

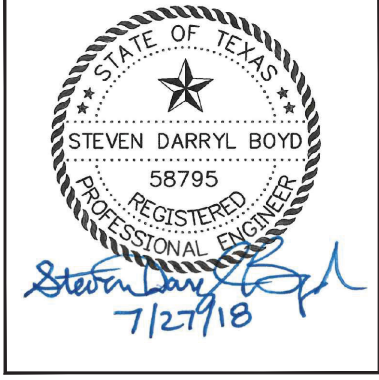


REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

COVER SHEET

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DRAWN BY:	KE
CHECKED BY:	DB
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DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Pehel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

G01.01



# HOUSTON AIRPORT SYSTEM

PLANS FOR

## RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

PROJECT No. 907  
 CIP No. A-000570  
 AIP No. 3-48-0111-107-16

PREPARED BY

IEA, INC.  
 RS&H, INC. \* LJA ENGINEERING, INC. \* FERGUSON CONSULTING, INC.

JULY 27, 2018  
 ISSUED FOR BID

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REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

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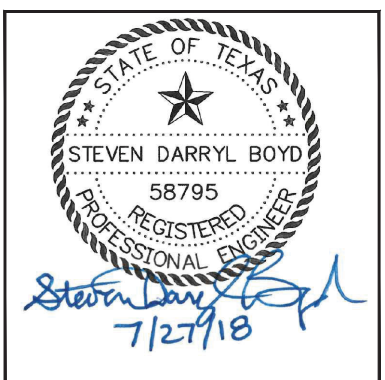
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DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Pehel</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	





HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

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Firm Registration No. F-10161

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NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**INDEX OF SHEETS**  
(2 OF 2)

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SCALE:	NONE
DATE:	JULY 27, 2018

Steven Darryl Boyd  
7/27/18

DEPARTMENT OF AVIATION

APPROVED BY: *Danaj Pehel* DATE: JULY 27, 2018

HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
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G02.02

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E06.06	EXISTING AND PROPOSED T/W HSE EDGE EAST (GKNE) CIRCUIT PLAN
E06.07	EXISTING AND PROPOSED NORTH HSE CENTERLINE EAST (GKNC) CIRCUIT PLAN
E06.08	EXISTING AND PROPOSED T/W 'NC' EDGE (NCE) CIRCUIT PLAN
E06.09	EXISTING AND PROPOSED T/W 'NC' CENTERLINE (NCC) CIRCUIT PLAN
E06.10	EXISTING AND PROPOSED 8R GUARD LIGHT WEST (8RGL1) CIRCUIT PLAN
E06.11	EXISTING AND PROPOSED 8R GUARD LIGHT EAST (8RGL2) CIRCUIT PLAN
E06.12	EXISTING AND PROPOSED NORTH SIGN CIRCUIT WEST (SCW) CIRCUIT PLAN
E06.13	EXISTING AND PROPOSED NORTH SIGN CIRCUIT EAST (SCE) CIRCUIT PLAN
E06.14	EXISTING AND PROPOSED T/W 'NB' EDGE (TNBE) CIRCUIT PLAN
E06.15	EXISTING AND PROPOSED T/W 'NB' CENTERLINE WEST (TNBC1) CIRCUIT PLAN
E06.16	EXISTING AND PROPOSED T/W 'NB' CENTERLINE EAST (TNBC2) CIRCUIT PLAN
E06.17	EXISTING AND PROPOSED LAHSO WEST (R26LL) CIRCUIT PLAN
E07.01	AIRFIELD ELECTRICAL DUCTBANK PLAN - AREA 1

SHEET INDEX	
SHEET NO.	SHEET NAME
E07.02	AIRFIELD ELECTRICAL DUCTBANK PLAN - AREA 2
E07.03	AIRFIELD ELECTRICAL DUCTBANK PLAN - AREA 3
E07.04	AIRFIELD ELECTRICAL DUCTBANK PLAN - AREA 4
E07.05	AIRFIELD ELECTRICAL DUCTBANK PLAN - AREA 5
E07.06	AIRFIELD ELECTRICAL DUCTBANK PLAN - AREA 6
E08.01	AIRFIELD LIGHTING SIGN SCHEDULES NORTH SIGN CIRCUIT WEST
E08.02	AIRFIELD LIGHTING SIGN SCHEDULES NORTH SIGN CIRCUIT EAST
E08.03	AIRFIELD LIGHTING MANHOLE SCHEDULES
E08.04	AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE TAXIWAY 'NA' EDGE
E08.05	AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE TAXIWAY 'NA' CENTERLINE (WEST)
E08.06	AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE TAXIWAY 'NA' CENTERLINE (EAST)
E08.07	AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE HIGH SPEED EXIT EDGE
E08.08	AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE TAXIWAY 'NF', 'NH', 'NL' CENTERLINE
E08.09	AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE TAXIWAY 'NG', 'NK', 'NN' CENTERLINE
E08.10	AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE TAXIWAY 'NC' EDGE
E08.11	AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE TAXIWAY 'NC' CENTERLINE
E08.12	AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE RGL LIGHTS AND PARTIAL SCHEDULES
E09.01	NORTH VAULT EQUIPMENT LAYOUT
E09.02	NORTH VAULT REGULATOR LINEUP MODIFICATIONS
E09.03	NORTH VAULT ALCMS EQUIPMENT
E10.01	ELECTRICAL DETAILS SEMI-FLUSH FIXTURE
E10.02	ELECTRICAL DETAILS ELEVATED EDGE FIXTURE
E10.03	ELECTRICAL DETAILS AIRFIELD LIGHTING
E10.04	ELECTRICAL DETAILS AIRFIELD LIGHTING
E10.05	ELECTRICAL DETAILS AIRFIELD GUIDANCE SIGN AND BASE
E10.06	ELECTRICAL DETAILS HAS ELECTRICAL HANDHOLE
E10.07	ELECTRICAL DETAILS FAA/HAS COMM HANDHOLE AND MANHOLE MODIFICATIONS
E10.08	ELECTRICAL DETAILS JUNCTION CAN PLAZA AND MANHOLE MODIFICATIONS
E10.09	ELECTRICAL DETAILS DUCTBANK AND BORE CASING
E10.10	ELECTRICAL DETAILS SCHEMATIC DIAGRAM FOR 8R-26L RGL
E10.11	ELECTRICAL DETAILS RWSL SEMI-FLUSH FIXTURE
E10.12	ELECTRICAL DETAILS RWSL WIRING DETAILS
E10.13	ELECTRICAL DETAILS RWSL GROUNDING DETAILS
E10.14	ELECTRICAL AIRFIELD RWSL MISC DETAILS





HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS



1225 North Loop West Suite 320 Houston, Texas 77008 (832) 494-3800 Firm Registration No. F-10161

REVISIONS

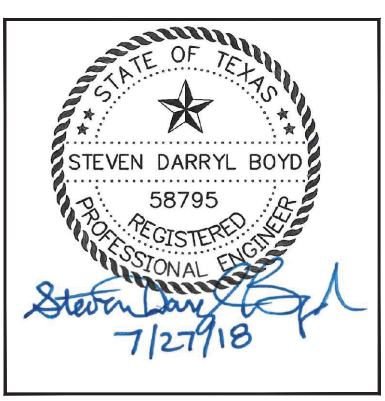
NO. DESCRIPTION DATE BY

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RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT ABBREVIATIONS

ISSUED FOR BID

Table with 2 columns: Field, Value. Fields include PROJECT MGR, DESIGNER, DRAWN BY, CHECKED BY, SCALE, DATE.



DEPARTMENT OF AVIATION APPROVED BY: DATE: [Signature] JULY 27, 2018 HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

Table with 2 columns: Field, Value. Fields include PROJECT NO., C.I.P. NO., H.A.S. NO., SHEET NO.

G02.03

DEFINITIONS AND ABBREVIATIONS

- AC - ADVISORY CIRCULAR
ACTIVE - (WITH RESPECT TO PAVEMENTS, RSA, TSA, OFA, TOFA, AND/OR OFZ) - NOT CLOSED TO AIRCRAFT TRAFFIC.
ADG - AIRCRAFT DESIGN GROUP
AFS - AIRWAYS FACILITIES SECTOR
AGIS - AIRPORTS GEOGRAPHIC INFORMATION SYSTEM
AGL - ABOVE GROUND LEVEL
ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
AOA - AIR OPERATIONS AREA
ARFF - AIRPORT RESCUE AND FIRE FIGHTING
ATC - AIR TRAFFIC CONTROL
ATCT - AIRPORT TRAFFIC CONTROL TOWER
BARRICADE - THE TERM "BARRICADE" SHALL BE USED THROUGHOUT THE PLANS AND PROJECT MANUAL TO UNIVERSALLY INDICATE BARRICADES, SIGNS, DANGER SIGNALS, HAZARD LIGHTING, AND/OR ANY OTHER SAFETY MEASURES TO BE INSTALLED BY THE CONTRACTOR PRIOR TO COMMENCING WORK IN AN AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING THE NECESSARY BARRICADES AS REQUIRED BY THE PLANS AND SPECIFICATIONS (FAA AC 150/5370-2, CURRENT EDITION, LATEST CHANGE) FOR THE PROTECTION OF THE WORK AND THE SAFETY OF THE PUBLIC FOR BOTH LAND AND AIR TRAFFIC.
CAT - CATEGORY
FAA - FEDERAL AVIATION ADMINISTRATION
FOD - FOREIGN OBJECT DEBRIS
GS - GLIDE SLOPE INDICATOR
HAS - HOUSTON AIRPORT SYSTEM
HMAC - HOT MIX ASPHALT CONCRETE
IAH - GEORGE BUSH HOUSTON INTERCONTINENTAL
ILS - INSTRUMENT LANDING SYSTEM
ISEA - INTERNATIONAL SAFETY EQUIPMENT ASSOCIATION
LAHSO - LAND AND HOLD SHORT OPERATION
LOC - LOCALIZER
MSL - MEAN SEA LEVEL
NAVAID - NAVIGATIONAL AID
NOTAM - NOTICE TO AIRMEN
OFZ - OBJECT FREE ZONE
OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PAPI - PRECISION APPROACH PATH INDICATOR
PC - POINT OF CURVATURE
PNT - POINT
PT - POINT OF TANGENT
QA - QUALITY ASSURANCE
REIL - RUNWAY END IDENTIFICATION LIGHTS
ROFA - RUNWAY OBJECT FREE AREA
RPZ - RUNWAY PROTECTION ZONE
RSA - RUNWAY SAFETY AREA
RW - RUNWAY
SMGC - SURFACE MOVEMENT GUIDANCE AND CONTROL
SPCD - SAFETY PLAN COMPLIANCE DOCUMENT
SWPPP OR SW3P - STORMWATER POLLUTION PREVENTION PLAN
TDG - TAXIWAY DESIGN GROUP
TL - TAXILANE
TOFA - TAXIWAY OBJECT FREE AREA
TSA - TAXIWAY SAFETY AREA
TW - TAXIWAY
WAN - WORK ACTIVITY NOTICE



SUMMARY OF QUANTITIES				
PAY ITEM	SPEC ITEM	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
B-1	00612	Maintenance Bond	LS	1
B-2	GP-105	Mobilization	LS	1
B-3	01410	SWPPP, TPDES Requirements	LS	1
B-4	01575	Installation and Removal of Stabilized Construction Exit	EA	7
B-5	01578	Control of Groundwater	LS	1
B-6	01-35-13.14	Safety and Security	LS	1
B-7	01-59-01	Haul Roads	LS	1
B-8	01-59-01	Flagmen	LS	1
B-9	01-59-01	Miscellaneous Temporary Construction Items	LS	1
B-10	32-01-90.34	Pavement Marking Obliteration	SF	66,190
B-11	P-101	Surface Reinforced Concrete Pavement Removal (Taxiway)	SY	136,937
B-12	P-101	Asphalt Bond Breaker Removal (Taxiway)	SY	136,937
B-13	P-101	Sublayer Reinforced Concrete Pavement Removal (Taxiway)	SY	141,751
B-14	P-101	Asphalt Pavement Removal (Shoulder)	SY	29,423
B-15	P-101	Crushed Concrete Base Removal (Shoulder)	SY	29,423
B-16	P-101	Pavement Transition (Between Phases) Removal	SY	1,237
B-17	P-156	Installation and Removal of Filter Fabric Barriers	LF	3,548
B-18	P-156	Installation and Removal of Inlet Protection Barrier 1	EA	7
B-19	P-156	Installation and Removal of Inlet Protection Barrier 2	EA	19
B-20	T-901	Seeding, Fertilizing, Soil Retention Blanket	ACRE	24
B-21	T-904	Sodding, Fertilizer	SY	28,797
B-22	T-905	Topsailing (Obtained on Site or Removed from Stockpile)	CY	15,921
B-23	02221	Remove and Dispose Grate Top Inlets and Manholes	EA	8
B-24	02221	Remove and Dispose 27" RCP Storm Sewer	LF	925
B-25	02221	Remove and Dispose 24" RCP Storm Sewer	LF	397
B-26	02221	Remove and Dispose 21" RCP Storm Sewer	LF	1,579
B-27	02222	Grout Fill and Abandon Existing 24" Storm Sewer	LF	530
B-28	01561	Trench Safety, All Depths	LF	3,388
B-29	D-701	48" Storm Sewer RCP (Class V) Open Cut, complete in place	LF	930
B-30	D-701	42" Storm Sewer RCP (Class V) Open Cut, complete in place	LF	397
B-31	D-701	36" Storm Sewer RCP (Class V) Open Cut, complete in place	LF	1,281
B-32	D-701	30" Storm Sewer RCP (Class V) Open Cut, complete in place	LF	780
B-33	D-751	Install Aircraft Rated TY-A Inlets, Pre-Cast	EA	18
B-34	D-705	6" Underdrain, Perforated PVC, complete	LF	15,887
B-35	D-705	6" Underdrain, Non-perforated PVC, complete	LF	3,384
B-36	D-751	Underdrain Inspection Pit	EA	25
B-37	D-751	Underdrain Cleanout	EA	69
B-38	P-152	Unclassified Excavation (Concrete Pavement and Asphalt Shoulder)	CY	41,979
B-39	P-152	Soft Subgrade Removal and Replacement with Suitable Material (beneath Concrete Pavement and Asphalt Shoulder)	CY	9,276
B-40	31 -32-13.26	8" Lime / Fly-Ash Treated Subgrade (beneath Concrete Pavement)	SY	195,252
B-41	31 -32-13.26	Lime (for Lime / Fly-Ash Treated Subgrade beneath Concrete Pavement)	TN	2,577
B-42	31 -32-13.26	Fly-Ash (for Lime / Fly-Ash Treated Subgrade beneath Concrete Pavement)	TN	6,443
B-43	P-209/P-219	5" Aggregate Subbase (beneath Concrete Pavement)	SY	158,816
B-44	P-304	9" Cement Treated Base (beneath Concrete Pavement)	SY	158,816
B-45	P-501	18" Reinforced Portland Cement Concrete Pavement	SY	153,445
B-46	P-501	Temporary 18" Portland Cement Concrete Pavement	SY	1,055
B-47	31 -32-13.26	8" Lime / Fly-Ash Treated Subgrade (beneath Asphalt Shoulder)	SY	68,260
B-48	31 -32-13.26	Lime (for Lime / Fly-Ash Treated Subgrade beneath Asphalt Shoulder)	TN	878
B-49	31 -32-13.26	Fly-Ash (for Lime / Fly-Ash Treated Subgrade beneath Asphalt Shoulder)	TN	2,193
B-50	P-209/P-219	9.5" Aggregate Subbase (beneath Asphalt Shoulder)	SY	72,738
B-51	P-602	Bituminous Prime Coat (Asphalt Shoulder)	GAL	163,890
B-52	P-603	Bituminous Tack Coat (on concrete pavement edge at asphalt shoulder)	GAL	1,698
B-53	P-401	4" Bituminous Surface Course (Asphalt Shoulder)	SY	68,879
B-54	P-620	Yellow Painted Pavement Marking with Glass Beads (Temporary Centerline)	SF	12,803
B-55	P-620	Black Painted Pavement Marking (Temporary Centerline)	SF	15,673
B-56	P-620	Surface Painted Runway Holding Position Marking (Temporary)	SF	332
B-57	P-620	Yellow Painted Pavement Marking with Glass Beads (Permanent Centerline, Edgeline)	SF	52,758
B-58	P-620	Black Painted Pavement Marking (Permanent Centerline, Edgeline)	SF	41,607
B-59	P-620	Enhanced Taxiway Centerline Markings (Permanent)	SF	4,931
B-60	P-620	Runway Holding Position Markings (Permanent)	SF	7,369

SUMMARY OF QUANTITIES				
PAY ITEM	SPEC ITEM	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
B-61	P-620	Surface Painted Runway Identification Markings (Permanent)	SF	4,311
B-62	P-620	POFZ Markings (Permanent)	SF	1,013
B-63	26-05-05	Remove & Salvage Elevated Edge Light, Remove Base Can in Modified Pavement Areas	EA	157
B-64	26-05-05	Remove & Salvage In-Pavement Light, Remove Base Can in Modified Pavement Areas	EA	459
B-65	26-05-05	Remove & Salvage Elevated Edge Light, Base Can to Remain in Existing Pavement Areas	EA	275
B-66	26-05-05	Remove & Salvage In-Pavement Light, Base Can to Remain in Existing Pavement Areas	EA	565
B-67	26-05-05	Remove & Salvage Light, Base Can to Remain and add new steel coverplate in Existing Pavement Areas	EA	30
B-68	26-05-05	Remove and Dispose of existing "Y" connectors and associated cables used on In-Pavement Runway Guard Lights	EA	75
B-69	26-05-05	Remove Empty Base Can in Modified Pavement Areas	EA	60
B-70	26-05-05	Remove Sign including Foundation	EA	45
B-71	26-05-05	Remove Abandoned Sign Foundation	EA	3
B-72	26-05-05	Remove and Salvage Sign, Remove Sign Foundation	EA	21
B-73	26-05-05	Remove #8 AWG, L-824C in Conduit or Ductbank	LF	369,601
B-74	26-05-05	Remove Conduit in Modified Pavement Areas	LF	59,320
B-75	26-05-05	Remove Conduit in Earth	LF	9,808
B-76	26-05-05	Remove Ductbank in Modified Pavement Areas	LF	4,836
B-77	26-05-05	Remove Ductbank in Earth	LF	3,300
B-78	26-05-05	Remove L-867D Pullbox or Handhole (smaller than 3'x3'x3')	EA	20
B-79	26-05-05	Remove existing handhole 3'x3'x3' or larger	EA	6
B-80	26-05-05	No. 8 AWG, L-824C Cable, including 2" Conduit and Other Electrical Provisions for Temporary Power	LF	240,945
B-81	26-05-05	Provide Temporary Sign Panels during construction for Phasing	EA	109
B-82	L-108	No. 8 AWG, L-824C Cable, installed in conduit or duct	LF	333,719
B-83	L-108	No. 6 AWG Bare Counterpoise Wire, Installed in conduit trench, Including Ground Rods and Ground Connections	LF	64,059
B-84	L-108	FAA RWSL Circuit with (2) #8 AWG L-824C (1-Red, 1-Black) and #6 AWG USE installed in Conduit or Duct	LF	2,500
B-85	L-108	No. 1/0 AWG Bare Counterpoise Wire, Installed in conduit trench, Including Ground Rods and Ground Connections	LF	2,500
B-86	L-110	1-way, 2" PVC Conduit, Concrete Encased in New Shoulder Pavement	LF	28,000
B-87	L-110	1-way, 2" PVC Conduit, Concrete Encased in New Full Strength Pavement	LF	36,404
B-88	L-110	1-way, 2" PVC Conduit, Direct Earth Buried	LF	686
B-89	L-110	1-way, 4" PVC Conduit, Direct Earth Buried	LF	100
B-90	L-110	2-way, 2" PVC Conduit, Concrete Encased in New Shoulder Pavement	LF	100
B-91	L-110	2-way, 2" PVC Conduit, Concrete Encased in New Full Strength Pavement	LF	400
B-92	L-110	4-way, 4" PVC Conduit, Concrete Encased including Ground Rods and Counterpoise Cable	LF	3,486
B-93	L-110	Conduit Transition under Pavement	EA	55
B-94	L-115	L-867D Pullbox	EA	20
B-95	L-115	Install new aircraft-rated handhole 4'x4'x4'	EA	5
B-96	L-115	Adjust Elevation of Existing Structure and Make Aircraft Rated	EA	40
B-97	L-115	Modify Existing Structure to Make Aircraft Rated	EA	25
B-98	26-35-53	North Vault Upgrades for Circuit Modifications	LS	1
B-99	26-55-90	L-861T(L) LED MITL with L-867B Base Can in New Shoulder Pavement	EA	255
B-100	26-55-90	L-861T(L) LED MITL on existing L-867B Base Can	EA	260
B-101	26-55-90	L-852C(L) LED Bi-Directional Taxiway Centerline Light on new L-868B Base Can in New Full Strength Pavement	EA	241
B-102	26-55-90	L-852K(L) LED Bi-Directional Taxiway Centerline Light on new L-868B Base Can in New Full Strength Pavement	EA	185
B-103	26-55-90	L-852C(L) LED Uni-Directional Taxiway Centerline Light on new L-868B Base Can in New Full Strength Pavement	EA	93
B-104	26-55-90	L-852K(L) LED Uni-Directional Taxiway Centerline Light on new L-868B Base Can in New Full Strength Pavement	EA	24
B-105	26-55-90	L-852C(L) LED Bi-Directional Taxiway Centerline Light on existing L-868B Base Can	EA	118
B-106	26-55-90	L-852K(L) LED Bi-Directional Taxiway Centerline Light on existing L-868B Base Can	EA	75
B-107	26-55-90	L-852C(L) LED Uni-Directional Taxiway Centerline Light on existing L-868B Base Can	EA	210
B-108	26-55-90	L-852F Omni-Directional Taxiway Centerline Light on existing L-868B Base Can	EA	5
B-109	26-55-90	L-852G(L) LED Runway Guard light with Integral flashing & monitoring, mounted on new L-868B 2-Piece Base Can in New Full strength pavement	EA	40
B-110	26-55-90	L-852G(L) LED Runway Guard light with Integral flashing & monitoring, mounted on existing L-868B Base Can	EA	116

SUMMARY OF QUANTITIES				
PAY ITEM	SPEC ITEM	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
B-111	26-55-90	New L-868B Base Can with Blank Cover in New Full Strength pavement	EA	10
B-112	26-55-90	Install Salvaged fixture in new base can in new pavement	EA	26
B-113	26-55-90	New LED Guidance Sign including Foundation - 3-Module, Single Face	EA	27
B-114	26-55-90	New LED Guidance Sign including Foundation - 4-Module, Double Face	EA	2
B-115	26-55-90	Install Salvaged Sign on new Foundation	EA	9
B-116	26-55-90	Remove and Replace Size 3 Sign Panel	EA	91
B-117	26-55-90	Remove and Repair Bolts/Threads on Existing Base Can	EA	296
B-118	26-55-90	Install new Isolation Transformer, Splice Kit and Fixture Tag	EA	91
B-119	26-55-90	Install new Isolation Transformer, Splice Kit, Lamps & Sign Tag	EA	16
B-120	26-55-90	Photometric testing of Airfield Lighting	LS	1
B-121	26-55-90	Pavement Block-out for L-868B base Can	EA	45
B-122	26-55-92	Calibrate and update Runway Guard Light Monitoring and Control System	LS	1
B-123	26-56-95	ALRCS System Upgrades	LS	1
C-1	01-59-01	Radios for Monitoring ATCT Communications	LS	1
C-2	02221	Remove and Dispose 18" RCP Storm Sewer	LF	100
C-3	02221	Remove and Dispose 30" RCP Storm Sewer	LF	100
C-4	P-620	White Painted Pavement Marking with Glass Beads (Permanent)	SF	1,000
C-5	P-620	Red Painted Pavement Marking with Glass Beads (Permanent)	SF	1,000
C-6	P-610	Subbase Preparation and 4" - 6" Reinforced Concrete Seal Slab	SY	175
D-1	00800	Clean Air Incentive		\$300,000
E-1	01210	Cash Allowances		\$350,000



HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS

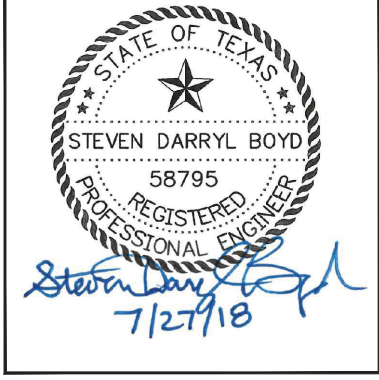


REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

SUMMARY OF QUANTITIES

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	NTS
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Pehel</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

G03.01



## GENERAL CONTRACT NOTES

1. THE TERM "CITY" USED THROUGHOUT THE PLANS AND SPECIFICATIONS SHALL REFER TO THE CITY OF HOUSTON, TEXAS.
2. THE TERM "AIRPORT" USED THROUGHOUT THE PLANS AND SPECIFICATIONS SHALL REFER TO THE GEORGE BUSH INTERCONTINENTAL AIRPORT. THE TERM "AIRPORT" SHALL ALSO BE INTERPRETED TO MEAN "AIRPORT MANAGEMENT AND/OR OPERATIONS STAFF".
3. THE TERM "OWNER" USED THROUGHOUT THE PLANS AND SPECIFICATIONS SHALL REFER TO THE LEGAL OWNER OF THE AIRPORT. THE TERM "OWNER" SHALL ALSO BE INTERPRETED TO MEAN "OWNER'S REPRESENTATIVE". THE TERM "OWNER" MAY ALSO BE USED INTERCHANGEABLY WITH THE TERM "CITY", "HOUSTON AIRPORT SYSTEM (HAS)", AND/OR "AIRPORT", AS APPLICABLE.
4. ALL EQUIPMENT REQUIRED TO COMPLETE THE PROJECT SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE PROJECT.
5. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL APPLICABLE PERMITS FOR CONSTRUCTION AND EQUIPMENT. COPIES OF ALL PERMITS SHALL BE PROVIDED AS SUBMITTALS, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES. PERMITS SHALL BE CONSIDERED PART OF THE EQUIPMENT PROVIDED BY THE CONTRACTOR AND SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE PROJECT.
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING CONSTANT COORDINATION BETWEEN ANY AND ALL SUBCONTRACTORS AND THE OWNER'S REPRESENTATIVE. ALL CONSTRUCTION ACTIVITIES PLANNED BY THE CONTRACTOR SHALL BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
  - A. COORDINATION WITH AIRPORT OPERATIONS SHALL BE PERFORMED BY PHONE # (281) 233-1131.
  - B. CONTACT HAS IT COMMUNICATIONS A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION IN THE VICINITY OF FAA INFRASTRUCTURE LINES TO MARK LINES. SHAWN SUSKI (281) 233-1900, EMAIL: HAS.SERVICEDESK@HOUSTONTX.GOV
7. THE CONTRACTOR'S PROJECT SUPERINTENDENT OR HIS/HER DESIGNATED ASSISTANT MUST BE ON SITE DURING ALL WORK ACTIVITIES, INCLUDING THOSE BY SUBCONTRACTORS, SUPPLIERS, OR ANY PERSON UNDER CONTRACTOR CONTROL. THE CONTRACTOR'S PROJECT SUPERINTENDENT SHALL BE THE DESIGNATED RESPONSIBLE CONTRACTOR REPRESENTATIVE AND SHALL BE AVAILABLE IN CASE OF EMERGENCIES ON A 24-HOUR BASIS.
8. THROUGHOUT THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL SHAPE EACH CONSTRUCTION AREA TO MAINTAIN POSITIVE (CONTINUOUS AND FLOWING) DRAINAGE OF SURFACE WATER DURING EACH CONSTRUCTION OPERATION AND NOT RESTRICT THE EXISTING DRAINAGE FLOW PATTERNS.
  - A. IF NECESSARY, THE CONTRACTOR SHALL PROVIDE AND INSTALL DRAINAGE PROVISIONS (I.E. STRUCTURES) NECESSARY TO MEET THESE REQUIREMENTS.
  - B. IF NECESSARY, SURFACE WATER SHALL BE PUMPED IMMEDIATELY AFTER A RAIN EVENT FROM EACH CONSTRUCTION AREA.
  - C. ALL TEMPORARY DRAINAGE AND DEWATERING ACTIONS SHALL BE IN ACCORDANCE WITH SECTION 01578 - CONTROL OF GROUND AND SURFACE WATER.
  - D. AT THE END OF THE PROJECT, THE CONTRACTOR SHALL RESTORE ALL GRADES, PER DESIGN PLANS, AND REMOVE ALL TEMPORARY DRAINAGE PROVISIONS.
  - E. THE COST OF TEMPORARY DRAINAGE AND DEWATERING SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE PROJECT.
9. THE EXISTING CONDITIONS SHOWN IN THE PLANS WERE DEVELOPED FROM AS-BUILT INFORMATION SUPPLEMENTED BY CASUAL VISUAL OBSERVATIONS, TOPOGRAPHIC SURVEY, AND GEOTECHNICAL INVESTIGATIONS. THE ENGINEER DOES NOT WARRANT THE EXISTING CONDITIONS AS ALL INCLUSIVE OR EXACT, BUT RATHER AS THE BEST AVAILABLE KNOWLEDGE AT THE TIME OF PROJECT DESIGN. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY WHEN FOUND, PRIOR TO PERFORMING ANY CONSTRUCTION ACTIVITIES.
10. ALL COORDINATES PROVIDED WITHIN THESE PLANS SHALL BE FIELD VERIFIED BEFORE THEIR USE. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
11. THE PROJECT PAY ITEMS PROVIDED SHALL BE INCLUSIVE OF ALL WORK TO BE PERFORMED AS SHOWN IN THE PLANS OR DESCRIBED IN THE SPECIFICATIONS. ANY WORK DESCRIBED IN THE PLANS OR SPECIFICATIONS THAT IS NOT PAID FOR DIRECTLY BY A SPECIFIC BID ITEM SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF PROJECT PAY ITEMS OF WHICH IT IS A COMPONENT.

## DEMobilIZATION NOTES

1. CONDITIONS OF THE PROJECT AREA AND SURROUNDING AREAS UPON COMPLETION OF THE PROJECT SHALL BE AS GOOD AS OR BETTER THAN THE CONDITION PRIOR TO STARTING WORK, IN ADDITION TO THE WORK ITEMS LISTED.
2. THE PROJECT SHALL BE FREE OF ANY CONTRACTOR STOCKPILE MATERIALS UPON COMPLETION OF THE PROJECT, UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE.
3. UPON COMPLETION OF THE PROJECT, ALL HAUL ROUTES SHALL BE PROPERLY CLEANED TO PREVENT OBSTRUCTION AND/OR CAUSE INCONVENIENCE TO NORMAL REGULAR TRAFFIC. ALL TEMPORARY HAUL ROUTES SHALL BE REMOVED.
4. THE CONTRACTOR SHALL RESTORE ANY STAGING/STORAGE AREAS UPON COMPLETION OF THE PROJECT INCLUDING, AT MINIMUM, REPAIR OF EXISTING FACILITIES, REGRADING, AND TOPSOILING AND ESTABLISHING VEGETATION, AS APPLICABLE.
5. ALL CONSTRUCTION EQUIPMENT AND ANY FACILITIES TEMPORARILY PLACED ON SITE FOR THE PROJECT SHALL BE REMOVED FROM THE SITE.
6. ANY PROPERTIES BELONGING TO THE OWNER SHALL BE RETURNED TO THE OWNER.
7. PROPER DRAINAGE (NO LOCALIZED PONDING) SHALL BE MAINTAINED, PRIOR TO, DURING, AND AFTER MOBILIZATION/DEMobilIZATION.
8. DEMobilIZATION SHALL BE COMPLETED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AND THE ENGINEER, AS APPROPRIATE, AND SHALL BE COMPLETED IN A MANNER THAT WILL MINIMIZE INCONVENIENCE TO AIRPORT OPERATIONS. ANY DAMAGE TO THE AIRPORT FACILITIES DURING DEMobilIZATION SHALL BE REPAIRED AND PAID FOR AT THE CONTRACTOR'S EXPENSE. THE COST OF DEMobilIZATION SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF MOBILIZATION.

## CONTRACTOR'S STAGING/STORAGE AREA, STOCKPILE AREA, DISPOSAL AREA, AND BATCH PLANT SITE NOTES

1. STOCKPILES, STAGING/STORAGE AREAS, AND/OR DISPOSAL AREAS SHALL BE AS SHOWN IN THE PLANS, OR AS ADJUSTED IN THE FIELD AND COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE ENGINEER. THESE AREAS SHALL NOT CREATE ANY PONDING OF WATER OR ALTER DRAINAGE PATTERNS OF THE AIRPORT PROPERTY.
2. STOCKPILES, STAGING/STORAGE AREAS, AND/OR DISPOSAL AREAS WILL NOT BE PLACED WITHIN ANY WATER OF THE UNITED STATES, INCLUDING WETLANDS, WATERBODIES, AND STREAM BEDS. THESE AREAS SHALL BE CONSTRUCTED IN A MANNER TO PROHIBIT THE RUNOFF OF POLLUTANTS AND CONTROL SILT/SEDIMENT MOVEMENT. ALL WATERWAYS SHALL BE CLEARED AS SOON AS PRACTICAL OF TEMPORARY EMBANKMENTS, TEMPORARY BRIDGES, MATTING, FALSEWORK, PILING, DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT PART OF THE FINISHED WORK.
3. STOCKPILED MATERIALS AND EQUIPMENT STORAGE ARE NOT PERMITTED WITHIN ANY ACTIVE RSA, TSA, OFZ,
4. MATERIALS STORED OR STOCKPILED ON THE AIRPORT SHALL BE SO PLACED AND THE WORK SHALL, AT ALL TIMES, BE CONDUCTED SO AS TO CAUSE NO GREATER OBSTRUCTION TO THE AIR AND GROUND TRAFFIC THAN IS ALLOWED IN THE PLANS OR APPROVED BY THE ENGINEER. STOCKPILES MUST COMPLY WITH OBSTRUCTION HEIGHT REQUIREMENTS FOR PROTECTED AIRSPACE (TRANSITIONAL SURFACE OR PRIMARY SURFACE) AS PROVIDED IN THE CODE OF FEDERAL REGULATIONS, PART 77, SAFE, EFFICIENT USE, AND PRESERVATION OF THE NAVIGABLE AIRSPACE.
5. STOCKPILE GEOMETRIES MUST COMPLY WITH ALL APPLICABLE OSHA REGULATIONS.
6. STOCKPILED MATERIAL AND OPEN EXCAVATIONS SHALL BE TREATED IN SUCH A MANNER AS TO PREVENT MOVEMENT RESULTING FROM AIRCRAFT BLAST OR WIND CONDITIONS IN EXCESS OF 10 MILES PER HOUR.
7. STOCKPILED MATERIALS SHALL BE SEGREGATED FROM UNDERLYING MATERIALS BY IMPERVIOUS MEANS APPROVED BY THE OWNER'S REPRESENTATIVE.
8. CONTRACTOR STAGING/STORAGE AREAS
  - A. THE CONTRACTOR MAY STORE CONSTRUCTION EQUIPMENT AND MATERIALS IN THE CONTRACTOR'S STAGING AREA. THE CONTRACTOR SHALL LIMIT ANY EQUIPMENT AND MATERIAL STORAGE TO THE SMALLEST POSSIBLE FOOTPRINT.
  - B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF HIS/HER OWN EQUIPMENT AND MATERIALS, AND ANY ASSOCIATED SECURITY APPURTENANCES. ANY SECURITY MEASURES DEEMED NECESSARY BY THE CONTRACTOR IN THE PROTECTION OF HIS/HER OWN EQUIPMENT AND MATERIALS SHALL BE CONSIDERED INCIDENTAL TO THE OVERALL PERFORMANCE OF THE WORK ASSOCIATED WITH THE PROJECT.
  - C. THE CONTRACTOR SHALL MAKE MODIFICATIONS WITHIN THE STAGING AREA WHEN DEEMED NECESSARY BY AIRPORT OPERATIONS OR OWNER PERSONNEL. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL RESTORE ALL STAGING AREAS TO ORIGINAL CONDITIONS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO OVERALL PERFORMANCE OF THE WORK ASSOCIATED WITH THE PROJECT.
  - D. ANY AREAS UTILIZED AS CONSTRUCTION STAGING AREAS SHALL BE MAINTAINED AT ALL TIMES IN A CLEAN AND ENVIRONMENTALLY SAFE CONDITION.
9. NO CONTRACTOR EMPLOYEE VEHICLES WILL BE ALLOWED WITHIN THE AOA. CONTRACTOR EMPLOYEE PARKING SHALL BE OR AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL THEN SHUTTLE HIS/HER EMPLOYEES TO THE PROJECT SITE TO REDUCE VEHICLE TRAFFIC IN THE AOA.
10. ALL CONTRACTOR VEHICLES AND EQUIPMENT SHALL BE PARKED IN THE STAGING/STORAGE AREAS WHEN NOT IN USE. NO EQUIPMENT WILL BE ALLOWED TO REMAIN WITHIN ANY OFA OR TOFA WHEN WORK IS NOT BEING PERFORMED.
11. STAGING AREAS MAY OR MAY NOT HAVE UTILITIES PRESENT. ANY UTILITIES REQUIRED BY THE CONTRACTOR SHALL BE COORDINATED WITH THE RESPECTIVE UTILITY OWNERS AND SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
12. DISPOSAL AREAS
  - A. ALL UNSUITABLE MATERIALS, EXCESS EARTHWORK EXCAVATION, WASTE AND/OR SPOIL MATERIALS SHALL BE DISPOSED OF OFF THE AIRPORT PROPERTY BY THE CONTRACTOR IN A LICENSED LANDFILL IN ACCORDANCE WITH LOCAL LAWS AND REGULATIONS, UNLESS OTHERWISE NOTED. NO MATERIAL SHALL BE WASTED ON THE AIRPORT SITE UNLESS APPROVED BY THE OWNER. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE PROJECT.
  - B. ANY APPROVED ON-AIRPORT WASTE AND DISPOSAL AREA SHALL BE SEEDED AND RESTORED IN A SMOOTH, GRADED AND DRAINABLE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
  - C. PRIOR TO DEMOLITION AND REMOVAL WORK BEGINS, THE CONTRACTOR SHALL SUBMIT, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES, DOCUMENTATION OF THE QUANTITY TO BE DISPOSED OF, LOCATION OF THE DISPOSAL SITE, AND DOCUMENTATION OF CITY OR LOCAL GOVERNMENT ACCEPTANCE OF THOSE MATERIALS.
13. BATCH PLANT SITES
  - A. A NEW BATCH PLANT(S) MAY BE MOBILIZED, ERECTED, AND SET-UP IN THE EXACT LOCATION AS INDICATED ON SHEET G06.03.1. UTILITY SERVICE CONNECTIONS REQUIRED TO OPERATE THE BATCH PLANT INCLUDING POWER AND WATER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY AUXILIARY PUMPS REQUIRED TO PROVIDE THE NECESSARY WATER PRESSURES FOR THE BATCH PLANT. THE CONTRACTOR SHALL SUBMIT A BATCH PLANT LAYOUT AND OPERATIONS PLAN FOR APPROVAL BEFORE EQUIPMENT MOBILIZATION. PLAN SHALL INCLUDE HAUL ROUTES, PUBLIC ACCESS, SECURITY FENCING, BATCH PLANT LOCATIONS, BATCH PLANT EQUIPMENT HEIGHT, STOCKPILE LOCATIONS, AND DUST CONTROL.
14. PRIOR TO THE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL RECORD THE EXISTING CONDITIONS OF THE ALL PROPOSED STAGING/STORAGE AREAS, STOCKPILE AREAS, DISPOSAL AREA, AND BATCH PLANT AREAS VIA PHOTOGRAPH OR VIDEO DOCUMENTATION. ALL DOCUMENTATION SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO DISTURBING THESE AREAS.
15. ALL COSTS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, REPAIR, AND REMOVAL OF ONSITE STAGING/STORAGE AREAS, STOCKPILE AREAS, DISPOSAL AREA, AND BATCH PLANT AREAS INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO THE SPECIFICATION G-105, TEMPORARY CONSTRUCTION BID ITEMS

## NOTES FROM CENTERPOINT ENERGY

1. LOCATIONS OF CENTERPOINT ENERGY MAINLINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC, WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CALL THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567, 1-800-669-8344, OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.
2. WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 945-8036 OR (713) 945-8037 (7:00 AM TO 4:30 PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
4. WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
5. FOR EMERGENCIES REGARDING GAS LINES, CALL (713) 659-3552 OR (713) 207-4200.
6. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS/HER FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.
7. WARNING: OVERHEAD ELECTRICAL LINES.
  - A. OVERHEAD ELECTRICAL LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH AND SAFETY CODE, FORBIDS ANY ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:
    - i. ANY ACTIVITY WHERE PERSON OR THINGS MAY COME WITHIN SIX (6) FEET OF LOW OVERHEAD HIGH VOLTAGE LINES; AND
    - ii. OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN TEN (10) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.
8. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED, CALL (713) 207-2222.
9. ACTIVITIES ON OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY: NO APPROVAL TO USE, CROSS, OR OCCUPY CENTERPOINT FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING & RIGHT OF WAY DIVISION AT (713) 207-6248 OR (713) 207-5769.

## NOTES FROM AT&T/SWB

1. THE LOCATIONS OF AT&T TEXAS/SWB FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE/SHE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE THE UNDERGROUND UTILITIES.
2. CONTRACTOR SHALL CALL 1-800-344-8377 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF AT&T TEXAS/SWB FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWB FACILITIES.
4. WHEN AT&T TEXAS/SWB FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES, THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
5. THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWB UNDERGROUND CONDUIT FACILITIES OR BURIED CABLE FACILITIES SHOWN ON THESE PLANS DOES NOT MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN CONDUIT IN THE AREA.
6. PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANGER ROOSEVELT LEE, JR. AT (713) 567-4552 OR EMAIL HIM AT RL7259@ATT.COM IF THERE ARE QUESTIONS ABOUT BORING OR EXCAVATING NEAR AT&T TEXAS/SWB FACILITIES.



HOUSTON AIRPORT SYSTEM  
GEORGE BUSH INTERCONTINENTAL  
AIRPORT HOUSTON, TEXAS



1225 North Loop West  
Suite 320  
Houston, Texas 77008  
(832) 494-3800  
Firm Registration No.  
F-10161

REVISIONS

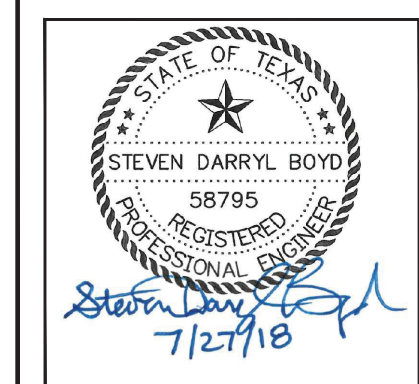
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

## GENERAL CONTRACT NOTES

ISSUED FOR BID

PROJECT MGR:	DB
DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	NTS
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Donaj Pehel</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS	
AUTHORIZED REPRESENTATIVE	

PROJECT NO.	
	0907
C.I.P. NO.	
	A-000570
H.A.S. NO.	
SHEET NO.	

G04.01



# AIRPORT SAFETY REQUIREMENTS

- THE CONTRACTOR SHALL FAMILIARIZE HIS / HER SUPERVISORS AND EMPLOYEES OF THE AIRPORT ACTIVITY AND OPERATIONS THAT ARE INHERENT TO THIS ACTIVE AIR CARRIER AIRPORT. THE CONTRACTOR SHALL CONDUCT ALL CONSTRUCTION ACTIVITIES TO CONFORM TO ALL ROUTINE AND EMERGENCY AIR TRAFFIC REQUIREMENTS AND GUIDELINES ON SAFETY AS SPECIFIED HEREIN OR AS DIRECTED BY THE OWNER.
- ALL CONSTRUCTION PERSONNEL SHALL ATTEND A DAILY SAFETY BRIEFING PRIOR TO COMMENCING WORK FOR THE DAY. THESE MEETINGS SHALL BE MADE OPEN TO THE ENGINEER, OWNER, OWNER'S REPRESENTATIVE, AIRPORT OPERATIONS, AND ANY OTHER GOVERNING AUTHORITY THAT WOULD LIKE TO ATTEND. THERE WILL ALSO BE A MANDATORY WEEKLY CONSTRUCTION MEETING, THE DATE AND TIME OF WHICH WILL BE ESTABLISHED PRIOR TO THE START OF CONSTRUCTION, WITH AIRPORT OPERATIONS THAT MUST BE ATTENDED BY THE CONTRACTOR'S SENIOR FIELD STAFF, INCLUDING BUT NOT LIMITED TO SUPERINTENDENTS AND TEAM LEADERS. THESE MEETINGS SHALL BE CONDUCTED BILINGUALLY IN ENGLISH AND SPANISH.
- CONSTRUCTION PERSONNEL AND EQUIPMENT WILL NOT BE ALLOWED WITHIN THE PROJECT WORK AREA UNTIL THE AREA HAS BEEN CLOSED TO AIRCRAFT AND THE APPROPRIATE NOTAMS HAVE BEEN ISSUED.
- THE CONTRACTOR SHALL BE AWARE THAT CONSTRUCTION MAY OCCUR ADJACENT TO ACTIVE AIRFIELD PAVEMENTS. CONSTRUCTION TRAFFIC SHALL YIELD TO AIRCRAFT AT ALL TIMES.
- THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN AT ANY ACTIVE AIRFIELD PAVEMENT CROSSING, AS SHOWN IN THE PLANS, OR AS DIRECTED BY AIRPORT OPERATIONS. ADDITIONAL FLAGMEN REQUESTED BY AIRPORT OPERATIONS SHALL BE PROVIDED AT NO ADDITIONAL EXPENSE TO THE OWNER. THE FLAGMEN WILL BE RESPONSIBLE FOR STOPPING ANY CONSTRUCTION TRAFFIC THAT CROSSES THE PATH OF TAXIING AIRCRAFT. PROPOSED FLAGMAN POSITIONS SHALL BE SUBMITTED TO THE CONTRACTOR TO AIRPORT OPERATIONS, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES, FOR REVIEW AND APPROVAL. FLAGMEN MUST BE ESCORTED TO AND FROM THEIR POSITIONS BY AIRPORT OPERATIONS AT THE BEGINNING AND END, RESPECTIVELY, OF EACH WORK PERIOD. FLAGMEN SHALL NOT DIRECT AIRCRAFT MOVEMENT AS THIS IS THE RESPONSIBILITY OF AIRPORT OPERATIONS AND THE ATCT. ALL COSTS ASSOCIATED WITH FLAGMEN INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION BID ITEMS.
- ALL CONTRACTOR VEHICLES AND TRAFFIC SHALL REMAIN WITHIN THE DESIGNATED CONSTRUCTION LIMITS OR HAUL ROUTES. ABSOLUTELY NO CONTRACTOR VEHICLES WILL BE ALLOWED ON ACTIVE AIRFIELD PAVEMENTS, UNLESS OTHERWISE APPROVED BY AIRPORT OPERATIONS. FLAGMEN WILL BE REQUIRED TO DIRECT THE CONTRACTOR'S VEHICLES AND EQUIPMENT AT ALL TIMES WHENEVER CONSTRUCTION ACCESS IS REQUIRED ACROSS ANY ACTIVE AIRFIELD PAVEMENT. THIS SHALL INCLUDE ALL PREPARATORY OR CONCLUSIVE WORK AT THE BEGINNING OR END OF CONSTRUCTION PHASES, SUCH AS, BUT NOT LIMITED TO: INSTALLING AND / OR REMOVING BARRICADES OR TEMPORARY PAVEMENT MARKINGS; REMOVAL, TEMPORARY DISABLING OF, AND / OR INSTALLATION OF ELECTRICAL COMPONENTS; AND / OR CLEANING OF WORK AREAS.
  - THE CONTRACTOR SHALL PROVIDE AN ADEQUATE NUMBER OF SWEEPERS AND VACUUM TRUCKS TO KEEP ALL HAUL ROUTES, ACTIVE AIRFIELD PAVEMENTS WITHIN THE LIMITS OF WORK, AND ANY OTHER PAVEMENT AREAS TRaversED BY THE CONTRACTOR'S VEHICLES AND EQUIPMENT CLEAN AND FREE OF MUD, DIRT, DEBRIS, WASTE, LOOSE MATERIAL, AND ANY OTHER FOD CAPABLE OF CAUSING DAMAGE TO AIRCRAFT LANDING GEARS OR PROPELLERS AND / OR BEING INGESTED IN JET ENGINES. THE CONTRACTOR SHALL PROVIDE A SWEEPER AND VACUUM TRUCK AT EACH ACTIVE AIRFIELD PAVEMENT CROSSING, STATIONED OUTSIDE THE OFA. NO LESS THAN TWO (2) SWEEPERS AND TWO (2) VACUUM TRUCKS SHALL BE ONSITE FOR THE DURATION OF THE PROJECT, REGARDLESS OF THE NUMBER OF ACTIVE AIRFIELD PAVEMENT CROSSINGS. THE CONTRACTOR SHALL SWEEP AND / OR VACUUM, IMMEDIATELY AFTER EACH ACTIVE AIRFIELD PAVEMENT CROSSING BY THE CONTRACTOR'S VEHICLES OR EQUIPMENT, OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL ADDITIONALLY ENSURE THAT ALL ACTIVE AIRFIELD PAVEMENTS AFFECTED BY CONSTRUCTION OPERATIONS ARE KEPT FREE OF ANY AND ALL FOD DEPOSITED AS THE RESULT OF ANY SOURCE.
- ALL CONTRACTOR VEHICLES AND EQUIPMENT THAT ARE AUTHORIZED TO OPERATE ON THE AIRPORT IN THE ACTIVE AOA SHALL MEET THE FOLLOWING REQUIREMENTS:
  - DISPLAY A COMPANY LOGO / PLACARD IDENTIFYING THE VEHICLE WITH BLOCK-TYPE CHARACTERS OF CONTRASTING COLOR THAT ARE EASILY LEGIBLE AT 150 FEET;
  - DISPLAY A FLASHING AMBER (YELLOW) DOME-TYPE LIGHT ON TOP OF THE VEHICLE AND OF SUCH INTENSITY TO CONFORM TO LOCAL CODES FOR MAINTENANCE AND EMERGENCY VEHICLES. A 3 FEET X 3 FEET OR LARGER, ORANGE AND WHITE CHECKERBOARD CONSTRUCTION SAFETY FLAG, EACH CHECKERBOARD COLOR BEING 1-FOOT, MAY BE FIXED ABOVE THE VEHICLE TO SUPPLEMENT THE FLASHING LIGHT OR FOR TRANSIENT VEHICLES OR THOSE SPECIFICALLY ONSITE FOR THE DAY TO COMPLETE A SPECIFIC TASK DURING DAYTIME OPERATIONS ONLY.
  - BE ESCORTED UNDER THE CONTROL OF A CONTRACTOR ESCORT MONITORING GROUND CONTROL RADIO FREQUENCY.

ANY VEHICLE OPERATING IN THE AOA DURING THE HOURS OF DARKNESS SHALL BE EQUIPPED WITH A FLASHING AMBER (YELLOW) DOME-TYPE LIGHT. ALL COSTS ASSOCIATED WITH VEHICLE AND EQUIPMENT IDENTIFICATION SHALL BE CONSIDERED PART OF THE EQUIPMENT PROVIDED BY THE CONTRACTOR AND SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.

- THE CONTRACTOR SHALL SUPPLY AVIATION BAND RADIOS TO EACH SUPERVISORY INDIVIDUAL AND CONTRACTOR LEAD / ESCORT VEHICLE, TO CONTINUOUSLY MONITOR GROUND CONTROL FREQUENCY ON 119.95 MHz.
- ALL NON-RADIO EQUIPPED CONTRACTOR VEHICLES AND EQUIPMENT THAT ARE REQUIRED TO OPERATE WITHIN THE AOA SHALL DO SO UNDER THE DIRECT CONTROL OF AN AIRPORT-APPROVED AND BADGED ESCORT VEHICLE.
- PORTABLE HAND-HELD RADIOS SHOULD BE PROVIDED TO ANY CONTRACTOR EMPLOYEES THAT ME BE OPERATING OUTSIDE OF THEIR VEHICLES OR EQUIPMENT, MEANING AWAY FROM HARD-WIRED RADIO SYSTEMS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING, IN WORKING ORDER, ALL RADIOS AT ALL TIMES FOR THE DURATION OF THE PROJECT. SHOULD THE CONTRACTOR FAIL TO PROVIDE

- WORKING RADIOS AT ANY POINT DURING CONSTRUCTION OPERATIONS. THE OWNER MAY CHOOSE TO CEASE ALL CONSTRUCTION ACTIVITY UNTIL WORKING RADIOS ARE PROVIDED. SUCH STOPPAGES OF WORK SHALL NOT AFFECT OVERALL OR PHASE DURATIONS OF THE CONTRACT.
- CONTRACTOR RADIOS SHALL BE USED FOR MONITORING PURPOSES ONLY AND SHALL NOT BE USED TO COMMUNICATE WITH THE ATCT. ALL COMMUNICATION WITH THE ATCT OR OTHER ELEMENTS OF THE AIRPORT SHALL BE THROUGH THE OWNER'S REPRESENTATIVE, AIRPORT OPERATIONS, AND / OR ENGINEER, AS APPROPRIATE.
- EACH FLAGMAN, SUPERVISORY INDIVIDUAL AND CONTRACTOR LEAD / ESCORT VEHICLE SHALL BE REQUIRED TO MONITOR TRUCK RADIOS AND / OR HAVE MOBILE PHONES FOR SENDING AND RECEIVING INSTRUCTIONS AT ALL TIMES. SUCH RADIOS AND / OR MOBILE PHONES SHALL BE USED ONLY FOR THE CONTRACTOR'S INTERNAL COMMUNICATIONS. USE OF RADIOS SHALL NOT INTERFERE WITH FREQUENCIES USED BY ATCT OR AIRPORT OPERATIONS. USE OF MOBILE PHONES SHALL BE RESTRICTED TO WORK-RELATED CALLS WITHIN THE AOA; NO PERSONAL CALLS WILL BE ALLOWED. THE CONTRACTOR SHALL MAINTAIN AN UP-TO-DATE CONTACT LIST WITH AIRPORT OPERATIONS FOR THE DURATION OF ALL PHASES OF WORK.
  - CONSTRUCTION EQUIPMENT AND VEHICLES SHALL NOT EXCEED 15 MPH WITHIN THE AOA. REQUESTED ADJUSTMENTS TO HAUL ROUTE SPEEDS MAY BE SUBMITTED TO (VA RFI), REVIEWED, COORDINATED, AND APPROVED BY AIRPORT OPERATIONS.
  - PRIOR TO COMMENCING WORK IN ANY AREA OF THE AOA, THE CONTRACTOR SHALL SUBMIT A WAN, AS ATTACHED IN SECTION 01761 - PROTECTION OF EXISTING SERVICES, TO AIRPORT OPERATIONS FOR APPROVAL. NO WORK IN A NEW AREA SHALL BE PERMITTED WITHOUT AN APPROVED WAN. WANS WILL BE PRESENTED TO STAKEHOLDERS BY THE OWNER ON TUESDAYS. WANS SHALL BE SUBMITTED A MINIMUM OF 72 HOURS PRIOR TO THE TUESDAY ON WHICH THE WAN WILL BE PRESENTED TO STAKEHOLDERS. THE WAN SHALL INCLUDE, AT MINIMUM, A SCOPE AND SCHEDULE FOR THE PROPOSED WORK TO BE PERFORMED, IMPACTS TO OPERATIONS FROM THE WORK, AND THE CONTRACTOR'S CONTACT PERSON INFORMATION FOR THE PROPOSED WORK. THE CONTRACTOR SHOULD ATTACH PLAN SHEETS FROM THE CONSTRUCTION CONTRACT SHOWING THE PROPOSED WORK OF THE SPECIFIC WAN.
  - NO AIRFIELD PAVEMENTS SHALL BE CLOSED WITHOUT WRITTEN APPROVAL OF AIRPORT OPERATIONS. TO ENABLE APPROPRIATE NOTAMS OR ADVISORIES TO AIRPORT SERVICES OR TENANTS, A MINIMUM OF TEN (10) DAYS WRITTEN NOTICE REQUESTING CLOSING SHALL BE DIRECTED TO AIRPORT OPERATIONS. THIS SHALL INCLUDE THE SUBMISSION OF A WAN.
  - AIRPORT OPERATIONS SHALL, AT ALL TIMES, HAVE COMPLETE JURISDICTION OVER THE SAFETY OF ALL AIRCRAFT OPERATIONS DURING THE WORK. WHEREVER THE SAFETY OF AIR TRAFFIC IS CONCERNED, THE DECISIONS OF THE AIRPORT DIRECTOR OR HIS / HER DESIGNATED REPRESENTATIVE, SHALL BE FINAL AS TO METHODS, PROCEDURES AND MEASURES USED.
  - PRIOR TO OPENING FOR AIRCRAFT USE AND THE DEPARTURE OF THE CONTRACTOR'S WORK CREWS, THE OWNER'S REPRESENTATIVE WILL ARRANGE FOR INSPECTION BY AIRPORT OPERATIONS OF ANY AIRFIELD PAVEMENT, RSA, TSA, OFA, OR TOFA THAT HAS BEEN CLOSED FOR WORK, OR THAT HAS BEEN USED FOR A CROSSING POINT OR HAUL ROUTE BY THE CONTRACTOR. THESE AREAS MUST COMPLY WITH THE SAFETY REQUIREMENTS, DEFINED BY FEDERAL AVIATION REGULATIONS PART 139, AS INTERPRETED BY THE DESIGNATED OPERATION'S INSPECTOR, BEFORE PERMISSION FOR THE CONTRACTOR'S WORK CREWS TO DEPART WILL BE GRANTED.
  - THE CONTRACTOR IS DIRECTED TO COMPLY WITH AND ACQUAINT HIS / HER EMPLOYEES WITH CURRENT EDITION, LATEST CHANGE, OF THE FOLLOWING SAFETY FAA ADVISORY CIRCULARS:
    - 150 / 5370-2, OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION;
    - 150 / 5200-18, AIRPORT SAFETY-SELF INSPECTION; AND
    - 150 / 5210-5, PAINTING, MARKING AND LIGHTING OF VEHICLES USED ON AIRPORTS.
  - THESE DOCUMENTS AND RELATED REQUIREMENTS ARE DESCRIBED IN MORE DETAIL IN THE CONTRACT SPECIFICATIONS.
  - ALL CONTRACTOR PERSONNEL SHALL COMPLY WITH THE AIRPORT'S SAFETY PLAN, THE SAFETY PLAN, AIRPORT ID, AND SECURITY PROGRAMS ARE UNDER CONSTANT REVIEW BY THE TRANSPORTATION SECURITY ADMINISTRATION AND ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL COMPLY WITH ALL CHANGES TO THE NOTED PROGRAMS AT NO ADDITIONAL COMPENSATION.
  - THE CONTRACTOR SHALL CONFINE HIS / HER PERSONNEL, EQUIPMENT, OPERATIONS AND TRAVEL TO THE AREA WITHIN THE DEFINED WORK LIMITS SHOWN IN THE PLANS. THE CONTRACTOR SHALL NOT ALLOW EMPLOYEES, SUBCONTRACTORS, SUPPLIERS, OR ANY PERSON UNDER CONTRACTOR CONTROL TO ENTER OR REMAIN IN ANY PART OF THE AIRPORT WHICH WOULD BE HAZARDOUS TO PERSONS OR TO AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL INFORM ALL CONSTRUCTION PERSONNEL OF THE PROPER ROUTES, SPEEDS, AND PROCEDURES FOR TRANSPORTING EQUIPMENT AND MATERIALS TO THE CONSTRUCTION SITE AND ALL RESTRICTIONS TO MOVEMENT OF EQUIPMENT OR PERSONNEL WITHIN THE AIR OPERATIONS AREA. ON A DAILY BASIS AND MORE OFTEN IF NECESSARY, ALL PERSONNEL SHALL BE ADVISED OF ANY CHANGES IN AIRPORT OPERATIONS THAT MAY FURTHER RESTRICT THEIR MOVEMENT.
  - HAS RESERVES THE RIGHT TO SUSPEND CONSTRUCTION OPERATIONS FOR SHORT PERIODS OF TIME (I.E. WHILE AN AIRCRAFT PASSES), DAILY, OR BETWEEN CONSTRUCTION PHASES, AND / OR CHANGE THE ORDER OF CONSTRUCTION PHASING DURING THE PROJECT IF IT IS DETERMINED TO BE IN THE BEST INTEREST OF AIRPORT OPERATIONS OR SAFETY. THE CONTRACTOR MAY BE DIRECTED TO MOVE PERSONNEL, EQUIPMENT, AND MATERIALS TO A SAFE LOCATION AND / OR EVACUATE THE SITE IN ORDER TO ENABLE AIRCRAFT OPERATIONS. NECESSARY EXTENSIONS IN CONTRACT TIME WILL BE GRANTED OR A STOP WORK ORDER WILL BE ISSUED DUE TO THESE DELAYS. HOWEVER, THERE WILL BE NO ADJUSTMENTS IN CONTRACT PRICE DUE TO THESE DELAYS, UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS.
  - THE CONTRACTOR SHALL ALSO SUBMIT A DESTRUCTIVE / INCREMENT WEATHER PLAN, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES, TO SET FORTH GENERAL GUIDANCE AND INFORMATION FOR THE CONTRACTOR TO COORDINATE PREPAREDNESS PLANS WHEN DESTRUCTIVE WEATHER THREATENS THE AIRPORT ENVIRONMENT.

- THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES, A SPCD IN ACCORDANCE WITH FAA AC 150 / 5370-2, CURRENT EDITION, LATEST CHANGE. THE CONTRACTOR SHALL SUBMIT THE SPCD PRIOR TO A NOTICE TO PROCEED BEING ISSUED. FOR ADDITIONAL SPCD REQUIREMENTS, REFER TO THE CSPP, SECTION 01506 - AIRPORT TEMPORARY CONTROLS, AND SECTION 01550 - PUBLIC SAFETY AND CONTRACTOR'S SAFETY STAFFING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL NECESSARY BARRICADES TO MARK CONSTRUCTION AREAS, HAZARDS, ETC. THE CONTRACTOR MUST PROMINENTLY MARK OPEN TRENCHES AND EXCAVATIONS AT THE CONSTRUCTION SITE WITH RED OR ORANGE FLAGS, AS APPROVED BY AIRPORT OPERATIONS, AND LIGHT THEM WITH RED LIGHTS DURING RESTRICTED VISIBILITY OR DARKNESS. THE CONTRACTOR SHALL ADDITIONALLY HAVE ALL ACCESS GATES GUARDED AND LOCKABLE, AND HAVE ALL VEHICLES AND EQUIPMENT EITHER FLAGGED OR LIGHTED.
- THE ENTRANCES TO CLOSED PAVEMENTS SHALL BE BARRICADED TO PREVENT AIRCRAFT FROM ENTERING UNUSABLE OR HAZARDOUS OPERATIONAL AREAS.

