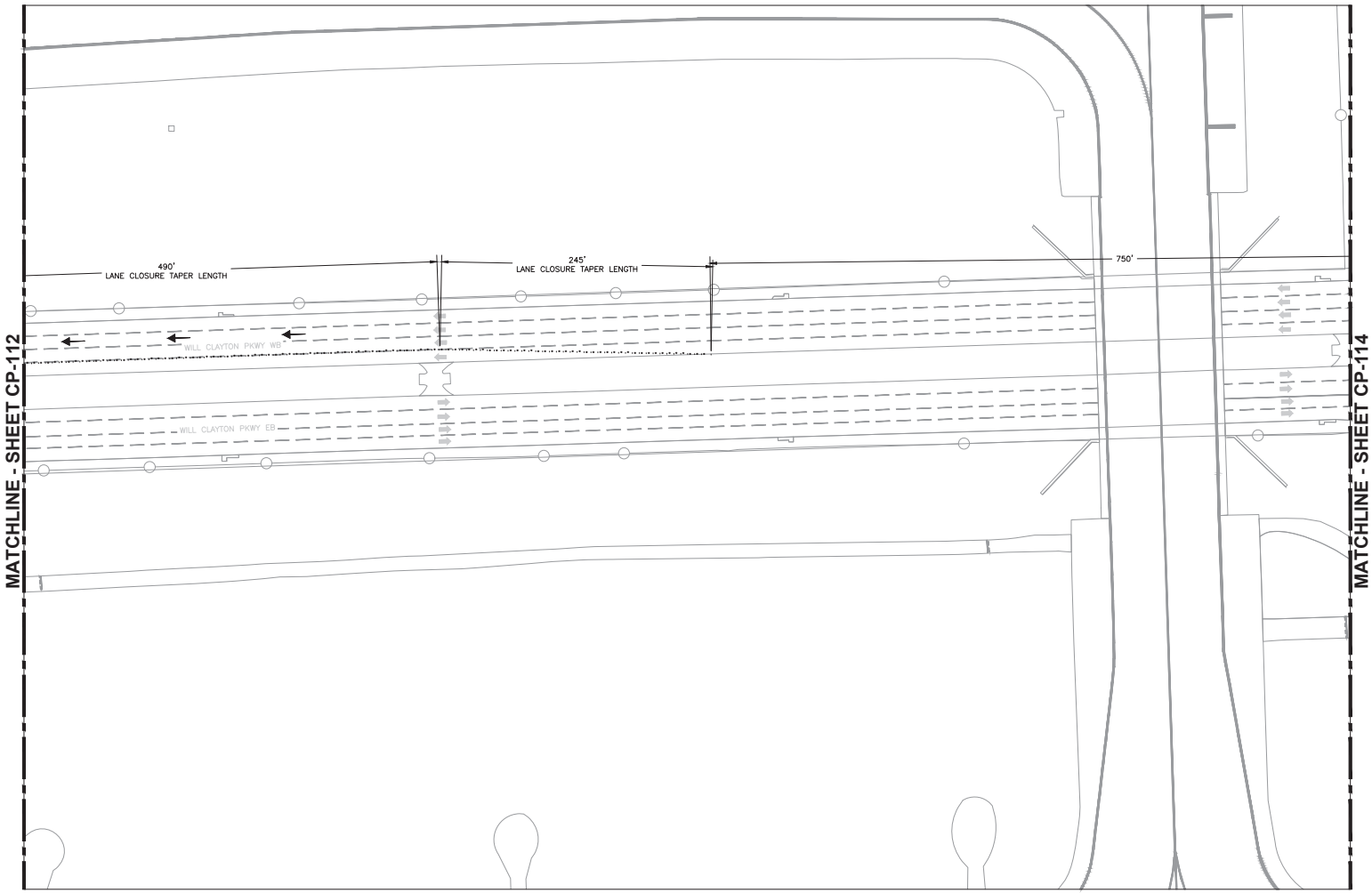
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-112



LEGEND

- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- LONGITUDINAL CHANNELIZED DEVICE

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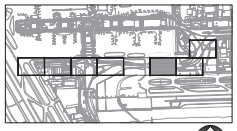

HAS FILE:
PLOT DATE:

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GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION TRAFFIC CONTROL PLAN - PHASE 3

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

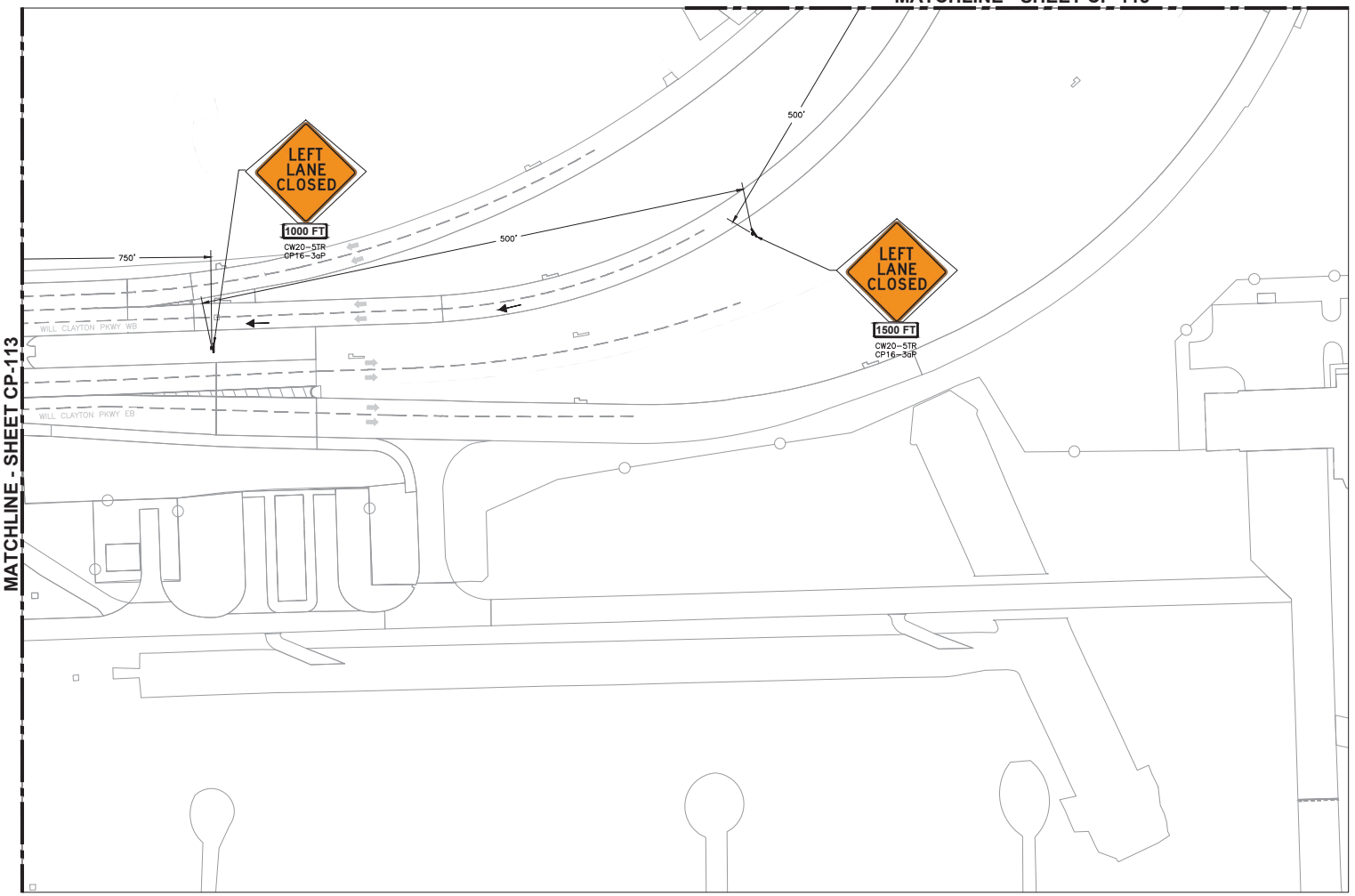
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-113

MATCHLINE - SHEET CP-115



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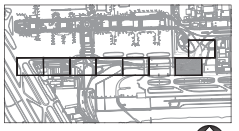
3. NOTIFY THE HAS PROJECT ENGINEER IN WRITING ONCE ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS PER PLANS ON THE PROJECT SO THAT THE DEPARTMENT'S RESPONSIBLE PERSON ACCOMPANIED BY THE CONTRACTOR'S RESPONSIBLE PERSON CAN CONDUCT A NIGHT INSPECTION OF THE SAID TCP AND TRAFFIC CONTROL DEVICES. COMMENCEMENT OF WORK WILL NOT BE AUTHORIZED NOR ALLOWED UNTIL THE HAS PROJECT ENGINEER GIVES THE APPROVAL TO PROCEED WITH THE WORK.
4. CONTRACTOR SHALL HAVE A SUFFICIENT AMOUNT OF TRAFFIC CONTROL DEVICES IN ACCEPTABLE CONDITION TO REPLACE ANY DAMAGED TRAFFIC CONTROL DEVICE WITHIN 24 HOURS OF NOTIFICATION.
5. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY. THESE ADDITIONAL SIGNS WILL BE CONSIDERED SUBSIDIARY TO ITEM 502 IN THE TXDOT SPECIFICATIONS.
6. COORDINATE THE TRAFFIC CONTROL PLAN AND THE VARIOUS SEQUENCES OF CONSTRUCTION WITH ADJACENT CONSTRUCTION PROJECTS IF APPLICABLE, TO ENSURE THE UNINTERRUPTED AND SAFE FLOW OF TRAFFIC.
7. REMOVE OR COMPLETELY COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
8. NOTIFY THE HAS PROJECT ENGINEER WHEN MAJOR TRAFFIC CHANGES ARE TO BE MADE. NOTIFICATIONS MUST BE GIVEN A MINIMUM OF THREE WORKING DAYS PRIOR TO THE CHANGE.
9. PHASE 3 INCLUDES THE CLOSURE OF THE BRIDGE AND A DETOUR IS USED TO REROUTE TRAFFIC FROM WILL CLAYTON TO JFK. PHASE 3 WORK IS STRICTLY NIGHT WORK AND WILL RUN CONCURRENTLY WITH PHASE 1. ALL TRAFFIC CONTROL SEQUENCES SHALL BE RESTORED TO PHASE 1 CONDITIONS PRIOR TO OPENING UP THE BRIDGE FOR THROUGH TRAFFIC DURING THE DAY DURING PHASE 1.

NOTES (CONTINUED)

10. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
11. SEE SHEETS CP-501 THROUGH CP-510 FOR TRAFFIC CONTROL DETAILS AND NOTES.
12. DEBRIS SHIELD SHALL BE INSTALLED BY CONTRACTOR WHERE ROADS CROSS UNDER THE BRIDGE. SEE SHEETS G-005, CD-101, AND CD-102 FOR MORE INFORMATION.
13. CONCRETE SAFETY BARRIERS SHALL ACT AS BRIDGE RAILING DURING CONSTRUCTION, EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC. SEE SHEET CP-503 FOR CONCRETE SAFETY BARRIERS DETAILS AND NOTES.
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



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GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION TRAFFIC CONTROL PLAN - PHASE 3

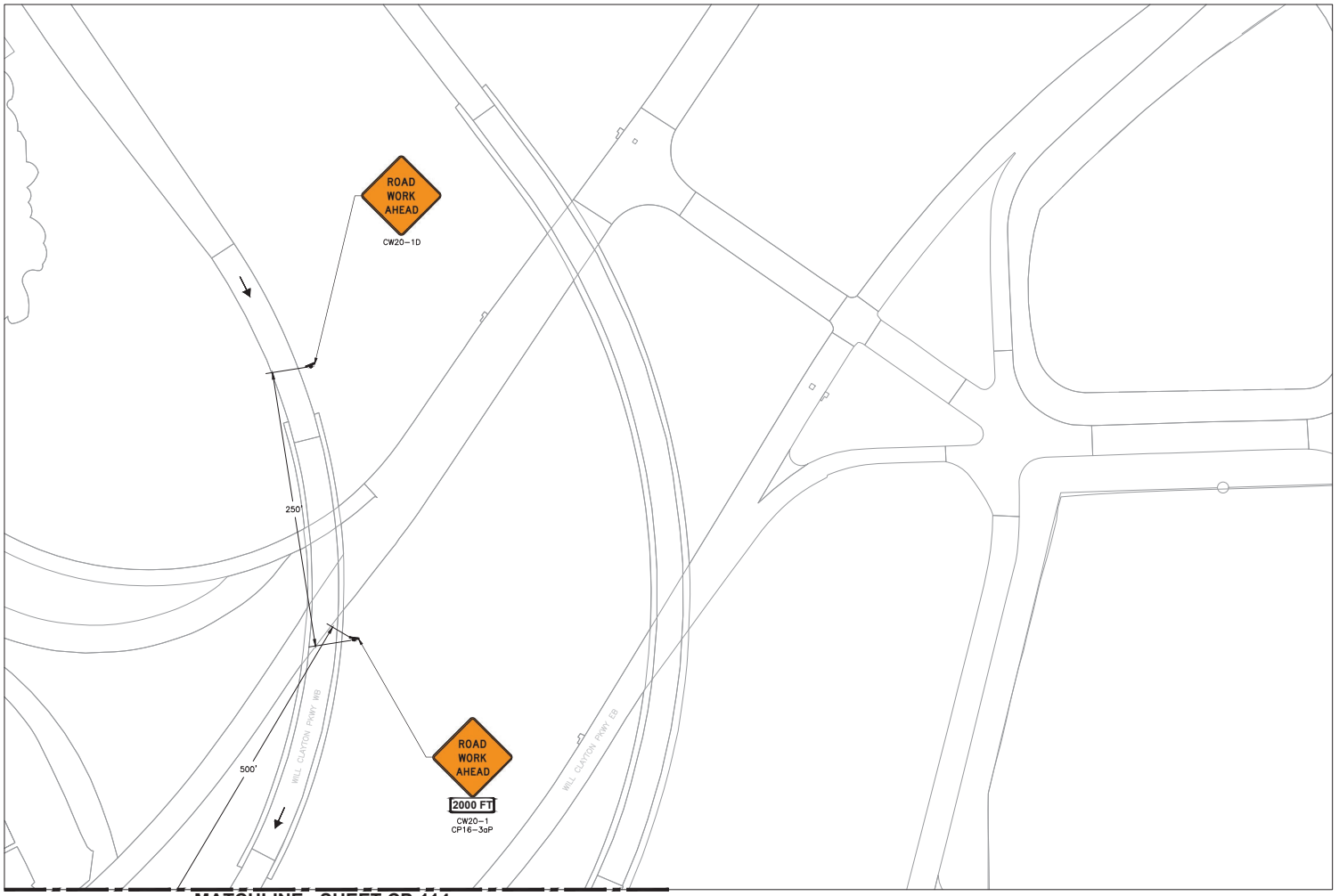
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-114



MATCHLINE - SHEET CP-114

LEGEND

- TRAFFIC CONTROL SIGN
- CONCRETE SAFETY BARRIERS
- TRAFFIC BARRELS
- LONGITUDINAL CHANNELIZED DEVICE

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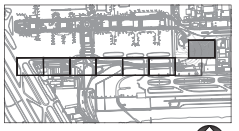
14. SEE SHEET G-005 FOR SITE ACCESS LOCATIONS.



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NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION TRAFFIC CONTROL PLAN - PHASE 3

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CP-115

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER (see Sign Detail G20-10T) and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or milling edgeline rumble strips. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.

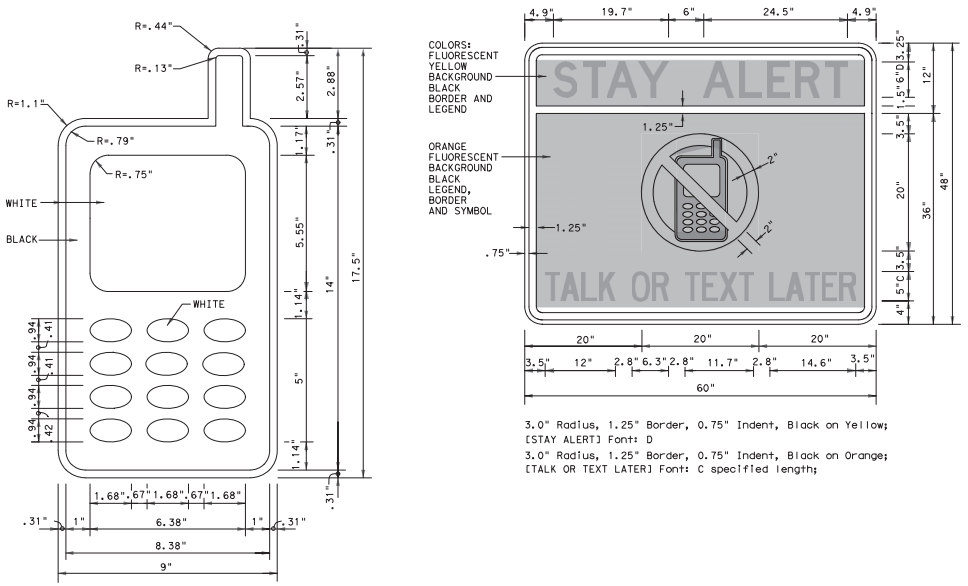
11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY APPAREL NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.



3.0" Radius, 1.25" Border, 0.75" Indent, Black on Yellow; [STAY ALERT] Font: D
3.0" Radius, 1.25" Border, 0.75" Indent, Black on Orange; [TALK OR TEXT LATER] Font: C specified length;

SIGN DETAIL (G20-10T)

Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation
Traffic Operations Division - TE
Phone (512) 416-3118

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

Texas Department of Transportation — Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

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REVISIONS 4-03 5-10 8-14 9-07 7-13	DIST	COUNTY		SHEET NO.

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GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
TRAFFIC CONTROL DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

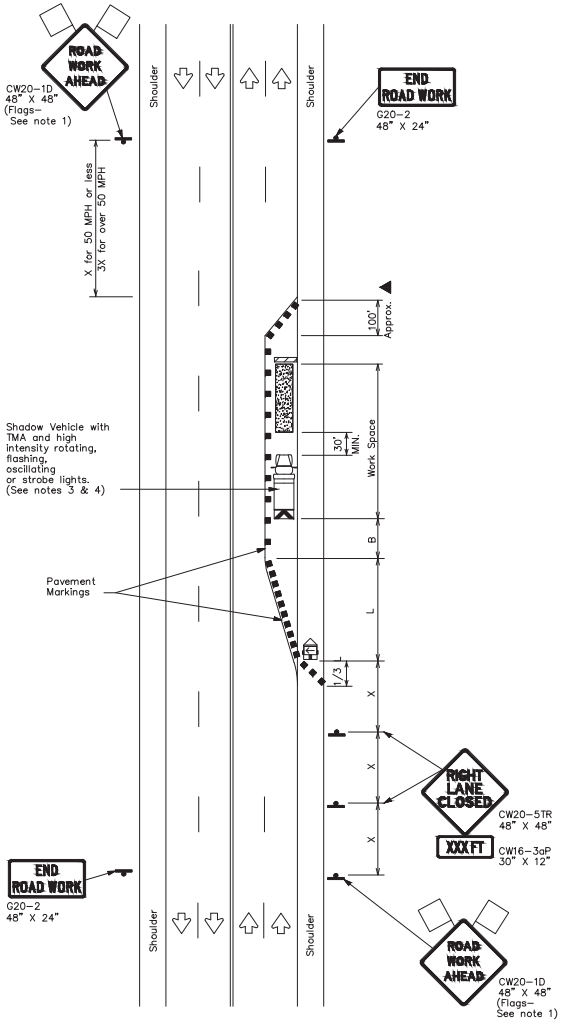
STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED PROFESSIONAL ENGINEER — Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

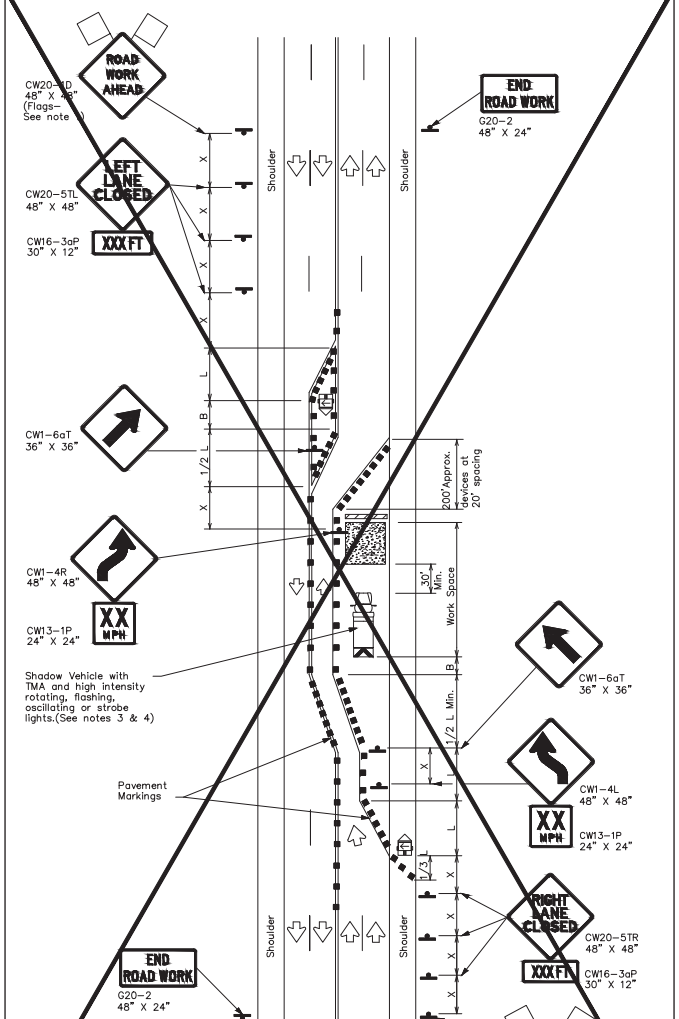
PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	

CP-501



TCP (2-5a)

ONE LANE CLOSED



TCP (2-5b)

TWO LANES CLOSED

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths * * 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
			✓	✓

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
4. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.
5. The downstream taper is optional. When used, it should be 100 feet approximately per lane, with channelizing devices spaced at 20 feet.

TCP (2-5a)

6. If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline to protect the work space from opposing traffic, with the arrow board placed in the closed lane near the end of the merging taper.

TCP (2-5b)

7. Conflicting pavement markings shall be removed for long-term projects.

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
LONG TERM LANE CLOSURES
MULTILANE CONVENTIONAL RDS.

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WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
TRAFFIC CONTROL DETAILS

PROJECT MGR:	JLV
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SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.
100066296

A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
931

SHEET NO.

CP-502

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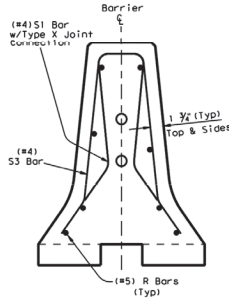
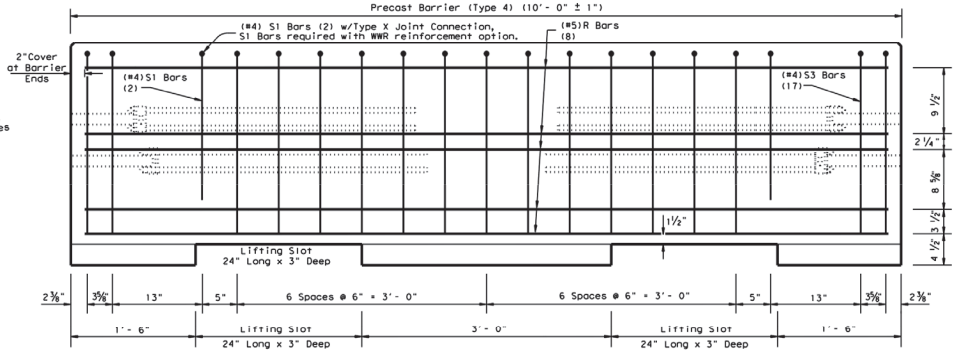
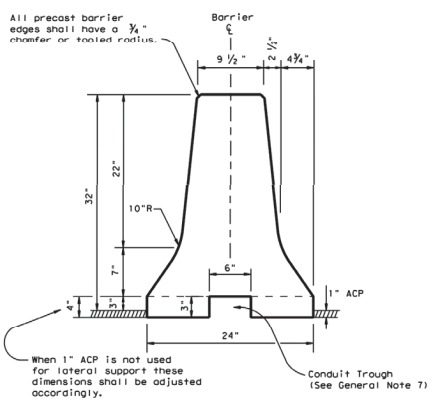


End View
Precast Barrier



Reinforcement for (10 ft) Precast
Concrete Safety Barrier (Type 4)

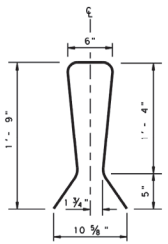


Concrete Safety Barrier

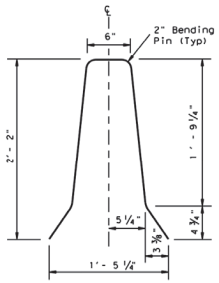
Schedule of reinforcement for each 10 foot precast section.

BAR	SIZE	QUANTITY
S1	#4	2
R3	#4	17
R	#5	8

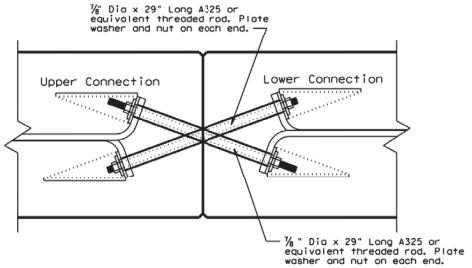
Note:
Two S1 Bars are required with the use of WWR reinforcement option. The S1 Bars may need a slight modification to fit within the WWR cage, as directed by the Engineer.



S1 Bar
#4 Bar (2)



S3 Bar
#4 Bar (17)



Top view showing
Joint Connection Type X

Joint Type X Connection Required with (10 foot) barrier length, See CSB(1), sheet 1 of 2 for Joint Type X details.

Approximate Per L.F. Quantities		
		Precast
Concrete	CY.	0.108
Rebar	LB.	14.8

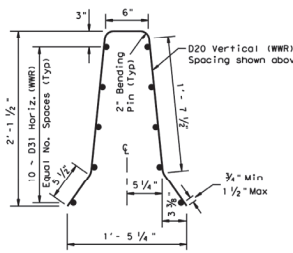
For Contractor's information only
Weight of one Precast 10 ft. unit = Approx. 2 Tons

General Notes

1. The 10 foot barrier is intended for maintenance applications of short duration periods. The 10 foot barrier is limited to use in temporary work zone conditions not to exceed 2 calendar months, unless approved in writing by the TxDOT engineer, noting the duration and location of the barrier placement in the written approval.
2. 30 ft. (Type 1) barrier and 10 ft. (Type 4) barrier sections shall not be mixed in a single run of barrier.
3. Barrier lengths other than 10 ft. for (Type 4) barrier are not allowed.
4. Concrete shall be Class H, with a minimum compressive strength of 3,600 psi.
5. Where used, rebar reinforcement shall be Grade 60 and conform to ASTM A615.
6. Only the Type X joint connection system is to be used with Type 4 barrier and is considered subsidiary. See CSB(1), Sheet 1 of 2 , for (Type X) connection details.
7. Conduit trough may be omitted, as shown elsewhere or as directed by the Engineer.

NOTE:
USAGE OF THE 10 FT (TYPE 4) CSB BARRIER REQUIRES A MINIMUM OF 100 LINEAR FEET.

SHORTER LENGTHS THAN THESE SHOULD BE DISCUSSED WITH THE DESIGN DIVISION.



Welded Wire Reinforcement
(WWR) Option for Bars R and S3

(WWR) General Notes

1. Deformed Welded Wire Reinforcement (WWR) shall conform to ASTM A497.
2. Welded wire cage may be cut or bent to accommodate the Type X joint connection and drainage slots, as directed by the Engineer.
3. All reinforcement shall comply with Item 440, "Reinforcing Steel."
4. Combinations of reinforcing steel and WWR will be permitted, as directed by the Engineer. The dimension from the end of the barrier section to the first wire shall not exceed 3".

Texas Department of Transportation — Design Division Standard

CONCRETE SAFETY BARRIER (F-SHAPE)

PRECAST BARRIER
(TYPE 4)
(10 FOOT, BARRIER SEGMENT)

CSB(8)-10

FILE: csb810.dgn	DN: TxDOT	CK: AM	DW: BD	CK:
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
TRAFFIC CONTROL DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.
100066296

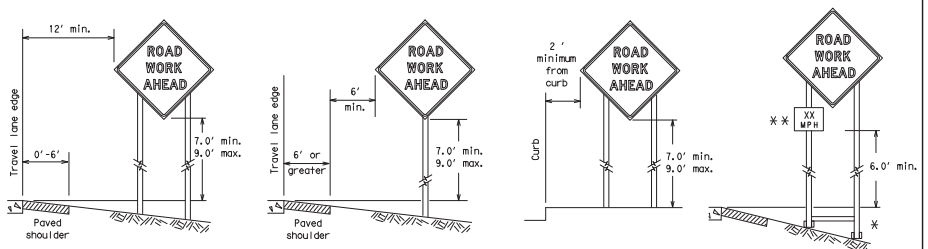
A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
931

SHEET NO.
CP-503

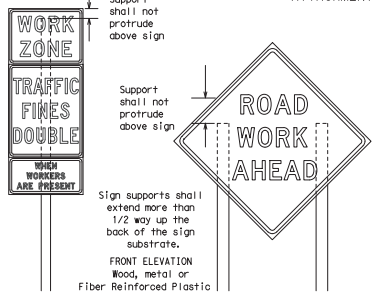
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



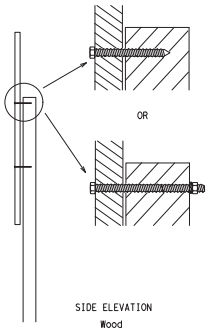
⁎ When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

⁎⁎ When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS



Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

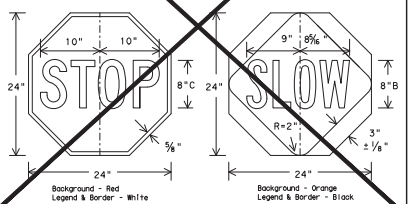


Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24" as detailed below.
2. When used at night, the STOP/SLOW paddle shall be retroreflectorized.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6′ to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC sheets or the CWZTCD. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height,the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B_{FL} or Type C_{FL}, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

Texas Department of Transportation — Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

FILE: bc-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS 9-07 8-14 7-13	DIST	COUNTY		SHEET NO.

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PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
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HOUSTON, TX 77079
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION TRAFFIC CONTROL DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

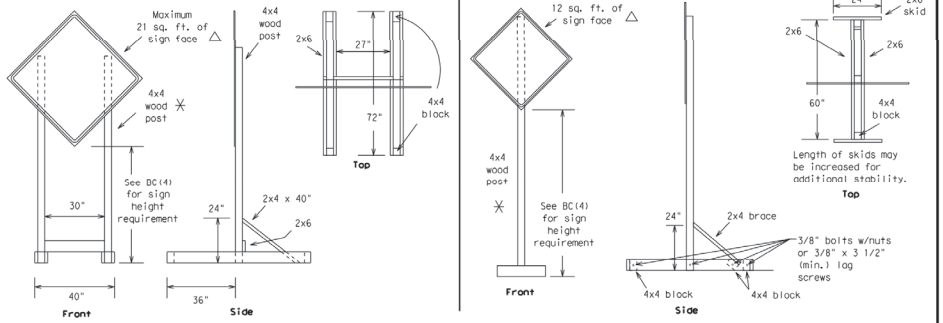
STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED — PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

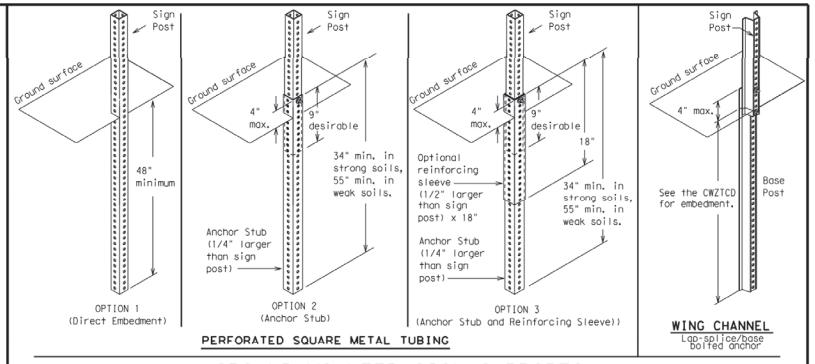
PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	

CP-504



SKID MOUNTED WOOD SIGN SUPPORTS

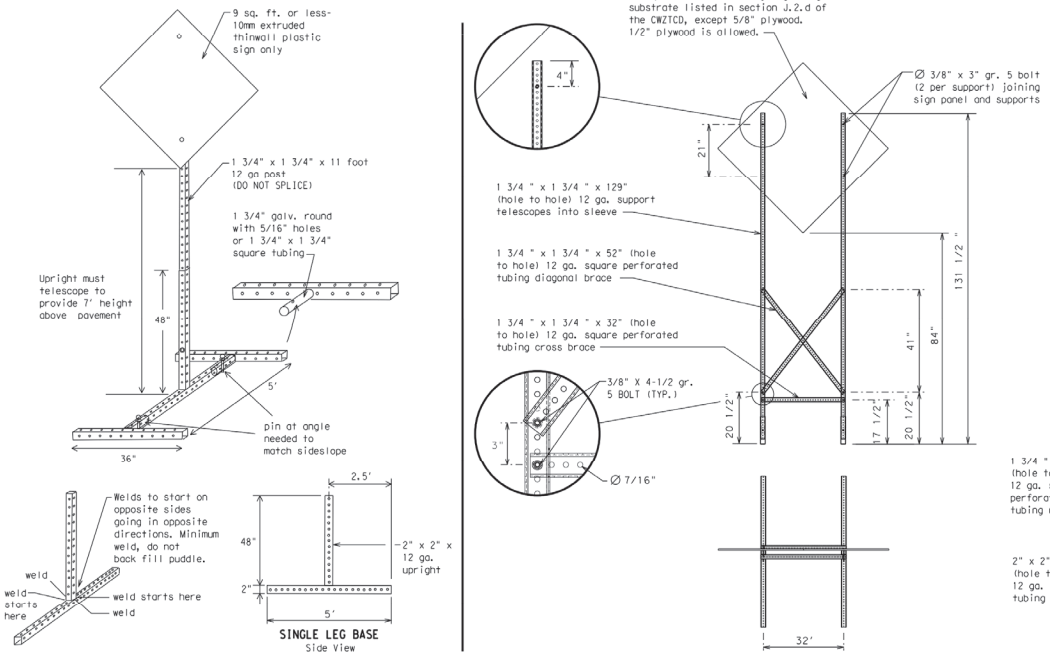
LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS ☐



PERFORATED SQUARE METAL TUBING

GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.



Nominal Post Size	Number of Posts	Maximum Sq. feet of Sign Face	Minimum Soil Embedment	Drilled Hole(s) Required
4 x 4	1	12	36"	NO
4 x 4	2	21	36"	NO
4 x 6	1	21	36"	YES
4 x 6	2	36	36"	YES

WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

☐ See BC(4) for definition of "Work Duration."

✕ Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

△ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

SHEET 5 OF 12

Texas Department of Transportation | Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-14

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SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

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HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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EDMOND S. WOODS
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Edmond Woods 06/26/2020

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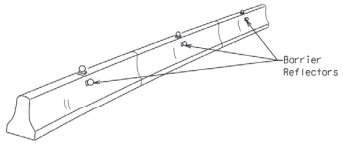
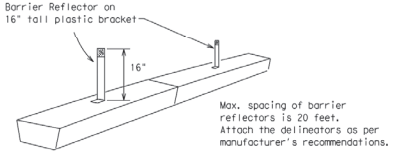
1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on DC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.

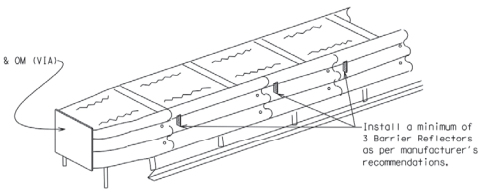


CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.