BARRICADES SHALL BE INTEGRATED AS A PART OF THE SPCD. THE CONTRACTOR SHALL INSTALL THE COMPONENTS OF THE PLAN AT THE APPROPRIATE TIMES AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INSPECT EVERY ASPECT OF THE SPCD ON AT LEAST A DAILY BASIS AND ENSURE ALL COMPONENTS ARE FUNCTIONING PROPERLY. AIRPORT OPERATIONS WILL ALSO FREQUENTLY INSPECT THE SYSTEM AND IF ANY DEFICIENCIES ARE NOTED, THE CONTRACTOR SHALL IMMEDIATELY CORRECT ANY AND ALL DEFICIENCIES. THE CONTRACTOR SHALL VISUALLY CHECK BARRICADE FLASHING LIGHTS ON A DAILY BASIS, 30 MINUTES BEFORE SUNSET FOR PROPER OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY REPLACE LIGHTS, BATTERIES, AND / OR LAMPS AS DEEMED NECESSARY BY THE CONTRACTOR OR AIRPORT OPERATIONS. THE SYSTEM ELEMENTS TO BE INSPECTED AND DEFICIENCIES NOTED ARE AS FOLLOWS:

  - BARRICADES SET PROPERLY AND ALL FLASHING WARNING LIGHTS OPERATING PROPERLY.
  - ALL CONTRACTOR PERSONNEL AND EQUIPMENT ACCESS GATES MANNED AND SECURITY PROCEDURES IN PLACE.
  - ALL VEHICLES AND EQUIPMENT LIGHTED. A CONSTRUCTION SAFETY FLAG MAY BE USED TO SUPPLEMENT THE FLASHING LIGHT OR FOR TRANSIENT TRUCKS DELIVERING MATERIALS DURING DAYTIME OPERATIONS ONLY.
  - CONTRACTOR USE OF UNAUTHORIZED AIRPORT ACCESS GATES CHECKED.
  - ILLUMINATED RUNWAY CLOSURE LIGHTS IN POSITION AND OPERATIONAL, IF APPLICABLE.
- AIRPORT OPERATIONS SHALL NOTIFY THE CONTRACTOR IN WRITING OF ANY OF THE ABOVE SAFETY AND SECURITY ITEMS FOUND TO BE DEFICIENT. ANY DEFICIENCY NOTED BY AIRPORT OPERATIONS SHALL RESULT IN THAT DAY'S PRORATED SAFETY AND SECURITY BID ITEM, ESTABLISHED IN SECTION 01 35 13.14 - SAFETY AND SECURITY, BEING DEDUCTED PERMANENTLY FROM THE CONTRACTOR'S EARNINGS. THE CONTRACTOR SHALL MAKE A CONCERTED EFFORT TO ENSURE ALL SAFETY AND SECURITY ITEMS ARE IN PROPER WORKING ORDER EACH DAY DUE TO THE HEIGHTENED SECURITY STATUS OF THE AIRPORT AND THE CONSIDERABLE LIABILITY ASSOCIATED WITH THE SAFETY AND SECURITY ELEMENTS REQUIRED FOR THE WORK.
- CLOSED TAXIWAYS AND / OR RUNWAY SHALL BE BARRICADED OFF AT ALL INTERSECTIONS WITH ACTIVE RUNWAYS AND / OR TAXIWAYS. THE CONTRACTOR SHALL HAVE PERSONNEL ON CALL 24 HOURS PER DAY FOR EMERGENCY MAINTENANCE OF AIRPORT HAZARD LIGHTING AND BARRICADES.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO ENSURE THE SAFETY OF OPERATING AIRCRAFT AS WELL AS HIS / HER OWN EQUIPMENT AND PERSONNEL. SPECIAL CONSIDERATIONS SHOULD BE GIVEN TO FLIGHT SCHEDULES AND MISCELLANEOUS AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL OBEY ALL INSTRUCTIONS AS TO ROUTES TO BE TAKEN BY VEHICLES AND EQUIPMENT TRAVELING WITHIN THE AOA AND KEEP SUCH VEHICLES AND EQUIPMENT MARKED WITH THE SPECIFIED AIRPORT SAFETY LIGHTS OR FLAGS. EQUIPMENT NOT ACTUALLY IN OPERATION SHALL BE PROHIBITED IN ANY ACTIVE RSA, OFZ, OR TOFA. PERSONNEL SHALL NOT ENTER ACTIVE AIRFIELD PAVEMENTS WITHOUT SPECIFIC PERMISSION.
- THE CONTRACTOR SHALL TAKE ALL STEPS TO PROTECT THE EXISTING RUNWAY AND TAXIWAY LIGHTS AND SIGNS, NAVAIDS, UNDERGROUND CABLES, AND ASSOCIATED APPURTENANCES DURING CONSTRUCTION IN ORDER TO ENSURE CONTINUOUS OPERATION, UNLESS OTHERWISE NOTED IN THE PLANS.
- FOR ANY RESTRICTIONS TO AIRCRAFT OPERATIONS, AIRPORT OPERATIONS SHALL GIVE PROPER NOTICE TO THE NEAREST FAA FLIGHT SERVICE STATION PRIOR TO THE START OF WORK, AND FOR ANY SUBSEQUENT CHANGES NEEDED IN THE NOTAM WHICH MAY BE ISSUED DURING THE PERIOD OF WORK.
- ALL CONSTRUCTION SITE PERSONNEL SHALL WEAR HIGH-VISIBILITY WARNING GARMENTS AND IDENTIFIABLE HARD HATS IN ACCORDANCE WITH ALL APPLICABLE OSHA, ANSI, ISEA, LOCAL, STATE, AND / OR FEDERAL REGULATIONS.
- ALL CONTRACTOR VEHICLES AND EQUIPMENT BROUGHT INTO THE AOA SHOULD BE SERVICED AND MAINTAINED PRIOR TO ENTERING THE AOA TO PREVENT FUEL, HYDRAULIC FLUID, OR OTHER CHEMICAL FLUID LEAKS AND EXCESSIVE EXHAUST THAT MAY CAUSE ENVIRONMENTAL ISSUES. VEHICLES AND EQUIPMENT THAT MAY CAUSE ENVIRONMENTALLY DETRIMENTAL CONDITIONS SHALL BE PROHIBITED FROM ENTERING THE AOA. HOWEVER, ALL CONTRACTOR PERSONNEL OPERATING CONSTRUCTION VEHICLES AND EQUIPMENT ON THE AIRPORT MUST NOTIFY AIRPORT OPERATIONS IMMEDIATELY AND EXPEDITIOUSLY CONTAIN AND CLEAN-UP SPILLS RESULTING FROM FUEL, HYDRAULIC FLUID, OR OTHER CHEMICAL FLUID LEAKS WITHIN ONE (1) HOUR OF THE SPILL OCCURRING. TRANSPORT AND HANDLING OF OTHER HAZARDOUS MATERIALS ON AN AIRPORT ALSO REQUIRES SPECIAL PROCEDURES. TO THAT END, THE CONTRACTOR IS REQUIRED TO DEVELOP AND IMPLEMENT SPILL PREVENTION AND RESPONSE PROCEDURES FOR VEHICLE OPERATIONS. THE CONTRACTOR SHALL INCORPORATE THESE PROCEDURES INTO THE SPCD. THIS INCLUDES MAINTENANCE OF APPROPRIATE MSDS DATA AND APPROPRIATE PREVENTION AND RESPONSE EQUIPMENT ON-SITE.

- THE CONTRACTOR SHALL USE, MANAGE, HANDLE, AND DISPOSE OF ALL "HAZARDOUS MATERIALS" IN STRICT ACCORDANCE WITH ALL APPLICABLE ENVIRONMENTAL LAWS. FOR THE PURPOSES OF THIS PROJECT, THE TERM "HAZARDOUS MATERIALS" SHALL BE DEFINED IN THE BROADEST SENSE TO ENCOMPASS ANY AND ALL SUBSTANCES, MATERIALS, WASTES, POLLUTANTS, OR OILS REFERRED TO IN ANY ENVIRONMENTAL LAW AS TOXIC, RADIOACTIVE, DANGEROUS, OR ANY OTHER SIMILAR TERM. ENVIRONMENTAL LAWS SHALL BE DEFINED TO MEAN ALL APPLICABLE FEDERAL, STATE, AND LOCAL STATUTES, ORDINANCES, REGULATIONS, RULES, POLICIES, CODES, AND GUIDELINES IN EFFECT DURING THE TERM OF THE PROJECT.
- CONSTRUCTION EQUIPMENT SHALL HAVE A MAXIMUM HEIGHT OF 25 FEET. SHOULD THE USE OF CONSTRUCTION EQUIPMENT WITH HEIGHTS GREATER THAN 25 FEET BE REQUIRED, INCLUDING CRANES, THE CONTRACTOR SHALL SUBMIT FAA FORM 7460-1 TO THE FAA FOR APPROVAL. THE FAA MUST PROVIDE APPROVAL PRIOR TO USE OF THE REQUESTED EQUIPMENT - FAA RESPONSE TIME MAY TAKE 60-90 DAYS.
- CONSTRUCTION ACTIVITIES ARE PROHIBITED IN ANY ACTIVE RSA, OFZ, OR TOFA, WHEN CONSTRUCTION, MEN, OR EQUIPMENT ARE WITHIN ANY RSA, OFZ, OR TOFA, THOSE AREAS WILL BE CLOSED TO ALL AIRCRAFT OPERATIONS OR RESTRICTED, UNLESS OTHERWISE INDICATED IN THE PHASING PLAN SHEETS OR AS APPROVED BY AIRPORT OPERATIONS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SHEETING, SHORING AND BRACING IS DONE IN ACCORDANCE WITH CURRENT OSHA REGULATIONS AND REQUIREMENTS. SHEETING, SHORING AND BRACING IS CONSIDERED TO BE AN INCIDENTAL PART OF THE WORK AND SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE PROJECT, EXCEPT AS PROVIDED IN THE PROJECT MANUAL.
- SPECIAL ATTENTION TO DUST CONTROL IS REQUIRED, PARTICULARLY WHEN EARTHWORK OR HAULING OPERATIONS ARE IN PROGRESS OR WHEN WIND AND WEATHER CONDITIONS CAUSE EXCESSIVE BLOWING OF DUST. THE CONTRACTOR SHALL APPLY WATER TO THE AFFECTED SITES AS DIRECTED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL REGULARLY APPLY WATER TO HAUL ROUTES TO KEEP DUST DOWN. THE CONTRACTOR SHALL HAVE PERSONNEL ON CALL 24 HOURS PER DAY FOR EMERGENCY DUST CONTROL OPERATIONS. THE CONTRACTOR PERSONNEL ON CALL FOR DUST CONTROL SHALL RESPOND WITHIN 20 MINUTES DURING TIMES WHEN THE CONTRACTOR IS ON SITE AND WITHIN TWO (2) HOURS WHEN NO WORK IS BEING PERFORMED.
- AT THE COMPLETION OF EACH WORK PERIOD, THE CONTRACTOR SHALL CLEAN THE PROJECT WORK AREA AND REMOVE ALL EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE PROJECT WORK AREA. THE CONTRACTOR SHALL SWEEP AND / OR VACUUM ALL PAVEMENTS PRIOR TO VACATING THE WORK AREA, OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL ENSURE THAT ALL ACTIVE AIRFIELD SURFACES AFFECTED BY CONSTRUCTION OPERATIONS ARE KEPT FREE OF ANY AND ALL FOD DEPOSITED BY EITHER CONSTRUCTION TRAFFIC, CONSTRUCTION OPERATIONS, WINDBLOWN DEBRIS, OR DEBRIS DEPOSITED AS THE RESULT OF ANY OTHER SOURCE. ANY DAMAGE TO AIRCRAFT ATTRIBUTABLE TO FOD FROM THE CONSTRUCTION WORK SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL COSTS ASSOCIATED WITH CLEANING, INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- REFER TO CSPP FOR ADDITIONAL SAFETY REQUIREMENTS.

## AIRPORT SECURITY REQUIREMENTS

- THE CONTRACTOR SHALL BE REQUIRED TO ATTEND A SPECIAL SECURITY MEETING WITH AIRPORT SECURITY OFFICERS PRIOR TO CONSTRUCTION OPERATIONS. THIS MEETING MUST BE ATTENDED BY THE CONTRACTOR'S SENIOR FIELD STAFF, INCLUDING BUT NOT LIMITED TO SUPERINTENDENTS AND TEAM LEADERS.
- THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE AIRPORT SECURITY PLAN AND WITH THE SECURITY REQUIREMENTS SPECIFIED HEREIN AND AS REQUIRED BY AIRPORT OPERATIONS. THE CONTRACTOR SHALL DESIGNATE TO THE OWNER AND AIRPORT OPERATIONS, IN WRITING, THE NAME OF HIS / HER "CONTRACTOR SECURITY AND SAFETY OFFICER (CSSO)". THE CSSO SHALL REPRESENT THE CONTRACTOR ON THE SECURITY REQUIREMENTS FOR THE CONTRACT. SEE SECTION 01 35 13.14, SAFETY AND SECURITY FOR CSSO RESPONSIBILITIES.
- ALL CONTRACTOR TRAFFIC AUTHORIZED TO ENTER THE AOA SHALL BE EXPERIENCED IN THE ROUTE OR GUIDED BY AN AIRPORT-APPROVED AND BADGED ESCORT VEHICLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL TO AND FROM THE VARIOUS CONSTRUCTION AREAS ON THE SITE, AND FOR THE OPERATION AND SECURITY OF THE ACCESS GATE TO THE SITE. A CONTRACTOR'S FLAGMAN OR TRAFFIC CONTROL PERSON SHALL MONITOR AND COORDINATE ALL CONTRACTOR TRAFFIC AT THE ACCESS GATE WITH SECURITY. THE CONTRACTOR SHALL NOT PERMIT ANY UNAUTHORIZED CONSTRUCTION PERSONNEL OR TRAFFIC ON THE SITE AND SHALL PROHIBIT "PIGGYBACKING" OF MULTIPLE VEHICLES BEHIND AN AUTHORIZED VEHICLE. ACCESS GATES TO THE SITE SHALL BE LOCKED AND SECURED AT ALL TIMES WHEN NOT ATTENDED BY THE CONTRACTOR. IF THE CONTRACTOR CHOOSES TO GIVE ANY ACCESS GATE OPEN, IT SHALL BE ATTENDED BY CONTRACTOR PERSONNEL WHO ARE FAMILIAR WITH THE REQUIREMENTS OF THE AIRPORT OPERATIONS SECURITY PROGRAM. DIRECTIONAL SIGNING FROM THE ACCESS GATE ALONG THE DELIVERY ROUTE TO THE STORAGE AREA, PLANT SITE OR WORK SITE SHALL BE AS DIRECTED BY AIRPORT OPERATIONS.
- THE CONTRACTOR SHALL FURNISH TO THE GATE GUARD A LIST OF AUTHORIZED DELIVERY VEHICLES TO ENTER THE GATE AND RECORD THE VEHICLE LICENSE PLATE, TIME IN, AND TIME OUT FOR EACH VEHICLE USING THE GATE. THE GATE GUARD WILL ISSUE A PLACARD WITH A PROJECT SPECIFIC COLOR TO EACH DELIVERY VEHICLE FOR PLACEMENT IN THE FRONT WINDOW. THIS PLACARD WILL BE ISSUED UPON THE FIRST ENTRY TO THE SITE OF THE DAY, AND COLLECTED UPON THE FINAL EXIT FROM THE SITE AT THE END OF THE DAY.
- ALL CONTRACTOR'S MATERIAL ORDERS FOR DELIVERY TO THE WORK SITE WILL USE AS A DELIVERY ADDRESS, THE STREET NAME ASSIGNED TO THE ACCESS POINT AT THE CONTRACTOR'S STAGING AREA AS SHOWN IN THE PROJECT PLANS. THE NAME "GEORGE BUSH INTERCONTINENTAL AIRPORT", OR ANY SIMILAR NAME, SHALL NOT BE USED IN THE DELIVERY ADDRESS AT ANY TIME. THIS WILL PRECLUDE DELIVERY TRUCKS FROM ENTERING INTO THE TERMINAL COMPLEX, OR TAKING SHORT CUTS THROUGH THE PERIMETER GATES AND INADVERTENTLY ENTERING THE AOA.

- THE LIMITS OF CONSTRUCTION, MATERIAL STORAGE AREAS, PLANT SITE, EQUIPMENT STORAGE AREA, PARKING AREA AND OTHER AREAS DEFINED AS REQUIRED FOR THE CONTRACTOR'S EXCLUSIVE USE DURING CONSTRUCTION SHALL BE MARKED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SECURITY FENCING, MARKINGS, AND WARNING DEVICES TO PROTECT HIS / HER OWN EQUIPMENT AND MATERIALS. ANY SECURITY MEASURES DEEMED NECESSARY BY THE CONTRACTOR IN THE PROTECTION OF HIS / HER OWN EQUIPMENT AND MATERIALS SHALL BE SUBMITTED TO AIRPORT OPERATIONS, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES, FOR REVIEW AND APPROVAL. TEMPORARY BARRICADES, FLAGGING AND FLASHING WARNING LIGHTS WILL BE REQUIRED AT CRITICAL ACCESS POINTS. ALL COSTS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE ITEMS INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- ALL CONTRACTOR EMPLOYEES, SUBCONTRACTORS, AGENTS, VENDORS, INVITEES, ETC., REQUIRING ACCESS TO THE CONSTRUCTION SITE SHALL, IN ACCORDANCE WITH THE AIRPORT OPERATIONS SECURITY PROGRAM, BE REQUIRED TO DISPLAY AIRPORT ISSUED IDENTIFICATION OR BE UNDER AIRPORT-APPROVED AND BADGED ESCORT PERSONNEL. THESE BADGES WILL BE IDENTIFIED NUMERICALLY AND ISSUED TO INDIVIDUAL EMPLOYEES WITH A PERMANENT RECORD MAINTAINED ON EACH INDIVIDUAL TO WHOM A BADGE IS ISSUED. IN ADDITION, A \$55 NON-REFUNDABLE PROCESSING FEE WILL BE REQUIRED FOR EACH BADGE. THIS FEE MUST BE PAID BEFORE A BADGE IS ISSUED. NO BADGE WILL BE ISSUED TO ANY PERSON UNTIL A REVIEW OF THE REQUIRED PAPERWORK BY AIRPORT SECURITY AND ALL REQUIREMENTS ARE MET. PAPERWORK SHALL BE SUBMITTED A MINIMUM OF 24 HOURS BEFORE ISSUANCE OF A BADGE. THE CONTRACTOR IS RESPONSIBLE FOR PERSONNEL ATTENDING TRAINING AND COMPLETING SECURITY BADGE APPLICATIONS, WHICH WILL INCLUDE AOA MOVEMENT REQUIREMENTS AND AIRPORT FAMILIARIZATION. ESTIMATED TIME FOR COMPLETION IS TWO (2) HOURS. FLAGMEN MUST BE BADGED AND MUST HAVE SUCCESSFULLY COMPLETED THE AIRPORT FLAGMAN TRAINING INSTRUCTED BY AIRPORT OPERATIONS, IN ADDITION TO THE REGULAR BADGE AND AOA MOVEMENT TRAINING, PRIOR TO PERFORMING IN THAT CAPACITY ON AIRPORT PROPERTY. AT THE COMPLETION OF THE CONTRACT ALL BADGES WILL BE RETURNED TO THE AIRPORT. A CHARGE OF \$100 PER BADGE WILL BE ASSESSED FOR ALL UNRETURNED BADGES. GATE GUARDS AND ESCORTS SHALL BE CONSIDERED UNDER THE FLAGMEN CLASSIFICATION AND SHALL BE SUBJECT TO THE SAME REQUIREMENTS AS FLAGMEN.
- THE CONTRACTOR, THROUGH THE CSO, SHALL ESTABLISH AND MAINTAIN A LIST OF CONTRACTOR AND SUBCONTRACTOR VEHICLES AUTHORIZED TO OPERATE ON THE SITE AND SHALL ISSUE A PERMIT TO EACH VEHICLE TO BE MADE AVAILABLE UPON DEMAND BY AIRPORT OPERATIONS OR ANY AIRPORT REPRESENTATIVES. PERSONAL AND / OR CONTRACTOR EMPLOYEE VEHICLES SHALL BE RESTRICTED TO THE CONTRACTOR'S EMPLOYEE PARKING AREA AND ARE NOT ALLOWED ON THE AOA AT ANY TIME.
- PAYMENT OF ALL FINES ASSESSED TO THE AIRPORT, DUE TO VIOLATIONS BY THE CONTRACTOR OF FAA / TRANSPORTATION SECURITY ADMINISTRATION SECURITY OR SAFETY REQUIREMENTS, SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE DEDUCTED FROM MONIES DUE THE CONTRACTOR.
  - IF A RESTRICTED AREA GATE IS FOUND TO BE OPEN OR UNLOCKED AND UNATTENDED, AIRPORT SECURITY POLICE AND / OR TRANSPORTATION SECURITY ADMINISTRATION MAY ISSUE THE CONTRACTOR A CITATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COURT COSTS AND IMPOSED FINES. IN ADDITION, A CHARGE OF UP TO \$10,000.00 MAY BE LEVIED BY HAS AND / OR TRANSPORTATION SECURITY ADMINISTRATION FOR EACH VIOLATION SO DOCUMENTED AND UPON THE REQUEST FOR FINAL PAYMENT THE TOTAL OF ANY SUCH CHARGES WILL BE DEDUCTED FROM MONIES DUE THE CONTRACTOR.
  - IN THE EVENT THE CONTRACTOR DEVIATES FROM THE IDENTIFIED CONSTRUCTION LIMITS AND / OR DESIGNATED HAUL ROUTES ONTO AN ACTIVE AIRFIELD PAVEMENT, THE CONTRACTOR WILL BE FINED \$1,000.00 PER OCCURRENCE WHICH WILL BE DEDUCTED FROM THE FINAL CONTRACT AMOUNT DUE THE CONTRACTOR. IN ADDITION TO FINES, A NOTICE OF VIOLATION (NOV) MAY BE ISSUED, WHICH MAY INCLUDE SUSPENSION OF WORK OR TERMINATION, DEPENDING ON THE LEVEL OF VIOLATION COMMITTED (SEE CSPP IN PROJECT MANUAL FOR MORE DETAIL).
- ANYONE FOUND IN VIOLATION OF AIRPORT RULES, REGULATIONS, AND SAFETY PLAN MAY BE PROMPTLY AND PERMANENTLY REMOVED FROM THE JOB SITE AND MAY BE SUBJECT TO ARREST FOR ALL PUNISHABLE STATE AND FEDERAL OFFENSES.

**FOR ALL EMERGENCIES CONTACT  
GEORGE BUSH INTERCONTINENTAL  
AIRPORT RESCUE AND FIRE  
PERSONNEL AT 911 FOLLOWED BY  
CALL TO HOUSTON OPERATIONS  
(281) 233-1131**

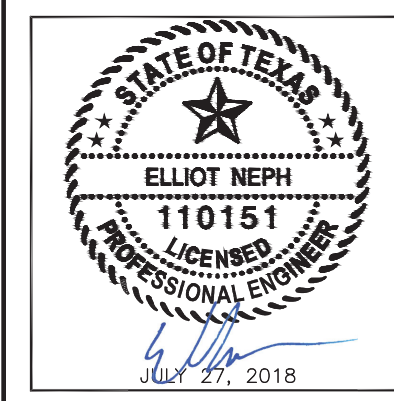


REVISIONS		
NO.	DESCRIPTION	DATE

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**SAFETY AND SECURITY NOTES**

ISSUED FOR BID
PROJECT MGR: BMS
DESIGNER: EBN
DRAWN BY: MRM
CHECKED BY: SMC
SCALE: NTS
DATE: JULY 27, 2018

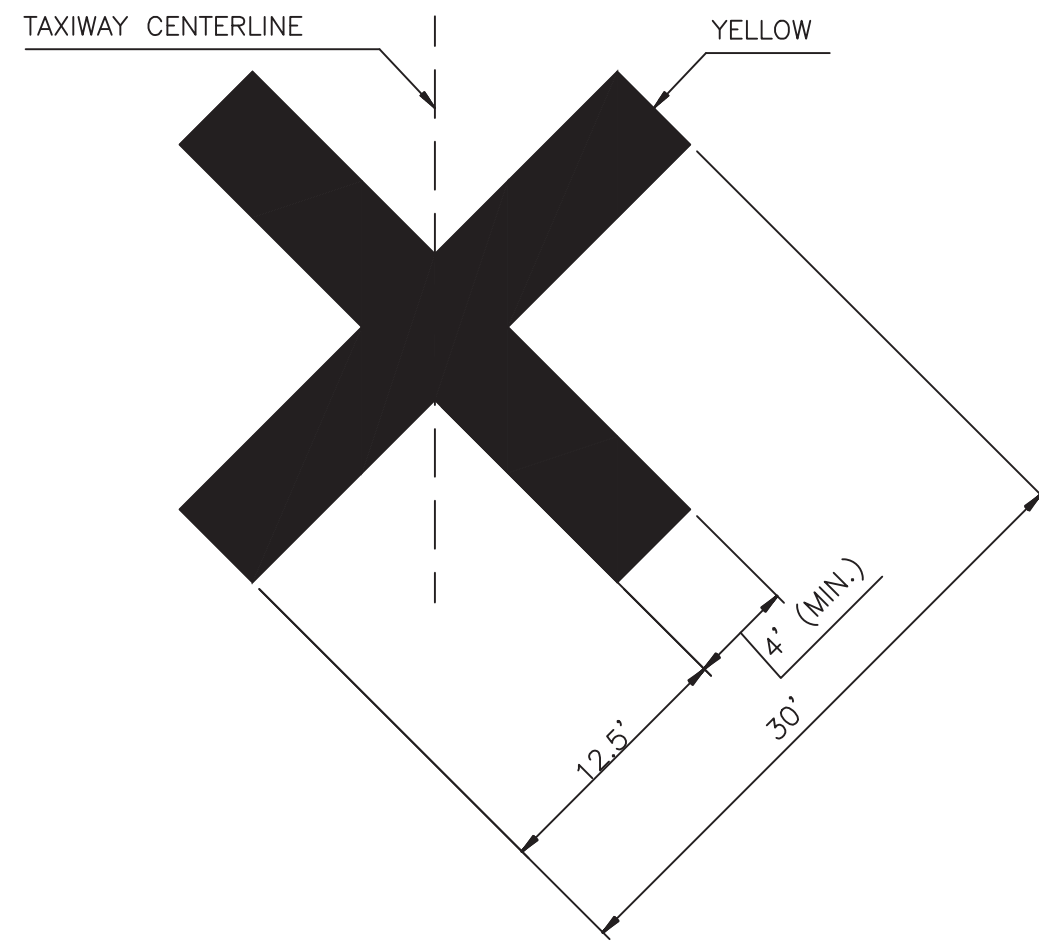


DEPARTMENT OF AVIATION
APPROVED BY: <i>Danaj Pahnd</i> DATE:
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**G04.02**

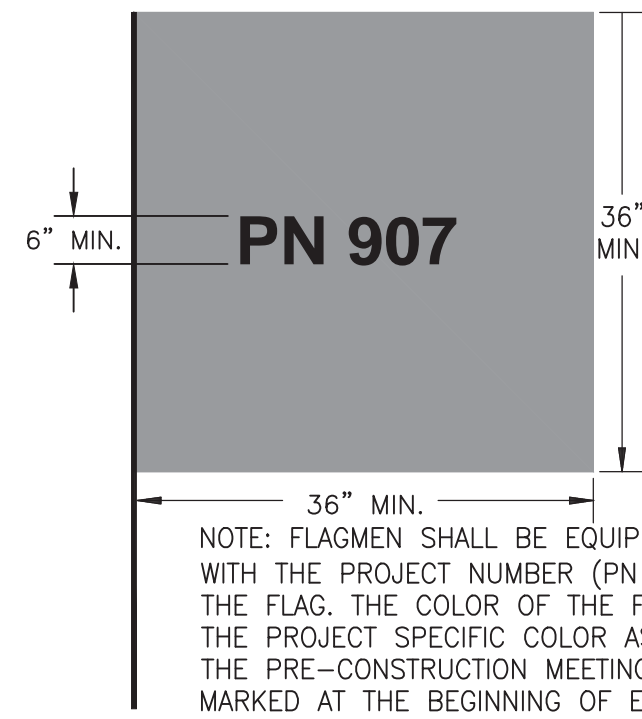




**NOTES:**

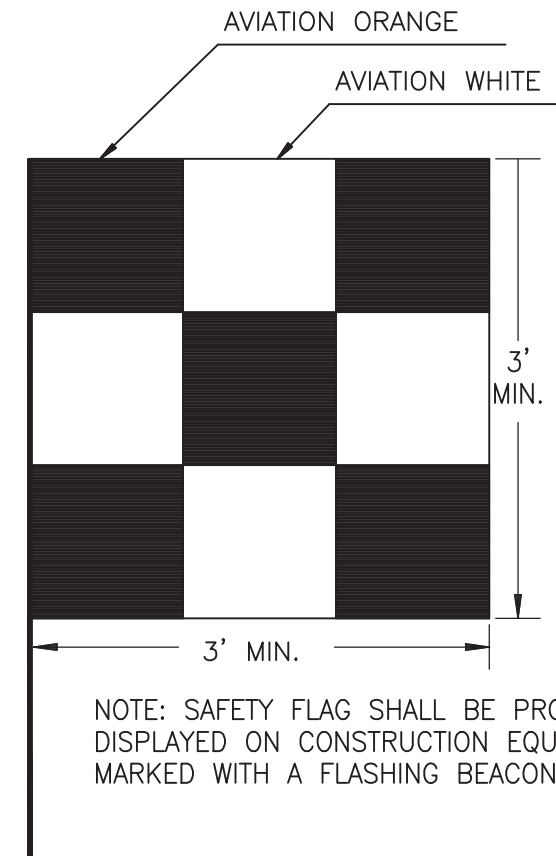
1. THE CONTRACTOR SHALL PROVIDE ONE UNLIT TAXIWAY CLOSURE MARKER FOR IDENTIFICATION AT THE INTERSECTION OF THE RUNWAY AND TEMPORARILY CLOSED TAXIWAYS. REFER TO PHASING SHEETS FOR REQUIRED LOCATIONS DURING CORRESPONDING PHASES.
2. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN IN WORKING ORDER UNLIT TAXIWAY CLOSURE MARKER DEVICES IN NEW OR GOOD CONDITION. UNLIT TAXIWAY CLOSURE MARKER SHALL BE YELLOW AND SHALL BE ADEQUATELY SECURED AGAINST MOVEMENT DUE TO WIND AND/OR AIRCRAFT ENGINE THRUST. PLACEMENT, CONDITION, AND ANCHORAGE SHALL BE INSPECTED AND APPROVED BY AIRPORT OPERATIONS. PLACEMENT AND REMOVAL SHALL BE ONLY AT THE DIRECTION OF THE AIRPORT AND/OR ENGINEER. UNLIT TAXIWAY CLOSURE MARKERS SHALL COMPLY WITH FAA AC 150/5370-2, OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION, CURRENT EDITION, LATEST CHANGE, AND FAA AC 150/5340-1, STANDARD FAA AIRPORT MARKINGS, CURRENT EDITION, LATEST CHANGE.
3. AN UNLIT TAXIWAY CLOSURE MARKER SHALL BE PLACED AT THE ENTRANCE TO THE CLOSED TAXIWAY FROM THE RUNWAY. PLACEMENT TIME SHALL BE COORDINATED WITH AIRPORT OPERATIONS.
4. ALL COSTS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND REMOVAL OF UNLIT TAXIWAY CLOSURE MARKERS INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO SECTION 01 59 01, TEMPORARY CONSTRUCTION BID ITEMS.

**1 UNLIT TAXIWAY CLOSURE MARKER**  
SCALE:N.T.S.



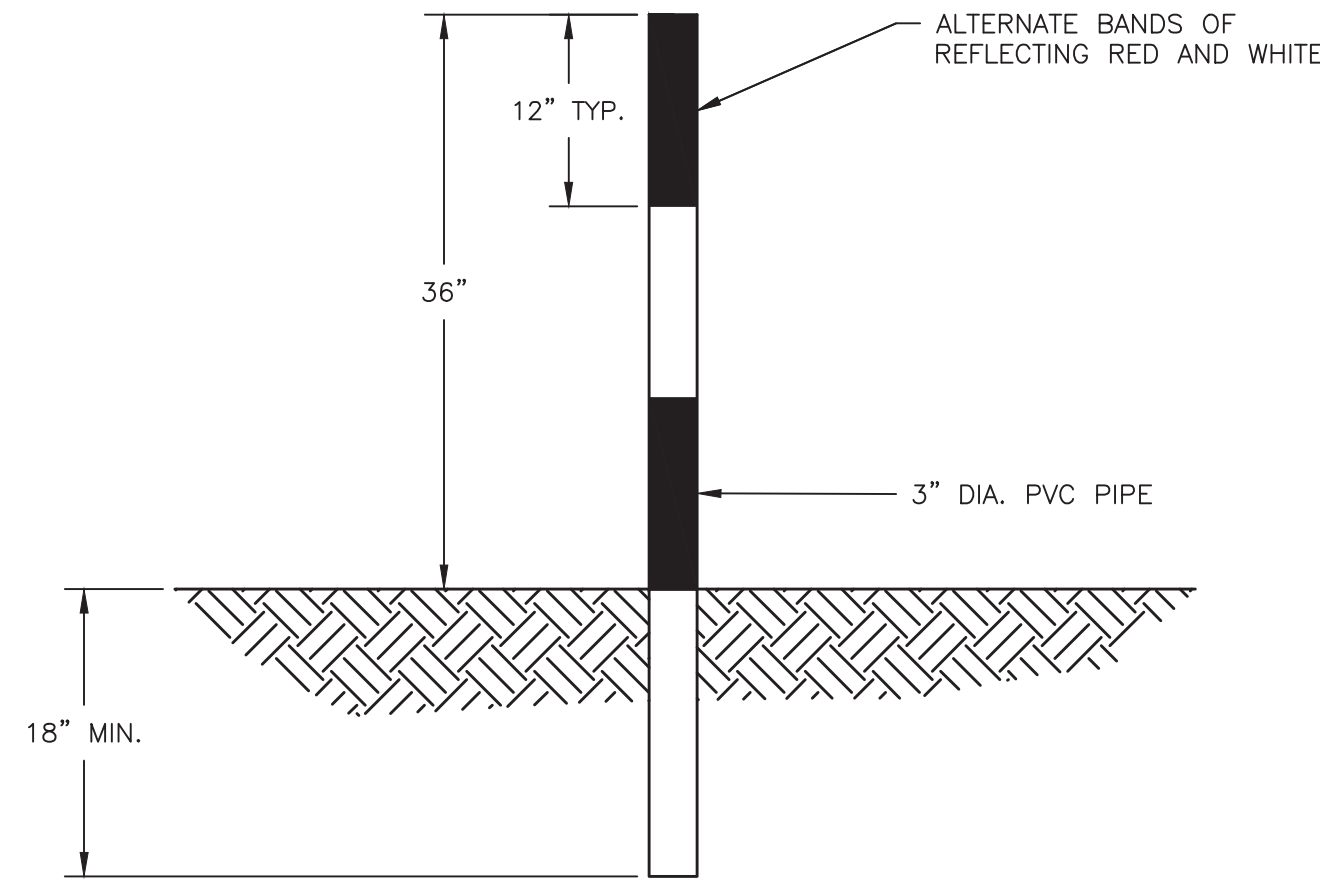
NOTE: FLAGMEN SHALL BE EQUIPPED WITH HAUL ROUTE FLAGS WITH THE PROJECT NUMBER (PN 907) CLEARLY IDENTIFIED ON THE FLAG. THE COLOR OF THE FLAG SHALL MATCH THAT OF THE PROJECT SPECIFIC COLOR ASSIGNED TO THE PROJECT AT THE PRE-CONSTRUCTION MEETING. HAUL ROUTES SHALL BE MARKED AT THE BEGINNING OF EACH PHASE AND MAINTAINED THROUGHOUT.

**2 HAUL ROUTE FLAG**  
SCALE:N.T.S.



NOTE: SAFETY FLAG SHALL BE PROMINENTLY DISPLAYED ON CONSTRUCTION EQUIPMENT UNLESS MARKED WITH A FLASHING BEACON.

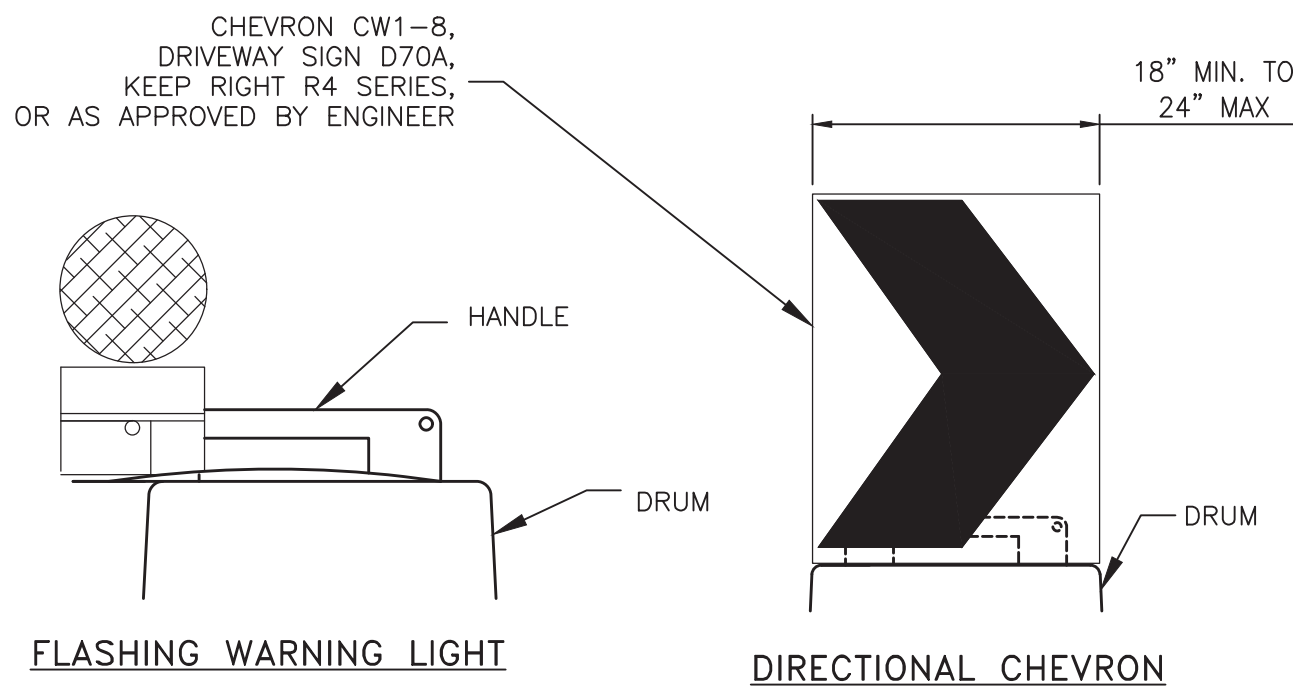
**3 CONSTRUCTION SAFETY FLAG**  
SCALE:N.T.S.



**NOTES:**

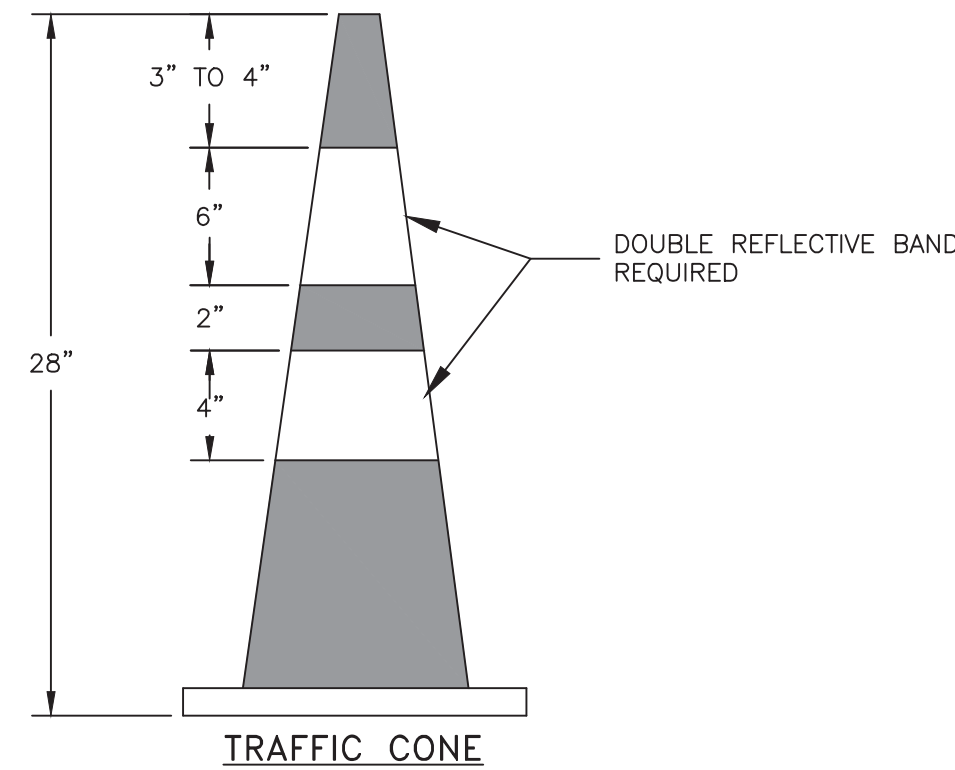
1. INFIELD MARKER POLE BARRICADES TO BE PLACED WHERE NOTED IN THE PLANS OR AS REQUIRED BY THE OWNER, SPACING TO BE 25 FEET MAXIMUM (CENTER TO CENTER).
2. INFIELD BARRICADES ARE ADEQUATELY SECURED AGAINST MOVEMENT DUE TO WIND AND / OR AIRCRAFT ENGINE THRUST.
3. THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THE PLACEMENT, LOCATION AND OPERATION OF ALL BARRICADES FOR THE DURATION OF THE PROJECT. BARRICADES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND THE OWNER AND ANY DEFICIENCIES FOUND SHALL BE CORRECTED IMMEDIATELY.
4. ALL COSTS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND REMOVAL OF BARRICADES INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO SECTION 01 59 01, TEMPORARY CONSTRUCTION BID ITEMS.

**4 MARKER POLE BARRICADE**  
SCALE:N.T.S.



**FLASHING WARNING LIGHT**

**DIRECTIONAL CHEVRON**

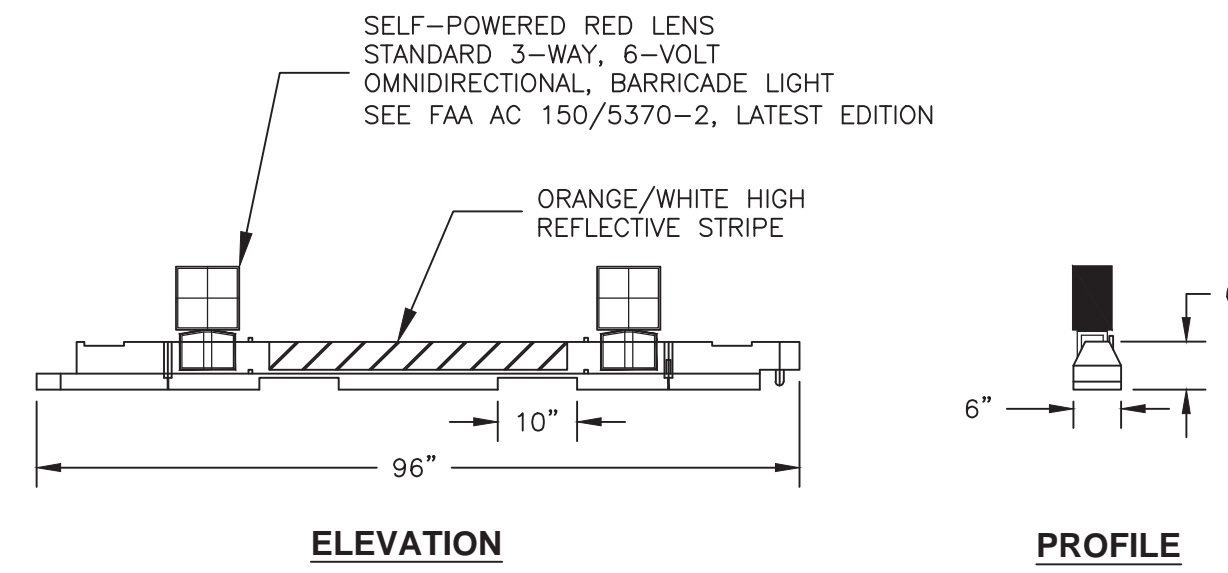


**TRAFFIC CONE**

**NOTES:**

1. DRUMS, TRAFFIC CONES, 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" (CWZTOD).
2. DRUMS, CONES, 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.
3. THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THE PLACEMENT, LOCATION AND OPERATION OF ALL BARRICADES FOR THE DURATION OF THE PROJECT. BARRICADES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND THE OWNER AND ANY DEFICIENCIES FOUND SHALL BE CORRECTED IMMEDIATELY.
4. WARNING LIGHTS OR DIRECTIONAL CHEVRONS MAY BE INSTALLED ON A DRUM.
5. WARNING LIGHTS SHALL NOT BE INSTALLED ON A TRAFFIC CONE OR ON A DRUM THAT HAS A SIGN, CHEVRON, OR VERTICAL PANEL.
6. TRAFFIC CONES MAY BE USED FOR APPROVED TEMPORARY (LESS THAN 12 HOURS), AIRFIELD PAVEMENT CLOSURES. A MINIMUM OF FOUR TRAFFIC CONES OR ONE FOR EVERY 20 FEET OF PAVEMENT TO BE CLOSED (WHICHEVER IS GREATER) IS REQUIRED TO PROPERLY BARRICADE A SECTION OF PAVEMENT.
7. ALL COSTS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND REMOVAL OF BARRICADES INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO SECTION 01 59 01, TEMPORARY CONSTRUCTION BID ITEMS.

**6 CONSTRUCTION BARREL AND TRAFFIC CONE BARRICADES**  
SCALE: N.T.S.



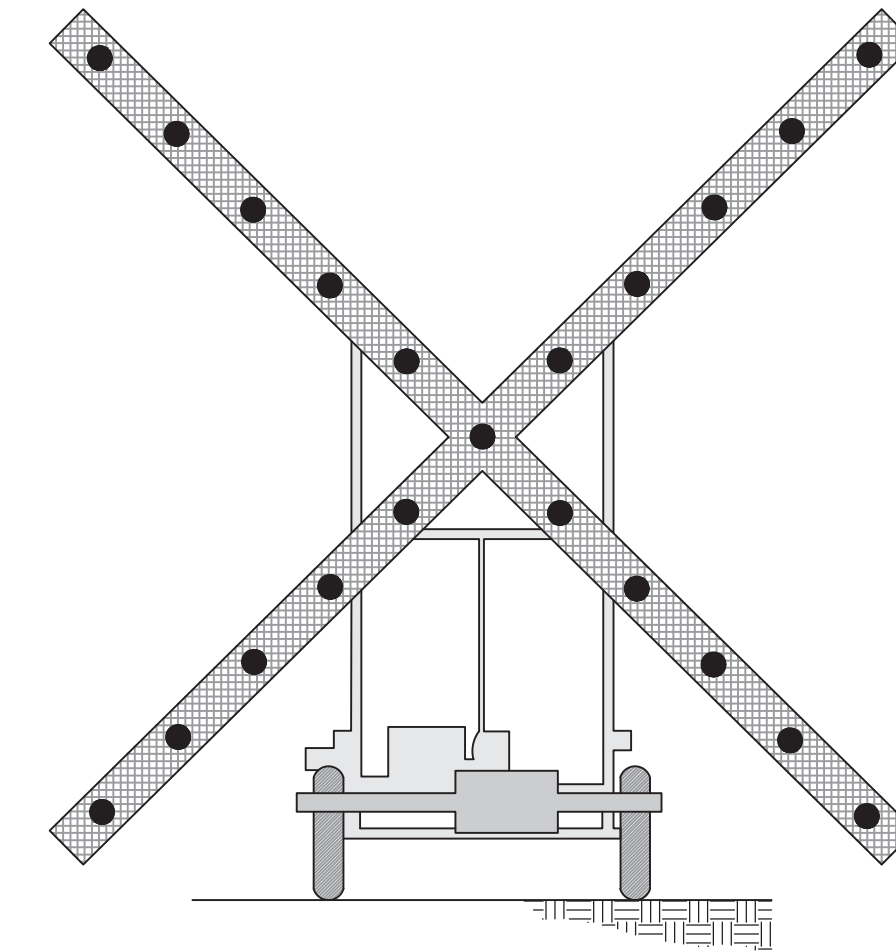
**ELEVATION**

**PROFILE**

**NOTES:**

1. LOW-PROFILE BARRICADES SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR WHERE NOTED IN THE PHASING PLANS OR AS REQUIRED BY THE OWNER.
  - A. ADDITIONAL BARRICADES SHALL BE PLACED BY THE CONTRACTOR AROUND ALL EXCAVATIONS EXCEEDING 3" IN DEPTH.
  - B. THE SPACING OF BARRICADES MUST BE SUCH THAT A BREACH IS PHYSICALLY PREVENTED BARRING A DELIBERATE ACT. BARRICADES SHALL BE CONTINUOUSLY LINKED EXCEPT WHERE GAPS BETWEEN BARRICADES ARE INTENDED TO ALLOW THE PASSAGE OF VEHICLES. THESE GAPS SHALL NOT EXCEED FIFTEEN (15) FEET. CONTINUOUS LINKING MAY BE ACCOMPLISHED THROUGH THE USE OF ROPES, SECURELY ATTACHED TO PREVENT FOD, THROUGH THE GAP BETWEEN PHYSICAL BARRICADES SHALL NOT EXCEED FOUR (4) FEET.
2. WEIGH DOWN EACH BARRICADE BY FILLING WITH WATER.
3. THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THE PLACEMENT, LOCATION AND OPERATION OF ALL BARRICADES FOR THE DURATION OF THE PROJECT. BARRICADES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND THE OWNER AND ANY DEFICIENCIES FOUND SHALL BE CORRECTED IMMEDIATELY.
4. ALL COSTS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND REMOVAL OF LOW-PROFILE BARRICADES INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO SECTION 01 59 01, TEMPORARY CONSTRUCTION BID ITEMS. LOW PROFILE BARRICADES SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.

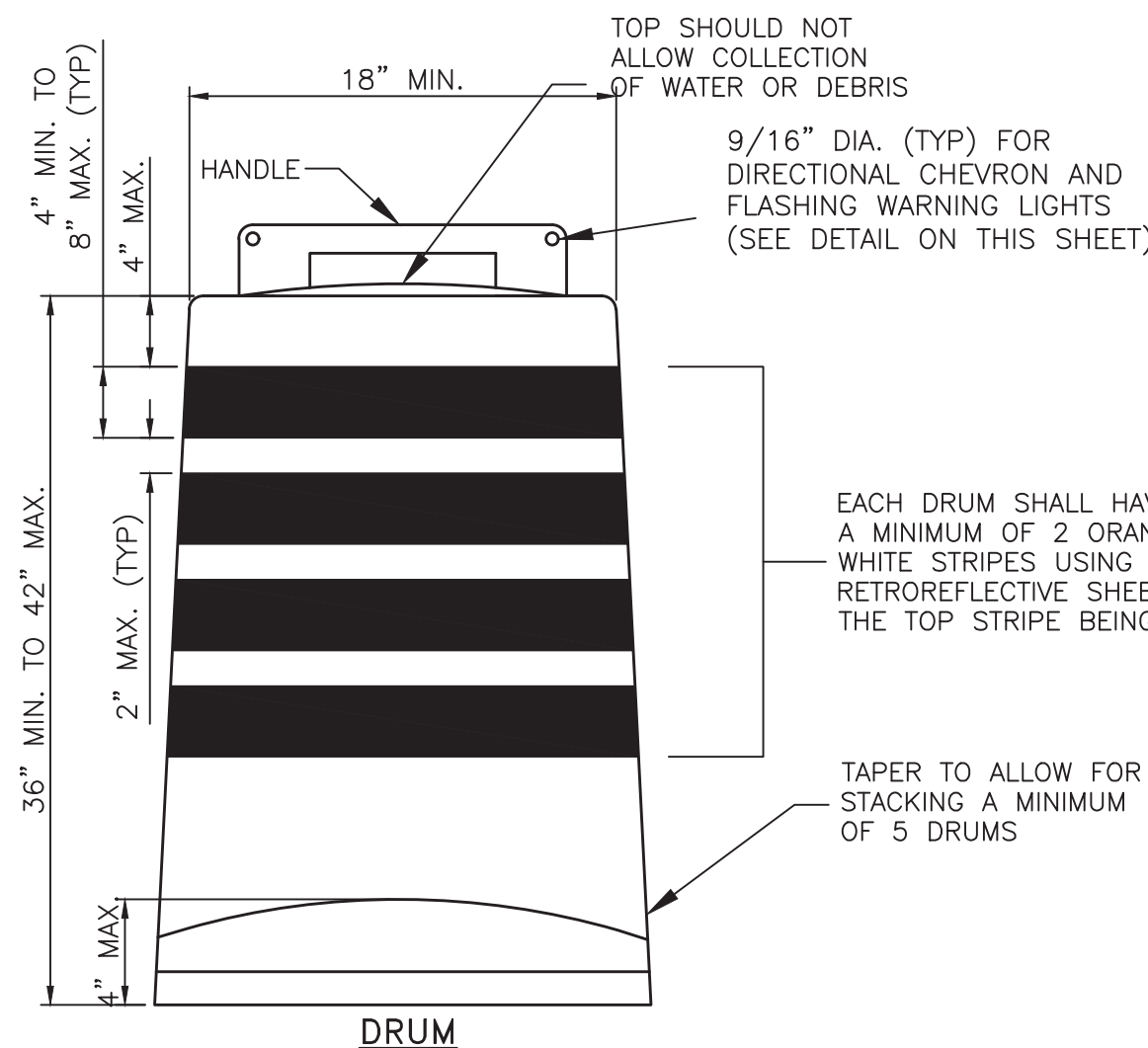
**7 LOW-PROFILE BARRICADE**  
SCALE: N.T.S.



**NOTES:**

1. LIGHTED CLOSURE MARKERS SHALL BE PLACED ON EACH CLOSED RUNWAY END FACING THE RUNWAY APPROACH WHENEVER A RUNWAY IS CLOSED. PLACE CLOSURE MARKER ON OR AS NEAR AS PRACTICAL TO THE RUNWAY DESIGNATION MARKING.
2. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN IN WORKING ORDER (INCLUDING FUEL) LIGHTED RUNWAY CLOSURE DEVICES. PLACEMENT AND REMOVAL SHALL BE ONLY AT THE DIRECTION OF THE AIRPORT AND / OR ENGINEER. CLOSURE MARKERS SHALL BE NEW OR IN GOOD CONDITION, INSPECTED AND APPROVED BY AIRPORT OPERATIONS. CLOSURE MARKERS SHALL REMAIN IN PLACE FOR THE DURATION OF ANY RUNWAY CLOSURE AND SHALL RUN CONTINUOUSLY, UNLESS OTHERWISE DIRECTED BY AIRPORT STAFF.
3. LIGHTED RUNWAY CLOSURE MARKER SHALL COMPLY WITH FAA AC 150/5345-55, SPECIFICATION FOR L-893, LIGHTED VISUAL AID TO INDICATE TEMPORARY RUNWAY CLOSURE, CURRENT EDITION, LATEST CHANGE, AND FAA AC 150/5370-2, OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION, CURRENT EDITION, LATEST CHANGE.
4. ALL COSTS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND REMOVAL OF LIGHTED RUNWAY CLOSURE MARKERS INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO SECTION 01 59 01, TEMPORARY CONSTRUCTION BID ITEMS.

**5 LIGHTED RUNWAY CLOSURE MARKER**  
SCALE:N.T.S.



**DRUM**

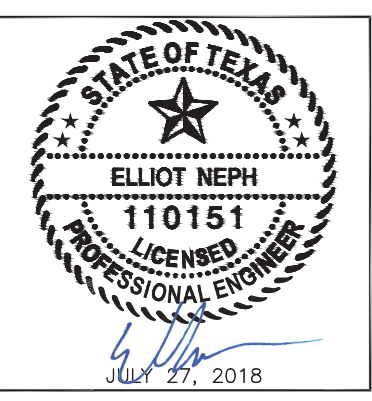
**6 CONSTRUCTION BARREL AND TRAFFIC CONE BARRICADES**  
SCALE: N.T.S.

**8 TYPICAL SAFETY AREA RAMP DOWN DETAIL**  
SCALE:N.T.S.

REVISIONS		
NO.	DESCRIPTION	DATE

RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SAFETY AND SECURITY DETAILS**

ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	NTS
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	





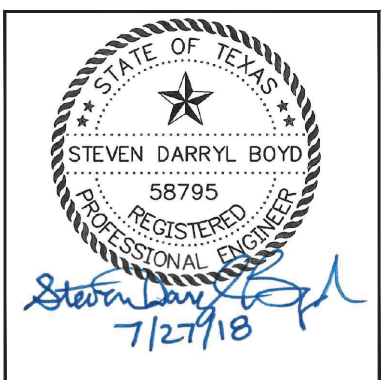
1225 North Loop West  
 Suite 320  
 Houston, Texas 77008  
 (832) 494-3800  
 Firm Registration No.  
 F-10161

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PROJECT SCOPE**

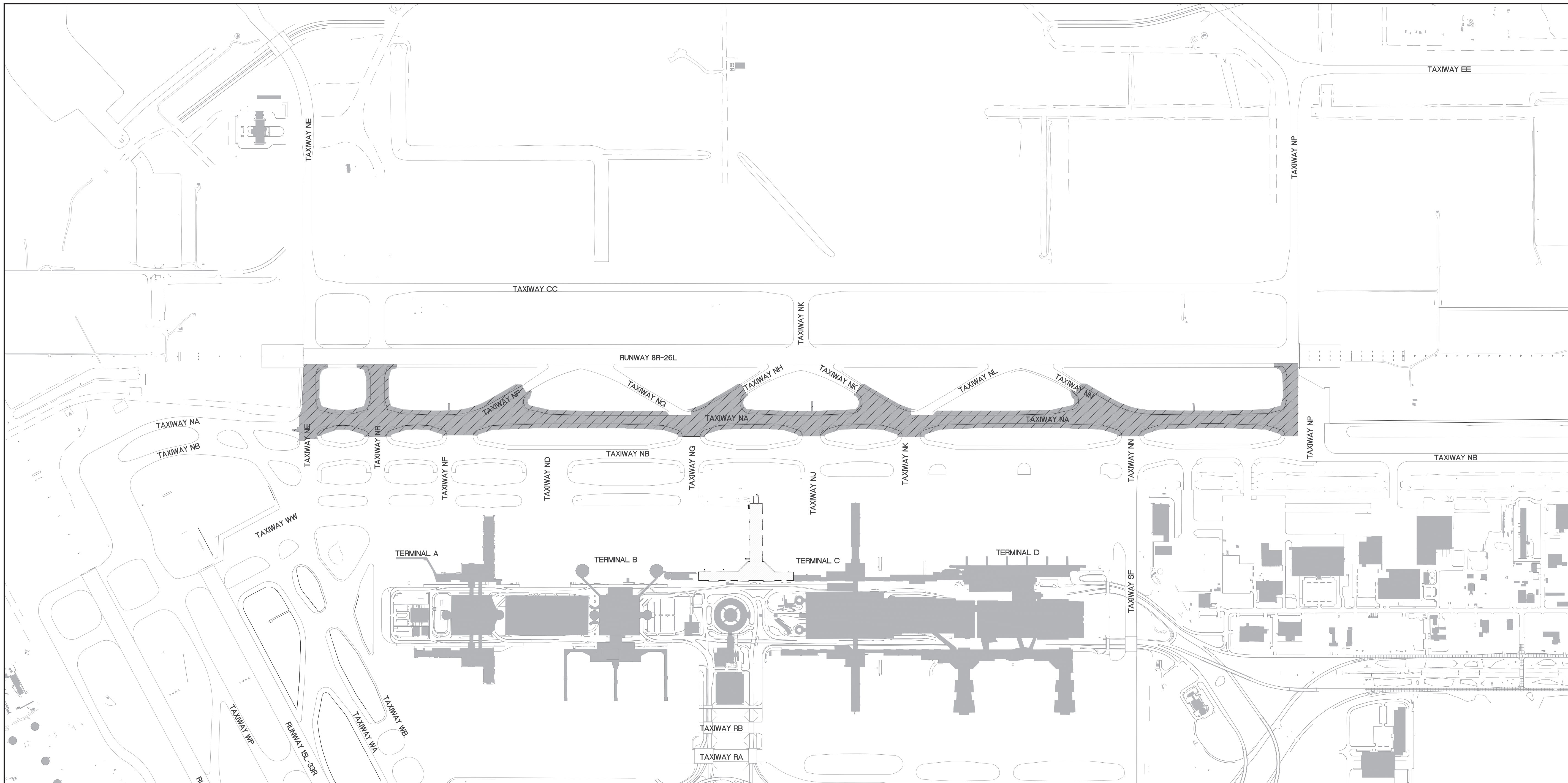
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DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=500'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**G05.01**



**LEGEND**

LIMITS OF PAVEMENT RECONSTRUCTION AND WIDENING

NOTE:

SEE SHEET G06.03.1 FOR STAGING/BATCH  
 PLANT AREA, GENERAL HAUL ROUTES TO THE  
 PROJECT SITE.

NORTH



500' 250' 0 500'  
 SCALE IN FEET



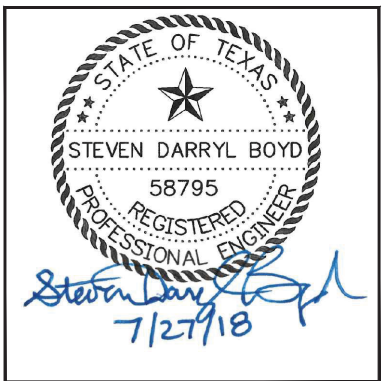


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REVISIONS  
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**HORIZONTAL AND VERTICAL  
 CONTROL PLAN (1 OF 2)**

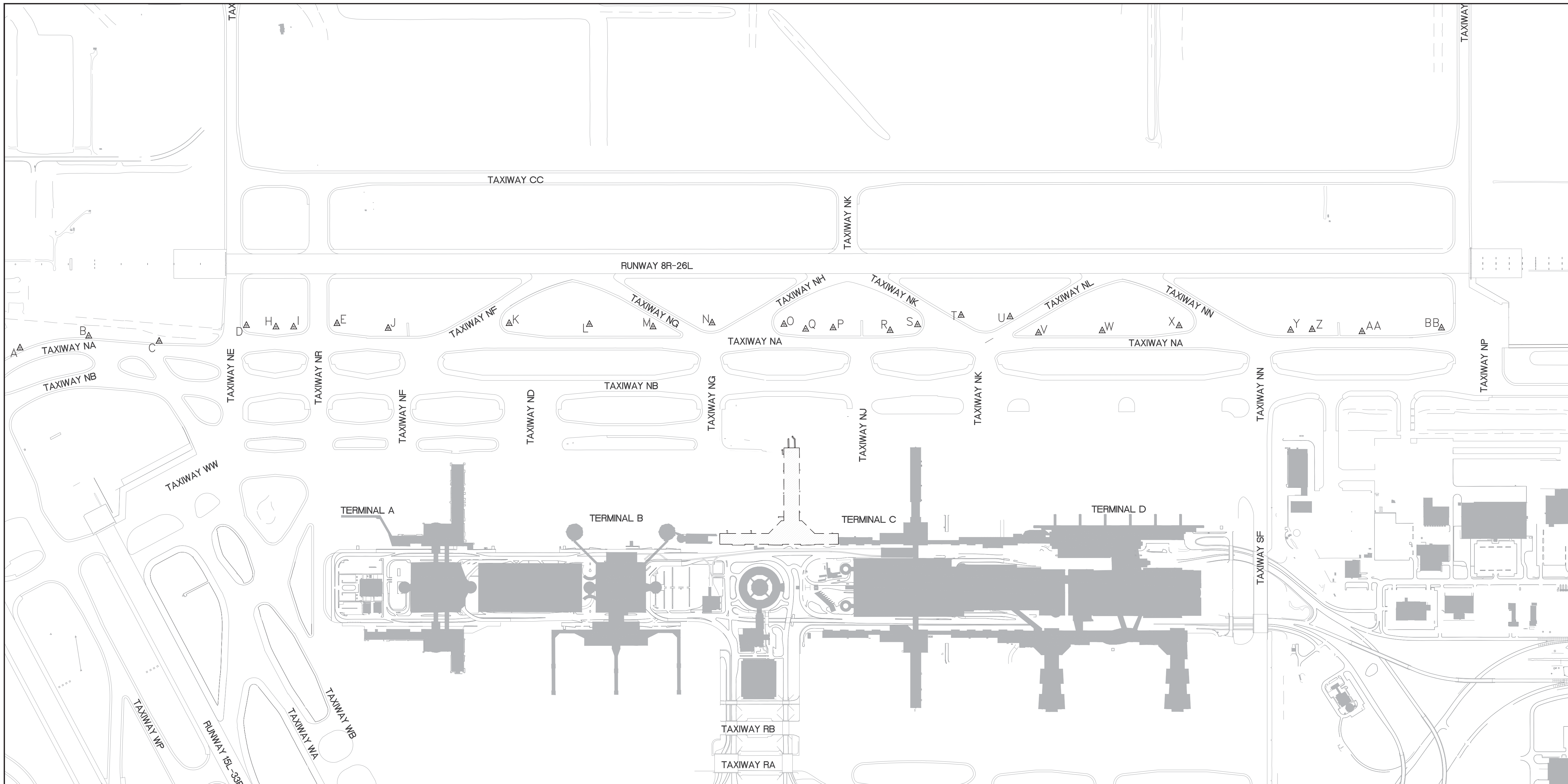
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 DESIGNER: KE  
 DRAWN BY: KE  
 CHECKED BY: DB  
 SCALE: AS INDICATED  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Pehel* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**G05.02**

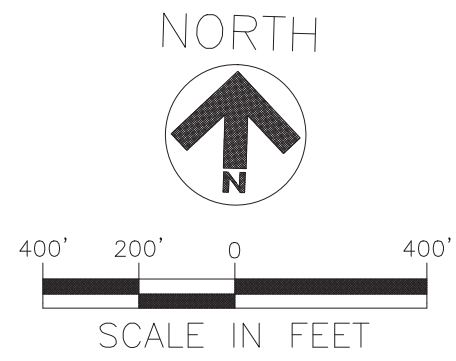


**HORIZONTAL AND VERTICAL CONTROL NOTES**

1. ALL COORDINATES SHOWN ARE TIED TO THE NSRS AND EXPRESSED IN THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE 4204, NAD 83' (2011), ITRF (EPOCH 2010.0000), NAVD 88' (GD 2012A).
2. ALL PROJECT POINT ELEVATIONS HAVE BEEN RAISED 0.71 FEET TO HOLD N.G.S. #AA3146 MONUMENT (C.O.H. MON. #5465-3233) ELEVATION OF 81.03 FEET, N.G.S. #AA3146 WAS OBSERVED WITH ELEVATION 80.32 FEET.
3. ALL DISTANCES SHOWN ARE SURFACE VALUES. TO CONVERT SURFACE VALUES TO GRID VALUES MULTIPLY BY THE SCALE FACTOR OF 0.9999236166683.

**LEGEND**

XX SURVEY CONTROL POINT







HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL

AIRPORT HOUSTON, TEXAS



1225 North Loop West  
Suite 320  
Houston, Texas 77008  
(832) 494-3800  
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F-10161

REVISIONS

NO. DESCRIPTION DATE BY

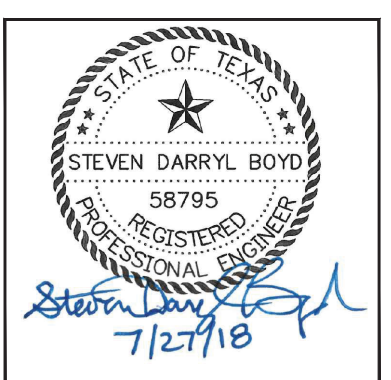
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RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**HORIZONTAL AND VERTICAL  
CONTROL PLAN (2 OF 2)**

CONTROL POINTS TABLE			
CONTROL POINT NUMBER	NORTHING/EASTING	ELEVATION	DESCRIPTION
A	N: 13927120.16 E: 1320859.25	92.34	5/8" IRON ROD WITH CAP
AA	N: 13927564.91 E: 3131005.23	90.99	5/8" IRON ROD WITH CAP
AA3146	N: 13913096.43 E: 3129766.23	81.02	COH MON #5465-3233 ALUM ROD IN PVC SLEEVE WITH CAP
B	N: 13927226.61 E: 3121376.29	92.16	5/8" IRON ROD WITH CAP
BB	N: 13927612.03 E: 3131605.43	89.08	5/8" IRON ROD WITH CAP
C	N: 13927203.85 E: 3121910.28	90.58	5/8" IRON ROD WITH CAP
D	N: 13927344.65 E: 3122566.45	91.22	5/8" IRON ROD WITH CAP
E	N: 13927380.68 E: 3123251.38	90.86	5/8" IRON ROD WITH CAP
F	N: 13926823.87 E: 3120361.31	94.69	5/8" IRON ROD WITH CAP
G	N: 13926622.91 E: 3120285.53	93.64	5/8" IRON ROD WITH CAP
H	N: 13927340.67 E: 3122790.06	91.43	5/8" IRON ROD WITH CAP
I	N: 13927344.71 E: 3122923.95	91.63	5/8" IRON ROD WITH CAP
J	N: 13927357.16 E: 3123639.13	91.64	5/8" IRON ROD WITH CAP
K	N: 13927422.51 E: 3124553.27	91.59	5/8" IRON ROD WITH CAP
L	N: 13927434.82 E: 3125160.18	90.82	5/8" IRON ROD WITH CAP
M	N: 13927431.86 E: 3125641.99	91.30	5/8" IRON ROD WITH CAP
N	N: 13927475.65 E: 3126087.80	92.65	5/8" IRON ROD WITH CAP
O	N: 13927482.18 E: 3126631.79	92.00	5/8" IRON ROD WITH CAP
P	N: 13927467.40 E: 3127004.38	92.07	5/8" IRON ROD WITH CAP
Q	N: 13927450.71 E: 3126796.61	92.71	5/8" IRON ROD WITH CAP
R	N: 13927460.77 E: 3127436.02	92.71	5/8" IRON ROD WITH CAP
S	N: 13927511.21 E: 3127641.81	91.87	5/8" IRON ROD WITH CAP
T	N: 13927593.19 E: 3127969.18	91.65	5/8" IRON ROD WITH CAP
U	N: 13927593.38 E: 3128339.72	92.23	5/8" IRON ROD WITH CAP
V	N: 13927478.57 E: 3128558.61	92.98	5/8" IRON ROD WITH CAP
W	N: 13927509.68 E: 3129039.92	92.36	5/8" IRON ROD WITH CAP
X	N: 13927565.88 E: 3129620.39	90.71	5/8" IRON ROD WITH CAP
Y	N: 13927559.00 E: 3130464.33	91.73	5/8" IRON ROD WITH CAP
Z	N: 13927569.34 E: 3130627.25	91.45	5/8" IRON ROD WITH CAP
150495	N: 13927082.98 E: 3137079.96	83.75	COH MON #5567-7706 BRASS DISK IN CONC STAMPED "150495"

ISSUED FOR BID

PROJECT MGR:	DB
DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	NONE
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
APPROVED BY: *Danaj Palmer* DATE: JULY 27, 2018  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
C.I.P. NO. A-000570  
H.A.S. NO.  
SHEET NO.

G05.03





HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



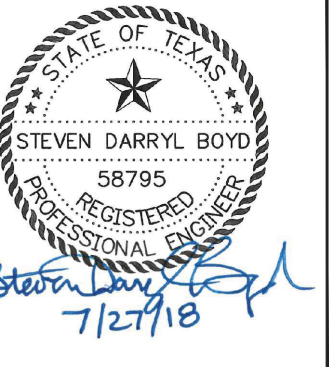
1225 North Loop West  
 Suite 320  
 Houston, Texas 77008  
 (832) 494-3800  
 Firm Registration No.  
 F-10161

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

# BORING LAYOUT

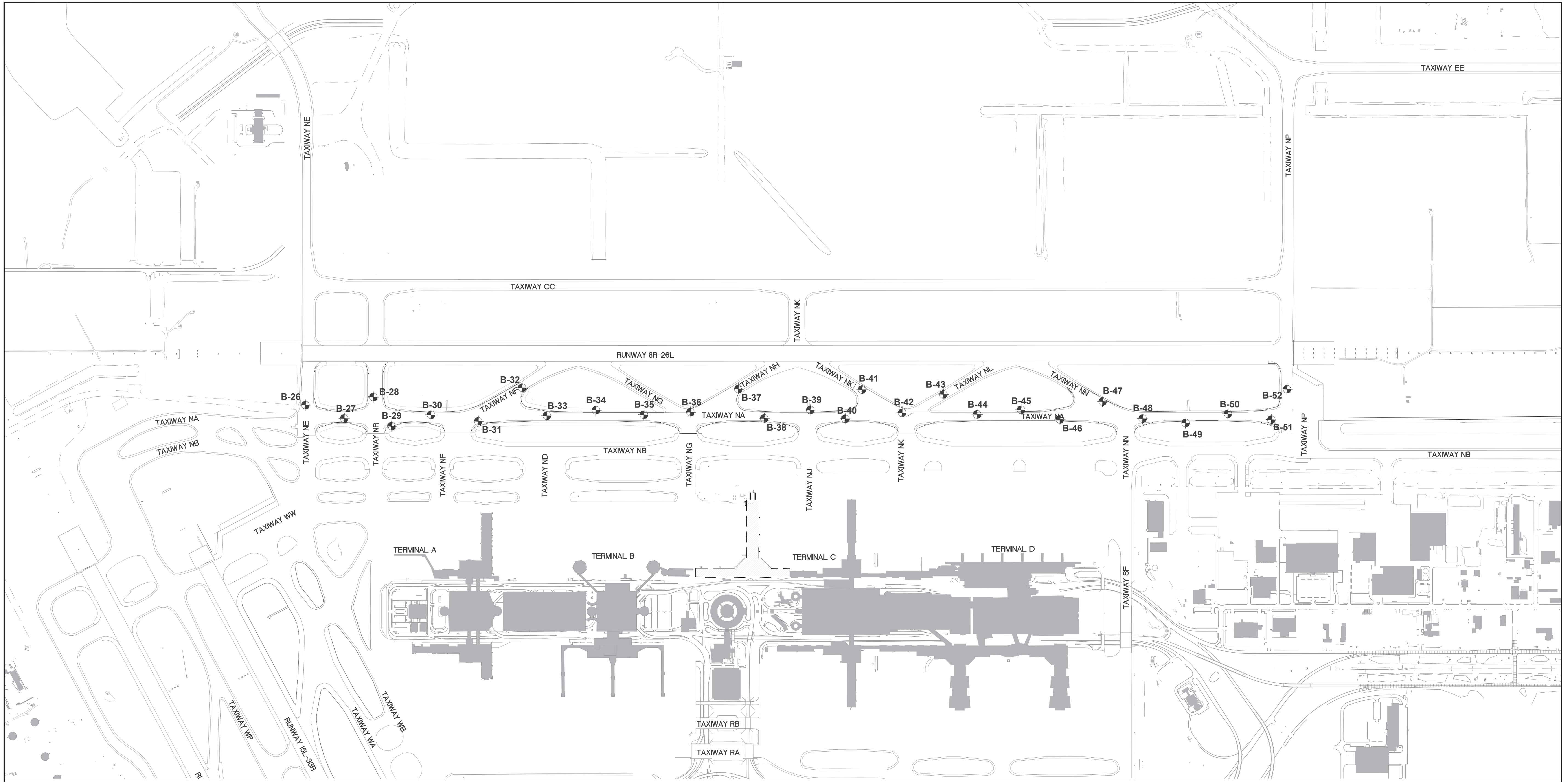
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DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=500'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Dennis Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

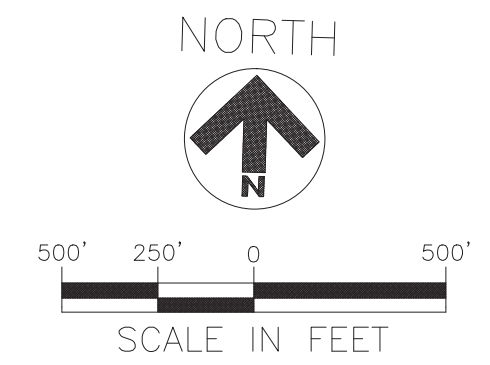
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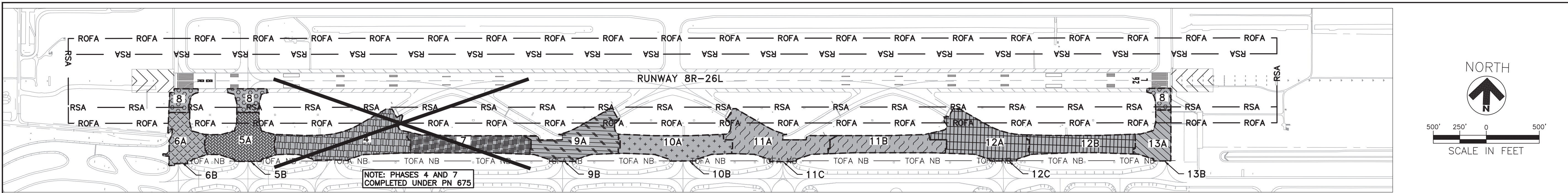
## LEGEND

**B-XX**  
 BORING

NOTE:  
 SEE PROJECT MANUAL VOLUME 3,  
 GEOTECHNICAL REPORT FOR BORING  
 LOGS AND PHOTOS.







**LEGEND**

- PHASE 4
- PHASE 5
- PHASE 6
- PHASE 7
- PHASE 8
- PHASE 9
- PHASE 10
- PHASE 11
- PHASE 12
- PHASE 13
- PHASE INDICATOR
- TOFA NB MODIFIED GROUP VI NB TOFA (335', B747-8 MAX. AIRCRAFT)
- RSA RUNWAY SAFETY AREA
- ROFA RUNWAY OBJECT FREE AREA

**GENERAL PHASING NOTES**

1. PHASES 1 - 3 ARE PREPARATORY WORK AND NOT SHOWN ON THIS SHEET. PHASE 3 HAUL ROAD COMPLETED UNDER PN 675.
2. PHASE 8 ELECTRICAL WORK ON TAXIWAYS NF, NG, NH, NK, NL, AND NN INSIDE THE RSA NOT SHOWN ON THIS SHEET.
3. PHASE 14 IS ELECTRICAL WORK AT TAXIWAY NC AND NOT SHOWN ON THIS SHEET.
4. THE CONSTRUCTION PHASING DETAILED IN THE PLANS IS BROKEN INTO MULTIPLE PHASES OF WORK. ALL PHASES OF WORK ARE WITHIN THE AOA. DUE TO THE IMPORTANCE OF MAINTAINING AIRFIELD OPERATIONS, SAFETY, AND SECURITY DURING CONSTRUCTION WITHIN THESE AREAS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE AWARE / KNOWLEDGEABLE OF AND IMPLEMENT THE GUIDELINES ESTABLISHED IN THE CISP, SECTION 01 35 13.14 - SAFETY AND SECURITY, AND ELSEWHERE THROUGHOUT THE PLANS AND PROJECT MANUAL.
5. THE INTENT OF THE PHASING PLANS IS TO MINIMIZE INTERFERENCE TO AIRCRAFT MOVEMENTS, THE AMOUNT OF TIME EACH WORK AREA IS CLOSED, AND DISRUPTIONS TO AIRPORT OPERATIONS. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THESE INTENDED GOALS, INCLUDING EXTENDED PRODUCTION HOURS WHEN NOTED AND WHEN POSSIBLE / PRACTICAL.
6. WORK WITHIN THE PHASES AND / OR SUBPHASES OF THE CONTRACT MAY NOT BE CONCURRENT UNLESS OTHERWISE NOTED IN THE SPECIFIC PHASING PLAN SHEETS. FOR THE PURPOSES OF THIS CONTRACT, THE TERMS "PHASE" AND "SEQUENCE" SHOULD NOT BE CONSIDERED INTERCHANGEABLE. THE PHASING PLANS DO GENERALLY FOLLOW THE PROJECTED SEQUENCING OF THE PROJECT, BUT THE PHASES WERE DEVELOPED SUCH THAT, IN SOME INSTANCES, THE PHASE SCHEDULES CAN BE ADJUSTED TO BEST FIT THE OPERATIONAL REQUIREMENTS OF THE AIRPORT.
7. HAS RESERVES THE RIGHT TO SUSPEND CONSTRUCTION OPERATIONS FOR SHORT PERIODS OF TIME (I.E. WHILE AN AIRCRAFT PASSES), DAILY, OR BETWEEN CONSTRUCTION PHASES, AND / OR CHANGE THE ORDER OF CONSTRUCTION PHASING DURING THE PROJECT IF IT IS DETERMINED TO BE IN THE BEST INTEREST OF AIRPORT OPERATIONS OR SAFETY. THE CONTRACTOR MAY BE DIRECTED TO MOVE PERSONNEL, EQUIPMENT, AND MATERIALS TO A SAFE LOCATION AND / OR EVACUATE THE SITE IN ORDER TO ENABLE AIRCRAFT OPERATIONS FOR COMMERCIAL OR GENERAL AVIATION. NECESSARY EXTENSIONS IN CONTRACT TIME WILL BE GRANTED OR A STOP WORK ORDER WILL BE ISSUED DUE TO THESE DELAYS. HOWEVER, THERE WILL BE NO ADJUSTMENTS IN CONTRACT PRICE DUE TO THESE DELAYS, UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS.
8. EACH DAY SHALL BE CONSIDERED SPLIT INTO TWO WORK PERIODS - DAYTIME CONSTRUCTION HOURS AND NIGHTTIME CONSTRUCTION HOURS. NIGHTTIME CONSTRUCTION HOURS FOR THIS PROJECT SHALL BE CONSIDERED BETWEEN THE HOURS OF 10:00 PM CST (2200 HOURS) AND 6:00 AM CST (0600 HOURS). ALL OTHER HOURS SHALL BE CONSIDERED DAYTIME CONSTRUCTION HOURS. THE FOLLOWING SPECIAL REQUIREMENTS WILL APPLY FOR NIGHTTIME CONSTRUCTION:
  - A. NIGHTTIME ONLY SUBPHASES HAVE BEEN SHOWN FOR PROJECT LIMITS THAT ARE WITHIN THE TOFA OF ANY PAVEMENT REQUIRED FOR AIRCRAFT USE DURING DAYTIME OPERATIONS. IF THE PROJECT LIMITS OR REQUIRED WORKING AREAS EXPAND FOR ANY REASON TO BE WITHIN THE TOFA OF ANY PAVEMENT REQUIRED FOR AIRCRAFT USE DURING DAYTIME OPERATIONS, THIS WORK MUST BE COMPLETED IN A NIGHTTIME ONLY SUBPHASE. THIS WORK SHALL BE COORDINATED WITH AIRPORT OPERATIONS.

- B. WHEN LIMITED TO NIGHTTIME ONLY CONSTRUCTION HOURS, THE CONTRACTOR SHALL NOT ENTER THE PROJECT SITE UNTIL 10:00 PM CST (2200 HOURS) BUT MAY PREPARE FOR THE NIGHT'S WORK WITHIN THE CONTRACTOR'S STAGING AREA PRIOR TO THAT TIME.
  - C. FOR THOSE PHASES OR SUBPHASES TO BE CLOSED DURING NIGHTTIME CONSTRUCTION HOURS THEN OPENED TO AIRCRAFT DURING DAYTIME CONSTRUCTION HOURS, THE CONTRACTOR SHALL CONTACT AIRPORT OPERATIONS NO LATER THAN 5:00 AM CST (0500 HOURS) TO REQUEST AN INSPECTION AND CLEARANCE TO OPEN THE AREA TO AIRCRAFT. THE CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT AND MATERIALS, EXCEPT BARRICADES, HAVE BEEN REMOVED AND THE WORK AREA HAS BEEN CLEANED PRIOR TO 5:30 AM CST (0530 HOURS) FOR AIRPORT OPERATIONS INSPECTION. AIRPORT OPERATIONS WILL CONFIRM WHETHER THE SITE IS ACCEPTABLE FOR AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO CORRECT ANY DEFICIENCIES AS INSTRUCTED. ONCE AIRPORT OPERATIONS HAS APPROVED THE AREA FOR AIRCRAFT, THE CONTRACTOR SHALL REMOVE THE BARRICADES AND IMMEDIATELY EXIT THE AREA. THE WORK AREA MUST BE CLEARED FOR AIRCRAFT OPERATIONS BY 6:00 AM CST (0600 HOURS).
  - D. FOR NIGHTTIME CONSTRUCTION HOURS, THE CONTRACTOR SHALL SET UP TEMPORARY PORTABLE LIGHTING UNITS AT THE BEGINNING OF EACH WORK PERIOD, IN ACCORDANCE WITH SECTION 01 59 01 - TEMPORARY CONSTRUCTION ITEMS, AS REQUIRED TO OPERATE. PORTABLE LIGHTING UNITS SHALL BE POSITIONED IN SUCH A WAY THAT THEY DO NOT IMPACT AIR TRAFFIC CONTROL OPERATIONS AND SHALL BE APPROVED BY AIRPORT OPERATIONS PRIOR TO USE. TEMPORARY PORTABLE LIGHTING UNITS SHALL BE REMOVED AT THE END OF THE WORK PERIOD. ALL COSTS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY LIGHTING INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
  - E. THE CONTRACTOR SHALL INCORPORATE SAFETY PROCEDURES SPECIFIC TO NIGHTTIME CONSTRUCTION OPERATIONS INTO THE SPOD, AS WELL AS A CONTINGENCY PLAN TO ADDRESS CASES OF ABNORMAL FAILURES OR UNEXPECTED DISASTERS USING APPENDIX 3 OF AC 150 / 5370-2, CURRENT EDITION, LATEST CHANGE, AS A GUIDE.
9. THE CONTRACTOR SHALL, AT ALL TIMES, COORDINATE HIS / HER 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.
  10. DURING THE TIME ANY PAVEMENT OR PORTION THEREOF IS CLOSED, IT'S ASSOCIATED LIGHTS AND SIGNS SHALL BE DE-ENERGIZED, JUMPURED OUT, OR AN ALTERNATIVE AIRPORT-APPROVED LIGHT BLACKOUT METHOD EMPLOYED.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY CIRCUITS AND / OR CONNECTIONS, AS NEEDED, TO MAINTAIN THE PROPER AIRFIELD LIGHTING AND GUIDANCE SIGN OPERATIONS OF ACTIVE CIRCUITS AFFECTED BY THE PROJECT. THE CONTRACTOR SHALL PERFORM DAILY OPERATIONAL CHECKS OF LIGHTING AND GUIDANCE SIGN CIRCUITS AFFECTED BY AND IN THE VICINITY OF THE PROJECT WORK A MINIMUM OF THREE (3) HOURS BEFORE SUNSET TO ENSURE CIRCUITS ARE FUNCTIONAL AND COMPLETELY OPERATIONAL. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR IN COORDINATION WITH AIRPORT OPERATIONS PERSONNEL. SEE ELECTRICAL PLANS FOR ELECTRICAL PHASING REQUIREMENTS.
  11. PRIOR TO BEGINNING EACH PHASE, THE CONTRACTOR SHALL BE REQUIRED TO MEET ON SITE WITH THE OWNER'S REPRESENTATIVE AND AIRPORT OPERATIONS TO FINALIZE AND IDENTIFY THE WORK LIMITS AND TASKS TO BE PERFORMED IN EACH PHASE. AT THIS MEETING THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A DETAILED WORK PLAN FOR THE PHASE INCLUDING REQUIRED PAVEMENT CLOSURES. THIS OPERATION SHALL TAKE PLACE NOT LESS THAN ONE (1) WEEK IN ADVANCE OF PHASE COMMENCEMENT. DURING THIS PERIOD, THE OWNER SHALL BE GIVEN THE OPPORTUNITY TO PERFORM FIELD SURVEY VERIFICATIONS.
  12. WORK CANNOT COMMENCE IN EACH PHASE UNTIL:
    - A. A NOTICE TO PROCEED HAS BEEN ISSUED TO THE CONTRACTOR.
    - B. THE NECESSARY BARRICADES ARE IN PLACE AND APPROVED BY AIRPORT OPERATIONS TO CONFINE THE WORK AREA AND CREATE A BARRIER BETWEEN AIRCRAFT AND VEHICLE MOVEMENT AREAS AND THE CONSTRUCTION AREA.
    - C. ALL SAFETY EQUIPMENT FOR PERSONNEL AND CONSTRUCTION EQUIPMENT IS IN PLACE AND OPERABLE.

- D. ALL REQUIRED PERMITS ARE IN PLACE.
  - E. A WAN IS APPROVED AND ISSUED.
13. CONSTRUCTION ACCESS TO THE PROJECT SITE WILL BE THROUGH ACCESS GATES AS SHOWN IN THE PLANS. THE CONTRACTOR WILL THEN UTILIZE VARIOUS EXISTING SERVICE ROADS AND AIRFIELD PAVEMENTS TO ACCESS THE PROJECT WORK AREAS. THE CONTRACTOR SHALL MAINTAIN APPLICABLE CONTROL ALONG THE ACCESS ROUTES FOR BOTH SAFETY AND SECURITY. ACCESS WILL BE LIMITED TO BADGED PERSONNEL OR THOSE ESCORTED BY AIRPORT-APPROVED AND BADGED ESCORT PERSONNEL. CONTRACTOR ESCORTED VEHICLES ARE LIMITED TO THREE (3) VEHICLES PER ESCORT OR TWO (2) 18-WHEELER DELIVERY VEHICLES PER ESCORT. ESCORTS MUST MAINTAIN CONTROL OF ALL ESCORTED VEHICLES AT ALL TIMES. ALL ESCORTED VEHICLES AND PERSONNEL MUST BE WITHIN VISUAL AND VERBAL COMMUNICATION RANGE AND BE ABLE TO RECEIVE AND IMMEDIATELY RESPOND TO ANY DIRECTIVE OR COMMAND AT ALL TIMES.
  14. THE CONTRACTOR MUST MARK OPEN TRENCHES AND EXCAVATIONS AT THE CONSTRUCTION SITE WITH RED OR ORANGE FLAGS AND LIGHT THEM WITH RED LIGHTS DURING RESTRICTED VISIBILITY OR DARKNESS. LOW-PROFILE BARRICADES SHALL BE USED AS THE PRIMARY MEANS TO MARK OPEN EXCAVATIONS. ANY OTHER MEANS TO MARK OPEN EXCAVATIONS SHALL BE SUBJECT TO APPROVAL OF AIRPORT OPERATIONS.
  15. 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.
  16. BARRICADES SHALL BE FURNISHED, INSTALLED, AND MAINTAINED IN WORKING ORDER BY THE CONTRACTOR AT THE LOCATIONS SHOWN IN THE PLANS. THE BARRICADES SHALL BE INSTALLED AT THE BEGINNING OF EACH PHASE WITH THE TYPE AND LOCATIONS INDICATED IN THE PLANS AND SHALL REMAIN IN PLACE THROUGHOUT THE PHASE, EXCEPT WHERE NOTED. IN THE EVENT BARRICADES ARE ADJUSTED OR REMOVED TO ALLOW VEHICLE TRAFFIC THROUGH OR FOR CONSTRUCTION WORK, THE CONTRACTOR SHALL SUPPLY FLAGMEN TO PREVENT AIRCRAFT FROM INADVERTENTLY ENTERING THE WORK AREA. THE FLAGMEN SHALL REMAIN UNTIL THE BARRICADE IS REPLACED IN THE ORIGINAL POSITION.
  17. SPECIFIC CONSTRUCTION TASKS IDENTIFIED WITHIN THE INDIVIDUAL PHASE PLAN SHEETS ARE NOT MEANT TO INCLUDE EVERY DETAIL OF ALL WORK TO BE COMPLETED, BUT ARE RATHER INTENDED TO PROVIDE A GENERAL OVERVIEW OF THE APPROXIMATE SEQUENCING OF THE PHASE. MANY OF THE ITEMS LISTED WILL REQUIRE PRECEDING AND SUBSEQUENT OPERATIONS TO VARIOUS OTHER ITEMS LISTED. THE CONTRACTOR MAY SUBMIT AN INTERMEDIATE SEQUENCING APPROACH FOR EACH PHASE FOR REVIEW AND APPROVAL, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES.
  18. EACH PHASE INCLUDES WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS. THESE WORK ITEMS ARE TYPICALLY PREPARATORY OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE IDENTIFIED PHASE LIMITS. THESE WORK ITEMS SHALL BE PERFORMED AT THE COMMENCEMENT AND CONCLUSION OF THE PHASE, AS APPROPRIATE. THESE WORK ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO:
    - A. INSTALLATION, MAINTENANCE, AND / OR REMOVAL OF BARRICADES.
    - B. PAVEMENT MARKING REMOVAL AND INSTALLATION OPERATIONS.
    - C. REMOVAL, TEMPORARY DISABLING OF, AND / OR AIRFIELD INSTALLATION OF ELECTRICAL SYSTEM COMPONENTS.
    - D. MAINTENANCE AND / OR REMOVAL OF CONSTRUCTION HAUL ROAD.
    - E. INSTALLATION, MAINTENANCE, AND REMOVAL OF EROSION CONTROLS.
- PAVEMENT CLOSURES OUTSIDE OF THE IDENTIFIED PHASE LIMITS SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF REQUIRED CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES.
- ANY PREPARATORY OR CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS WITH THE EXCEPTION OF MODIFICATIONS TO EXISTING AIRFIELD ELECTRICAL SYSTEMS. ANY MODIFICATIONS TO EXISTING AIRFIELD ELECTRICAL SYSTEMS SHALL BE COMPLETED DURING DAYTIME CONSTRUCTION HOURS WHEN THE EXISTING AIRFIELD ELECTRICAL SYSTEMS CAN BE

- LOCKED OUT AND TAGGED OUT. THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE WORK AREAS WITH AIRPORT OPERATIONS. THIS SHALL INCLUDE THE WORK ITEMS NOTED ABOVE AND ANY OTHER OPERATIONS REQUIRED BY AIRPORT OPERATIONS. ALL COSTS ASSOCIATED WITH PREPARATORY OR CONCLUSIVE WORK ITEMS, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND INCIDENTALS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
19. THE COMPLETION OF ANY PHASE OF WORK AND SUBSEQUENT USAGE BY THE OWNER DOES NOT DEFINE FINAL ACCEPTANCE OF THE WORK IN THAT PHASE. THE ENTIRE PROJECT WILL BE ACCEPTED ONCE ALL PHASES ARE COMPLETE. A FINAL INSPECTION OF THE ENTIRE PROJECT HAS OCCURRED, AND ALL ASSOCIATED PUNCH LIST ITEMS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS TO THE SATISFACTION OF THE AIRPORT MANAGEMENT AND OWNER'S REPRESENTATIVE.
- GENERAL OPERATION NOTES**
1. THE CONTRACTOR SHALL BE AWARE THAT THERE MAY BE MULTIPLE CONSTRUCTION PROJECTS OCCURRING SIMULTANEOUSLY AT THE AIRPORT. THE CONTRACTOR IS EXPECTED TO WORK COOPERATIVELY WITH OTHER CONTRACTORS TO MINIMIZE INTERFERENCE TO AIRCRAFT MOVEMENTS, IMPACT TO EACH WORK AREA, AND DISRUPTIONS TO AIRPORT OPERATIONS. THE CONTRACTOR IS HEREBY ADVISED THAT ALL WORK MUST BE COORDINATED BETWEEN ANY CONSTRUCTION PROJECTS AND IS SUBJECT TO APPROVAL BY HAS.
- EACH ONGOING PROJECT WILL BE ASSIGNED A PROJECT SPECIFIC COLOR BY AIRPORT OPERATIONS AT THE PRE-CONSTRUCTION MEETING. EACH CONTRACTOR ESCORT VEHICLE AND FLAGMAN MUST BE VISIBLY MARKED, EASILY LEGIBLE AT 150 FEET, WITH THE CORRESPONDING PROJECT COLOR. FLAGMEN SHALL BE EQUIPPED WITH HAUL ROUTE FLAGS, AS SHOWN IN THE PLANS. EACH CONTRACTOR VEHICLE SHALL BE ISSUED A CORRESPONDING PROJECT SPECIFIC COLOR PLACARD BY THE GATE GUARD UPON ENTRY INTO THE AOA FOR PLACEMENT IN THE FRONT WINDOW. THE CONTRACTOR'S ESCORTS AND FLAGMEN SHALL ONLY ESCORT VEHICLES WITH PLACARD MATCHING HIS / HER PROJECT COLOR.
  2. IN ORDER TO MINIMIZE OPERATIONAL IMPACTS DURING CERTAIN PERIODS OF WORK, ACCESS TO A SPECIFIC WORK AREA MAY BE RESTRICTED SUCH THAT THE CONTRACTOR WILL NOT HAVE FREE, DIRECT ACCESS TO THE WORK AREA DURING THESE WORK PERIODS, NO CONTRACTOR EMPLOYEES, VEHICLES, OR EQUIPMENT WILL BE ABLE TO ENTER OR LEAVE THE WORK AREA EXCEPT UNDER ESCORT BY AIRPORT OPERATIONS. THIS SEQUENCE OF EVENTS SHALL BE KNOWN AS "IN THE BOX" OPERATIONS. THE CONTRACTOR SHALL SET LOW-PROFILE BARRICADES OR MARKER POLE BARRICADES, AS REQUIRED, TO DELINEATE THE WORK AREA, OR "BOX".

DURING "IN THE BOX" OPERATIONS, ESCORT SERVICES WILL BE PROVIDED BY AIRPORT OPERATIONS AT A LIMITED NUMBER OF REGULARLY SCHEDULED TIMES PER WORK PERIOD. ACTUAL ESCORT TIMES WILL BE ESTABLISHED VIA COORDINATION WITH AIRPORT OPERATIONS PRIOR TO CONSTRUCTION, BUT FOR THE PURPOSE OF BIDDING ESCORT SERVICES SHOULD BE ASSUMED AVAILABLE ONLY AT THE BEGINNING AND END OF EACH WORK PERIOD. REQUIRED "IN AND OUT" DELIVERIES (FOR EXAMPLE, CONCRETE DELIVERIES) SHALL BE SCHEDULED DURING NIGHTTIME CONSTRUCTION OPERATIONS IN ORDER TO FURTHER MINIMIZE OPERATIONAL IMPACTS.

DURING "IN THE BOX" OPERATIONS, THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY EQUIPMENT, TOOLS, MATERIALS, AND WORKFORCE NECESSARY TO COMPLETE ALL REQUIRED WORK DURING THE WORK PERIOD. THE CONTRACTOR SHALL ADDITIONALLY PROVIDE PORTABLE SANITARY FACILITIES, AND ANY OTHER SUCH REQUIRED FACILITIES, FOR USE IN THE WORK AREAS.

"IN THE BOX" OPERATIONS WILL NOT RELIEVE THE CONTRACTOR OF HIS / HER RESPONSIBILITIES TO PROVIDE AN ADEQUATE NUMBER OF SWEEPERS AND VACUUM TRUCKS TO KEEP ALL HAUL ROUTES, ACTIVE AIRFIELD PAVEMENTS WITHIN THE LIMITS OF WORK, AND ANY OTHER PAVEMENT AREAS TRAVERSED BY THE CONTRACTOR'S VEHICLES AND EQUIPMENT CLEAN AND FREE OF MUD, DIRT, DEBRIS, WASTE, LOOSE MATERIAL, AND ANY OTHER FOD CAPABLE OF CAUSING DAMAGE TO AIRCRAFT LANDING GEARS OR PROPELLERS AND / OR BEING INGESTED IN JET ENGINES.

  3. THE CONTRACTOR SHALL INSTALL DELINEATORS ALONG ACTIVE RSAs AND TOFAS ADJACENT TO THE PROJECT WORK AREAS, AS SHOWN IN THE PHASING PLANS AND / OR AS REQUIRED BY AIRPORT OPERATIONS, TO PROVIDE A VISUAL BARRIER TO CONTRACTOR PERSONNEL. ALL DELINEATORS SHALL BE PLACED NO CLOSER TO THE RUNWAY OR TAXIWAY CENTERLINE THAN THE RESPECTIVE

- RSA OR TOFA OFFSET. THE CONTRACTOR SHALL PLACE LOW-PROFILE BARRICADES APPROXIMATELY FIVE (5) FEET OUTSIDE OF THE RSA OR TOFA OFFSET ACROSS PAVEMENTS TEMPORARILY CLOSED AS PART OF A WORK AREA. OUTSIDE PAVED AREAS, THE CONTRACTOR SHALL PLACE MARKER POLE BARRICADES APPROXIMATELY FIVE (5) FEET OUTSIDE OF THE RSA OR TOFA OFFSET. DELINEATORS SHALL BE REMOVED AT THE COMPLETION OF EACH WORK PHASE, UNLESS OTHERWISE NOTED OR REQUIRED BY AIRPORT OPERATIONS.
- A. BARRICADES FOR TAXIWAY NB SHALL BE PLACED IN ORDER TO DELINEATE BOTH AN UNRESTRICTED ADG VI TOFA (386 FEET) AND A MODIFIED ADG VI TOFA (335 FEET, BASED ON A BOEING 747-8 AS THE MAXIMUM ALLOWABLE AIRCRAFT). LOW-PROFILE BARRICADES SHALL BE PLACED ACROSS TEMPORARILY CLOSED PAVEMENTS AT THE MODIFIED ADG VI TOFA (335 FEET). MARKER POLE BARRICADES SHALL BE PLACED AT THE UNRESTRICTED ADG VI TOFA (386 FEET).
- IN THE EVENT THAT ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225) IS OBSERVED TAXIING ALONG TAXIWAY NB OR AIRPORT OPERATIONS NOTIFIES THE CONTRACTOR OF SUCH IMMINENT AIRCRAFT MOVEMENTS, THE CONTRACTOR SHALL CEASE WORK IMMEDIATELY INSIDE (TAXIWAY NB SIDE) THE MARKER POLE BARRICADES AND MOVE ALL EQUIPMENT AND PERSONNEL OUTSIDE (TAXIWAY NA SIDE) THE MARKER POLE BARRICADES, GIVING WAY TO ALL AIRCRAFTS. THE CONTRACTOR SHALL REMAIN OUTSIDE THE MARKER POLE BARRICADES UNTIL THE AIRCRAFT HAS SAFELY PASSED THE WORK AREA. THE CONTRACTOR MAY CONTINUE CONSTRUCTION OPERATIONS OUTSIDE THE MARKER POLE BARRICADES DURING THESE PERIODS. THIS SEQUENCE OF EVENTS SHALL BE KNOWN AS "MARKER POLE EVACUATION" OPERATIONS. THESE OPERATIONS OCCUR ON A KNOWN SCHEDULE, DEFINED APPROXIMATELY 24 HOURS IN ADVANCE OF THE SCHEDULED OPERATION. AIRPORT OPERATIONS WILL COORDINATE SCHEDULED OPERATIONS OF THESE AIRCRAFTS WITH THE CONTRACTOR AS THEY ARE DEVELOPED. THESE OPERATIONS TYPICALLY OCCUR NO MORE THAN FOUR (4) TIMES PER DAY AND HAVE AN APPROXIMATE DURATION OF 10 MINUTES. THESE OPERATIONS ARE TYPICALLY BETWEEN THE HOURS OF 1:00 P.M. CST (1300 HOURS) TO 7:00 P.M. CST (1900 HOURS). THERE WILL BE NO ADJUSTMENTS TO CONTRACT PRICE OR TIME SHOULD THE SCHEDULE, FREQUENCY, OR DURATION OF THESE OPERATIONS EXCEED TYPICAL VALUES PROVIDED HEREIN.
- DURING "MARKER POLE EVACUATION" OPERATIONS FOR PHASE 7 AND PHASES 9 - 13, THE CONTRACTOR'S HAUL ROUTE WILL NOT BE ACCESSIBLE AND NO EMPLOYEES WILL BE ABLE TO ENTER OR LEAVE THE WORK AREA UNTIL THE "MARKER POLE EVACUATION" OPERATION IS COMPLETE. THIS SCENARIO CREATES AN "IN THE BOX" SITUATION AND IS SUBJECT TO "IN THE BOX" OPERATIONS, WITH THE EXCEPTION THAT NO AIRPORT OPERATIONS ESCORT SERVICES WILL BE AVAILABLE TO THE CONTRACTOR.
- B. IN THE EVENT BARRICADES ARE ADJUSTED OR REMOVED TO ALLOW VEHICLE ACCESS OR FOR CONSTRUCTION WORK, THE CONTRACTOR SHALL SUPPLY FLAGMEN TO PREVENT AIRCRAFT MOVEMENTS INTO THE WORK AREA UNTIL THE BARRICADES ARE REPLACED.
4. DURING PHASE 7 AND PHASES 9 - 13, TAXIWAY NA WILL BE PARTIALLY RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, BASED ON A BOEING 767-400ER AS THE MAXIMUM ALLOWABLE AIRCRAFT). DURING PHASES 1 - 6 AND PHASE 8, OPEN PORTIONS OF TAXIWAY NA WILL BE OPERATED WITH AN UNRESTRICTED ADG VI TOFA (386 FEET).
  5. TAXIWAY NB WILL BE PARTIALLY RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8), WITH THE FOLLOWING EXCEPTIONS:
    - A. DURING PHASE 8, TAXIWAY NB WILL BE RESTORED TO UNRESTRICTED ADG VI AIRCRAFT OPERATIONS (TOFA - 386 FEET).
    - B. DURING PERIODS OF "MARKER POLE EVACUATION" OPERATIONS, TAXIWAY NB WILL BE RESTORED TO UNRESTRICTED ADG VI AIRCRAFT OPERATIONS (TOFA - 386 FEET). DURING THESE PERIODS, THE CONTRACTOR WILL NOT BE ALLOWED TO WORK INSIDE THE UNRESTRICTED ADG VI TOFA (386 FEET), DELINEATED BY MARKER POLE BARRICADES.
  6. FOR THOSE PHASES OR SUBPHASES TO BE CLOSED DURING NIGHTTIME HOURS THEN OPENED TO AIRCRAFT DURING DAYTIME HOURS, BARRICADES SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR AT THE LOCATIONS SHOWN IN THE PLANS. THE BARRICADES SHALL BE INSTALLED AT THE BEGINNING

- OF EACH NIGHTTIME WORK PERIOD WITH THE TYPE AND LOCATIONS INDICATED IN THE PLANS. AT THE END OF THE NIGHTTIME WORK PERIOD, AFTER EQUIPMENT AND MATERIALS HAVE BEEN REMOVED FROM THE WORK AREA, AFTER ALL CLEANUP HAS BEEN COMPLETED, AFTER THE OWNER'S REPRESENTATIVE AND AIRPORT OPERATIONS HAS VERIFIED THE AOA IS IN ACCEPTABLE CONDITION, AND PRIOR TO 6:00 A.M. CST (0600 HOURS), THE BARRICADES SHALL BE REMOVED FROM THE AOA.
7. TEMPORARY RUNWAY CLOSURE REQUIREMENTS:
    - A. THE CONTRACTOR SHALL NOTIFY AIRPORT OPERATIONS OF THE NEED TO CLOSE A RUNWAY. THIS NOTIFICATION SHALL BE FORMALLY SUBMITTED VIA A WAN (SEE WAN SUBMISSION REQUIREMENTS ON SHEET G04.02 AND IN SECTION 01761 - PROTECTION OF EXISTING SERVICES). THE CONTRACTOR SHALL NOT MOVE FORWARD WITH ANY RUNWAY CLOSURE OPERATIONS UNTIL THE WAN IS APPROVED.
    - B. THE CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS TO PERFORM THE TEMPORARY RUNWAY CLOSURE OPERATIONS. THIS SHALL INCLUDE THE ITEMS LISTED HEREIN AS WELL AS ANY OTHER REQUIREMENTS BY AIRPORT OPERATIONS.
    - C. THE CONTRACTOR SHALL COORDINATE THE ISSUANCE OF APPROPRIATE NOTAMS WITH AIRPORT OPERATIONS.
    - D. THE CONTRACTOR SHALL INSTALL LIGHTED RUNWAY CLOSURE MARKINGS AT EACH RUNWAY END.
    - E. THE CONTRACTOR SHALL INSTALL ALL APPROPRIATE BARRICADES, AS SHOWN IN THE PLANS OR AS REQUIRED BY AIRPORT OPERATIONS.
    - F. THE CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS TO DISCONNECT RUNWAY LIGHTING AND / OR GUIDANCE SIGN CIRCUITS. THIS SHALL INCLUDE THE INSTALLATION OF ANY REQUIRED TEMPORARY CIRCUITS AND / OR CONNECTIONS, AS NEEDED, TO MAINTAIN THE PROPER AIRFIELD LIGHTING AND / OR GUIDANCE SIGN OPERATIONS OF ACTIVE CIRCUITS AFFECTED BY THE PROJECT.
    - G. THE CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS AND THE LOCAL FAA FACILITIES MANAGER TO DISCONNECT ANY AFFECTED NAVAIDS. THIS SHALL INCLUDE THE INSTALLATION OF ANY REQUIRED TEMPORARY CIRCUITS AND / OR CONNECTIONS, AS NEEDED, TO MAINTAIN THE PROPER AIRFIELD LIGHTING AND / OR GUIDANCE SIGN OPERATIONS OF ACTIVE CIRCUITS AFFECTED BY THE PROJECT.
  8. TEMPORARY TAXIWAY CLOSURE REQUIREMENTS:
    - A. THE CONTRACTOR SHALL NOTIFY AIRPORT OPERATIONS OF THE NEED TO CLOSE A TAXIWAY. THIS NOTIFICATION SHALL BE FORMALLY SUBMITTED VIA A WAN (SEE WAN SUBMISSION REQUIREMENTS ON SHEET G04.02 AND IN SECTION 01761 - PROTECTION OF EXISTING SERVICES). THE CONTRACTOR SHALL NOT MOVE FORWARD WITH ANY TAXIWAY CLOSURE OPERATIONS UNTIL THE WAN IS APPROVED.
    - B. THE CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS TO PERFORM THE TEMPORARY TAXIWAY CLOSURE OPERATIONS. THIS SHALL INCLUDE THE ITEMS LISTED HEREIN AS WELL AS ANY OTHER REQUIREMENTS BY AIRPORT OPERATIONS.
    - C. THE CONTRACTOR SHALL COORDINATE THE ISSUANCE OF APPROPRIATE NOTAMS WITH AIRPORT OPERATIONS.
    - D. THE CONTRACTOR SHALL INSTALL BARRICADES, AS SHOWN IN THE PLANS OR AS REQUIRED BY AIRPORT OPERATIONS.
    - E. THE CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS TO DISABLE THE APPROPRIATE GUIDANCE SIGNS AND DISCONNECT TAXIWAY LIGHTING CIRCUITS. THIS SHALL INCLUDE THE INSTALLATION OF ANY REQUIRED TEMPORARY CIRCUITS AND / OR CONNECTIONS, AS NEEDED, TO MAINTAIN THE PROPER AIRFIELD LIGHTING AND / OR GUIDANCE SIGN OPERATIONS OF ACTIVE CIRCUITS AFFECTED BY THE PROJECT.
    - F. THE CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS AND THE LOCAL FAA FACILITIES MANAGER TO DISCONNECT ANY AFFECTED NAVAIDS. THIS SHALL INCLUDE THE INSTALLATION OF ANY REQUIRED TEMPORARY CIRCUITS AND / OR CONNECTIONS, AS NEEDED, TO MAINTAIN THE PROPER AIRFIELD LIGHTING AND / OR GUIDANCE SIGN OPERATIONS OF ACTIVE CIRCUITS AFFECTED BY THE PROJECT.
    - G. THE CONTRACTOR SHALL INSTALL UNLIT TAXIWAY CLOSURE MARKINGS FOR TAXIWAYS INTERSECTING RUNWAY AT THE ENTRANCE TO THE CLOSED TAXIWAY FROM THE RUNWAY.
    - H. THE CONTRACTOR SHALL REMOVE ALL TAXIWAY CENTERLINES THAT LEAD TO CLOSED TAXIWAYS.

REVISIONS

NO.	DESCRIPTION	DATE	BY

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 ELLIOT NEPH  
 LICENSED PROFESSIONAL ENGINEER  
 110151  
 JULY 27, 2018

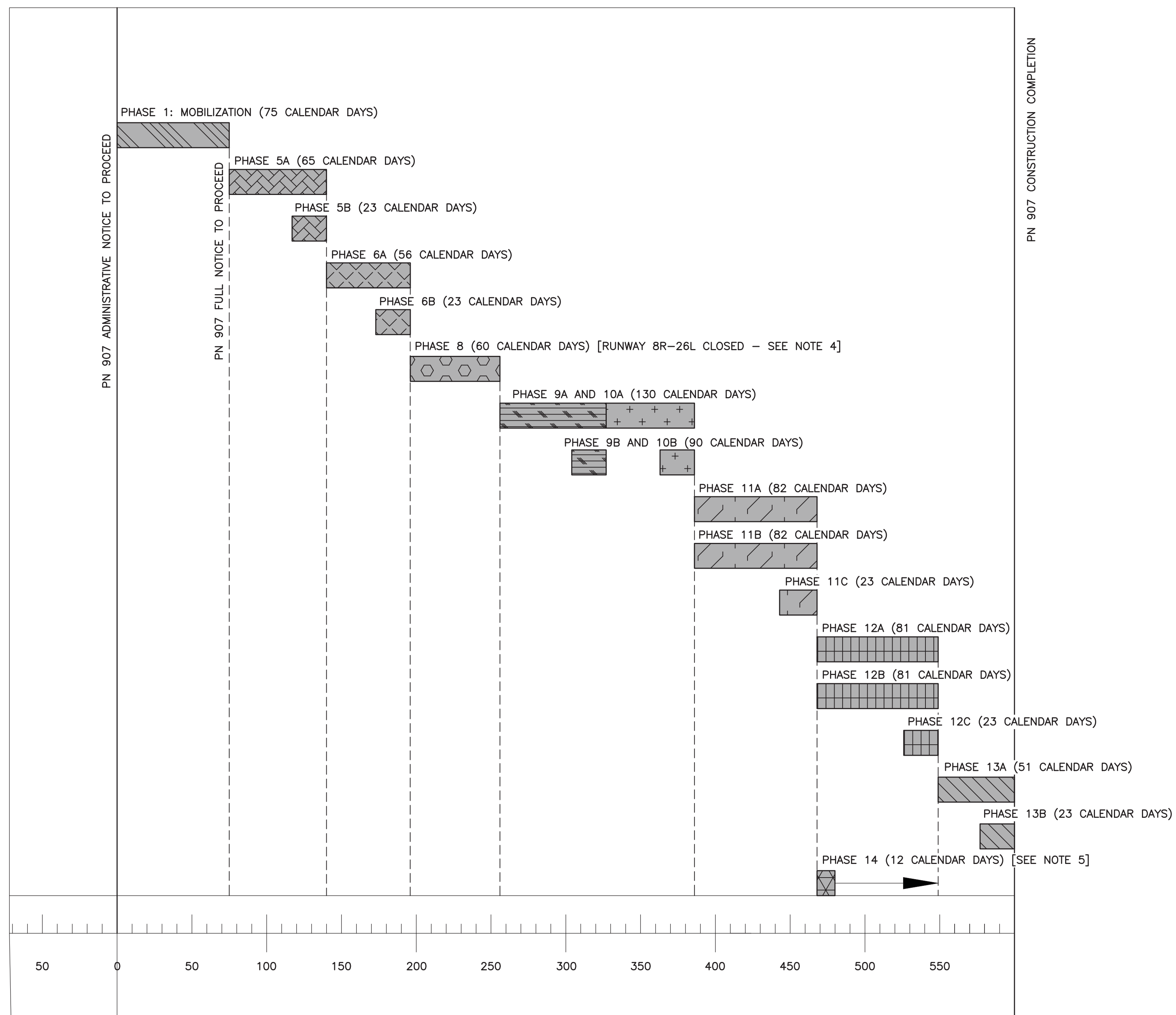
DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
 Dawaj Pahel  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO. G06.00.1



# PN 907

PN 907 CONSTRUCTION PHASE  
DURATION 600 CONSECUTIVE  
CALENDAR DAYS



NOTE: PHASES 2, 3, 4, AND 7 COMPLETED UNDER PN 675

NOTES:

- PHASES 2, 3, 4, AND 7 COMPLETED UNDER PN 675.
- HAS SHALL HAVE THE FINAL DIRECTION OF SCHEDULE. CONTRACTOR TO CONFIRM SCHEDULE WITH HAS.
  - PHASE DURATIONS NOT INCLUDED IN CALCULATION OF OVERALL PROJECT DURATION.
  - ASPHALT SECTIONS OF PHASE 3 HAUL ROADS COMPLETED UNDER PN 675 WERE CONSTRUCTED TO 100 FEET FROM ACTIVE AIRFIELD PAVEMENTS. CONTRACTOR MUST EXTEND ASPHALT SECTIONS TO 150 FEET FROM ACTIVE AIRFIELD PAVEMENTS. SEE NOTE 7.B ON PLAN SHEET G06.03.1. CONTRACTOR SHALL COMPLETE THIS WORK CONCURRENTLY WITH FIRST PHASE OF WORK AWARDED AFTER FULL NOTICE TO PROCEED IS AWARDED.
- PHASE 1 WILL CONSIST OF A 75-DAY MOBILIZATION / PROCUREMENT / PREPARATION PERIOD. DURING THIS PERIOD, THE CONTRACTOR IS EXPECTED TO PERFORM THE FOLLOWING ACTIVITIES:
  - INITIATE THE BADGING AND SAFETY TRAINING PROCESSES FOR CONTRACTOR PERSONNEL IN ORDER TO HAVE A SUFFICIENT WORK FORCE PROPERLY BADGED PRIOR TO BEGINNING WORK.
  - THE CONTRACTOR SHALL BEGIN MOBILIZATION, INCLUDING FURNISHMENT AND SET UP OF THE FIELD OFFICES FOR BOTH THE CONTRACTOR AND THE ENGINEER, SET UP OF THE CONTRACTOR'S STAGING / STORAGE AREA AND CONCRETE BATCH PLANT SITE, AND PROCUREMENT OF PROJECT MATERIALS.
  - INSTALL APPROPRIATE TRAFFIC CONTROL DEVICES.
  - PREPARE MATERIAL SUBMITTALS, SHOP DRAWINGS, AND ANY RFIS AND SUBMIT FOR REVIEW, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES. PARTICULAR ATTENTION SHOULD BE PAID TO CRITICAL SUBMITTALS, INCLUDING BUT NOT LIMITED TO SAFETY PLAN(S), QUALITY CONTROL PLAN(S), CONCRETE MIX DESIGNS, ASPHALT JOB MIX FORMULA(S) (JMF), ELECTRICAL ITEMS, AND OTHER LONG LEAD TIME ITEMS.
  - COMPLETE INITIAL SURVEY CHECKS AND VERIFICATION OF CONTROL MONUMENTS, ALONG WITH ESTABLISHMENT OF TEMPORARY BENCHMARKS.
  - PERFORM NECESSARY EXPLORATORY EXCAVATIONS FOR UNDERGROUND UTILITIES IN AIRPORT-APPROVED LOCATIONS.
  - PROCURE BARRICADES AND OTHER SAFETY ITEMS AND VERIFY SUFFICIENT QUANTITY TO CLOSE THE REQUIRED AREAS ONCE WORK IS AUTHORIZED TO BEGIN.
- THE PHASE 8 RUNWAY CLOSURE SHALL BE COORDINATED WITH HAS. THE CONTRACTOR WILL BE ALLOWED 60 CALENDAR DAYS TO COMPLETE PHASE 8. THE CONTRACTOR IS EXPECTED TO WORK MULTIPLE SHIFTS TO PROVIDE SEVEN (7) DAYS PER WEEK, 20 HOURS PER DAY PRODUCTION WHEN POSSIBLE / PRACTICAL.
- PHASE 14 MAY HAVE A FLEXIBLE START DATE, TO BE COMPLETED CONCURRENTLY WITH PHASE 12 (WITH APPROVAL BY AIRPORT OPERATIONS), OR AT AN ALTERNATE TIME TO BE COORDINATED WITH AIRPORT OPERATIONS.



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TBPE Registration No. F-3401

REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROJECTED PROJECT SCHEDULE**

ISSUED FOR BID

PROJECT MGR: BMS  
DESIGNER: EBN  
DRAWN BY: MRM  
CHECKED BY: SMC  
SCALE: NTS  
DATE: April 19, 2019



DEPARTMENT OF AVIATION  
APPROVED BY: DATE:  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
C.I.P. NO.  
**A-000570**  
H.A.S. NO.  
SHEET NO.

G06.00.2





REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**TEMPORARY  
 SIGNAGE SCHEDULE**

ISSUED FOR BID			
PROJECT MGR:	CLF		
DESIGNER:	RSF		
DRAWN BY:	RSF		
CHECKED BY:	CLF		
SCALE:	NOT TO SCALE		
DATE:	07/27/2018		

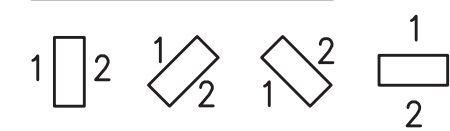


DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Rahmal*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
 0907  
 C.I.P. NO.  
 A-000570  
 H.A.S. NO.

SHEET NO.  
**G06.00.3**

**SIGN SIDE LEGEND:**



- TEMPORARY PANEL WITH PARTIAL LEGEND
- TEMPORARY 'BLANK' PANEL

**GENERAL NOTES:**

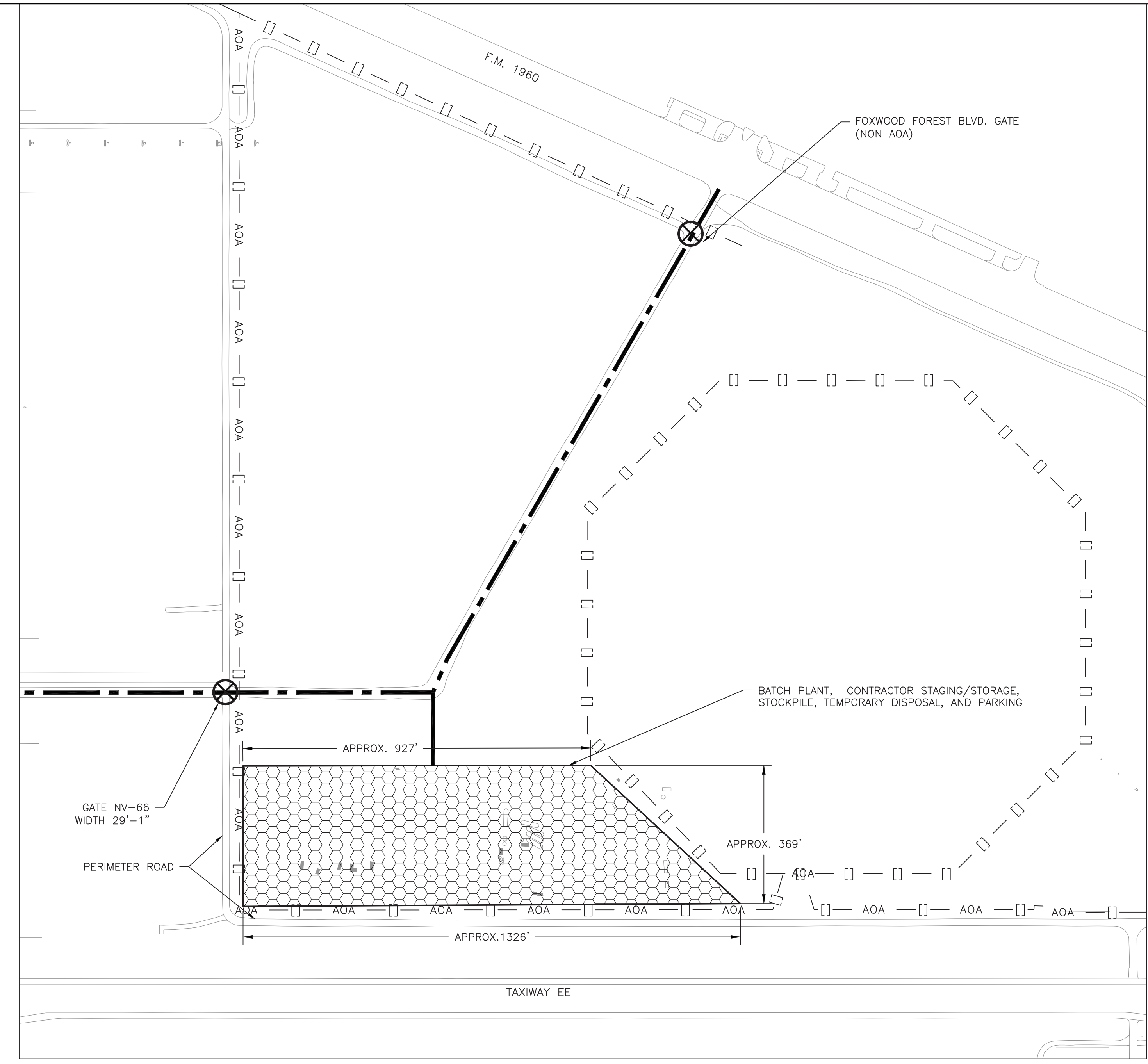
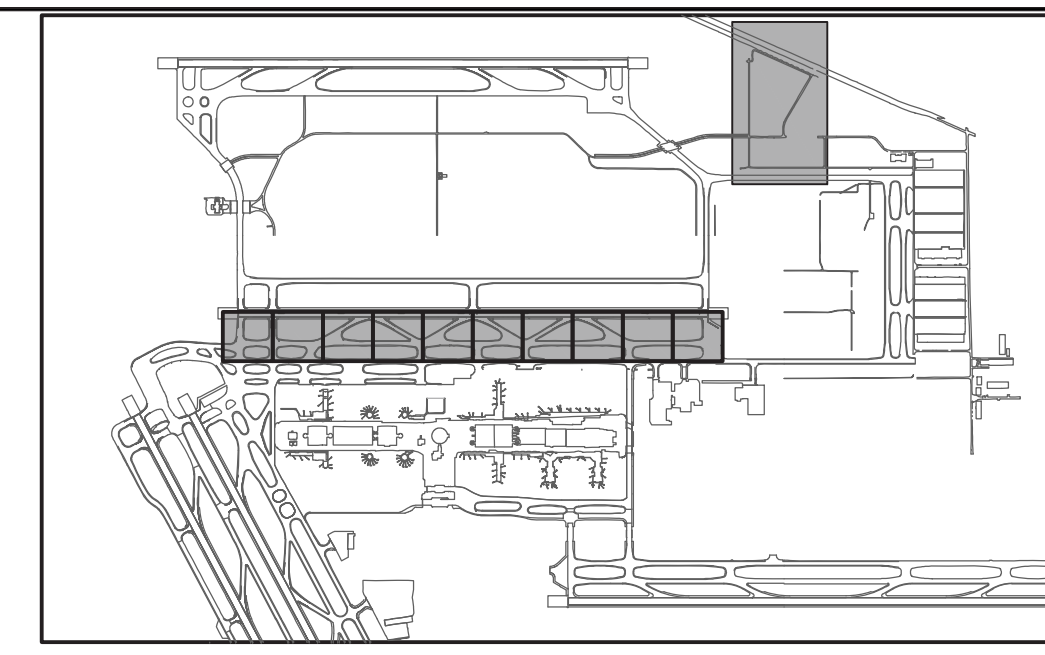
- REFER TO PHASING PLANS FOR LOCATION.
- FURNISH AND INSTALL TEMPORARY SIGN MODULES AS SHOWN BELOW. PAYMENT IS INCIDENTAL TO LINE ITEM 260505-19 'PROVIDE TEMPORARY SIGN PANELS DURING CONSTRUCTION FOR PHASING - PER EACH'.