LOW PROFILE CONCRETE BARRIER (LPCB)

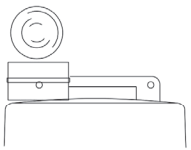


DELINEATION OF END TREATMENTS

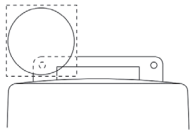
END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square. Must have a yellow reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B_{FL} or C_{FL} Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

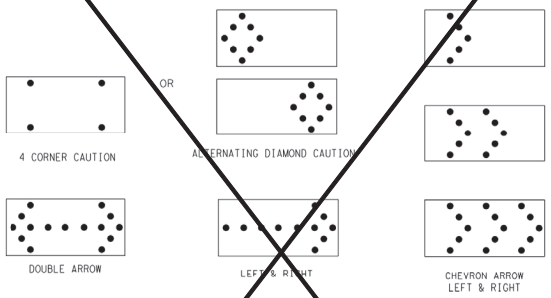
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential Chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION
Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National Cooperative Highway Research Report No. 350 (NCHRP 350) or the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

SHEET 7 OF 12

Texas Department of Transportation — Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC(7)-14

FILE:	bc-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
TRAFFIC CONTROL DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
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H.A.S. NO.	931
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GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

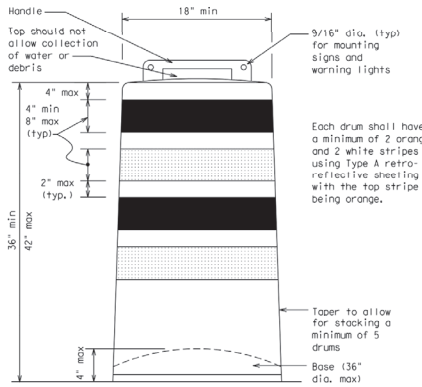
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

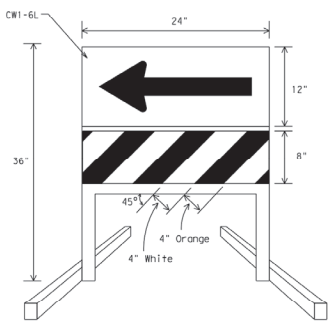
RETROREFLECTIVE SHEETING

1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

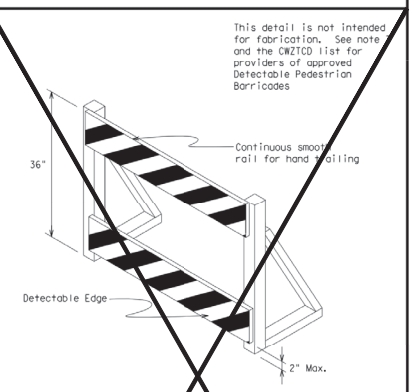
1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.





DIRECTION INDICATOR BARRICADE

1. The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
2. If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
3. The Direction Indicator Barricade shall consist of One-Direction Large Arrow (CW1-6) sign in the size shown with a black arrow on a background of Type B_{FL} or Type C_{FL} Orange retroreflective sheeting above a rail with Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Sheeting types shall be as per DMS 8300.
4. Double arrows on the Direction Indicator Barricade will not be allowed.
5. Approved manufacturers are shown on the CWZTCD List. Ballast shall be as approved by the manufacturers instructions.



DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, such as concrete barriers, solid wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades may use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.

18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer

12" x 24" Vertical Panel mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type B_{FL} or Type C_{FL} Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

SHEET 8 OF 12

Texas Department of Transportation | Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-14

FILE: bc-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

TRAFFIC CONTROL DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
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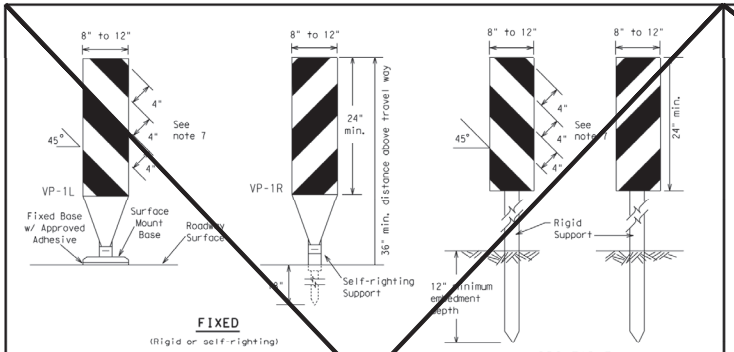
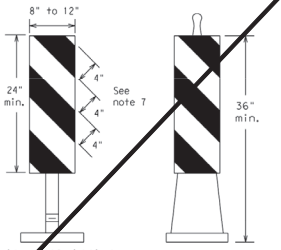


FIXED

(Rigid or self-righting)

DRIVEABLE

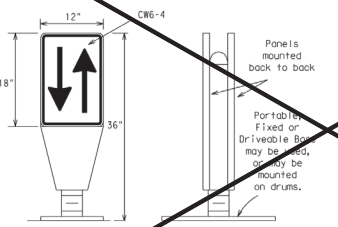


(Rigid or self-righting)

PORTABLE

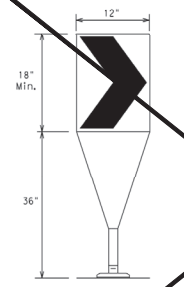
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

VERTICAL PANELS (VPs)



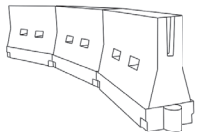
1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_L or Type C_L conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates the need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B_L or Type C_L conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

CHEVRONS



LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10) placed near the top of the LCD along the full length of the device.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45	L=WS	450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

** Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

SHEET 9 OF 12

Texas Department of Transportation | Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-14

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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
TRAFFIC CONTROL DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS · EDMOND S. WOODS · 122123 · LICENSED · PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
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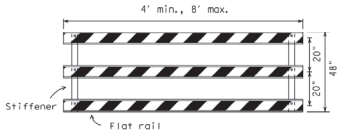
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.

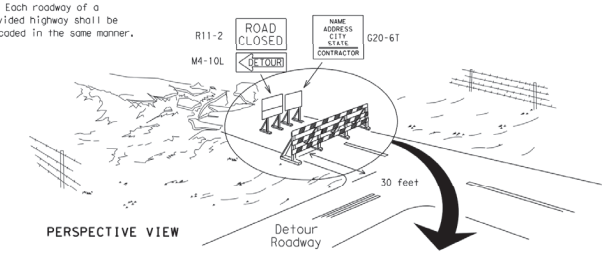
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

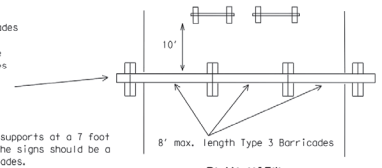
TYPICAL PANEL DETAIL
FOR SKID OR POST TYPE BARRICADES

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

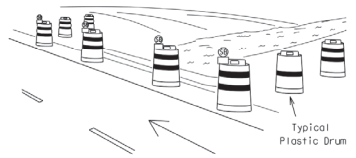
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

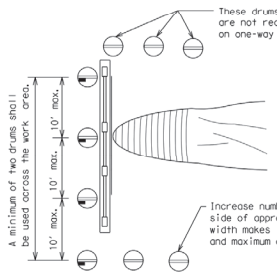
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

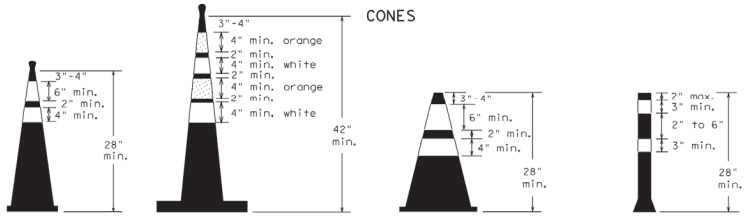
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

PLAN VIEW

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS

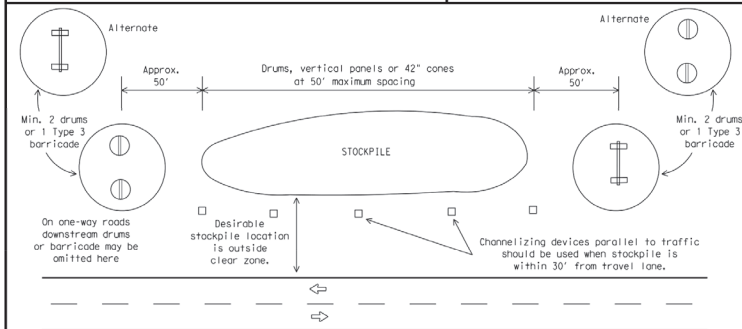


Two-Piece cones | One-Piece cones | Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

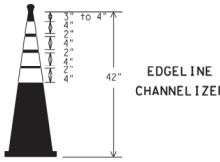
42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers used at night shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

THIS DEVICE SHALL NOT BE USED ON PROJECTS LET AFTER MARCH 2014.



1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

SHEET 10 OF 12

Texas Department of Transportation | Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-14

FILE:	bc-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS					
9-07 8-14		DIST	COUNTY		SHEET NO.
7-13					

104

DATE:
FILE:

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
TRAFFIC CONTROL DETAILS

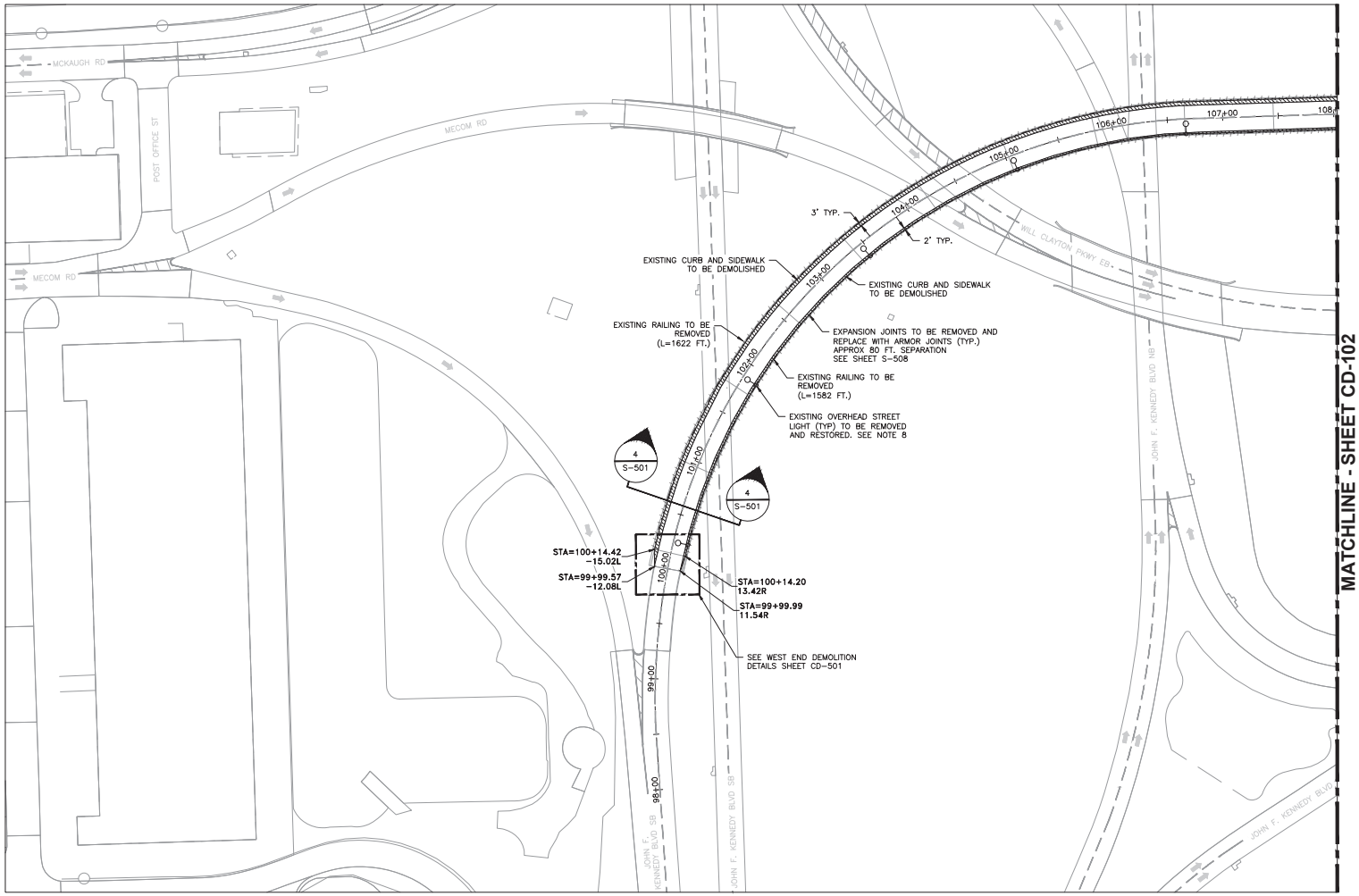
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	

CP-509

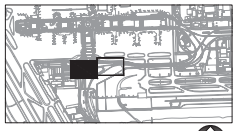


LEGEND

- CONCRETE DEMOLITION
- RAILING REMOVAL
- EXISTING OH LIGHT

NOTES

1. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND LEGAL DISPOSAL OF ALL MATERIAL RESULTING FROM THE WORK EFFORTS, FROM THE PROJECT SITE.
2. CONTRACTOR TO PROTECT ALL EXISTING EXPANSION JOINTS.
3. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ADEQUATE DUST CONTROL MEASURES DURING ALL CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL CLEANUP AT THE END OF EACH WORK SHIFT PRIOR TO OPENING THE AREA TO PUBLIC TRAFFIC. THE SUITABILITY OF THE SITE FOR OPENING TO PUBLIC TRAFFIC SHALL BE SUBJECT TO APPROVAL BY HAS PERSONNEL.
5. REFER TO SHEETS CD-501 AND S-SERIES FOR ADDITIONAL STRUCTURAL DEMOLITION INFORMATION AND DETAILS.
6. REFER TO SHEET S-508 FOR ADDITIONAL ARMOR JOINT INFORMATION AND DETAILS.
7. THE CONTRACTOR IS NOT TO DAMAGE THE EXISTING STRUCTURE. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES OUTSIDE THE SCOPE OF WORK, AND THE DAMAGES SHALL BE FIXED AND RETURNED TO ORIGINAL CONDITION OR BETTER AT THE CONTRACTOR'S EXPENSE.
8. CENTERPOINT IS RESPONSIBLE FOR THE REMOVAL OF THE LIGHT POLES PRIOR TO COMMENCEMENT OF THE PROJECT.



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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HOUSTON, TX 77079
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION CIVIL DEMOLITION PLAN

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.
100066296

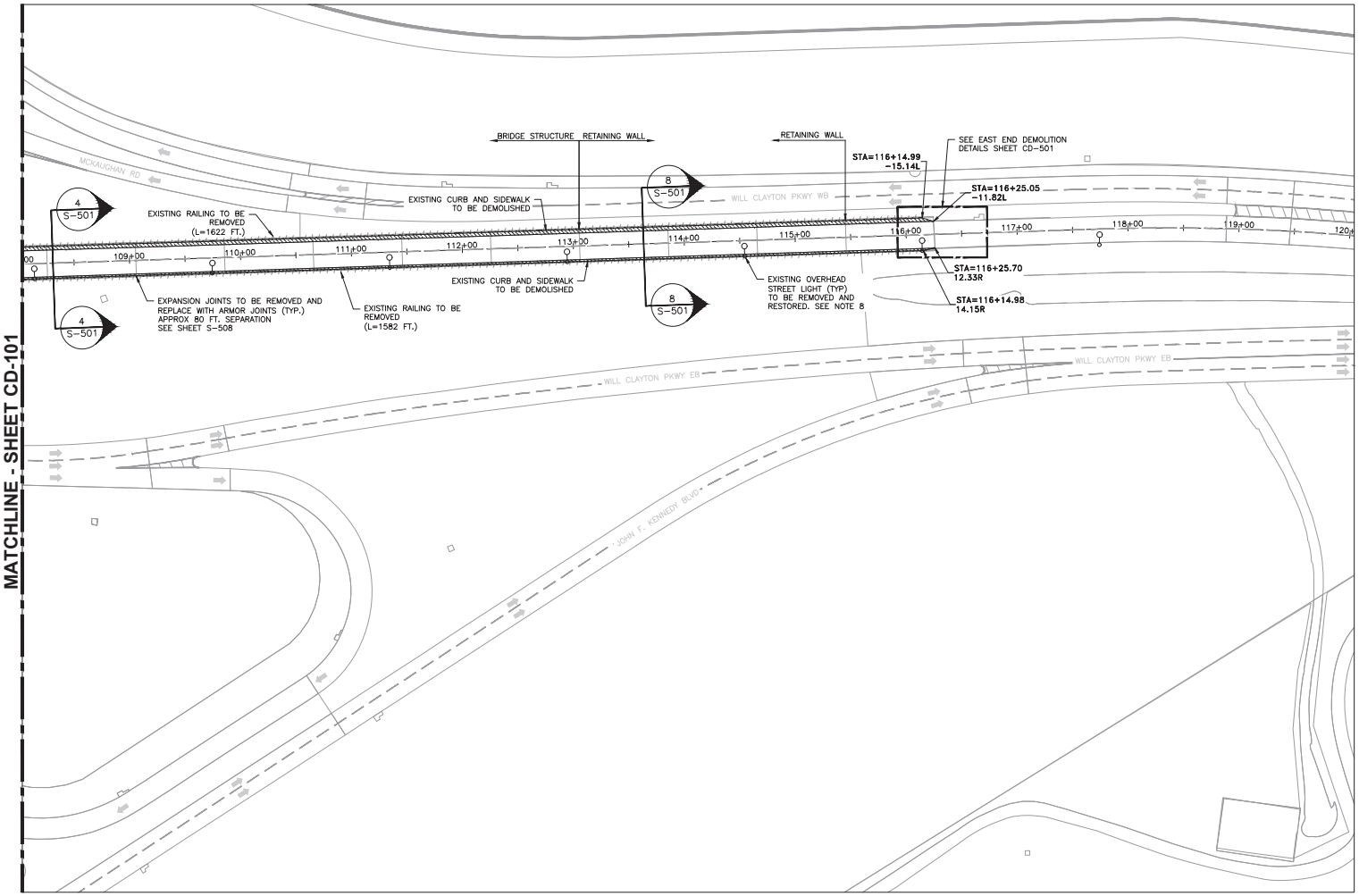
A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
931

SHEET NO.
CD-101

H:\AS FILE:
PLOT DATE:



LEGEND

- CONCRETE DEMOLITION
- RAILING REMOVAL
- EXISTING OH LIGHT

NOTES

1. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND LEGAL DISPOSAL OF ALL MATERIAL RESULTING FROM THE WORK EFFORTS, FROM THE PROJECT SITE.
2. CONTRACTOR TO PROTECT ALL EXISTING EXPANSION JOINTS.
3. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ADEQUATE DUST CONTROL MEASURES DURING ALL CONSTRUCTION ACTIVITIES.
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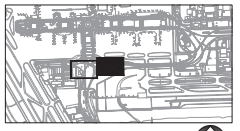
8. CENTERPOINT IS RESPONSIBLE FOR THE REMOVAL OF THE LIGHT POLES PRIOR TO COMMENCEMENT OF THE PROJECT.



0 50 100 Feet

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
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HOUSTON, TX 77079
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WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

CITY OF HOUSTON
HOUSTON AIRPORTS SYSTEM
Recommended
Approved
Director or Designated Representative
DATE

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
CIVIL DEMOLITION PLAN

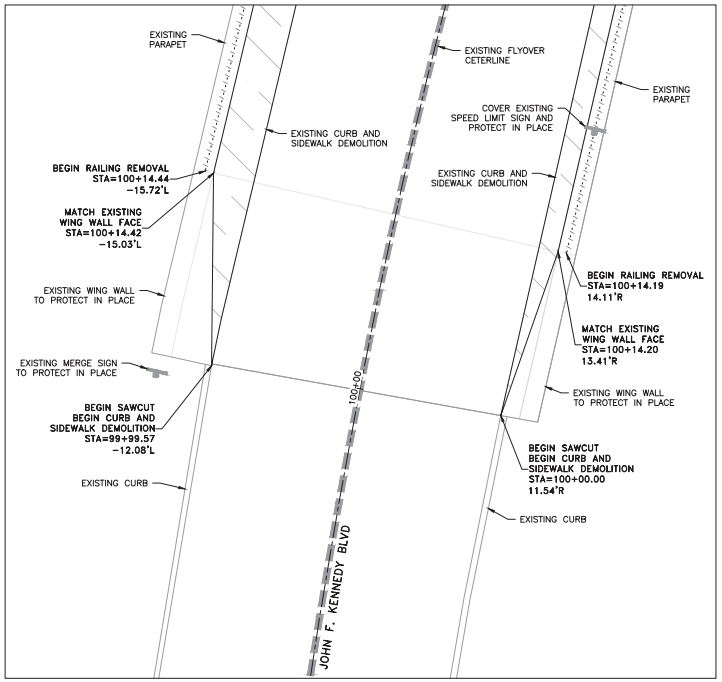
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

APPROVED BY:

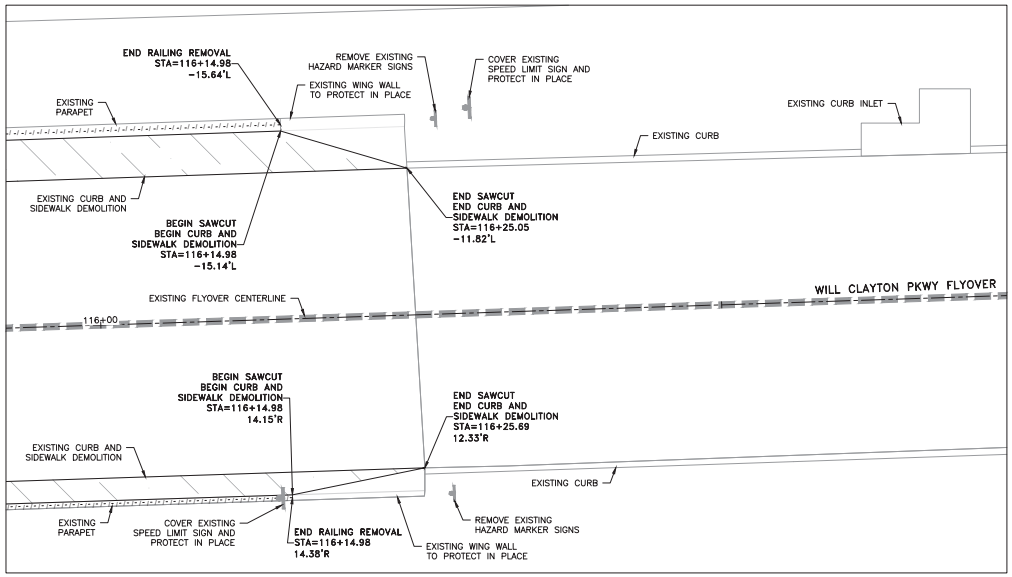
DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CD-102

HAS FILE:
PLOT DATE:



1 CD-501 WEST END DEMOLITION DETAILS
SCALE: 1" = 5'



2 CD-501 EAST END DEMOLITION DETAILS
SCALE: 1" = 5'

HAS FILE:
PLOT DATE:

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GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION DEMOLITION DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

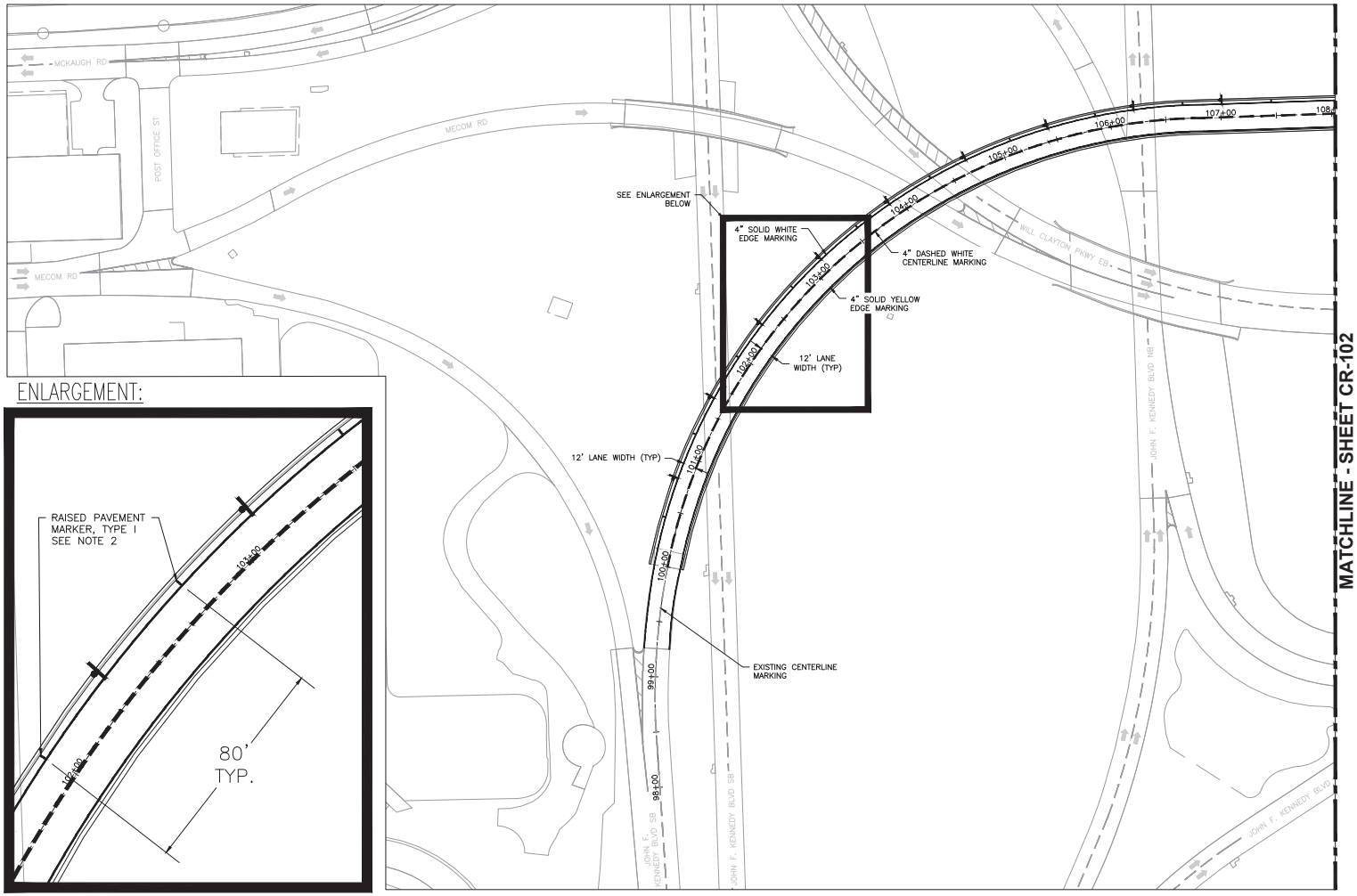
PROJECT NO.
100066296

A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
931

SHEET NO.
CD-501



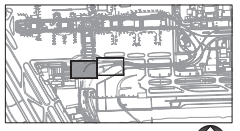
ENLARGEMENT:

LEGEND

- PROPOSED TRAFFIC SIGN
- PROPOSED CONCRETE PAVEMENT
- CRASH CUSHION ATTENUATOR
- SINGLE GUARDRAIL TERMINAL MSKT MASH
- RAISED PAVEMENT MARKER, TYPE I

NOTES

1. REFER TO SHEETS CR-514 THROUGH CR-516 FOR ADDITIONAL BRIDGE RAILING SIGN MOUNTING INFORMATION AND DETAILS.
2. RAISED PAVEMENT MARKER SHALL HAVE A SPACING OF A MINIMUM OF 0.5 FEET FROM THE EDGE OF PAVEMENT SHOULDER MARKING. TYPICAL SPACING BETWEEN RAISED EDGE MARKING IS 0.5 FEET, CENTER TO CENTER. SEE RAISED PAVEMENT MARKER DETAILS, SHEET CR-512.



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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NO.	DESCRIPTION	DATE	BY

CITY OF HOUSTON
HOUSTON AIRPORTS SYSTEM
Recommended
Approved
Director of Houston Airports System
Date
Director or Designated Representative

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PAVEMENT AND MARKING PLAN

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

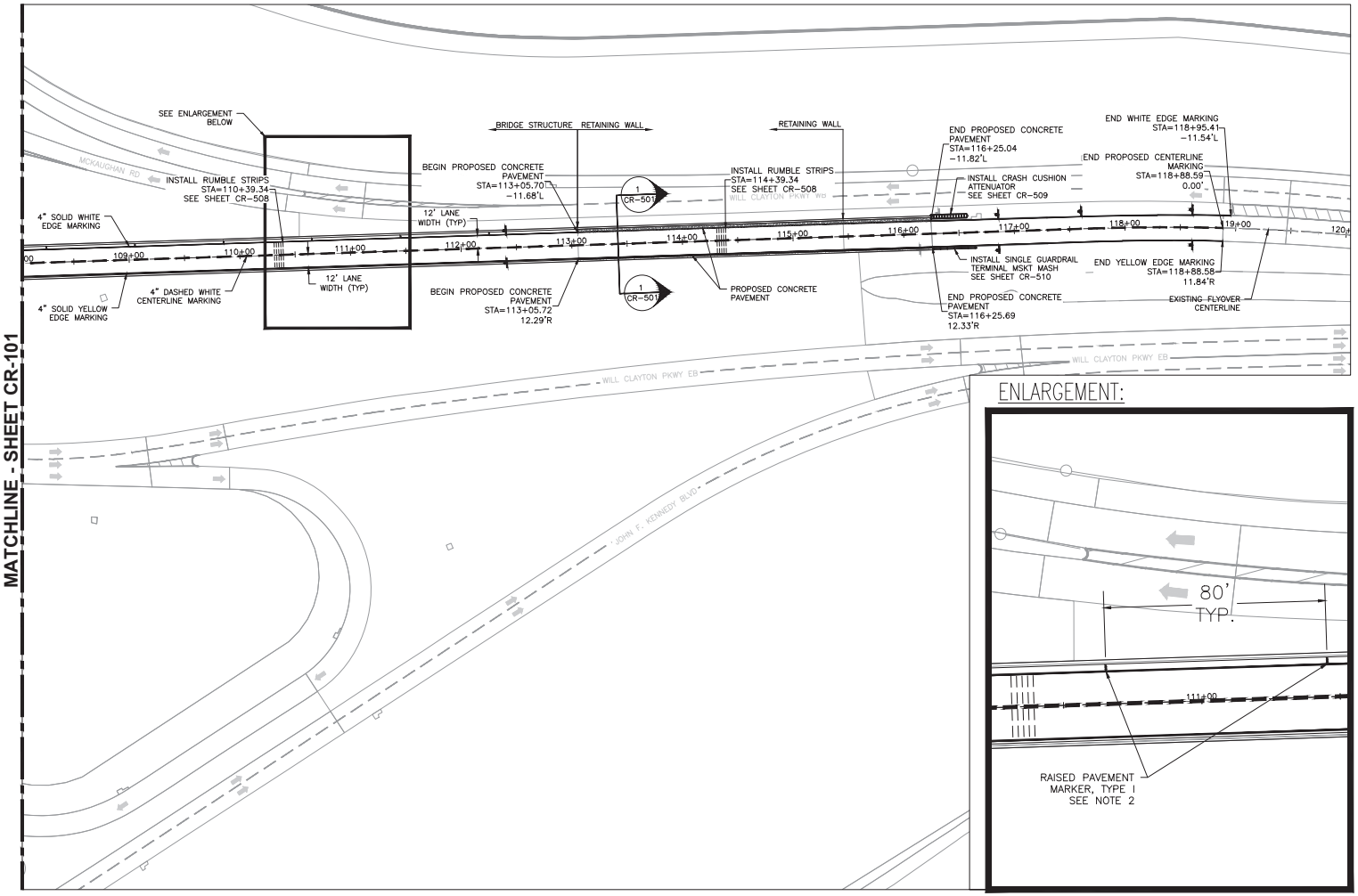
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-101

HAS FILE:
PLOT DATE:



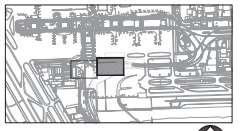
ENLARGEMENT:

LEGEND

- PROPOSED TRAFFIC SIGN
- PROPOSED CONCRETE PAVEMENT
- CRASH CUSHION ATTENUATOR
- SINGLE GUARDRAIL TERMINAL MSKT MASH
- RAISED PAVEMENT MARKER, TYPE I

NOTES

1. REFER TO SHEETS CR-514 THROUGH CR-516 FOR ADDITIONAL BRIDGE RAILING SIGN MOUNTING INFORMATION AND DETAILS.
2. RAISED PAVEMENT MARKER SHALL HAVE A SPACING OF A MINIMUM OF 0.5 FEET FROM THE EDGE OF PAVEMENT SHOULDER MARKING. TYPICAL SPACING BETWEEN RAISED EDGE MARKING IS 0.5 FEET, CENTER TO CENTER. SEE RAISED PAVEMENT MARKER DETAILS, SHEET CR-512.



0 50 100 Feet

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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NO.	DESCRIPTION	DATE	BY

CITY OF HOUSTON
HOUSTON AIRPORTS SYSTEM
Recommended
Approved
Director or Designated Representative
DATE

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PAVEMENT AND MARKING PLAN

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-102

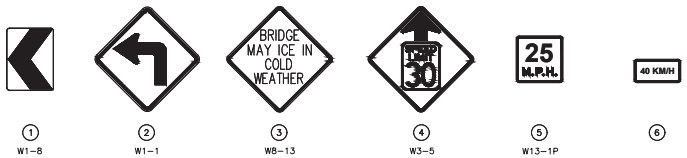
HAS FILE:
PLOT DATE:

LEGEND

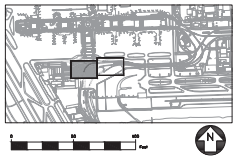
- PROPOSED TRAFFIC SIGN
- EXISTING TRAFFIC SIGN
- CRASH CUSHION ATTENUATOR
- SINGLE GUARDRAIL TERMINAL MSKT MASH

NOTES

1. REFER TO SHEETS CR-514 THROUGH CR-516 FOR ADDITIONAL BRIDGE RAILING SIGN MOUNTING INFORMATION AND DETAILS.
2. THE EXISTING SIGNAGE SHALL BE SALVAGED AND RETURNED TO HAS.
3. REFER TO SHEETS CR-517 THROUGH CR-518 FOR ADDITIONAL SOLAR POWERED SPEED RADAR SIGN MOUNTING INFORMATION AND DETAILS.



① W1-8 ② W1-1 ③ W8-13 ④ W3-5 ⑤ W13-1P ⑥



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
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HOUSTON, TX 77079
TEL: (713) 576-8500
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION SIGNAGE PLAN

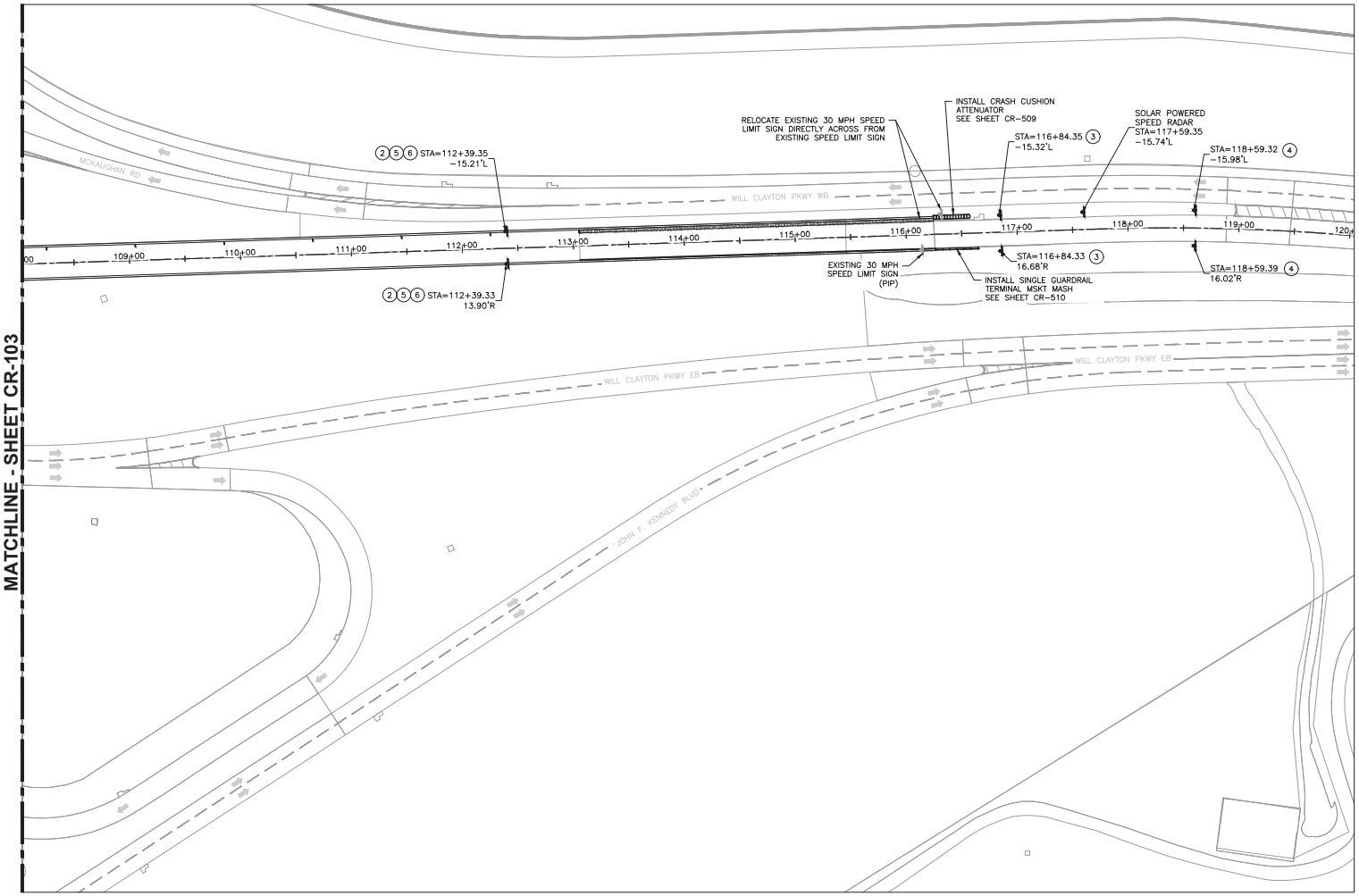
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-103

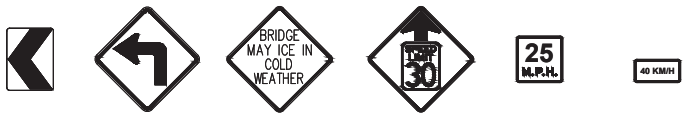


LEGEND

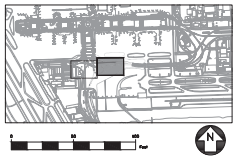
- PROPOSED TRAFFIC SIGN
- EXISTING TRAFFIC SIGN
- CRASH CUSHION ATTENUATOR
- SINGLE GUARDRAIL TERMINAL MSKT MASH

NOTES

1. REFER TO SHEETS CR-514 THROUGH CR-516 FOR ADDITIONAL BRIDGE RAILING SIGN MOUNTING INFORMATION AND DETAILS.
2. THE EXISTING SIGNAGE SHALL BE SALVAGED AND RETURNED TO HAS.
3. REFER TO SHEETS CR-517 THROUGH CR-518 FOR ADDITIONAL SOLAR POWERED SPEED RADAR SIGN MOUNTING INFORMATION AND DETAILS.



① W1-8 ② W1-1 ③ W8-13 ④ W3-5 ⑤ W13-1P ⑥



HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
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NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION SIGNAGE PLAN

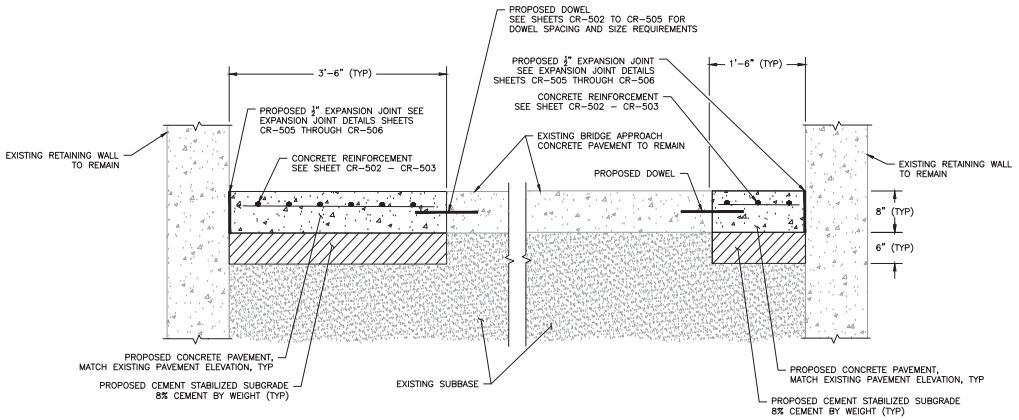
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-104



1 / CR-501 PROPOSED BRIDGE APPROACH – CUT SECTION N.T.S

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HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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CITY OF HOUSTON
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DATE

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
TYPICAL PAVEMENT DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
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PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

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DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
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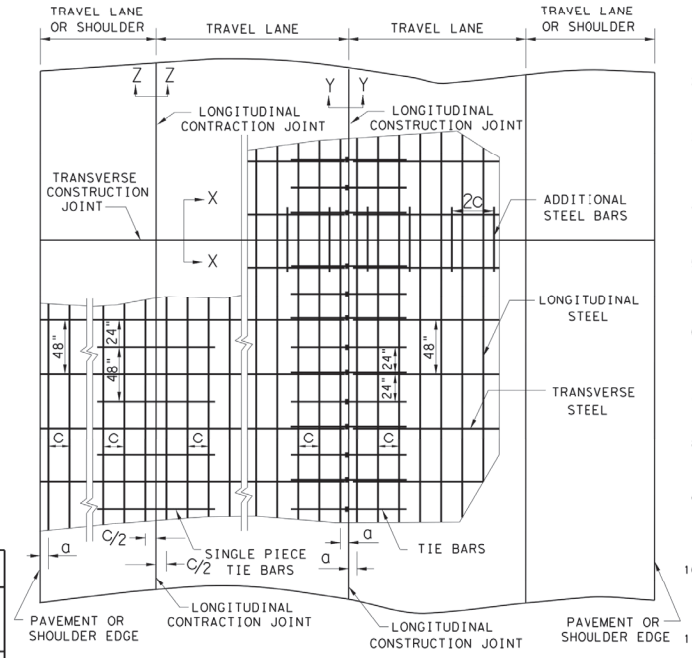
TABLE NO. 1 LONGITUDINAL STEEL					
SLAB THICKNESS AND BAR SIZE		REGULAR STEEL BARS	FIRST SPACING AT EDGE OR JOINT	ADDITIONAL STEEL BARS AT TRANSVERSE CONSTRUCTION JOINT (SECTION X-X)	
T (IN.)	BAR SIZE	SPACING C (IN.)	SPACING a (IN.)	SPACING 2 X C (IN.)	LENGTH L (IN.)
7.0	#5	6.5	3 TO 4	13	50
7.5	#5	6.0	3 TO 4	12	50
8.0	#6	9.0	3 TO 4	18	50
8.5	#6	8.5	3 TO 4	17	50
9.0	#6	8.0	3 TO 4	16	50
9.5	#6	7.5	3 TO 4	15	50
10.0	#6	7.0	3 TO 4	14	50
10.5	#6	6.75	3 TO 4	13.5	50
11.0	#6	6.5	3 TO 4	13	50
11.5	#6	6.25	3 TO 4	12.5	50
12.0	#6	6.0	3 TO 4	12	50
12.5	#6	5.75	3 TO 4	11.5	50
13.0	#6	5.5	3 TO 4	11	50

TABLE NO. 2 TRANSVERSE STEEL AND TIE BARS						
SLAB THICKNESS (IN.)	TRANSVERSE STEEL		TIE BARS AT LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z)		TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Y-Y)	
	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
7.0 - 7.5	#5	48	#5	48	#5	24
8.0 - 13.0	#5	48	#6	48	#6	24

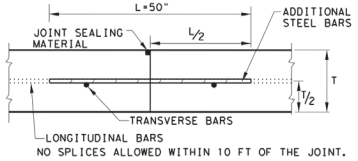


TYPICAL PAVEMENT LAYOUT

PLAN VIEW (NOT TO SCALE)

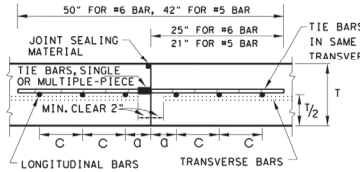
GENERAL NOTES

1. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS. PAVEMENTS WIDER THAN 100 FT. WITHOUT A FREE LONGITUDINAL JOINT ARE NOT COVERED BY THIS STANDARD.
2. USE COARSE AGGREGATES WITH A RATED COEFFICIENT OF THERMAL EXPANSION (CoTE) OF NOT MORE THAN 5.5 X 10^{-6} IN/IN/ °F AS LISTED IN THE CONCRETE RATED SOURCE QUALITY CATALOG (CRSQC).
3. ALL THE REINFORCING STEEL AND TIE BARS SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A 615 (GRADE 60) OR ASTM A 996 (GRADE 60) OR ABOVE. STEEL BAR SIZES AND SPACINGS SHALL CONFORM TO TABLE NO.1 AND TABLE NO.2.
4. WHEN COARSE AGGREGATE WITH A RATED CoTE OF NOT MORE THAN 4.3 X 10^{-6} IN/IN/ °F IS USED, TABLE NO.1A MAY BE USED FOR LONGITUDINAL STEEL AS APPROVED BY THE ENGINEER.
5. STEEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1 IN. HORIZONTALLY AND +/- 0.5 IN. VERTICALLY. CALCULATED AVERAGE BAR SPACING (CONCRETE PLACEMENT WIDTH / NUMBER OF LONGITUDINAL BARS) SHALL CONFORM TO TABLE NO.1 OR TABLE NO.1A.
6. PAVEMENT WIDTHS OF MORE THAN 15 FT. SHALL HAVE A LONGITUDINAL JOINT (SECTION Z-Z OR SECTION Y-Y). THESE JOINTS SHALL BE LOCATED WITHIN 6 IN. OF THE LANE LINE UNLESS THE JOINT LOCATION IS SHOWN ELSEWHERE ON THE PLANS.
7. THE SAW CUT DEPTH FOR THE LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z) SHALL BE ONE THIRD OF THE SLAB THICKNESS (T/3).
8. WHEN TYING CONCRETE GUTTER AT A LONGITUDINAL JOINT, THE TIE BAR LENGTH OR POSITION MAY BE ADJUSTED. PROVIDE 3 IN. OF CONCRETE COVER FROM THE BACK OF GUTTER TO THE END OF TIE BAR.
9. REPLACE MISSING OR DAMAGED TIE BARS WITHOUT ADDITIONAL COMPENSATION BY DRILLING MIN.10 IN. DEEP AND GROUTING TIE BARS WITH TYPE III, CLASS C EPOXY. MEET THE PULL-OUT TEST REQUIREMENTS IN ITEM 361.
10. OMIT TIE BARS LOCATED WITHIN 18-IN. OF THE TRANSVERSE CONSTRUCTION JOINTS (SECTION X-X). USE HAND-OPERATED IMMERSION VIBRATORS TO CONSOLIDATE THE CONCRETE ADJACENT TO ALL FORMED JOINTS.
11. LONGITUDINAL REINFORCING STEEL SPLICES SHALL BE A MINIMUM OF 25 IN. STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT.
12. THE DETAIL FOR THE JOINT SEALANT AND RESERVOIR IS SHOWN ON STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."



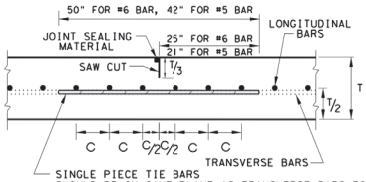
TRANSVERSE CONSTRUCTION JOINT

SECTION X - X



LONGITUDINAL CONSTRUCTION JOINT

SECTION Y - Y



LONGITUDINAL CONTRACTION JOINT

SECTION Z - Z

SHEET 1 OF 2

Texas Department of Transportation | Design Division Standard

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

ONE LAYER STEEL BAR PLACEMENT
T - 7 to 13 INCHES

CRCP(1)-17

FILE: crcp117.dgn	DN: TxDOT	CK: AN	DW: HC	CK: VP/KM
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REVISIONS 10/10/2011 ADD ON #12 04/09/2013 REMOVE 6" AND 6.5" ADD CTE REQUIREMENTS 05/05/2017 CoTE AS RATED 4.3	DIST	COUNTY		SHEET NO.

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NO.	DESCRIPTION	DATE BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

PAVEMENT DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
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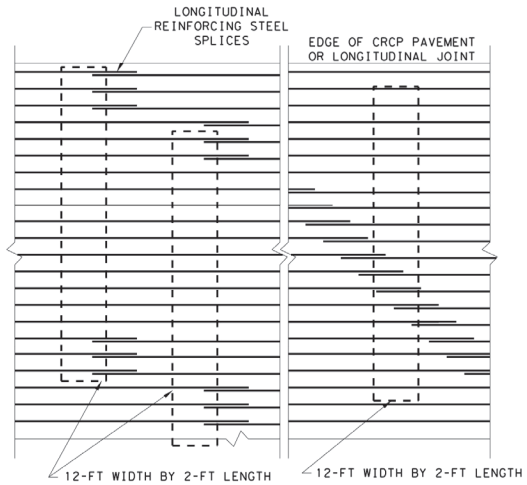
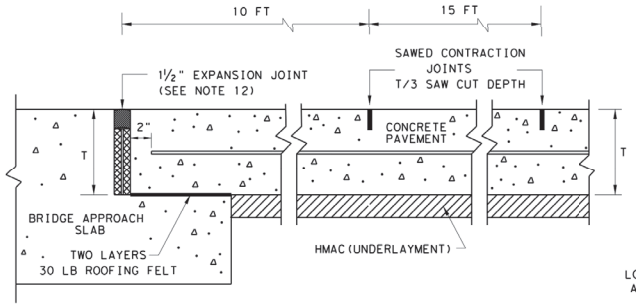
TABLE NO. 1A LONGITUDINAL STEEL FOR LOW CoTE CONCRETE AS APPROVED BY THE ENGINEER

SLAB THICKNESS AND BAR SIZE		REGULAR STEEL BARS	FIRST SPACING AT EDGE OR JOINT	ADDITIONAL STEEL BARS AT TRANSVERSE CONSTRUCTION JOINT (SECTION X-X)	
T (IN.)	BAR SIZE	SPACING c (IN.)	SPACING a (IN.)	SPACING 2 x c (IN.)	LENGTH L (IN.)
7.0	#5	7.5	3 TO 4	15	50
7.5	#5	7.0	3 TO 4	14	50
8.0	#6	10.0	3 TO 4	20	50
8.5	#6	9.5	3 TO 4	19	50
9.0	#6	9.0	3 TO 4	18	50
9.5	#6	8.5	3 TO 4	17	50
10.0	#6	8.0	3 TO 4	16	50
10.5	#6	7.5	3 TO 4	15	50
11.0	#6	7.0	3 TO 4	14	50
11.5	#6	6.75	3 TO 4	13.5	50
12.0	#6	6.50	3 TO 4	13	50
12.5	#6	6.25	3 TO 4	12.5	50
13.0	#6	6.0	3 TO 4	12	50

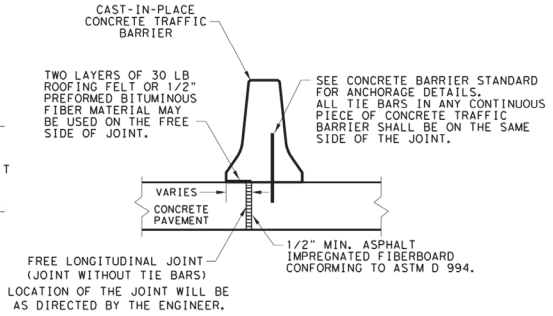


STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT. ANY OTHER LAP CONFIGURATION MEETING THIS REQUIREMENT WILL BE ALLOWED.

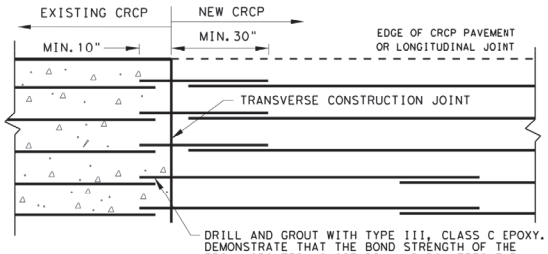
EXAMPLES OF LAP CONFIGURATION
PLAN VIEW (NOT TO SCALE)



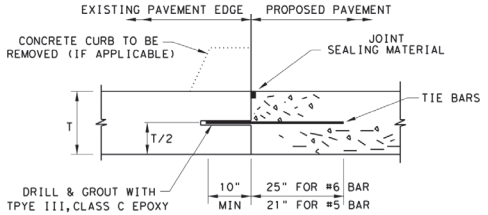
TRANSVERSE EXPANSION JOINT DETAIL
AT BRIDGE APPROACH



FREE LONGITUDINAL JOINT DETAIL

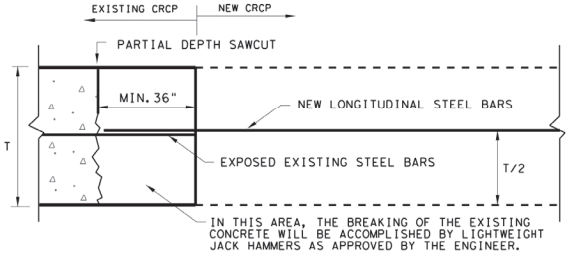


OPTION A: DRILL AND EPOXY
PLAN VIEW (NOT TO SCALE)



1. BEFORE WIDENING WORK, DEMONSTRATE THAT THE BOND STRENGTH OF THE EPOXY-GROUTED TIE BARS MEETS THE REQUIRMENTS OF PULL-OUT TEST SPECIFIED IN ITEM 361.
2. SPACE TIE BARS AT 24" SPACING. USE #6 TIE BARS FOR 8" AND THICKER SLABS, USE #5 TIE BARS FOR LESS THAN 8" THICK SLABS.

LONGITUDINAL WIDENING JOINT DETAIL



OPTION B: BREAKBACK AND LAP

TRANSVERSE TIE JOINT DETAIL
EXISTING CRCP TO NEW CRCP

SHEET 2 OF 2

Texas Department of Transportation | Design Division Standard

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

ONE LAYER STEEL BAR PLACEMENT
T - 7 to 13 INCHES

CRCP(1)-17

FILE: crcp117.dgn	DN: TxDOT	CK: AN	DW: HC	CK: VP/KM
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
PAVEMENT DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
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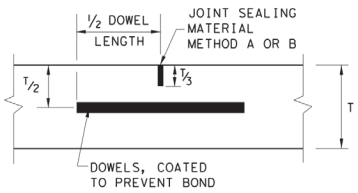
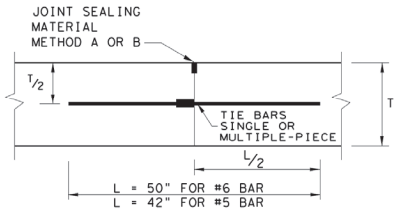
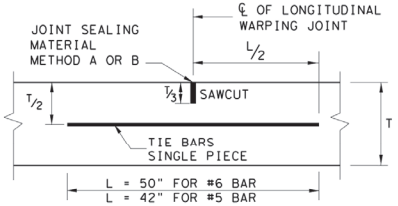


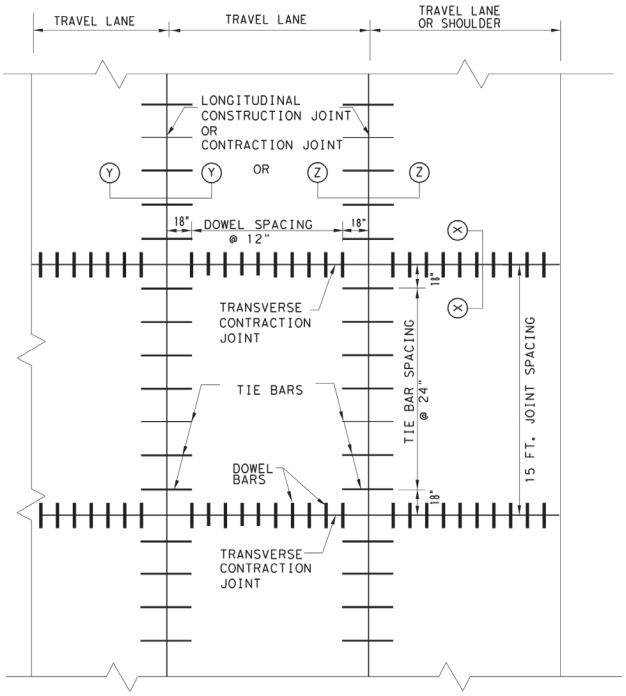
TRANSVERSE CONTRACTION JOINT
SECTION X-X



LONGITUDINAL CONSTRUCTION JOINT
SECTION Y-Y



LONGITUDINAL CONTRACTION JOINT
SECTION Z-Z



TYPICAL PAVEMENT LAYOUT
PLAN VIEW (NOT TO SCALE)

GENERAL NOTES

1. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS. PAVEMENTS WIDER THAN 100 FT. WITHOUT A FREE LONGITUDINAL JOINT ARE NOT COVERED BY THIS STANDARD.
2. FOR FURTHER INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND LOAD TRANSFER DEVICES REFER TO THE GOVERNING SPECIFICATION FOR "CONCRETE PAVEMENT".
3. THE SPACING BETWEEN TRANSVERSE CONTRACTION JOINTS SHALL BE 15 FT. UNLESS OTHERWISE SHOWN IN THE PLANS.
4. TRANSVERSE CONSTRUCTION JOINTS MAY BE FORMED BY USE OF METAL OR WOOD FORMS EQUAL IN DEPTH TO THE DEPTH OF PAVEMENT, OR BY METHODS APPROVED BY THE ENGINEER.
5. USE HAND-OPERATED IMMERSION VIBRATORS TO CONSOLIDATE THE CONCRETE ADJACENT TO ALL THE FORMED JOINTS.
6. PAVEMENT WIDTHS OF MORE THAN 15 FT. SHALL HAVE A LONGITUDINAL JOINT (SECTION Z-Z OR SECTION Y-Y). THESE JOINTS SHALL BE LOCATED WITHIN 6 IN. OF THE LANE LINE UNLESS THE JOINT LOCATION IS SHOWN ELSEWHERE ON THE PLANS.
7. THE JOINT BETWEEN OUTSIDE LANE AND SHOULDER SHALL BE A LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z) UNLESS OTHERWISE SHOWN IN THE PLANS. THE SAW CUT DEPTH FOR THE LONGITUDIANL CONTRACTION JOINT (SECTION Z-Z) SHALL BE ONE THIRD OF THE SLABTHICKNESS (T/3).
8. WHEN TYING CONCRETE GUTTER AT A LONGITUDINAL JOINT, THE TIE BAR LENGTH OR POSITION MAY BE ADJUSTED. PROVIDE 3 IN. OF CONCRETE COVER FROM THE BACK OF GUTTER TO THE END OF TIE BAR.
9. REPLACE MISSING OR DAMAGED TIE BARS WITHOUT ADDITIONAL COMPENSATION BY DRILLING MIN. 10 IN. DEEP AND GROUTING TIE BARS WITH TYPE III, CLASS C EPOXY. MEET THE PULL-OUT TEST REQUIREMENTS IN ITEM 361.
10. WHEN AN MONOLITHIIC CURB IS SPECIFIED, THE JOINT IN THE CURB SHALL COINCIDE WITH PAVEMENT JOINTS AND MAY BE FORMED BY ANY MEANS APPROVED BY THE ENGINEER.
11. DOWEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1/4 IN. HORIZONTALLY AND VERTICALLY UNLESS OTHERWISE SPECIFIED.WHERE DOWEL BAR BASKETS ARE USED, REMOVE THE SHIPPING WIRES.
12. THE DETAIL FOR JOINT SEALANT AND RESERVOIR IS SHOWN ON STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."

TABLE NO.1 DOWELS (SMOOTH BARS)

SLAB THICKNESS T (IN.)	BAR DIA. AND LENGTH	AVERAGE SPACING (IN.)
6 to 7.5	1" X 18"	12
8 to 10	1 ¼" X 18"	12
>= 10.5	1 ½" X 18"	12

TABLE NO.2 TIE BARS (DEFORMED BARS)

SLAB THICKNESS T (IN.)	BAR SIZE	AVERAGE SPACING (IN.)
6 to 7.5	#5	24
>= 8	#6	24

SHEET 1 OF 2

Texas Department of Transportation — Design Division Standard

CONCRETE PAVEMENT DETAILS
CONTRACTION DESIGN
T-6 to 12 INCHES

CPCD-14

FILE: cpcd14.dgn	DN: TxDOT	DN: HC	DN: HC	CK: AN
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ATKINS
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REVISIONS

NO.	DESCRIPTION	DATE BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
PAVEMENT DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.
100066296

A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
931

SHEET NO.
CR-504

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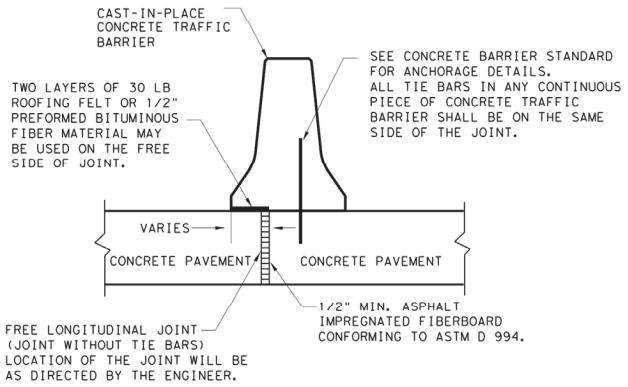
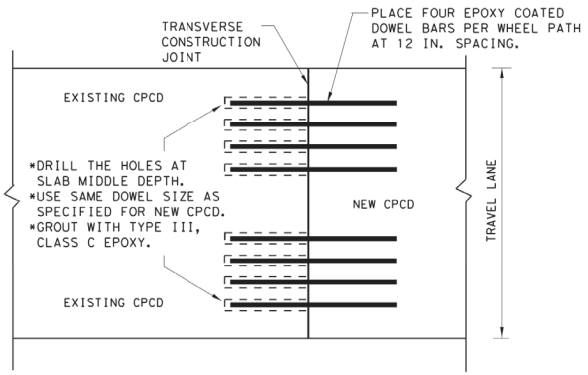
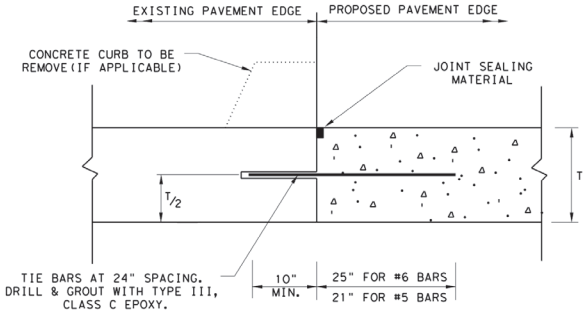


FREE LONGITUDINAL JOINT DETAIL

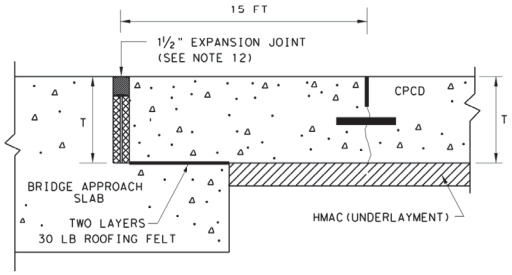


TRANSVERSE JOINT DETAIL
EXISTING CPCD TO NEW CPCD
PLAN VIEW (NOT TO SCALE)



1. BEFORE WIDENING WORK, DEMONSTRATE THAT THE BOND STRENGTH OF THE EPOXY-GROUTED TIE BARS MEETS THE REQUIREMENTS OF PULL-OUT TEST SPECIFIED IN ITEM 361.
2. SPACE TIE BARS AT 24" SPACING. USE #6 BARS FOR 8" AND THICKER SLABS, USE #5 BARS FOR LESS THAN 8" THICK SLABS.
3. THE TRANSVERSE JOINTS OF PROPOSED PAVEMENT SHALL COINCIDE WITH EXISTING PAVEMENT JOINTS UNLESS OTHERWISE SHOWN ON THE PLANS.

LONGITUDINAL WIDENING JOINT DETAIL



TRANSVERSE EXPANSION JOINT DETAIL
AT BRIDGE APPROACH

SHEET 2 OF 2

Texas Department of Transportation — Design Division Standard

CONCRETE PAVEMENT DETAILS
CONTRACTION DESIGN
T-6 to 12 INCHES

CPCD-14

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NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
PAVEMENT DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED — PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
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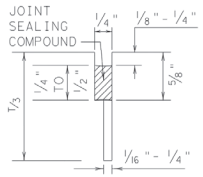
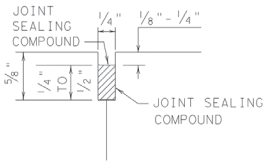
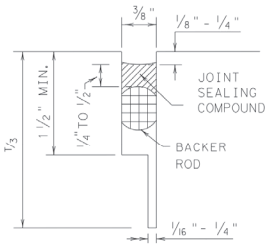
METHOD B: JOINT SEALING COMPOUND



LONGITUDINAL SAWED CONTRACTION JOINT



LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT



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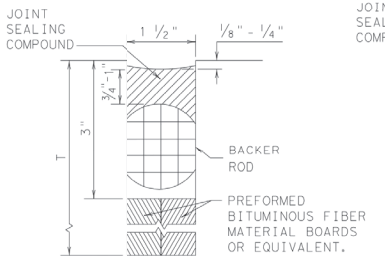
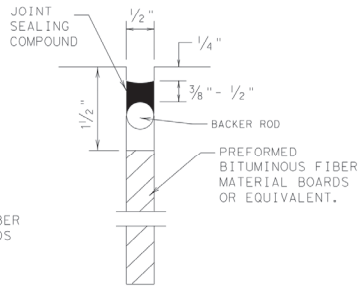
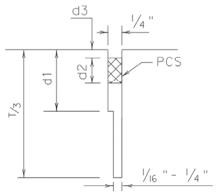


TRANSVERSE FORMED EXPANSION JOINT



FORMED ISOLATION JOINT

METHOD A: PREFORMED COMPRESSION SEALS (PCS) (DMS-6310 CLASS 6)



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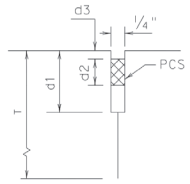
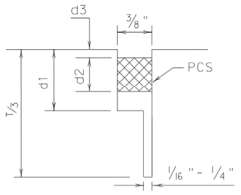
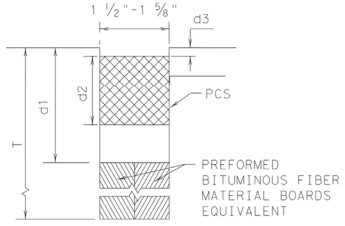


LONGITUDINAL CONSTRUCTION JOINT



TRANSVERSE SAWED CONTRACTION JOINT



TRANSVERSE FORMED EXPANSION JOINT

GENERAL NOTES

1. UNLESS OTHERWISE SHOWN IN THE PLANS, EITHER METHOD "A" OR METHOD "B" MAY BE USED.
2. THE LOCATION OF JOINTS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
3. THE JOINT RESERVOIR FOR SEALANT OR PCS SHALL BE SAWED UNLESS OTHERWISE SHOWN ON THE PLANS FOR THE LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINTS AND THE SAWED JOINTS.
4. DIMENSIONS d1, d2, AND d3 SHOWN IN METHOD A SHALL BE IN ACCORDANCE WITH THE PREFORMED COMPRESSION SEAL MANUFACTURER'S RECOMMENDATION.
5. REFER TO DMS-6310 "JOINT SEALANTS AND FILLERS" FOR THE CLASSIFICATIONS.
6. FOR SAWED LONGITUDINAL JOINT, LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT, USE JOINT SEALANT CLASS 5 OR 8 UNLESS OTHERWISE SHOWN ON THE PLAN OR APPROVED.
7. FOR TRANSVERSE SAWED CONTRACTION, TRANSVERSE FORMED EXPANSION JOINT, AND ISOLATION JOINT USE JOINT SEALANT CLASS 5 OR 8 AT NEW JOINTS. USE JOINT SEALANT CLASS 4, 5, 7, OR 8 FOR MAINTAINING EXISTING JOINTS.
8. THE JOINTS SHALL BE CLEANED IN ACCORDANCE WITH THE ITEM 438 "CLEANING AND SEALING JOINTS" OR ITEM 713 "CLEANING AND SEALING JOINTS AND CRACKS (CONCRETE PAVEMENT)".
9. ISOLATION JOINTS ACCOMMODATE HORIZONTAL AND VERTICAL MOVEMENTS THAT OCCUR BETWEEN A PAVEMENT AND A STRUCTURE. ISOLATION JOINTS MAY BE USED FOR BRIDGE ABUTMENTS, INTERSECTIONS, CURB AND GUTTER, OLD AND NEW PAVEMENTS, OR AROUND DRAINAGE INLETS, MANHOLES, FOOTINGS AND LIGHTING STRUCTURES.

Texas Department of Transportation — Design Division Standard

CONCRETE PAVING DETAILS
JOINT SEALS
JS-14

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CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

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C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	

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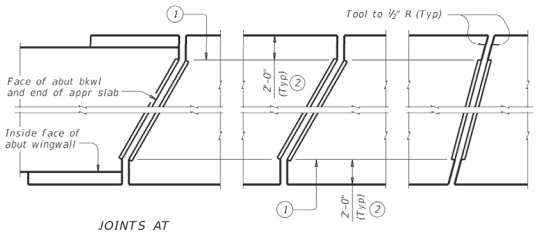
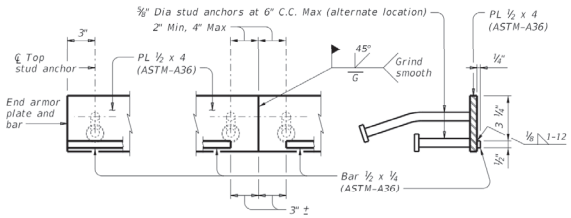


JOINTS AT ABUTMENTS | SKEWS OVER 15° | SKEWS THRU 15°

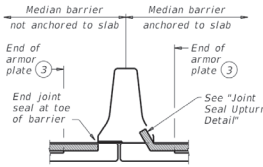
PLANS OF ARMOR PLATES



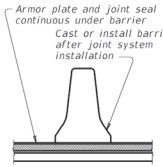
END VIEW | FIELD SPLICE | SECTION

(Studs are not shown for clarity.)

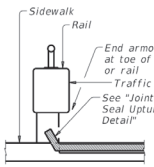
ELEVATION OF ARMOR PLATE



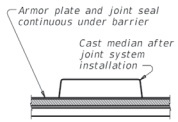
WITH OPEN DECK JOINT BELOW MEDIAN BARRIER



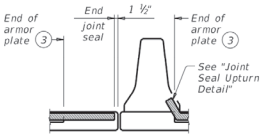
AT MEDIAN BARRIER



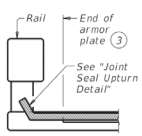
AT SIDEWALK BEHIND BRIDGE RAIL



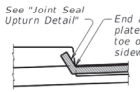
AT RAISED MEDIAN



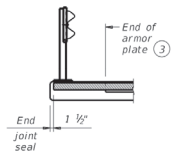
WITH OPEN DECK JOINT ADJACENT TO MEDIAN BARRIER



AT CONCRETE BRIDGE RAIL



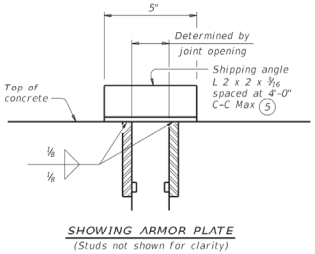
AT SIDEWALK



AT STEEL POST BRIDGE RAIL

TYPICAL SECTIONS OF ARMOR PLATES AND SEALS (4)

1. At Fabricator's option, armor plate may extend up to 6" beyond this point for skews through 15°.
2. Unless shown otherwise, terminate armor plate at slab break point if break is more than 2'-0" from slab edge.
3. See "Plans of Armor Plates".
4. Other conditions affecting the joint profile should be noted elsewhere.
5. Align shipping angle perpendicular to joint.
6. Coat with Manufacturer's supplied epoxy primer above bar before installing sealant.
7. Shape of steel section shown is typical. Variations in sections must be approved by the Engineer.
8. These openings are also the recommended minimum installation openings.

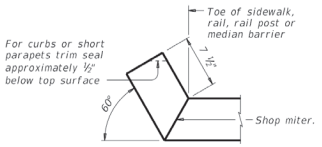


SHOWING ARMOR PLATE

(Studs not shown for clarity)

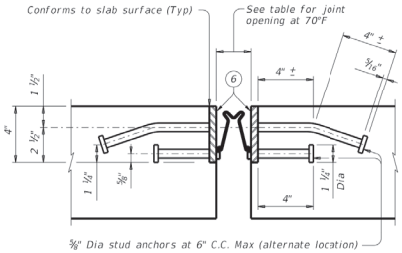
SHIPPING ANGLE

An alternate method of securing joint sections may be used if approved by the Bridge Division. Erection bolts are not allowed.