'NA' TEMPORARY SIGN SCHEDULE									
FIELD TAG	FIELD CIRCUIT	SIGN MODULES	SIGN LEGEND		TEMP LEGEND		REFERENCE DRAWING		
			SIDE 1	SIDE 2	SIDE 1	SIDE 2			
<b>PHASE 4</b>									
1	1aNSCW	SCW	3	NA NG	NA NG		G06.04.3		
2	1bNSCW	SCW	3	NG NA	NG NA		G06.04.3		
3	5NSCW	SCW	3	NR NA	NR NA		G06.04.3		
4	12NSCW	SCW	3	NR NA	NR NA		G06.04.3		
5	17aNSCW	SCW	3	NF NB	NF NB		G06.04.3		
6	17bNSCW	SCW	2	NF NB	NF NB		G06.04.3		
7	25NSCW	SCW	3	NG NA	NG NA		G06.04.3		
8	34aNSCW	SCW	3	NF NB	NF NB		G06.04.3		
9	34bNSCW	SCW	2	NF NB	NF NB		G06.04.3		
10	1aNSCE	SCE	3	NA NG	NA NG		G06.04.3		
11	1bNSCE	SCE	3	NH NA	NH NA		G06.04.3		
<b>PHASE 5</b>									
1	36WSC1	WSC1	3	NE NA	NE NA		G06.05.3		
2	3aNSCW	SCW	3	NA NF	NA NF		G06.05.3		
3	3bNSCW	SCW	3	NF NA	NF NA		G06.05.3		
4	7NSCW	SCW	3	NA NE	NA NE		G06.05.3		
5	10NSCW	SCW	3	NE NA	NE NA		G06.05.3		
6	11NSCW	SCW	3	NB NR	NB NR		G06.05.3		
7	38NSCW	SCW	3	NB NR	NB NR		G06.05.3		
<b>PHASE 6</b>									
1	35WSC1	WSC1	3	NB NE	NB NE		G06.06.3		
2	5NSCW	SCW	3	NR NA	NR NA		G06.06.3		
3	12NSCW	SCW	3	NR NA	NR NA		G06.06.3		
4	40NSCW	SCW	3	NB NE	NB NE		G06.06.3		
<b>PHASE 7</b>									
1	1aNSCW	SCW	3	NA NG	NA NG		G06.07.3		
2	1bNSCW	SCW	3	NG NA	NG NA		G06.07.3		
3	3aNSCW	SCW	3	NA NF	NA NF		G06.07.3		
4	3bNSCW	SCW	3	NF NA	NF NA		G06.07.3		
5	18aNSCW	SCW	2	NA NF	NA NF		G06.07.3		
6	18bNSCW	SCW	3	NF NA	NF NA		G06.07.3		
7	22aNSCW	SCW	3	NA NF	NA NF		G06.07.3		
8	22bNSCW	SCW	2	NA NF	NA NF		G06.07.3		
9	25NSCW	SCW	3	NG NA	NG NA		G06.07.3		
10	1aNSCE	SCE	3	NA NG	NA NG		G06.07.3		
11	1bNSCE	SCE	3	NH NA	NH NA		G06.07.3		

'NA' TEMPORARY SIGN SCHEDULE									
FIELD TAG	FIELD CIRCUIT	SIGN MODULES	SIGN LEGEND		TEMP LEGEND		REFERENCE DRAWING		
			SIDE 1	SIDE 2	SIDE 1	SIDE 2			
<b>PHASE 8</b>									
1	30WSC1	WSC1	3	NA NE	NA NE		G06.08.5		
2	6NSCW	SCW	3	NA NR	NA NR		G06.08.5		
3	8NSCW	SCW	3	NA NE	NA NE		G06.08.5		
4	14NSCW	SCW	3	NA NR	NA NR		G06.08.5		
5	8NSCE	SCE	3	NA NP	NA NP		G06.08.7		
<b>PHASE 9</b>									
1	3aNSCW	SCW	3	NA NF	NA NF		G06.09.3		
2	3bNSCW	SCW	3	NF NA	NF NA		G06.09.3		
3	18aNSCW	SCW	2	NA NF	NA NF		G06.09.3		
4	18bNSCW	SCW	3	NF NA	NF NA		G06.09.3		
5	24NSCW	SCW	3	NB NG	NB NG		G06.09.3		
6	44NSCE	SCE	3	NJ NA	NJ NA		G06.09.3		
7	49NSCE	SCE	3	NB NG	NB NG		G06.09.3		
<b>PHASE 10</b>									
1	1aNSCW	SCW	3	NA NG	NA NG		G06.10.3		
2	1bNSCW	SCW	3	NG NA	NG NA		G06.10.3		
3	25NSCW	SCW	3	NG NA	NG NA		G06.10.3		
4	1aNSCE	SCE	3	NA NG	NA NG		G06.10.3		
5	1bNSCE	SCE	3	NH NA	NH NA		G06.10.3		
6	4aNSCE	SCE	3	NA NK	NA NK		G06.10.3		
7	4bNSCE	SCE	3	NK NA	NK NA		G06.10.3		
8	5aNSCE	SCE	3	NA NK	NA NK		G06.10.3		
9	5bNSCE	SCE	3	NL NA	NL NA		G06.10.3		
10	32NSCE	SCE	3	NB NJ	NB NJ		G06.10.3		
11	38NSCE	SCE	3	NK NA	NK NA		G06.10.3		
12	45NSCE	SCE	3	NB NJ	NB NJ		G06.10.3		
<b>PHASE 11</b>									
1	7aNSCE	SCE	3	NA NN	NA NN		G06.11.4		
2	7bNSCE	SCE	3	NN NA	NN NA		G06.11.4		
3	28NSCE	SCE	3	NN NA	NN NA		G06.11.4		
4	30NSCE	SCE	3	NB NK	NB NK		G06.11.4		
5	39NSCE	SCE	3	NB NK	NB NK		G06.11.4		
6	44NSCE	SCE	3	NJ NA	NJ NA		G06.11.4		
<b>PHASE 12</b>									
1	4aNSCE	SCE	3	NA NK	NA NK		G06.12.4		
2	4bNSCE	SCE	3	NK NA	NK NA		G06.12.4		
3	5aNSCE	SCE	3	NA NK	NA NK		G06.12.4		
4	5bNSCE	SCE	3	NL NA	NL NA		G06.12.4		
5	9NSCE	SCE	3	NP NA	NP NA		G06.12.4		
6	11NSCE	SCE	3	NA NP	NA NP		G06.12.4		
7	16NSCE	SCE	3	NA NP	NA NP		G06.12.4		
8	25aNSCE	SCE	3	SF NB	SF NB		G06.12.4		
9	25bNSCE	SCE	2	NN SF	NN SF		G06.12.4		
10	26aNSCE	SCE	3	SF NB	SF NB		G06.12.4		
11	26bNSCE	SCE	3	NN NB	NN NB		G06.12.4		
12	29aNSCE	SCE	3	NN NB	NN NB		G06.12.4		
13	29bNSCE	SCE	3	SF NB	SF NB		G06.12.4		
14	38NSCE	SCE	3	NK NA	NK NA		G06.12.4		
<b>PHASE 13</b>									
1	7aNSCE	SCE	3	NA NN	NA NN		G06.13.3		
2	7bNSCE	SCE	3	NN NA	NN NA		G06.13.3		
3	14NSCE	SCE	3	CAR GO	CAR GO		G06.13.3		
4	17NSCE	SCE	3	NP NB	NP NB		G06.13.3		
5	28NSCE	SCE	3	NN NA	NN NA		G06.13.3		



REVISIONS			
NO.	DESCRIPTION	DATE	BY



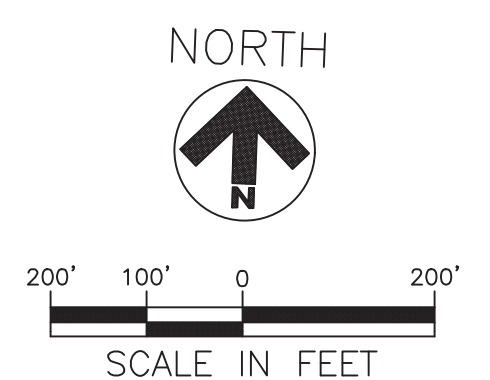
**LEGEND**

- HAUL ROUTE
- AOA FENCE
- FENCE (NON AOA)
- CONTRACTOR ACCESS/GATE GUARD
- CONTRACTOR STAGING AREA/EMPLOYEE PARKING/BATCH PLANT SITE

**PHASE 1 NOTES**

- PHASE 1 WILL CONSIST OF A 75-DAY MOBILIZATION / PROCUREMENT / PREPARATION PERIOD. DURING THIS PERIOD, THE CONTRACTOR IS EXPECTED TO PERFORM THE FOLLOWING ACTIVITIES:
  - INITIATE THE BADGING AND SAFETY TRAINING PROCESSES FOR CONTRACTOR PERSONNEL IN ORDER TO HAVE A SUFFICIENT WORK FORCE PROPERLY BADGED PRIOR TO BEGINNING WORK.
  - THE CONTRACTOR SHALL BEGIN MOBILIZATION, INCLUDING FURNISHMENT AND SET UP OF THE FIELD OFFICES FOR BOTH THE CONTRACTOR AND THE ENGINEER, SET UP OF THE CONTRACTOR'S STAGING / STORAGE AREA AND CONCRETE BATCH PLANT SITE, AND PROCUREMENT OF PROJECT MATERIALS.
  - INSTALL APPROPRIATE TRAFFIC CONTROL DEVICES.
  - PREPARE MATERIAL SUBMITTALS, SHOP DRAWINGS, AND ANY RFIS AND SUBMIT FOR REVIEW, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES. PARTICULAR ATTENTION SHOULD BE PAID TO CRITICAL SUBMITTALS, INCLUDING BUT NOT LIMITED TO SAFETY PLAN(S), QUALITY CONTROL PLAN(S), CONCRETE MIX DESIGNS, ASPHALT JOB MIX FORMULA(S) (JMF), ELECTRICAL ITEMS, AND OTHER LONG LEAD TIME ITEMS.
  - COMPLETE INITIAL SURVEY CHECKS AND VERIFICATION OF CONTROL MONUMENTS, ALONG WITH ESTABLISHMENT OF TEMPORARY BENCHMARKS.
  - PERFORM NECESSARY EXPLORATORY EXCAVATIONS FOR UNDERGROUND UTILITIES IN AIRPORT-APPROVED LOCATIONS.
- PROCURE BARRICADES AND OTHER SAFETY ITEMS AND VERIFY SUFFICIENT QUANTITY TO CLOSE THE REQUIRED AREAS ONCE WORK IS AUTHORIZED TO BEGIN.
- PER AIRPORT SECURITY POLICY NO VEHICLES, EQUIPMENT, OR MATERIAL STORAGE MAY OCCUR WITHIN 10 FEET OF THE AOA FENCE. THE CONTRACTOR SHALL CONSPICUOUSLY MARK AND ENFORCE THE 10' CLEAR ZONE WITH SIGNS, MARKINGS, AND/OR A PHYSICAL BARRIER TO BE APPROVED BY AIRPORT OPERATIONS.
- THE CONTRACTOR MAY REQUEST TO BEGIN ADDITIONAL CONSTRUCTION ITEMS DURING PHASE 1. ALLOWANCE OF SUCH REQUESTS WILL BE AT THE DIRECTION OF AIRPORT OPERATIONS.
- SEE SHEET G04.01 FOR ADDITIONAL STAGING / STORAGE AREA, STOCKPILE AREA, DISPOSAL AREA, AND BATCH PLANT SITE REQUIREMENTS.

PHASE 1					
DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
75 CALENDAR DAYS	DAY AND NIGHT	RESTRICTIONS --N/A CLOSURES --N/A	RESTRICTIONS --N/A CLOSURES --N/A	--N/A	N/A



RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 1 -  
 MOBILIZATION**

RECORD DRAWINGS

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=200'
DATE:	A April 19, 2019

THIS RECORD DRAWING IS A COMBINATION OF THE SEALED ENGINEERING CONTRACT DRAWINGS FOR THIS PROJECT, MODIFIED BY INFORMATION FURNISHED BY THE CONTRACTOR REFLECTING CHANGES IN THE PROJECT MADE DURING CONSTRUCTION. THE ORIGINAL SEALED DRAWINGS ARE ON FILE AT THE OFFICES OF RS&H, DALLAS, INC. CERTIFICATE OF AUTHORIZATION NO. 3401-4835 LINDON B JOHNSON Fwy, SUITE 900 DALLAS, TX 75244 469-857-7721 RECORD DRAWINGS PREPARED ON: 8-10-2018 THE SEAL THAT ORIGINALLY APPEARED ON THIS DOCUMENT WAS AUTHORIZED BY ELOUIS WELPE, P.E., TEXAS NO. 110151. THIS DRAWING IS BELIEVED TO BE CORRECT TO THE BEST OF THE PROFESSIONAL ENGINEER'S KNOWLEDGE, BUT CANNOT BE GUARANTEED WITHOUT PROPER INVESTIGATION. DATE: April 19, 2019 VISIBILE ENGINEER IS PROHIBITED.

DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0675
C.I.P. NO.	A-000570
H.A.S. NO.	105675
SHEET NO.	

**G06.011**







PHASE 2

DURATION (DAYS)	WORK PERIOD	WORK AREA	PAVEMENT CLOSURES	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
45 CALENDAR DAYS	NIGHT ONLY EXCEPT WHEN SPECIFICALLY NOTED AS DAYTIME WORK	TAXIWAY NE, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NB (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- TAXIWAY NE CLOSED TAXIWAY NB TO RUNWAY 8R - 26L. --- TAXIWAY NA CLOSED TAXIWAY NR TO TAXIWAY WB.	--- ACROSS TAXIWAY NE, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NE, 198' NORTH OF TAXIWAY NB CENTERLINE. --- ACROSS TAXIWAY NA, 198' EAST OF TAXIWAY WB CENTERLINE. --- ACROSS TAXIWAY NA, 198' WEST OF TAXIWAY NR CENTERLINE.	SUBPHASE 3A
		TAXIWAY NE, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NA (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NE CLOSED TAXIWAY NA TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NE, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NE, 198' NORTH OF TAXIWAY NA CENTERLINE.	
		TAXIWAY NE, BETWEEN RUNWAY 8R - 26L AND TAXIWAY CC (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- TAXIWAY NE CLOSED TAXIWAY NA TO TAXIWAY CC. --- RUNWAY 8R - 26L CLOSED.	--- ACROSS TAXIWAY NE, 198' NORTH OF TAXIWAY NA CENTERLINE. --- ACROSS TAXIWAY NE, 198' SOUTH OF TAXIWAY CC CENTERLINE. --- LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.	
		TAXIWAY NE, BETWEEN RUNWAY 8R - 26L AND TAXIWAY CC (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NE CLOSED TAXIWAY CC TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NE, 198' NORTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NE, 198' SOUTH OF TAXIWAY CC CENTERLINE. --- LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.	
		TAXIWAY NR, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NB (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- TAXIWAY NR CLOSED TAXIWAY NB TO RUNWAY 8R - 26L. --- TAXIWAY NA CLOSED TAXIWAY NE TO TAXIWAY NF.	--- ACROSS TAXIWAY NR, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NR, 198' NORTH OF TAXIWAY NB CENTERLINE. --- ACROSS TAXIWAY NA, 198' EAST OF TAXIWAY NE CENTERLINE. --- ACROSS TAXIWAY NA, 198' WEST OF TAXIWAY NF CENTERLINE.	
		TAXIWAY NR, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NA (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NR CLOSED TAXIWAY NA TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NR, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NR, 198' NORTH OF TAXIWAY NA CENTERLINE.	
		TAXIWAY NR, BETWEEN RUNWAY 8R - 26L AND TAXIWAY CC (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- TAXIWAY NR CLOSED TAXIWAY NA TO TAXIWAY CC. --- RUNWAY 8R - 26L CLOSED.	--- ACROSS TAXIWAY NR, 198' NORTH OF TAXIWAY NA CENTERLINE. --- ACROSS TAXIWAY NR, 198' SOUTH OF TAXIWAY CC CENTERLINE. --- LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.	
		TAXIWAY NR, BETWEEN RUNWAY 8R - 26L AND TAXIWAY CC (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NR CLOSED TAXIWAY CC TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NR, 255' NORTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NR, 198' SOUTH OF TAXIWAY CC CENTERLINE.	
		TAXIWAY NF, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NB (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- TAXIWAY NF CLOSED TAXIWAY NB TO RUNWAY 8R - 26L. --- TAXIWAY NA CLOSED TAXIWAY NR TO TAXIWAY NG.	--- ACROSS TAXIWAY NF, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NF, 198' NORTH OF TAXIWAY NB CENTERLINE. --- ACROSS TAXIWAY NA, 198' EAST OF TAXIWAY NR CENTERLINE. --- ACROSS TAXIWAY NA, 98' WEST OF TAXIWAY NG CENTERLINE.	
		TAXIWAY NF, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NA (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NF CLOSED TAXIWAY NA TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NF, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NF, 198' NORTH OF TAXIWAY NA CENTERLINE.	
		TAXIWAYS NG AND NH, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NB (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 4 HOUR DAYTIME CLOSURE)	--- TAXIWAY NG CLOSED TAXIWAY NB TO RUNWAY 8R - 26L. --- TAXIWAY NH CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. --- TAXIWAY NA CLOSED TAXIWAY NF TO TAXIWAY NJ.	--- ACROSS TAXIWAY NG, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NG, 198' NORTH OF TAXIWAY NB CENTERLINE. --- ACROSS TAXIWAY NH, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NA, 198' EAST OF TAXIWAY NF CENTERLINE. --- ACROSS TAXIWAY NA, 198' WEST OF TAXIWAY NJ CENTERLINE.	
		TAXIWAY NG, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NA (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NG CLOSED TAXIWAY NA TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NG, 255' SOUTH OF RUNWAY 8R - 26L RSA CENTERLINE. --- ACROSS TAXIWAY NG, 198' NORTH OF TAXIWAY NA CENTERLINE.	
		TAXIWAY NH, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NA (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NH CLOSED TAXIWAY NA TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NH, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NH, 198' NORTH OF TAXIWAY NA CENTERLINE.	
		TAXIWAYS NK AND NL, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NB (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 4 HOUR DAYTIME CLOSURE)	--- TAXIWAY NK CLOSED TAXIWAY NB TO RUNWAY 8R - 26L. --- TAXIWAY NL CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. --- TAXIWAY NA CLOSED TAXIWAY NJ TO TAXIWAY NN.	--- ACROSS TAXIWAY NK, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NK, 198' NORTH OF TAXIWAY NB CENTERLINE. --- ACROSS TAXIWAY NL, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NA, 198' EAST OF TAXIWAY NJ CENTERLINE. --- ACROSS TAXIWAY NA, 198' WEST OF TAXIWAY NN CENTERLINE.	
		TAXIWAY NK, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NA (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NK CLOSED TAXIWAY NA TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NK, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NK, 198' NORTH OF TAXIWAY NA CENTERLINE.	
		TAXIWAY NL, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NA (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NL CLOSED TAXIWAY NA TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NL, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NL, 198' NORTH OF TAXIWAY NA CENTERLINE.	
		TAXIWAY NK, BETWEEN RUNWAY 8R - 26L AND TAXIWAY CC (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- TAXIWAY NK CLOSED TAXIWAY NA TO TAXIWAY CC. --- TAXIWAY NH CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. --- RUNWAY 8R - 26L CLOSED.	--- ACROSS TAXIWAY NK, 198' NORTH OF TAXIWAY NA CENTERLINE. --- ACROSS TAXIWAY NH, 198' NORTH OF TAXIWAY NA CENTERLINE. --- ACROSS TAXIWAY NK, 198' SOUTH OF TAXIWAY CC CENTERLINE. --- LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.	
		TAXIWAY NK, BETWEEN RUNWAY 8R - 26L AND TAXIWAY CC (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NK CLOSED TAXIWAY CC TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NK, 255' NORTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NK, 198' SOUTH OF TAXIWAY CC CENTERLINE.	
		TAXIWAY NN, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NB (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- TAXIWAY NN CLOSED TAXIWAY NB TO RUNWAY 8R - 26L. --- TAXIWAY NA CLOSED TAXIWAY NL TO TAXIWAY NP.	--- ACROSS TAXIWAY NN, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NN, 198' NORTH OF TAXIWAY NB CENTERLINE. --- ACROSS TAXIWAY NA, 98' EAST OF TAXIWAY NL CENTERLINE. --- ACROSS TAXIWAY NA, 198' WEST OF TAXIWAY NP CENTERLINE.	
		TAXIWAY NN, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NA (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NN CLOSED TAXIWAY NA TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NN, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NN, 198' NORTH OF TAXIWAY NA CENTERLINE.	
TAXIWAY NP, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NB (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- TAXIWAY NP CLOSED TAXIWAY NB TO RUNWAY 8R - 26L. --- TAXIWAY NA CLOSED TAXIWAY NN TO TAXIWAY NP.	--- ACROSS TAXIWAY NP, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NP, 198' NORTH OF TAXIWAY NB CENTERLINE. --- ACROSS TAXIWAY NA, 198' EAST OF TAXIWAY NN CENTERLINE.			
TAXIWAY NP, BETWEEN RUNWAY 8R - 26L AND TAXIWAY NA (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NP CLOSED TAXIWAY NA TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NP, 255' SOUTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NP, 198' NORTH OF TAXIWAY NA CENTERLINE.			
TAXIWAY NP, BETWEEN RUNWAY 8R - 26L AND TAXIWAY CC (SEE SHEET G06.02.7, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- TAXIWAY NP CLOSED TAXIWAY NA TO TAXIWAY CC. --- RUNWAY 8R - 26L CLOSED.	--- ACROSS TAXIWAY NP, 198' NORTH OF TAXIWAY NA CENTERLINE. --- ACROSS TAXIWAY NP, 198' SOUTH OF TAXIWAY CC CENTERLINE. --- LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.			
TAXIWAY NP, BETWEEN RUNWAY 8R - 26L AND TAXIWAY CC (SEE SHEET G06.02.7, NOTE 7.E)	--- TAXIWAY NP CLOSED TAXIWAY CC TO RUNWAY 8R - 26L.	--- ACROSS TAXIWAY NP, 255' NORTH OF RUNWAY 8R - 26L CENTERLINE. --- ACROSS TAXIWAY NP, 198' SOUTH OF TAXIWAY CC CENTERLINE.			
RUNWAY 8R LAHSO LIGHT BAR (SEE SHEET G06.02.8, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- RUNWAY 8R - 26L CLOSED. --- TAXIWAY NP CLOSED TAXIWAY NA TO TAXIWAY CC.	--- ACROSS RUNWAY 8R - 26L, 198' EAST OF TAXIWAY NN CENTERLINE. --- ACROSS TAXIWAY NP, 198' NORTH OF TAXIWAY NA CENTERLINE. --- ACROSS TAXIWAY NP, 198' SOUTH OF TAXIWAY CC CENTERLINE. --- LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.			
RUNWAY 8R LAHSO LIGHT BAR (SEE SHEET G06.02.8, NOTE 7.D, MAXIMUM 4 HOUR NIGHTTIME CLOSURE)	--- RUNWAY 8R - 26L CLOSED.	--- ACROSS RUNWAY 8R - 26L, 198' WEST OF TAXIWAY NP CENTERLINE. --- ACROSS RUNWAY 8R - 26L, 198' EAST OF TAXIWAY NN CENTERLINE. --- LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.			
RUNWAY 26L LAHSO LIGHT BAR (SEE SHEET G06.02.8, NOTE 7.A, MAXIMUM 2 HOUR DAYTIME CLOSURE)	--- RUNWAY 8R - 26L CLOSED. --- TAXIWAY NR CLOSED TAXIWAY NA TO TAXIWAY CC.	--- ACROSS RUNWAY 8R - 26L, 198' EAST OF TAXIWAY NE CENTERLINE. --- ACROSS RUNWAY 8R - 26L, 198' WEST OF TAXIWAY NF CENTERLINE. --- ACROSS TAXIWAY NR, 198' NORTH OF TAXIWAY NA CENTERLINE. --- ACROSS TAXIWAY NR, 198' SOUTH OF TAXIWAY CC CENTERLINE. --- LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.			
RUNWAY 26L LAHSO LIGHT BAR (SEE SHEET G06.02.8, NOTE 7.D, MAXIMUM 4 HOUR NIGHTTIME CLOSURE)	--- RUNWAY 8R - 26L CLOSED.	--- ACROSS RUNWAY 8R - 26L, 198' EAST OF TAXIWAY NE CENTERLINE. --- ACROSS RUNWAY 8R - 26L, 198' WEST OF TAXIWAY NR CENTERLINE. --- LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.			



REVISIONS

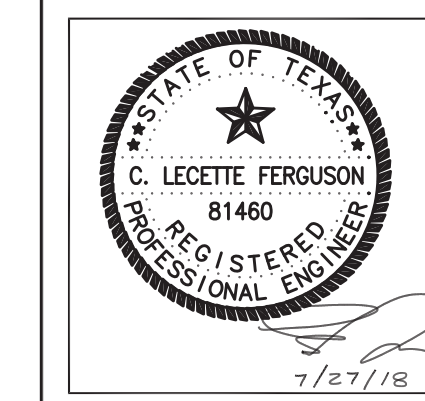
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - PHASE 2**  
(2 OF 6)

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NOT TO SCALE
DATE:	07/27/2016



DEPARTMENT OF AVIATION

APPROVED BY: DP 7/28/16

*Denzel Pehel*  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

G06.02.2



**REVISIONS**

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 2**  
**(3 OF 6)**

ISSUED FOR BID

<b>PROJECT MGR:</b>	CLF
<b>DESIGNER:</b>	RSF
<b>DRAWN BY:</b>	RSF
<b>CHECKED BY:</b>	CLF
<b>SCALE:</b>	1"=150'
<b>DATE:</b>	07/27/2018

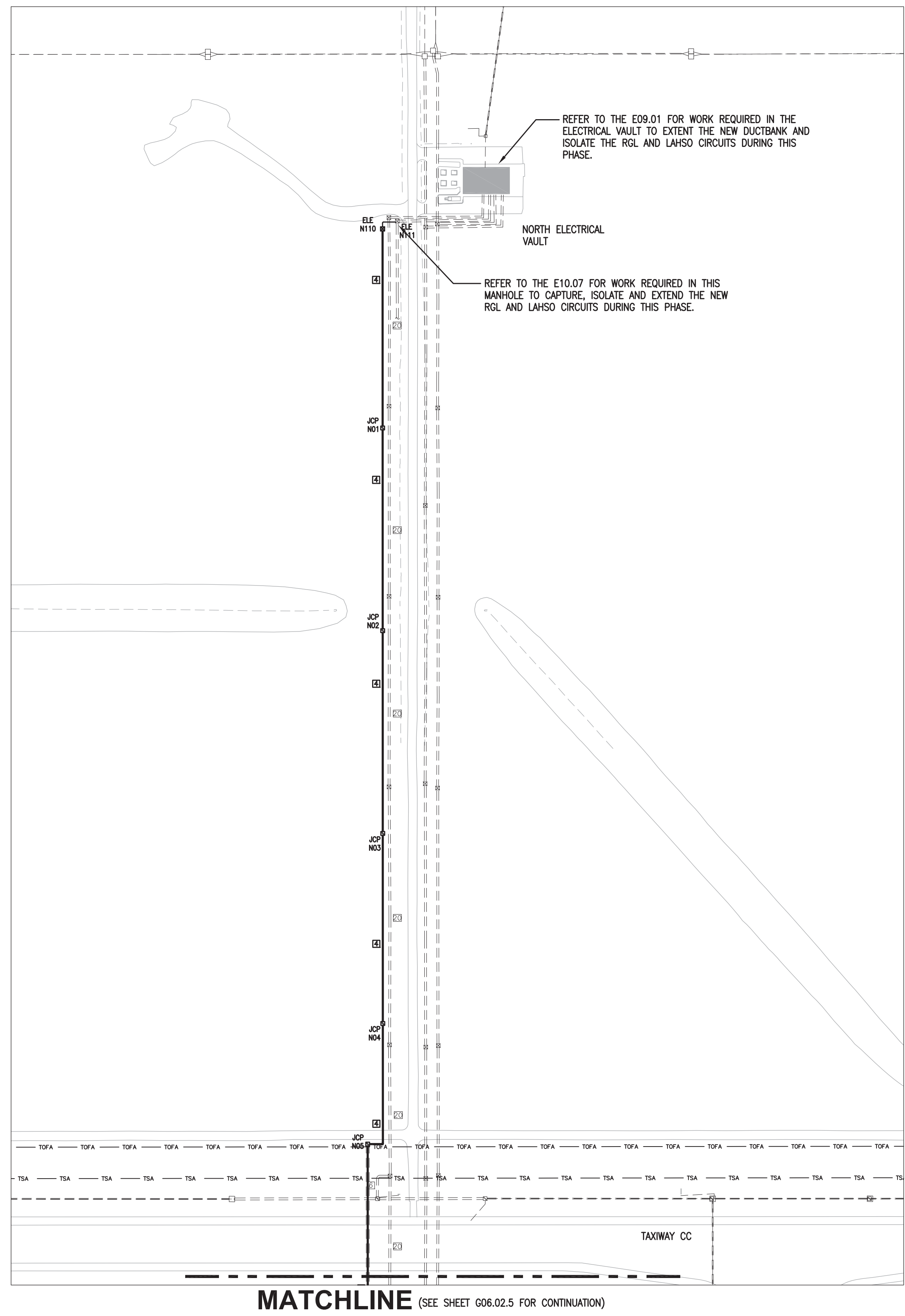


**DEPARTMENT OF AVIATION**  
**APPROVED BY: DP 7/28/18**  
*Denej Pehmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

**PROJECT NO.**  
0907  
**C.I.P. NO.**  
A-000570  
**H.A.S. NO.**  
   
**SHEET NO.**  
G06.02.3

## PHASE 2 CONSTRUCTION AND SEQUENCING NOTES

1. PHASE 2 SHALL BE COMPLETED CONCURRENTLY WITH SUBPHASE 3A. ALL WORK IN PHASE 2 MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS, AS NOTED.
2. THE CONTRACTOR WILL BE ALLOWED 45 CALENDAR DAYS TO COMPLETE PHASE 2. PHASE 2 SHALL BE SUBDIVIDED INTO SEVERAL SUBPHASES TO BE PERFORMED IN SEQUENTIAL ORDER AS FOLLOWS: SUBPHASE 2A - INSTALL JCP INFRASTRUCTURE (20 CALENDAR DAYS); SUBPHASE 2B - INSTALL CONDUCTORS (5 CALENDAR DAYS); SUBPHASE 2C - CUT OVER LAHSO LIGHTS TO NEW INFRASTRUCTURE (3 CALENDAR DAYS); AND SUBPHASE 2D - CUT OVER RGL LIGHTS TO NEW INFRASTRUCTURE (10 CALENDAR DAYS).
3. IT IS INTENDED THAT TAXIWAY CLOSURES ARE ELIMINATED OR MINIMIZED FOR ALL WORK RELATED TO THE NEW DUCTBANK INSTALLATION, INCLUDING DIRECTIONAL AND CASED BORE DRILLING. CASED BORE DRILLING EQUIPMENT AND TRENCHING EQUIPMENT MUST REMAIN OUTSIDE OF THE RSA AND THE RESPECTIVE TOFA WHERE DRILLING OR TRENCHING IS REQUIRED SO THAT A TAXIWAY CLOSURE IS NOT NECESSARY. BORE PITS FOR CASED BORE DRILLING SHALL BE SURROUNDED WITH LOW-PROFILE BARRICADES. IN INSTANCES WHERE A CLOSURE IS REQUIRED IN ORDER TO INTERCEPT EXISTING RGL OR LAHSO LIGHTING CIRCUITS, COORDINATE WORK WITH AIRPORT OPERATIONS TO CLOSE THE RESPECTIVE AIRFIELD PAVEMENTS AS REQUIRED FOR THE AREA OF WORK.
4. ALL TAXIWAY CLOSURES SHALL BE LIMITED TO A SINGLE TAXIWAY AT A GIVEN TIME WITH A MAXIMUM CLOSURE DURATION AS NOTED IN THE SEQUENCE OF INSTALLATION (ITEMS 5.J AND 5.K).
5. CONSTRUCTION TASKS FOR PHASE 2 ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.02.1.
  - B. INSTALL BARRICADES FOR REQUIRED CLOSED PAVEMENTS AT THE LOCATIONS NOTED ON SHEET G06.02.1.
  - C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH WORK PERIOD. THE LIGHTS SHALL BE RE-ENERGIZED AT THE END OF EACH WORK PERIOD.
  - D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH WORK PERIOD. PROVIDE TEMPORARY 'BLANK' SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE ELECTRICAL PLANS FOR SIGN LOCATIONS). THE SIGNS SHALL BE RE-ENERGIZED AND / OR 'BLANK' PANELS REMOVED AT THE END OF EACH NIGHTTIME WORK PERIOD.
  - E. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
  - F. SUBPHASE 2A - PERFORM REQUIRED EARTHWORK AND DRILLING OPERATIONS TO INSTALL COMPLETE JUNCTION PLAZA SYSTEM AND ASSOCIATED DUCTS FOR THE COMPLETE ROUTE.
  - G. INSTALL THE VAULT CONDUIT TO EXTEND THE NEW JUNCTION PLAZA PATHWAY SYSTEM TO THE APPROPRIATE EQUIPMENT.
  - H. SUBPHASE 2B - INSTALL NEW #8 AWG, L-824C AIRFIELD LIGHTING CABLES FROM THE ELECTRICAL VAULT THROUGH THE JUNCTION PLAZA DUCTBANK SYSTEM LEAVING ENOUGH SLACK AT EACH JUNCTION PLAZA FOR EXTENSION OF THE CIRCUIT TO THE RESPECTIVE EXISTING AND TO THE FUTURE LIGHT BAR NO SPLICES WILL BE ALLOWED IN THE CABLE.
  - I. EACH RGL BAR AND LAHSO BAR SHALL BE CUT OVER SEPARATELY WITH THE LAHSO BARS OCCURRING FIRST AND THE RGL BARS SECOND. REFER TO NOTES BELOW FOR SEQUENCE OF CONSTRUCTION AND TO SHEETS G06.02.7 AND G06.02.8 FOR ENLARGED PLAN OF TYPICAL RGL AND LAHSO LIGHT BAR CUT OVER, RESPECTIVELY.
  - J. SUBPHASE 2C - FOR THE RESPECTIVE LAHSO BAR TO BE CUT OVER, REFER TO SHEET G06.02.8 FOR A DETAILED SEQUENCE OF CONSTRUCTION.
  - K. SUBPHASE 2D - FOR THE RESPECTIVE RGL BAR TO BE CUT OVER, REFER TO SHEET G06.02.7 FOR A DETAILED SEQUENCE OF CONSTRUCTION.
  - L. PERFORM A FINAL CLEANING OF THE WORK AREA.
  - M. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
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  - P. WORK WITH AIRPORT OPERATIONS TO OPEN ANY CLOSED AIRFIELD PAVEMENTS.



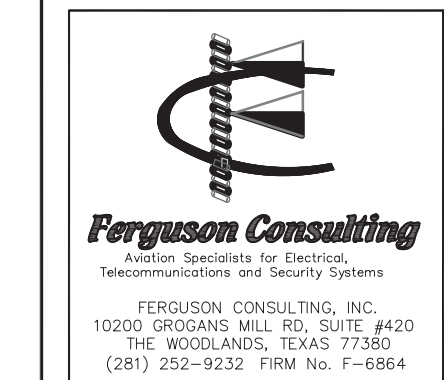
### LEGEND

- JCP N21  
4-WAY JUNCTION CAN PLAZA  
JCP ID:  
JCP INDICATES JUNCTION CAN PLAZA  
'N' INDICATES NORTH AIRFIELD  
'21' INDICATES MANHOLE NUMBER
- ELE N21  
EXISTING HANDHOLE/MANHOLE
- EXISTING L-867D PULLCAN
- NEW CABLE IN PROPOSED JCP DUCT BANK.  
DUCTBANK: [4] INDICATES NUMBER OF 2" DUCTS.
- PROPOSED DUCTBANK BORING.
- EXISTING DUCTBANK BORING.
- PROPOSED 2" SCHED 40 PVC
- EXISTING 2" SCHED 40 PVC
- EXISTING IP RGL OR LAHSO LIGHT-AS NOTED
- PHASE 2 TAXIWAY SAFETY AREA
- PHASE 2 TAXIWAY OBJECT FREE AREA
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA

### ABBREVIATIONS

FOR A LIST OF ABBREVIATIONS, REFER TO DRAWING E01.01.

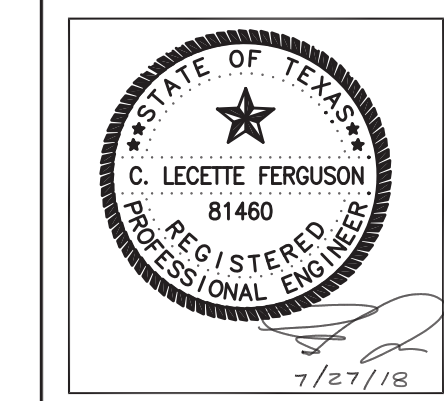




REVISIONS		
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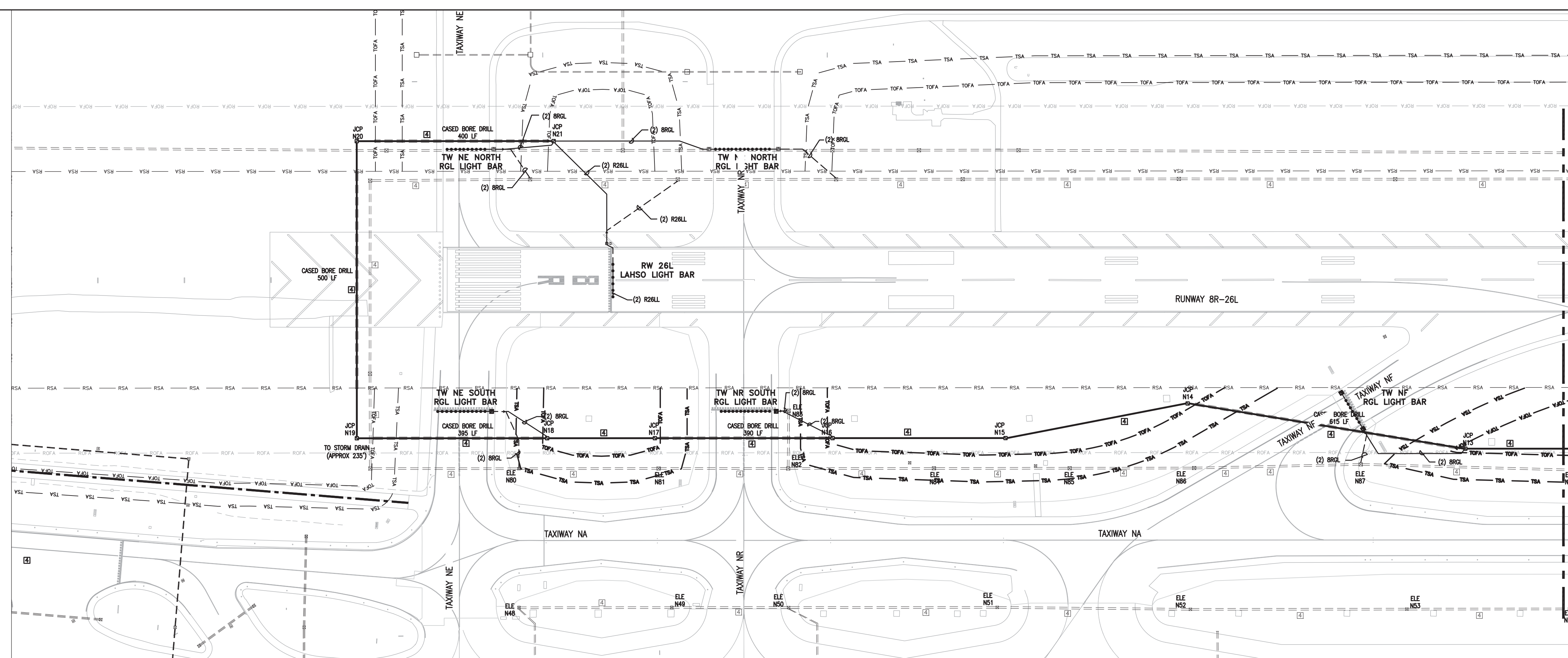
REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 2**  
**(4 OF 6)**

ISSUED FOR BID
PROJECT MGR: CLF
DESIGNER: RSF
DRAWN BY: RSF
CHECKED BY: CLF
SCALE: 1"=150'
DATE: 07/27/2018



DEPARTMENT OF AVIATION
APPROVED BY: DP 7/28/18
<i>Denaj Pehel</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	G06.02.4



MATCHLINE (SEE SHEET G06.02.5 FOR CONTINUATION)

**LEGEND**

- JCP N21 4-WAY JUNCTION CAN PLAZA  
JCP ID:  
JCP INDICATES JUNCTION CAN PLAZA  
'N' INDICATES NORTH AIRFIELD  
'21' INDICATES MANHOLE NUMBER
- ELE N21 EXISTING HANDHOLE/MANHOLE
- EXISTING L-867D PULLCAN
- NEW CABLE IN PROPOSED JCP DUCT BANK.  
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- PROPOSED DUCTBANK BORING.
- EXISTING DUCTBANK BORING.
- PROPOSED 2" SCHED 40 PVC
- EXISTING 2" SCHED 40 PVC
- CONDUIT INTERCEPT LOCATION
- EXISTING IP RGL OR LAHSO LIGHT--AS NOTED
- PHASE 2 TAXIWAY SAFETY AREA
- PHASE 2 TAXIWAY OBJECT FREE AREA
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA

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HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



REVISIONS		
NO.	DESCRIPTION	DATE BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 2**  
**(5 OF 6)**

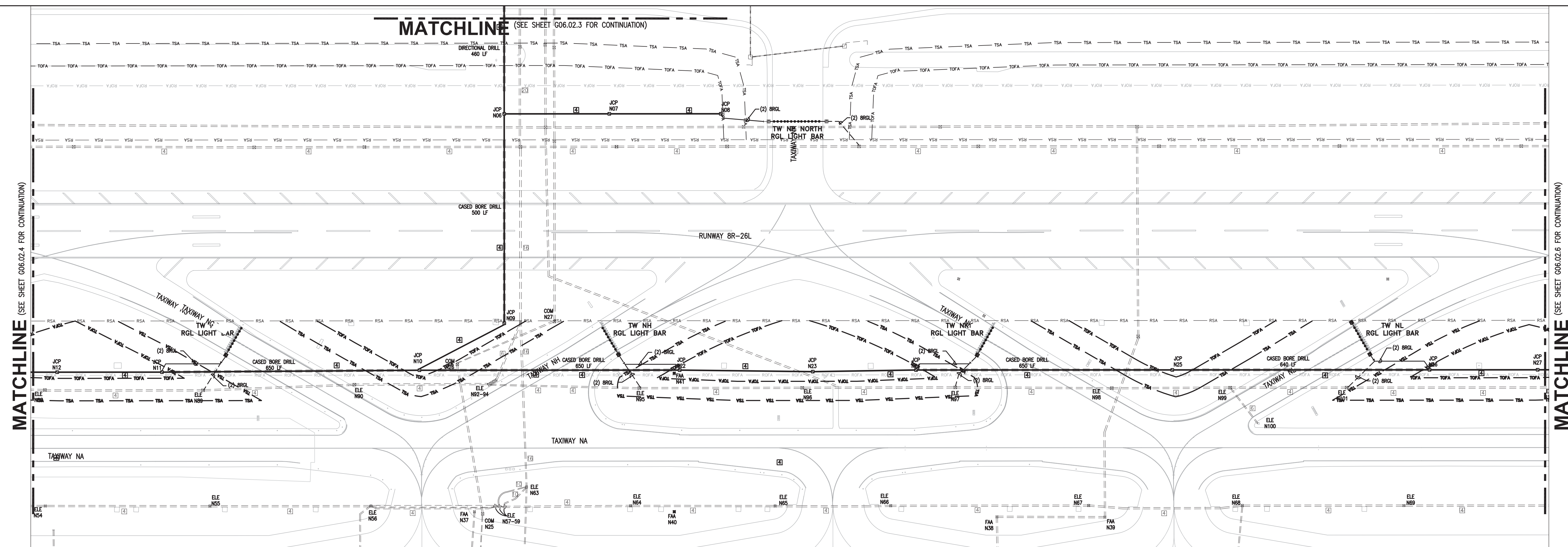
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1"=150'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/28/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  

SHEET NO. G06.02.5



MATCHLINE (SEE SHEET G06.02.4 FOR CONTINUATION)

MATCHLINE (SEE SHEET G06.02.6 FOR CONTINUATION)

**LEGEND**

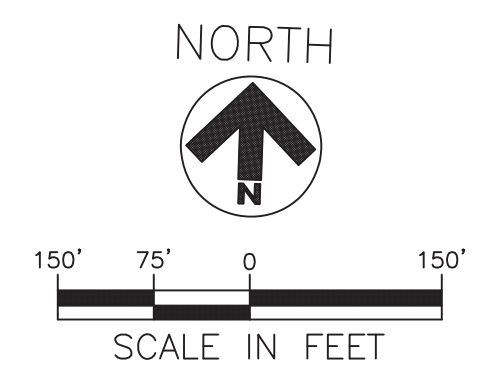
- JCP N21 4-WAY JUNCTION CAN PLAZA  
 JCP ID:  
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**ABBREVIATIONS**

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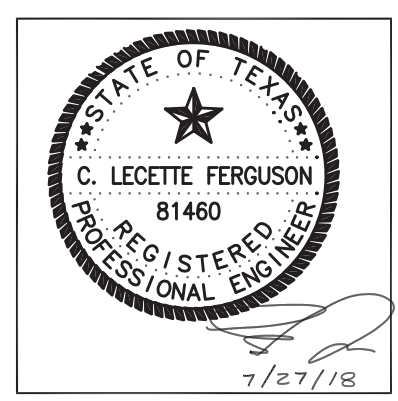




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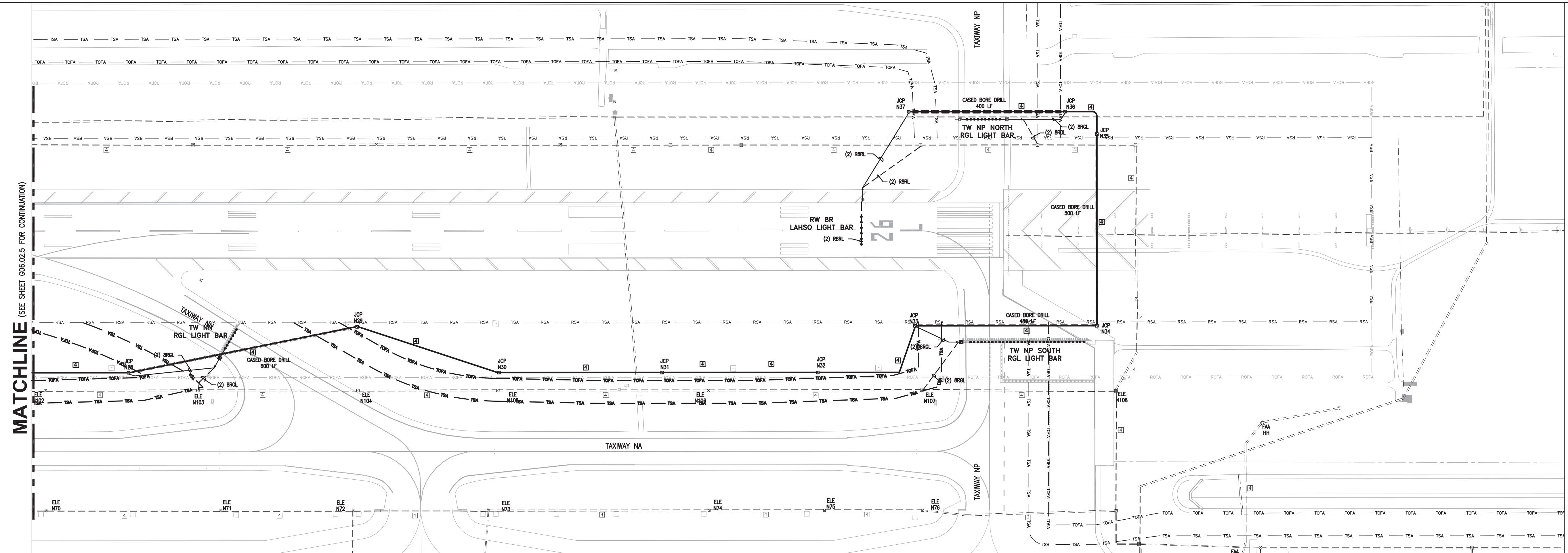
REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 2**  
**(6 OF 6)**

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1"=150'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/28/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.    
 SHEET NO. G06.02.6



**LEGEND**

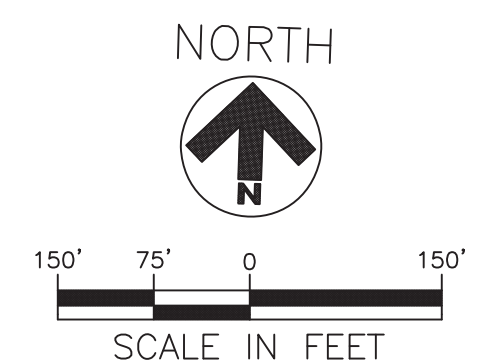
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- CONDUIT INTERCEPT LOCATION
- EXISTING IP RGL OR LAHSO LIGHT--AS NOTED
- PHASE 2 TAXIWAY SAFETY AREA
- PHASE 2 TAXIWAY OBJECT FREE AREA
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA

**ABBREVIATIONS**

FOR A LIST OF ABBREVIATIONS, REFER TO DRAWING E01.01.

**PHASE 2 CONSTRUCTION AND SEQUENCING NOTES**

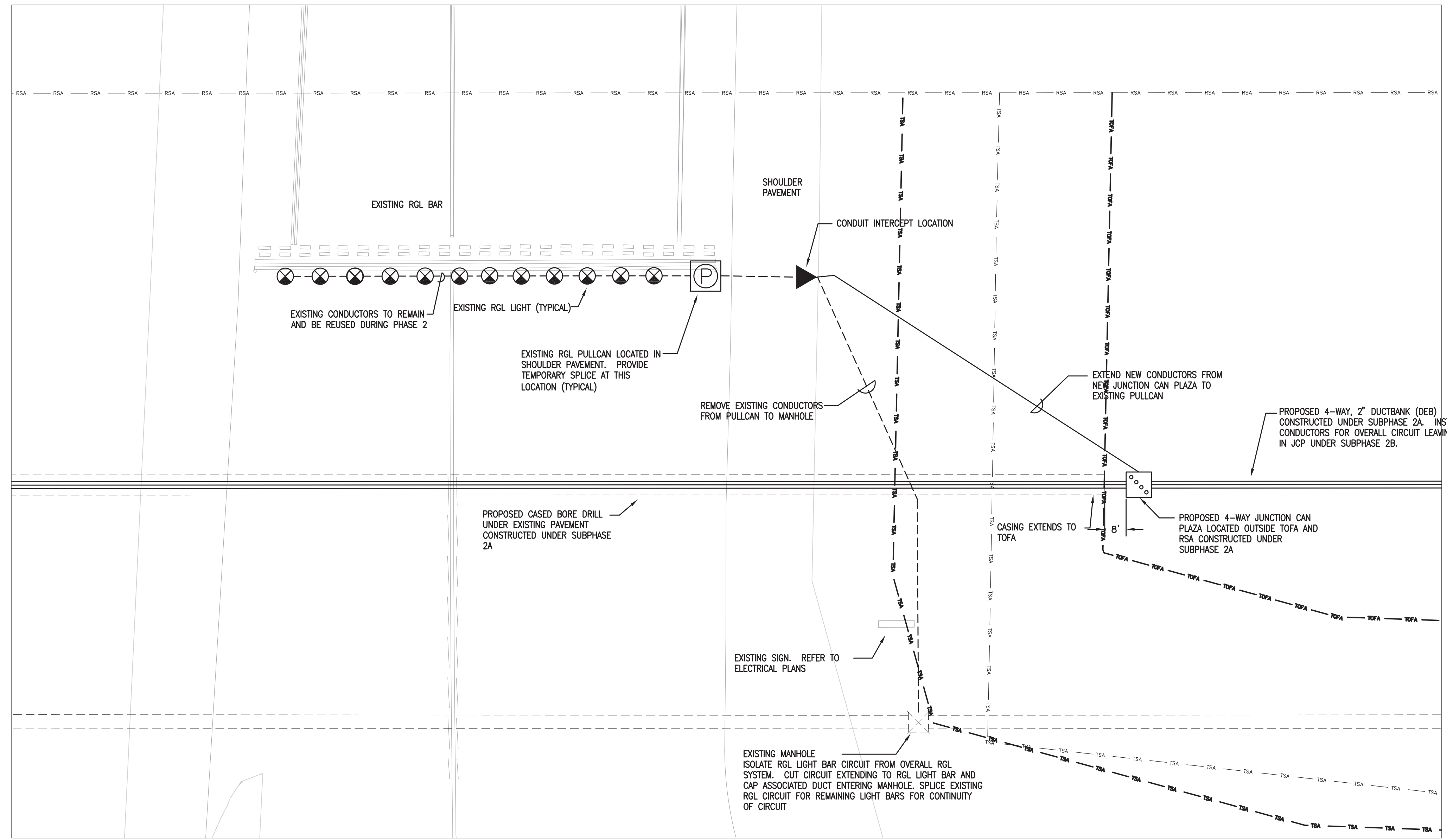
1. PHASE 2 SHALL BE COMPLETED CONCURRENTLY WITH SUBPHASE 3A. ALL WORK IN PHASE 2 MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS, AS NOTED.
2. THE CONTRACTOR WILL BE ALLOWED 45 CALENDAR DAYS TO COMPLETE PHASE 2. PHASE 2 SHALL BE SUBDIVIDED INTO SEVERAL SUBPHASES TO BE PERFORMED IN SEQUENTIAL ORDER AS FOLLOWS: SUBPHASE 2A - INSTALL JCP INFRASTRUCTURE (20 CALENDAR DAYS); SUBPHASE 2B - INSTALL CONDUCTORS (5 CALENDAR DAYS); SUBPHASE 2C - CUT OVER LAHSO LIGHTS TO NEW INFRASTRUCTURE (3 CALENDAR DAYS); AND SUBPHASE 2D - CUT OVER RGL LIGHTS TO NEW INFRASTRUCTURE (10 CALENDAR DAYS).
3. IT IS INTENDED THAT TAXIWAY CLOSURES ARE ELIMINATED OR MINIMIZED FOR ALL WORK RELATED TO THE NEW DUCTBANK INSTALLATION, INCLUDING DIRECTIONAL AND CASED BORE DRILLING, CASED BORE DRILLING EQUIPMENT AND TRENCHING EQUIPMENT MUST REMAIN OUTSIDE OF THE RSA AND THE RESPECTIVE TOFA WHERE DRILLING OR TRENCHING IS REQUIRED SO THAT A TAXIWAY CLOSURE IS NOT NECESSARY. BORE PITS FOR CASED BORE DRILLING SHALL BE SURROUNDED WITH LOW-PROFILE BARRICADES. IN INSTANCES WHERE A CLOSURE IS REQUIRED IN ORDER TO INTERCEPT EXISTING RGL OR LAHSO LIGHTING CIRCUITS, COORDINATE WORK WITH AIRPORT OPERATIONS TO CLOSE THE RESPECTIVE AIRFIELD PAVEMENTS AS REQUIRED FOR THE AREA OF WORK.
4. ALL TAXIWAY CLOSURES SHALL BE LIMITED TO A SINGLE TAXIWAY AT A GIVEN TIME WITH A MAXIMUM CLOSURE DURATION AS NOTED IN THE SEQUENCE OF INSTALLATION (ITEMS 5.J AND 5.K).
5. CONSTRUCTION TASKS FOR PHASE 2 ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.02.1.
  - B. INSTALL BARRICADES FOR REQUIRED CLOSED PAVEMENTS AT THE LOCATIONS NOTED ON SHEET G06.02.1.
  - C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH WORK PERIOD. THE LIGHTS SHALL BE RE-ENERGIZED AT THE END OF EACH WORK PERIOD.
  - D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH WORK PERIOD. PROVIDE TEMPORARY 'BLANK' SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE ELECTRICAL PLANS FOR SIGN LOCATIONS). THE SIGNS SHALL BE RE-ENERGIZED AND / OR 'BLANK' PANELS REMOVED AT THE END OF EACH NIGHTTIME WORK PERIOD.
  - E. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
  - F. SUBPHASE 2A - PERFORM REQUIRED EARTHWORK AND DRILLING OPERATIONS TO INSTALL COMPLETE JUNCTION PLAZA SYSTEM AND ASSOCIATED DUCTS FOR THE COMPLETE ROUTE.
  - G. INSTALL THE VAULT CONDUIT TO EXTEND THE NEW JUNCTION PLAZA PATHWAY SYSTEM TO THE APPROPRIATE EQUIPMENT.
  - H. SUBPHASE 2B - INSTALL NEW #8 AWG, L-824C AIRFIELD LIGHTING CABLES FROM THE ELECTRICAL VAULT THROUGH THE JUNCTION PLAZA DUCTBANK SYSTEM LEAVING ENOUGH SLACK AT EACH JUNCTION PLAZA FOR EXTENSION OF THE CIRCUIT TO THE RESPECTIVE EXISTING AND TO THE FUTURE LIGHT BAR NO SPLICES WILL BE ALLOWED IN THE CABLE.
  - I. EACH RGL BAR AND LAHSO BAR SHALL BE CUT OVER SEPARATELY WITH THE LAHSO BARS OCCURRING FIRST AND THE RGL BARS SECOND. REFER TO NOTES BELOW FOR SEQUENCE OF CONSTRUCTION AND TO SHEETS G06.02.7 AND G06.02.8 FOR ENLARGED PLAN OF TYPICAL RGL AND LAHSO LIGHT BAR CUT OVER, RESPECTIVELY.
  - J. SUBPHASE 2C - FOR THE RESPECTIVE LAHSO BAR TO BE CUT OVER, REFER TO SHEET G06.02.8 FOR A DETAILED SEQUENCE OF CONSTRUCTION.
  - K. SUBPHASE 2D - FOR THE RESPECTIVE RGL BAR TO BE CUT OVER, REFER TO SHEET G06.02.7 FOR A DETAILED SEQUENCE OF CONSTRUCTION.
  - L. PERFORM A FINAL CLEANING OF THE WORK AREA.
  - M. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
  - N. RE-ENERGIZE OR REMOVE 'BLANK' SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
  - O. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
  - P. WORK WITH AIRPORT OPERATIONS TO OPEN ANY CLOSED AIRFIELD PAVEMENTS.





REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 2 -**  
**TYPICAL RGL LIGHT BAR ENLARGED PLAN**



**1**  
 G06.02.7 **TYPICAL RGL LIGHT BAR - ENLARGED PLAN**  
 SCALE: 1" = 20'

**ABBREVIATIONS**

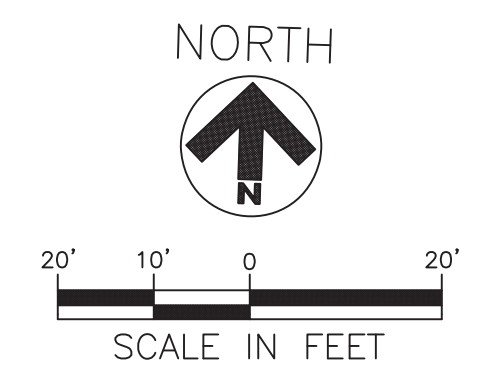
FOR A LIST OF ABBREVIATIONS, REFER TO DRAWING E01.01.

**LEGEND**

- JCP N21 4-WAY JUNCTION CAN PLAZA  
 JCP ID:  
 JCP' INDICATES JUNCTION CAN PLAZA  
 'N' INDICATES NORTH AIRFIELD  
 '21' INDICATES MANHOLE NUMBER
- ELE N21 EXISTING HANDHOLE/MANHOLE
- EXISTING L-8670 PULLCAN
- NEW CABLE IN PROPOSED JCP DUCT BANK.  
 DUCTBANK: [4] INDICATES NUMBER OF 2" DUCTS.
- PROPOSED DUCTBANK BORING.
- EXISTING DUCTBANK BORING.
- PROPOSED 2" SCHED 40 PVC
- EXISTING 2" SCHED 40 PVC
- CONDUIT INTERCEPT LOCATION
- EXISTING IP RGL OR LAHSO LIGHT--AS NOTED
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE  
 (EXACT POSITION)
- PHASE 2 TAXIWAY SAFETY AREA
- PHASE 2 TAXIWAY OBJECT FREE AREA
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA

**NOTES**

1. ALL WORK ON THIS SHEET IS UNDER SUBPHASE 2D UNLESS OTHERWISE NOTED.
2. REFER TO AIRFIELD LIGHTING AND SIGNAGE DEMOLITION PLANS FOR EXISTING ELECTRICAL CONDITIONS.
3. REFER TO E10 SERIES FOR RGL DETAILS AND SCHEMATIC WIRING DIAGRAM.
4. REFER TO E10 SERIES FOR DUCTBANK AND JCP INSTALLATION DETAILS.
5. REFER TO E7 SERIES FOR EXISTING AND PROPOSED DUCTBANK AND JUNCTION CAN PLAZAS.
6. REFER TO E08-03 FOR JCP SCHEDULE.
7. SUBPHASE 2D - FOR THE RESPECTIVE RGL BAR TO BE CUT OVER, THE CONTRACTOR SHALL PERFORM THE FOLLOWING SEQUENCE OF CONSTRUCTION:
  - A. THE EXISTING ELECTRICAL MANHOLE IS LOCATED INSIDE THE TOFA OF TAXIWAY NA AS WELL AS THE RESPECTIVE RGL BAR TAXIWAY, THEREFORE ALL WORK REQUIRED INSIDE THE MANHOLE WILL REQUIRE A CLOSURE OF THE RESPECTIVE TAXIWAY AS WELL AS A PARTIAL TAXIWAY "NA" CLOSURE DURING THE DAYTIME WHILE THE ELECTRICAL VAULT CAN BE LOCKED-OUT AND TAGGED-OUT. IN ADDITION, FOR THE RGL BAR ON TAXIWAY NE, TAXIWAY NR AND TAXIWAY NP NORTH OF BR / 26L, THE MANHOLE IS LOCATED INSIDE THE RSA AND WILL REQUIRE A RUNWAY CLOSURE. FOR EACH RGL BAR, THE RESPECTIVE PARTIAL TAXIWAY NA OR RUNWAY BR / 26L CLOSURE IS LIMITED TO A 2HR DURATION TO PERFORM THE SCOPE IDENTIFIED UNDER ITEMS 7B AND 7C BELOW. FOR RUNWAY BR / 26L CLOSURES, INSTALL LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.
  - B. DURING THE DAY, WHILE THE VAULT IS LOCKED OUT AND TAGGED OUT AND THE TAXIWAY "NA" OR RUNWAY IS CLOSED, CUT THE CIRCUIT AT THE EXISTING MANHOLE SYSTEM AND SPLICE THE REMAINING CIRCUIT INSIDE THE MANHOLE SO THAT IT REMAINS ACTIVE. THE CONTRACTOR SHALL PLUG THE DUCT LEADING TO THE LIGHT BAR. THIS TEMPORARY OUTAGE OF THE COMPLETE RGL CIRCUIT IS LIMITED TO TWO (2) DAYTIME HOURS AS COORDINATED WITH AIRPORT OPERATIONS AND THE ATCT. THIS WILL ISOLATE THE RESPECTIVE RGL LIGHT BAR.
  - C. DURING THE SAME TWO (2) HOUR LIGHT SYSTEM OUTAGE AND CLOSURE, INSPECT THE EXISTING RGL CIRCUIT PULLCAN IN THE SHOULDER PAVEMENT TO ENSURE THAT ONLY THE RGL CIRCUIT IS INSIDE THE CAN. IDENTIFY THE RGL BAR CONDUIT PATHWAY TO DETERMINE THE CONDUIT INTERCEPT LOCATION.
  - D. IF IT IS DISCOVERED DURING VERIFICATION THAT THE EXISTING PULLCAN CONTAINS ANY ELECTRICAL CIRCUIT IN ADDITION TO THE RGL CIRCUIT, THEN THE ELECTRICAL VAULT LIGHTING SYSTEM MUST REMAIN LOCKED OUT AND TAGGED OUT FOR THE DURATION OF THIS RGL BAR CUT OVER PHASE. IF IT IS DISCOVERED THAT THE EXISTING PULLCAN ONLY CONTAINS THE RGL CIRCUIT, THEN THE LIGHTING SYSTEM MAY BE RE-ENERGIZED FOR THE DURATION OF THIS PHASE.
  - E. ITEM 7E THRU ITEM 7H REQUIRE A CLOSURE OF ONLY THE RESPECTIVE RGL BAR TAXIWAY. COORDINATE TAXIWAY CLOSURE WITH AIRPORT OPERATIONS.
  - F. INSTALL A 2" SCHEDULE 40 PVC BRANCH CONDUIT FROM THE RESPECTIVE JUNCTION PLAZA CAN TO THE CONDUIT INTERCEPT LOCATION. EXPOSE BOTH CONDUITS AT THE INTERCEPT LOCATION
  - G. REMOVE THE EXISTING 'DEAD' L-824C CABLES FROM THE PLUGGED DUCT AT THE MANHOLE TO THE EXISTING PULLCAN IN THE SHOULDER PAVEMENT ADJACENT TO THE RGL LIGHT BAR.
  - H. CUT THE EXISTING CONDUIT WHICH IS NOW EMPTY AT THE INTERCEPT LOCATION AND COUPLE ONTO THE NEW CONDUIT EXTENDING TO THE RESPECTIVE JUNCTION CAN.
  - I. EXTEND THE NEW L-824C CONDUCTORS FROM THE NEW JUNCTION CAN TO THE EXISTING PULLCAN ADJACENT TO THE RGL LIGHT BAR. TEMPORARILY SPLICE THE NEW CONDUCTORS TO THE EXISTING CONDUCTORS INSIDE THE PULLCAN. KEEP ENOUGH SLACK IN THE NEW CONDUCTORS AT THE PULLCAN SO THAT THEY CAN BE EXTENDED TO THE NEW RGL FIXTURES AFTER THE SPLICE IS ELIMINATED.
  - J. THE TAXIWAY CAN BE RE-OPENED FOR OPERATIONS.
  - K. AT THE NORTH ELECTRICAL VAULT, CONNECT THE NEW RGL CIRCUIT TO THE EXISTING TEMPORARY RGL REGULATOR TO ENERGIZE THE NEW RGL CIRCUIT AND TEST THAT THE LIGHTS ARE OPERATIONAL.



ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1"=20'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/28/18  
*Danaj Pehmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

**G06.02.7**



# NOTES

- ALL WORK ON THIS SHEET IS UNDER SUBPHASE 2C UNLESS OTHERWISE NOTED.
- REFER TO AIRFIELD LIGHTING AND SIGNAGE DEMOLITION PLANS FOR EXISTING ELECTRICAL CONDITIONS.
- REFER TO E10 SERIES FOR LAHSO DETAILS AND SCHEMATIC WIRING DIAGRAM.
- REFER TO E10 SERIES FOR DUCTBANK AND JCP INSTALLATION DETAILS.
- REFER TO E7 SERIES FOR EXISTING AND PROPOSED DUCTBANK AND JUNCTION CAN PLAZAS.
- REFER TO E08-03 FOR JCP SCHEDULE.
- SUBPHASE 2C - FOR THE RESPECTIVE LAHSO BAR TO BE CUT OVER, THE CONTRACTOR SHALL PERFORM THE FOLLOWING SEQUENCE OF CONSTRUCTION:
  - THE EXISTING ELECTRICAL MANHOLE IS LOCATED INSIDE THE RSA, THEREFORE ALL WORK REQUIRED INSIDE THE MANHOLE WILL REQUIRE A RUNWAY CLOSURE DURING THE DAYTIME WHILE THE ELECTRICAL VAULT CAN BE LOCKED-OUT AND TAGGED-OUT. THIS WORK IS LIMITED TO A 2HR DURATION TO PERFORM THE SCOPE IDENTIFIED UNDER ITEMS 7B AND 7C BELOW. FOR RUNWAY 8R / 26L CLOSURES, INSTALL LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.
  - DURING THE DAY, WHILE THE VAULT IS LOCKED OUT AND TAGGED OUT AND THE RUNWAY IS CLOSED, CUT THE CIRCUIT AT THE EXISTING MANHOLE SYSTEM AND PLUG THE DUCT LEADING TO THE LAHSO LIGHT BAR. THIS WILL ISOLATE THE RESPECTIVE LAHSO LIGHT BAR.
  - DURING THIS SAME DAYTIME RUNWAY 8R / 26L CLOSURE, INSPECT THE EXISTING LAHSO CIRCUIT PULLCAN IN THE SHOULDER PAVEMENT TO ENSURE THAT ONLY THE LAHSO CIRCUIT IS INSIDE THE CAN. IDENTIFY THE LAHSO BAR CONDUIT PATHWAY TO DETERMINE THE CONDUIT INTERCEPT LOCATION.
  - ITEM 7E THRU ITEM 7H MUST BE PERFORMED AT NIGHT WHEN RUNWAY 8R / 26L CAN BE CLOSED FOR A FOUR (4) HOUR DURATION. THE ELECTRICAL VAULT CAN REMAIN LIVE. COORDINATE RUNWAY CLOSURE WITH AIRPORT OPERATIONS.
  - INSTALL A 2" SCHEDULE 40 PVC BRANCH CONDUIT FROM THE RESPECTIVE NEW JUNCTION PLAZA CAN TO THE CONDUIT INTERCEPT LOCATION. EXPOSE BOTH CONDUITS AT THE INTERCEPT LOCATION.
  - REMOVE THE EXISTING 'DEAD' L-824C CABLES FROM THE PLUGGED DUCT AT THE MANHOLE THRU THE ENTIRE LAHSO LIGHT BAR.
  - CUT THE EXISTING CONDUIT WHICH IS NOW EMPTY AT THE INTERCEPT LOCATION AND COUPLE ONTO THE NEW CONDUIT EXTENDING TO THE RESPECTIVE JUNCTION CAN.
  - EXTEND THE NEW L-824C CONDUCTORS FROM THE NEW JUNCTION CAN TO RECONNECT ALL LIGHTS IN THE LAHSO LIGHT BAR. PROVIDE NEW TRANSFORMERS AND CONNECTOR KITS TO MATCH EXISTING. TAG AND LABEL ALL CONDUCTORS.
  - REMOVE LIGHTED RUNWAY CLOSURE MARKERS FROM EACH RUNWAY END AND RETURN RUNWAY 8R / 26L TO SERVICE AS SOON AS POSSIBLE.

AT THE NORTH ELECTRICAL VAULT, DISCONNECT AND DISPOSE OF THE 'DEAD' LAHSO CONDUCTORS FROM THE LAHSO CONTROLLER BACK TO THE EXISTING S1 CABINET. CONNECT THE NEW LAHSO CIRCUIT TO THE EXISTING LAHSO CONTROLLER TO ENERGIZE THE CIRCUIT AND TEST THAT THE LIGHTS ARE OPERATIONAL.

# ABBREVIATIONS

FOR A LIST OF ABBREVIATIONS, REFER TO DRAWING E01.01.

# LEGEND

	JCP N21 4-WAY JUNCTION CAN PLAZA JCP ID: JCP* INDICATES JUNCTION CAN PLAZA 'N' INDICATES NORTH AIRFIELD '21' INDICATES MANHOLE NUMBER		EXISTING IP RGL OR LAHSO LIGHT-AS NOTED
	ELE N21 EXISTING HANDHOLE/MANHOLE		FLAGMAN
	EXISTING L-867D PULLCAN		PHASE INDICATOR
	NEW CABLE IN PROPOSED JCP DUCT BANK. DUCTBANK: [4] INDICATES NUMBER OF 2" DUCTS.		UNLIT TAXIWAY CLOSURE MARKER
	PROPOSED DUCTBANK BORING.		MARKER POLE BARRICADE
	EXISTING DUCTBANK BORING.		LOW PROFILE BARRICADE (EXACT POSITION)
	PROPOSED 2" SCHED 40 PVC		PHASE 2 TAXIWAY SAFETY AREA
	EXISTING 2" SCHED 40 PVC		PHASE 2 TAXIWAY OBJECT FREE AREA
	CONDUIT INTERCEPT LOCATION		RUNWAY SAFETY AREA
			RUNWAY OBJECT FREE AREA

PROPOSED 4-WAY, 2" DUCTBANK (DEB) CONSTRUCTED UNDER SUBPHASE 2A. INSTALL NEW CONDUCTORS FOR OVERALL CIRCUIT LEAVING SLACK IN JCP UNDER SUBPHASE 2B.

PROPOSED CASED BORE DRILL UNDER EXISTING PAVEMENT CONSTRUCTED UNDER SUBPHASE 2A. CASING EXTENDS TO TOFA

2" C FOR RGL CIRCUIT SHOWN FOR REFERENCE ONLY. REFER TO PLAN DRAWINGS FOR CONTINUATION

PROPOSED 4-WAY JUNCTION CAN PLAZA LOCATED OUTSIDE TOFA AND RSA CONSTRUCTED UNDER SUBPHASE 2A

2" C FOR RGL CIRCUIT SHOWN FOR REFERENCE ONLY. REFER TO PLAN DRAWINGS FOR CONTINUATION

EXISTING MANHOLE (TYPICAL) CUT LAHSO CIRCUIT EXTENDING TO LIGHT BAR AND CAP ASSOCIATED DUCT ENTERING MANHOLE.

EXTEND NEW CONDUCTORS FROM NEW JUNCTION CAN PLAZA TO LAHSO LIGHT BAR

REMOVE EXISTING CONDUCTORS FROM PULLCAN TO MANHOLE

CONDUIT INTERCEPT LOCATION OUTSIDE EXISTING SHOULDER PAVEMENT

EXISTING ELEVATED RUNWAY EDGE LIGHT SHOWN FOR REFERENCE ONLY

EXISTING LAHSO PULLCAN LOCATED IN SHOULDER PAVEMENT (TYPICAL)

EXISTING LAHSO LIGHT. CONNECT TO NEW CIRCUIT. REPLACE ISOLATION TRANSFORMER AND CONNECTOR KIT (TYPICAL)

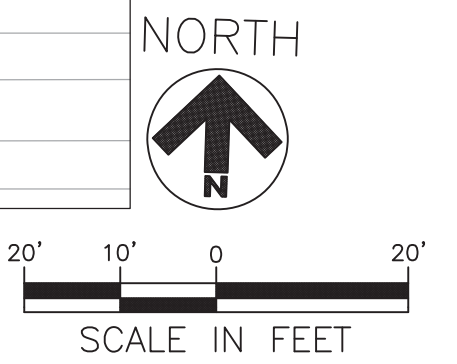
EXISTING LAHSO BAR

REPLACE CONDUCTORS IN EXISTING CONDUIT (TYPICAL)

1  
G06.02.8

# TYPICAL LAHSO LIGHT BAR - ENLARGED PLAN

SCALE: 1" = 20'



**HOUSTON AIRPORT SYSTEM**  
**GEORGE BUSH INTERCONTINENTAL AIRPORT**  
**HOUSTON, TEXAS**

**Ferguson Consulting**  
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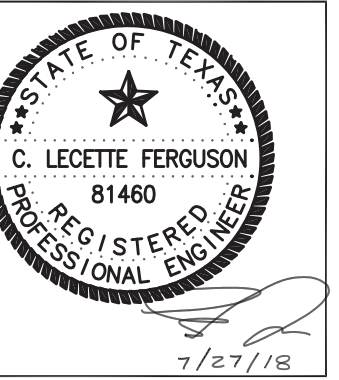
REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

# PHASING PLAN - PHASE 2 - TYP LAHSO LIGHT BAR ENLARGED PLAN

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1"=20'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/28/18  
*Danaj Pehmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
0907  
 C.I.P. NO.  
A-000570  
 H.A.S. NO.

SHEET NO.  
G06.02.8





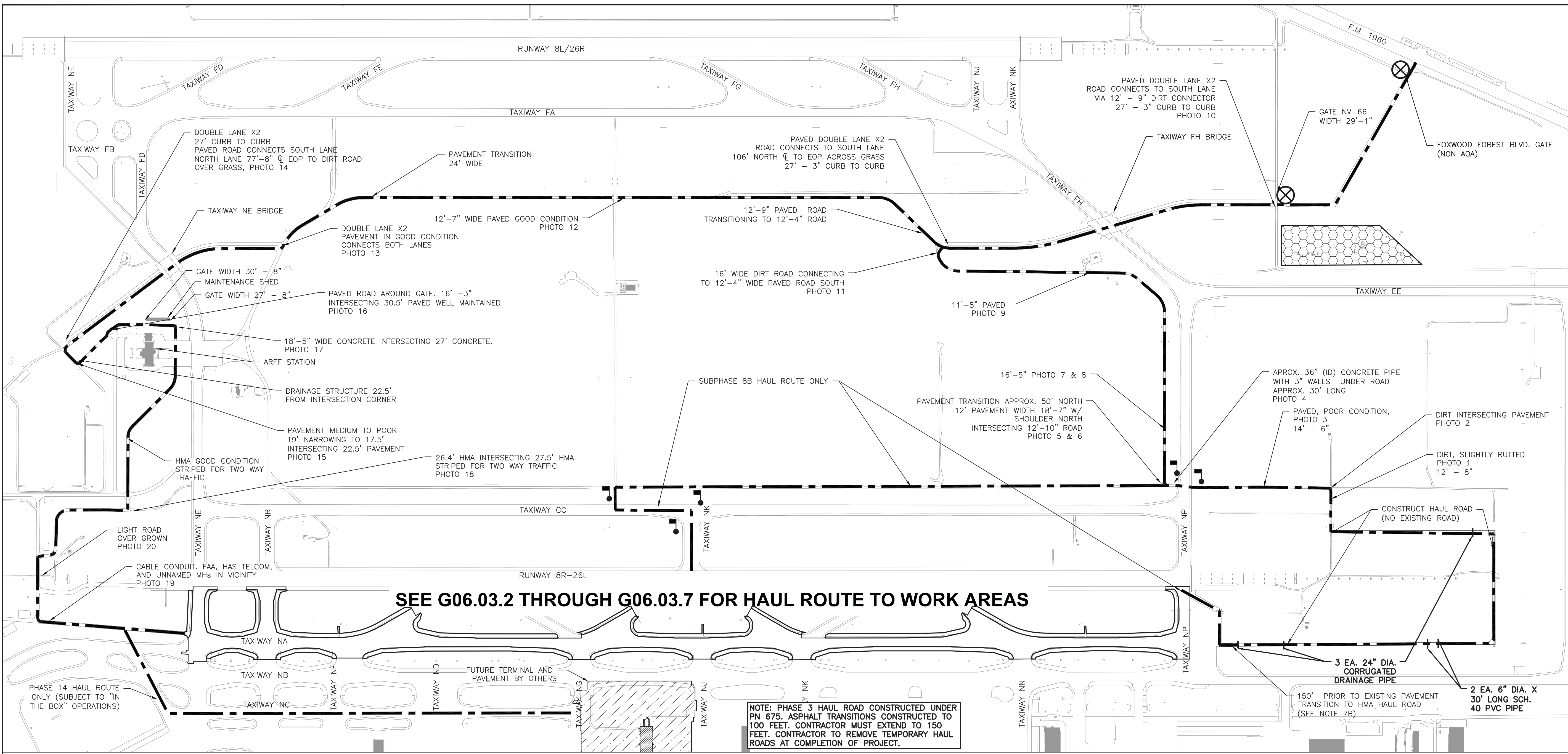
**RS&H**  
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 www.rsandh.com  
 TBPE Registration No. F-3401

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NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - PHASE 3 - HAUL ROUTE PLAN**



**SEE G06.03.2 THROUGH G06.03.7 FOR HAUL ROUTE TO WORK AREAS**

**NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.**

**HAUL ROUTE GENERAL NOTES**

- CONSTRUCTION ACCESS TO THE AOA SHALL BE THROUGH ACCESS GATE NV-66. ALL OTHER ACCESS SHALL BE BY SPECIAL REQUEST AND SUBJECT TO APPROVAL BY AIRPORT OPERATIONS AND AIRPORT SECURITY. THE CONTRACTOR SHALL MAINTAIN CONTROL AND PASSAGE THROUGH ANY AOA ENTRY POINT UTILIZED FOR CONSTRUCTION ACCESS AND NOT STAFFED BY AIRPORT PERSONNEL. ACCESS GATE NV-66 IS NOT STAFFED BY AIRPORT PERSONNEL.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFFSITE HAUL ROUTES (STATE HIGHWAYS, COUNTY ROADS, AND / OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE AND OBTAIN HAUL PERMITS AS REQUIRED. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REGARDING OFFSITE HAUL ROUTES AND SHALL ASSUME SOLE RESPONSIBILITY FOR DAMAGE CAUSED BY CONTRACTOR OPERATIONS.
- LOCATION OF ONSITE HAUL ROUTES SHALL BE AS SHOWN IN THE PLANS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASSESS THE VIABILITY OF EXISTING HAUL ROADS, INCLUDING WIDTH AND LOADING REQUIREMENTS, NECESSARY FOR THE CONTRACTOR'S PROPOSED OPERATIONS. THE CONTRACTOR MAY WIDEN AND / OR STRENGTHEN EXISTING HAUL ROADS AS DEEMED APPROPRIATE FOR THE CONTRACTOR'S PROPOSED OPERATIONS.
- THE CONTRACTOR SHALL INSPECT ALL CONTRACTOR VEHICLES AND EQUIPMENT UPON ENTERING AND EXITING ANY AIRPORT ACCESS GATE TO ENSURE THAT VEHICLES AND EQUIPMENT ARE CLEAN AND FREE OF MUD, DIRT, DEBRIS, WASTE, LOOSE MATERIAL, AND / OR ANY OTHER MATERIAL CAPABLE OF CREATING FOD ON ANY HAUL ROADS (ONSITE OR OFFSITE). ANY VEHICLE OR EQUIPMENT IN THREAT OF CREATING A FOD ISSUE SHALL BE IMMEDIATELY DISPATCHED TO THE CONTRACTOR'S STAGING / STORAGE AREA OR DISPOSAL AREA FOR CLEANING. ALL COSTS ASSOCIATED WITH INSPECTION OF CONTRACTOR VEHICLES AND EQUIPMENT UPON ENTERING AND EXITING ANY AIRPORT ACCESS GATE, AND SUBSEQUENT REQUIRED CLEANING, INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- EXISTING ONSITE HAUL ROADS, INCLUDING ASSOCIATED DRAINAGE DEVICES, SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AS A PASSABLE ROADWAY FOR AIRPORT OPERATIONS VEHICLES. EXISTING HAUL ROADS ONSITE AND OFFSITE SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION, OR BETTER, WHEN NO LONGER NEEDED AS A HAUL ROAD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY THE CONTRACTOR'S EQUIPMENT AND PERSONNEL. THE CONTRACTOR WILL FURTHER BE REQUIRED TO MEET THE PROVISIONS OF SECTION 00701 - FAA AC 150 5370-10C GENERAL PROVISIONS, PARAGRAPH 40-05.C. ANY PAVEMENT CROSSED BY CONSTRUCTION TRAFFIC SHALL BE PROTECTED AGAINST DAMAGE AND ALL DAMAGE OCCURRING WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE WITH NO ADDITIONAL COMPENSATION OR CONTRACT TIME. ANY PAVEMENTS DAMAGED BY THE CONSTRUCTION EQUIPMENT SHALL BE REMOVED AND REPLACED TO THE NEAREST PAVEMENT JOINT, BUT A MINIMUM OF AT LEAST TEN (10) FEET, ON EACH SIDE OF THE MOST EXTREME OUTER TIRE MARKS TO ENSURE ALL PAVEMENT TRAVERSED BY THE CONSTRUCTION EQUIPMENT IS REMOVED AND REPLACED.
- TEMPORARY HAUL ROADS MUST BE CONSTRUCTED BY THE CONTRACTOR IN AREAS WHERE THERE ARE NO EXISTING HAUL ROADS. THE CONTRACTOR MAY CONSTRUCT TEMPORARY HAUL ROADS AS DEEMED APPROPRIATE FOR THE CONTRACTOR'S PROPOSED OPERATIONS. HOWEVER, THE FOLLOWING PARAMETERS MUST BE FOLLOWED:
  - INTERSECTIONS OF TEMPORARY HAUL ROADS AND ACTIVE AIRFIELD PAVEMENTS SHALL NOT HAVE A VERTICAL SEPARATION OF MORE THAN 1.5 INCHES.
  - TEMPORARY HAUL ROADS MUST BE CONSTRUCTED OF ASPHALT, COMPOSITE MATTING SYSTEM COMPONENTS, OR OTHER NON-FOD PRODUCING MATERIAL, WITHIN 150 FEET OF ANY ACTIVE AIRFIELD PAVEMENT OR WHEN CROSSING EXISTING UNDERGROUND FAA CABLES OR FACILITIES. THE CONTRACTOR MAY SUBMIT, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES, ALTERNATIVE MATERIALS TO THE ENGINEER FOR REVIEW AND APPROVAL.
  - INSTALL STABILIZED CONSTRUCTION EXITS BETWEEN THE TYPICAL TEMPORARY HAUL ROAD SECTION AND THE 100-FOOT NON-FOD PRODUCING SECTION. STABILIZED CONSTRUCTION EXITS SHALL NOT BE REQUIRED IF ENTIRETY OF TEMPORARY HAUL ROAD SECTION IS COMPOSED OF NON-FOD PRODUCING MATERIAL.
  - GRADES WITHIN ANY ACTIVE SAFETY OR OBJECT FREE AREAS SHALL MEET THE REQUIREMENTS OF FAA AC 150 / 5300-13A, CURRENT EDITION, LATEST CHANGE.
- POSITIVE (CONTINUOUS AND FLOWING) DRAINAGE MUST BE MAINTAINED WHILE THE TEMPORARY HAUL ROAD IS IN PLACE, INCLUDING THE INSTALLATION AND MAINTENANCE OF DRAINAGE STRUCTURES AS REQUIRED.
- FENCING, EARTHWORK, GRADING, DRAINAGE, UTILITY PROTECTION, SWPPP, AND OTHER MISCELLANEOUS CONSTRUCTION COMPONENTS REQUIRED TO CONSTRUCT TEMPORARY HAUL ROADS OR ACCESS POINTS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- THE CONTRACTOR SHALL, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES, SUBMIT ALL PROPOSED HAUL ROUTE IMPROVEMENTS FOR REVIEW AND APPROVAL, AS REQUIRED BY SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS, PRIOR TO PERFORMING ANY PROPOSED IMPROVEMENTS.
- SEE PLAN SHEETS G06.03.4 - G06.03.7 FOR ADDITIONAL REQUIREMENTS FOR THE EAST HAUL ROUTE (PHASE 7 AND PHASES 9 - 13).
- TEMPORARY HAUL ROADS SHALL BE REMOVED WHEN NO LONGER NEEDED AS A HAUL ROAD. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING THE LINES AND GRADES OF THESE AREAS TO THEIR PRE-CONSTRUCTION CONDITIONS SUCH THAT POSITIVE (CONTINUOUS AND FLOWING) DRAINAGE OF SURFACE WATER AND A GOOD STAND OF VEGETATION, IN ACCORDANCE WITH THE VEGETATIVE REQUIREMENTS OF THIS PROJECT, ARE PROVIDED.
- THE PRE- AND POST-CONSTRUCTION CONDITION OF ALL EXISTING ONSITE HAUL ROUTES SHALL BE JOINTLY INSPECTED AND DETERMINED BY THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE. PHOTOGRAPHS AND / OR VIDEOS OF ALL HAUL ROUTES MUST BE PROVIDED BY THE CONTRACTOR, IN ACCORDANCE WITH SECTION 01321 - CONSTRUCTION PHOTOGRAPHS.
- ANY MOVEMENT OF THE CONTRACTOR'S VEHICLES AND EQUIPMENT WITHIN AN ACTIVE RSA SHALL ONLY BE UNDER ESCORT BY AIRPORT OPERATIONS OR WHEN THE RUNWAY IS CLOSED.
- ALL ONSITE FAA ACCESS ROADS TO FAA FACILITIES SHOULD NOT BE USED BY THE CONTRACTOR WITHOUT PRIOR WRITTEN APPROVAL BY THE FAA. IF THESE ROADS ARE USED BY THE CONTRACTOR, THEY SHALL REMAIN OPEN AND MAINTAINED AT ALL TIMES.
- THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN AT ANY ACTIVE AIRFIELD PAVEMENT CROSSING, AS SHOWN IN THE PLANS, OR AS DIRECTED BY AIRPORT OPERATIONS. PLACEMENT OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL. THE FLAGMEN WILL BE RESPONSIBLE FOR STOPPING ANY CONSTRUCTION TRAFFIC THAT CROSSES THE PATH OF TAXIING AIRCRAFT. FLAGMEN MUST BE ESCORTED TO AND FROM THEIR POSITIONS BY AIRPORT OPERATIONS AT THE BEGINNING AND END OF EACH WORK PERIOD.
- THE CONTRACTOR SHALL USE COLORED CONES OR REFLECTIVE TAPE, EASILY VISIBLE FROM 150 FEET, TO DENOTE THE LIMITS OF THE HAUL ROUTE. THE COLOR SHALL MATCH THAT OF THE PROJECT SPECIFIC COLOR ASSIGNED TO THE PROJECT.
- SPECIAL ATTENTION TO DUST CONTROL IS REQUIRED. THE CONTRACTOR SHALL REGULARLY APPLY WATER TO HAUL ROUTES TO KEEP DUST DOWN.
- ALL COSTS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND REMOVAL OF ONSITE HAUL ROUTES INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE AS DESCRIBED IN SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- PHOTOS REFERENCED ARE INCLUDED IN SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.

**LEGEND**

- HAUL ROUTE
- CONTRACTOR ACCESS/GATE GUARD
- CONTRACTOR STAGING AREA/EMPLOYEE PARKING/BATCH PLANT SITE
- FLAGMAN

NORTH

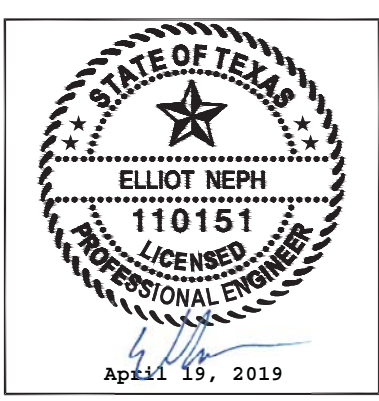
500' 250' 0 250' 500'

SCALE IN FEET

**NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=500'
DATE:	April 19, 2019

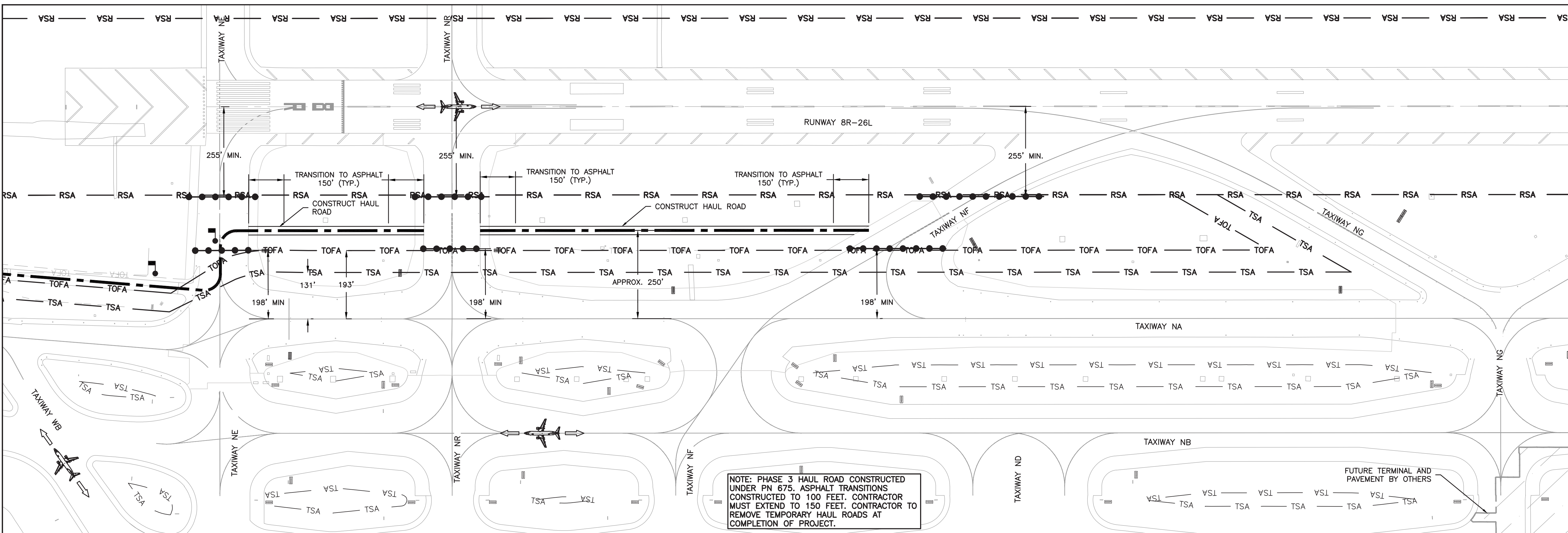


DEPARTMENT OF AVIATION	APPROVED BY:	DATE:
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE		
PROJECT NO.	0907	
C.I.P. NO.	A-000570	
H.A.S. NO.		
SHEET NO.	G06.03.1	



REVISIONS

NO.	DESCRIPTION	DATE	BY



NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - SUBPHASE 3A**  
**WEST HAUL ROAD**

**LEGEND**

- AIRCRAFT TAXI ROUTE DURING PHASE
- HAUL ROUTE
- PHASE INDICATOR
- RSA RUNWAY SAFETY AREA
- ROFA RUNWAY OBJECT FREE AREA
- TSA SUBPHASE 3A TAXIWAY SAFETY AREA
- TOFA SUBPHASE 3A TAXIWAY OBJECT FREE AREA
- FLAGMAN
- TABLE LOCATION POINT
- LOW PROFILE BARRICADE (EXACT POSITION)

OPERATIONS FOR REVIEW AND APPROVAL.

4. REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

**SUBPHASE 3A CONSTRUCTION SEQUENCING AND OPERATION NOTES**

- SUBPHASE 3A SHALL BE COMPLETED CONCURRENTLY WITH PHASE 2. ALL WORK IN SUBPHASE 3A SHALL BE LIMITED TO NIGHTTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 45 CALENDAR DAYS TO COMPLETE SUBPHASE 3A. HOWEVER, THE CONTRACTOR IS ENCOURAGED TO COMPLETE SUBPHASE 3A AS QUICKLY AS POSSIBLE.
- CONSTRUCTION TASKS FOR SUBPHASE 3A ARE AS FOLLOWS:
  - WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED IN THE SUBPHASE 3A MOVEMENT NOTES, THIS SHEET.
  - INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL BE REMOVED AT THE COMPLETION OF EACH NIGHTTIME WORK PERIOD SO THAT THESE PAVEMENTS MAY BE REOPENED TO AIRCRAFT TRAFFIC DURING DAYTIME HOURS. THE CONTRACTOR SHALL REINSTALL BARRICADES AT THESE LOCATIONS AT THE BEGINNING OF EACH SUBSEQUENT NIGHTTIME WORK PERIOD.
  - LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
    - ACROSS TAXIWAY NE, NORTH OF THE UNRESTRICTED ADG VI TAXIWAY NA TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE.
    - ACROSS TAXIWAY NR, NORTH OF THE UNRESTRICTED ADG VI TAXIWAY NA TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE.
    - ACROSS TAXIWAY NF, NORTH OF THE UNRESTRICTED ADG VI TAXIWAY NA TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE.
    - ACROSS TAXIWAY NE, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - ACROSS TAXIWAY NR, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - ACROSS TAXIWAY NF, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
  - DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. THE LIGHTS SHALL BE RE-ENERGIZED AT THE END OF EACH NIGHTTIME WORK PERIOD.
  - DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE ELECTRICAL PLANS FOR SIGN LOCATIONS). THE SIGNS SHALL BE RE-ENERGIZED AND / OR "BLANK" PANELS REMOVED AT THE END OF EACH NIGHTTIME WORK PERIOD.
- CONSTRUCT TEMPORARY HAUL ROAD, INCLUDING EARTHWORK, GRADING, DRAINAGE, UTILITY PROTECTION, SWPPP, AND OTHER MISCELLANEOUS CONSTRUCTION COMPONENTS REQUIRED.
  - AT THE COMPLETION OF EACH NIGHTTIME WORK PERIOD, INTERSECTIONS OF TEMPORARY HAUL ROADS AND ACTIVE AIRFIELD PAVEMENTS SHALL NOT HAVE A VERTICAL SEPARATION OF MORE THAN 1.5 INCHES.
  - AT THE COMPLETION OF EACH NIGHTTIME WORK PERIOD, THERE SHALL BE NO OPEN EXCAVATIONS GREATER THAN THREE (3) INCHES IN DEPTH INSIDE ANY RSA OR TSA. THE CONTRACTOR SHALL FILL ALL OPEN EXCAVATIONS IN ACCORDANCE WITH THE SAFETY AREA RAMP DOWN DETAIL ON SHEET G04.03.
  - AT THE COMPLETION OF EACH NIGHTTIME WORK PERIOD, ALL AIRFIELD PAVEMENTS TO BE REOPENED TO TRAFFIC SHALL BE THOROUGHLY CLEANED.

**SUBPHASE 3A HAUL ROAD**

POINT #	DESCRIPTION	NORTHING	EASTING
1	HAUL ROAD	13927459.37	3122531.74
2	HAUL ROAD	13927475.46	3123027.52
3	HAUL ROAD	13927480.65	3123187.03
4	HAUL ROAD	13927515.64	3124265.41

**SUBPHASE 3A MOVEMENT NOTES**

- SEE PLAN SHEET G06.03.1 FOR COMPLETE PROPOSED HAUL ROUTE.
- THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING SUBPHASE 3A:
  - TAXIWAY NE WILL BE CLOSED FROM THE NORTH SIDE OF TAXIWAY NA TO RUNWAY 8R - 26L.
  - TAXIWAY NR WILL BE CLOSED FROM THE NORTH SIDE OF TAXIWAY NA TO RUNWAY 8R - 26L.
  - TAXIWAY NF WILL BE CLOSED FROM THE NORTH SIDE OF TAXIWAY NA TO RUNWAY 8R - 26L.

NOTE THAT ON ANY GIVEN NIGHT, ONLY THOSE TAXIWAYS FOR WHICH THE CONTRACTOR IS WORKING INSIDE THE TOFA MUST BE CLOSED.
- THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSINGS WITH TAXIWAYS NE, NR, AND NF, OR AS DIRECTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN SUBPHASE 3A. PLACEMENT OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT

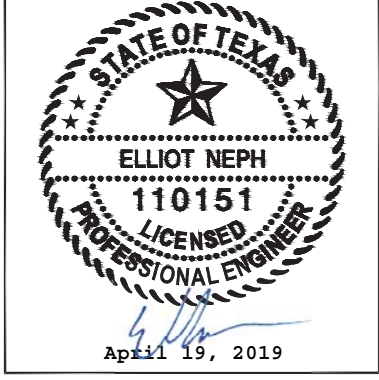
**SUBPHASE 3A**

DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
45 CALENDAR DAYS	NIGHT ONLY	RESTRICTIONS --N/A CLOSURES -- TAXIWAY NE CLOSED TAXIWAY NA TO RUNWAY 8R-26L. -- TAXIWAY NR CLOSED TAXIWAY NA TO RUNWAY 8R-26L. -- TAXIWAY NF CLOSED TAXIWAY NA TO RUNWAY 8R-26L.	RESTRICTIONS --N/A CLOSURES -- TAXIWAY NE, NORTH OF TAXIWAY NA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE. -- TAXIWAY NR, NORTH OF TAXIWAY NA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE. -- TAXIWAY NF, NORTH OF TAXIWAY NA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE.	-- ACROSS TAXIWAY NE, NORTH OF TAXIWAY NA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE. -- ACROSS TAXIWAY NR, NORTH OF TAXIWAY NA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE. -- ACROSS TAXIWAY NF, NORTH OF TAXIWAY NA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE. -- ACROSS TAXIWAY NE, SOUTH OF RUNWAY 8R - 26L RSA. -- ACROSS TAXIWAY NR, SOUTH OF RUNWAY 8R - 26L RSA. -- ACROSS TAXIWAY NF, SOUTH OF RUNWAY 8R - 26L RSA.	PHASE 2

NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	April 19, 2019

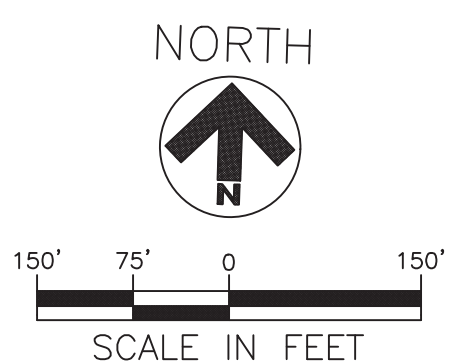


DEPARTMENT OF AVIATION

APPROVED BY:	DATE:

HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

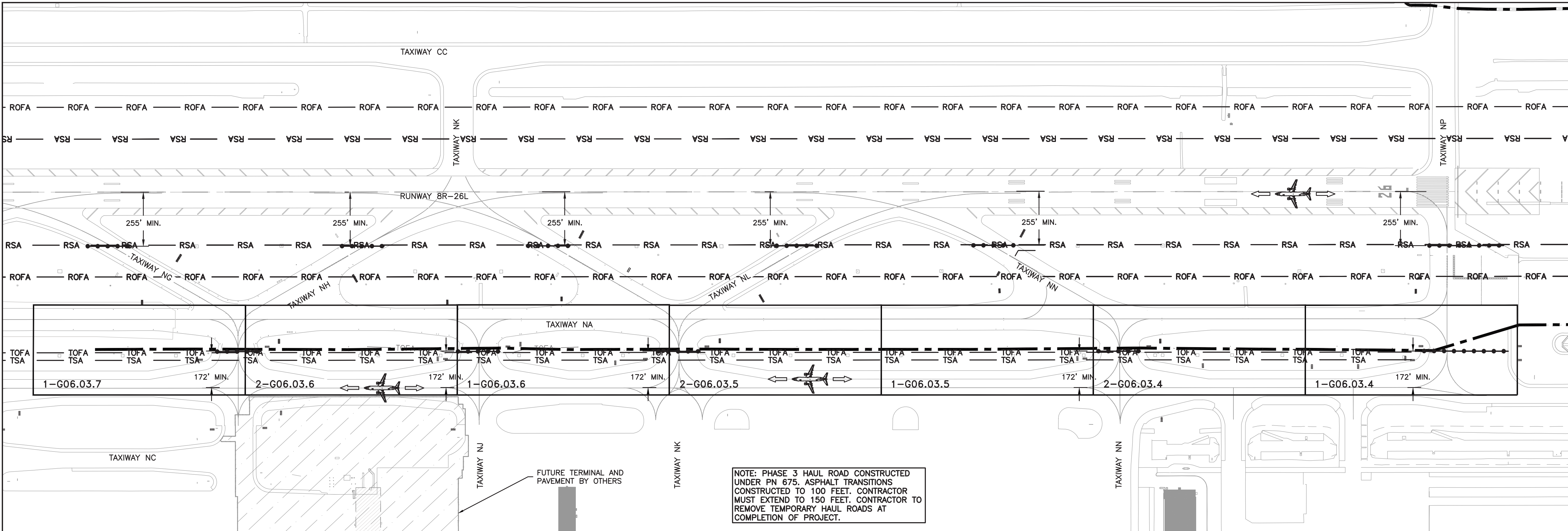




REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - SUBPHASE 3B**  
**EAST HAUL ROAD (1 OF 5)**



NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.

**SUBPHASE 3B CONSTRUCTION SEQUENCING AND OPERATION NOTES**

1. ALL WORK IN SUBPHASE 3B SHALL BE LIMITED TO NIGHTTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 85 CALENDAR DAYS TO COMPLETE SUBPHASE 3B, HOWEVER THE CONTRACTOR IS ENCOURAGED TO COMPLETE SUBPHASE 3B AS QUICKLY AS POSSIBLE. SUBPHASE 3B SHALL NOT COMMENCE UNTIL SUBPHASE 3A IS COMPLETE AND ACCEPTED BY AIRPORT OPERATIONS.
2. SUBPHASE 3B MAY HAVE A FLEXIBLE START DATE, BUT SHALL BE COMPLETED NO LATER THAN THE COMPLETION OF PHASE 6. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH AIRPORT OPERATIONS.
3. CONSTRUCTION TASKS FOR SUBPHASE 3B ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED IN THE SUBPHASE 3B MOVEMENT NOTES, THIS SHEET.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL BE REMOVED AT THE COMPLETION OF EACH NIGHTTIME WORK PERIOD SO THAT THESE PAVEMENTS MAY BE REOPENED TO AIRCRAFT TRAFFIC DURING DAYTIME HOURS. THE CONTRACTOR SHALL REINSTALL BARRICADES AT THESE LOCATIONS AT THE BEGINNING OF EACH SUBSEQUENT NIGHTTIME WORK PERIOD.  
  
 LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
    - i. ACROSS TAXIWAY NG, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
    - ii. ACROSS TAXIWAY NJ, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
    - iii. ACROSS TAXIWAY NK, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
    - iv. ACROSS TAXIWAY NN, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
    - v. ACROSS TAXIWAY NP AND THE RUN UP PAD, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
    - vi. ACROSS TAXIWAY NG, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - vii. ACROSS TAXIWAY NH, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - viii. ACROSS TAXIWAY NK, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - ix. ACROSS TAXIWAY NL, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - x. ACROSS TAXIWAY NN, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - xi. ACROSS TAXIWAY NP AND THE RUN UP PAD, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - xii. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NF TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NF CENTERLINE.
4. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. THE LIGHTS SHALL BE RE-ENERGIZED AT THE END OF EACH NIGHTTIME WORK PERIOD.
5. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE ELECTRICAL PLANS FOR SIGN LOCATIONS). THE SIGNS SHALL BE RE-ENERGIZED AND / OR "BLANK" PANELS REMOVED AT THE END OF EACH NIGHTTIME WORK PERIOD.
6. CONSTRUCT TEMPORARY HAUL ROAD, INCLUDING EARTHWORK, GRADING, DRAINAGE, UTILITY PROTECTION, SWPPP, AND OTHER MISCELLANEOUS CONSTRUCTION COMPONENTS REQUIRED.
  - i. AT THE COMPLETION OF EACH NIGHTTIME WORK PERIOD, INTERSECTIONS OF TEMPORARY HAUL ROADS AND ACTIVE AIRFIELD PAVEMENTS SHALL NOT HAVE A VERTICAL SEPARATION OF MORE THAN 1.5 INCHES.
  - ii. AT THE COMPLETION OF EACH NIGHTTIME WORK PERIOD, THERE SHALL BE NO OPEN EXCAVATIONS GREATER THAN THREE (3) INCHES IN DEPTH INSIDE ANY RSA OR TSA. THE CONTRACTOR SHALL FILL ALL OPEN EXCAVATIONS IN ACCORDANCE WITH THE SAFETY AREA RAMP DOWN DETAIL ON SHEET G04.03.
  - iii. AT THE COMPLETION OF EACH NIGHTTIME WORK PERIOD, ALL AIRFIELD PAVEMENTS TO BE REOPENED TO TRAFFIC SHALL BE THOROUGHLY CLEANED.

**SUBPHASE 3B MOVEMENT NOTES**

1. SEE PLAN SHEET G06.03.1 FOR COMPLETE PROPOSED HAUL ROUTE.
2. THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING SUBPHASE 3B:
  - A. TAXIWAY NG WILL BE CLOSED FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
  - B. TAXIWAY NH WILL BE CLOSED FROM RUNWAY 8R - 26L TO TAXIWAY NA.
  - C. TAXIWAY NJ WILL BE CLOSED FROM TAXIWAY NA TO THE NORTH SIDE OF TAXIWAY NB.
  - D. TAXIWAY NK WILL BE CLOSED FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
  - E. TAXIWAY NL WILL BE CLOSED FROM RUNWAY 8R - 26L TO TAXIWAY NA.
  - F. TAXIWAY NN WILL BE CLOSED FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
  - G. TAXIWAY NP WILL BE CLOSED FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
  - H. TAXIWAY NA WILL BE CLOSED FROM THE EAST SIDE OF TAXIWAY NF TO THE EAST SIDE OF TAXIWAY NP.
  - I. TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) FROM THE EAST SIDE OF TAXIWAY NF TO THE EAST SIDE OF TAXIWAY NP.
3. THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSINGS WITH TAXIWAYS NP, NN, NK, NJ, AND NG, OR AS DIRECTED BY AIRPORT OPERATIONS. WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN SUBPHASE 3B, PLACEMENT OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
4. REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

NOTE THAT ON ANY GIVEN NIGHT, ONLY THOSE TAXIWAYS FOR WHICH THE CONTRACTOR IS WORKING INSIDE THE TOFA MUST BE CLOSED.

NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.

**LEGEND**

- AIRCRAFT TAXI ROUTE DURING PHASE
- HAUL ROUTE
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- SUBPHASE 3B TAXIWAY SAFETY AREA
- SUBPHASE 3B TAXIWAY OBJECT FREE AREA
- LOW PROFILE BARRICADE (EXACT POSITION)



SUBPHASE 3B		DURATION (DAYS)		WORK PERIOD		RESTRICTIONS		BARRICADE LOCATIONS		ALLOWED CONCURRENT WORK	
DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS
85 CALENDAR DAYS	NIGHT ONLY	RESTRICTIONS --N/A CLOSURES --N/A	RESTRICTIONS -- TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NF TO TAXIWAY NP. CLOSURES -- TAXIWAY NA CLOSED TAXIWAY NF TO TAXIWAY NP. -- TAXIWAY NG CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NH CLOSED RUNWAY 8R - 26L TO TAXIWAY NA. -- TAXIWAY NJ CLOSED TAXIWAY NA TO TAXIWAY NB. -- TAXIWAY NK CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NL CLOSED RUNWAY 8R - 26L TO TAXIWAY NA. -- TAXIWAY NN CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NP CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.	85 CALENDAR DAYS	NIGHT ONLY	RESTRICTIONS -- TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NF TO TAXIWAY NP. CLOSURES -- TAXIWAY NA CLOSED TAXIWAY NF TO TAXIWAY NP. -- TAXIWAY NG CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NH CLOSED RUNWAY 8R - 26L TO TAXIWAY NA. -- TAXIWAY NJ CLOSED TAXIWAY NA TO TAXIWAY NB. -- TAXIWAY NK CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NL CLOSED RUNWAY 8R - 26L TO TAXIWAY NA. -- TAXIWAY NN CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NP CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.	ACROSS TAXIWAY NG, NORTH OF TAXIWAY NB. ACROSS TAXIWAY NJ, NORTH OF TAXIWAY NB. ACROSS TAXIWAY NK, NORTH OF TAXIWAY NB. ACROSS TAXIWAY NN, NORTH OF TAXIWAY NB. ACROSS TAXIWAY NP, NORTH OF TAXIWAY NB. ACROSS TAXIWAY NG, SOUTH OF RUNWAY 8R - 26L RSA. ACROSS TAXIWAY NH, SOUTH OF RUNWAY 8R - 26L RSA. ACROSS TAXIWAY NK, SOUTH OF RUNWAY 8R - 26L RSA. ACROSS TAXIWAY NL, SOUTH OF RUNWAY 8R - 26L RSA. ACROSS TAXIWAY NN, SOUTH OF RUNWAY 8R - 26L RSA. ACROSS TAXIWAY NP, SOUTH OF RUNWAY 8R - 26L RSA. ACROSS TAXIWAY NA, EAST OF TAXIWAY NF.	PHASES 4, 5, 6			

ISSUED FOR BID

PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1"=250'  
 DATE: April 19, 2019

DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:

HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.



REVISIONS

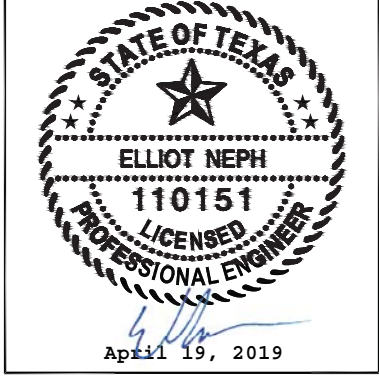
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - SUBPHASE 3B EAST HAUL ROAD (2 OF 5)**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	April 19, 2019



DEPARTMENT OF AVIATION  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**G06.03.4**

**LEGEND**

- PHASE LIMITS
- HAUL ROUTE
- LOW PROFILE BARRICADE
- TEMPORARY TOFA
- TABLE LOCATION POINT
- MARKER POLE BARRICADE

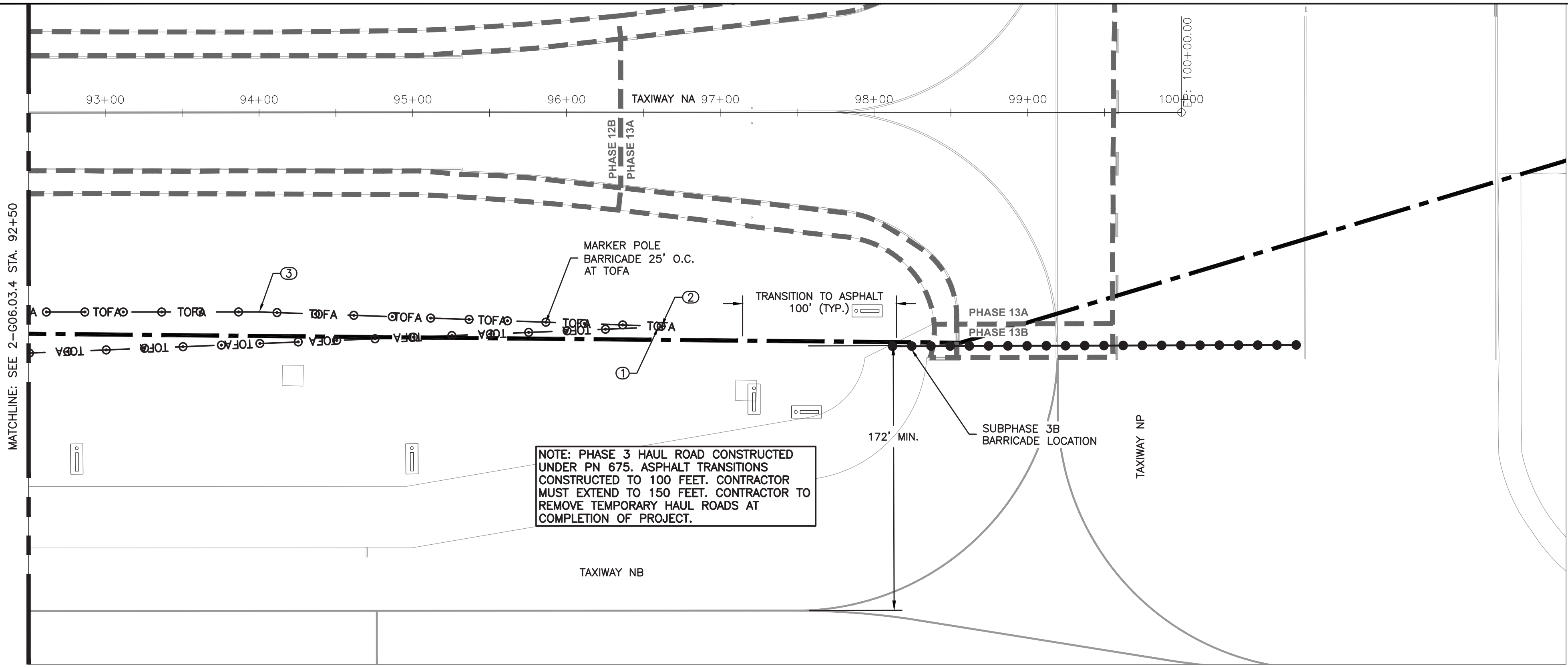
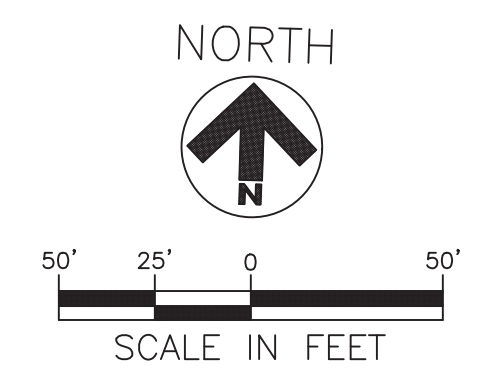
**ADDITIONAL EAST HAUL ROUTE CONSTRUCTION REQUIREMENTS**

- THE EAST TEMPORARY HAUL ROAD MUST BE CONSTRUCTED SUCH THAT "STACKING" OF CONSTRUCTION VEHICLES AND EQUIPMENT BETWEEN ACTIVE TAXIWAYS IS CONTAINED OUTSIDE THE TEMPORARY CONSTRUCTION TOFA OF THE ACTIVE ADJACENT TAXIWAYS (COORDINATES PROVIDED THIS SHEET). CONTRACTOR VEHICLES AND EQUIPMENT MAY NOT PENETRATE THE TOFA OF ANY ACTIVE TAXIWAY PRIOR TO APPROVAL TO MOVE ACROSS THE TAXIWAYS BY THE DESIGNATED FLAGMAN FOR THAT CROSSING.
- THE CONTRACTOR SHALL INSTALL MARKER POLE BARRICADES ALONG THE TEMPORARY CONSTRUCTION TOFA AT MAXIMUM INTERVALS OF 25 FEET ON BOTH SIDES OF THE HAUL ROAD CONSTRUCTED. MARKER POLE BARRICADES INSTALLED IN THIS PHASE SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION WORK IN THE ADJACENT PHASE IS COMPLETE. THE MARKER POLE BARRICADES SHALL NOT BE REMOVED UNTIL THE CONTRACTOR NO LONGER REQUIRES ENTRY INTO THE ADJACENT PHASE.
- THE CONTRACTOR MAY ELECT TO TEMPORARILY RELOCATE EXISTING TAXIWAY LIGHTS AND/OR SIGNS FOUND TO CONFLICT WITH THE CONTRACTOR'S PROPOSED HAUL ROUTE AND TAXIWAY CROSSINGS. MODIFICATIONS TO EXISTING LIGHTS AND/OR SIGNS SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL. ALL LIGHT AND/OR SIGN RELOCATIONS MUST MEET ALL APPLICABLE FAA CRITERIA FOR LOCATION, INSTALLATION, AND OPERATION. ALL COSTS ASSOCIATED WITH TEMPORARY SIGN RELOCATIONS INCLUDING LABOR, EQUIPMENT, MATERIAL, AND OTHER INCIDENTALS SHALL BE SUBSIDIARY TO THE PAY ITEMS OF SECTION 01 59 01, TEMPORARY CONSTRUCTION BID ITEMS.
- THE CONTRACTOR SHALL PHYSICALLY IDENTIFY THE LINE OF DEMARCATION WHERE THE HAUL ROUTE CROSSES THE TOFA.
  - THE DISTANCE TO THE LINE OF DEMARCATION FROM ADJACENT TAXIWAY CENTERLINES MAY VARY BASED ON THE CONTRACTOR'S PROPOSED HAUL ROUTE WIDTH.
  - THE LINE OF DEMARCATION MAY BE PAINTED, MARKED WITH CONES, OR OTHER METHODS APPROVED BY AIRPORT OPERATIONS. ANY MARKINGS OR MATERIALS PROVIDED TO IDENTIFY THE LINE OF DEMARCATION MUST BE MAINTAINED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE THROUGHOUT CONSTRUCTION.
- ALL CONTRACTOR PROPOSED HAUL ROUTE DIMENSIONS, INCLUDING THE PROPOSED LINES OF DEMARCATION, SHALL BE CLEARLY IDENTIFIED WITH RESPECT TO LOCATION OF THE TOFA IN THE PROPOSED HAUL ROUTE IMPROVEMENTS PLAN TO BE SUBMITTED FOR REVIEW AND APPROVAL, AS REQUIRED IN SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- SEE INDIVIDUAL PHASING SHEETS FOR STATUS OF TAXIWAY PAVEMENTS OPEN/CLOSED DURING EACH SPECIFIC PHASE.

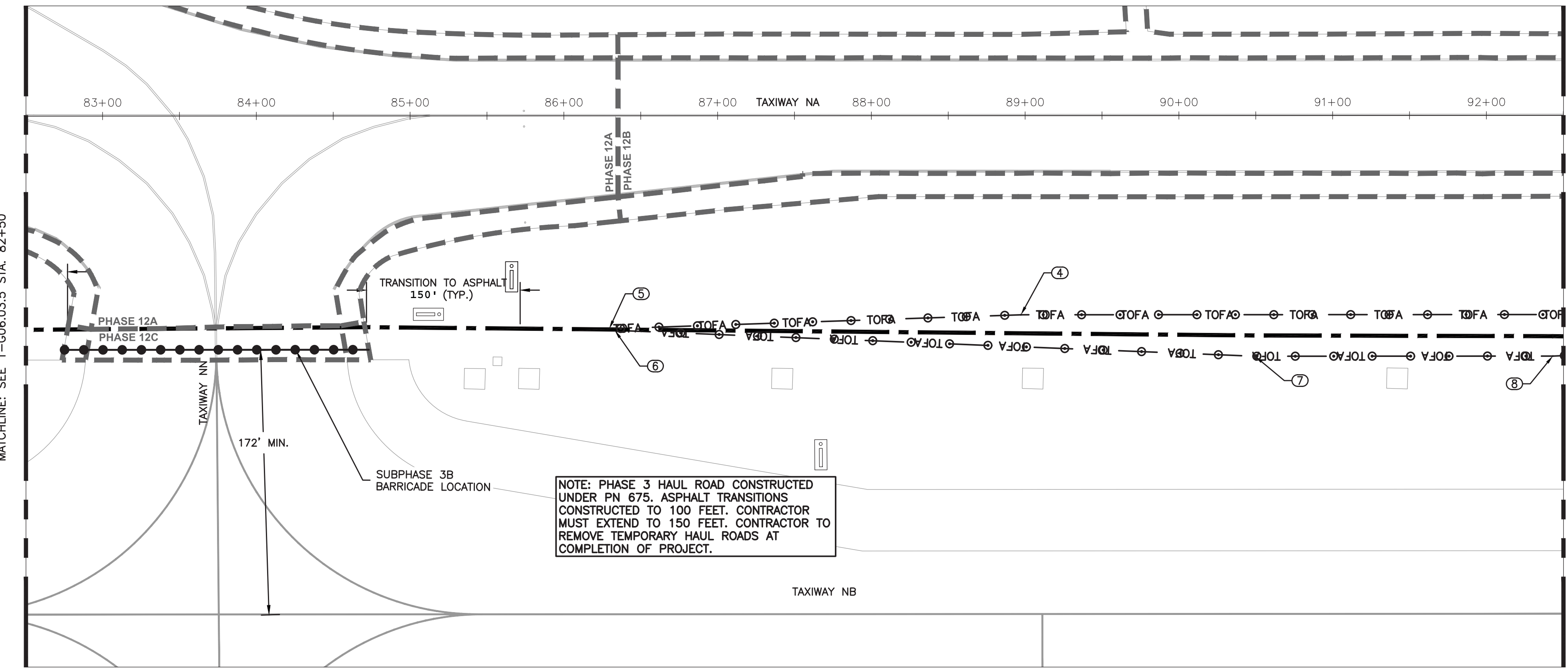
**EAST HAUL ROUTE RIGHT OF WAY BOUNDARIES**

POINT #	DESCRIPTION	NORTHING	EASTING
1	ISLAND 1	13927359.78	3131526.02
2	ISLAND 1	13927360.31	3131527.71
3	ISLAND 1	13927361.39	3131266.15
4	ISLAND 1	13927345.23	3130763.44
5	ISLAND 1	13927327.65	3130496.07
6	ISLAND 1	13927326.76	3130499.77
7	ISLAND 1	13927323.12	3130916.42
8	ISLAND 1	13927329.35	3131110.15

NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.