JOINT SEAL UPTURN DETAIL

Upturn seal only. Terminate armor plates as shown in "Plans of Armor Plates" and "Typical Sections of Armor Plates & Seals."



JOINT SECTION

Showing R J Watson strip seal. Other strip seals are similar.

TABLE OF SEALED EXPANSION JOINT INFORMATION

MANUFACTURER	STEEL SECTION (7)	STRIP SEAL 4" JOINT	
		Seal Type	Joint Opening (8)
D.S. Brown	As shown	V-400	2 ¼"
R.J. Watson	As shown	SF-400	2 ½"
SSI	As shown	SSS-400	2 ½"
Watson Bowman Acme	As shown	SPS-400	2"

REDUCED LONGITUDINAL MOVEMENT RANGE

SKEW (deg)	JOINT SIZE 4"
0	4.0"
15	4.0"
30	3.5"
45	2.8"

DESIGN NOTES:

Joints installed on a skew have reduced ability to accommodate longitudinal movement. Use table values to determine the correct joint size for skewed installations. For other skews over 25 degrees, calculate reduced movement range by multiplying joint size by cosine (skew).

FABRICATION NOTES:

Temporarily shop assemble corresponding sections of sealed expansion joints (SEJ), check for fit, and match mark for shipment. Secure corresponding sections together for shipment with shipping angle. Do not use erection bolts.

The seal must be continuous and included in the price bid for sealed expansion joint.

Ship steel sections in convenient lengths of 10'-0" Min and 24'-0" Max unless necessary for staged construction or widenings. One shop splice is permitted in each shipping length provided no piece is less than 2'-0" long and sufficient studs are added to limit the stud to shop splice distance to 2" Min and 4" Max.

Weld studs in accordance with AWS D1.1.

Butt weld all shop and field splices and grind smooth areas in contact with seal. Make all necessary field splice joint preparations in the shop.

Paint the entire steel section with System II or IV primer in accordance with Item 446, "Feild Cleaning and Painting Steel." Provide paints in accordance with Item 446.2. Prepare steel and apply paint in accordance with Item 446.4.7.3 and 446.4.7.4.

Shop drawings for the fabrication of sealed expansion joints will not require the Engineer's approval if fabrication is in accordance with the details shown on this standard.

CONSTRUCTION NOTES:

Secure the sealed expansion joint in position and place to the proper grade and alignment by welding braces to adjacent reinforcing steel, to prestressed beam stirrups, or to anchors cast in concrete diaphragms. Include cost of temporary bracing in the price bid for sealed expansion joint.

Remove shipping angle immediately after each joint half is secured in place. Grind smooth, and touch up with organic zinc-rich paint.

Clean and prepare seal cavity for seal installation as per the Manufacturer's installation procedures.

Splice and install seal in accordance with the Manufacturer's directions and with the adhesive provided by the Manufacturer.

Splice in joint seal may be performed in the field.

GENERAL NOTES:

Provide sealed expansion joints in the size and at locations shown on the plans.

Minimum slab and overhang thickness required for the use of SEJ-B is 6 ½".

Texas Department of Transportation — Bridge Division Standard

SEALED EXPANSION JOINT TYPE B WITHOUT OVERLAY

SEJ-B

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WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION PAVEMENT DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

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C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	

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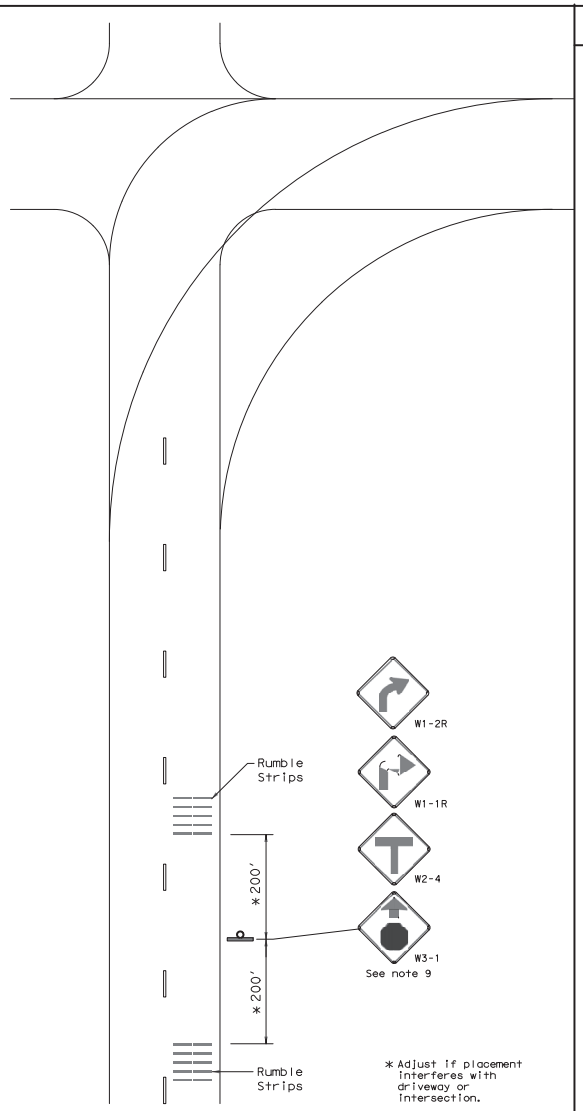
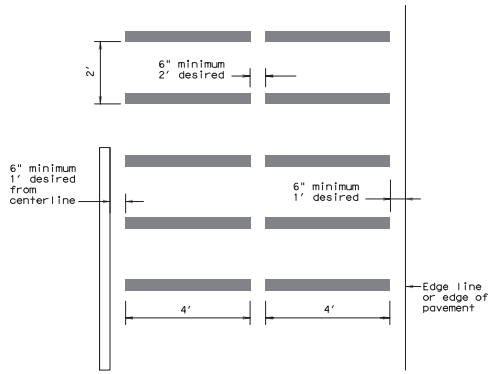


STANDARD PATTERN



GENERAL NOTES

1. Transverse or in-lane rumble strips should only be used at high incident and special geometric locations. These special geometric locations may include: approaches to rural, high speed signalized or Stop -controlled intersections with sight restrictions and/or high crash rates, approaches to unexpected urban intersections, approaches to newly installed Stop or signalized controlled intersections, approaches to toll plazas, approaches to hazardous horizontal curves, and approaches to railroad grade crossings.
2. When used, the rumble strips shall be placed 200 feet prior to and after the placement of the warning device.
3. The use of rumble strips should not be widespread or used indiscriminately.
4. Preformed black raised rumble strips should be used. They should be installed in accordance with the manufacturer's recommendations.
5. A list of approved, preformed raised rumble strips can be obtained from the Traffic Operations Division.
6. Consideration should be given to noise levels when in -lane or transverse rumble strips are installed near residential areas, schools, churches, etc.
7. The use of the "Rumble Strips Ahead" sign may be used in advance of in -lane or transverse rumble strips, based on engineering judgement. This sign is typically not necessary for rumble strip installations built to the guidelines on this standard sheet. When used, this sign should be spaced in advance of the rumble strips based on the guidelines for advance placement of warning sign included in the "Texas Manual on Uniform Traffic Control Devices".

W17-2T

8. Consideration should be given to bicyclists. A 12 inch gap from the edge line may be used to accommodate bicyclists when a usable shoulder is not available. Additional gaps in the in -lane or transverse rumble strips are not recommended since they could cause motorists to swerve to avoid the rumble strips.
9. Other signs can be used as conditions warrant.

Texas Department of Transportation | Traffic Operations Division Standard

TRANSVERSE OR IN-LANE RUMBLE STRIPS

RS(5)-13

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STATE OF TEXAS
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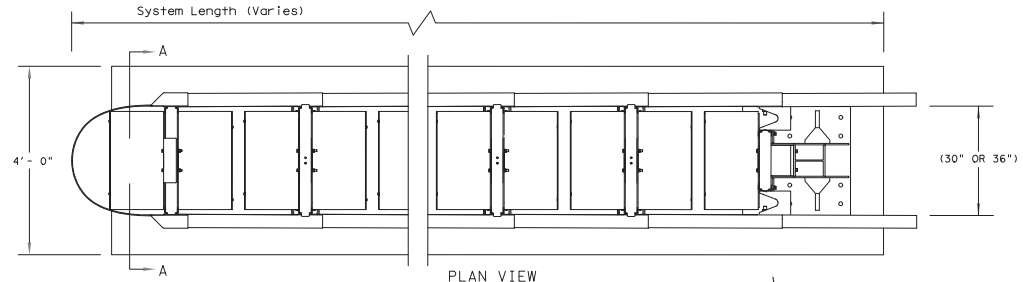
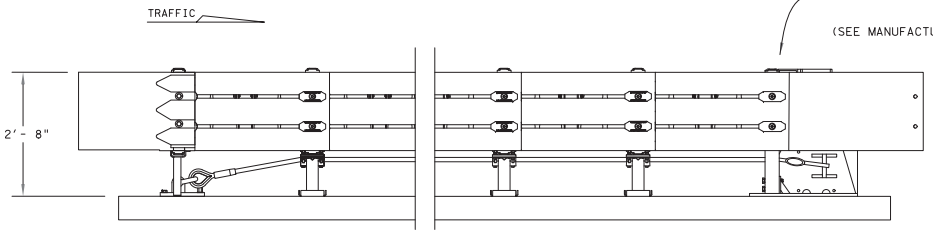


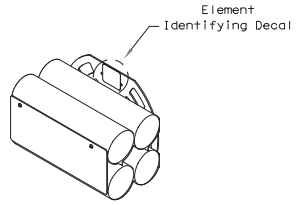
PLAN VIEW

Attachments and transitions to various barrier shapes, barrier railings and bi-directional traffic flows are available.

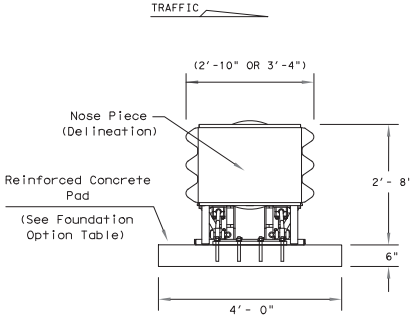
(SEE MANUFACTURER'S PRODUCT MANUAL)



ELEVATION VIEW



ENERGY ABSORBING ELEMENTS (EAE)



SECTION A-A

Nose Piece delineation orientation, is shown elsewhere on the plans.

TRANSITION OPTIONS
Vertical Wall
Concrete Traffic Barriers
W-Beam Guardrail
Thrie Beam Guardrail

For bi-directional transition panel and end shoe details. (See manufacturer's product manual.)

FOUNDATION OPTIONS
6" Reinforced Concrete
8" Unreinforced Concrete
Asphalt over Concrete with Minimum 6" Embedment in Concrete
6" Asphalt over 6" Compact Subbase
8" Minimum Asphalt

For steel placement in concrete foundations. (See manufacturer's product manual)

BACKUP SUPPORT OPTIONS
Compact (Stand Alone)
Flush Mount
PCB (Concrete Barrier)

TAU-II-R (NARROW) SYSTEM LENGTHS			
BACKSTOP	TL-2	TL-3	70 mph
PCB	13'-7"	27'-10"	30'-7"
Flush Mount	14'-0"	28'-3"	31'-0"
Compact	15'-3"	29'-6"	32'-3"

Backup and Transition types are shown elsewhere on the plans, (i.e. Attenuator location details or in the general notes).

Note: System lengths are ± 2"

GENERAL NOTES

1. For specific information regarding installation and technical guidance of the system, contact: Lindsay Transportation Solutions - Barrier Systems, Inc. at (707) 374-6800. 180 River Road, Rio Vista, CA 94571
2. For bi-directional traffic, appropriate transition panels will be required.
3. Additional details for the backup support option, transition options and foundation option will be shown on the manufacturer's shop drawings furnished to the Engineer.
4. Concrete shall be class "S" with a minimum compressive strength of 4,000 psi.
5. Maximum permissible cross-slope is 8%.
6. The installation area should be free from curbs, elevated objects, or depressions.
7. The TAU-II-R system should be approximately parallel with the barrier or center of merging barriers.
8. Refer to Universal TAU-II-R configuration chart for specific systems configuration number and location of each type of energy absorbing element.
9. 30-inch (30") model shown, also available in 36-inch (36") configuration.

BILL OF MATERIAL

PRODUCT CODE	QTY	DESCRIPTION
B030704	1	Front Support
B030703	TBD	Mid Support
TBD	1	Backstop Assembly (See Table)
TBD	1	Front Cable Anchor
TBD	1	Nose Assembly
B010202	TBD	Sliding Panel
B010659	2	End Panel
K001003	1	Slider Assembly Kit
BSI-1202006-KT	TBD	TAU-II-R Slider Kit
BSI-1107131-KT	TBD	TAU-II-R EAE Mounting Hw Kit
BSI-1012069-00	TBD	Energy Absorbing Element, Type 1
BSI-1012070-00	TBD	Energy Absorbing Element, Type 2
BSI-1012071-00	TBD	Energy Absorbing Element, Type 3
BSI-1110009-00	TBD	Energy Absorbing Element, Type 3N
TBD	TBD	Cable Assembly
K001004	TBD	Cable Guide Kit
K001005	2	Front Support Leg Kit
B010651	4	Pipe Panel Mount
TBD	1	Anchoring Package

(TBD) = To Be Determined, depending on Backup Type and System Length.

(See manufacturer's product manual for details)

LOW MAINTENANCE

Texas Department of Transportation — Design Division Standard

LTS-BARRIER SYSTEMS CRASH CUSHION (R-NARROW)

TAU-II-R(N)-16

FILE: tauiirn16.dgn	DN: TxDOT	CK: KM	DW: VP	CK: CGL
©TxDOT: January 2013	CONT	SECT	JOB	HIGHWAY
REVISIONS: REVISED 06.2013 (VP) REVISED 03.2016 (VP)	DIST	COUNTY		SHEET NO.

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200 WESTLAKE PARK BLVD., STE. 1100
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TEL: (713) 576-8500
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION CRASH CUSHION DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

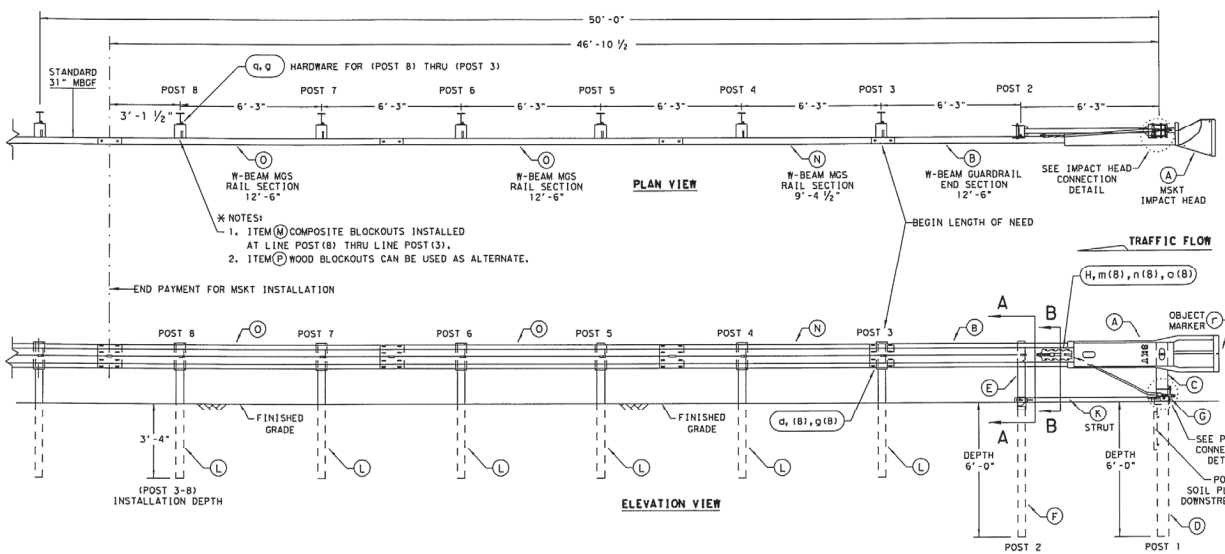
STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

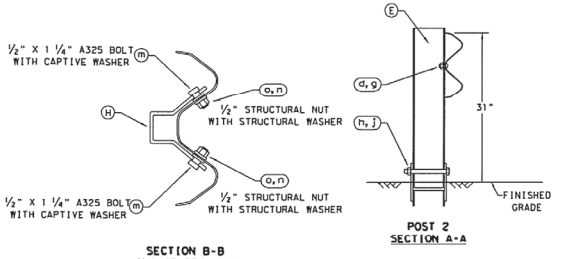
DIRECTOR HOUSTON AIRPORT SYSTEM

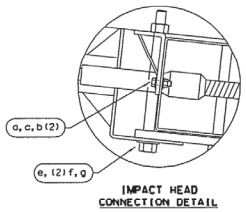
PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	

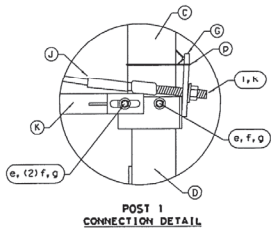
CR-509



NOTE: SEE (GENERAL NOTE 14) FOR DRIVING CAP INFORMATION.



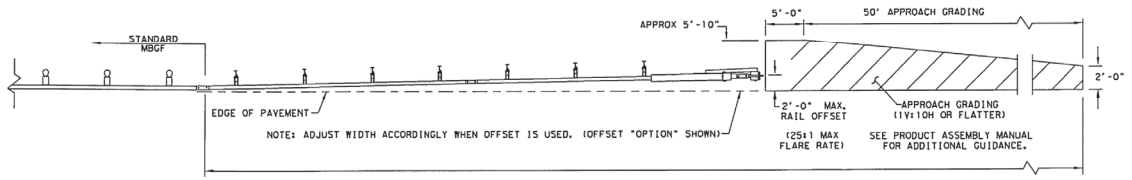




SEE NOTES: ※

ALTERNATIVE ITEMS NOT SHOWN. ※※
※ ITEM(P) 8" WOOD-BLOCKOUT
※※ ITEM(Q) 25'GUARD FENCE PANEL

ITEM	QTY	MAIN SYSTEM COMPONENTS	ITEM NUMBERS
A	1	MSKT IMPACT HEAD	MS3000
B	1	W-BEAM GUARDRAIL END SECTION, 12 Ga.	SF1303
C	1	POST 1 - TOP (6" X 6" X ⅛" TUBE)	MTPHP1A
D	1	POST 1 - BOTTOM (6' W6X15)	MTPHP1B
E	1	POST 2 - ASSEMBLY TOP	UHP2A
F	1	POST 2 - ASSEMBLY BOTTOM (6' W6X9)	HP2B
G	1	BEARING PLATE	E750
H	1	CABLE ANCHOR BOX	S760
J	1	BCT CABLE ANCHOR ASSEMBLY	E770
K	1	GROUND STRUT	MS785
L	6	W6x9 OR W6x8.5 STEEL POST	P621
M	6	COMPOSITE BLOCKOUTS	CBSP-14
N	1	W-BEAM MGS RAIL SECTION (9'-4 ½")	G12025
O	2	W-BEAM MGS RAIL SECTION (12'-6")	G1203A
P	6	WOOD BLOCKOUT 6" X 8" X 14"	P675
Q	1	W-BEAM MGS RAIL SECTION (25'-0")	G1209
		SMALL HARDWARE	
a	2	⅜" x 1" HEX BOLT (GRD 5)	B5160104A
b	4	⅜" WASHER	W0516
c	2	⅜" HEX NUT	N0516
d	25	⅝" Dia. x 1 ¼" SPLICE BOLT (POST 2)	B580122
e	2	⅝" Dia. x 9" HEX BOLT (GRD A449)	B580904A
f	3	⅝" WASHER	W050
g	33	⅝" Dia. H.G.R NUT	N050
h	1	¾" Dia. x 8 ½" HEX BOLT (GRD A449)	B340854A
j	1	¾" Dia. HEX NUT	N030
k	2	1 ANCHOR CABLE HEX NUT	N100
l	2	1 ANCHOR CABLE WASHER	W100
m	8	½" x 1 ¼" A325 BOLT WITH CAPTIVE WASHER	SB12A
n	8	½" STRUCTURAL NUTS	N012A
o	8	1 ¼" O.D. x ⅜" I.D. STRUCTURAL WASHERS	W012A
p	1	BEARING PLATE RETAINER TIE	CT-100ST
q	6	⅝" x 10" H.G.R. BOLT	B581002
r	1	OBJECT MARKER 18" X 18"	EJ151



TRAFFIC FLOW

APPROACH GRADING AT GUARDRAIL END TREATMENTS

NOTE: TXDOT GENERIC APPROACH GRADING LAYOUT USED FOR ALL TANGENT TYPE END TREATMENTS.

NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE MSKT END TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

GENERAL NOTES

1. FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: ROAD SYSTEMS, INC. (432)263-2435, 3616 OLD HOWARD COUNTY AIRPORT, BIG SPRING, TX 79720
2. FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE; MSKT END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL (PUBLICATION-0627171).
3. APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
4. FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
5. HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
6. SYSTEM SHOWN USING STEEL WIDE FLANGE POSTS WITH COMPOSITE BLOCKOUTS.
7. A COMPOSITE MATERIAL BLOCKOUTS THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS OF SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
8. IF SOLID ROCK IS ENCOUNTERED IN THE AREA OF (POST 1) AND / OR (POST 2) CONTACT THE MANUFACTURER, & REFER TO THE LATEST ROADWAY MBGF STANDARD FOR INSTALLATION GUIDANCE.
9. POSTS SHALL NOT BE SET IN CONCRETE.
10. SYSTEM MUST BE ATTACHED TO STANDARD 31" MBGF.
11. UNDER NO CIRCUMSTANCES SHALL THE GUARDRAIL WITHIN THE MSKT SYSTEM BE CURVED.
12. A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCROACHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.
13. THE SYSTEM IS SHOWN WITH TWO 12'-6" MBGF PANELS, ONE 25'-0" MBGF PANEL IS ALSO ALLOWED IN THEIR PLACE.
14. A DRIVING CAP WITH A TIMBER OR PLASTIC INSERT SHALL BE USED WHEN DRIVING POSTS 3-8 TO PREVENT DAMAGE TO THE GALVANIZING ON TOP OF THE POST. SPECIAL DRIVING CAP TO BE USED ON LOWER POSTS 1 & 2 TO PREVENT DAMAGE TO THE WELDED PLATES.

Texas Department of Transportation — Design Division Standard

SINGLE GUARDRAIL TERMINAL
MSKT-MASH-TL-3
SGT(12S)31-18

FILE: sgt12s3118.dgn	DN:TxDOT	CK:KM	DW:VP	CK:CL
©TxDOT: APRIL 2018	CONT	SECT	JOB	HIGHWAY
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GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
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REVISIONS

NO.	DESCRIPTION	DATE BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
GUARDRAIL MSKT MASH DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	

CR-510

WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

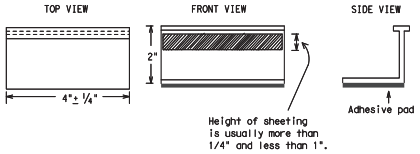
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

Texas Department of Transportation — Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

FILE: bc-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS				
2-98 9-07	DIST	COUNTY		SHEET NO.
1-02 7-13				
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GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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LOCAL OFFICE:
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HOUSTON, TX 77079
TEL: (713) 576-8500
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
MARKING DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED — PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.
100066296

A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
931

SHEET NO.
CR-511

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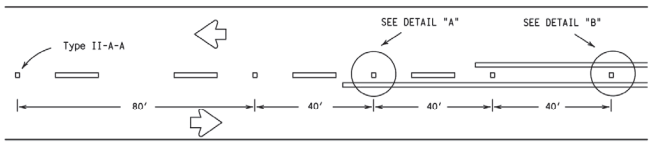
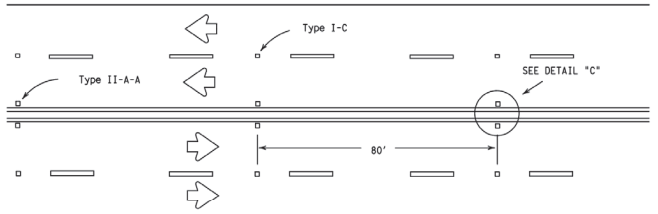
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

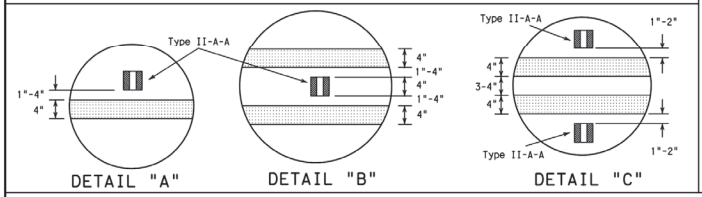


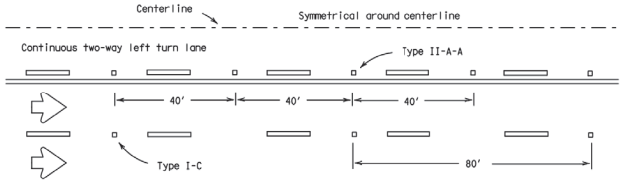
CENTERLINE FOR ALL TWO LANE ROADWAYS



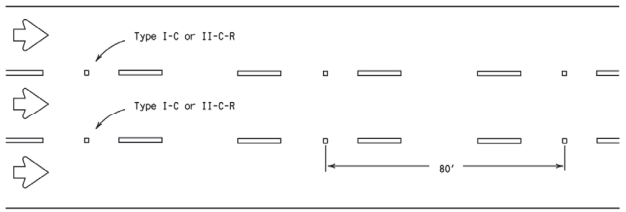
CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS

Raised pavement marker Type I-C, clear face toward normal traffic, shall be placed on 80-foot centers.



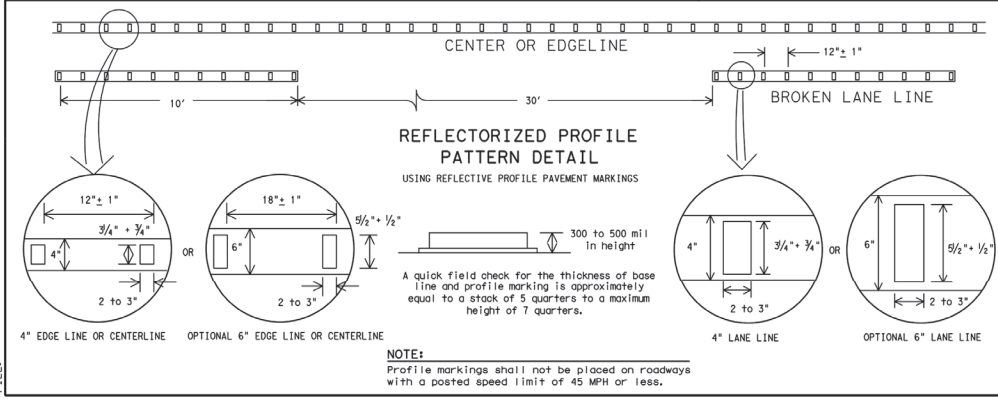


CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.



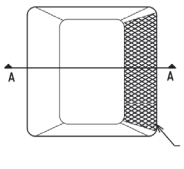
NOTE:
Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

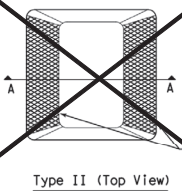
1. All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

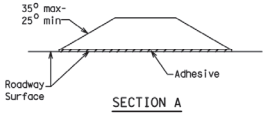
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

Texas Department of Transportation
Traffic Operations Division

POSITION GUIDANCE USING RAISED MARKERS
REFLECTORIZED PROFILE MARKINGS

PM(2)-12

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REVISIONS	CONT	SECT	JOB	HIGHWAY
4-92 2-10				
5-00 2-12				
8-00				
2-08	DIST	COUNTY		SHEET NO.

22B

DATE:
FILE:

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 575-8500
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WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
MARKING DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-512

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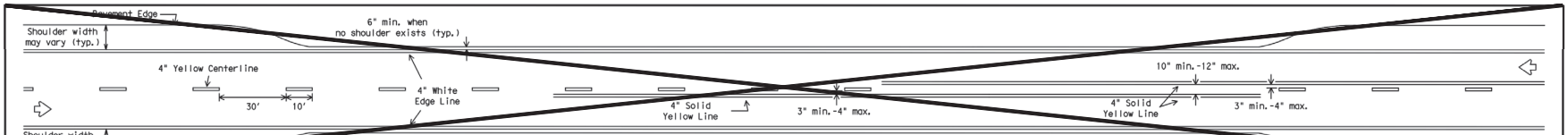
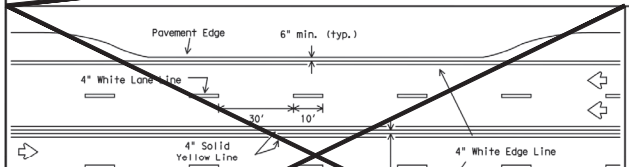
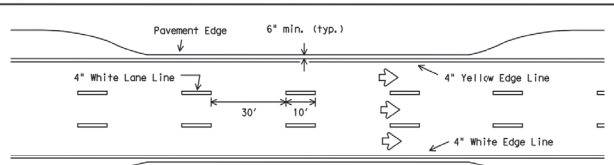


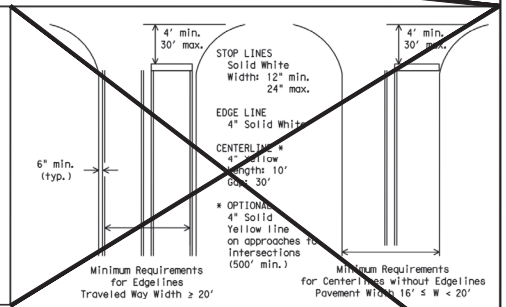
TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



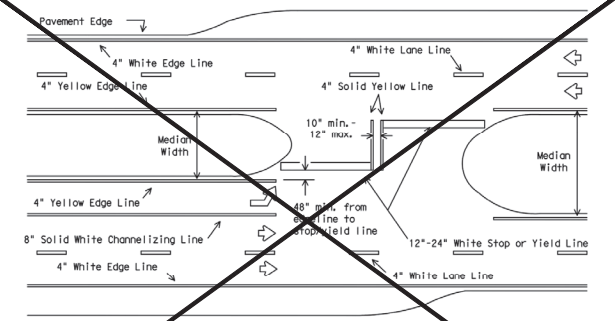
CENTERLINE AND LANE LINES
FOUR LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



EDGE LINE AND LANE LINES
ONE-WAY ROADWAY
WITH OR WITHOUT SHOULDERS

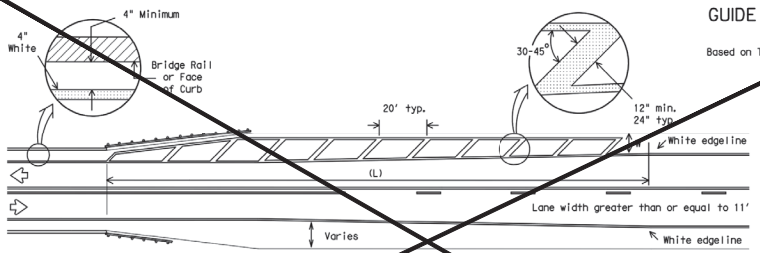


GUIDE FOR PLACEMENT OF STOP LINES,
EDGE LINE & CENTERLINE
Based on Traveled Way and Pavement Widths for Undivided Highways



All medians shall be field measured to determine the location of necessary striping. Stop/Yield bars and centerlines shall be placed when the median width is greater than 30 ft. The median width is defined as the area between two roadways of a divided highway measured from edge of traveled way to edge of traveled way. The median excludes turn lanes. The median width might be different between intersections, interchanges and of opposite approaches of the same intersection. The narrow median width will be the controlling width to determine if markings are required.

FOUR LANE DIVIDED ROADWAY INTERSECTIONS



NOTES:

1. No-passing zone on bridge approach is optional but if used, it shall be a minimum 500 feet long.
2. For crosshatching length (L) see Table 1.
3. The width of the offset (W) and the required crosshatching width is the full shoulder width in advance of the bridge.
4. The crosshatching is not required if delineators or barrier reflectors are used along the structure.
5. For guardfence details, refer elsewhere in the plans.

ROADWAYS WITH REDUCED SHOULDER
WIDTHS ACROSS BRIDGE OR CULVERT

TABLE 1 - TYPICAL LENGTH (L)

Posted Speed *	Formula
≤ 40	$L = \frac{WS^2}{60}$
≥ 45	L=WS

* 85th Percentile Speed may be used on roads where traffic speeds normally exceed the posted speed limit. Crosshatching length should be rounded up to nearest 5 foot increment.

L=Length of Crosshatching (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

EXAMPLES:

An 8 foot shoulder in advance of a bridge reduces to 4 feet on a 70 MPH roadway. The length of the crosshatching should be:

L = 8 x 70 = 560 ft.

A 4 foot shoulder in advance of a bridge reduces to 2 feet on a 40 MPH roadway. The length of the crosshatching should be:

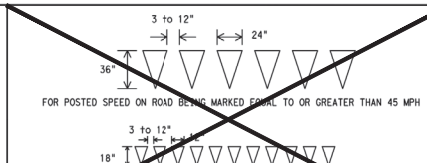
$L = 4(40)^2 / 60 = 106.67$ ft. rounded to 110 ft.

GENERAL NOTES

1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should typically be placed a minimum of 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel and not the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to inside of edgeline of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



YIELD LINES

Texas Department of Transportation
Traffic Operations Division

TYPICAL STANDARD
PAVEMENT MARKINGS

PM(1)-12

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REVISIONS	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
8-95 2-12	CONT	SECT	JOB	HIGHWAY
5-00				
8-00	DIST	COUNTY		SHEET NO.
3-03				
22A				

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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
MARKING DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-513

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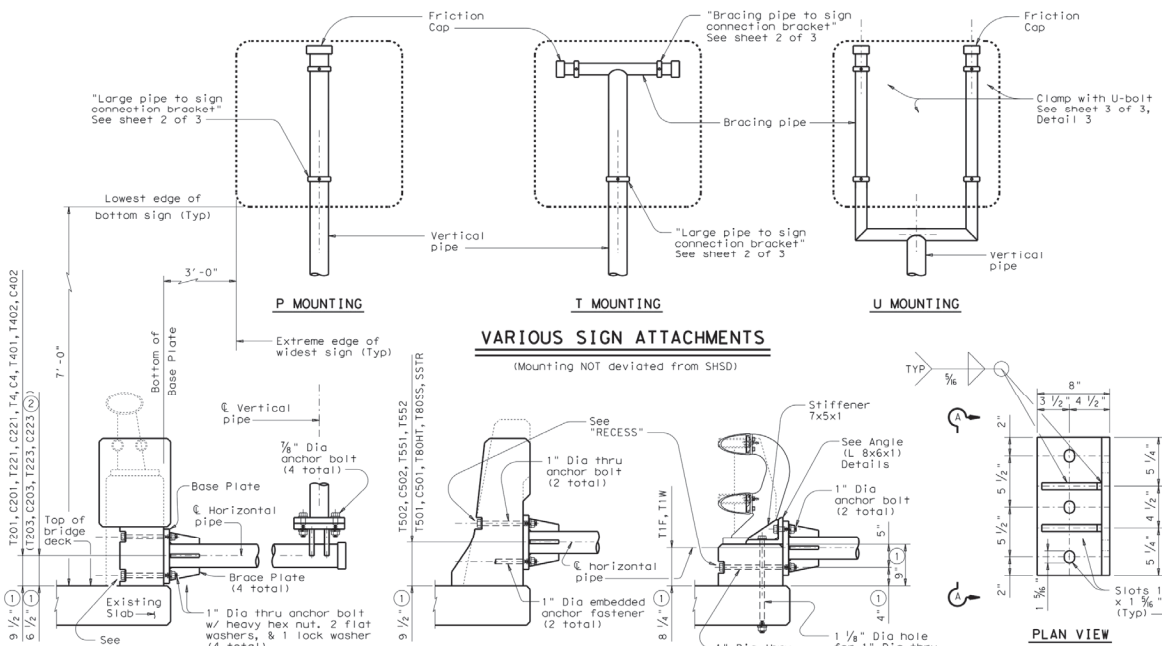
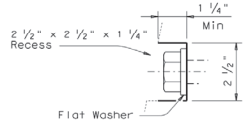


① Increase 2" for structure with overlay.
② Attached at ℄ post.



RECESS

PIPE SIZE AND THICKNESS			
Pipe Placement / Design Wind Speed	Horizontal	Vertical	Bracing
90 mph	5" X-Strong (.375")	4" X-Strong (.337")	2 ½" Standard (.203")
130 mph	6" X-Strong (.432")	5" X-Strong (.375")	3" X-Strong (.300")

GENERAL NOTES:

Design conforms to 2013 AASHTO Standard Specifications for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design 3-second gust wind speeds of 90 mph and 130 mph with a 1.14 gust factor, and a wind importance factor of 1.0 (50-year mean recurrence interval) for the supporting structures. For mounting connection between sign panel and pipe, wind importance factors of 0.71 and 0.54, for 90 mph and 130 mph winds, respectively, are applied to adjust the wind speeds to a 10-year mean recurrence interval.

See standard sheet WV & IZ(LTS2013) for the boundaries of each design wind zone. All mounting shall be based on 130 mph wind speed design except when located in 90 mph wind zone. Maximum panel area is 30 sq. ft. Maximum design height is 50 ft, with design height defined as the distance between natural ground (average elevation of surrounding terrain) and the center of sign(s) at the mounting location.

Material for pipe shall be ASTM A53 Grade B, or A501. Structural steel plates shall be ASTM A36, A572 Grade 50, or A588. Bolts used to connect pipe and mounting bracket, and wind beam to sign panel shall be ASTM A307. Anchor bolts shall be ASTM A325 or A193 B7. Each anchor bolt shall be provided with 2 flat washers, 1 lock washer, and 1 heavy hex nut. All parts shall be galvanized in accordance with Standard Specifications Item 445, "Galvanizing".

Attach horizontal pipe at least 2'-0" from the edge of any nearby drain slot.

Contractor shall verify applicable field dimensions before fabrication. Holes drilled through the railing parapet wall shall be drilled with rotary (coring or masonry drill) type equipment. Percussion (star) drilling shall not be allowed. Anchorage for pipe attached to rail shall be placed using an anchoring system approved by the engineer. Installation of anchor fasteners including hole depth, diameter and material shall be in accordance with the manufacturers' recommendation.

Each embedded anchor fastener shall resist an allowable design loading (after applying the reduction factors of bolt spacing and bolt edge distance) of:

	130 mph	90 mph
Tension	12.5 kips	7.5 kips
Shear	9.0 kips	5.0 kips

Each anchoring system shall provide a capacity to resist the required tension and shear acting simultaneously.

For sign connection to mounting, shop drill holes on sign blank in accordance with the current Standard Highway Sign Designs for Texas (SHSD). Additional hole(s) needed to meet a stipulated-type mounting may be field drilled. For multi-sign or back-to-back signs mounting, the engineer shall determine the proper type which ensures each individual mounting meets requirements.

Refer to Standard sheets SMD(GEN), SMD(SLIP-2 and SMD(2-1) for details not covered here.

SHEET 1 OF 3

Texas Department of Transportation | Traffic Operations Division Standard

BRIDGE RAILING SIGN MOUNT DETAILS

SMD(BR-1)-14

FILE: smdbr-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT August 2014	CONT	SECT	JOB	HIGHWAY
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266

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GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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HOUSTON, TX 77079
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
BRIDGE SIGN MOUNTING DETAILS

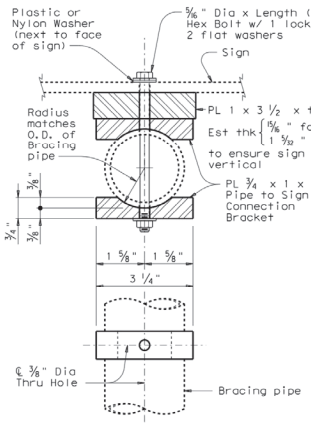
PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

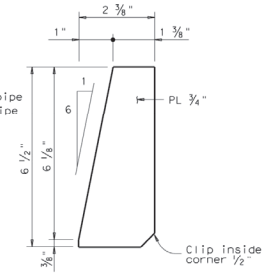
DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-514

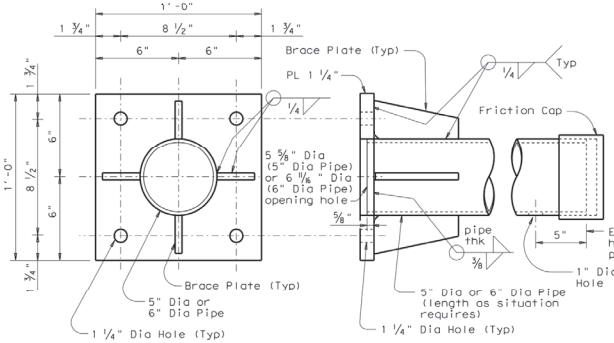


BRACING PIPE TO SIGN CONNECTION BRACKET DETAILS

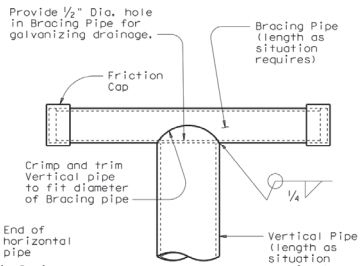
(Showing T Mounting)

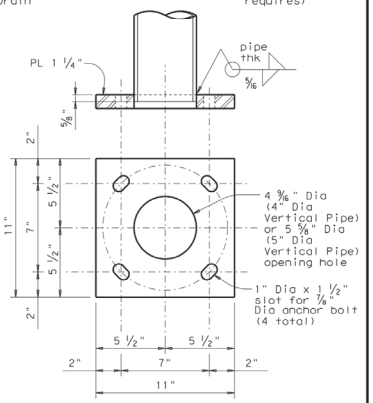


BRACE PLATE DETAILS



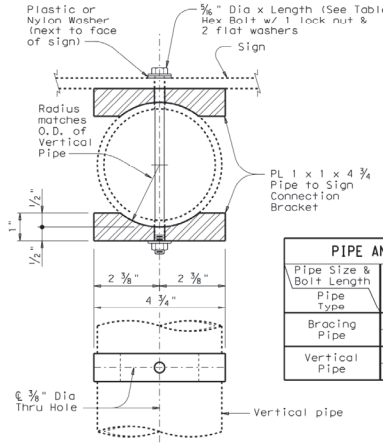
BASE PLATE DETAILS





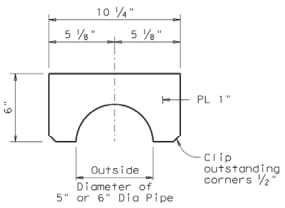
SIGN POLE & POLE BASE PLATE DETAILS

(Showing only T Mounting)



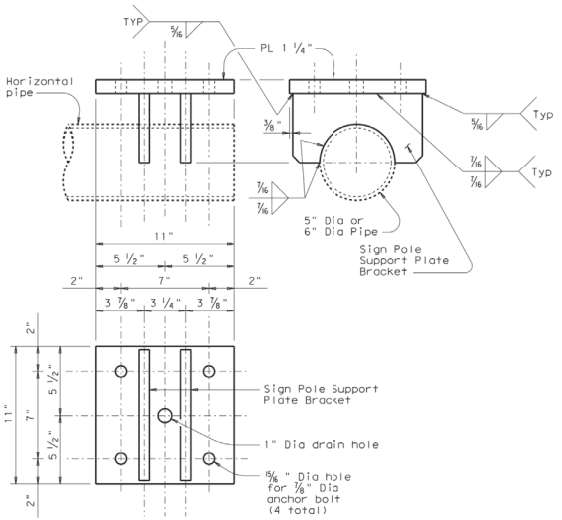
LARGE PIPE TO SIGN CONNECTION BRACKET DETAILS

(Showing P or T Mounting)



SIGN POLE SUPPORT PLATE BRACKET DETAILS

PIPE AND BOLT SPECIFICATIONS		
Pipe Size & Bolt Length / Pipe Type	Nominal Pipe Dia (in.)	Bolt Length (in.)
Bracing Pipe	2 1/2	6
	3	7
Vertical Pipe	4	7
	5	8



SIGN POLE SUPPORT PLATE DETAILS

SHEET 2 OF 3

Texas Department of Transportation

Traffic Operations Division Standard

BRIDGE RAILING SIGN MOUNT DETAILS

SMD(BR-2)-14

FILE: smdbr-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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HOUSTON, TX 77079
TEL: (713) 575-8500
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NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
BRIDGE SIGN MOUNTING DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-515

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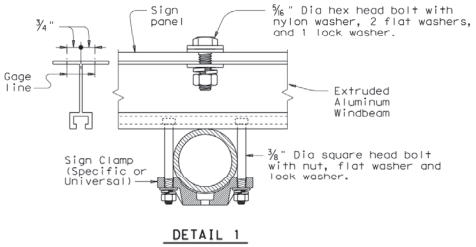
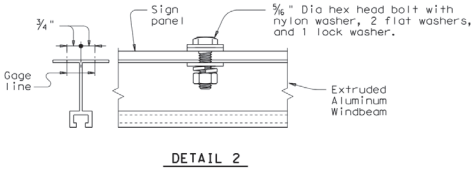
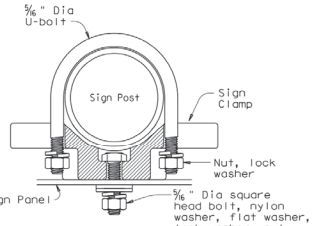
FILE:



DETAIL 1



DETAIL 2

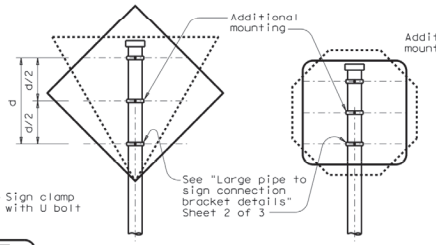


DETAIL 3

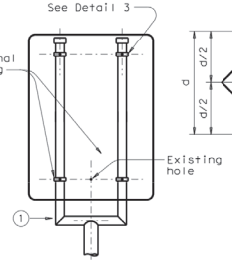
SIGN SHAPE	SQUARE			HORIZONTAL RECTANGLE			VERTICAL RECTANGLE			DIAMOND			OCTAGON			EQUILATERAL TRIANGLE			INTERSTATE SHIELD	PENTAGON (SCHOOL)	
Type of Sign Mounting on SHSD / Design Wind Speed	P	T	U	P	T	U	P	T	U	P	T	U	P	T	U	P	T	U	P	P	T
90 mph					(Type 23) 60"x48"	(Type 3) 72"x36" 78"x36" (Type 23) 72"x30" 84"x24"		(Type 2) 36"x48" (Type 32) 36"x60" 36"x72" 42"x60" 48"x54" 48"x60" 48"x72" (Type 3) 48"x84"			(Type 3) 60"x60"									(Type Special) 45"x36"		
130 mph	(Type 1) 30"x30" 36"x36"	(Type 3) 48"x48"		(Type 1) 36"x24" 36"x30"	(Type 23) 48"x42" 54"x42" 60"x30" 66"x36" 84"x24" (Type 3) 60"x48"	(Type 3) 72"x36" 78"x36" (Type 23) 72"x30" 84"x24"	(Type 1) 30"x36" 30"x42"	(Type 3) 36"x48" 36"x60" 36"x72" 42"x60" 48"x54" 48"x60" (Type 4) 48"x72" 48"x84"	(Type 3) 48"x60"	(Type 1) 36"x36"	(Type 3) 48"x48" 60"x60"					(Type 1) 48"x48"			(Type Special) 36"x36" 45"x36"		

Notes:
1. Drill holes in addition to the hole pattern of the Standard Highway Sign Designs for Texas (SHSD) at specified locations to meet a stipulated-type mounting indicated in the parenthesis ( ).
2. "Blank" in the above table indicates all other signs excluded from stipulated mounting shall be mounted in accordance with SHSD.

(1) In lieu of welding, the Fabricator may bend bracing pipe elbows if the following conditions are met:
a. Spacing between vertical bracing pipes is equal to or greater than 2'-6".
b. Bending radius is 12".
c. The distance between the lowest clamp and centerline of horizontal bent pipe is 13" max.



TYPE 1



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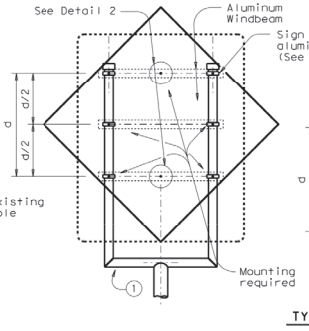

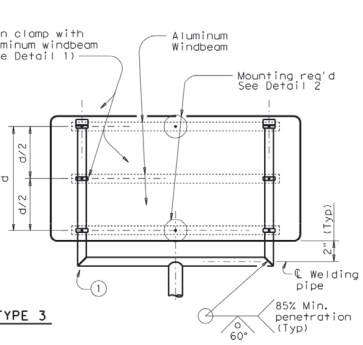

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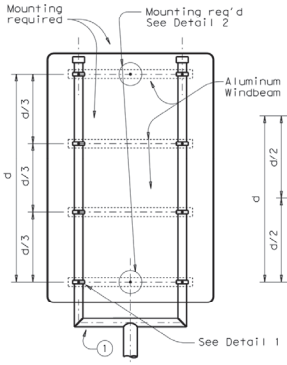
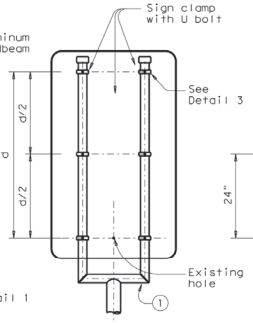


TYPE 4



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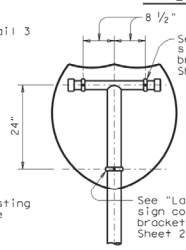

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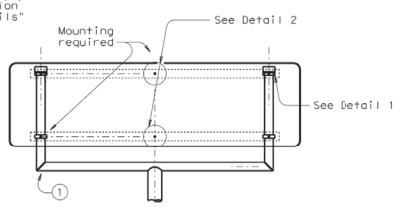


TYPE 23

SHEET 3 OF 3

Texas Department of Transportation | Traffic Operations Division Standard

BRIDGE RAILING SIGN MOUNT DETAILS

SMD(BR-3)-14

FILE:	smdbr-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT	August 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.

26J

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 575-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
BRIDGE SIGN MOUNTING DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

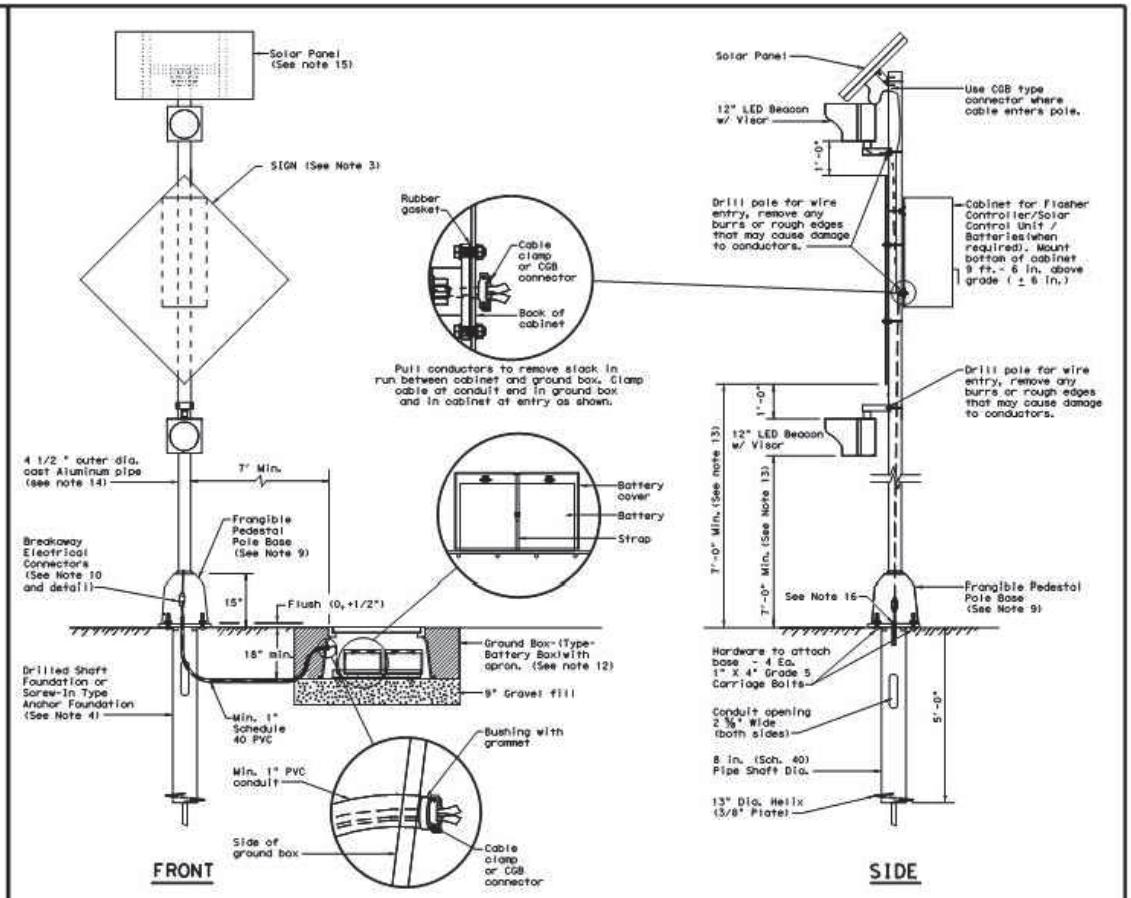
DIRECTOR
HOUSTON AIRPORT SYSTEM

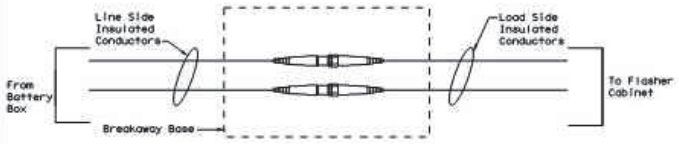
PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-516

GENERAL NOTES:

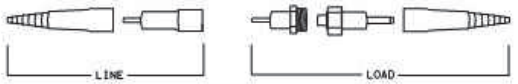
1. Details show a typical warning sign with two flashing beacon heads, other arrangements are possible. When only one beacon is required, install the upper beacon.
2. See Item 685, "Roadside Flashing Beacon Assemblies" for further requirements.
3. See SMD standard sheets for lateral and vertical clearances and sign mounting details. Install signs as shown on the sign layout sheets.
4. Use either a Screw-In Type Anchor Foundation or a Drilled Shaft Foundation as shown elsewhere in the plans. When plans require a Drilled Shaft Foundation, see standard sheet TS-FD. Install the Screw-In Type Anchor Foundation as per manufacturer's recommendations. On a slope, install one edge at ground level. Screw-In/Drilled Shaft Foundation is subsidiary to Item 685. Installation of a ground rod is not required for solar powered flashing beacon assemblies.
5. When used, provide Screw-In Type Anchor Foundations as shown on TxDOT's Material Producer List (MPL) in the file "Highway Traffic Signals".
6. Use materials specifically designed for attaching cabinets, beacon heads, solar panels, etc., to poles.
7. Install beacon heads as shown here, as shown elsewhere on the plans, or as directed. Use hardware specifically designed for mounting beacon heads on poles.
8. Conduit in foundation and within 6 in. of foundation is subsidiary to the Item 685, "Roadside Flashing Beacon Assemblies."
9. Per manufacturer's recommendations, engage all threads on the pedestal pole base and pipe unless the pipe is fully seated into base. In high winds, use a pole and base collar assembly to add strength and prevent loosening on connection.
10. Provide single pole non-fused watertight breakaway electrical connectors for frangible pedestal pole bases, as shown on TxDOT's MPL in the file "Roadway Illumination and Electrical Supplies." Approved models are listed under Item 685. For ungrounded (hot) conductors, install a breakaway connector with a dummy fuse slug). For grounded (neutral) conductors, install a breakaway connector with a white colored marking and a permanently installed dummy fuse (slug).
11. Install the batteries in a battery box. Place the batteries on a ⅛" thick plastic sheet and connect together. Place a plastic cover (battery bell jar) over the top of each battery and secure the battery bell jar to the battery with a strap. The batteries, bell jars, straps and ⅛" plastic sheet are subsidiary to the Item 685, "Roadside Flashing Beacon Assemblies." When required, install batteries in the flasher cabinet. Wire batteries according to manufacturers recommendations. Provide the number of batteries as required by the manufacturer.
12. See standard sheet Electrical Details (ED) for additional requirements regarding the installation of ground boxes/battery boxes, conduit, and cabinets.
13. Provide clearance as shown above the sidewalk or pavement grade at the edge of the road. When a bottom beacon is not used, mount the bottom of the sign at least 7 ft. above the sidewalk or pavement grade at the edge of the road.
14. Unless otherwise shown on the plans, pole shaft shall be one piece, Schedule 40 Aluminum pipe, ASTM B429 or B221 (Alloy 6061-T6 only). Aluminum conduit will not develop the necessary strength and will not be allowed.
15. Orient solar panel for optimum exposure to sunlight (face to the south). Prior to installation, check the location to ensure there is no overhead obstruction that would block the solar panel from receiving full sunlight. Unless specified elsewhere, mount a minimum of 14' above grade.
16. Ensure height of conduit is below top of anchor bolts.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.





NON-FUSED BREAKAWAY ELECTRICAL CONNECTORS



NON-FUSED BREAKAWAY ELECTRICAL CONNECTORS
EXPLODED VIEW

DATE:
FILE:

Texas Department of Transportation — Traffic Operations Division Standard

SOLAR POWERED ROADSIDE FLASHING BEACON ASSEMBLY DETAILS

SPRFBA(1)-13

FILE:	spb1-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	May 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS					
12-04		DIST	COUNTY		SHEET NO.
3-13					

754

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 575-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
BRIDGE SIGN MOUNTING DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CR-517

GENERAL NOTES:

1. Details show a typical warning sign with two flashing beacon heads, other arrangements are possible. When only one beacon is required, install the upper beacon.
2. See Item 685, "Roadside Flashing Beacon Assemblies" for further requirements.
3. See SMD standard sheets for lateral and vertical clearances and sign mounting details. Install signs as shown on the sign layout sheets.
4. Use either a Screw-In Type Anchor Foundation or a Drilled Shaft Foundation as shown elsewhere in the plans. When plans require a Drilled Shaft Foundation, see standard sheet TS-FD. Install the Screw-In Type Anchor Foundation as per manufacturer's recommendations. On a slope, install one edge at ground level. Screw-In/Drilled Shaft Foundation is subsidiary to Item 685. Installation of a ground rod is not required for solar powered flashing beacon assemblies.
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10. Provide single pole non-fused watertight breakaway electrical connectors for frangible pedestal pole bases, as shown on TxDOT's MPL in the file "Roadway Illumination and Electrical Supplies." Approved models are listed under Item 685. For ungrounded (hot) conductors, install a breakaway connector with a dummy fuse slug). For grounded (neutral) conductors, install a breakaway connector with a white colored marking and a permanently installed dummy fuse (slug).
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12. See standard sheet Electrical Details (ED) for additional requirements regarding the installation of ground boxes/battery boxes, conduit, and cabinets.
13. Provide clearance as shown above the sidewalk or pavement grade at the edge of the road. When a bottom beacon is not used, mount the bottom of the sign at least 7 ft. above the sidewalk or pavement grade at the edge of the road.
14. Unless otherwise shown on the plans, pole shaft shall be one piece, Schedule 40 Aluminum pipe, ASTM B429 or B221 (Alloy 6061-T6 only). Aluminum conduit will not develop the necessary strength and will not be allowed.
15. Orient solar panel for optimum exposure to sunlight (face to the south). Prior to installation, check the location to ensure there is no overhead obstruction that would block the solar panel from receiving full sunlight. Unless specified elsewhere, mount a minimum of 14' above grade.
16. Ensure height of conduit is below top of anchor bolts.

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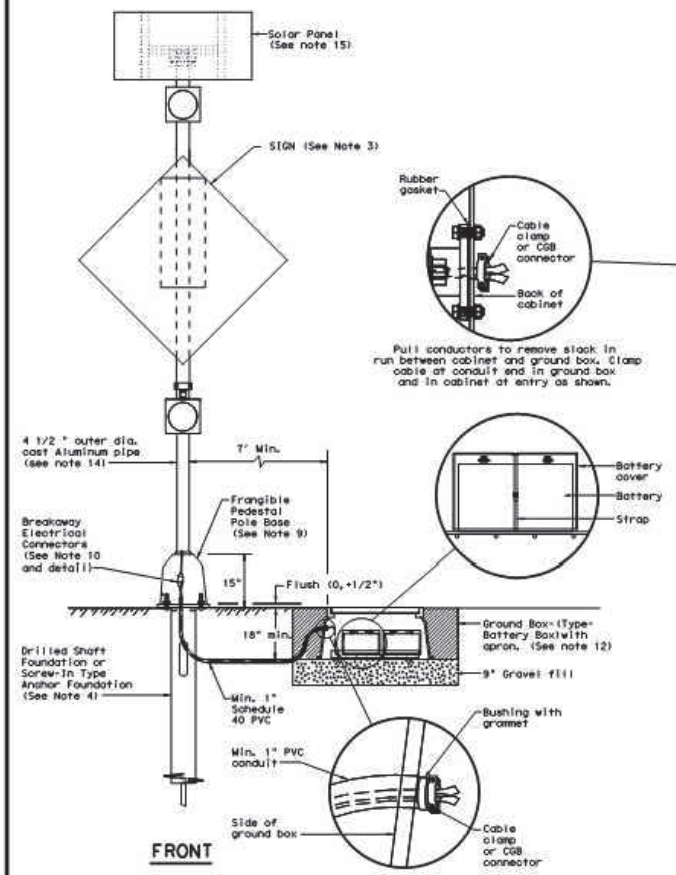
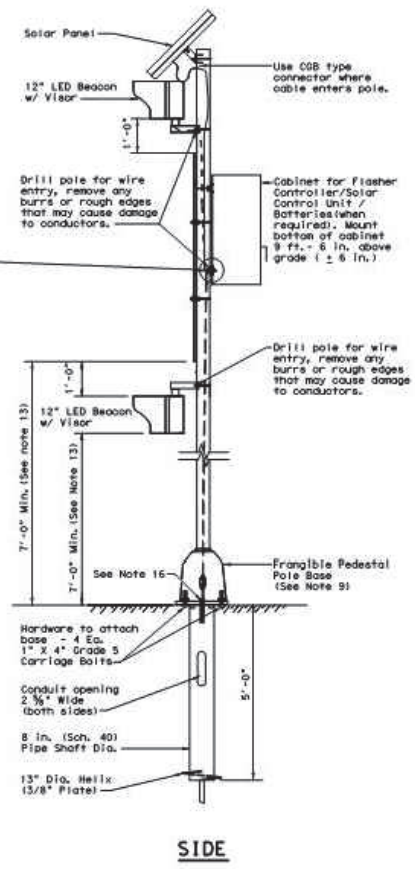
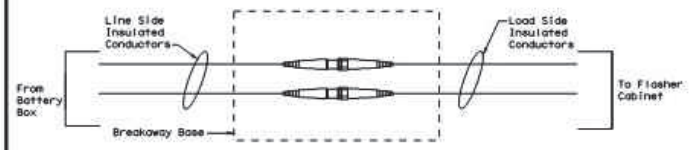
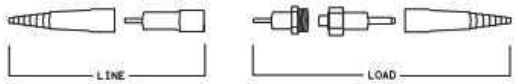
DATE:
FILE:







NON-FUSED BREAKAWAY ELECTRICAL CONNECTORS



NON-FUSED BREAKAWAY ELECTRICAL CONNECTORS
EXPLODED VIEW

Texas Department of Transportation — Traffic Operations Division Standard

SOLAR POWERED ROADSIDE FLASHING BEACON ASSEMBLY DETAILS

SPRFBA(1)-13

FILE:	spb1-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	May 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS					
12-04					
3-13		DIST	COUNTY		SHEET NO.

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 575-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
BRIDGE RECONSTRUCTION
BRIDGE SIGN MOUNTING DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO. 100066296
A.I.P. NO.
C.I.P. NO.
H.A.S. NO. 931
SHEET NO. CR-518

SWPPP GENERAL NOTES

1. SEDIMENT WILL BE RETAINED ON SITE TO THE MAXIMUM EXTENT PRACTICABLE.
2. IF DAMAGED OR RENDERED INEFFECTIVE, THE EROSION AND SEDIMENT CONTROLS WILL BE REPAIRED OR REPLACE IMMEDIATELY.
3. WHEN PUMPING (DEWATERING) STANDING STORM WATER FROM THE SITE, THE OPERATOR SHALL USE APPROPRIATE BEST MANAGEMENT PRACTICES (BMPS) FROM THE STORM WATER MANAGEMENT HANDBOOK FOR CONSTRUCTION ACTIVITIES THAT ADDRESS DEWATERING ACTIVITIES. UNTREATED/DIRECT DISCHARGE INTO A STORM SEWER WILL NOT BE ALLOWED.
4. IF THE INTERIM PERIOD BETWEEN CONSTRUCTION OF UTILITIES AND STREET CONSTRUCTION WILL BE MORE THAN 21 DAYS, THE STREETS RIGHTS-OF-WAY WILL BE MULCHED OR OTHERWISE STABILIZED WITHIN 14 DAYS.
5. AFTER PAVING COMPLETION, NEWLY GRADED AREAS AND ALL EXPOSED SOILS WILL BE COMPLETELY STABILIZED.
6. CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE, UNLESS THEY ARE USING A PROPERLY DESIGNED AND DESIGNATED CONCRETE WASHOUT AREA.
7. EROSION AND SEDIMENT CONTROL MEASURES THAT HAVE BEEN IMPROPERLY INSTALLED OR HAVE BEEN DISABLED, RUN-OVER, REMOVED, OR OTHERWISE RENDERED INEFFECTIVE MUST BE REPLACE OR CORRECT IMMEDIATELY.
8. MAINTENANCE AND REPAIRS WILL BE CONDUCTED WITHIN 24 HOURS OF INSPECTION REPORT.
9. ALL LITTER, TRASH AND FLOATABLE DEBRIS WILL BE CONTAINED.

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

CITY OF HOUSTON
HOUSTON AIRPORTS SYSTEM
Recommended
Approved
Director or Designated Representative
DATE

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

SWPPP GENERAL NOTES

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

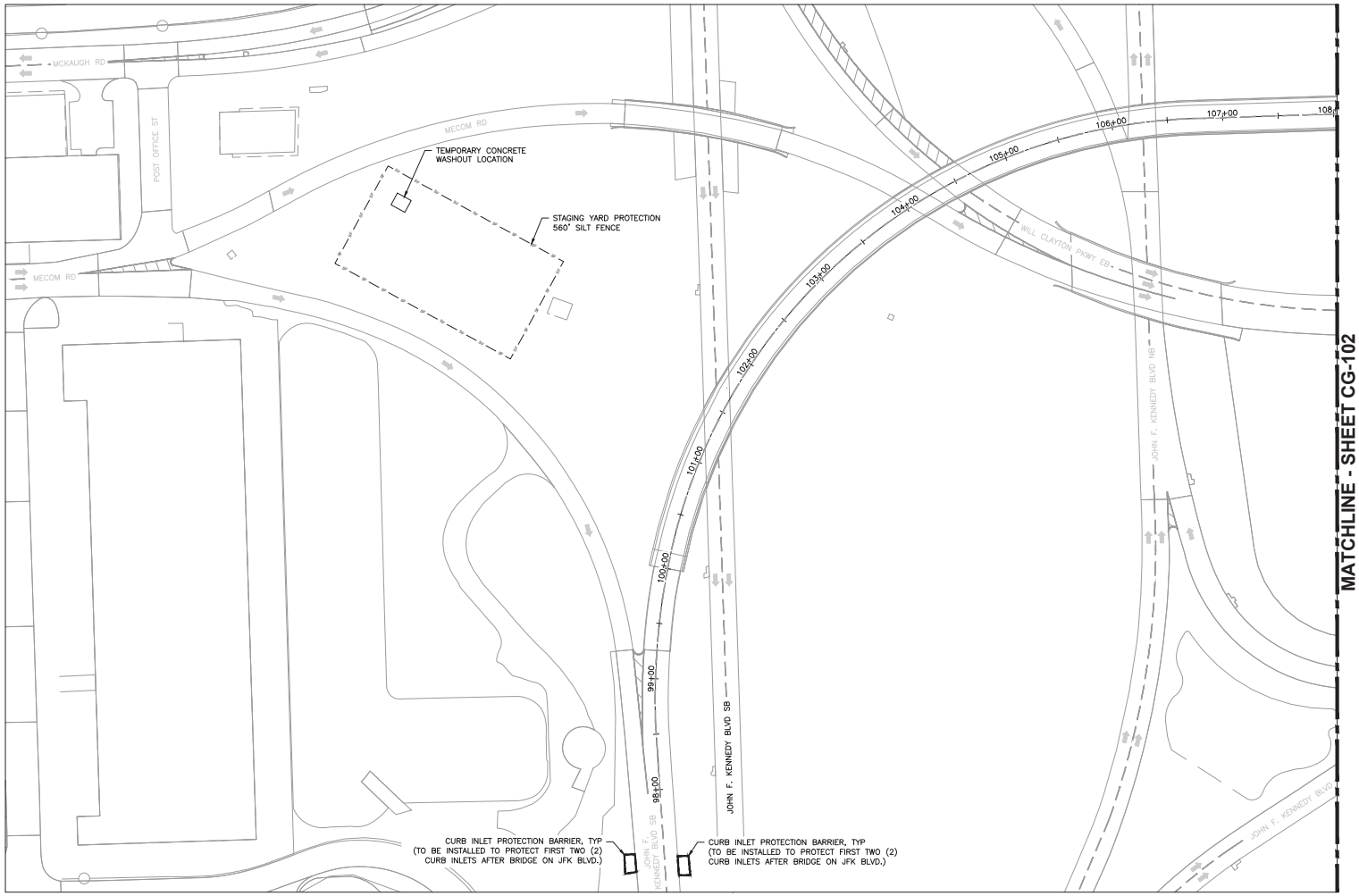
PROJECT NO.
100066296

A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
931

SHEET NO.
CG-001



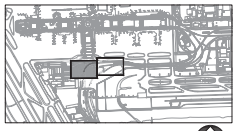
MATCHLINE - SHEET CG-102

LEGEND

- CURB INLET PROTECTION BARRIER
- FILTER FABRIC BARRIER

NOTES

1. CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND INLETS AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION PLANS (SWPPP) TO KEEP SILT AND/OR DEMOLITION MATERIAL FROM ENTERING INTO THE STORM WATER INLETS, EVENTUALLY POLLUTING THE RECEIVING STORM SEWER SYSTEM.
2. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.
3. 36 CUT-OUT DRAIN SLOTS IN BRIDGE DECK TO BE COVERED FOR THE DURATION OF THE PROJECT WITH PIG 12" DIAMETER DRAINBLOCKER DRAIN COVER OR APPROVED EQUAL.
4. EROSION CONTROLS SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN DRAWINGS.
5. PROVIDE AND MAINTAIN SILT FENCE AROUND THE STAGING AREA FOR EROSION CONTROL.
6. CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO DEMOLITION ACTIVITIES.
7. DEMOLITION ACTIVITIES SHALL NOT START UNTIL THE EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN ACCEPTED.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED.
9. CONTRACTOR SHALL NOT INITIATE CONSTRUCTION UNLESS APPROVED BY RESIDENT ENGINEER.
10. EXCAVATED MATERIAL OR FILL SHALL NOT BE STOCKPILED WITHIN THE 100-YEAR FEMA FLOODPLAIN.
11. TEMPORARY CONCRETE WASHOUT TUB TO BE PROVIDED BY CONTRACTOR, AND LOCATED WITHIN THE STAGING AREA.
12. NO AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
13. SEE SHEET CG 501 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.