**1 SUBPHASE 3B ISLAND 1 - TAXIWAY NA STA. 92+50 TO END**  
 G06.03.4 SCALE: 1" = 50'



**2 SUBPHASE 3B ISLAND 1 - TAXIWAY NA STA. 82+50 TO 92+50**  
 G06.03.4 SCALE: 1" = 50'



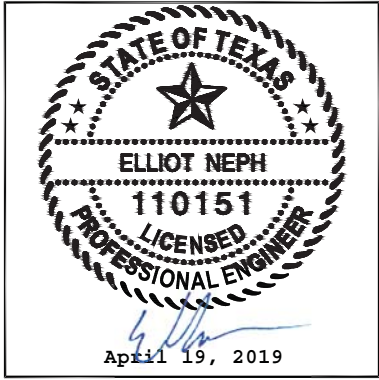
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - SUBPHASE 3B EAST HAUL ROAD (3 OF 5)**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	April 19, 2019



DEPARTMENT OF AVIATION	APPROVED BY:	DATE:
HOUSTON AIRPORT SYSTEMS		
AUTHORIZED REPRESENTATIVE		

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**LEGEND**

- PHASE LIMITS
- HAUL ROUTE
- LOW PROFILE BARRICADE
- TOFA
- TEMPORARY TOFA
- TABLE LOCATION POINT
- MARKER POLE BARRICADE

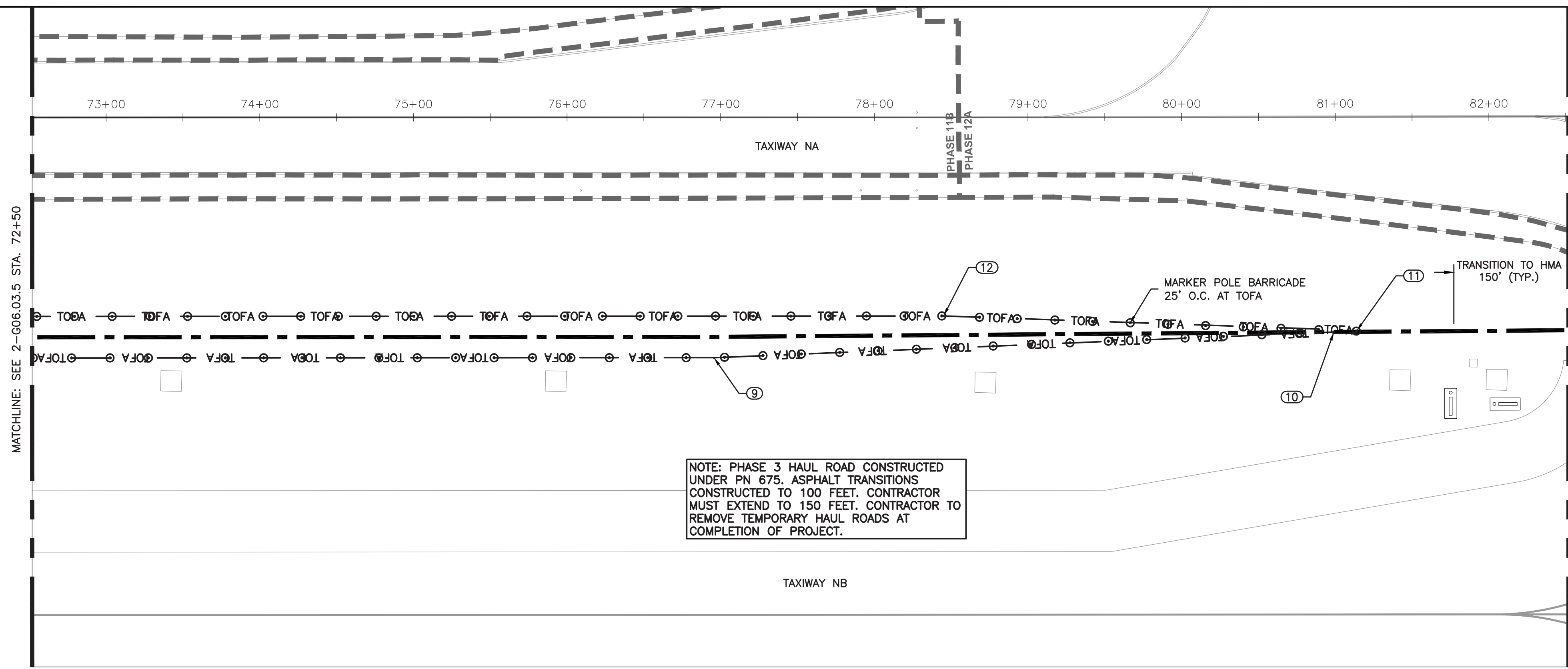
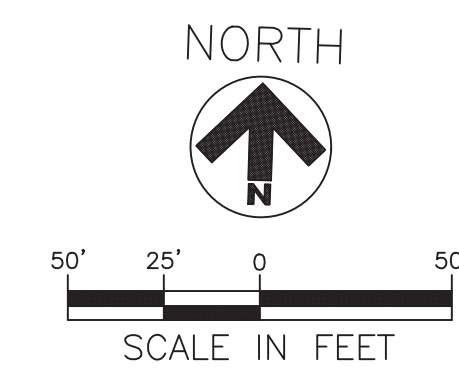
**ADDITIONAL EAST HAUL ROUTE CONSTRUCTION REQUIREMENTS**

- THE EAST TEMPORARY HAUL ROAD MUST BE CONSTRUCTED SUCH THAT QUEUEING OR "STACKING" OF CONSTRUCTION VEHICLES AND EQUIPMENT BETWEEN ACTIVE TAXIWAYS IS CONTAINED OUTSIDE THE TEMPORARY CONSTRUCTION TOFA OF THE ACTIVE ADJACENT TAXIWAYS (COORDINATES PROVIDED THIS SHEET). CONTRACTOR VEHICLES AND EQUIPMENT MAY NOT PENETRATE THE TOFA OF ANY ACTIVE TAXIWAY PRIOR TO APPROVAL TO MOVE ACROSS THE TAXIWAYS BY THE DESIGNATED FLAGMAN FOR THAT CROSSING.
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- THE CONTRACTOR SHALL PHYSICALLY IDENTIFY THE LINE OF DEMARCATION WHERE THE HAUL ROUTE CROSSES THE TOFA.
  - THE DISTANCE TO THE LINE OF DEMARCATION FROM ADJACENT TAXIWAY CENTERLINES MAY VARY BASED ON THE CONTRACTOR'S PROPOSED HAUL ROUTE WIDTH.
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- SEE INDIVIDUAL PHASING SHEETS FOR STATUS OF TAXIWAY PAVEMENTS OPEN/CLOSED DURING EACH SPECIFIC PHASE.

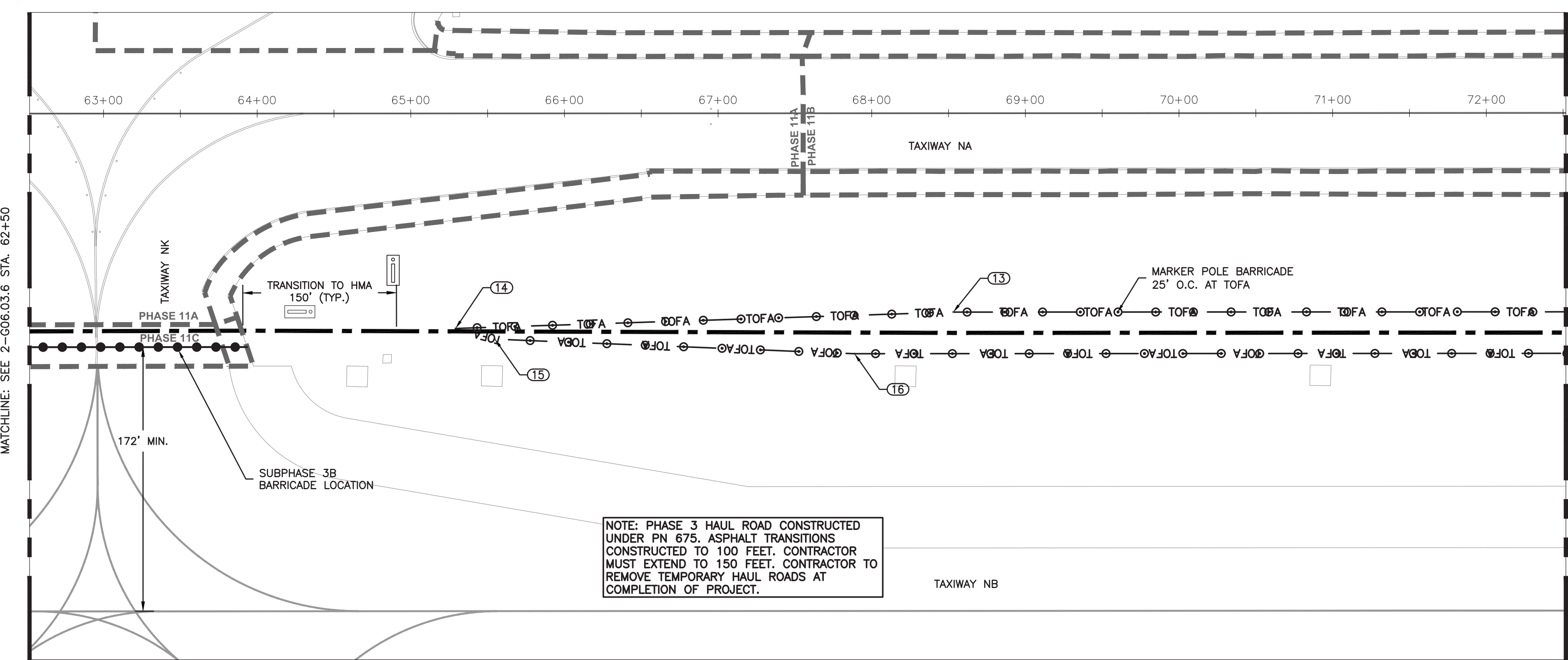
**EAST HAUL ROUTE RIGHT OF WAY BOUNDARIES**

POINT #	DESCRIPTION	NORTHING	EASTING
9	ISLAND 2	13927279.52	3129563.30
10	ISLAND 2	13927309.01	3129966.20
11	ISLAND 2	13927310.07	3129980.74
12	ISLAND 2	13927311.41	3129711.79
13	ISLAND 2	13927279.53	3128720.31
14	ISLAND 2	13927258.63	3128396.91
15	ISLAND 2	13927252.48	3128422.64

NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.



**1 SUBPHASE 3B ISLAND 2 - TAXIWAY NA STA. 72+50 TO 82+50**  
G06.03.5 SCALE: 1" = 50'



**2 SUBPHASE 3B ISLAND 2 - TAXIWAY NA STA. 62+50 TO 72+50**  
G06.03.5 SCALE: 1" = 50'



REVISIONS

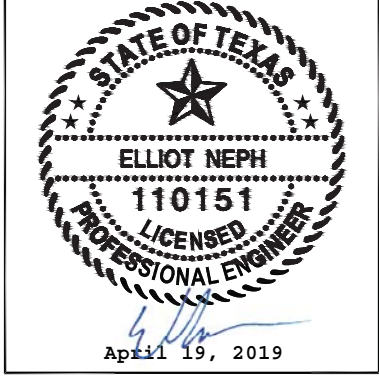
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - SUBPHASE 3B EAST  
 HAUL ROAD (4 OF 5)**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	April 19, 2019



DEPARTMENT OF AVIATION  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**G06.03.6**

**LEGEND**

- PHASE LIMITS
- HAUL ROUTE
- LOW PROFILE BARRICADE
- TOFA
- TABLE LOCATION POINT
- MARKER POLE BARRICADE

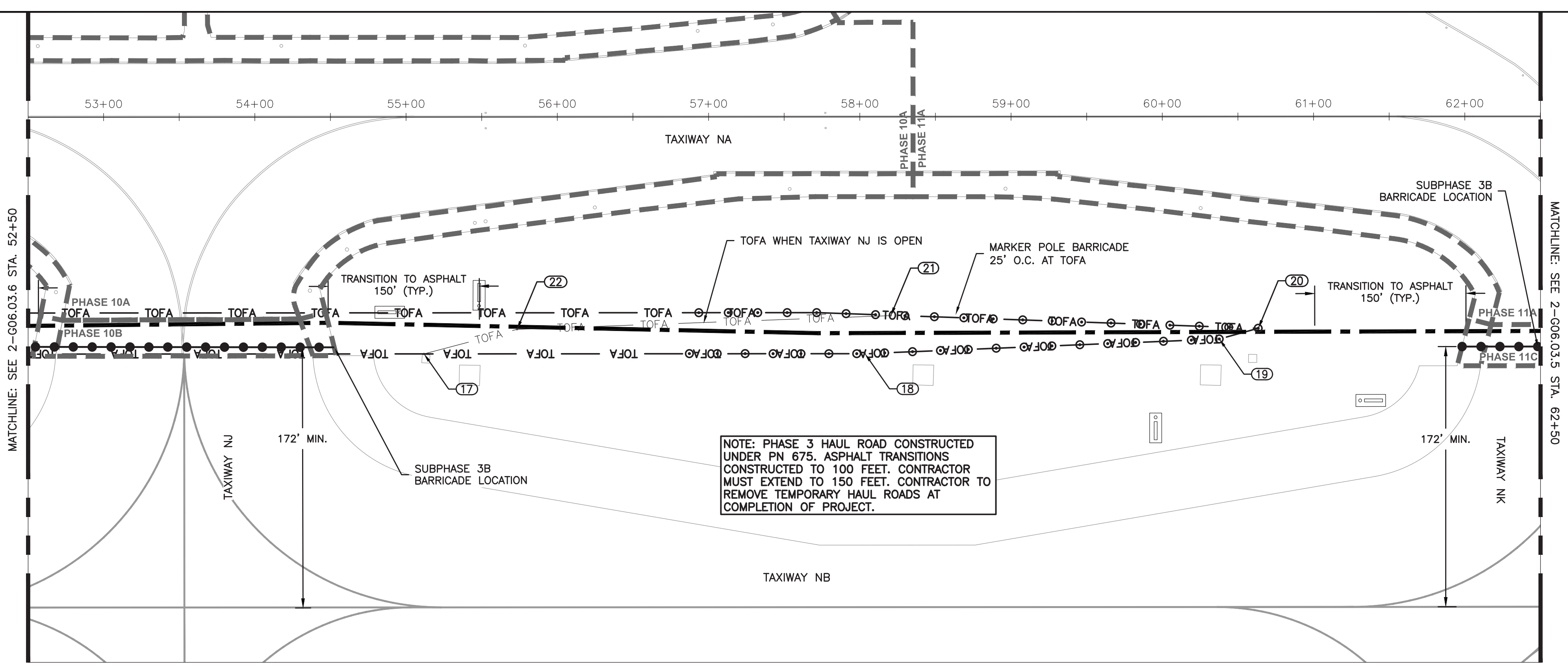
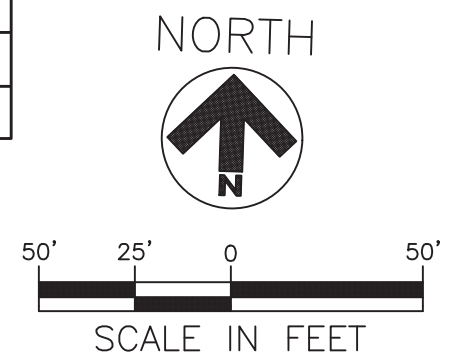
**ADDITIONAL EAST HAUL ROUTE  
 CONSTRUCTION REQUIREMENTS**

- THE EAST TEMPORARY HAUL ROAD MUST BE CONSTRUCTED SUCH THAT QUEUEING OR "STACKING" OF CONSTRUCTION VEHICLES AND EQUIPMENT BETWEEN ACTIVE TAXIWAYS IS CONTAINED OUTSIDE THE TEMPORARY CONSTRUCTION TOFA OF THE ACTIVE ADJACENT TAXIWAYS (COORDINATES PROVIDED THIS SHEET). CONTRACTOR VEHICLES AND EQUIPMENT MAY NOT PENETRATE THE TOFA OF ANY ACTIVE TAXIWAY PRIOR TO APPROVAL TO MOVE ACROSS THE TAXIWAYS BY THE DESIGNATED FLAGMAN FOR THAT CROSSING.
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- THE CONTRACTOR SHALL PHYSICALLY IDENTIFY THE LINE OF DEMARCATION WHERE THE HAUL ROUTE CROSSES THE TOFA.
  - THE DISTANCE TO THE LINE OF DEMARCATION FROM ADJACENT TAXIWAY CENTERLINES MAY VARY BASED ON THE CONTRACTOR'S PROPOSED HAUL ROUTE WIDTH.
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- SEE INDIVIDUAL PHASING SHEETS FOR STATUS OF TAXIWAY PAVEMENTS OPEN/CLOSED DURING EACH SPECIFIC PHASE.

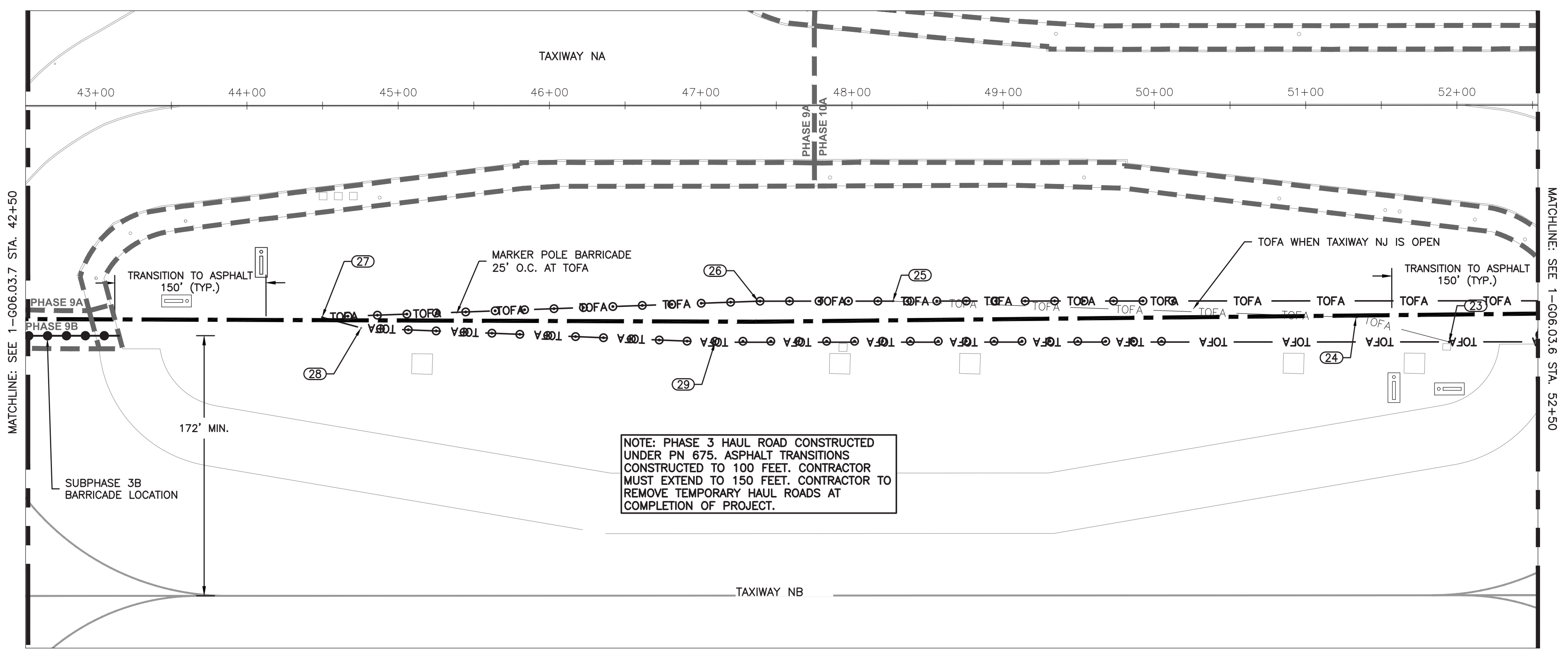
**EAST HAUL ROUTE RIGHT OF WAY BOUNDARIES**

POINT #	DESCRIPTION	NORTHING	EASTING
17	ISLAND 3	13927209.37	3127380.69
18	ISLAND 3	13927218.74	3127672.03
19	ISLAND 3	13927235.86	3127905.93
20	ISLAND 3	13927243.73	3127931.47
21	ISLAND 3	13927244.44	3127688.35
22	ISLAND 3	13927227.53	3127441.68
23	ISLAND 3	13927199.18	3127063.88
24	ISLAND 3	13927213.37	3127001.89
25	ISLAND 3	13927214.41	3126695.31
26	ISLAND 3	13927211.62	3126606.45
27	ISLAND 3	13927191.87	3126318.49
28	ISLAND 3	13927185.63	3126344.62
29	ISLAND 3	13927183.58	3126578.91

NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.



**1 SUBPHASE 3B ISLAND 3 - TAXIWAY NA STA. 52+50 TO 62+50**  
 G06.03.6 SCALE: 1" = 50'



**2 SUBPHASE 3B ISLAND 3 - TAXIWAY NA STA. 42+50 TO 52+50**  
 G06.03.6 SCALE: 1" = 50'





**LEGEND**

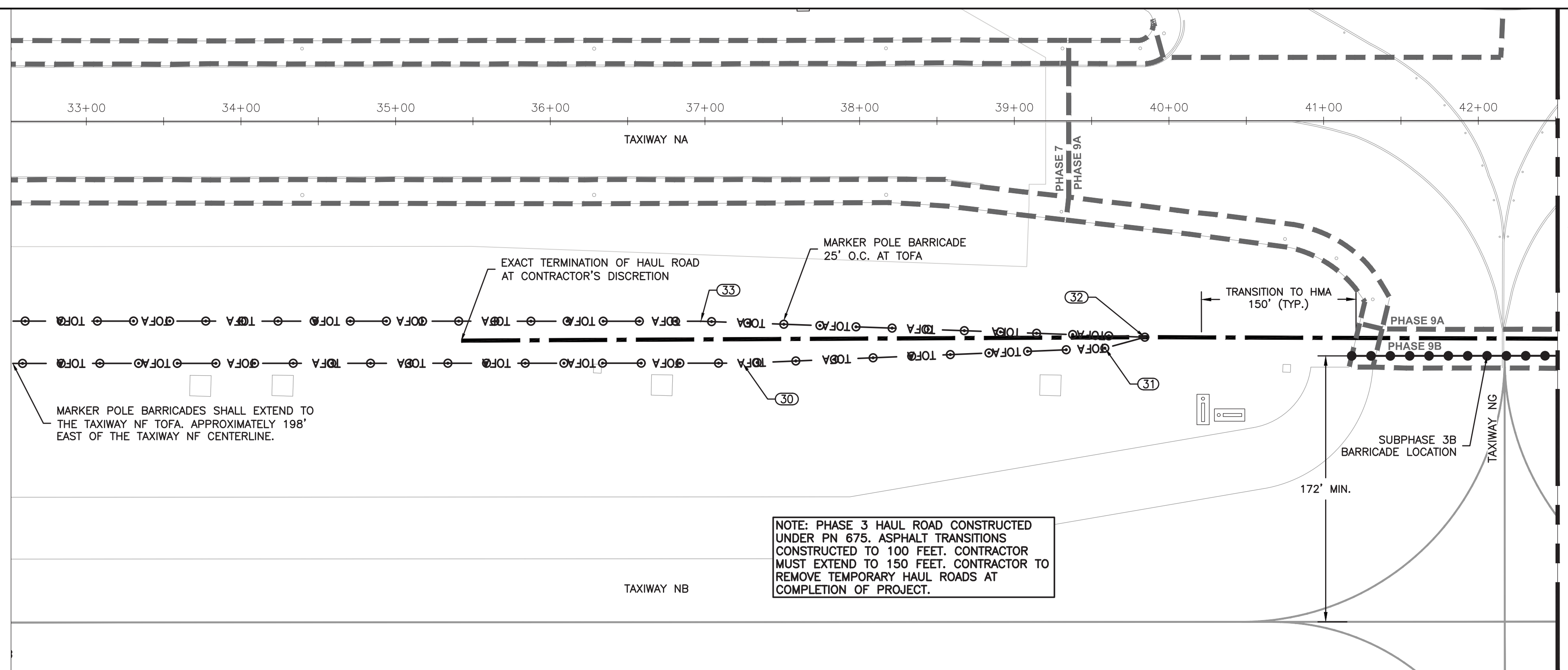
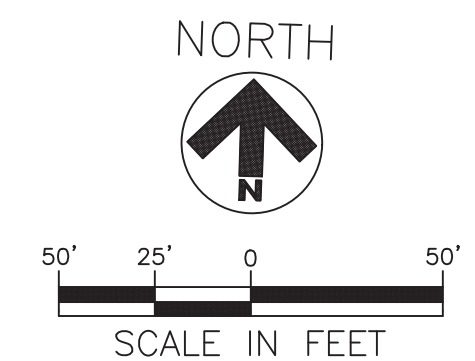
- PHASE LIMITS
- HAUL ROUTE
- LOW PROFILE BARRICADE
- TEMPORARY TOFA
- TABLE LOCATION POINT
- MARKER POLE BARRICADE

**ADDITIONAL EAST HAUL ROUTE  
 CONSTRUCTION REQUIREMENTS**

- THE EAST TEMPORARY HAUL ROAD MUST BE CONSTRUCTED SUCH THAT QUEUEING OR "STACKING" OF CONSTRUCTION VEHICLES AND EQUIPMENT BETWEEN ACTIVE TAXIWAYS IS CONTAINED OUTSIDE THE TEMPORARY CONSTRUCTION TOFA OF THE ACTIVE ADJACENT TAXIWAYS (COORDINATES PROVIDED THIS SHEET). CONTRACTOR VEHICLES AND EQUIPMENT MAY NOT PENETRATE THE TOFA OF ANY ACTIVE TAXIWAY PRIOR TO APPROVAL TO MOVE ACROSS THE TAXIWAYS BY THE DESIGNATED FLAGMAN FOR THAT CROSSING.
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- SEE INDIVIDUAL PHASING SHEETS FOR STATUS OF TAXIWAY PAVEMENTS OPEN/CLOSED DURING EACH SPECIFIC PHASE.

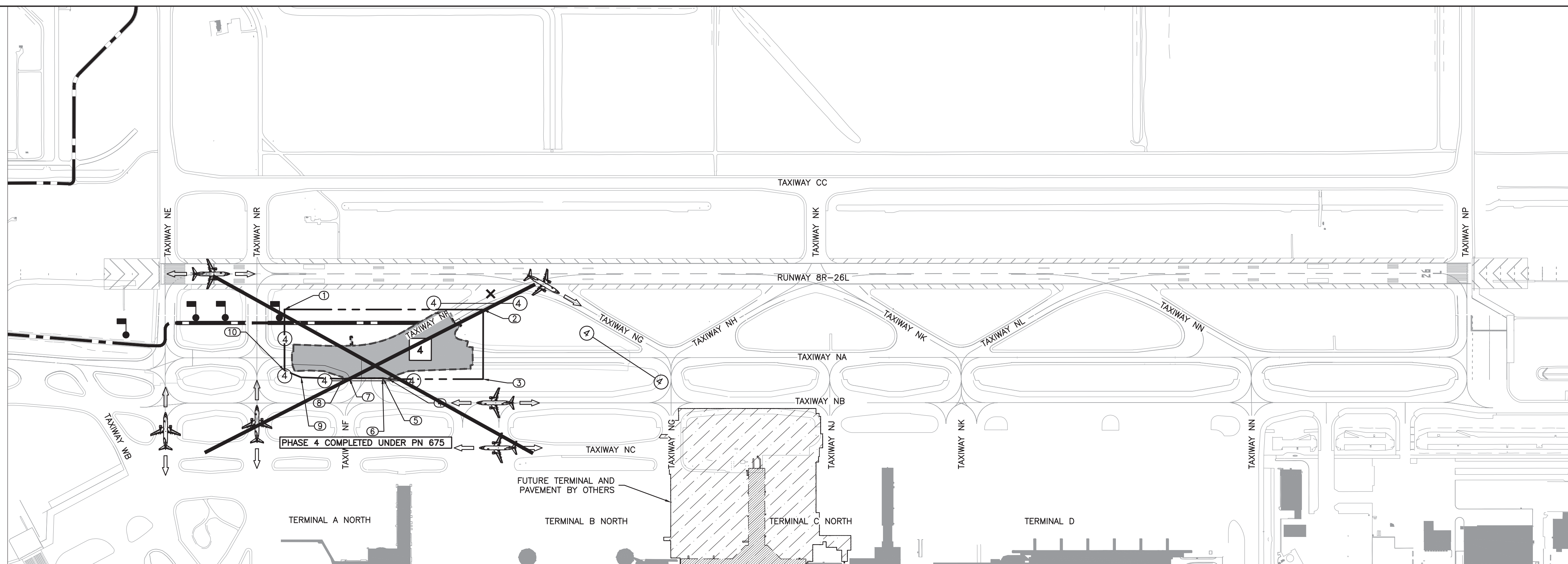
EAST HAUL ROUTE RIGHT OF WAY BOUNDARIES			
POINT #	DESCRIPTION	NORTHING	EASTING
30	ISLAND 4	13927151.89	3125594.01
31	ISLAND 4	13927169.01	3125827.91
32	ISLAND 4	13927176.92	3125853.57
33	ISLAND 4	13927178.11	3125566.15

NOTE: PHASE 3 HAUL ROAD CONSTRUCTED UNDER PN 675. ASPHALT TRANSITIONS CONSTRUCTED TO 100 FEET. CONTRACTOR MUST EXTEND TO 150 FEET. CONTRACTOR TO REMOVE TEMPORARY HAUL ROADS AT COMPLETION OF PROJECT.



1  
 G06.03.7  
**SUBPHASE 3B ISLAND 4 - TAXIWAY NA STA. 32+50 TO 42+50**  
 SCALE: 1" = 50'





**LEGEND**

- PAVEMENT CONSTRUCTED THIS PHASE
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- TABLE LOCATION POINT
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS

**PHASE 4 MOVEMENT NOTES**

1. SEE PLAN SHEET G06.03.1 AND G06.03.2 FOR PROPOSED HAUL ROUTE.
2. THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 4:
  - A. TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) FROM THE WEST SIDE OF TAXIWAY NG TO THE EAST SIDE OF TAXIWAY NE, EXCEPT WHEN SUBJECT TO "MARKER POLE EVACUATION" OPERATIONS.
  - B. TAXIWAY NA WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE EAST SIDE OF TAXIWAY NR TO THE WEST SIDE OF TAXIWAY NG.
  - C. TAXIWAY NF WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
3. THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSINGS WITH TAXIWAYS NE AND NR, OR AS DIRECTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN PHASE 4. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
4. THE CONTRACTOR SHALL MAKE ALL PERSONNEL AWARE OF "MARKER POLE EVACUATION" OPERATIONS. FLAGMEN AND ALL OTHER CONTRACTOR PERSONNEL SHALL BE ON CONSTANT ALERT TO IDENTIFY ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225).
5. REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

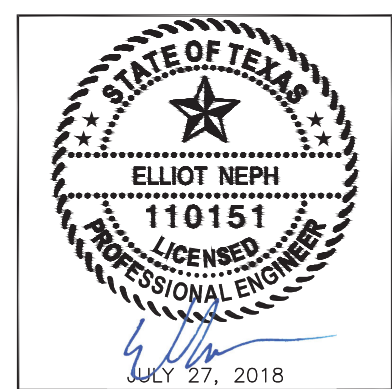
**NOTE: PHASE 4 COMPLETED UNDER PN 675**

PHASE 4 WORK LIMITS		
POINT #	NORTHING	EASTING
1	13927580.91	3123301.41
2	13927625.01	3124724.95
3	13927127.39	3124740.16
4	13927105.90	3124063.03
5	13927110.58	3124023.50
6	13927110.74	3124019.50
7	13927103.09	3123781.62
8	13927097.20	3123736.89
9	13927098.70	3123436.75
10	13927143.41	3123315.49

PHASE 4					
DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
75 CALENDAR DAYS	DAY AND NIGHT	RESTRICTIONS --- TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NG TO TAXIWAY NE. CLOSURES --- TAXIWAY NA CLOSED TAXIWAY NR TO TAXIWAY NG. --- TAXIWAY NF CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.	RESTRICTIONS --- TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NG TO TAXIWAY NE. CLOSURES --- TAXIWAY NA CLOSED TAXIWAY NR TO TAXIWAY NG. --- TAXIWAY NF CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.	--- ACROSS TAXIWAY NF, NORTH OF TAXIWAY NB. --- ACROSS TAXIWAY NF, SOUTH OF THE RSA. --- ACROSS TAXIWAY NA, EAST OF TAXIWAY NR. --- ACROSS TAXIWAY NA, WEST OF TAXIWAY NG.	SUBPHASE 3B

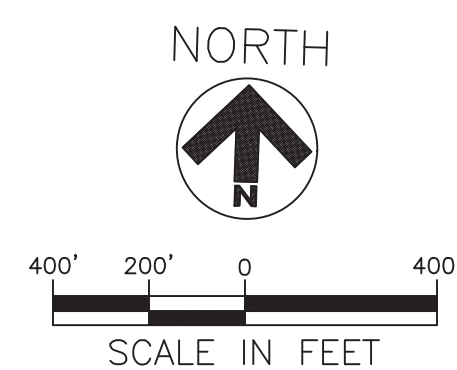
ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1" = 400'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Pahmed</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

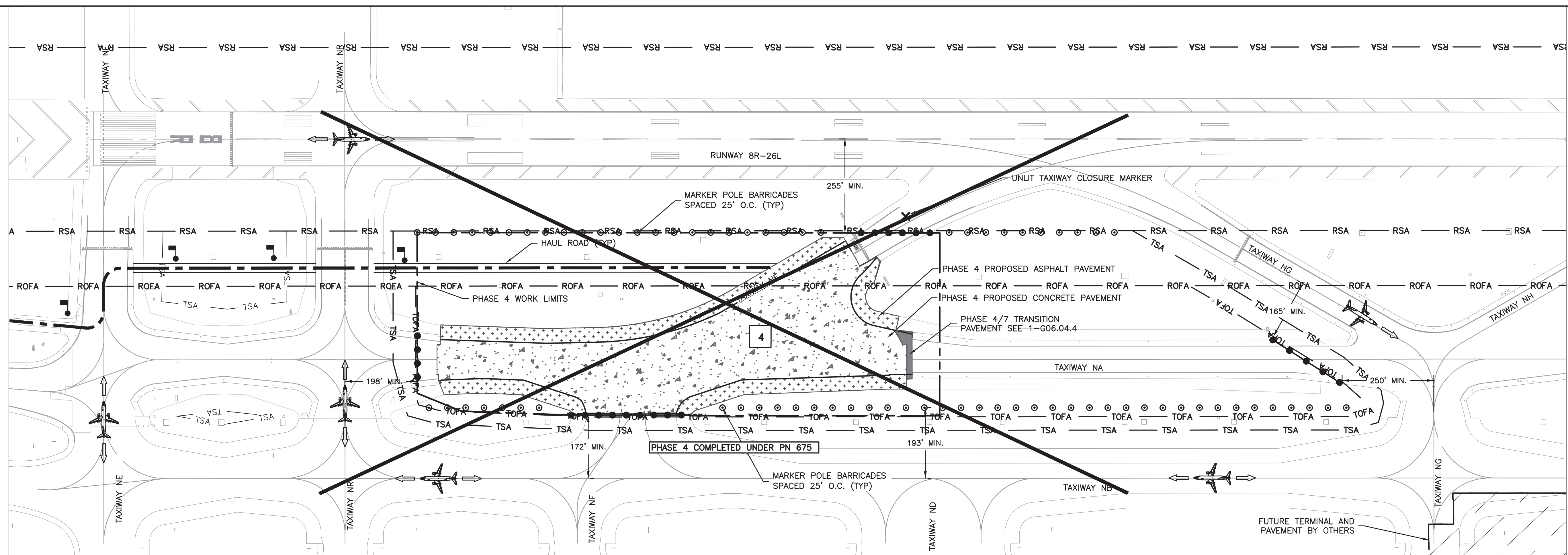
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	





REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 4**  
 (2 OF 2)

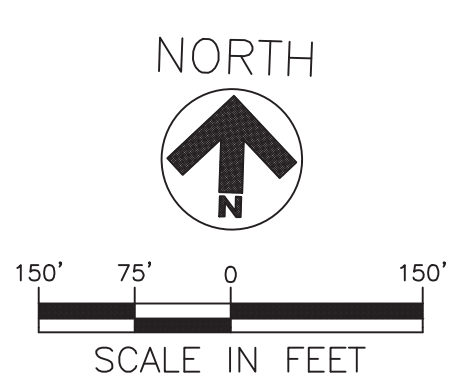


**PHASE 4 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

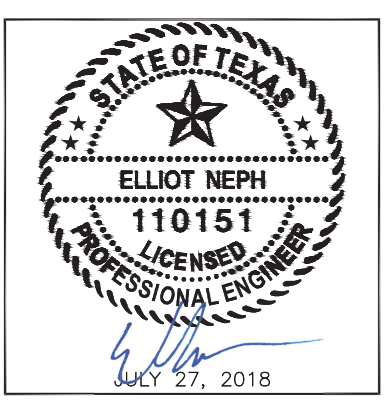
- LEGEND**
- PROPOSED CONCRETE PAVEMENT THIS PHASE
  - PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
  - TRANSITION PAVEMENT THIS PHASE
  - AIRCRAFT TAXI ROUTE DURING PHASE
  - FLAGMAN
  - PHASE INDICATOR
  - UNLIT TAXIWAY CLOSURE MARKER
  - MARKER POLE BARRICADE
  - LOW PROFILE BARRICADE (EXACT POSITION)
  - HAUL ROUTE
  - PHASE LIMITS
  - TSA PHASE 4 TAXIWAY SAFETY AREA
  - TOFA PHASE 4 TAXIWAY OBJECT FREE AREA
  - RSA RUNWAY SAFETY AREA
  - ROFA RUNWAY OBJECT FREE AREA

1. ALL WORK IN PHASE 4 MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS. THE CONTRACTOR WILL BE ALLOWED 75 CALENDAR DAYS TO COMPLETE PHASE 4.
2. CONSTRUCTION TASKS FOR PHASE 4 ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.04.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 4.
    - LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
      - i. ACROSS TAXIWAY NF, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
      - ii. ACROSS TAXIWAY NF, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
      - iii. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NR TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NR CENTERLINE.
      - iv. ACROSS TAXIWAY NA, WEST OF THE TAXIWAY NG TOFA, APPROXIMATELY 165 FEET FROM THE TAXIWAY NG CENTERLINE.
 MARKER POLE BARRICADES SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 25 FEET AT THE FOLLOWING LOCATIONS:
      - i. IN THE TAXIWAY NA / TAXIWAY NB INFIELD, APPROXIMATELY 193 FEET FROM THE TAXIWAY NB CENTERLINE, BETWEEN TAXIWAYS NE AND NR, BETWEEN TAXIWAYS NR AND NF, AND BETWEEN TAXIWAYS NF AND NG.
      - ii. IN THE INFIELD NORTH OF TAXIWAY NA, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE, BETWEEN TAXIWAYS NR AND NF, AND BETWEEN TAXIWAYS NF AND NG.
  - C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 4.
  - D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBSCURED THROUGHOUT THE DURATION OF PHASE 4.
  - E. INSTALL UNLIT TAXIWAY CLOSURE MARKER AT THE ENTRANCE OF TAXIWAY NF FROM RUNWAY 8R - 26L.
  - F. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.04.3.
  - G. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
  - H. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
  - I. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
  - J. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
  - K. DEWATER EXCAVATION AREAS, AS APPLICABLE.
  - L. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
  - M. INSTALL NEW ELECTRICAL COMPONENTS.
  - N. CONSTRUCT NEW PAVEMENT SECTION.
  - O. CONSTRUCT TEMPORARY PHASE TRANSITION PAVEMENT.
  - P. REMOVE SECTION OF TEMPORARY HAUL ROAD BETWEEN TAXIWAY NR AND TAXIWAY NF NOT REQUIRED FOR USE BY THE CONTRACTOR DURING PHASE 5 CONSTRUCTION OPERATIONS.
  - Q. PERFORM FINISH GRADING ACTIVITIES.
  - R. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
  - S. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED.
  - T. INSTALL END OF PHASE PAVEMENT MARKINGS. SEE SHEET G06.04.3.
  - U. PERFORM A FINAL CLEANING OF THE WORK AREA.
  - V. REMOVE UNLIT TAXIWAY CLOSURE MARKER.
  - W. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
  - X. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
  - Y. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
  - Z. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.

**NOTE: PHASE 4 COMPLETED UNDER PN 675**



ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018

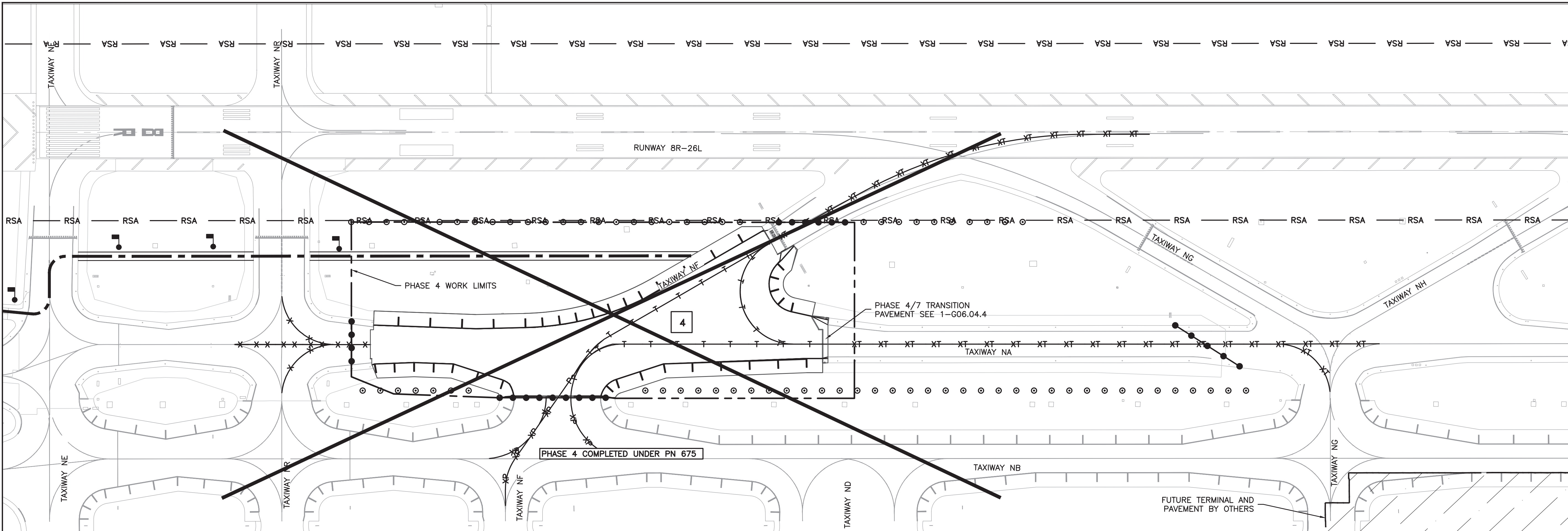


DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Davej Pahnd</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



REVISIONS			
NO.	DESCRIPTION	DATE	BY



RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 4  
 MARKINGS**

**LEGEND**

- PHASE INDICATOR
- FLAGMAN
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RUNWAY SAFETY AREA
- MARKING REMOVAL
- MARKING REMOVAL, REPLACE WITH TEMPORARY MARKING INSTALLED THIS PHASE
- MARKING REMOVAL, REPLACE WITH PERMANENT MARKING INSTALLED THIS PHASE
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE
- SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- LOCATION PANEL (L-858L)
- MANDATORY INSTRUCTION PANEL (L-858Y)

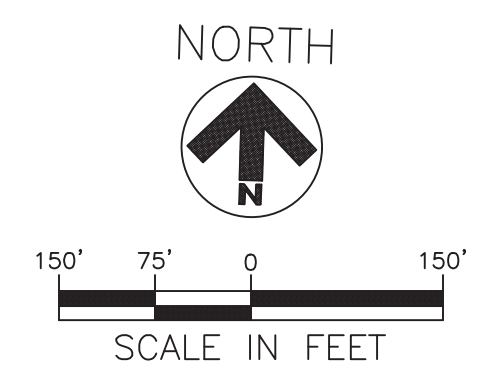
**PHASING PLAN MARKING NOTES**

1. ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
2. ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (COB SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
  - A. ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).

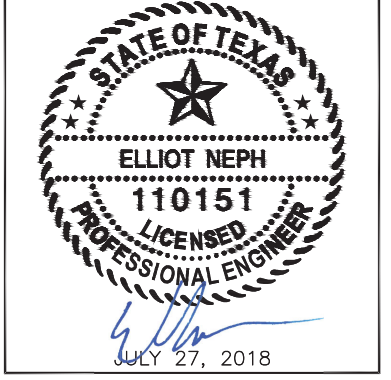
AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S), REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.

THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
3. TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-620, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
  - A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.
  - B. TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.
  - C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
4. THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
6. SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.

**NOTE: PHASE 4  
 COMPLETED  
 UNDER PN 675**



ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Dorey Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**G06.04.3**

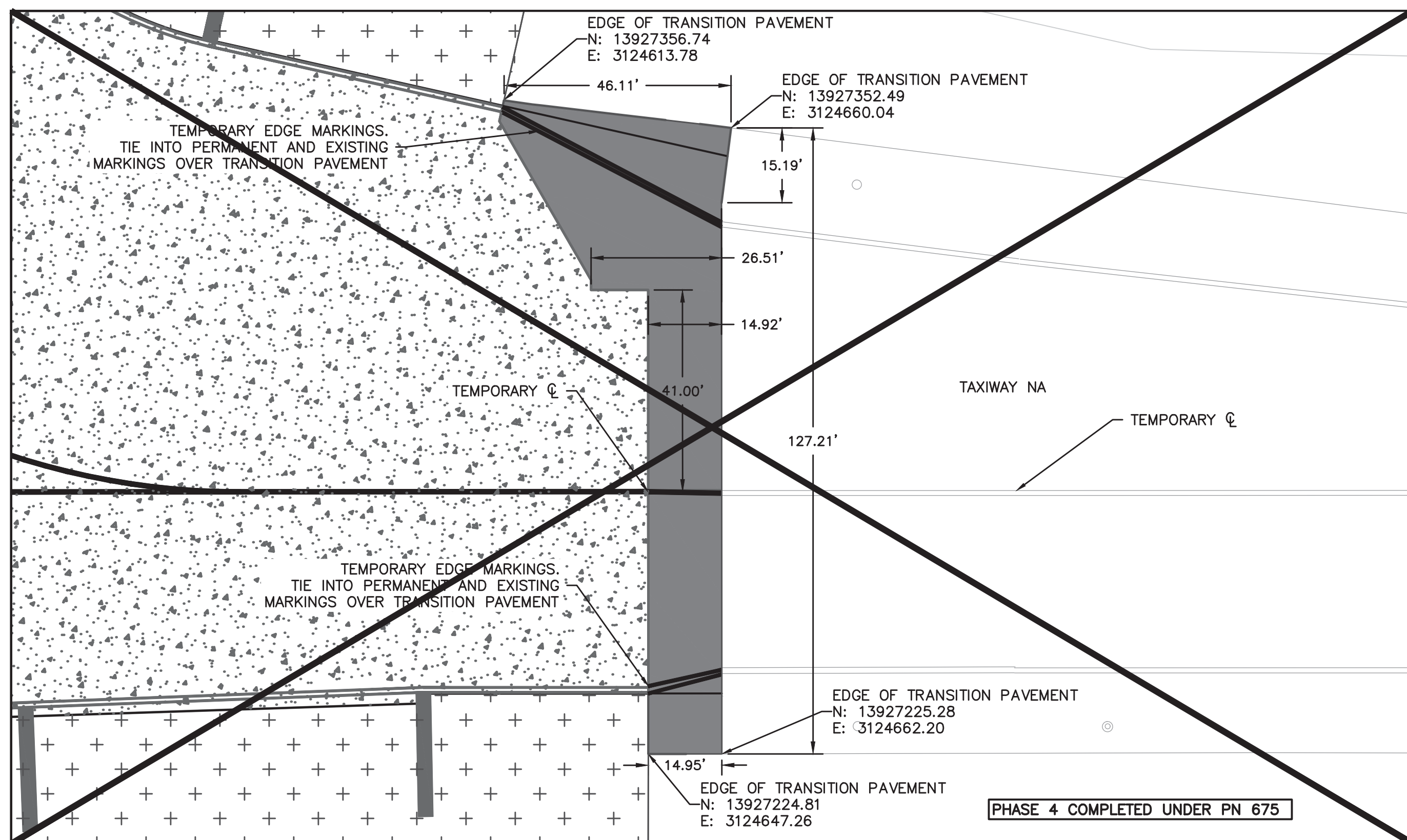


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NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - PHASE 4 TRANSITIONS AND TIE-INS**



**1**  
G06.04.4

**PHASE 4/7 - TAXIWAY NA TRANSITION PAVEMENT**  
SCALE: 1" = 20'

**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- TRANSITION PAVEMENT THIS PHASE
- LOW PROFILE BARRICADE (EXACT POSITION)
- RSA RUNWAY SAFETY AREA
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE

**NOTES**

1. REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.
2. TEMPORARY TRANSITION PAVEMENTS SHALL BE INSTALLED IN ORDER TO RETURN A TAXIWAY SEGMENT TO SERVICE BETWEEN THIS PHASE AND A SUBSEQUENT PHASE. TEMPORARY TRANSITION PAVEMENTS SHALL BE CONSTRUCTED SUCH THAT:
  - A. A SMOOTH TRANSITION WITH RESPECT TO TIE-IN GRADES IS PROVIDED BETWEEN REMAINING EXISTING PAVEMENT AND NEW PAVEMENT INSTALLED IN THIS PHASE.
  - B. PAVEMENT MARKINGS ARE INSTALLED THROUGH TRANSITION PAVEMENT AREAS TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE CONTINUOUS, NON-BROKEN MARKINGS.
  - C. ALL ELECTRICAL COMPONENTS SHALL BE RETURNED TO SERVICE WITH THEIR CORRESPONDING PAVEMENT AREAS.
  - D. DISTURBED AREAS OUTSIDE PAVED TEMPORARY TRANSITION PAVEMENTS SHALL BE GRADED IN GENERAL CONFORMANCE WITH THE GRADING PLAN SHEET REQUIREMENTS AND VEGETATED IN GENERAL CONFORMANCE WITH THE SWPPP PLAN SHEET REQUIREMENTS.
  - E. THEY ARE IN ACCORDANCE WITH DETAIL 7A-C03.15.
3. TRANSITION PAVEMENT AREAS WILL BE REMOVED IN A SUBSEQUENT PHASE AND REPLACED WITH A PERMANENT PAVEMENT SECTION.

**NOTE: PHASE 4 COMPLETED UNDER PN 675**

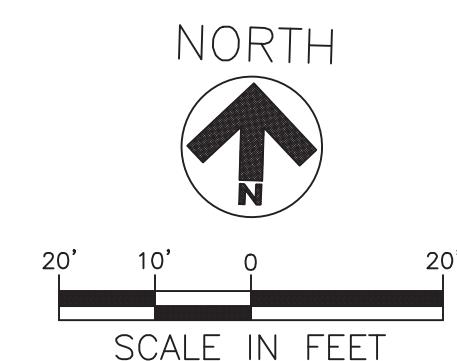
ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1" = 20'
DATE:	JULY 27, 2018



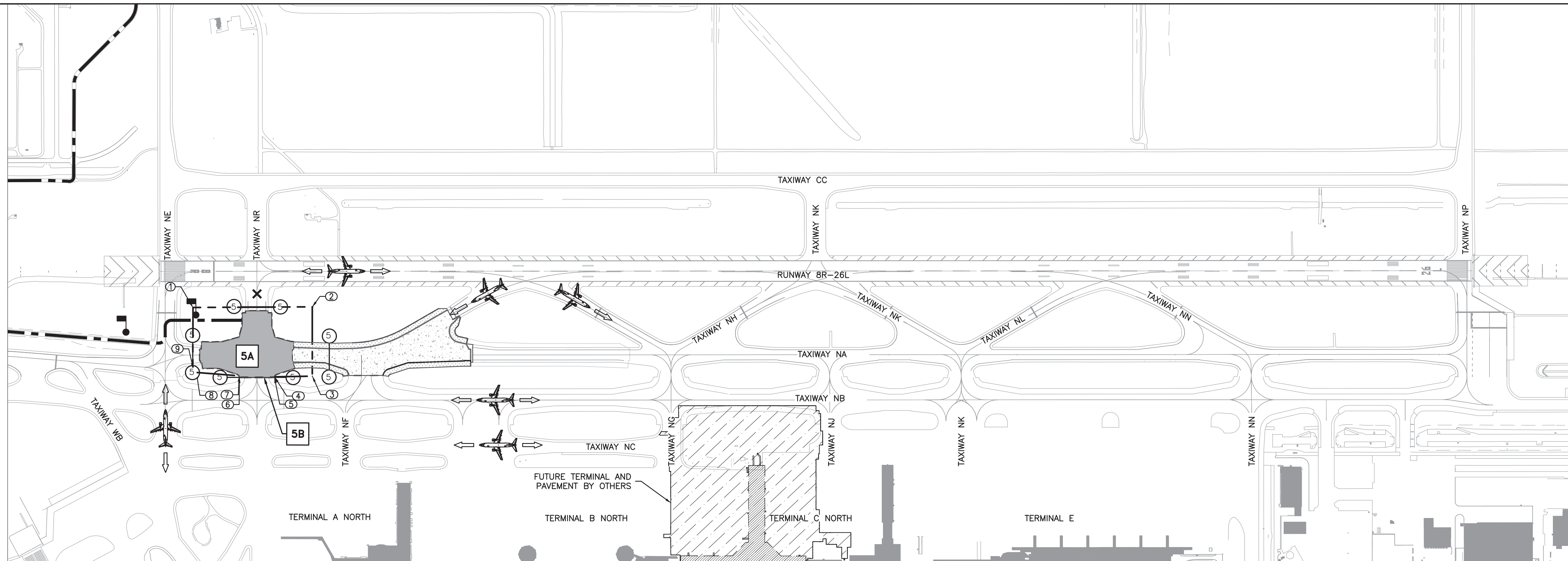
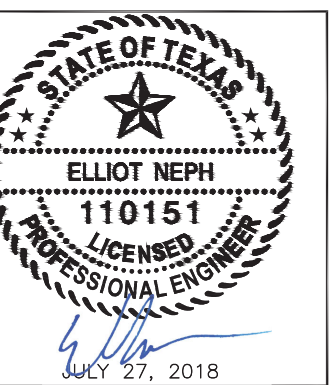
DEPARTMENT OF AVIATION  
APPROVED BY: *Davej Palmer* DATE:  
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
C.I.P. NO. **A-000570**  
H.A.S. NO.  
SHEET NO.



**G06.04.4**





**LEGEND**

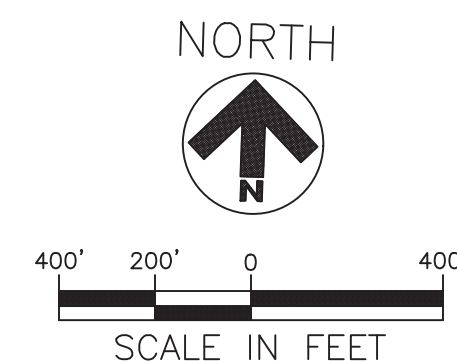
- PAVEMENT CONSTRUCTED THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- TABLE LOCATION POINT
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS

**PHASE 5 MOVEMENT NOTES**

1. SEE PLAN SHEET G06.03.1 AND G06.03.2 FOR PROPOSED HAUL ROUTE.
2. THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 5:
  - A. TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) FROM THE WEST SIDE OF TAXIWAY NF TO THE EAST SIDE OF TAXIWAY NE, EXCEPT WHEN SUBJECT TO "MARKER POLE EVACUATION" OPERATIONS AND DURING SUBPHASE 5B CONSTRUCTION OPERATIONS.
  - B. DURING SUBPHASE 5B CONSTRUCTION OPERATIONS (NIGHTTIME OPERATIONS ONLY), TAXIWAY NB WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE WEST SIDE OF TAXIWAY NF TO THE EAST SIDE OF TAXIWAY NE.
  - C. TAXIWAY NA WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE WEST SIDE OF TAXIWAY NF TO THE EAST SIDE OF TAXIWAY NE.
  - D. TAXIWAY NR WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
3. THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSING WITH TAXIWAY NE, OR AS DIRECTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN PHASE 5.
4. THE CONTRACTOR SHALL MAKE ALL PERSONNEL AWARE OF "MARKER POLE EVACUATION" OPERATIONS. FLAGMEN AND ALL OTHER CONTRACTOR PERSONNEL SHALL BE ON CONSTANT ALERT TO IDENTIFY ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225).
5. REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

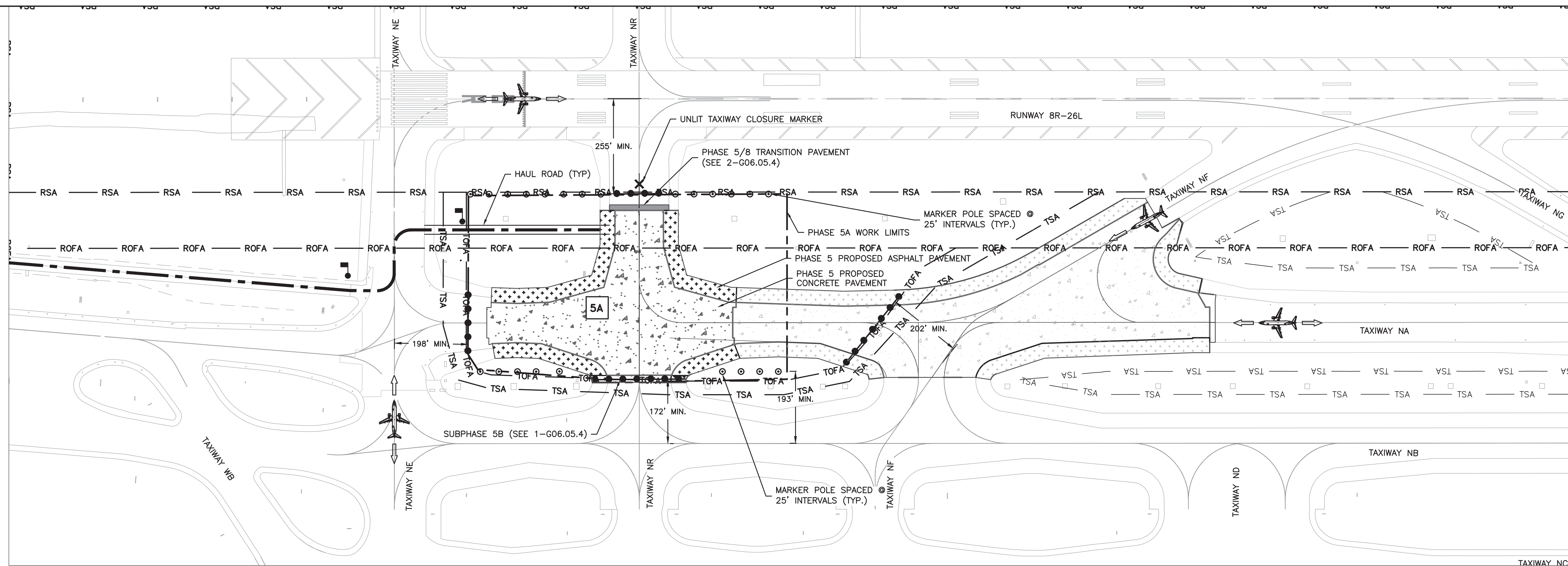
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2	13927586.48	3123500.91
3	13927089.86	3123516.73
4	13927076.30	3123245.87
5	13927072.99	3123246.00
6	13927064.30	3122995.27
7	13927075.53	3122993.55
8	13927089.63	3122686.31
9	13927113.71	3122662.73

PHASE 5					
DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
SUBPHASE 5A - 65 CALENDAR DAYS	SUBPHASE 5A - DAY AND NIGHT	RESTRICTIONS --- DURING SUBPHASE 5A, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NF TO TAXIWAY NE. CLOSURES --- TAXIWAY NA CLOSED TAXIWAY NF TO TAXIWAY NE. --- TAXIWAY NR CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.	RESTRICTIONS --- DURING SUBPHASE 5A, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NF TO TAXIWAY NE. --- DURING SUBPHASE 5B, TAXIWAY NB RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NF TO TAXIWAY NE. CLOSURES --- TAXIWAY NA CLOSED TAXIWAY NF TO TAXIWAY NE. --- TAXIWAY NR CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.	--- ACROSS TAXIWAY NR, NORTH OF TAXIWAY NB. --- ACROSS TAXIWAY NR, SOUTH OF THE RSA. --- ACROSS TAXIWAY NA, EAST OF TAXIWAY NE. --- ACROSS TAXIWAY NA, WEST OF TAXIWAY NF.	SUBPHASE 3B, SUBPHASES 5A / 5B
	SUBPHASE 5B - 23 CALENDAR DAYS	SUBPHASE 5B - NIGHT ONLY			





NO.	DESCRIPTION	DATE	BY



**PHASE 5 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER COMPLETED IN PREVIOUS PHASES
- TRANSITION PAVEMENT THIS PHASE
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- TSA PHASE 5 TAXIWAY SAFETY AREA
- TOFA PHASE 5 TAXIWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- ROFA RUNWAY OBJECT FREE AREA

1. PHASE 5 MAY NOT COMMENCE UNTIL THE PHASE 4 WORK AREA IS OPENED TO ALL AIRCRAFT TRAFFIC.
2. ALL WORK IN SUBPHASE 5A MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS. THE CONTRACTOR WILL BE ALLOWED 65 CALENDAR DAYS TO COMPLETE SUBPHASE 5A.
3. SUBPHASE 5B SHALL BE COMPLETED CONCURRENTLY WITH SUBPHASE 5A. HOWEVER, SUBPHASE 5B SHALL BE LIMITED TO NIGHTTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 23 CALENDAR DAYS TO COMPLETE SUBPHASE 5B.
4. CONSTRUCTION TASKS FOR PHASE 5 ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.05.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 5.
 

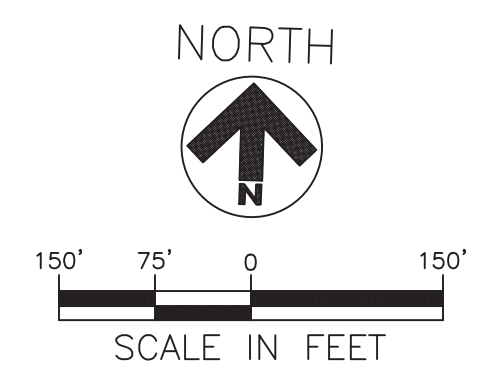
LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:

    - i. ACROSS TAXIWAY NR, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
 

DURING SUBPHASE 5B, THESE BARRICADES WILL BE TEMPORARILY RELOCATED TO APPROXIMATELY 10 FEET SOUTH OF THE SUBPHASE 5B PAVING LIMITS.
    - ii. ACROSS TAXIWAY NR, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - iii. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NE TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NE CENTERLINE.
    - iv. ACROSS TAXIWAY NA, WEST OF THE TAXIWAY NF TOFA, APPROXIMATELY 202 FEET FROM THE TAXIWAY NF CENTERLINE.

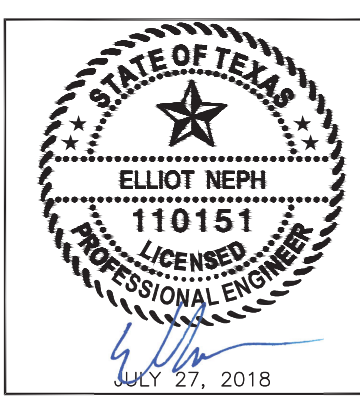
MARKER POLE BARRICADES SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 25 FEET AT THE FOLLOWING LOCATIONS:

    - i. IN THE TAXIWAY NA / TAXIWAY NB INFELD, APPROXIMATELY 193 FEET FROM THE TAXIWAY NB CENTERLINE, BETWEEN TAXIWAYS NE AND NR AND BETWEEN TAXIWAYS NR AND NF. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 4 CONSTRUCTION OPERATIONS.
    - ii. IN THE INFELD NORTH OF TAXIWAY NA, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE, BETWEEN TAXIWAYS NE AND NR AND BETWEEN TAXIWAYS NR AND NF. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 4 CONSTRUCTION OPERATIONS.
- C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 5.
- D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBSCURED THROUGHOUT THE DURATION OF PHASE 5.
- E. INSTALL UNLIT TAXIWAY CLOSURE MARKER AT THE ENTRANCE OF TAXIWAY NR FROM RUNWAY 8R - 26L.
- F. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.05.3.
- G. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
- H. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
- I. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
- J. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
- K. DEWATER EXCAVATION AREAS, AS APPLICABLE.
- L. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
- M. INSTALL NEW ELECTRICAL COMPONENTS.
- N. CONSTRUCT NEW PAVEMENT SECTION.
- O. CONSTRUCT TEMPORARY PHASE TRANSITION PAVEMENT.
- P. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NR AND TAXIWAY NF. REMOVE SECTION OF TEMPORARY HAUL ROAD BETWEEN TAXIWAY NE AND TAXIWAY NR NOT REQUIRED FOR USE BY THE CONTRACTOR DURING PHASE 6 CONSTRUCTION OPERATIONS OR PHASE 8 CONSTRUCTION OPERATIONS.
- Q. PERFORM FINISH GRADING ACTIVITIES.
- R. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
- S. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED.
- T. INSTALL END OF PHASE PAVEMENT MARKINGS. SEE SHEET G06.05.4.
- U. PERFORM A FINAL CLEANING OF THE WORK AREA.
- V. REMOVE UNLIT TAXIWAY CLOSURE MARKER.
- W. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
- X. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
- Y. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
- Z. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.



ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION

APPROVED BY: DATE:

*Daraj Rahmal*

HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	





**RS&H**

RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

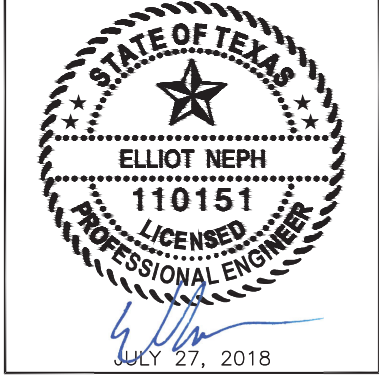
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 5  
 MARKINGS**

ISSUED FOR BID

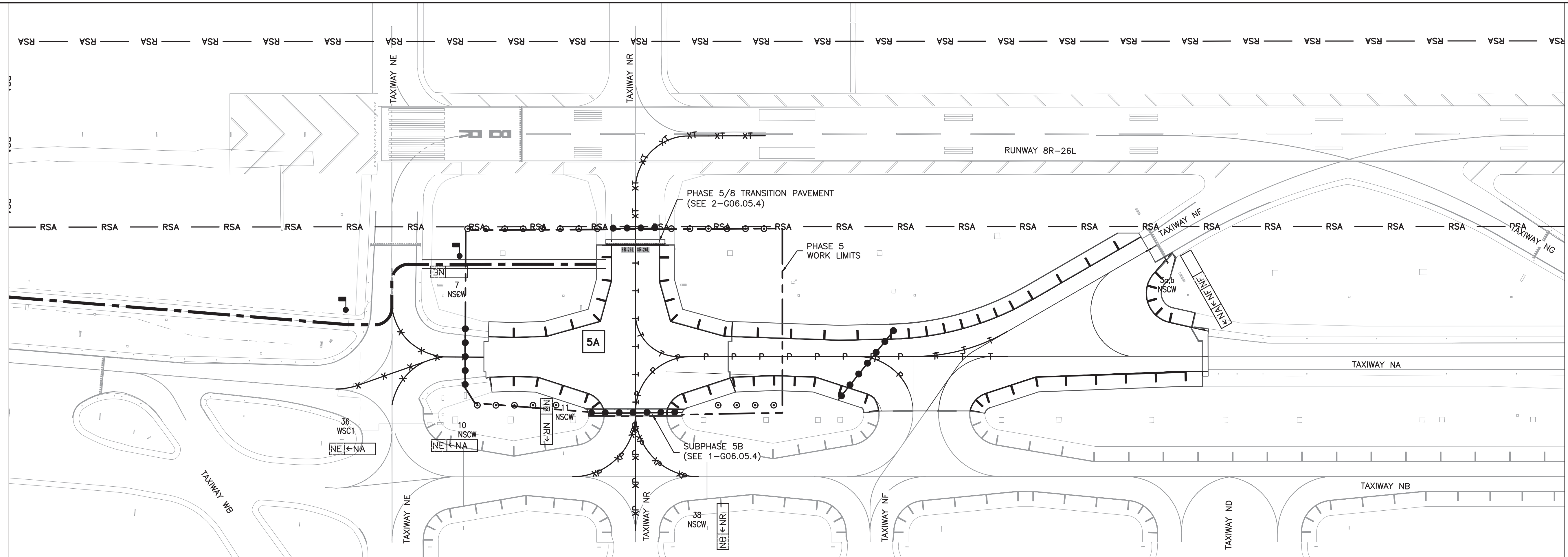
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CHECKED BY:	SRB
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Pahnel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**G06.05.3**



**LEGEND**

- # PHASE INDICATOR
- o MARKER POLE BARRICADE
- FLAGMAN
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RSA RUNWAY SAFETY AREA
- X MARKING REMOVAL
- XT MARKING REMOVAL, REPLACE WITH TEMPORARY MARKING INSTALLED THIS PHASE
- XP MARKING REMOVAL, REPLACE WITH PERMANENT MARKING INSTALLED THIS PHASE
- P PERMANENT MARKING INSTALLED THIS PHASE
- T TEMPORARY MARKING INSTALLED THIS PHASE
- 12 NSCW SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- NA ND SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- 8L-26R LOCATION PANEL (L-858L)
- DESTINATION PANEL (L-858Y)
- MANDATORY INSTRUCTION PANEL (L-858R)

**PHASING PLAN MARKING NOTES**

1. ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
2. ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (COB SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
 

A. ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).

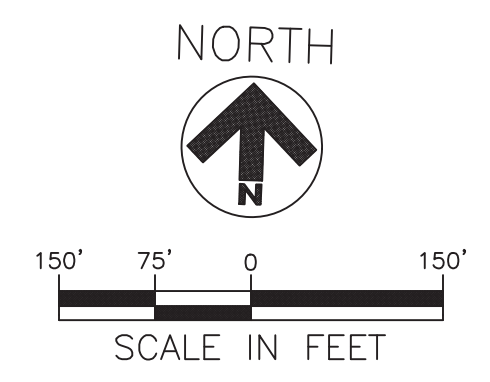
AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S), REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.

THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
3. TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-620, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
 

A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.

B. TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.

C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
4. THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
6. SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.

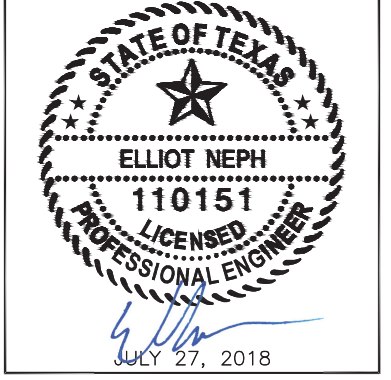




REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 5  
 TRANSITIONS AND TIE-INS**

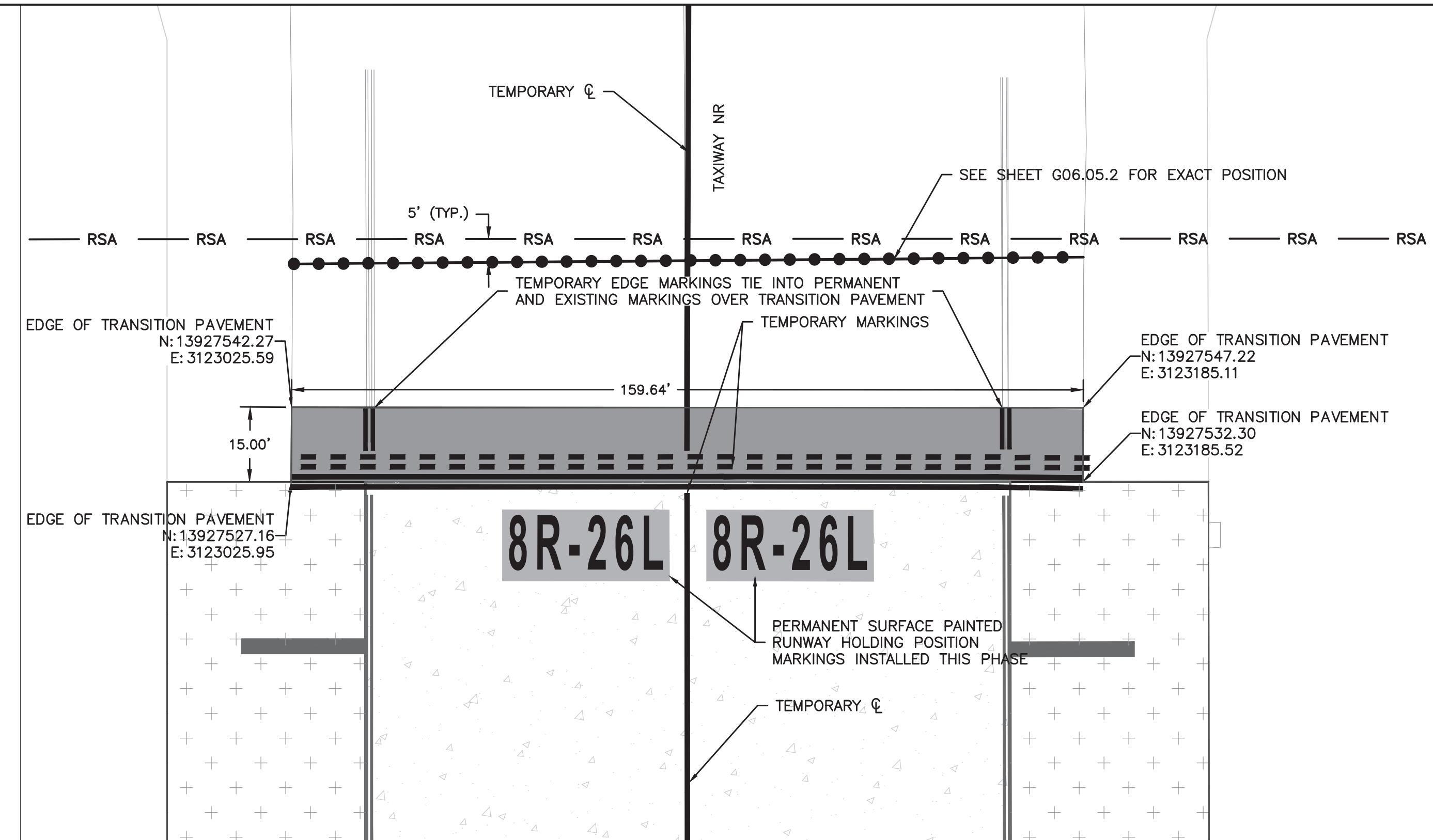
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PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=20'
DATE:	JULY 27, 2018



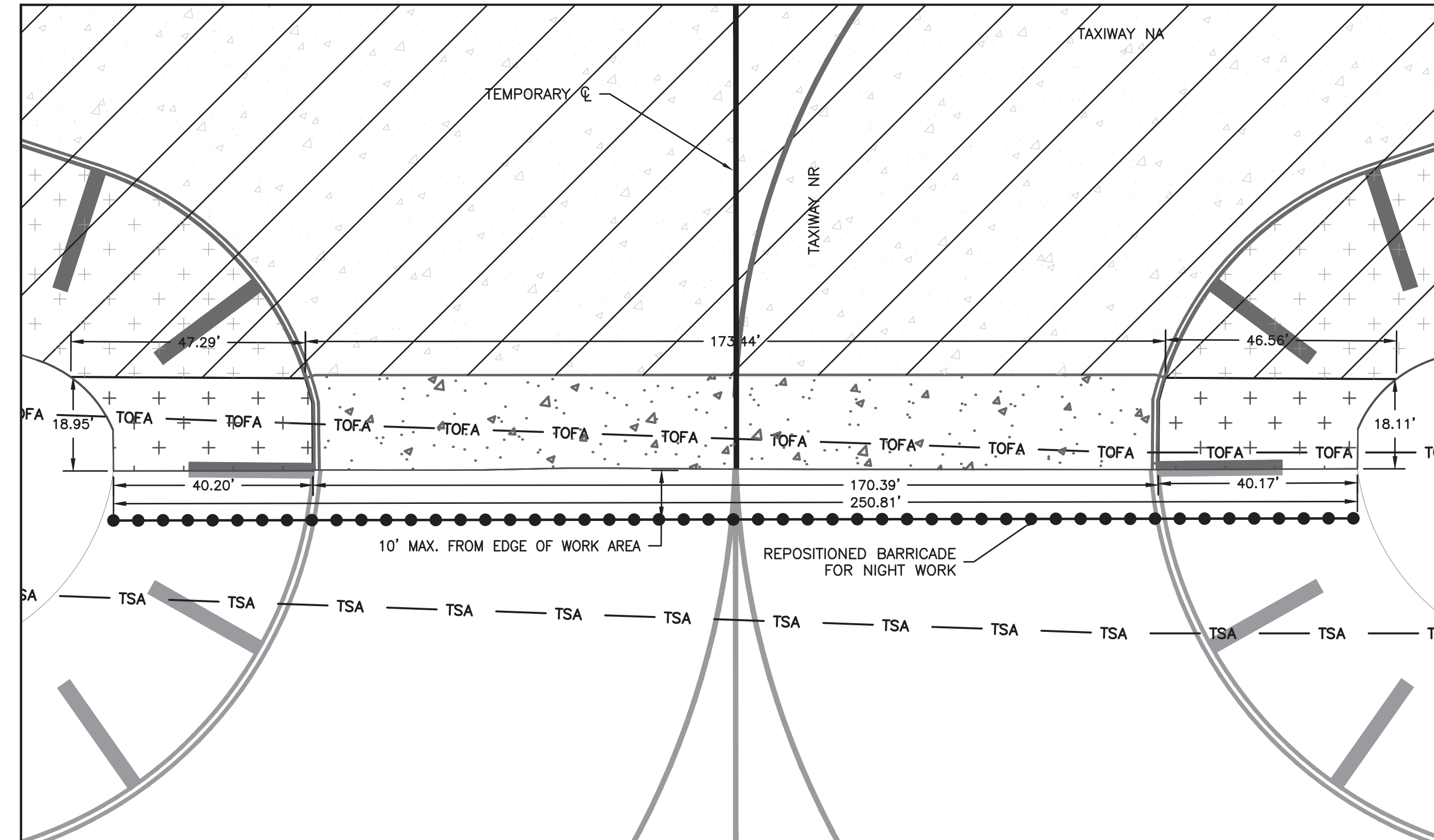
DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**G06.05.4**



**2**  
 G06.05.4  
**PHASE 5A/8 - TAXIWAY NR TRANSITION PAVEMENT**  
 SCALE: 1" = 20'



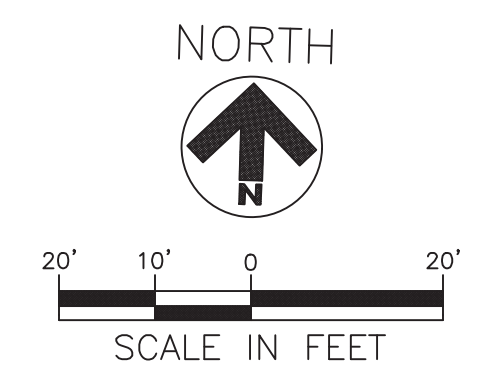
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**SUBPHASE 5B PAVEMENT - TAXIWAY NR**  
 SCALE: 1" = 20'

**LEGEND**

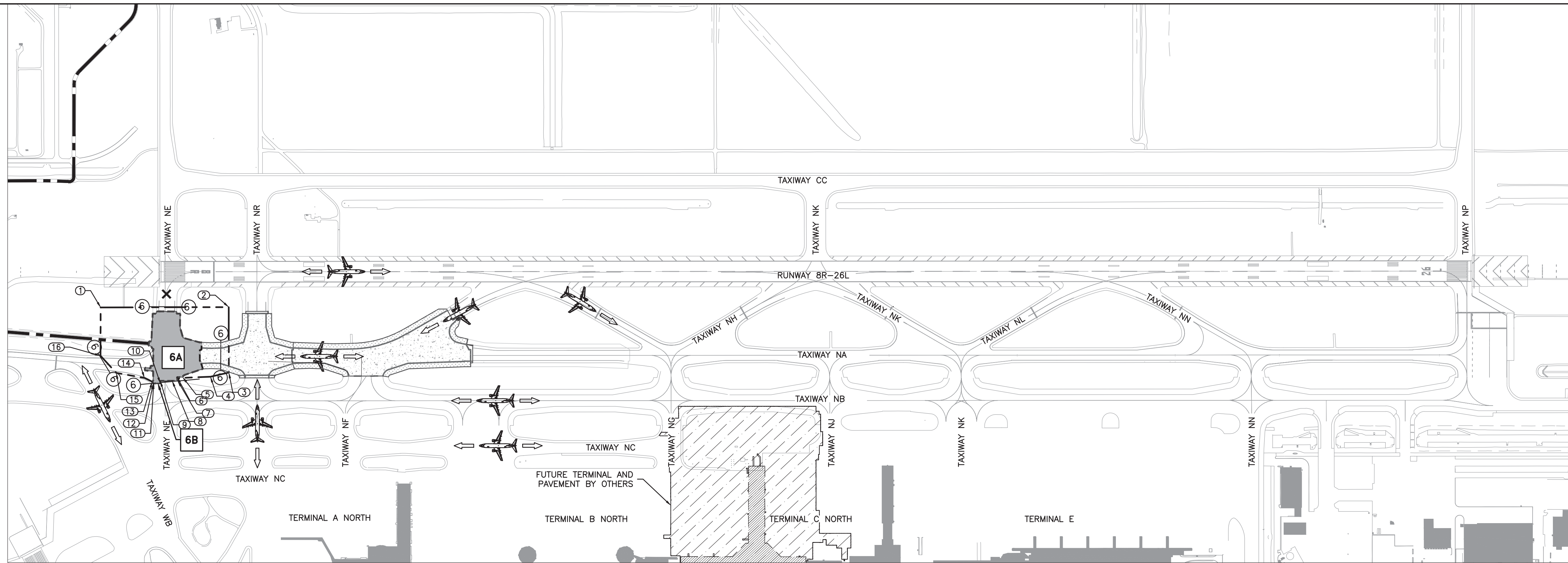
- CONCRETE PAVEMENT COMPLETED CONCURRENTLY
- ASPHALT SHOULDER PAVEMENT COMPLETED CONCURRENTLY
- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- TRANSITION PAVEMENT THIS PHASE
- LOW PROFILE BARRICADE (EXACT POSITION)
- TSA TAXIWAY SAFETY AREA
- TOFA TAXIWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE

**NOTES**

1. REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.
2. TEMPORARY TRANSITION PAVEMENTS SHALL BE INSTALLED IN ORDER TO RETURN A TAXIWAY SEGMENT TO SERVICE BETWEEN THIS PHASE AND A SUBSEQUENT PHASE. TEMPORARY TRANSITION PAVEMENTS SHALL BE CONSTRUCTED SUCH THAT:
  - A. A SMOOTH TRANSITION WITH RESPECT TO TIE-IN GRADES IS PROVIDED BETWEEN REMAINING EXISTING PAVEMENT AND NEW PAVEMENT INSTALLED IN THIS PHASE.
  - B. PAVEMENT MARKINGS ARE INSTALLED THROUGH TRANSITION PAVEMENT AREAS TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE CONTINUOUS, NON-BROKEN MARKINGS.
  - C. ALL ELECTRICAL COMPONENTS SHALL BE RETURNED TO SERVICE WITH THEIR CORRESPONDING PAVEMENT AREAS.
  - D. DISTURBED AREAS OUTSIDE PAVED TEMPORARY TRANSITION PAVEMENTS SHALL BE GRADED IN GENERAL CONFORMANCE WITH THE GRADING PLAN SHEET REQUIREMENTS AND VEGETATED IN GENERAL CONFORMANCE WITH THE SWPPP PLAN SHEET REQUIREMENTS.
  - E. THEY ARE IN ACCORDANCE WITH DETAIL 7A-C03.15.
3. TRANSITION PAVEMENT AREAS WILL BE REMOVED IN A SUBSEQUENT PHASE AND REPLACED WITH A PERMANENT PAVEMENT SECTION.







**LEGEND**

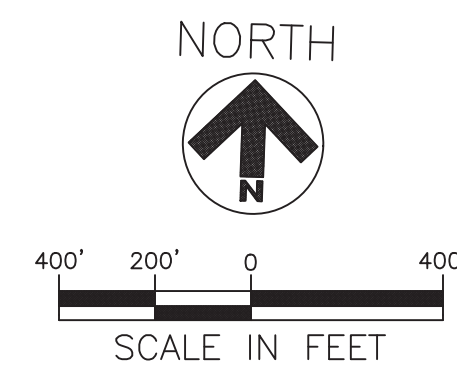
- PAVEMENT CONSTRUCTED THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- TABLE LOCATION POINT
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS

**PHASE 6 MOVEMENT NOTES**

1. SEE PLAN SHEET G06.03.1 AND G06.03.2 FOR PROPOSED HAUL ROUTE.
2. THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 6:
  - A. TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) FROM THE WEST SIDE OF TAXIWAY NR TO THE EAST SIDE OF TAXIWAY WB, EXCEPT WHEN SUBJECT TO "MARKER POLE EVACUATION" OPERATIONS AND DURING SUBPHASE 6B CONSTRUCTION OPERATIONS.
  - B. DURING SUBPHASE 6B CONSTRUCTION OPERATIONS (NIGHTTIME OPERATIONS ONLY), TAXIWAY NB WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE WEST SIDE OF TAXIWAY NR TO THE EAST SIDE OF TAXIWAY WB.
  - C. TAXIWAY NA WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE WEST SIDE OF TAXIWAY NR TO THE EAST SIDE OF TAXIWAY WB.
  - D. TAXIWAY NE WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
3. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
4. THE CONTRACTOR SHALL MAKE ALL PERSONNEL AWARE OF "MARKER POLE EVACUATION" OPERATIONS. FLAGMEN AND ALL OTHER CONTRACTOR PERSONNEL SHALL BE ON CONSTANT ALERT TO IDENTIFY ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225).
5. REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

PHASE 6 WORK LIMITS		
POINT #	NORTHING	EASTING
1	13927537.54	3121985.43
2	13927568.93	3122902.63
3	13927100.53	3122917.86
4	13927066.51	3122787.54
5	13927057.70	3122588.42
6	13927056.42	3122548.44
7	13927029.57	3122553.71
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9	13927025.56	3122429.07
10	13927008.57	3122429.62
11	13927007.05	3122382.49
12	13927005.69	3122379.81
13	13927018.36	3122371.32
14	13927042.97	3122314.80
15	13927072.55	3122112.71
16	13927191.74	3121995.09

PHASE 6					
DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
SUBPHASE 6A - 56 CALENDAR DAYS	SUBPHASE 6A - DAY AND NIGHT	RESTRICTIONS --- TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NR TO TAXIWAY WB. CLOSURES	RESTRICTIONS --- DURING SUBPHASE 6A, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NR TO TAXIWAY WB. --- DURING SUBPHASE 6B, TAXIWAY NB RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NF TO TAXIWAY NE. CLOSURES	--- ACROSS TAXIWAY NE, NORTH OF TAXIWAY NB. --- ACROSS TAXIWAY NE, SOUTH OF THE RSA. --- ACROSS TAXIWAY NA, EAST OF TAXIWAY WB. --- ACROSS TAXIWAY NA, WEST OF TAXIWAY NR.	SUBPHASE 3B, SUBPHASES 6A / 6B
SUBPHASE 6B - 23 CALENDAR DAYS	SUBPHASE 6B - NIGHT ONLY	--- TAXIWAY NA CLOSED TAXIWAY NR TO TAXIWAY WB. --- TAXIWAY NE CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.	--- TAXIWAY NA CLOSED TAXIWAY NR TO TAXIWAY WB. --- TAXIWAY NE CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.		



ISSUED FOR BID

PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1" = 400'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donaj Pahmed*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.





REVISIONS

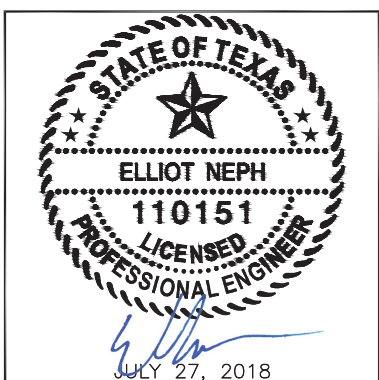
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

PHASING PLAN - PHASE 6  
 (2 OF 2)

ISSUED FOR BID

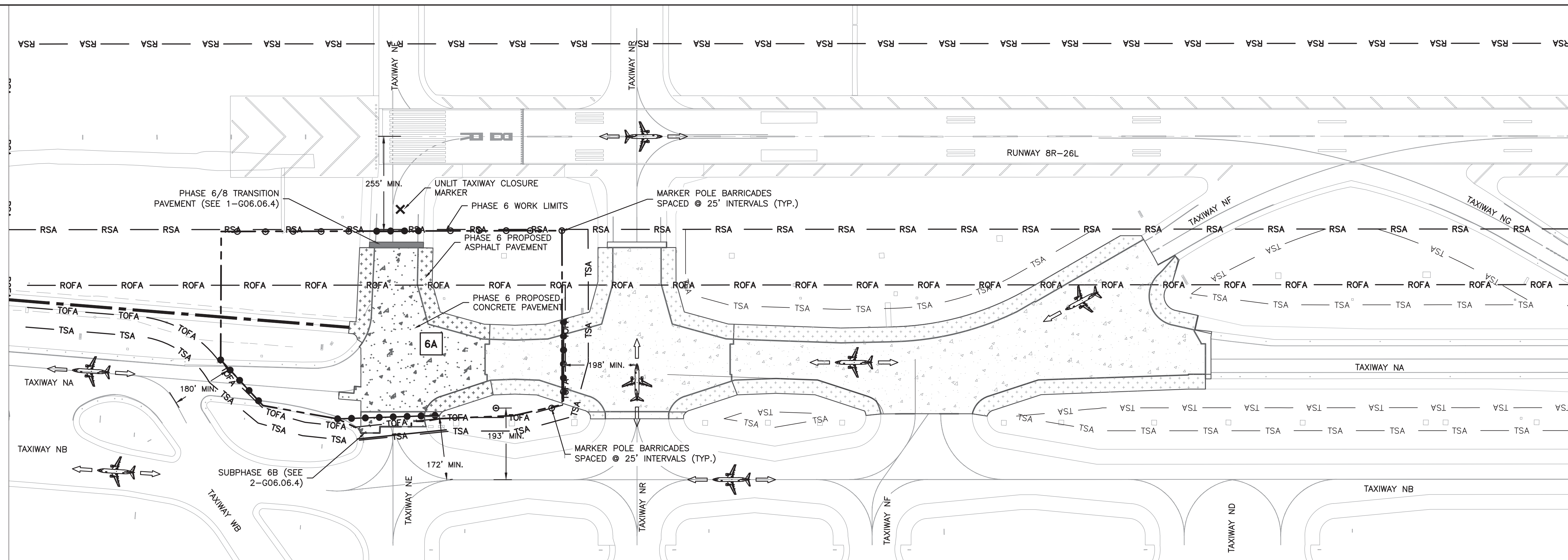
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DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	APPROVED BY:	DATE:
	<i>Davej Rahmel</i>	
	HOUSTON AIRPORT SYSTEMS	AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

G06.06.2



**LEGEND**

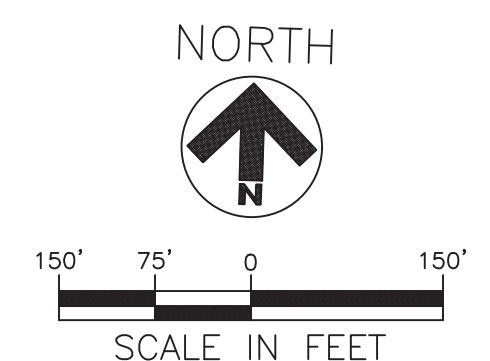
- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT PAVEMENT SHOULDER COMPLETED IN PREVIOUS PHASES
- TRANSITION PAVEMENT THIS PHASE
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- TSA PHASE 6 TAXIWAY SAFETY AREA
- TOFA PHASE 6 TAXIWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- ROFA RUNWAY OBJECT FREE AREA

**PHASE 6 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

1. PHASE 6 MAY NOT COMMENCE UNTIL THE PHASE 5 WORK AREA IS OPENED TO ALL AIRCRAFT TRAFFIC.
2. ALL WORK IN SUBPHASE 6A MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS. THE CONTRACTOR WILL BE ALLOWED 56 CALENDAR DAYS TO COMPLETE SUBPHASE 6A.
3. SUBPHASE 6B SHALL BE COMPLETED CONCURRENTLY WITH SUBPHASE 6A. HOWEVER, SUBPHASE 6B SHALL BE LIMITED TO NIGHTTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 23 CALENDAR DAYS TO COMPLETE SUBPHASE 6B.
4. PHASE 6 MUST BE COMPLETED PRIOR TO THE COMMENCEMENT OF PHASE 8, UNLESS OTHERWISE APPROVED BY AIRPORT OPERATIONS.
5. CONSTRUCTION TASKS FOR PHASE 6 ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.06.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 6.
    - LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
      - i. ACROSS TAXIWAY NE, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
 

DURING SUBPHASE 6B, THESE BARRICADES WILL BE TEMPORARILY RELOCATED TO APPROXIMATELY 10 FEET SOUTH OF THE SUBPHASE 6B PAVING LIMITS.
      - ii. ACROSS TAXIWAY NE, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
      - iii. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY WB TOFA, APPROXIMATELY 180 FEET FROM THE TAXIWAY WB CENTERLINE.
      - iv. ACROSS TAXIWAY NA, WEST OF THE TAXIWAY NR TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NR CENTERLINE.

MARKER POLE BARRICADES SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 25 FEET AT THE FOLLOWING LOCATIONS:
- C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 6.
- D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBSCURED THROUGHOUT THE DURATION OF PHASE 6.
- E. INSTALL UNLIT TAXIWAY CLOSURE MARKER AT THE ENTRANCE OF TAXIWAY NE FROM RUNWAY 8R - 26L.
- F. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.06.3.
- G. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
- H. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
- I. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
- J. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
- K. DEWATER EXCAVATION AREAS, AS APPLICABLE.
- L. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
- M. INSTALL NEW ELECTRICAL COMPONENTS.
- N. CONSTRUCT NEW PAVEMENT SECTION.
- O. CONSTRUCT TEMPORARY PHASE TRANSITION PAVEMENT. THIS PAVEMENT TRANSITION MAY NOT BE REQUIRED IF THERE IS NO DURATION GAP BETWEEN THE COMPLETION OF PHASE 6 AND THE COMMENCEMENT OF PHASE 8. CONFIRM NECESSITY OF PAVEMENT TRANSITION WITH THE OWNER'S REPRESENTATIVE.
- P. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NE AND TAXIWAY NR NOT REQUIRED FOR USE BY THE CONTRACTOR DURING PHASE 8 CONSTRUCTION OPERATIONS.
- Q. PERFORM FINISH GRADING ACTIVITIES.
- R. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
- S. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED.
- T. INSTALL END OF PHASE PAVEMENT MARKINGS. SEE SHEET G06.06.3.
- U. PERFORM A FINAL CLEANING OF THE WORK AREA.
- V. REMOVE UNLIT TAXIWAY CLOSURE MARKER.
- W. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
- X. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
- Y. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
- Z. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.

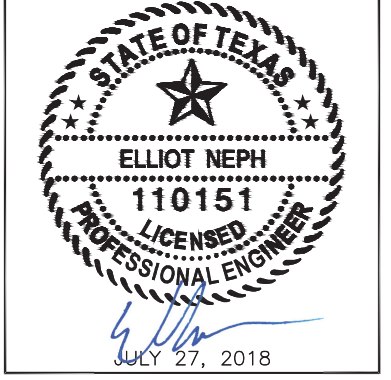




REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 6  
 MARKINGS**

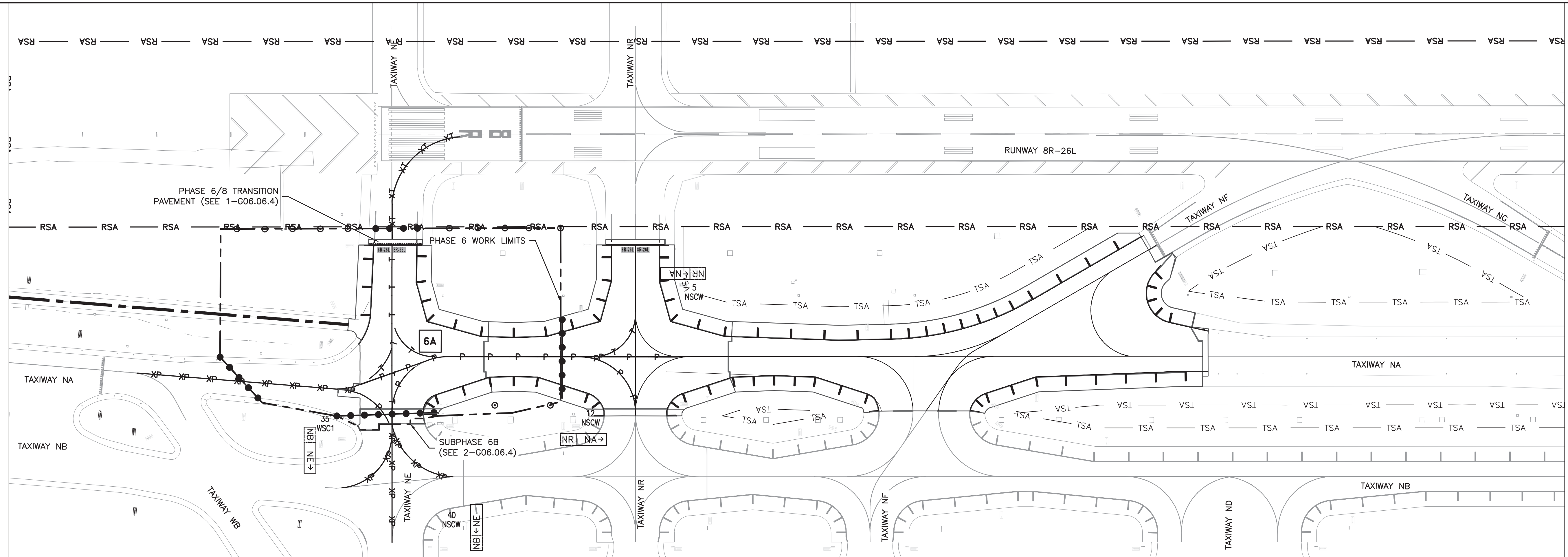
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PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Pahnd* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**G06.06.3**

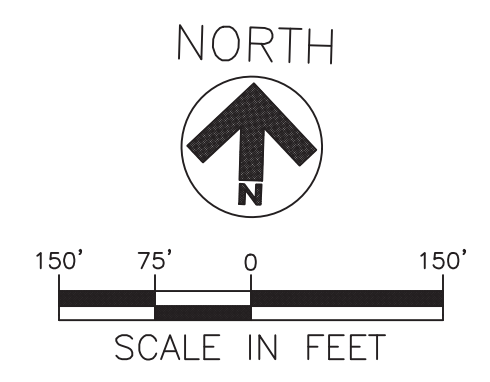


**LEGEND**

- # PHASE INDICATOR
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RSA — RUNWAY SAFETY AREA
- X — X @ MARKING REMOVAL
- XT — XT @ MARKING REMOVAL, REPLACE WITH TEMPORARY @ INSTALLED THIS PHASE
- XP — XP @ MARKING REMOVAL, REPLACE WITH PERMANENT @ INSTALLED THIS PHASE
- P — P PERMANENT @ INSTALLED THIS PHASE
- T — T TEMPORARY @ INSTALLED THIS PHASE
- 12 NCSW SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- NA ND SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- 8L-26R LOCATION PANEL (L-858L)
- DESTINATION PANEL (L-858Y) MANDATORY INSTRUCTION PANEL (L-858R)

**PHASING PLAN MARKING NOTES**

- ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
- ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (COB SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
  - ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).
  - AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S), REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.
  - THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-620, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
  - TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.
  - TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.
  - TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
  - THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
  - ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
  - SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.





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 TBPE Registration No. F-3401

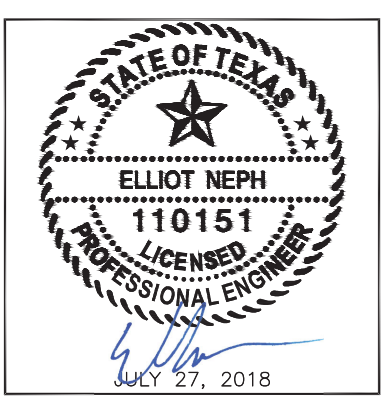
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 6  
 TRANSITIONS AND TIE-INS**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1" = 20'
DATE:	JULY 27, 2018



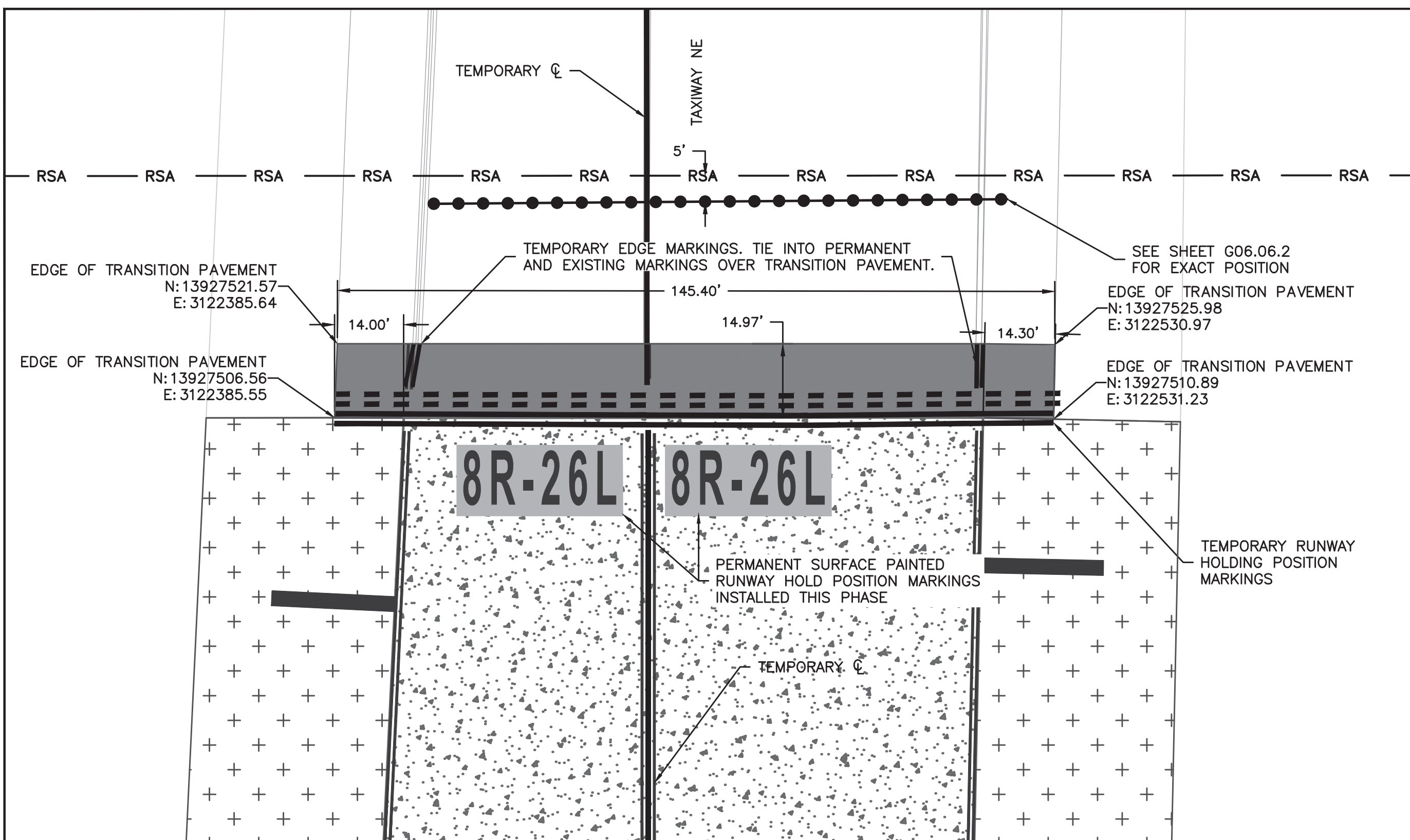
DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**G06.06.4**



**2**  
 G06.06.4 **SUBPHASE 6B - TAXIWAY NE**  
 SCALE: 1" = 20'



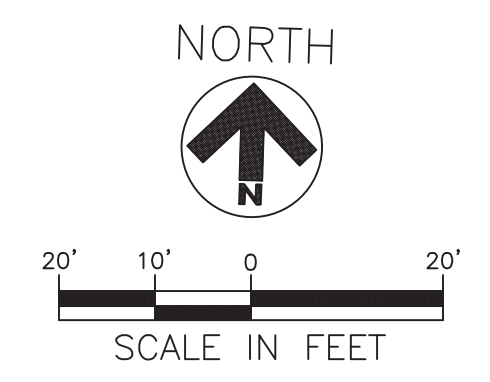
**1**  
 G06.06.4 **PHASE 6/8 - TAXIWAY NE TRANSITION PAVEMENT**  
 SCALE: 1" = 20'

**LEGEND**

- CONCRETE PAVEMENT COMPLETED CONCURRENTLY
- ASPHALT SHOULDER PAVEMENT COMPLETED CONCURRENTLY
- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- TRANSITION PAVEMENT THIS PHASE
- LOW PROFILE BARRICADE (EXACT POSITION)
- TAXIWAY SAFETY AREA
- TAXIWAY OBJECT FREE AREA
- RUNWAY SAFETY AREA
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE

**NOTES**

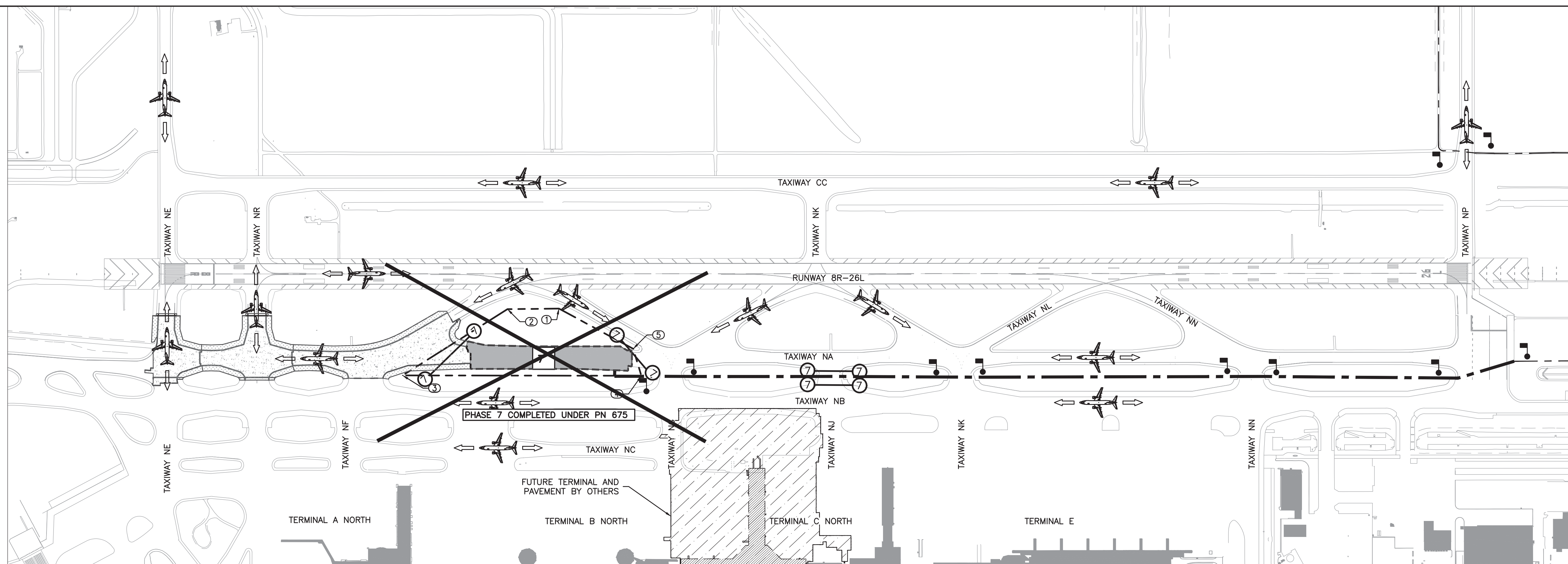
1. REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.
2. TEMPORARY TRANSITION PAVEMENTS SHALL BE INSTALLED IN ORDER TO RETURN A TAXIWAY SEGMENT TO SERVICE BETWEEN THIS PHASE AND A SUBSEQUENT PHASE. TEMPORARY TRANSITION PAVEMENTS SHALL BE CONSTRUCTED SUCH THAT:
  - A. A SMOOTH TRANSITION WITH RESPECT TO TIE-IN GRADES IS PROVIDED BETWEEN REMAINING EXISTING PAVEMENT AND NEW PAVEMENT INSTALLED IN THIS PHASE.
  - B. PAVEMENT MARKINGS ARE INSTALLED THROUGH TRANSITION PAVEMENT AREAS TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE CONTINUOUS, NON-BROKEN MARKINGS.
  - C. ALL ELECTRICAL COMPONENTS SHALL BE RETURNED TO SERVICE WITH THEIR CORRESPONDING PAVEMENT AREAS.
  - D. DISTURBED AREAS OUTSIDE PAVED TEMPORARY TRANSITION PAVEMENTS SHALL BE GRADED IN GENERAL CONFORMANCE WITH THE GRADING PLAN SHEET REQUIREMENTS AND VEGETATED IN GENERAL CONFORMANCE WITH THE SWPPP PLAN SHEET REQUIREMENTS.
  - E. THEY ARE IN ACCORDANCE WITH DETAIL 7A-C03.15.
3. TRANSITION PAVEMENT AREAS WILL BE REMOVED IN A SUBSEQUENT PHASE AND REPLACED WITH A PERMANENT PAVEMENT SECTION.








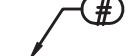







REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 7**  
 (1 OF 2)



**LEGEND**

-  PAVEMENT CONSTRUCTED THIS PHASE
-  CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
-  ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
-  AIRCRAFT TAXI ROUTE DURING PHASE
-  FLAGMAN
-  TABLE LOCATION POINT
-  PHASE INDICATOR
-  UNLIT TAXIWAY CLOSURE MARKER
-  APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
-  HAUL ROUTE
-  PHASE LIMITS

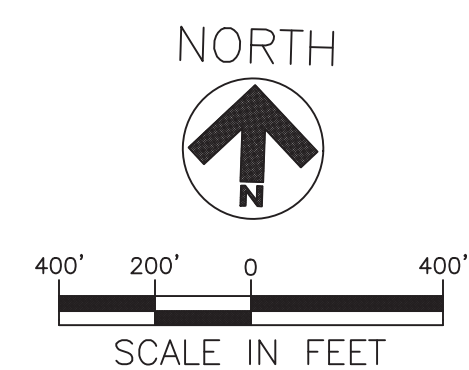
**PHASE 7 MOVEMENT NOTES**

1. SEE PLAN SHEET G06.03.1 AND G06.03.3-G06.03.7 FOR PROPOSED HAUL ROUTE.
2. THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 7:
  - A. TAXIWAY NA WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE WEST SIDE OF TAXIWAY NG TO THE EAST SIDE OF TAXIWAY NP.
  - B. TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-B) FROM THE EAST SIDE OF TAXIWAY NF TO THE EAST SIDE OF TAXIWAY NP, EXCEPT WHEN SUBJECT TO "MARKER POLE EVACUATION" OPERATIONS.
  - C. TAXIWAY NA WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE EAST SIDE OF TAXIWAY NF TO THE WEST SIDE OF TAXIWAY NG.
  - D. TAXIWAY NJ WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE NORTH SIDE OF TAXIWAY NB TO THE SOUTH SIDE OF TAXIWAY NA.
3. THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSINGS WITH TAXIWAYS NP, NN, NK, AND NG, OR AS DIRECTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN PHASE 7. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
4. THE CONTRACTOR SHALL MAKE ALL PERSONNEL AWARE OF "MARKER POLE EVACUATION" OPERATIONS. FLAGMEN AND ALL OTHER CONTRACTOR PERSONNEL SHALL BE ON CONSTANT ALERT TO IDENTIFY ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225).
5. REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

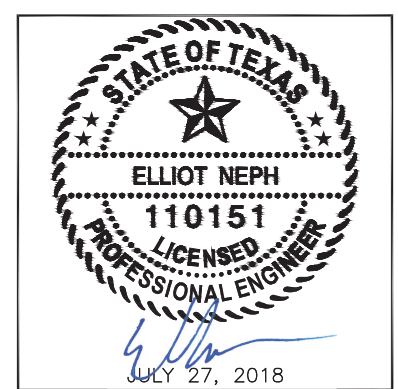
**NOTE: PHASE 4 COMPLETED UNDER PN 675**

PHASE 7 WORK LIMITS		
POINT #	NORTHING	EASTING
1	13927649.15	3125267.06
2	13927633.41	3124898.84
3	13927135.63	3124163.06
4	13927187.12	3125872.73
5	13927378.33	3125808.01

PHASE 7					
DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
56 CALENDAR DAYS	DAY AND NIGHT	RESTRICTIONS --- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NG TO TAXIWAY NP. --- TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-B) TAXIWAY NF TO TAXIWAY NP. CLOSURES --- TAXIWAY NA CLOSED TAXIWAY NF TO TAXIWAY NG. --- TAXIWAY NJ CLOSED TAXIWAY NA TO TAXIWAY NB.	RESTRICTIONS --- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NG TO TAXIWAY NP. --- TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-B) TAXIWAY NF TO TAXIWAY NP. CLOSURES --- TAXIWAY NA CLOSED TAXIWAY NF TO TAXIWAY NG. --- TAXIWAY NJ CLOSED TAXIWAY NB TO TAXIWAY NA.	--- ACROSS TAXIWAY NA, EAST OF TAXIWAY NF. --- ACROSS TAXIWAY NA, WEST OF TAXIWAY NG. --- ACROSS TAXIWAY NJ, NORTH OF TAXIWAY NB. --- ACROSS TAXIWAY NJ, SOUTH OF TAXIWAY NA.	N/A



ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1" = 400'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Davej Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



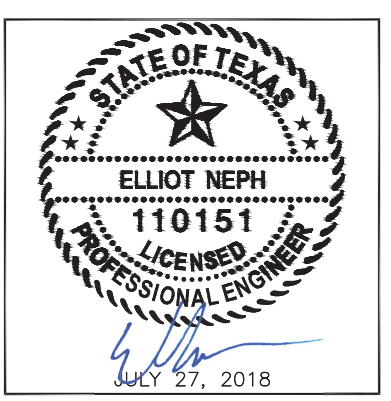




NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 7  
 MARKINGS**

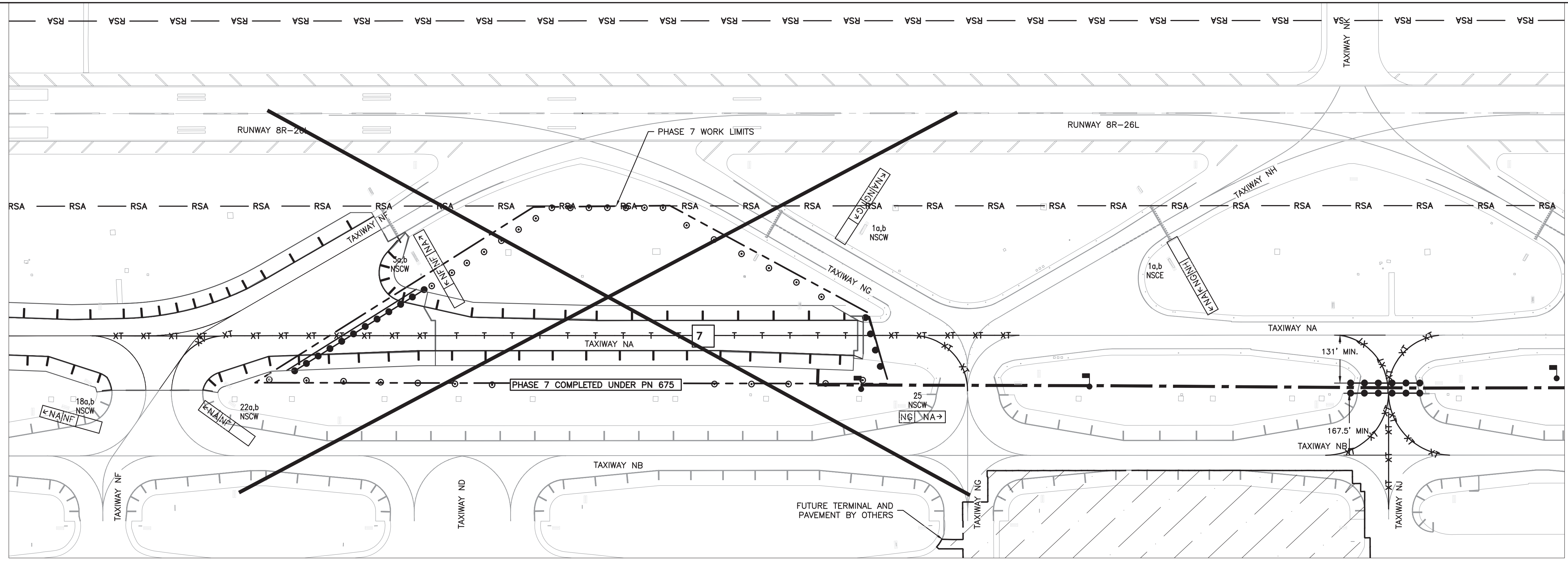
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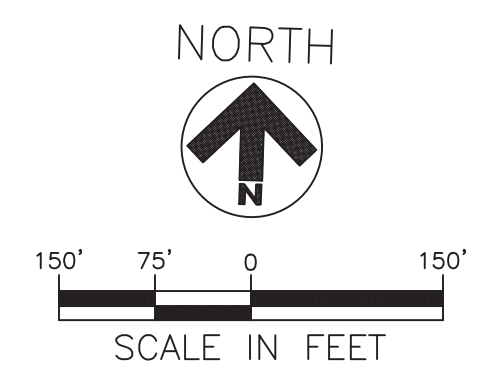
DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Dorey Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**G06.07.3**



**NOTE: PHASE 4  
 COMPLETED  
 UNDER PN 675**



**LEGEND**

- # PHASE INDICATOR
- o MARKER POLE BARRICADE
- FLAGMAN
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RSA RUNWAY SAFETY AREA
- ⊕ MARKING REMOVAL
- XT XT ⊕ MARKING REMOVAL, REPLACE WITH TEMPORARY ⊕ INSTALLED THIS PHASE
- XP XP ⊕ MARKING REMOVAL, REPLACE WITH PERMANENT ⊕ INSTALLED THIS PHASE
- P PERMANENT ⊕ INSTALLED THIS PHASE
- T TEMPORARY ⊕ INSTALLED THIS PHASE
- 12 SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- NA ND SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- 8L-26R LOCATION PANEL (L-858L)
- MANDATORY INSTRUCTION PANEL (L-858Y)
- MANDATORY INSTRUCTION PANEL (L-858R)

**PHASING PLAN MARKING NOTES**

- ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
- ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (COB SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
  - A. ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).
  - AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S), REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.
  - THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-620, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
  - A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.
  - B. TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.
  - C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
- THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.



REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 7  
 TRANSITIONS AND TIE-INS**

ISSUED FOR BID

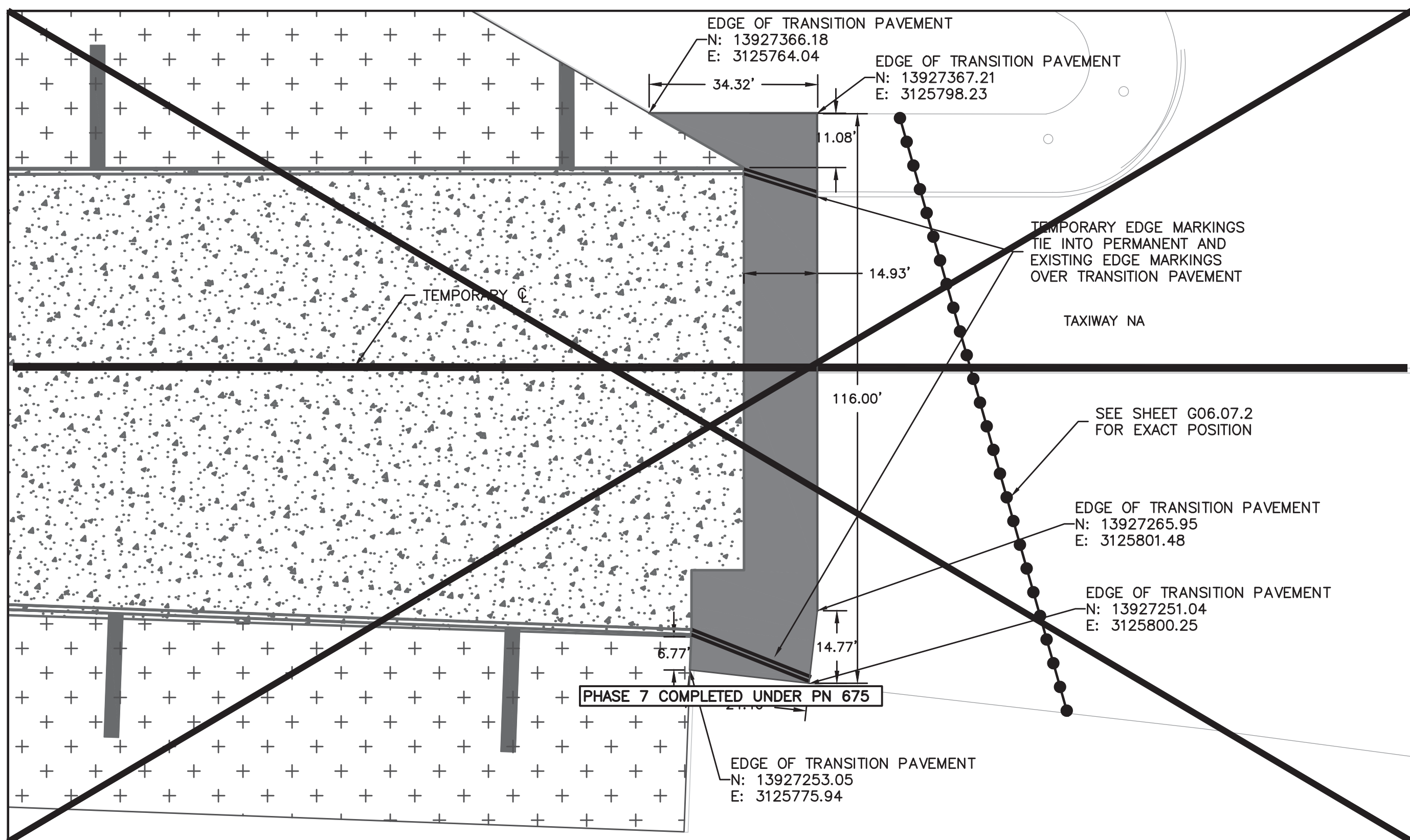
PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1" = 20'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

G06.07.4



1  
 G06.07.4 PHASE 7/9A TAXIWAY NA TRANSITION PAVEMENT  
 SCALE: 1" = 20'

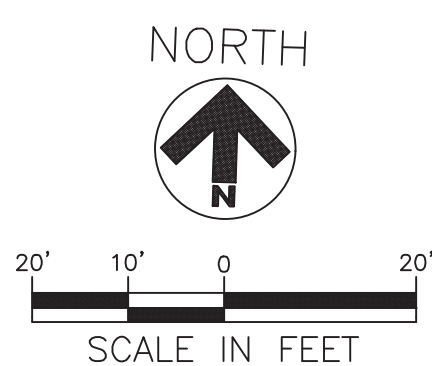
**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- TRANSITION PAVEMENT THIS PHASE
- LOW PROFILE BARRICADE (EXACT POSITION)
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE

**NOTES**

1. REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.
2. TEMPORARY TRANSITION PAVEMENTS SHALL BE INSTALLED IN ORDER TO RETURN A TAXIWAY SEGMENT TO SERVICE BETWEEN THIS PHASE AND A SUBSEQUENT PHASE. TEMPORARY TRANSITION PAVEMENTS SHALL BE CONSTRUCTED SUCH THAT:
  - A. A SMOOTH TRANSITION WITH RESPECT TO TIE-IN GRADES IS PROVIDED BETWEEN REMAINING EXISTING PAVEMENT AND NEW PAVEMENT INSTALLED IN THIS PHASE.
  - B. PAVEMENT MARKINGS ARE INSTALLED THROUGH TRANSITION PAVEMENT AREAS TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE CONTINUOUS, NON-BROKEN MARKINGS.
  - C. ALL ELECTRICAL COMPONENTS SHALL BE RETURNED TO SERVICE WITH THEIR CORRESPONDING PAVEMENT AREAS.
  - D. DISTURBED AREAS OUTSIDE PAVED TEMPORARY TRANSITION PAVEMENTS SHALL BE GRADED IN GENERAL CONFORMANCE WITH THE GRADING PLAN SHEET REQUIREMENTS AND VEGETATED IN GENERAL CONFORMANCE WITH THE SWPPP PLAN SHEET REQUIREMENTS.
  - E. THEY ARE IN ACCORDANCE WITH DETAIL 7A-C03.15.
3. TRANSITION PAVEMENT AREAS WILL BE REMOVED IN A SUBSEQUENT PHASE AND REPLACED WITH A PERMANENT PAVEMENT SECTION.

NOTE: PHASE 4  
 COMPLETED  
 UNDER PN 675





REVISIONS

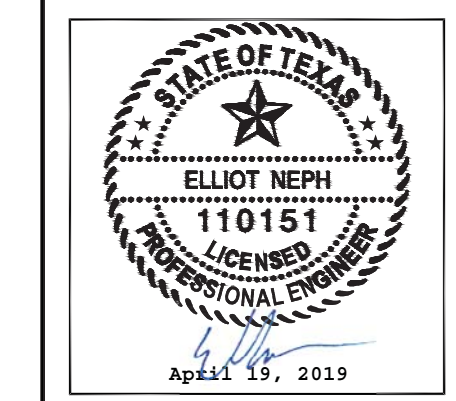
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - PHASE 8 (1 OF 4)**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1" = 400'
DATE:	April 19, 2019

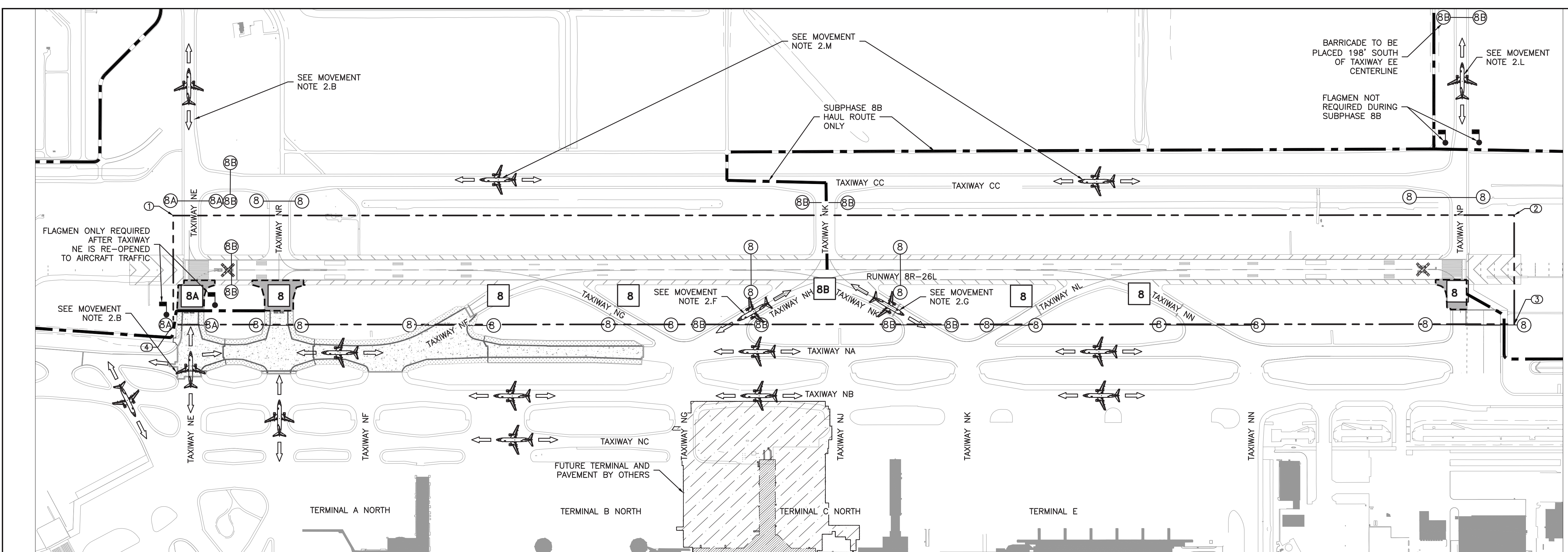


DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:

HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

G06.08.1



**PHASE 8 MOVEMENT NOTES**

- SEE PLAN SHEET G06.03.1 FOR PROPOSED HAUL ROUTE.
- THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 8:
  - RUNWAY 8R - 26L WILL BE CLOSED.
  - TAXIWAY NE WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE NORTH SIDE OF TAXIWAY NA TO THE SOUTH SIDE OF TAXIWAY CC. THIS TAXIWAY CLOSURE IS REQUIRED FOR SUBPHASE 8A ONLY AND SHALL BE RETURNED TO SERVICE AS SOON AS POSSIBLE FOLLOWING THE COMMENCEMENT OF PHASE 8.
  - TAXIWAY NR WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE NORTH SIDE OF TAXIWAY NA TO THE SOUTH SIDE OF TAXIWAY CC.
  - TAXIWAY NF WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE NORTH SIDE OF TAXIWAY NA TO RUNWAY 8R - 26L.
  - TAXIWAY NG WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE NORTH SIDE OF TAXIWAY NA TO RUNWAY 8R - 26L.
  - TAXIWAY NH WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE NORTH SIDE OF TAXIWAY NA TO RUNWAY 8R - 26L. THIS TAXIWAY CLOSURE IS REQUIRED FOR SUBPHASE 8B ONLY AND SHALL NOT BE CLOSED TO AIRCRAFT TRAFFIC UNTIL TAXIWAY NE IS RE-OPENED TO AIRCRAFT TRAFFIC.
  - TAXIWAY NN WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE NORTH SIDE OF TAXIWAY NA TO RUNWAY 8R - 26L.
  - DURING SUBPHASE 8A, TAXIWAY NP WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE NORTH SIDE OF TAXIWAY NA TO THE SOUTH SIDE OF TAXIWAY CC.
  - DURING SUBPHASE 8B, TAXIWAY NP WILL BE CLOSED FROM THE NORTH SIDE OF TAXIWAY NA TO THE SOUTH SIDE OF TAXIWAY EE.
  - DURING SUBPHASE 8B, TAXIWAY CC WILL BE CLOSED.
- THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSINGS WITH ACTIVE TAXIWAYS, OR AS OTHERWISE DIRECTED BY AIRPORT OPERATIONS. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
- REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

**PHASE 8 GENERAL NOTES**

- THE PHASE 8 RUNWAY CLOSURE SHALL BE COORDINATED WITH HAS.
- THE INTENT OF PHASE 8 IS TO COMPLETE EACH WORK AREA AS QUICKLY AS POSSIBLE, WITH PRIORITY BEING THE COMPLETION OF SUBPHASE 8A, TAXIWAY NE, THEN TAXIWAY NP, THEN TAXIWAY NR. THE COMMENCEMENT OF SUBPHASE 8A SHALL COINCIDE WITH THE COMMENCEMENT OF THE OVERALL PHASE 8. SUBPHASE 8A AND SUBPHASE 8B SHALL NOT BE COMPLETED CONCURRENTLY. SUBPHASE 8B SHALL NOT COMMENCE UNTIL THE SUBPHASE 8A WORK AREA IS OPENED TO ALL AIRCRAFT TRAFFIC.
- ALL WORK IN PHASE 8 MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS. THE CONTRACTOR WILL BE ALLOWED 60 CALENDAR DAYS TO COMPLETE PHASE 8. SUBPHASE 8B SHALL BE LIMITED TO NO MORE THAN FOUR (4) DAYS. THE CONTRACTOR IS EXPECTED TO WORK MULTIPLE SHIFTS TO PROVIDE SEVEN (7) DAYS PER WEEK, 20 HOURS PER DAY PRODUCTION WHEN POSSIBLE / PRACTICAL.
- PHASE 8 SHALL CONSIST OF THE FOLLOWING CONSTRUCTION IMPROVEMENTS FOR EACH TAXIWAY INSIDE THE RUNWAY 8R - 26L RSA:
  - TAXIWAY NE (SUBPHASE 8A) - FULL RECONSTRUCTION.
  - TAXIWAY NR - FULL RECONSTRUCTION.
  - TAXIWAY NF - ELECTRICAL IMPROVEMENTS ONLY (E03 SERIES).
  - TAXIWAY NG - ELECTRICAL IMPROVEMENTS ONLY (E03 SERIES).
  - TAXIWAY NH (SUBPHASE 8B) - ELECTRICAL IMPROVEMENTS ONLY (E03 SERIES).
  - TAXIWAY NK (SUBPHASE 8B) - ELECTRICAL IMPROVEMENTS ONLY (E03 SERIES).
  - TAXIWAY NL - ELECTRICAL IMPROVEMENTS ONLY (E03 SERIES).
  - TAXIWAY NN - ELECTRICAL IMPROVEMENTS ONLY (E03 SERIES).
  - TAXIWAY NP - FULL RECONSTRUCTION.