0 50 100 Feet

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION SWPPP PLAN

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

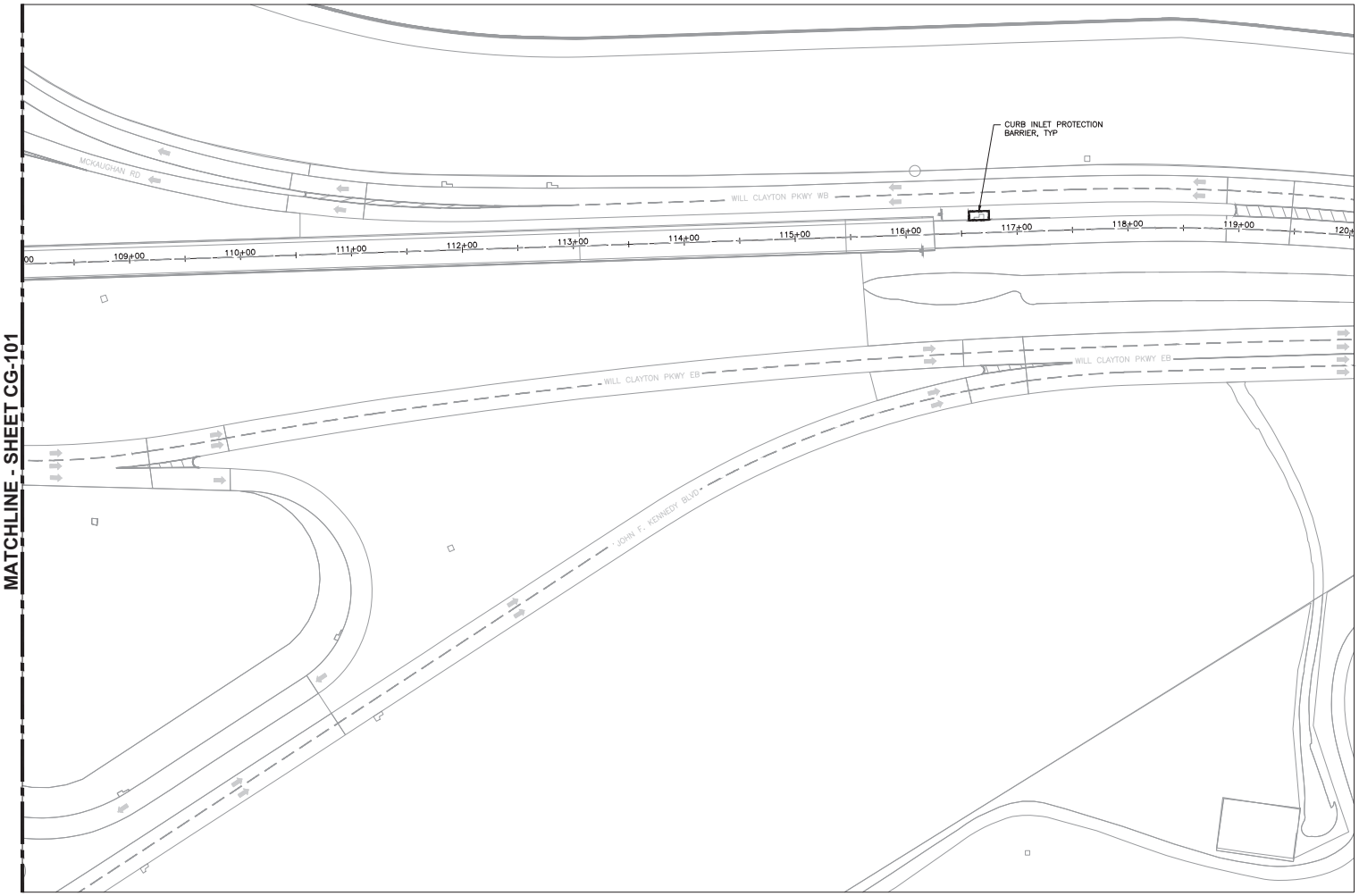
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CG-101

H4S FILE:
PLOT DATE:



MATCHLINE - SHEET CG-101

LEGEND

- CURB INLET PROTECTION BARRIER
- FILTER FABRIC BARRIER

NOTES

1. CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND INLETS AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION PLANS (SWPPP) TO KEEP SILT AND/OR DEMOLITION MATERIAL FROM ENTERING INTO THE STORM WATER INLETS, EVENTUALLY POLLUTING THE RECEIVING STORM SEWER SYSTEM.
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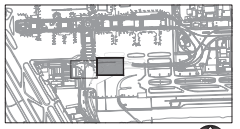


0 50 100 Feet

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

CITY OF HOUSTON HOUSTON AIRPORT SYSTEM
Recommended
Approved
Director or Designated Representative
DATE

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION SWPPP PLAN

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

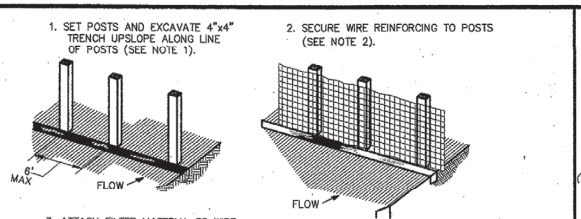
STATE OF TEXAS
EDMOND S. WOODS
122123
LICENSED
PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

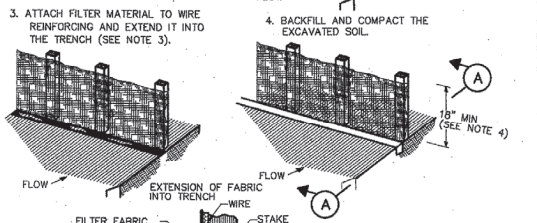
APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

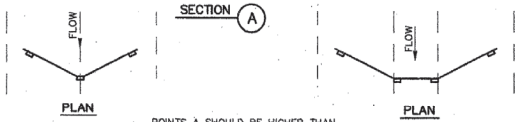
PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CG-102

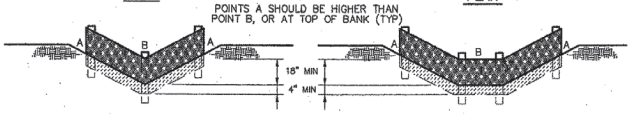
H:\AS FILE:
PLOT DATE:





SECTION (A)





"V-DITCH" SECTION/ELEVATION

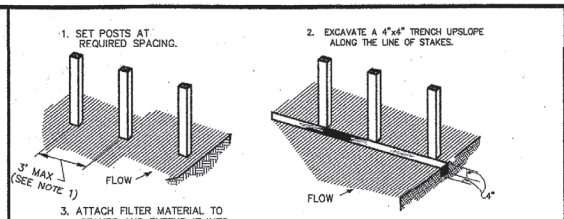
TRAPEZOIDAL SECTION/ELEVATION

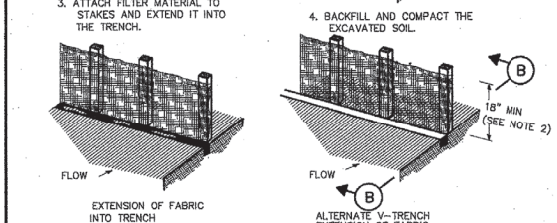
CONSTRUCTION NOTES:

1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE REINFORCING TO BE FASTENED SECURELY TO BARRIER POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCING, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
6. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

SYMBOL (RFB)

REINFORCED FILTER FABRIC BARRIER





SECTION (B)

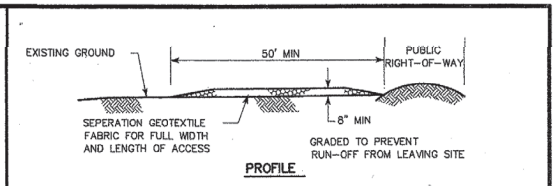
SECTION ALTERNATE (B)

CONSTRUCTION NOTES:

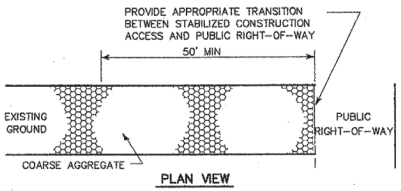
1. 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED BARRIER WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC BARRIER SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
4. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

SYMBOL (FF)

FILTER FABRIC BARRIER



PROFILE



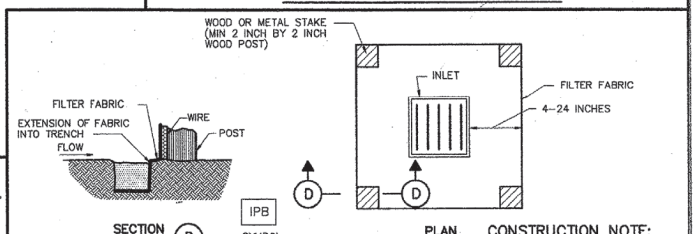
PLAN VIEW

CONSTRUCTION NOTES:

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION ACCESS, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
6. COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION ACCESS.
7. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

SYMBOL (SC)

STABILIZED CONSTRUCTION ACCESS



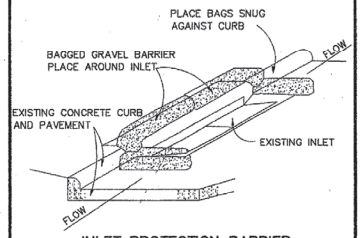
SECTION (D)

PLAN

SILT FENCE INLET PROTECTION BARRIER

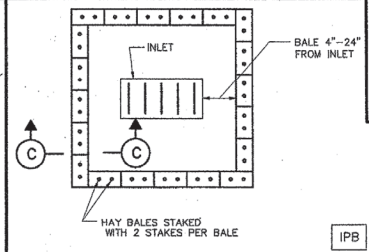
CONSTRUCTION NOTE:

1. SEE CONSTRUCTION NOTES FOR RFB.

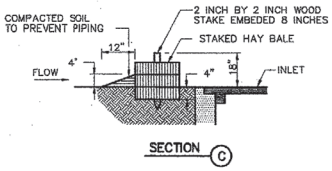


INLET PROTECTION BARRIER

(FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER



PLAN



SECTION (C)

HAY BALE INLET PROTECTION BARRIER

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS

(NOT TO SCALE)

APPROVED: CITY ENGINEER

APPROVED: DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010 DWG NO: 01571-01

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER BRIDGE RECONSTRUCTION

SWPPP DETAILS

PROJECT MGR:	JLV
DESIGNER:	EW
DRAWN BY:	KJV
CHECK BY:	MS
SCALE:	
DATE:	06/26/2020

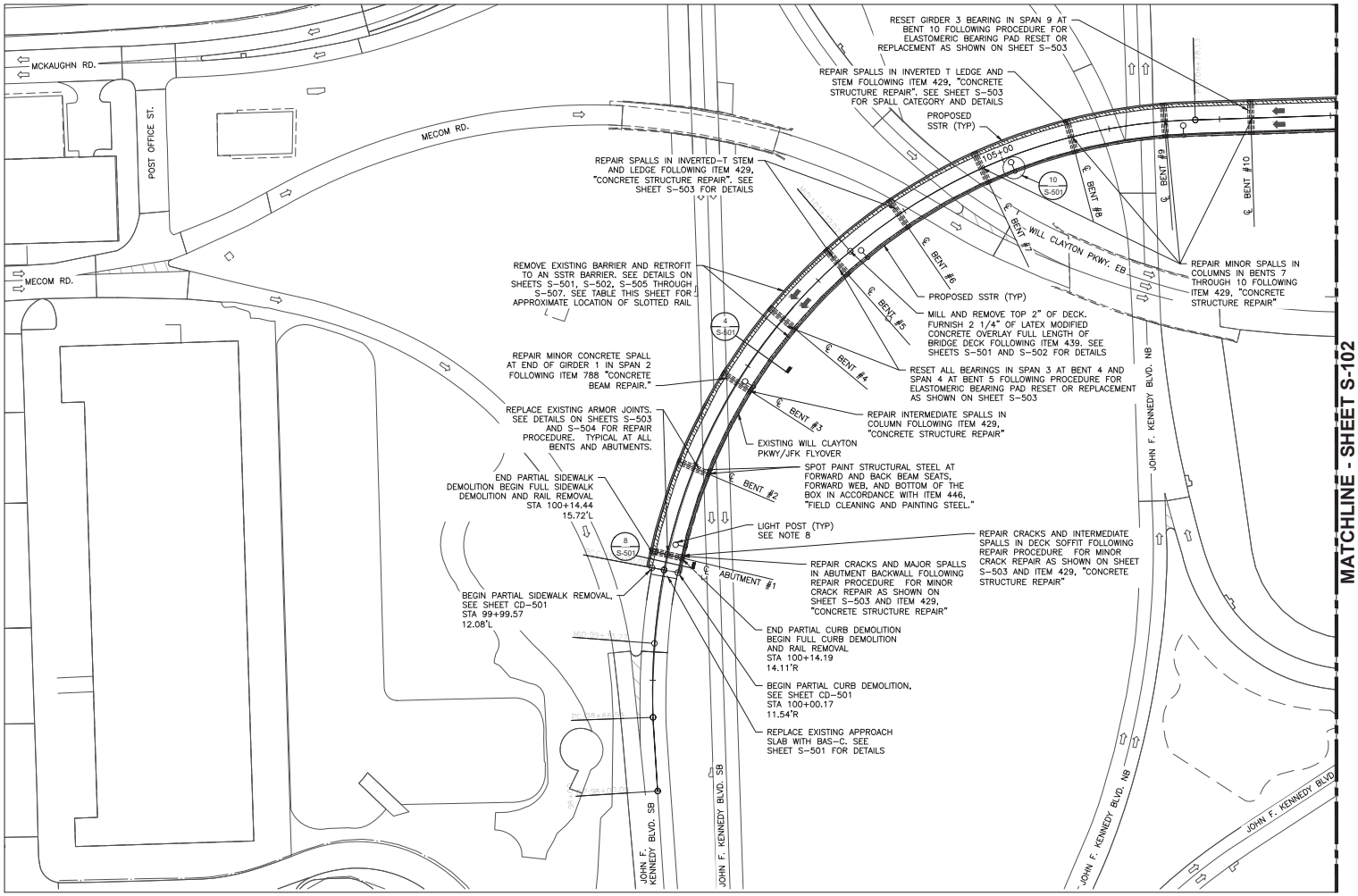
STATE OF TEXAS — EDMOND S. WOODS — 122123 — LICENSED — PROFESSIONAL ENGINEER
Edmond Woods 06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	CG-501

HAS FILE:
PLOT DATE:



MATCHLINE - SHEET S-102

APPROXIMATE SLOTTED SSTR LOCATIONS

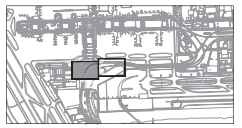
BEGIN STATION	END STATION	LOCATION
107+80	113+55	LEFT
100+00	100+72	RIGHT
101+45	103+94	RIGHT
104+79	105+93	RIGHT
106+50	107+80	RIGHT

LEGEND

- PROPOSED ROADWAY SHOULDER PAVEMENTS
- PROPOSED PARAPET RETROFITTING
- EXISTING SIDEWALK OR CURB TO BE REMOVED

NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREET, AND BRIDGES, 2014.
2. PHASE 1 INCLUDES WORK ON RIGHT TRAFFIC LANE. SEE SHEETS ON CP-102, CP-103 AND CP-104 FOR TRAFFIC CONTROL PLANS.
3. PHASE 2 INCLUDES WORK ON LEFT TRAFFIC LANE. SEE SHEETS CP-105, CP-106 AND CP-107 FOR TRAFFIC CONTROL PLANS.
4. EXPANSION AND CONTROL OR CONSTRUCTION JOINTS IN PROPOSED RETROFITTED BARRIER WALL TO ALIGN WITH EXISTING. SEE SHEET S-505 FOR DETAILS.
5. SEE SHEETS S-501 TO S-512 FOR STRUCTURAL DETAILS AND NOTES.
6. DO NOT TO DISTURB BIRD NESTS DURING NESTING SEASON, WHICH LASTS APPROXIMATELY FROM SPRING TO EARLY FALL, PER THE MIGRATORY BIRD TREATY ACT OF 1918, (MBTA).
7. EXISTING BRIDGE DRAINS ARE NOT SHOWN FOR CLARITY. THEY SHALL BE PLUGGED WITH GROUT BEFORE OVERLAYING. TYPICAL ON RIGHT SIDE OF THE BRIDGE IN SPANS 1-10 AT APPROXIMATELY EVERY 10'-30', EXCEPT OVER ROADWAYS, AND LEFT SIDE OF THE BRIDGE IN SPANS 10-17 AT APPROXIMATELY EVERY 18'-20'. SEE SHEET S-502 FOR DETAILS.
8. BRIDGE LIGHT POSTS SHOWN ARE APPROXIMATE. LOCATIONS SHALL MATCH EXISTING WITHIN ±1'-0" IN FINAL BRIDGE CONDITION. SEE SHEET S-501 FOR DETAILS.
9. LOCATIONS AND EXTENT OF REPAIRS SHOWN ARE BASED ON SURVEY INFORMATION, BRIDGE INSPECTION REPORT BY RIO ENGINEERING, INC ON 12/13/2017, AND BY BRIDGE CONDITION REPORT BY ATKINS ON 12/22/2019. THESE SHALL BE VERIFIED BY CONTRACTOR.
10. CONTRACTOR SHALL FOLLOW REPAIR PROCEDURES AND TXDOT CONCRETE REPAIR MANUAL, JANUARY 2019 ON ITEMS IN THIS REHAB PLAN AND ON ANY ADDITIONAL SPALLS OR CRACKS NOT SPECIFIED IN PLANS. IF A SIGNIFICANT REPAIR IS NEEDED AND NOT SHOWN IN PLANS, NOTIFY THE ENGINEER.
11. LOAD RATINGS: HS 21.1 INVENTORY) AND HS 46.5 (OPERATING).



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD.,
STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH
AMERICA PE FIRM REG.
#F-000474

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION REHAB PLAN SHEET 1 OF 2

PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

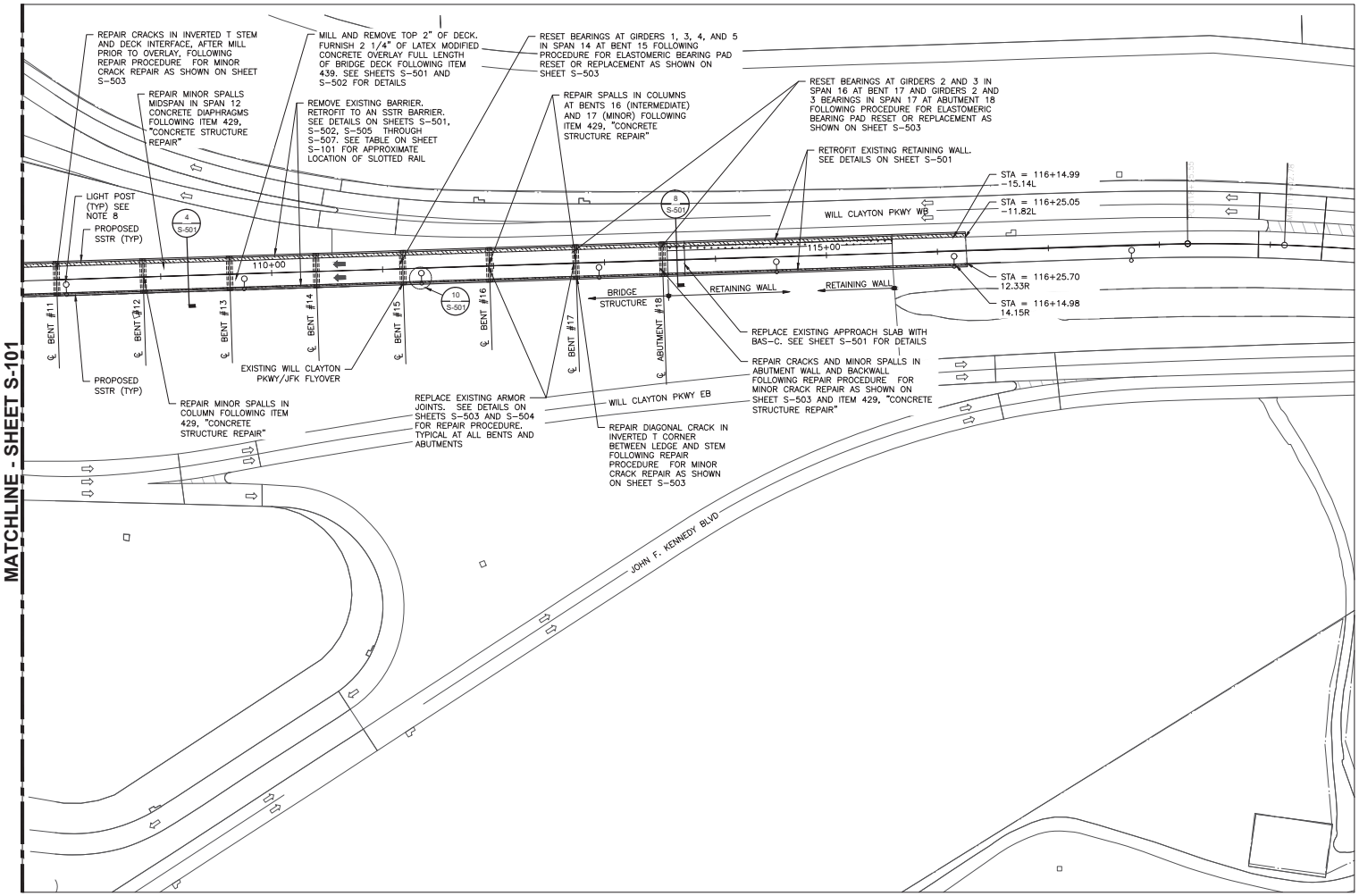
TAMMY C. SOUZA 128826 LICENSED PROFESSIONAL ENGINEER
Tammy C. Souza 06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-101

HAS FILE:
PLOT DATE:



LEGEND

- PROPOSED ROADWAY SHOULDER PAVEMENTS
- PROPOSED PARAPET RETROFITTING
- EXISTING SIDEWALK AND CURB TO BE REMOVED

NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREET, AND BRIDGES, 2014.
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3. PHASE 2 INCLUDES WORK ON LEFT TRAFFIC LANE. SEE SHEETS CP-105, CP-106 AND CP-107 FOR TRAFFIC CONTROL PLANS.
4. EXPANSION AND CONTROL OR CONSTRUCTION JOINTS IN PROPOSED RETROFITTED BARRIER WALL TO ALIGN WITH EXISTING. SEE SHEET S-505 FOR DETAILS.
5. SEE SHEETS S-501 TO S-512 FOR STRUCTURAL DETAILS AND NOTES.
6. DO NOT TO DISTURB BIRD NESTS DURING NESTING SEASON, WHICH LASTS APPROXIMATELY FROM SPRING TO EARLY FALL, PER THE MIGRATORY BIRD TREATY ACT OF 1918, (MBTA).
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8. BRIDGE LIGHT POSTS SHOWN ARE APPROXIMATE. LOCATIONS SHALL MATCH EXISTING WITHIN ±1'–0" IN FINAL BRIDGE CONDITION. SEE SHEET S-501 FOR DETAILS.
9. LOCATIONS AND EXTENT OF REPAIRS SHOWN ARE BASED ON SURVEY INFORMATION, BRIDGE INSPECTION REPORT BY RIO ENGINEERING, INC ON 12/13/2017, AND BY BRIDGE CONDITION REPORT BY ATKINS ON 12/22/2019. THESE SHALL BE VERIFIED BY CONTRACTOR.
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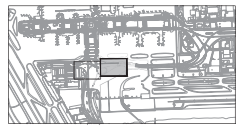
11. LOAD RATINGS: HS 21.1 (INVENTORY) AND HS 46.5 (OPERATING).



HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD.,
STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH
AMERICA PE FIRM REG.
#F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION REHAB PLAN SHET 2 OF 2

PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

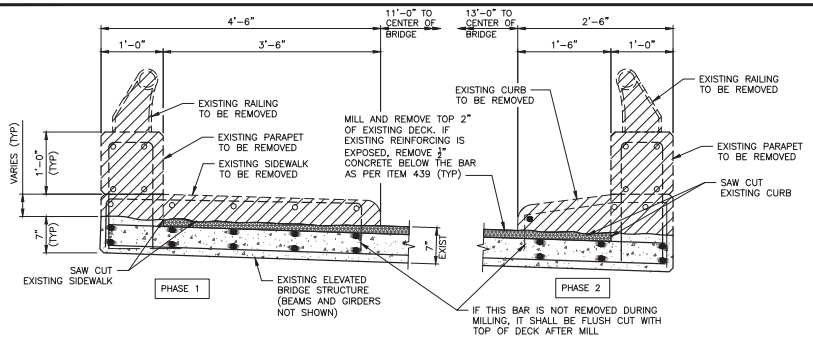
TAMMY C. SOUZA
128826
LICENSED
PROFESSIONAL ENGINEER
Tammy C. Souza 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

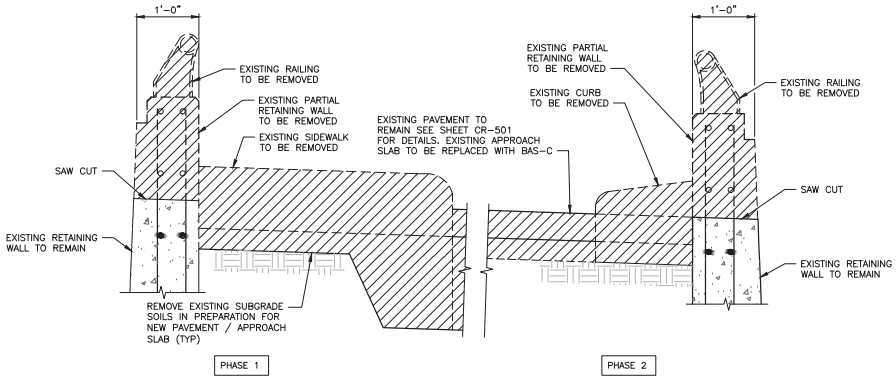
PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-102

HAS FILE:
PLOT DATE:



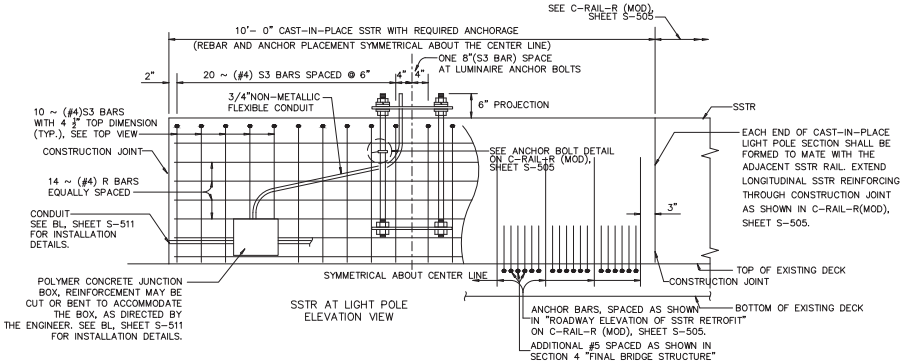
4 EXISTING BRIDGE STRUCTURE - DEMOLITION DETAIL

1" = 1'-0"



8 EXISTING BRIDGE STRUCTURE REMOVAL - EAST APPROACH SLAB SHOWN (SOUTH APPROACH SLAB REMOVAL SIMILAR)

1" = 1'-0"



SSTR AT LIGHT POLE
ELEVATION VIEW

10 REINFORCEMENT AND ANCHORAGE FOR SSTR AT LIGHT POLE

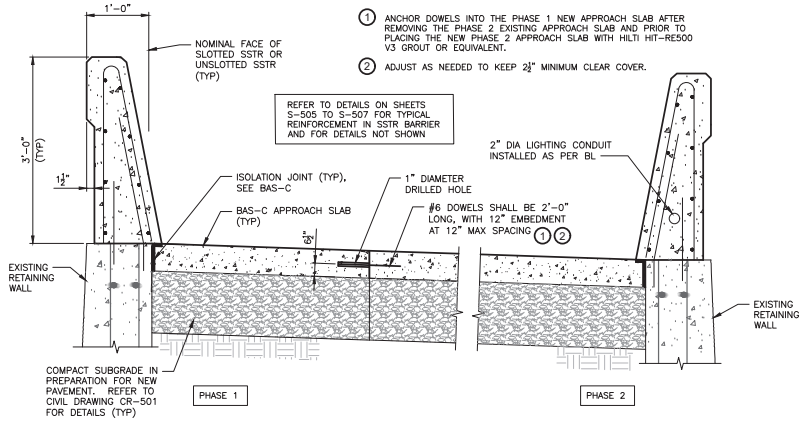
N.T.S.

TOP OF BARRIER TRANSITIONS FROM 7 ½" TO 9 1/4" TO CLEAR ANCHOR BOLTS.

* THE ADDITIONAL ¼" DIMENSION IS DUE TO THE DIFFERENCE IN THE EXISTING DECK OVERHANG THICKNESS (7") AT THE BACK OF THE RAIL AND THE ADDITIONAL ¾" LMC OVERLAY FOR A NEW DECK THICKNESS (7¼") AT THE TOE OF THE RAIL.

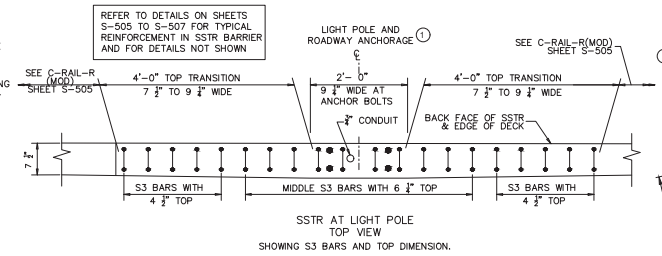
4 FINAL BRIDGE STRUCTURE

1" = 1'-0"



8 FINAL BRIDGE STRUCTURE - EAST APPROACH SLAB SHOWN (SOUTH APPROACH SLAB SIMILAR)

1" = 1'-0"

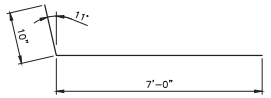


SSTR AT LIGHT POLE
TOP VIEW
SHOWING S3 BARS AND TOP DIMENSION.

NOTES:

1. CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS.

1 ADJUST LIGHT POLE LOCATION BY ±1'-0" AS NECESSARY TO ENSURE PROPER TOP OF RAIL WIDTH AS SHOWN IN THE "SSTR AT LIGHT POLE TOP VIEW" DETAIL.



#5 ADDITIONAL BAR IN DECK

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
www.atkinsglobal.com

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION
STRUCTURAL DETAILS

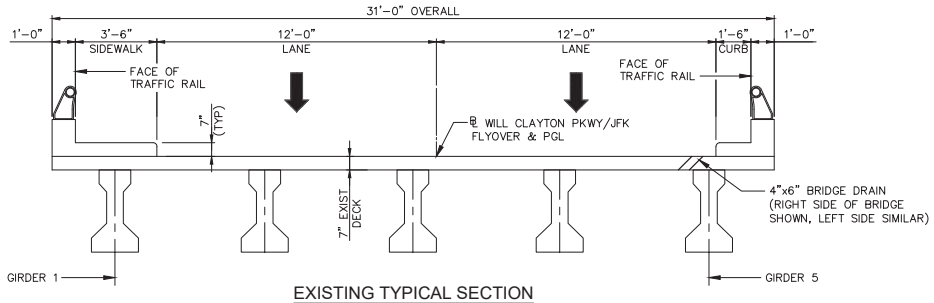
PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS — TAMMY C. SOUZA — 128826 — LICENSED PROFESSIONAL ENGINEER — Tammy C. Souza 06/26/2020

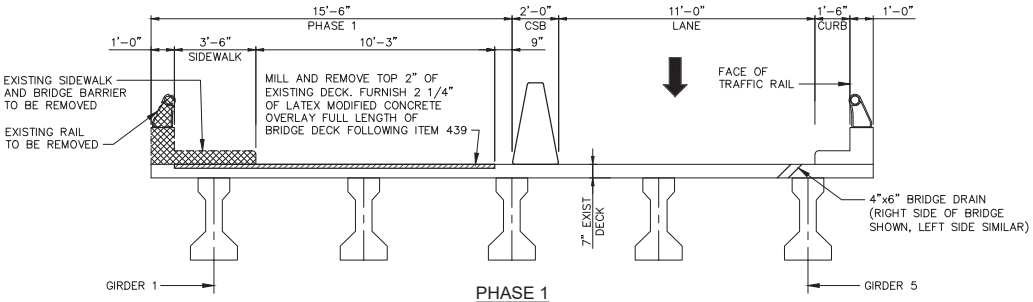
APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

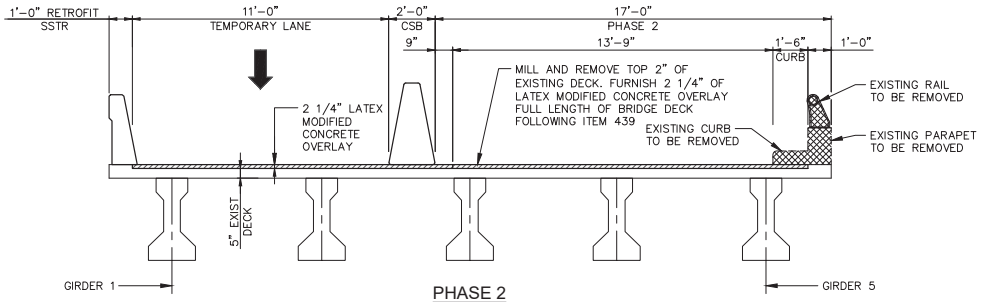
PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-501



EXISTING TYPICAL SECTION



PHASE 1



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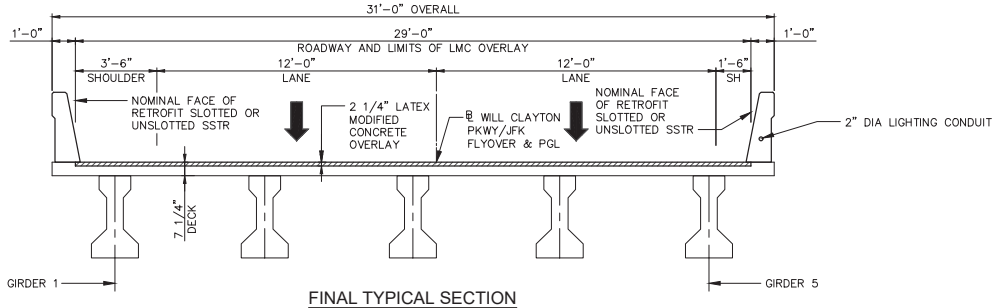

FINAL TYPICAL SECTION

NOTES:

1. LATEX MODIFIED CONCRETE OVERLAY SHALL BE CLASS LMC WITH f'c = 4,000 PSI.

   A) CARE SHALL BE TAKEN NOT TO CUT OR DAMAGE BARS IN THE APPROACH SLAB, INVERTED T, OR BRIDGE DECK. BARS THAT ARE DAMAGED OR BROKEN DURING MILLING, SHALL BE REPLACED USING DRILLING AND DOWELING.

   B) DRILL AND EPOXY NOTE: EPOXY FOR EMBEDDED REINFORCEMENT SHALL CONFORM TO CURRENT TXDOT DMS-6100, "EPOXY AND ADHESIVES," TYPE III - DOWEL AND TIE BAR ADHESIVE. ALL EPOXIES AND ADHESIVES SHALL BE APPLIED PER THE MANUFACTURER'S INSTRUCTIONS. PROVIDE MINIMUM EMBEDMENT PER MANUFACTURER AS REQUIRED TO DEVELOP FULL TENSILE STRENGTH OF BAR OR MINIMUM AS SHOWN, WHICHEVER IS GREATER. THIS PROCEDURE SHALL APPLY TO ALL BARS THAT ARE DAMAGED OR BROKEN DURING APPROACH SLAB, BACKWALL, INVERTED T, OR BRIDGE DECK REMOVAL, INCLUDING BOTH TOP AND BOTTOM ROWS OF BARS IN THE APPROACH SLAB AND BRIDGE DECK.

2. SEE CSB (8)-10 ON SHEET CP-503 FOR CONCRETE SAFETY BARRIER DETAILS.

3. CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS.

CONSTRUCTION SEQUENCE:

1. ADJUST TRAFFIC PER TCP.
2. REMOVE EXISTING SIDEWALK/CURB, PARAPET, AND RAILING.
3. MILL AND REMOVE EXISTING DECK AS SHOWN IN PHASE 1. REMOVAL SHALL LEAVE ROUGHENED SURFACE FOR THE LMC OVERLAY.
4. RESET THE BEARINGS AT LOCATIONS SHOWN ON S-101 AND S-102.
5. REMOVE AND RECONSTRUCT THE ARMOR JOINTS AT ABUTMENT AND ALL BENTS AS SHOWN IN SHEET S-503
6. PLUG EXISTING DRAIN HOLES IN DECK WITH GROUT PRIOR TO PLACING LMC OVERLAY.
7. PLACE LMC OVERLAY TO THE LIMITS SHOWN PER ITEM 439 AND CONSTRUCT RETROFIT SSTR.
8. MOVE TRAFFIC OVER TO THE NEWLY CONSTRUCTED DECK.
9. REPEAT STEPS 2 TO 6 AS SHOWN IN PHASE 2 CONSTRUCTION.

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NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION TYPICAL SECTION

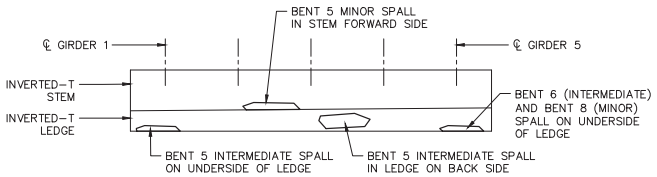
PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

APPROVED BY:

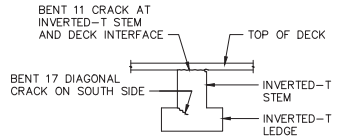
DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-502

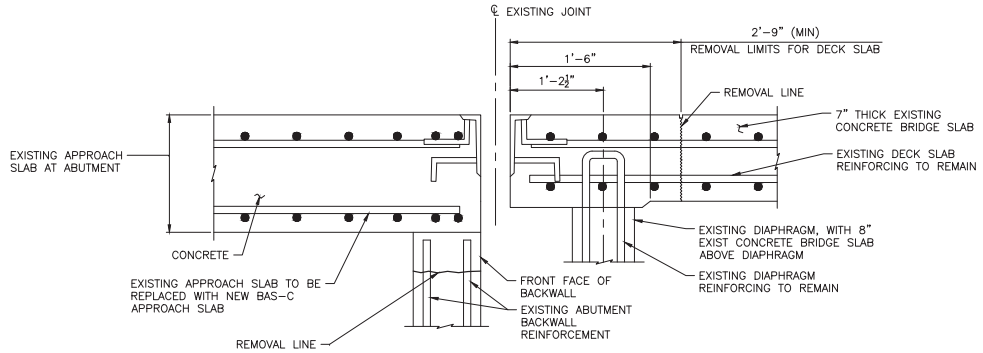
HAS FILE:
PLOT DATE:



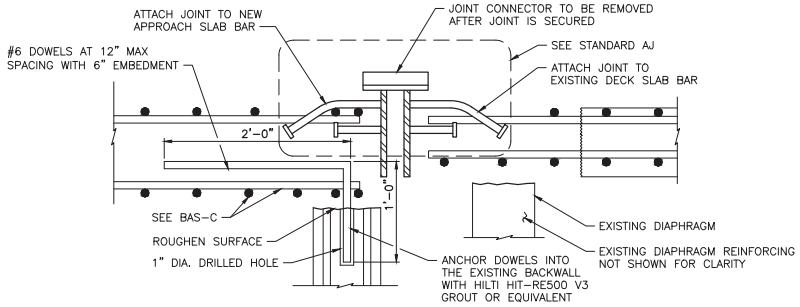
EXISTING BENT ELEVATION



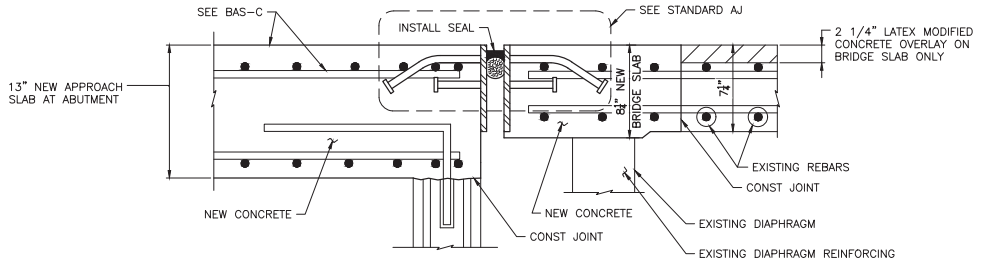
EXISTING BENT SIDE ELEVATION



STEP 1 (BREAKOUT DETAILS)



STEP 2 (ARMOR JOINT REPLACEMENT DETAILS)



STEP 3 (JOINT REPAIR DETAILS)

REPLACING EXISTING ARMOR JOINTS ON BRIDGE DECKS AND APPROACH SLAB - ABUTMENT DETAIL

FOR REPAIR PROCEDURE, SEE SHEET S–504

MATERIALS

1. MATERIALS SHALL CONFORM TO CURRENT TXDOT DEPARTMENTAL MATERIALS SPECIFICATIONS (DMS) AND BE LISTED ON THE CURRENT MATERIAL PRODUCERS LIST (MPL). SAMPLING AND TESTING OF MATERIALS SHALL BE DONE IN ACCORDANCE WITH THE DMS AND 2014 TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES, AND THE TXDOT CONCRETE REPAIR MANUAL JANUARY 2019.

ELASTOMERIC BEARING PAD RESET & REPLACEMENT

RESET OR REMOVE AND REPLACE EXISTING ELASTOMERIC BEARINGS IN ACCORDANCE WITH THE PLANS, TXDOT STANDARD SPECIFICATIONS, AND THE FOLLOWING ITEMS:

1. RESET PER THESE STEPS, IF REPLACEMENT IS DEEMED NECESSARY, REPLACEMENT OF ELASTOMERIC BEARING PADS SHALL BE PERFORMED IN ACCORDANCE WITH TXDOT SPECIAL SPECIFICATION 4002, "REPLACING ELASTOMERIC BEARING PADS." SEE SHEET S–512 FOR BEARING DETAILS.
2. RAISING EXISTING STRUCTURES SHALL BE DONE IN ACCORDANCE WITH TXDOT ITEM 495, "RAISING EXISTING STRUCTURES." TRAFFIC IS PROHIBITED ON THE SPANS BEING RAISED UNTIL THE STRUCTURE IS SUPPORTED BY THE FINAL SUPPORTS.
3. THE CONTRACTOR SHALL SUBMIT A WORK PLAN BEARING THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER IN ORDER TO RAISE THE STRUCTURE. APPROVAL OF THE PLAN IS REQUIRED BEFORE BEGINNING WORK.
4. ANY MODIFICATION TO THE BRIDGE OR APPURTENANCES SHALL BE APPROVED BY THE ENGINEER. MODIFICATION PROPOSALS SHALL INCLUDE CONDITION AFTER COMPLETION OF THE PROJECT.
5. ONCE THE SUPERSTRUCTURE IS FULLY SUPPORTED BY JACKS, ANY BEARING PAD THAT IS TO BE RESET SHALL BE RESET TO ITS ORIGINAL LOCATION. ANY BEARING THAT IS TO BE REPLACED SHALL BE REPLACED IN KIND. IF, IN THE FIELD, A BEARING THAT IS TO BE RESET APPEARS TO HAVE FAILED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, AND THE BEARING PAD SHALL BE REPLACED. ELASTOMERIC BEARING RESETTING OR REPLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH TXDOT ITEM 434, "ELASTOMERIC BRIDGE BEARINGS."
6. ANY FILL USED TO LEVEL JACKING TOWERS AND JACKING PADS SHALL BE REMOVED AFTER COMPLETION OF THIS ITEM.

MINOR CRACK REPAIR

1. FOR CRACKS THAT ARE LESS THAN ⅛", SURFACE SEALANT WILL BE USED.
2. FOR CRACKS FROM ⅛" TO ¼", PRESSURE INJECT CRACKS WITH A MATERIAL MEETING THE REQUIREMENTS OF DMS–6100 TYPE IX. THE PRODUCT SHALL BE CHOSEN FROM THE PRE–APPROVED PRODUCT LIST.
3. FOR CRACKS GREATER THAN ¼" BUT LESS THAN ½", PRESSURE INJECT CRACKS WITH A MATERIAL MEETING THE REQUIREMENTS OF DMS–6100 TYPE IX. A FILLER (FINE AGGREGATE) MAY BE ADDED FOR CRACKS OF THIS SIZE. THE PRODUCT SHALL BE CHOSEN FROM THE PRE–APPROVED PRODUCT LIST.
4. EPOXY INJECTION SHALL BE IN ACCORDANCE WITH TXDOT ITEM 780, "EPOXY INJECTION."
5. FOR CRACKS LARGER THAN ½", FOLLOW PROCEDURES SPECIFIED IN ITEM 780, "CONCRETE CRACK REPAIR".

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NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION REHAB DETAILS SHEET 1 OF 2

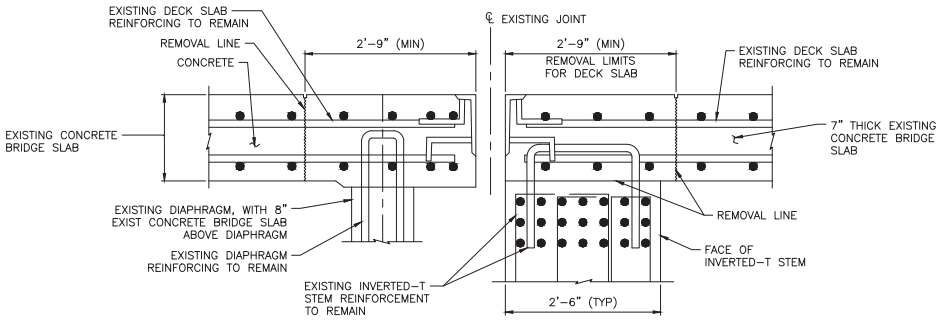
PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

APPROVED BY:

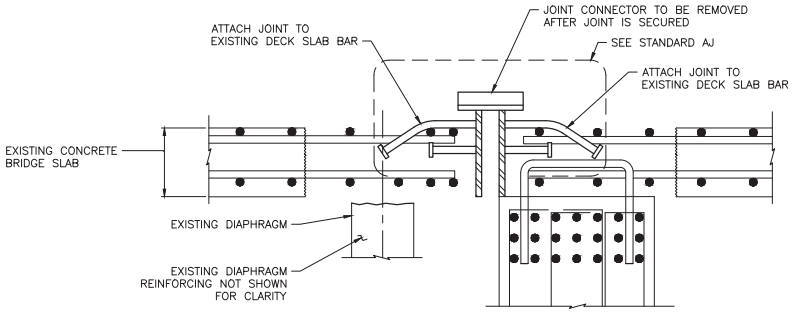
DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-503

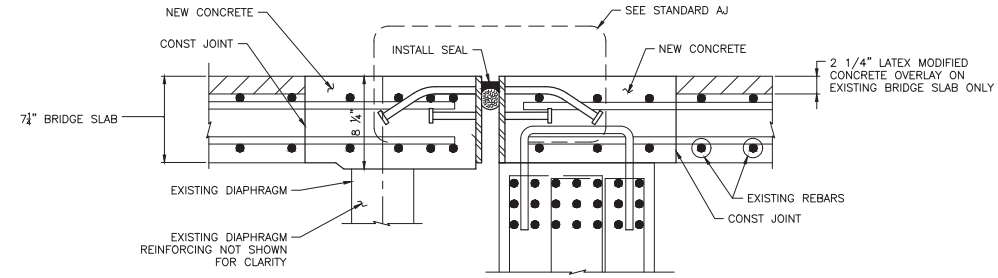
HAS FILE:
PLOT DATE:



STEP 1 (BREAKOUT DETAILS)



STEP 2 (ARMOR JOINT REPLACEMENT DETAILS)



STEP 3 (JOINT REPAIR DETAILS)

REPLACING EXISTING ARMOR JOINTS ON BRIDGE DECKS AND APPROACH SLAB - INVERTED-T DETAIL

REPLACE EXISTING ARMOR JOINTS ON BRIDGE DECKS AND APPROACH SLABS

SEE SHEET S-502 FOR CONSTRUCTION SEQUENCE.

1. EXISTING EXPANSION JOINTS SHALL BE REMOVED AND REPLACED. THE JOINTS SHALL BE REPLACED WITH "ARMOR JOINT (SEALED)". SEE STANDARD AJ FOR DETAILS. ARMOR JOINT (SEALED) SHALL CONFORM TO ITEM 454, "BRIDGE EXPANSION JOINTS," IN THE TXDOT STANDARD SPECIFICATIONS.

2. STEP 1: REMOVE EXISTING APPROACH SLAB. REMOVE EXISTING BACKWALL (IF PRESENT) TO THE DEPTH OF THE BASE OF THE NEW APPROACH SLAB. REMOVE EXISTING DECK SLAB FOR A DISTANCE 2'-9" FROM THE PROPOSED JOINT OPENING. CONTRACTOR TO SCORE THE BREAKLINE AND USE CARE IN DEMOLITION TO AVOID DAMAGING EXISTING CONCRETE TO REMAIN IN PLACE. CARE SHOULD BE TAKEN NOT TO DAMAGE THE REMAINING REINFORCEMENT DURING REMOVAL OF THE DESIGNATED PORTION OF THE EXISTING STRUCTURE. REMOVAL OF EXISTING APPROACH SLAB, BACKWALL, AND DECK SLAB SHALL BE IN ACCORDANCE WITH ITEM 430, "EXTENDING CONCRETE STRUCTURES."

3. STEP 2: CLEAN THE SURFACE OF THE EXPOSED REINFORCING IN THE INVERTED-T AND DECK SLAB IN ACCORDANCE WITH ITEM 429, "CONCRETE STRUCTURE REPAIR." BARS COMPLETELY REMOVED IN THE INVERTED-T AND DECK SLAB REMOVAL SHALL BE REPLACED WITH THE SAME KIND OF REBARS. CUT BARS IN BACKWALL TO CUT LINE SHOWN. PLACE ANY ADDITIONAL REINFORCING REQUIRED. DRILL AND GROUT THE DOWELS AS SHOWN IN THE ABUTMENT BACKWALL DETAIL FOLLOWING NOTE 6. ADDITIONAL REINFORCING (IF REQUIRED) SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCING IN THE BACKWALL, INVERTED-T, AND DECK SLAB. SECURE ARMOR JOINT ASSEMBLY IN PLACE.

4. STEP 3: FORM AND PLACE CONCRETE AROUND ARMOR JOINT ASSEMBLY AS SHOWN AND IN ACCORDANCE WITH ITEM 420, "CONCRETE STRUCTURES." REPLACE EXISTING APPROACH SLAB WITH "BAS-C" APPROACH SLAB. CONCRETE FOR THE BRIDGE DECK SHALL BE CLASS S. CARE SHALL BE TAKEN NOT TO CUT OR DAMAGE BARS IN INVERTED-T AND BRIDGE DECK. BARS THAT ARE DAMAGED OR BROKEN DURING BACKWALL, INVERTED-T, OR BRIDGE DECK REMOVAL SHALL BE REPLACED USING DRILLING AND DOWELLING.

5. DRILL AND EXPOXY NOTE:
EPOXY FOR EMBEDDED REINFORCEMENT SHALL CONFORM TO CURRENT TXDOT DMS-6100, "EPOXY AND ADHESIVES," TYPE III-DOWEL AND TIE BAR ADHESIVE. ALL EPOXIES AND ADHESIVES SHALL BE APPLIED PER THE MANUFACTURER'S INSTRUCTIONS. PROVIDE MINIMUM EMBEDMENT PER MANUFACTURER AS REQUIRED TO DEVELOP FULL TENSILE STRENGTH OF BAR OR MINIMUM AS SHOWN, WHICHEVER IS GREATER. THIS PROCEDURE SHALL APPLY TO ALL BARS THAT ARE DAMAGED OR BROKEN DURING INVERTED-T OR BRIDGE DECK REMOVAL, INCLUDING BOTH TOP AND BOTTOM ROWS OF BARS IN THE BRIDGE DECK AND TO THE DOWELS CONNECTING THE BACKWALL TO THE NEW APPROACH SLAB.

6. ALL NEW CLASS C CONCRETE SHALL HAVE f'c=3,600 PSI.
ALL NEW CLASS S CONCRETE SHALL HAVE f'c=4,000 PSI.
LATEX MODIFIED CONCRETE OVERLAY STRENGTH SHALL BE CLASS LMC WITH f'c=4,000 PSI.

7. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY COLLATERAL DAMAGE TO ANY EXISTING CONCRETE OR OTHER ELEMENT OR COMPONENT.

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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION REHAB DETAILS SHEET 2 OF 2

PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
TAMMY C. SOUZA
128826
LICENSED
PROFESSIONAL ENGINEER
Tammy C. Souza 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.
100066296

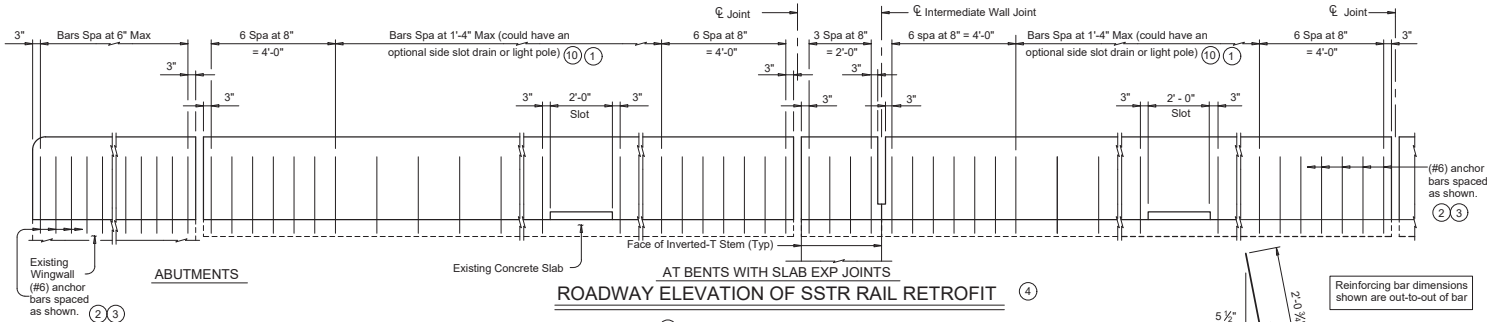
A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
931

SHEET NO.
S-504

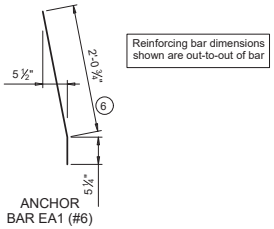
HAS FILE:
PLOT DATE:



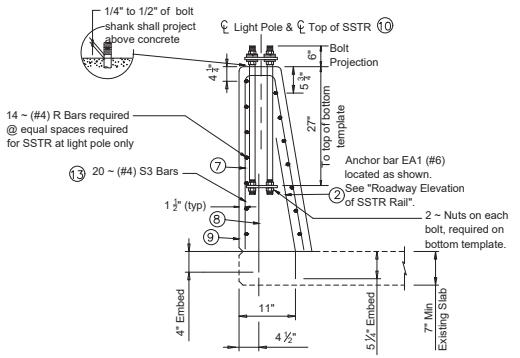
ABUTMENTS

AT BENTS WITH SLAB EXP JOINTS

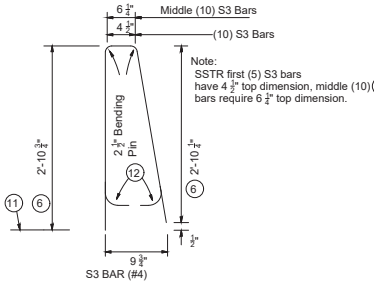
ROADWAY ELEVATION OF SSTR RAIL RETROFIT 4

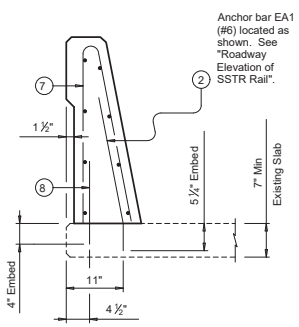


ANCHOR BAR EA1 (#6)

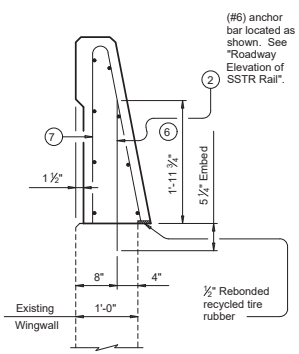


SSTR RAIL
AT LIGHT POLE





SSTR RAIL
ON CONCRETE SLABS

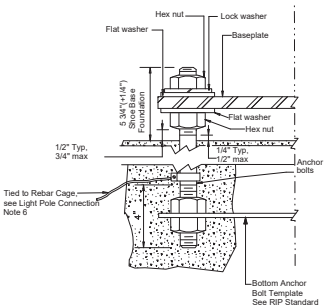


SSTR RAIL
ON WINGWALLS AND RETAINING WALLS

RAIL RETROFIT SECTIONS 5
USING EPOXY ANCHOR BARS

1. When side slot drains are used, provide 8'-0" Min clear spacing between drain slots.
2. Embed (#6) anchor bars with a Type III, Class C, D,E, or F anchor adhesive. Minimum adhesive anchor embedment depth is 5 ¼". Anchor adhesive chosen must be able to achieve a basic bond strength in tension, Nba, of 20 kips. Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing".
3. See SSTR Rail Sections in "Rail Retrofit Sections using Epoxy Anchor Bars".
4. Showing spacing of (#6) anchor bar epoxy anchored in a rail retrofit condition. Secondary (#4) anchor bar epoxy anchored in a rail retrofit not shown for clarity. Reinforcing steel and terminal connections not shown for clarity. See rail standard for details and notes not shown.
5. Showing location or locations of anchor bars in a rail retrofit condition. See appropriate rail standard for details and notes not shown.
6. Increase by amount of existing overlay/seal coat thickness, not to exceed 2". If thickness of existing overlay/seal coat is greater than 2" at toe of rail, taper overlay at a 1:10 or flatter slope over shoulder width to a thickness of 2" or less at toe of rail.
7. See appropriate rail standard for reinforcing steel. Modify length of vertical reinforcing bars as required to fit existing structure. Longitudinal reinforcing bars may be removed only if their position puts them in conflict with un-removed portions of existing structure.
8. Embed secondary (#4) anchor bars 1'-4" in length with a Type III Class C, D, E, or F anchor adhesive. Minimum adhesive anchor embedment depth is 4". Anchor adhesive chosen must be able to achieve a basic bond strength in tension, Nba, of 10 kips. Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing". (#4) anchor bars spaced longitudinally along rail at 4 ft Max (Spaced 3" longitudinally from outside edge and edge of side slot drains).
9. Cast back of rail vertical, without 1 1/2" recess at SSTR at light pole section only.
10. Adjust light pole location by ±1'-0" as necessary to ensure proper top of rail width as shown in the "SSTR AT LIGHT POLE TOP VIEW" detail shown on sheet S-501.
11. Installed bar may rest on top of slab or wall.
12. Bend or cut as required to clear drain slots.
13. See details "REINFORCEMENT AND ANCHORAGE FOR SSTR AT LIGHT POLE" on sheet S-501 for bar spacing.

Welded Wire Reinforcement (WWR):
IS NOT APPROVED FOR USE WITH SSTR AT LIGHT POLE.



ANCHOR BOLT DETAIL
Rip(4)-19, Sheet S-513
for additional Details

CONSTRUCTION NOTES:

1. Field verify dimensions before commencing work and ordering materials.
2. By adding additional anchorage, welding can be performed at a minimum spacing of 3 ft between the cage and additional anchorage. By satisfying additional anchorage requirements slip forming is allowed. Do not weld to the required anchorage.
3. Test adhesive anchors in accordance with Item 450.3.3, "Tests". Test 3 anchors per 100 anchors installed. Perform corrective measures to provide adequate capacity if any of the tests do not meet the required test load. Repair damage from testing as directed.

MATERIAL NOTES:

1. All concrete shall be Class C.
2. Provide Grade 60 reinforcing steel. Welded wire reinforcement shall not be used at SSTR at Light Pole.
3. Epoxy coat or galvanize all reinforcing steel if required elsewhere.
4. (#6) and (#4) anchor bars used for the epoxied anchorage system must not be epoxy coated within the required embedment.

GENERAL NOTES:

1. Use of these retrofit details will result in a railing acceptable for Test Level 3 regardless of the higher ratings that may be indicated on the rail standard.
2. Rail anchorage details shown on this guide may require modification for select structure types. See appropriate details elsewhere in plans for these modifications. Not all possible combinations of existing railing, curbs, parapets etc. have been shown on this sheet. Other combinations and reinforcement arrangements are permissible if they meet the same strength requirements as indicated on this guide.
3. Do not remove any part of a curb until it has been evaluated to not be a load-carrying structural component.
4. Removal and replacement of backfill, subgrade, and asphalt or concrete pavement necessary for this installation is considered subsidiary to the retrofit railing.
5. Payment for a rail retrofit will be as per Item 451, "Retrofit Railing", by the type of the rail retrofit. All details shown herein are subsidiary to rail retrofit. Examples are "Retrofit Rail (Ty T551)", "Retrofit Rail (Ty SSTR)", etc.

LIGHT POLE CONNECTION GENERAL NOTES

1. Anchor bolts, junction box, non-metallic flexible conduit, and bonding to steel shall not be paid for directly, but will be considered subsidiary to the various bid items.
2. For proper installation and material requirements for the anchor bolts and light pole, see Traffic Engineering RIP (4)-19 standard details "Concrete Traffic Barrier Base Baseplate" and "Concrete Traffic Barrier Base Anchor Bolt Assembly" on sheet S-513.
3. Junction boxes shall be polymer concrete, and shall be installed as per BL on sheet S-511. For details and material requirements on barrier junction box, see DMS-11030.
4. Install 12 AWG stranded conductors from load side of fused breakaway connector to luminaire. Fused breakaway connectors shall be installed as required on Traffic Engineering RID Sheets. Typically fused breakaway connectors are installed in the barrier junction box adjacent to each light pole. If fused breakaway connectors are installed in the pole's handhole, increase the size of the 3/4" flexible non-metallic conduit according to the NEC as needed to accomodate the branch circuit conductors.
5. Anchor bolts and their assemblies shall be in accordance with Item 449, "Anchor Bolts" High-Strength Steel or Alloy Steel. Galvanization requirements for anchor bolts are shown on RIP sheets.
6. Bond anchor bolt to rebar cage with #6 bare stranded copper conductor. Use listed mechanical connectors rated for embedment in concrete. The bonded steel in the foundation creates a concrete encased grounding electrode which replaces the ground rod.

Texas Department of Transportation — Bridge Division Standard

RETROFIT GUIDE FOR CONCRETE RAILS
SSTR

C-RAIL-R (MOD)

FILE:	dfstd022-19.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: JMH
©TxDOT	September_2019	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.

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REVISIONS

NO.	DESCRIPTION	DATE	BY

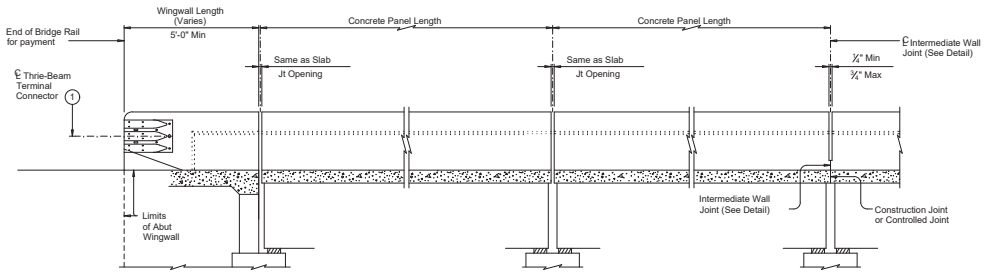
GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
RECONSTRUCTION
RETROFIT GUIDE FOR CONCRETE RAILS
C-RAIL-R (MOD)

PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

APPROVED BY:

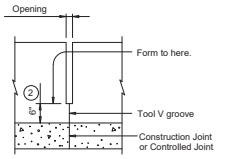
DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-505



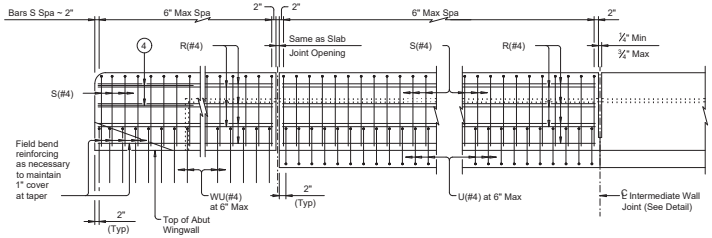
AT ABUTMENTS AT BENTS WITH SLAB EXP JOINTS AT BENTS WITHOUT SLAB EXP JOINTS

ROADWAY ELEVATION OF RAIL



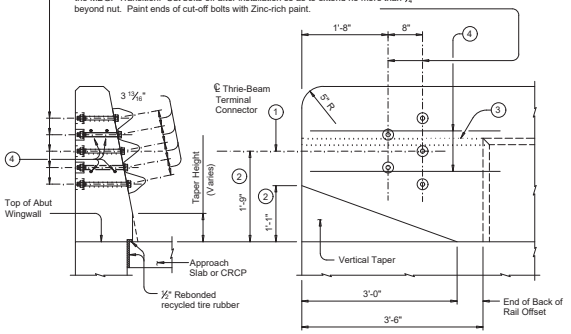
INTERMEDIATE WALL JOINT DETAIL

Provide at all interior bents without slab expansion joints.



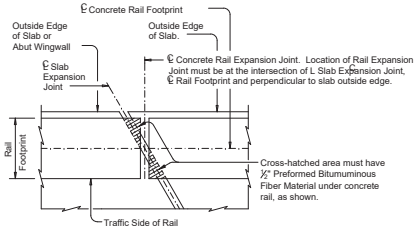
ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT

℄ 5 ~ 1" Dia holes and 2 ½" Dia x 2" deep recesses. Form or core holes and recesses. Percussion drilling is not permitted. Adjust placement of reinforcing steel as necessary to avoid bolt holes and recesses. Bolt recesses are only required when pedestrian sidewalks are adjacent to back of rail. Tighten the 5 Terminal Connection Bolts in a well distributed pattern so to prevent damage or distortion of the Thrie-Beam Connection and the MBGF Transition. Cut bolts off after installation so as to extend no more than ¼" beyond nut. Paint ends of cut-off bolts with Zinc-rich paint.



SECTION ELEVATION

TERMINAL CONNECTION DETAILS



PLAN OF RAIL AT EXPANSION JOINTS

Example showing Slab Expansion Joints without breakbacks.

1. Terminal Connectors and associated hardware are to be paid for under the Item "Metal Beam Guard Fence". Attach Metal Beam Guard Fence Transitions to the bridge rail and extend along the embankment unless otherwise shown in the plans.
2. Increase 2" for structures with Overlay.
3. Back of rail offset may, with Engineer's approval, be continued to the end of the railing.
4. Place 4 additional Bars R(#4) 3'-8" in length inside Bars S(#4) and centered 2'-0" from end of rail when Terminal Connections are required.

SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

TRAFFIC RAIL SINGLE SLOPE

TYPE SSTR

FILE:	tstd014-19.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: TxDOT
©TxDOT	September 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO

HAS FILE:
PLOT DATE:

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GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
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200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
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REVISIONS

NO.	DESCRIPTION	DATE	BY

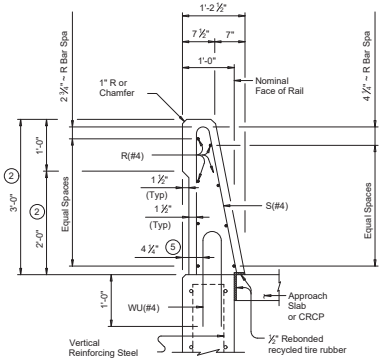
GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
RECONSTRUCTION
TYPE SSTR
SHEET 1 OF 2

PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

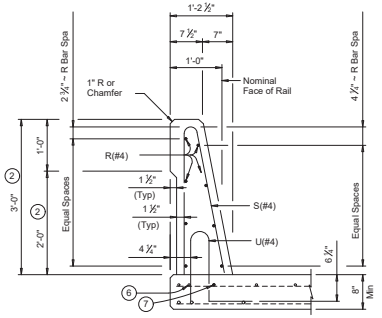
APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-506



ON ABUTMENT WINGWALLS OR CIP RETAINING WALLS



ON BRIDGE SLAB

SECTIONS THRU RAIL

(2) Increase 2" for structures with Overlay.

(5) 5 ¼" when vertical reinforcing has closer clear cover over horizontal reinforcing in abutment wingwalls or retaining walls on traffic side of wall.

(6) As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars must be furnished at the Contractor's expense.

(7) Top longitudinal slab bar may be adjusted laterally 3" plus or minus to tie reinforcing.

(8) No longitudinal wires may be within upper bend.

(9) Bend or cut as required to clear drain slots.

(10) Space U(#4) bars at 4" Max when end region of panel length is less than 6'-0" to side slot drain. Space U(#4) bars at 6" Max when end region of panel length is 6'-0" and greator to side slot drain.

CONSTRUCTION NOTES:

This railing may be constructed by the slipform process when approved by the Engineer, with equipment approved by the Engineer. Provide sensor control for both line and grade. Tack welding to provide bracing for slipform operations is acceptable. Welding may be performed at a minimum spacing of 3 ft between the cage and the anchorage. It is permissible to weld to bars U, WU and S at any location on the cage. If increased bracing is needed, provide additional anchorage devices and weld in the upper two thirds of the cage. Paint welded areas on epoxy coated and/or galvanized reinforcing with an organic zinc rich paint in accordance with Item 445 "Galvanizing".

If rail is slipformed, apply an heavy epoxy bead 1" behind toe of traffic side of rail to concrete deck just prior to slip forming. Provide a ⅜" width x ½" tall heavy epoxy bead with Type III, Class C or a Type V epoxy.

The back of railing must be vertical unless otherwise shown in the plans or approved by the Engineer.

MATERIAL NOTES:

Provide Class "C" concrete. Provide Class "C" (HPC) if required elsewhere.

Provide Grade 60 reinforcing steel.

Epoxy coat or galvanize all reinforcing steel if slab bars are epoxy coated or galvanized.

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars U and WU unless noted otherwise. Deformed WWR (ASTM A1064) may be substituted for Bars R and S, as shown. Combinations of reinforcing steel and WWR or configurations of WWR other than shown are permitted if conditions in the table are satisfied. Provide the same laps as required for reinforcing bars.

Provide bar laps, where required, as follows:

Uncoated or galvanized ~ #4 = 1'-7"

Epoxy coated ~ #4 = 2'-5"

GENERAL NOTES:

This rail has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria. This rail can be used for speeds of 50 mph and greater when a TL-3 rated guard fence transition is used. When a TL-2 rated guard fence transition is used, this rail can only be used for speeds of 45 mph and less.

Do not use this railing on bridges with expansion joints providing more than 5" movement.

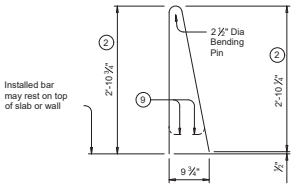
Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Shop drawings will not be required for this rail.

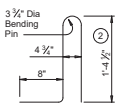
Average weight of railing with no overlay is 376 plf.

Cover dimensions are clear dimensions, unless noted otherwise.

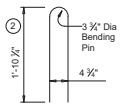
Reinforcing bar dimensions shown are out-to-out of bar.



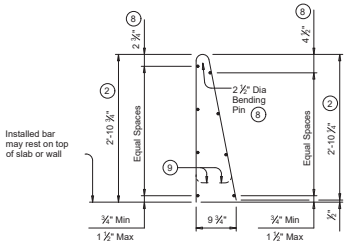
BARS S (#4)



BARS U (#4)

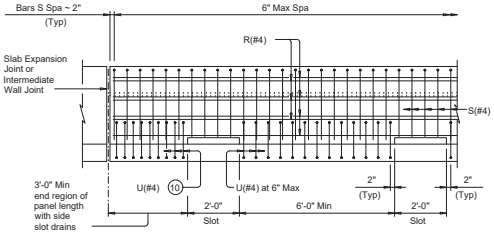


BARS WU (#4)



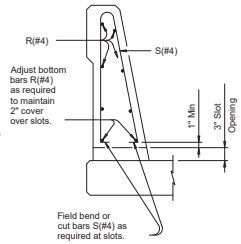
OPTIONAL WELDED WIRE REINFORCEMENT (WWR)

DESCRIPTION	LONGITUDINAL WIRES	VERTICAL WIRES
Minimum (Cumulative Total) Wire Area	1.067 Sq In.	0.267 Sq In. per Ft
Minimum	No. of Wires 8	Spacing 4"
Maximum	10	8"
Maximum Wire Size Differential	The smaller wire must have an area of 40% or more of the larger wire.	



OPTIONAL SIDE SLOT DRAIN DETAIL

Note: Side Slot Drains may be used where shown elsewhere on the plans or as directed by the Engineer. Drains should not be placed over railroad tracks, lower roadways, or sidewalks. When this rail is used as a separator between a roadway surface and a sidewalk surface, side drain slots will not be permitted.



SECTION THRU OPTIONAL SIDE SLOT DRAIN

SHEET 2 OF 2

Texas Department of Transportation — *Bridge Division Standard*

TRAFFIC RAIL SINGLE SLOPE

TYPE SSTR

FILE: rbtd014-19.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: TxDOT
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REVISIONS	DIST	COUNTY		SHEET NO.

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LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION TYPE SSTR SHEET 2 OF 2

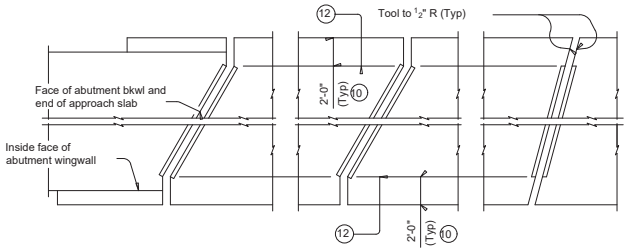
PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

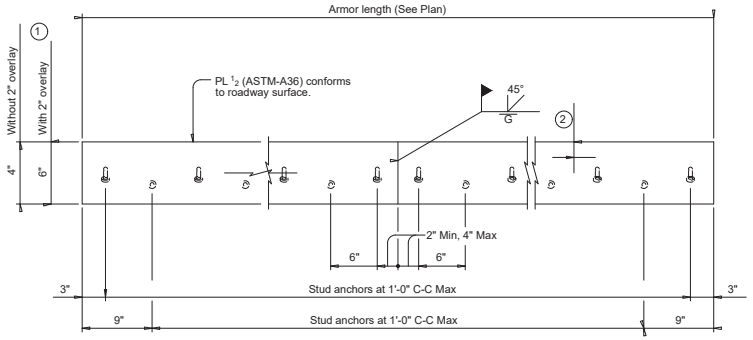
PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-507

HAS FILE:
PLOT DATE:

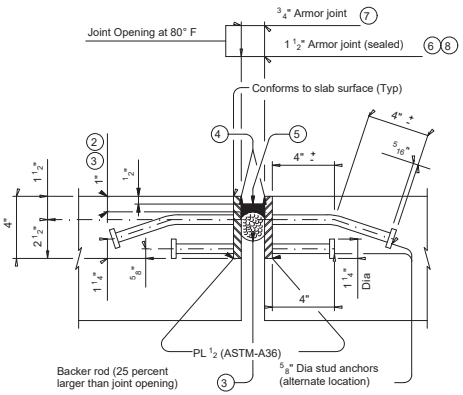


JOINTS AT ABUTMENTS | SKEWS OVER 15° | SKEWS THRU 15°

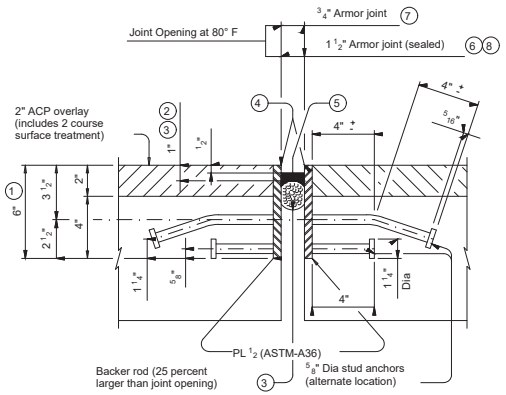
PLANS OF ARMOR PLATES



ELEVATION OF BASIC ARMOR PLATE



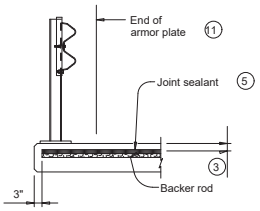
SHOWN WITHOUT 2" OVERLAY AT JOINT LOCATION



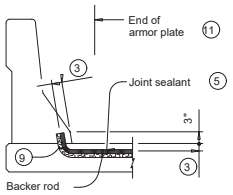
SHOWN WITH 2" OVERLAY AT JOINT LOCATION 1

ARMOR JOINT SECTIONS

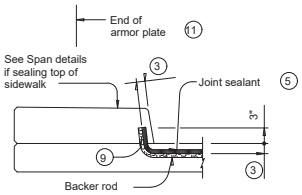
Showing Armor Joint (Sealed)



AT STEEL POST BRIDGE RAIL



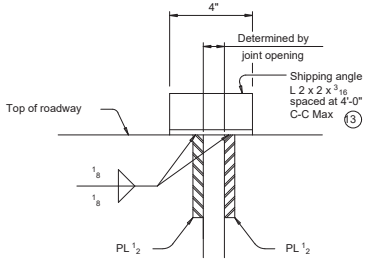
AT CONCRETE BRIDGE RAIL



AT SIDEWALK

JOINT SEALANT TERMINATION DETAILS

Armor joint (sealed) only. Armor plate is not shown for clarity.



SHOWN WITHOUT 2" OVERLAY AT JOINT LOCATION

With overlay similar

SHIPPING ANGLE

An alternate method of securing joint sections may be used if approved by the Bridge Division. Erection bolts are not allowed.

1. Adjust 6" plate height for overlay thicknesses other than the 2" shown. Adjust weight by 1.70 plf for each 1/2" variation in thickness.
2. Do not paint top 1 1/2" of plate if using sealed armor joint.
3. Set top of backer rod 1" below top of armor plate. Backer rod must be compatible with joint sealant. Use of multiple pieces to create a backer rod cross section is not permitted. Top of backer rod must be convex as shown.
4. Blast clean entire contact area between sealant and plate (SSPC-SP10) before installing sealant. Light brush blast and thoroughly clean all dust and debris from concrete surfaces in contact with joint sealant before application of silicone seal.
5. Use Class 7 joint sealant that conforms to DMS-6310.
6. Place sealant while ambient temperature is between 55°F and 80°F and is rising.
7. Armor joint does not include joint sealant or backer rod.
8. Armor joint (sealed) includes Class 7 joint sealant and backer rod.
9. Form vertical leg of seal as per the Manufacturer's recommendations. Use Class 4 joint sealant if Class 7 cannot be installed correctly. Install according to Manufacturer's recommendations.
10. Unless shown otherwise, terminate armor plate at slab break point if break is more than 2'-0" from slab edge.
11. See "Plans of Armor Plates".
12. At Fabricator's option, armor plate may extend up to 6" beyond this point for skews through 15°.
13. Align shipping angle perpendicular to joint.

FABRICATION NOTES:

Match mark corresponding plate sections and secure together for shipment with shipping angle. Do not use erection bolts.

Ship armor joints in convenient lengths of 10'-0" Min and 24'-0" Max unless necessary for stage construction or widenings. One shop splice is permitted in each shipping length provided no piece is less than 2'-0" long and sufficient studs are added to limit the stud to shop splice distance to 2" Min and 4" Max.

Weld studs in accordance with AWS D1.1.

Use groove welds for all shop and field butt splices. Grind smooth areas in contact with seal. Make all necessary field splice joint preparations in the shop.

Paint the entire steel section, except as stated in Note 2, with System II or IV primer in accordance with Item 446 "Field Cleaning and Painting Steel." Provide paints in accordance with Item 446.2. Prepare steel and apply paint in accordance with Items 446.4.7.3 and 446.4.7.4.

Shop drawings for the fabrication of armor joints will not require the Engineer's approval if fabrication is in accordance with the details shown on this standard.

CONSTRUCTION NOTES:

Secure armor joints in position and place to proper grade and alignment by welding braces to adjacent reinforcing steel, to prestressed beam stirrups, or to anchors cast in concrete diaphragms. Include cost of temporary bracing in the price bid for Armor Joint.

Remove shipping angle immediately after each joint half is secured in place. Grind smooth, and touch up with organic zinc-rich paint.

GENERAL NOTES:

Provide armor joints at locations shown on the plans. Provide the seal when "Armor Joint (Sealed)" is noted on the plans.

These joint details accommodate a joint movement range of 1 3/8" (3/4" opening movement and 5/8" closure movement).

Payment for armor joint, with or without seal, is based on length of armor plate.

WEIGHTS FOR ONE ARMOR JOINT (2 PLATES)	
WITHOUT OVERLAY	16.10 plf
WITH 2" OVERLAY 1	22.90 plf

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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION
AJ

PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO. 100066296

A.I.P. NO.

C.I.P. NO.

H.A.S. NO. 931

SHEET NO. **S-508**

Texas Department of Transportation — Bridge Division Standard

ARMOR JOINT DETAILS

AJ

FILE:	ajstde01-19.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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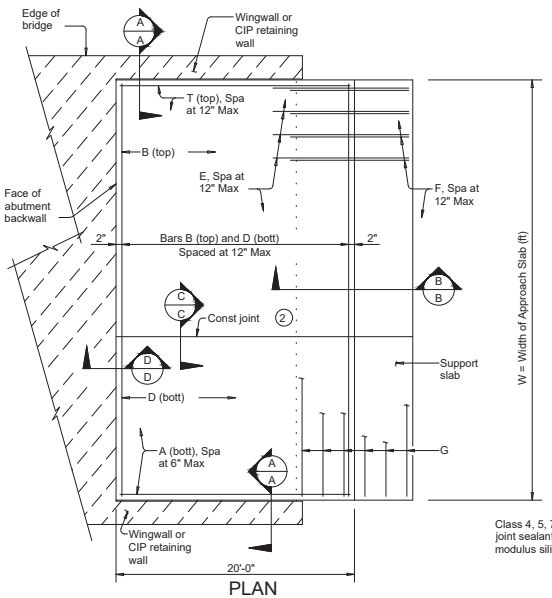
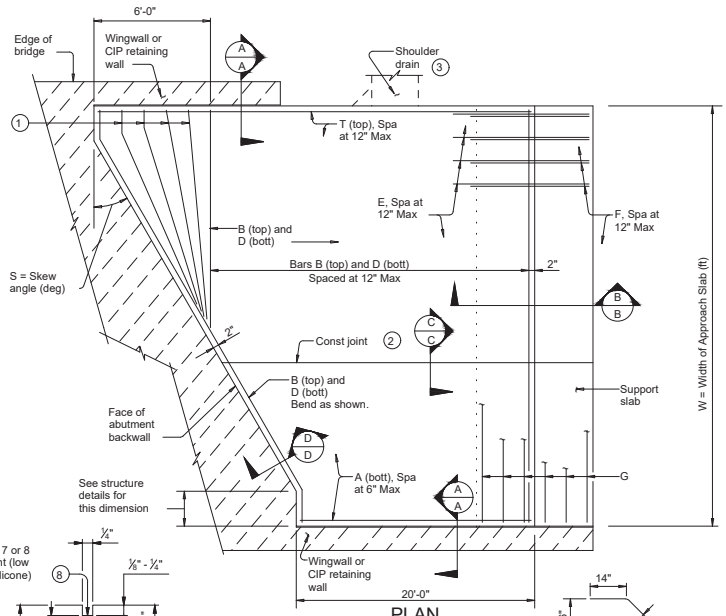
REVISIONS		DIST	COUNTY		SHEET NO.

HAS FILE:
PLOT DATE:



PLAN

(Showing non-skewed approach slab.)



PLAN

(Showing skewed approach slab.)

LONGITUDINAL SAW CUT JOINT DETAIL

BAR TABLE	
BAR	SIZE
A	#8
B	#5
D	#5
E	#5
F	#5
G	#5
T	#5

APPROXIMATE QUANTITIES (4)

Reinf steel weight = 8.5 Lbs/SF of Approach Slab
= 18.4 Lbs/LF of Support Slab

Vol of Appr Slab Conc (CY) = 1.057W - 0.008W x T + 0.02W² Tan S
(Includes Support Slab)

W = Width of Approach Slab (ft)

T = Conc Pavement Thickness (in)

S = Skew Angle (deg)

(1) Flare Bars B and D in this region (1'-6" Max Spa, 3" Min Spa). Minimum flared bar length = 2'-6". Bend bars as necessary.

(2) Provide longitudinal construction joints that align with longitudinal construction joints in the bridge slab with bridges built in stages. Other longitudinal construction joints must receive approval of the Engineer.

(3) See details elsewhere in plans for shoulder drain location and details.

(4) For Contractor's information only. Quantities shown are for one approach slab only.

(5) On portion of support slab that supports the concrete pavement, adjust top surface elevation, if required, to accommodate concrete pavement thickness. Smooth trowel finish. Oil top of support slab with 60 grade oil and apply heavy coat of powdered graphite. Press down one layer of 30# roofing felt.

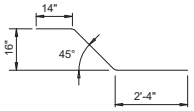
(6) Multiple piece tie bars are acceptable at longitudinal construction joints provided minimum laps shown are achieved.

(7) See details elsewhere in plans for required cross-slope.

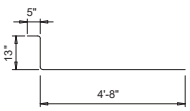
(8) Place in accordance with Item 438.

(9) Provide backer rod that is 25% larger than joint opening and compatible with the sealant.

(10) If bridge rail is present at the wingwall or CIP retaining wall, place ½" rebonded recycled tire rubber between concrete railing and top of approach slab as shown when concrete railing projects over the approach slab.



BARS E (#5)



BARS F (#5)

GENERAL NOTES:

Construct approach slab in accordance with Item 422.

Provide Class "S" concrete with a minimum compressive strength of 4,000 psi.

Provide Grade 60 reinforcing steel.

Provide longitudinal joints as shown on the Longitudinal Saw Cut Joint Detail at lane lines and shoulders when width between longitudinal construction joints or edges of approach slab exceeds 16 feet. Saw cut joints within 24 hours of concrete placement to a depth of 1 ½" and seal in accordance with Item 438. Alternately, provide a controlled joint consisting of 1 ½" vinyl or plastic joint former (Stress Cap, Zip Strip, Stress Lock, or equal as approved by the Engineer.)

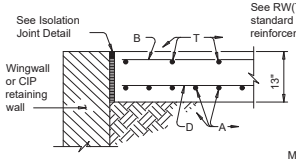
Provide rebonded recycled tire rubber joint filler that meets the requirements of DMS-6310. "Joint Sealants and Fillers."

Construct the subgrade or subbase away from the bridge for a minimum distance of 100 feet prior to the approach slab, unless otherwise indicated on the plans.

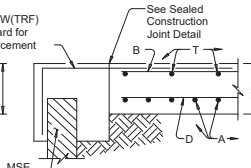
Compact and finish the subgrade or foundation for the approach slab to the typical cross-section and to the lines and grades shown on the plans.

Cure for 4 days using water or membrane curing per Item 422. All details shown herein are subsidiary to bridge approach slab.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

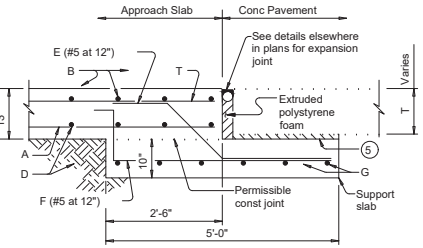


SHOWING WINGWALL OR CIP RETAINING WALL

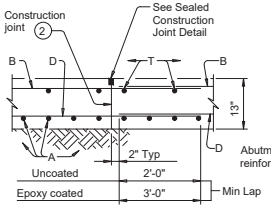


SHOWING MSE WALL

SECTION A-A



SECTION B-B



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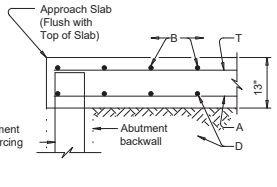
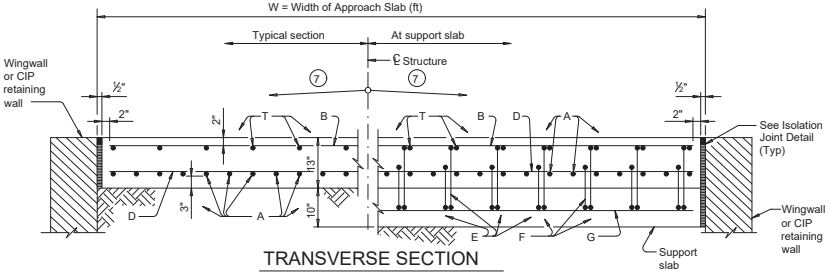
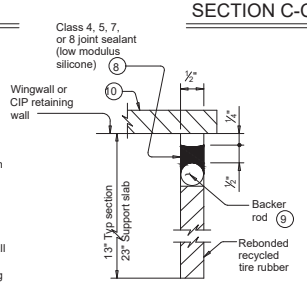


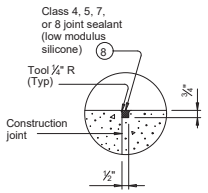
SECTION D-D



TRANSVERSE SECTION



ISOLATION JOINT DETAIL



SEALED CONSTRUCTION JOINT DETAIL

Texas Department of Transportation

Bridge Division Standard

BRIDGE APPROACH SLAB

CONCRETE PAVEMENT

BAS-C

FILE:	bascste1-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.
02-20: Removed stress relieving pad.					

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
www.atkinsglobal.com

REVISIONS		
NO.	DESCRIPTION	DATE BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)

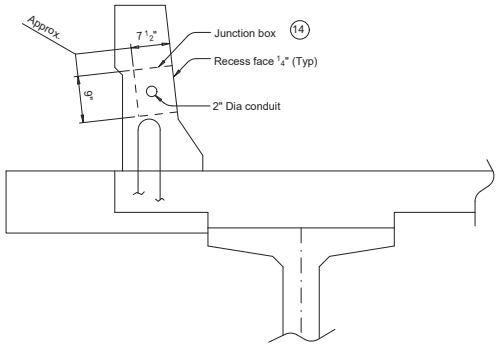
WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION BAS-C

PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

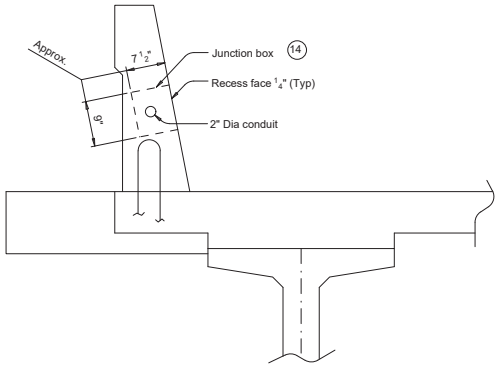
APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-509



SHOWING T551, T552, AND T80HT



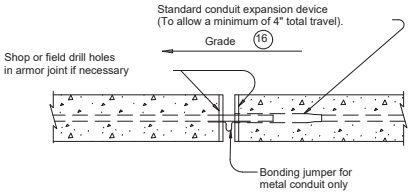
SHOWING SSTR AND T80SS

4 Ream burrs and install bell ends or bushings on all conduit ends.

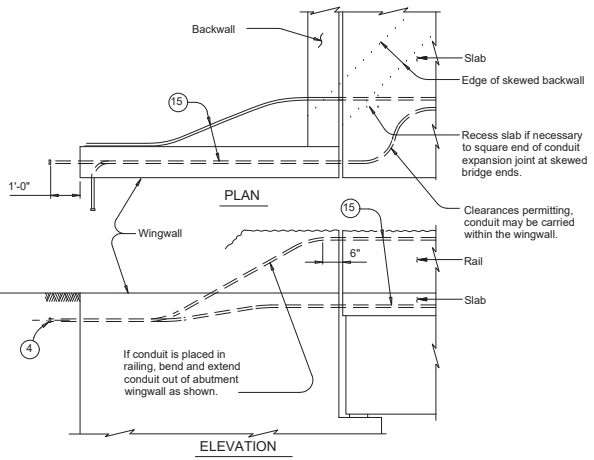
14 Provide polymer concrete junction boxes meeting the requirements of DMS 11030.

15 Position of conduit shown elsewhere on the plans or as directed by the Engineer.

16 Place conduit expansion device on high side of expansion joint.

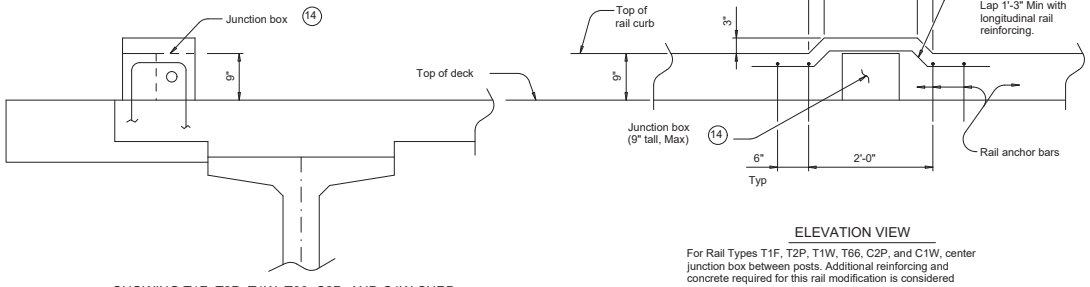


CONDUIT EXPANSION JOINT



ELEVATION

TREATMENT AT END OF BRIDGE



SHOWING T1F, T2P, T1W, T66, C2P, AND C1W CURB

See Elevation View for curb modifications

ELEVATION VIEW

For Rail Types T1F, T2P, T1W, T66, C2P, and C1W, center junction box between posts. Additional reinforcing and concrete required for this rail modification is considered subsidiary to the rail. Do not locate junction box in the same bay as a drain slot in rail curb.

JUNCTION BOX LOCATION

Use these details as a guide in locating junction boxes in rail types not shown.

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

BRIDGE LIGHTING DETAILS

BL

FILE:	blstde01-19.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD.,
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HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH
AMERICA PE FIRM REG.
#F-000474
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REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
RECONSTRUCTION
BL
SHEET 2 OF 2

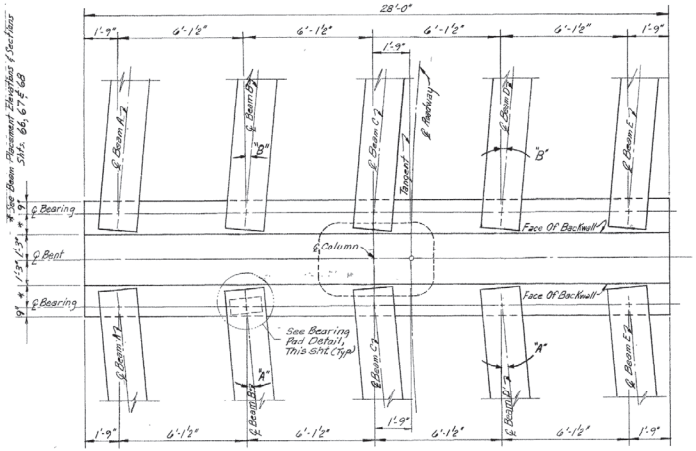
PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

STATE OF TEXAS
TAMMY C. SOUZA
128826
LICENSED
PROFESSIONAL ENGINEER
Tammy C. Souza 06/26/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100066296
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	931
SHEET NO.	S-511

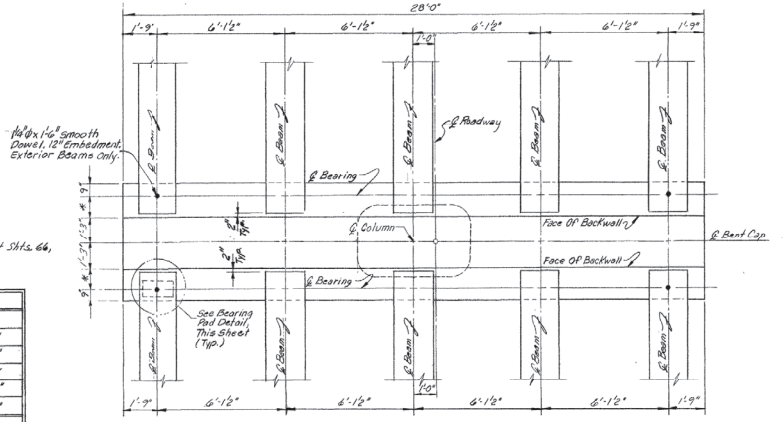


BENT CAP-PLAN
CURVED PORTION OF BRIDGE
3/8"=1'-0"

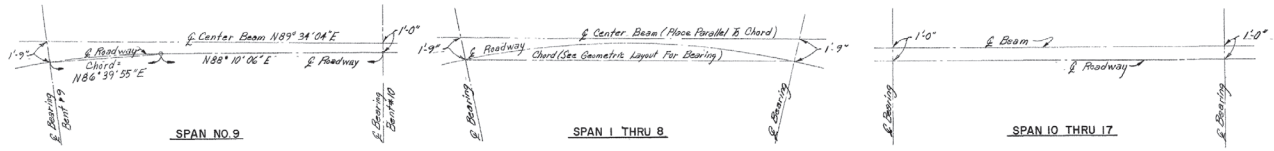
SKEW ANGLE		
BENT NO.	ANGLE "A"	ANGLE "B"
1	SPAN#1 - See Sht. 69	SPAN#2 - 04°55'39"
2	SPAN#2 - 04°55'39"	SPAN#3 - 04°04'18"
3	SPAN#3 - 04°01'33"	SPAN#4 - 04°02'56"
4	SPAN#4 - 04°02'36"	SPAN#5 - 04°01'33"
5	SPAN#5 - 04°04'18"	SPAN#6 - 04°53'21"
6	SPAN#6 - 04°53'21"	SPAN#7 - 04°53'21"
7	SPAN#7 - 04°53'21"	SPAN#8 - 04°53'21"

* See Beam Placement Shts. 66, 67 & 68

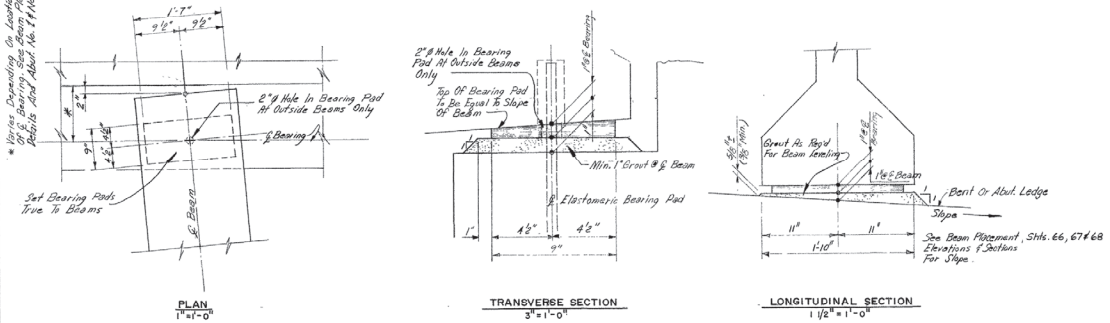
	Angle "A"	Angle "B"
Bent 8		
Beam A	Span 8 04°53'21"	Span 9 3°07'10"
Beam B	" "	Span 9 3°07'37"
Beam C	" "	Span 9 3°08'03"
Beam D	" "	Span 9 3°08'28"
Beam E	" "	Span 9 3°08'54"
Bent 9		
Beam A	Span 9 0°06'55"	Span 10 0°00'00"
Beam B	Span 9 0°07'20"	" "
Beam C	Span 9 0°07'45"	" "
Beam D	Span 9 0°08'10"	" "
Beam E	Span 9 0°08'36"	" "



BENT CAP-PLAN
STRAIGHT PORTION OF BRIDGE
3/8"=1'-0"



BEAM AND BENT ORIENTATION
DIAGRAM
NTS



BEARING PAD & GROUT DETAILS

General Notes:

1. Beams Shall Be Seated On Elastomeric Bearing Pads In Accordance With Dimensions Shown.
2. Bearings Shall Be Furnished With Their Thickness Varying In One Direction Depending On The Slope Of The Erected Beam.
3. Constant Thickness Bearings May Be Used For Moderate Beam Slopes If The Variation Is Within The Allowable Dimensional Tolerances Given In The Specification.
4. Cost Of Furnishing And Installing Elastomeric Bearing Shall Be Included In Unit Price Bid For Prestressed Concrete Beams.

AS BUILT

No.	Date	Revisions	App.
5			
4			
3			
2			
1			

HOUSTON INTERCONTINENTAL AIRPORT
CITY OF HOUSTON

TRAFFIC INTERCHANGE
OVERPASS NO. I
CONC. BENT CAP PLANS & DETAILS

ENGINEERS OF THE SOUTHWEST
AIRPORT ENGINEERS DIVISION
LOCKWOOD, ANDREWS & NEWNAM, INC.
BOVAY ENGINEERS, INC.
TURNER, COLLIE & BRADEN, INC.
HOUSTON, TEXAS

Drawn By	Scale AS SHOWN	Job No.	2117-080
Recom'd By	Date SEPT. 1978	Sheet No.	
Approved By	Drawing No. 6950-142	65	of 108

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

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HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474
www.atkinsglobal.com

REVISIONS

NO.	DESCRIPTION	DATE	BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER
RECONSTRUCTION
BEARING DETAILS

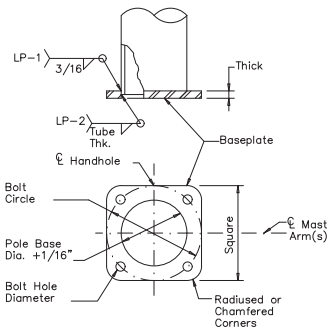
PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	04/13/2020

APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

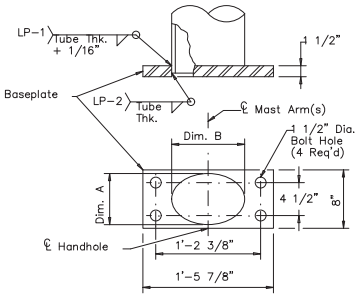
PROJECT NO. 100066296
A.I.P. NO.
C.I.P. NO.
H.A.S. NO. 931
SHEET NO. S-512

HAS FILE:
PLOT DATE:



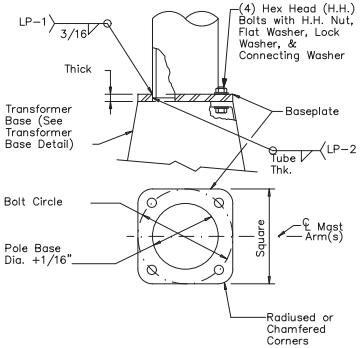
SHOE BASE BASEPLATE

SHOE BASE BASEPLATE TABLE				
MOUNTING HEIGHTS (nominal)	BOLT CIRCLE	SQUARE	THICK	BOLT HOLE DIAMETER
20'– 39'	13"	13"	1 1/4"	1 1/4"
40'	15"	15"	1 1/4"	1 1/2"
50'	15"	15"	1 1/2"	1 1/2"



CONCRETE TRAFFIC BARRIER BASE BASEPLATE

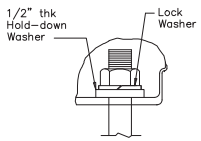
CONCRETE TRAFFIC BARRIER BASE BASEPLATE TABLE			
MOUNTING HEIGHTS (nominal)	POLE DIA. (2)	DIM. A	DIM. B
28'– 38'	9"	7"+_1/4"	10"+_1/4"
48'	10 1/2"	7"+_1/4"	13"+_1/4"



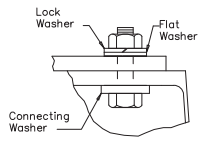
TRANSFORMER BASE BASEPLATE

TRANSFORMER BASE BASEPLATE TABLE						
MOUNTING HEIGHTS (nominal)	BOLT CIRCLE	SQUARE	THICK	CONNECTING BOLT DIA.	BOLT HOLE DIAMETER	TRANSFOMER BASE TYPE
20'– 39'	13"	13"	1 1/4"	1"	1 1/4"	A
40'	15"	15"	1 1/4"	1 1/4"	1 1/2"	B
50'	15"	15"	1 1/2"	1 1/4"	1 1/2"	B

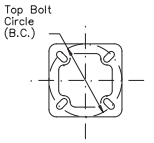
TRANSFORMER BASE TABLE		
TYPE	TOP B.C.	BTM. B.C.
A	13"	14"
B	15"	17 1/4"



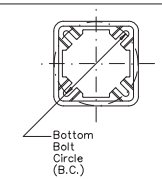
DETAIL A



DETAIL B



TOP PLAN



BOTTOM PLAN

GENERAL NOTES:

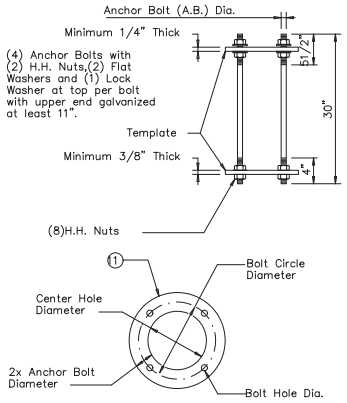
1. For mounting heights between those shown in the table, use the values in the table for the larger mounting height.
2. All breakaway bases shall meet the breakaway requirements of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 6th Edition (2013) and Interim Revisions thereto, and shall have been tested by FHWA–approved methods. All bases shall have been structurally tested to resist 150% of the design moment.
3. Transformer bases shall be cast from aluminum, ASTM B108 or B26 Alloy 356.0–T6, or other material approved by the Engineer. Four Hex Head (H.H.) bolts with four H.H. nuts, four lock washers, four flat washers,and connecting and hold–down washers as recommended by the manufacturer, galvanized to ASTM A153 Class C or D, or B695 Class 50, shall be provided with each transformer base for connecting the pole. Bolts shall be ASTM A325 or approved equal. Nuts shall be ASTM A563 grade DH galvanized.
4. Bases shall be stamped, incised or by other approved permanent means, marked to show fabricator's name or logo, and model number. Such information shall be placed in a readily seen location, inside or outside the base, but shall not be placed on the door.
5. Doors for transformer bases shall be made of plastic, fiberglass or other non–metallic material approved by the Engineer and shall be attached with stainless steel screws or bolts. Transformer bases shall be cleaned by grit blast cleaning after heat treatment. Certification by the manufacturer of heat treatment shall be furnished with transformer bases. The certification shall show the metal alloy and temper and that the base meets those requirements, chemical and physical. The certification shall also show the material ASTM specification. Transformer bases shall be cast with a removable tab bar for material testing. Some bars may have been removed by the manufacturer for testing.

NOTES:

(1) Anchor Bolt Templates do not need to be galvanized.

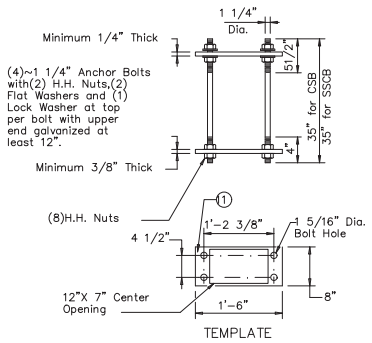
(2) Pole diameter before ovalized.

ANCHOR BOLT FABRICATION TOLERANCES TABLE	
DIMENSION	TOLERANCE
Length	+_1/2"
Threaded length	+_1/2"
Galvanized length (if required)	– 1/4"



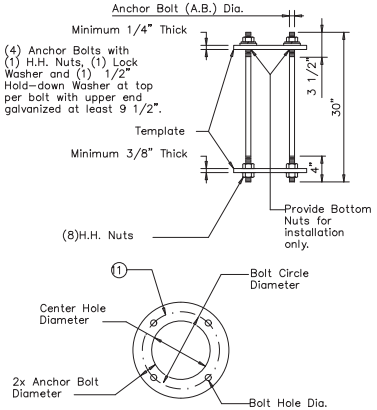
SHOE BASE ANCHOR BOLT ASSEMBLY

SHOE BASE ANCHOR BOLT ASSEMBLY TABLE				
MOUNTING HEIGHTS (nominal)	A.B. Dia.	BOLT CIRCLE DIAMETER	CTR. HOLE DIAMETER	BOLT HOLE DIAMETER
20'–39'	1"	13"	11"	1 1/16"
40'–50'	1 1/4"	15"	12 1/2"	1 5/16"

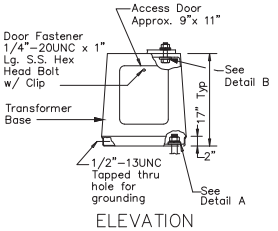


CONCRETE TRAFFIC BARRIER BASE ANCHOR BOLT ASSEMBLY

TRANSFORMER BASE ANCHOR BOLT ASSEMBLY TABLE				
MOUNTING HEIGHTS (nominal)	A.B. Dia.	BOLT CIRCLE DIAMETER	CTR. HOLE DIAMETER	BOLT HOLE DIAMETER
20'– 39'	1"	14"	12"	1 1/16"
40'– 50'	1 1/4"	17 1/4"	14 3/4"	1 5/16"



TRANSFORMER BASE ANCHOR BOLT ASSEMBLY



ELEVATION

TRANSFORMER BASE DETAILS

SHEET 4 OF 4

Texas Department of Transportation — Traffic Safety Division Standard

ROADWAY ILLUMINATION POLES

RIP(4)–19

FILE: rip-19.dgn	DN:	CK:	DW:	CK:
©TxDOT January 2007	CONT	SECT	JOB	HIGHWAY
REVISIONS 7–17 12–19	DIST	COUNTY		SHEET NO.

HAS FILE:
PLOT DATE:

HOUSTON AIRPORT SYSTEM
GEORGE BUSH INTERCONTINENTAL AIRPORT / HOUSTON, TX

ATKINS
LOCAL OFFICE:
200 WESTLAKE PARK BLVD., STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH AMERICA PE FIRM REG. #F-000474

REVISIONS		
NO.	DESCRIPTION	DATE BY

GEORGE BUSH INTERCONTINENTAL AIRPORT (IAH)
WILL CLAYTON PKWY / JFK FLYOVER RECONSTRUCTION
RIP(4)–19

PROJECT MGR:	JLV
DESIGNER:	TS
DRAWN BY:	DN
CHECK BY:	JD
SCALE:	
DATE:	06/26/2020

APPROVED BY:

DIRECTOR HOUSTON AIRPORT SYSTEM

PROJECT NO. 100066296

A.I.P. NO.

C.I.P. NO.

H.A.S. NO. 931

SHEET NO. S-513