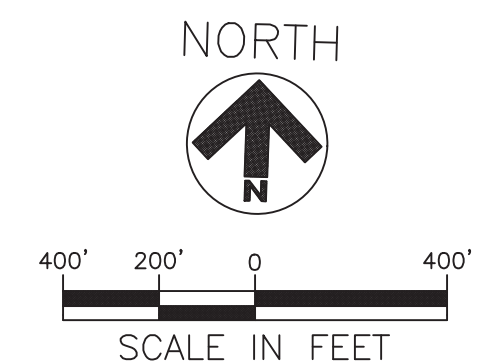
**LEGEND**

- PAVEMENT CONSTRUCTED THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- TABLE LOCATION POINT
- PHASE INDICATOR
- LIGHTED RUNWAY CLOSURE MARKER
- APPROXIMATE BARRICADE LOCATION (SEE FOLLOWING SHEETS FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS

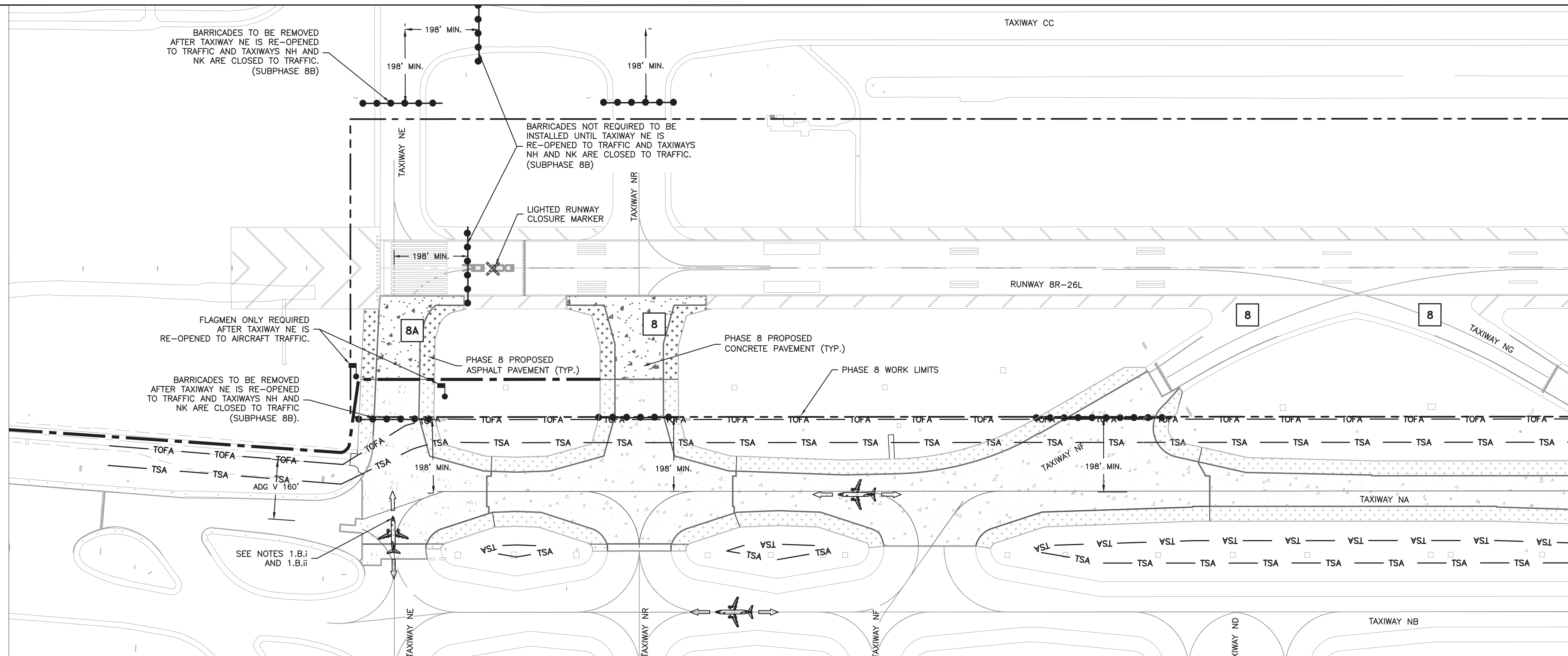
**PHASE 8 WORK LIMITS**

POINT #	NORTHING	EASTING
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2	13928517.94	3132134.65
3	13927718.35	3132160.36
4	13927403.91	3122334.70

PHASE 8		DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
DURATION (DAYS)	WORK PERIOD	RESTRICTIONS --- N/A CLOSURES --- RUNWAY 8R - 26L CLOSED. --- TAXIWAY NE CLOSED TAXIWAY NA TO TAXIWAY CC. THIS TAXIWAY CLOSURE REQUIRED FOR SUBPHASE 8A ONLY AND SHALL BE RETURNED TO SERVICE AS SOON AS POSSIBLE. --- TAXIWAY NR CLOSED TAXIWAY NA TO TAXIWAY CC. --- TAXIWAY NF CLOSED TO AIRCRAFT TRAFFIC TAXIWAY NA TO RUNWAY 8R - 26L. --- TAXIWAY NG CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. --- TAXIWAY NH CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. THIS TAXIWAY CLOSURE REQUIRED FOR SUBPHASE 8A ONLY AND SHALL NOT BE CLOSED UNTIL TAXIWAY NE IS RE-OPENED. --- TAXIWAY NK CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. THIS TAXIWAY CLOSURE REQUIRED FOR SUBPHASE 8A ONLY AND SHALL NOT BE CLOSED UNTIL TAXIWAY NE IS RE-OPENED. --- TAXIWAY NL CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. --- TAXIWAY NN CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. --- DURING SUBPHASE 8A, TAXIWAY NP CLOSED TAXIWAY NA TO TAXIWAY CC. --- DURING SUBPHASE 8B, TAXIWAY NP CLOSED TAXIWAY NA TO TAXIWAY EE. --- DURING SUBPHASE 8B, TAXIWAY CC CLOSED.	RESTRICTIONS --- N/A CLOSURES --- RUNWAY 8R - 26L CLOSED. --- TAXIWAY NE CLOSED TAXIWAY NA TO TAXIWAY CC. THIS TAXIWAY CLOSURE REQUIRED FOR SUBPHASE 8A ONLY AND SHALL BE RETURNED TO SERVICE AS SOON AS POSSIBLE. --- TAXIWAY NR CLOSED TAXIWAY NA TO TAXIWAY CC. --- TAXIWAY NF CLOSED TO AIRCRAFT TRAFFIC TAXIWAY NA TO RUNWAY 8R - 26L. --- TAXIWAY NG CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. --- TAXIWAY NH CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. THIS TAXIWAY CLOSURE REQUIRED FOR SUBPHASE 8A ONLY AND SHALL NOT BE CLOSED UNTIL TAXIWAY NE IS RE-OPENED. --- TAXIWAY NK CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. THIS TAXIWAY CLOSURE REQUIRED FOR SUBPHASE 8A ONLY AND SHALL NOT BE CLOSED UNTIL TAXIWAY NE IS RE-OPENED. --- TAXIWAY NL CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. --- TAXIWAY NN CLOSED TAXIWAY NA TO RUNWAY 8R - 26L. --- DURING SUBPHASE 8A, TAXIWAY NP CLOSED TAXIWAY NA TO TAXIWAY CC. --- DURING SUBPHASE 8B, TAXIWAY NP CLOSED TAXIWAY NA TO TAXIWAY EE. --- DURING SUBPHASE 8B, TAXIWAY CC CLOSED.	--- ACROSS TAXIWAY NE, NORTH OF TAXIWAY NA. THESE BARRICADES REMOVED AFTER TAXIWAY NE IS RE-OPENED. --- ACROSS TAXIWAY NE, SOUTH OF TAXIWAY CC. THESE BARRICADES REMOVED AFTER TAXIWAY NE IS RE-OPENED. --- ACROSS TAXIWAY NR, NORTH OF TAXIWAY NA. --- ACROSS TAXIWAY NR, SOUTH OF TAXIWAY CC. --- ACROSS TAXIWAY NF, NORTH OF TAXIWAY NA. --- ACROSS TAXIWAY NG, NORTH OF TAXIWAY NA. --- ACROSS TAXIWAY NH, NORTH OF TAXIWAY NA. THESE BARRICADES NOT INSTALLED UNTIL TAXIWAY NE IS RE-OPENED AND TAXIWAYS NH AND NK ARE CLOSED. --- ACROSS TAXIWAY NK, NORTH OF TAXIWAY NA. THESE BARRICADES NOT INSTALLED UNTIL TAXIWAY NE IS RE-OPENED AND TAXIWAYS NH AND NK ARE CLOSED. --- ACROSS TAXIWAY NN, NORTH OF TAXIWAY NA. --- DURING SUBPHASE 8A, ACROSS TAXIWAY NP, SOUTH OF TAXIWAY CC. THESE BARRICADES TO BE RELOCATED SOUTH OF TAXIWAY EE DURING SUBPHASE 8B. --- ACROSS TAXIWAY NP AND RUNUP PAD, NORTH OF TAXIWAY NA. --- ACROSS RUNWAY 8R - 26L, WEST OF TAXIWAY NH. THESE BARRICADES REMOVED AFTER TAXIWAY NE IS RE-OPENED. --- ACROSS RUNWAY 8R - 26L, EAST OF TAXIWAY NK. THESE BARRICADES REMOVED AFTER TAXIWAY NE IS RE-OPENED. --- ACROSS RUNWAY 8R - 26L, EAST OF TAXIWAY NE. THESE BARRICADES NOT INSTALLED UNTIL TAXIWAY NE IS RE-OPENED AND TAXIWAYS NH AND NK ARE CLOSED.	N/A





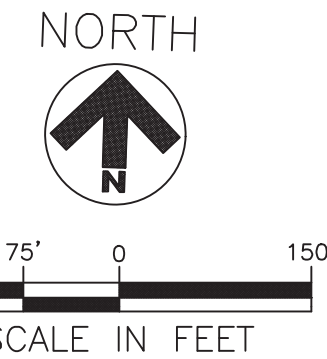


**PHASE 8 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

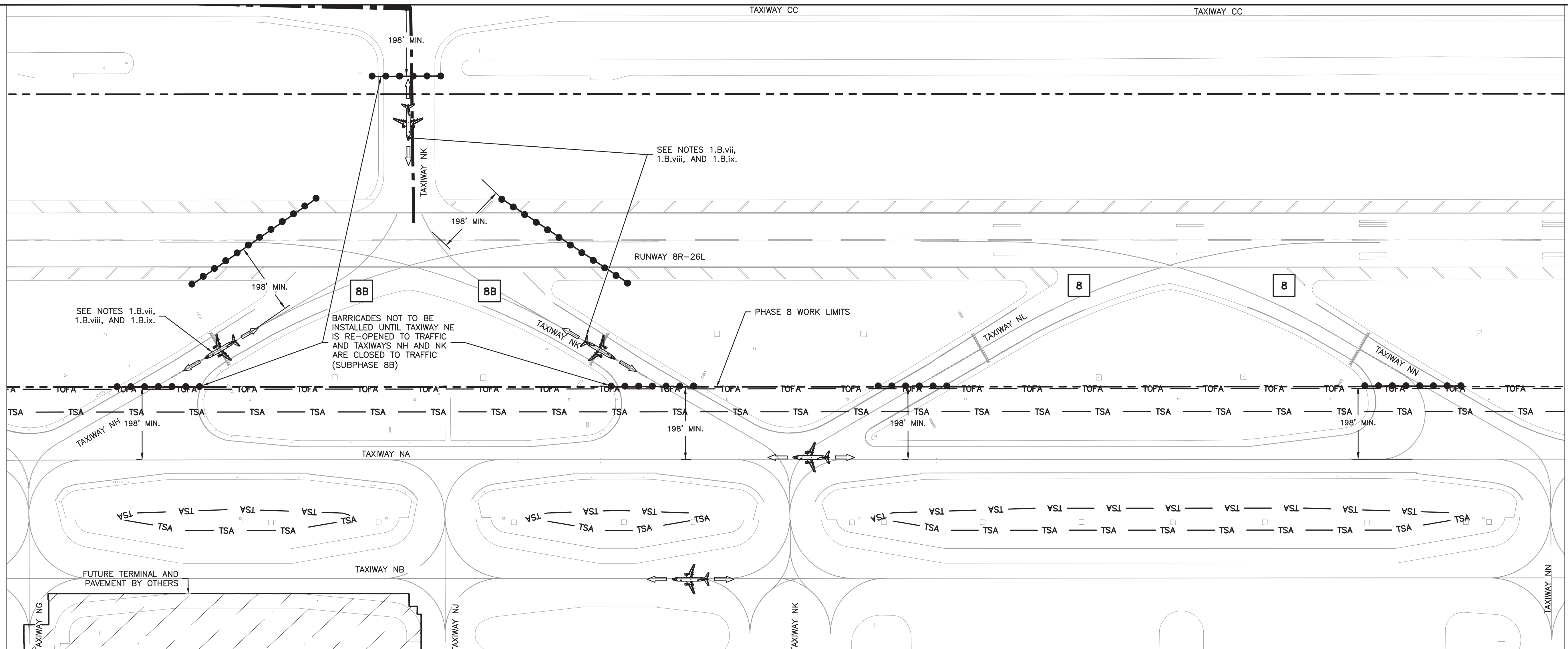
**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- PHASE INDICATOR
- LIGHTED RUNWAY CLOSURE MARKER
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- PHASE 8 TAXIWAY SAFETY AREA
- PHASE 8 TAXIWAY OBJECT FREE AREA

1. CONSTRUCTION TASKS FOR EACH CLOSED PAVEMENT AREA OF PHASE 8, AS APPLICABLE, ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.08.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES DENOTED WITH AN "8A" OR "8B" (SEE SHEET G06.08.1) MARKER SHALL BE INSTALLED OR REMOVED IN ACCORDANCE WITH THE COMMENCEMENT OR COMPLETION OF SUBPHASES 8A AND 8B, RESPECTIVELY. BARRICADES DENOTED WITHOUT AN "8A" OR "8B" MARKER SHALL BE INSTALLED AT THE COMMENCEMENT OF PHASE 8, TO REMAIN THROUGHOUT THE DURATION OF PHASE 8.
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    - iv. ACROSS TAXIWAY NR, SOUTH OF THE TAXIWAY CC TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY CC CENTERLINE.
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    - xiv. ACROSS RUNWAY 8R - 26L, WEST OF THE TAXIWAY NH TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NH CENTERLINE.
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  - C. TURN OFF THE APPROPRIATE NAVAIDS (SEE ELECTRICAL PLANS FOR REQUIREMENTS). THE NAVAIDS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 8.
  - D. DE-ENERGIZE RUNWAY AND TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF THE ASSOCIATED PAVEMENT CLOSURE.
  - E. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBSCURED THROUGHOUT THE DURATION OF THE ASSOCIATED PAVEMENT CLOSURE.
  - F. INSTALL LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.
  - G. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEETS G06.08.5, G06.08.6 AND G06.08.7.
  - H. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
  - I. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
  - J. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT, INCLUDING TRANSITION PAVEMENTS CONSTRUCTED IN PHASES 5 AND 6. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
  - K. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL AND DRAINAGE COMPONENTS.
  - L. DEWATER EXCAVATION AREAS, AS APPLICABLE.
  - M. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
  - N. INSTALL NEW DRAINAGE COMPONENTS.
  - O. INSTALL NEW ELECTRICAL COMPONENTS.
  - P. CONSTRUCT NEW PAVEMENT SECTION.
  - Q. CONSTRUCT TEMPORARY PHASE TRANSITION PAVEMENT.
  - R. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NE AND TAXIWAY NR.
  - S. PERFORM FINISH GRADING ACTIVITIES.
  - T. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
  - U. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED.
  - V. INSTALL END OF PHASE PAVEMENT MARKINGS. SEE SHEETS G06.08.5, G06.08.6 AND G06.08.7.
  - W. PERFORM A FINAL CLEANING OF THE WORK AREA.
  - X. REMOVE LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.
  - Y. RE-ENERGIZE RUNWAY AND TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
  - Z. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
  - AA. TURN ON NAVAIDS IN THE WORK AREA.
  - BB. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
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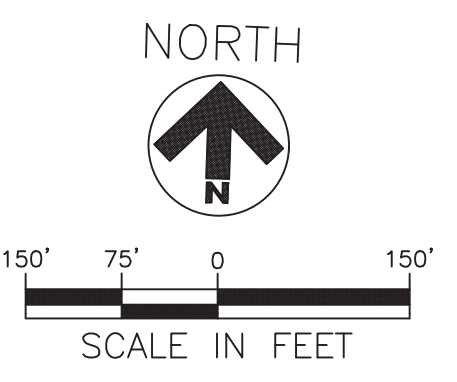


**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
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- PHASE INDICATOR
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- PHASE 8 TAXIWAY SAFETY AREA
- PHASE 8 TAXIWAY OBJECT FREE AREA

**PHASE 8 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

1. CONSTRUCTION TASKS FOR EACH CLOSED PAVEMENT AREA OF PHASE 8, AS APPLICABLE, ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.08.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES DENOTED WITH AN "8A" OR "8B" (SEE SHEET G06.08.1) MARKER SHALL BE INSTALLED OR REMOVED IN ACCORDANCE WITH THE COMMENCEMENT OR COMPLETION OF SUBPHASES 8A AND 8B, RESPECTIVELY. BARRICADES DENOTED WITHOUT AN "8A" OR "8B" MARKER SHALL BE INSTALLED AT THE COMMENCEMENT OF PHASE 8, TO REMAIN THROUGHOUT THE DURATION OF PHASE 8.
    - LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
      - i. ACROSS TAXIWAY NE, NORTH OF THE UNRESTRICTED ADG VI TAXIWAY NA TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NA CENTERLINE. THESE BARRICADES ARE REQUIRED FOR SUBPHASE 8A ONLY AND SHALL BE REMOVED AFTER TAXIWAY NE IS RE-OPENED TO AIRCRAFT TRAFFIC AND TAXIWAYS NH AND NK ARE CLOSED TO TRAFFIC.
      - ii. ACROSS TAXIWAY NE, SOUTH OF THE TAXIWAY CC TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY CC CENTERLINE. THESE BARRICADES ARE REQUIRED FOR SUBPHASE 8A ONLY AND SHALL BE REMOVED AFTER TAXIWAY NE IS RE-OPENED TO AIRCRAFT TRAFFIC AND TAXIWAYS NH AND NK ARE CLOSED TO TRAFFIC.
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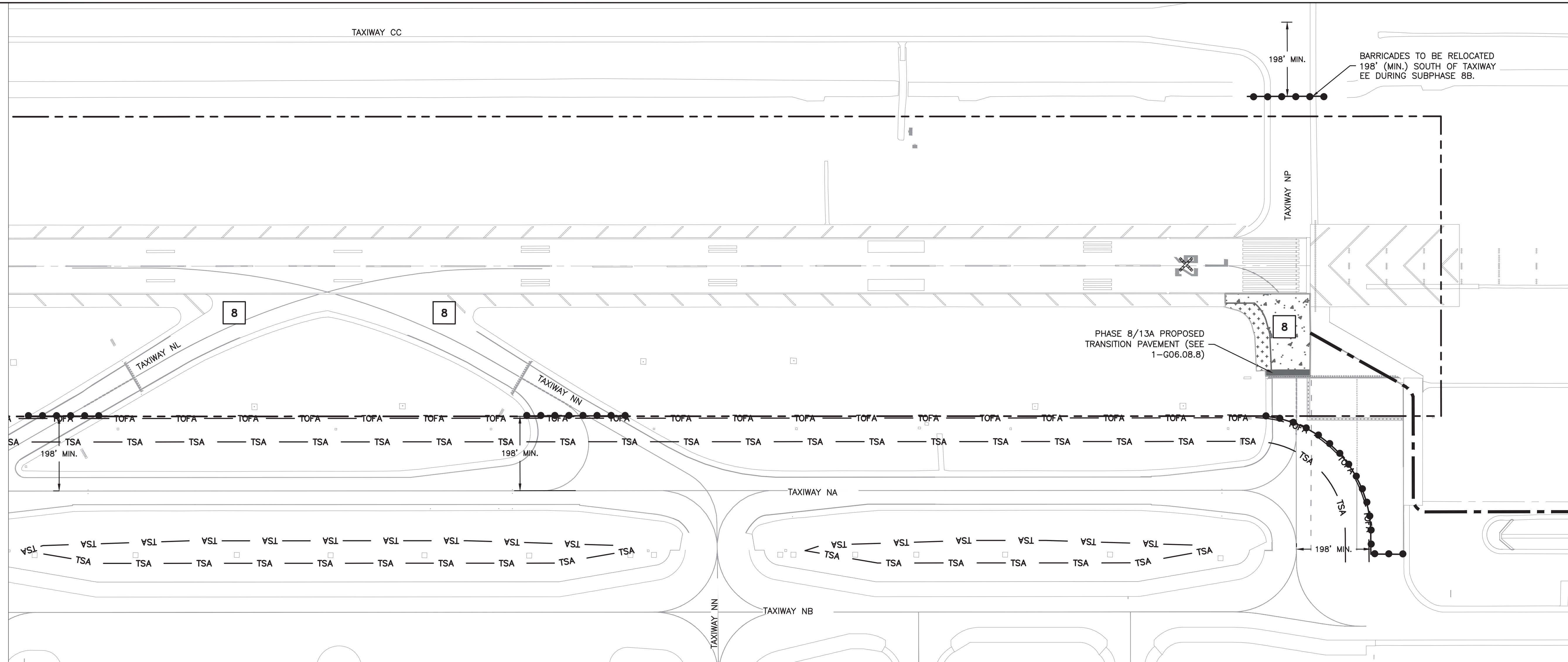
**RS&H**

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 TBPE Registration No. F-3401

REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 8**  
 (4 OF 4)



**PHASE 8 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

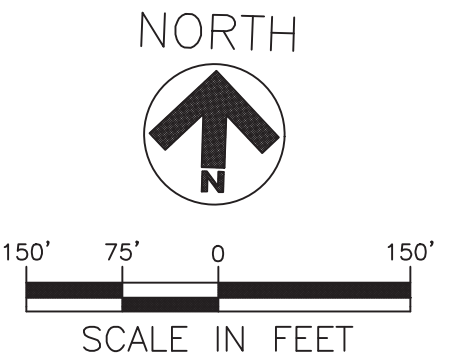
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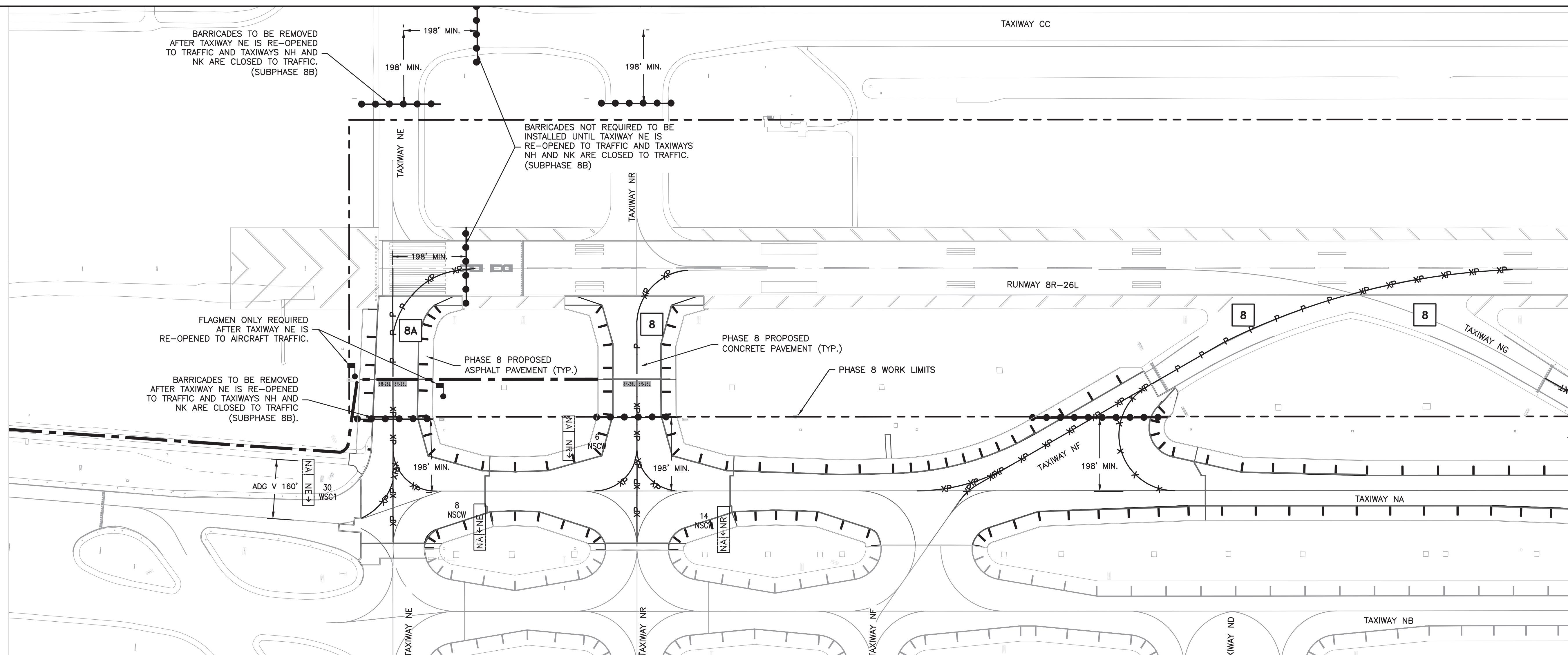
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- P. CONSTRUCT NEW PAVEMENT SECTION.
- Q. CONSTRUCT TEMPORARY PHASE TRANSITION PAVEMENT.
- R. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NE AND TAXIWAY NR.
- S. PERFORM FINISH GRADING ACTIVITIES.
- T. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
- U. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED.
- V. INSTALL END OF PHASE PAVEMENT MARKINGS. SEE SHEETS G06.08.5, G06.08.6 AND G06.08.7.
- W. PERFORM A FINAL CLEANING OF THE WORK AREA.
- X. REMOVE LIGHTED RUNWAY CLOSURE MARKER AT EACH RUNWAY END.
- Y. RE-ENERGIZE RUNWAY AND TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
- Z. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
- AA. TURN ON NAVAIDS IN THE WORK AREA.
- BB. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
- CC. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.





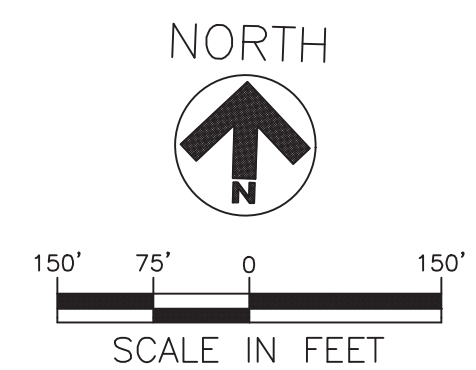


**LEGEND**

- TRANSITION PAVEMENT THIS PHASE
- PHASE INDICATOR
- FLAGMAN
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RSA RUNWAY SAFETY AREA
- MARKING REMOVAL
- MARKING REMOVAL, REPLACE WITH TEMPORARY MARKING INSTALLED THIS PHASE
- MARKING REMOVAL, REPLACE WITH PERMANENT MARKING INSTALLED THIS PHASE
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE
- SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- LOCATION PANEL (L-858L)
- DESTINATION PANEL (L-858Y)
- MANDATORY INSTRUCTION PANEL (L-858R)

**PHASING PLAN MARKING NOTES**

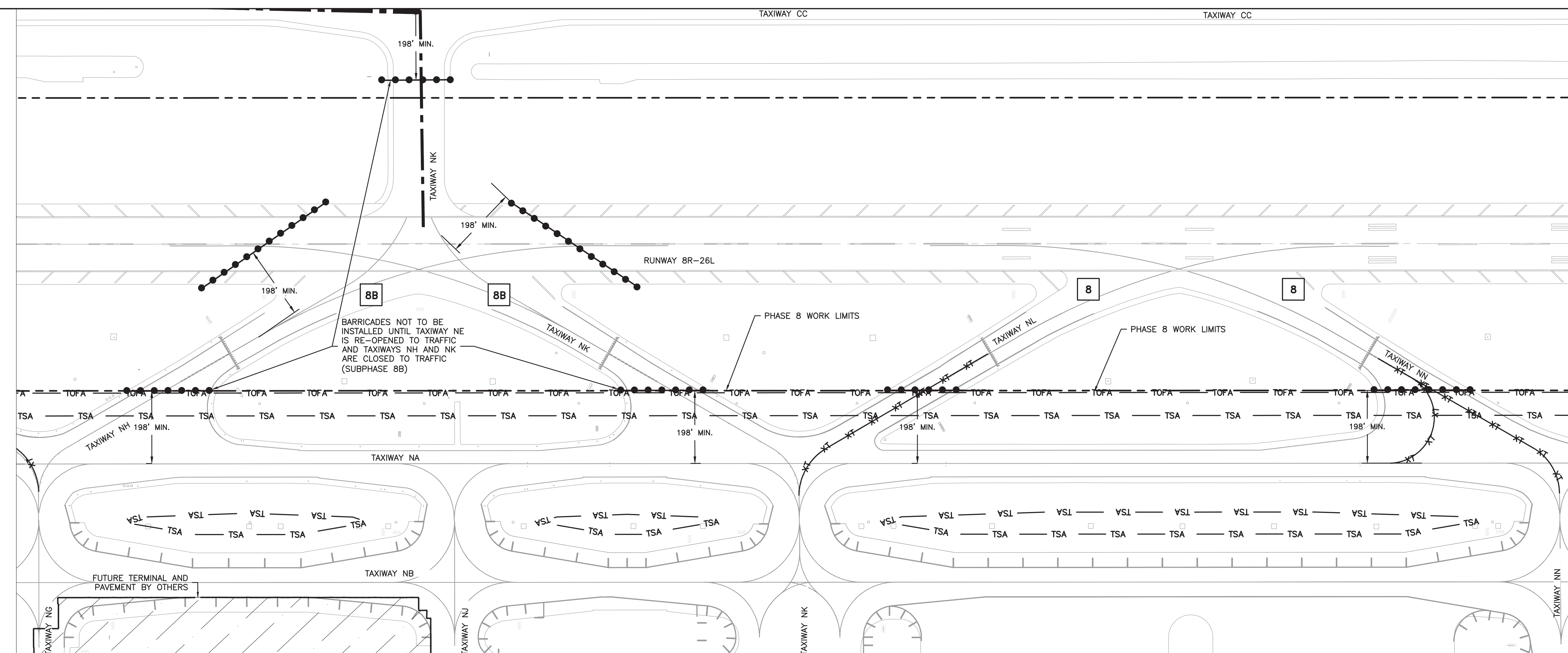
1. ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
2. ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (COB SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
  - A. ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).
  - B. AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S), REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.
  - C. THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
3. TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-620, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
  - A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.
  - B. TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.
  - C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
4. THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
6. SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.





REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 8  
 MARKING (2 OF 3)**



BARRICADES NOT TO BE INSTALLED UNTIL TAXIWAY NE IS RE-OPENED TO TRAFFIC AND TAXIWAYS NH AND NK ARE CLOSED TO TRAFFIC (SUBPHASE 8B)

PHASE 8 WORK LIMITS

PHASE 8 WORK LIMITS

**LEGEND**

- TRANSITION PAVEMENT THIS PHASE
- PHASE INDICATOR
- FLAGMAN
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RSA RUNWAY SAFETY AREA
- MARKING REMOVAL
- MARKING REMOVAL, REPLACE WITH TEMPORARY MARKING INSTALLED THIS PHASE
- MARKING REMOVAL, REPLACE WITH PERMANENT MARKING INSTALLED THIS PHASE
- PERMANENT MARKING INSTALLED THIS PHASE
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- SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- LOCATION PANEL (L-858L)
- DESTINATION PANEL (L-858Y)
- MANDATORY INSTRUCTION PANEL (L-858R)

**PHASING PLAN MARKING NOTES**

- ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
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A. ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).

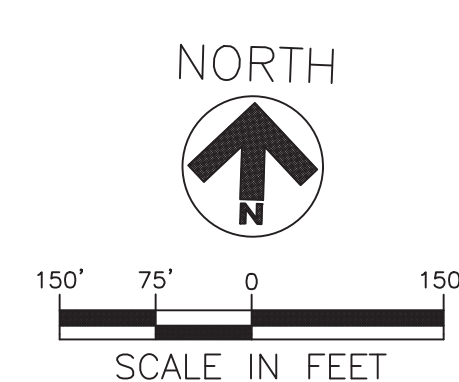
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THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
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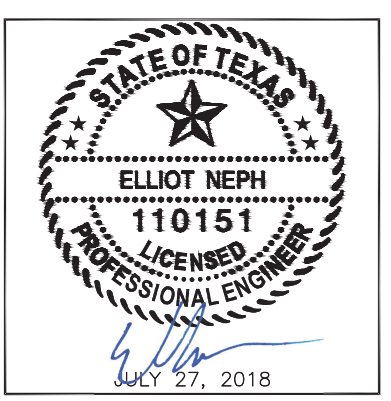
A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.

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C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
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- SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.



ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**G06.08.6**





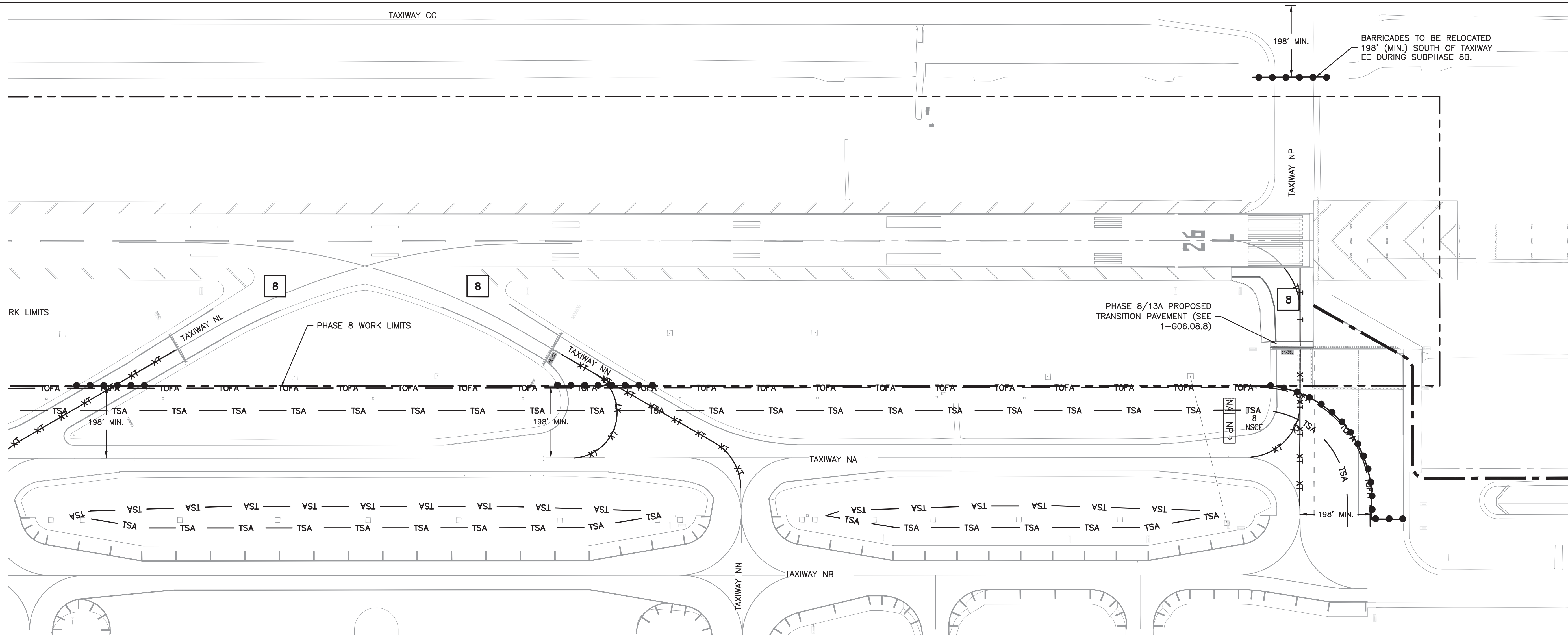
**RS&H**

RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 8  
 MARKING (3 OF 3)**



**LEGEND**

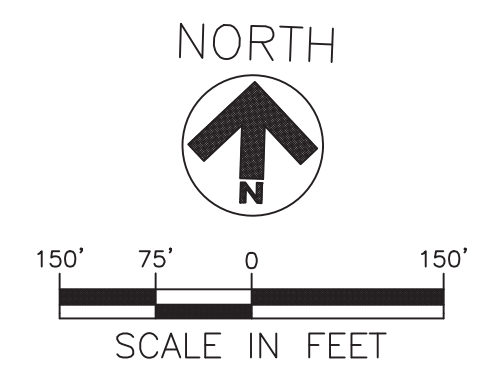
- TRANSITION PAVEMENT THIS PHASE
- PHASE INDICATOR
- FLAGMAN
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RSA RUNWAY SAFETY AREA
- MARKING REMOVAL
- MARKING REMOVAL, REPLACE WITH TEMPORARY MARKING INSTALLED THIS PHASE
- MARKING REMOVAL, REPLACE WITH PERMANENT MARKING INSTALLED THIS PHASE
- PERMANENT MARKING INSTALLED THIS PHASE
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- LOCATION PANEL (L-858L)
- DESTINATION PANEL (L-858Y)
- MANDATORY INSTRUCTION PANEL (L-858R)

**PHASING PLAN MARKING NOTES**

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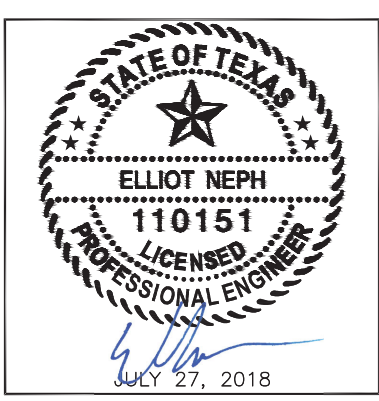
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THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
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6. SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.



ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Pahnd* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

**G06.08.7**



REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 8  
 TRANSITIONS AND TIE-INS**

ISSUED FOR BID

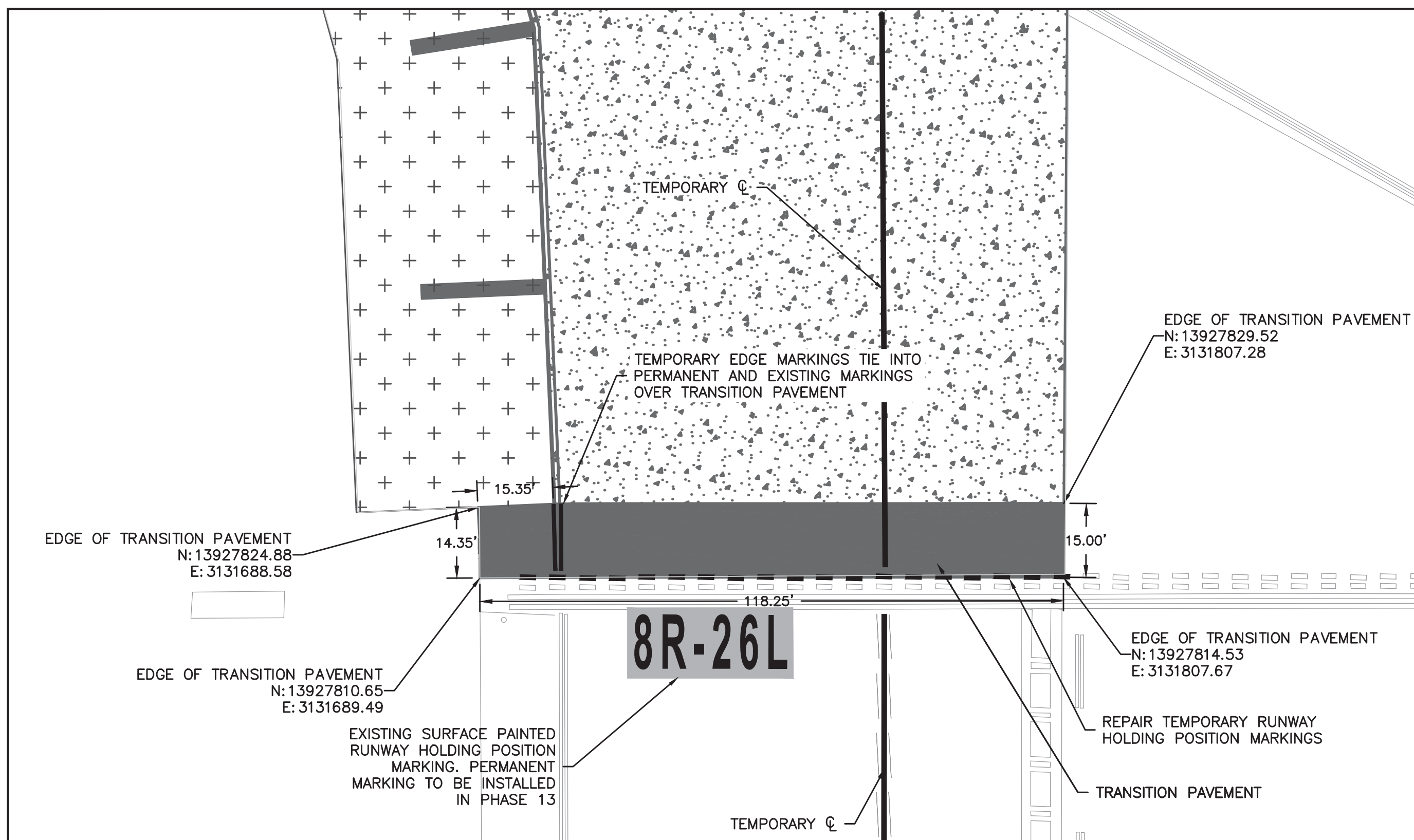
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=20'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Palmer* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

G06.08.8



**1** PHASE 8/13A - TAXIWAY NP TRANSITION PAVEMENT  
 G06.08.8 SCALE: 1" = 20'

**LEGEND**

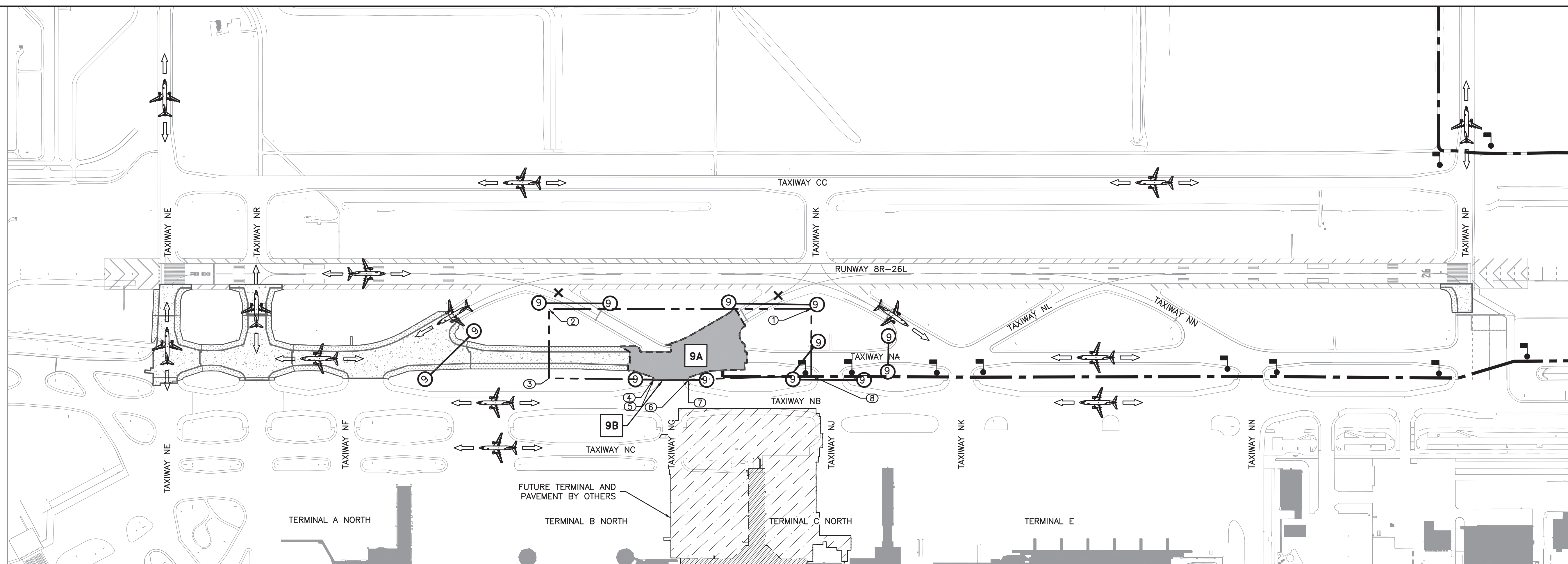
- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- TRANSITION PAVEMENT THIS PHASE
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE

**NOTES**

1. REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.
2. TEMPORARY TRANSITION PAVEMENTS SHALL BE INSTALLED IN ORDER TO RETURN A TAXIWAY SEGMENT TO SERVICE BETWEEN THIS PHASE AND A SUBSEQUENT PHASE. TEMPORARY TRANSITION PAVEMENTS SHALL BE CONSTRUCTED SUCH THAT:
  - A. A SMOOTH TRANSITION WITH RESPECT TO TIE-IN GRADES IS PROVIDED BETWEEN REMAINING EXISTING PAVEMENT AND NEW PAVEMENT INSTALLED IN THIS PHASE.
  - B. PAVEMENT MARKINGS ARE INSTALLED THROUGH TRANSITION PAVEMENT AREAS TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE CONTINUOUS, NON-BROKEN MARKINGS.
  - C. ALL ELECTRICAL COMPONENTS SHALL BE RETURNED TO SERVICE WITH THEIR CORRESPONDING PAVEMENT AREAS.
  - D. DISTURBED AREAS OUTSIDE PAVED TEMPORARY TRANSITION PAVEMENTS SHALL BE GRADED IN GENERAL CONFORMANCE WITH THE GRADING PLAN SHEET REQUIREMENTS AND VEGETATED IN GENERAL CONFORMANCE WITH THE SWPPP PLAN SHEET REQUIREMENTS.
  - E. THEY ARE IN ACCORDANCE WITH DETAIL 7A-C03.15.
3. TRANSITION PAVEMENT AREAS WILL BE REMOVED IN A SUBSEQUENT PHASE AND REPLACED WITH A PERMANENT PAVEMENT SECTION.







**LEGEND**

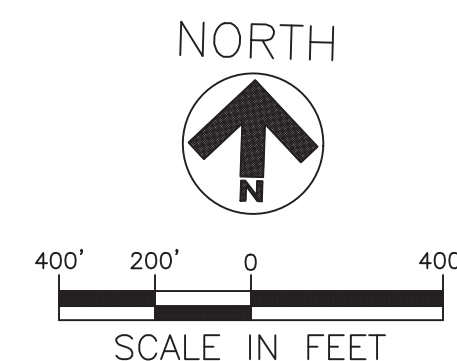
- PAVEMENT CONSTRUCTED THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT RUNWAY CLOSURE MARKER
- APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS
- TABLE LOCATION POINT

**PHASE 9 MOVEMENT NOTES**

1. SEE PLAN SHEET G06.03.1 AND G06.03.3-G06.03.7 FOR PROPOSED HAUL ROUTE.
2. THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 9:
  - A. TAXIWAY NA WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE EAST SIDE OF TAXIWAY NF TO THE EAST SIDE OF TAXIWAY NP.
  - B. TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) FROM THE EAST SIDE OF TAXIWAY NF TO THE EAST SIDE OF TAXIWAY NP, EXCEPT WHEN SUBJECT TO "MARKER POLE EVACUATION" OPERATIONS AND DURING SUBPHASE 9B CONSTRUCTION OPERATIONS.
  - C. DURING SUBPHASE 9B CONSTRUCTION OPERATIONS (NIGHTTIME OPERATIONS ONLY), TAXIWAY NB WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM TAXIWAY NF TO TAXIWAY NJ.
  - D. DURING DAYTIME HOURS TAXIWAY NA WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE EAST SIDE OF TAXIWAY NF TO THE WEST SIDE OF TAXIWAY NJ. DURING NIGHT TIME CONSTRUCTION HOURS CONSTRUCTION HOURS THE NA CLOSURE WILL BE EXTENDED TO THE WEST SIDE OF TAXIWAY NK.
  - E. TAXIWAY NG WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
  - F. TAXIWAY NH WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO TAXIWAY NA.
  - G. DURING DAYTIME CONSTRUCTION HOURS TAXIWAY NJ WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT B-767-400ER) FROM THE NORTH SIDE OF TAXIWAY NB TO THE SOUTH SIDE OF TAXIWAY NA.
  - H. TAXIWAY NJ WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE SOUTH SIDE OF TAXIWAY NA TO THE NORTH SIDE OF TAXIWAY NB DURING NIGHT TIME CONSTRUCTION HOURS ONLY.
3. THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSINGS WITH TAXIWAYS NP, NN, NK, NJ, AND NG, OR AS DIRECTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN PHASE 9. FLAGMAN WILL NOT BE REQUIRED AT TAXIWAY NJ WHEN TAXIWAY NJ IS CLOSED. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
4. THE CONTRACTOR SHALL MAKE ALL PERSONNEL AWARE OF "MARKER POLE EVACUATION" OPERATIONS. FLAGMEN AND ALL OTHER CONTRACTOR PERSONNEL SHALL BE ON CONSTANT ALERT TO IDENTIFY ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225).
5. REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

PHASE 9 WORK LIMITS		
POINT #	NORTHING	EASTING
1	13927704.67	3127074.50
2	13927643.15	3125196.22
3	13927148.18	3125212.43
4	13927162.93	3125961.37
5	13927160.96	3125961.41
6	13927167.60	3126212.13
7	13927170.80	3126212.05
8	13927225.72	3127089.38

PHASE 9		DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
SUBPHASE 9A - 70 CALENDAR DAYS	SUBPHASE 9A - DAY AND NIGHT	RESTRICTIONS -- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NF TO TAXIWAY NP. -- DURING SUBPHASE 9A, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NF TO TAXIWAY NP. -- TAXIWAY NJ RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT B-767-400ER) TAXIWAY NA TO TAXIWAY NB.	RESTRICTIONS -- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NF TO TAXIWAY NP. -- DURING SUBPHASE 9A, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NF TO TAXIWAY NP. -- DURING SUBPHASE 9B, TAXIWAY NB RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NF TO TAXIWAY NJ.	-- ACROSS TAXIWAY NA, EAST OF TAXIWAY NF. -- ACROSS TAXIWAY NG, NORTH OF TAXIWAY NB. -- ACROSS TAXIWAY NH, SOUTH OF THE RSA. -- ACROSS TAXIWAY NA, WEST OF TAXIWAY NA. -- ACROSS TAXIWAY NJ, NORTH OF TAXIWAY NB (NIGHT ONLY) -- ACROSS TAXIWAY NA, WEST OF TAXIWAY NK (NIGHT ONLY)	SUBPHASES 9A / 9B
SUBPHASE 9B - 23 CALENDAR DAYS	SUBPHASE 9B - NIGHT ONLY	CLOSURES -- TAXIWAY NA CLOSED TAXIWAY NF TO TAXIWAY NJ. -- TAXIWAY NG CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NH CLOSED RUNWAY 8R - 26L TO TAXIWAY NA.	CLOSURES -- TAXIWAY NA CLOSED TAXIWAY NF TO TAXIWAY NJ. -- TAXIWAY NG CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NH CLOSED RUNWAY 8R - 26L TO TAXIWAY NA. -- TAXIWAY NJ CLOSED TAXIWAY NA TO TAXIWAY NB.		





REVISIONS

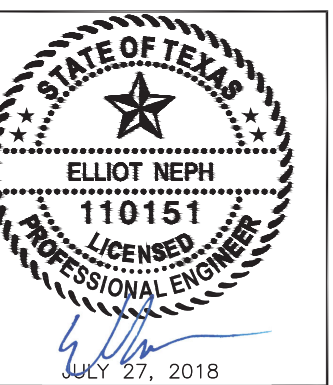
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - PHASE 9 (2 OF 2)**

ISSUED FOR BID

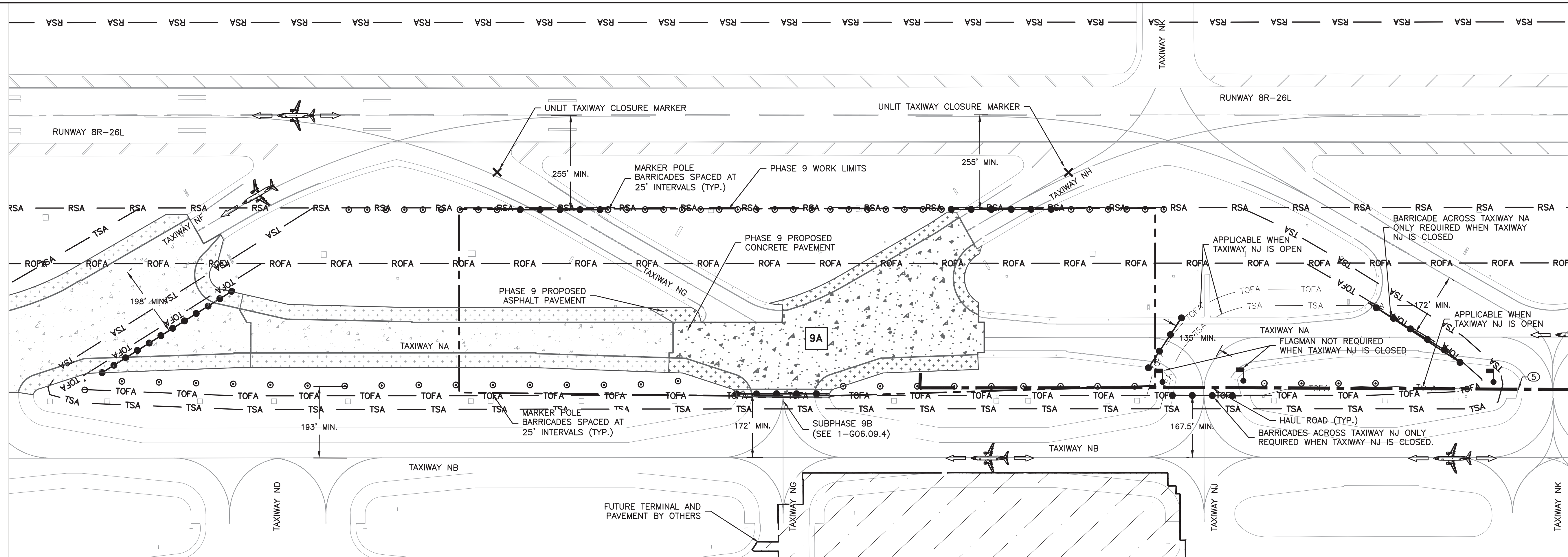
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	APPROVED BY:	DATE:
	<i>Davej Pahnd</i>	
	HOUSTON AIRPORT SYSTEMS	AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**G06.09.2**



**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- PHASE 9 TAXIWAY SAFETY AREA
- PHASE 9 TAXIWAY OBJECT FREE AREA
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA

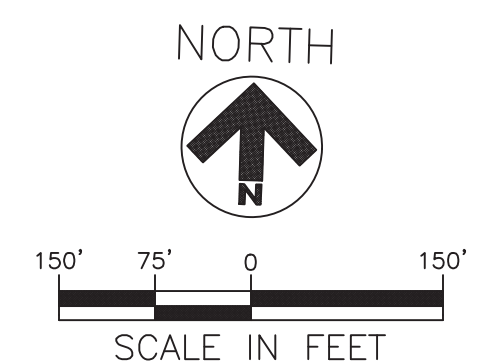
**PHASE 9 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

- PHASE 9 MAY NOT COMMENCE UNTIL THE PHASE 7 WORK AREA IS RE-OPENED TO ALL AIRCRAFT TRAFFIC.
- SUBPHASE 9B SHALL BE COMPLETED CONCURRENTLY WITH SUBPHASE 9A. HOWEVER, SUBPHASE 9B SHALL BE LIMITED TO NIGHTTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 23 CALENDAR DAYS TO COMPLETE SUBPHASE 9B.
- THE CONTRACTOR WILL BE ALLOWED 70 CALENDAR DAYS TO COMPLETE PHASE 9.
- CONSTRUCTION TASKS FOR PHASE 9 ARE AS FOLLOWS:
  - WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.09.1.
  - INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 9.
 

LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:

    - ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NF TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NF CENTERLINE.
    - ACROSS TAXIWAY NG, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
 

DURING SUBPHASE 9B, THESE BARRICADES WILL BE TEMPORARILY RELOCATED TO APPROXIMATELY 10 FEET SOUTH OF THE SUBPHASE 9B PAVING LIMITS.
    - ACROSS TAXIWAY NG, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - ACROSS TAXIWAY NH, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - ACROSS TAXIWAY NA, WEST OF THE TAXIWAY NJ TOFA, APPROXIMATELY 135 FEET FROM THE TAXIWAY NJ CENTERLINE.
    - ACROSS TAXIWAY NJ, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 167.5 FEET FROM THE TAXIWAY NB CENTERLINE. THESE BARRICADES SHALL ONLY BE INSTALLED DURING NIGHT TIME CONSTRUCTION HOURS. THESE BARRICADES SHALL BE REMOVED AT THE COMPLETION OF EACH NIGHT TIME WORK PERIOD SO THAT THESE PAVEMENTS MAY BE REOPENED TO AIRCRAFT TRAFFIC DURING DAYTIME HOURS.
  - DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 9.
  - DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBSCURED THROUGHOUT THE DURATION OF PHASE 9.
  - INSTALL UNLIT TAXIWAY CLOSURE MARKER AT THE ENTRANCE OF TAXIWAY NG FROM RUNWAY 8R - 26L.
  - INSTALL UNLIT TAXIWAY CLOSURE MARKER AT THE ENTRANCE OF TAXIWAY NH FROM RUNWAY 8R - 26L.
  - REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.09.3.
  - VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
  - INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
  - SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT, INCLUDING TRANSITION PAVEMENTS CONSTRUCTED IN PHASE 7. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
  - REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
  - DEWATER EXCAVATION AREAS, AS APPLICABLE.
  - PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
  - INSTALL NEW ELECTRICAL COMPONENTS.
  - CONSTRUCT NEW PAVEMENT SECTION.
  - REMOVE HAUL ROAD BETWEEN TAXIWAY NF AND TAXIWAY NG. REMOVE SECTION OF TEMPORARY HAUL ROAD BETWEEN TAXIWAY NG AND TAXIWAY NJ NOT REQUIRED FOR USE BY THE CONTRACTOR DURING PHASE 10 CONSTRUCTION OPERATIONS.
  - PERFORM FINISH GRADING ACTIVITIES.
  - INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
  - REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED.
  - INSTALL END OF PHASE PAVEMENT MARKINGS. SEE SHEET G06.09.3.
  - PERFORM A FINAL CLEANING OF THE WORK AREA.
  - REMOVE UNLIT TAXIWAY CLOSURE MARKERS.
  - RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
  - RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
  - REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
  - WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.

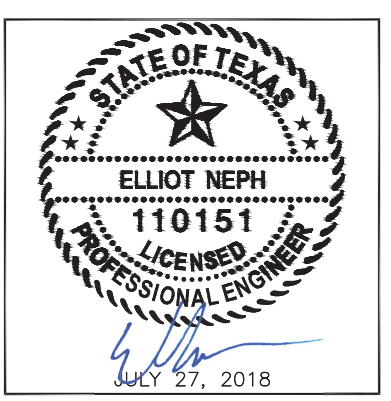




REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 9  
 MARKINGS**

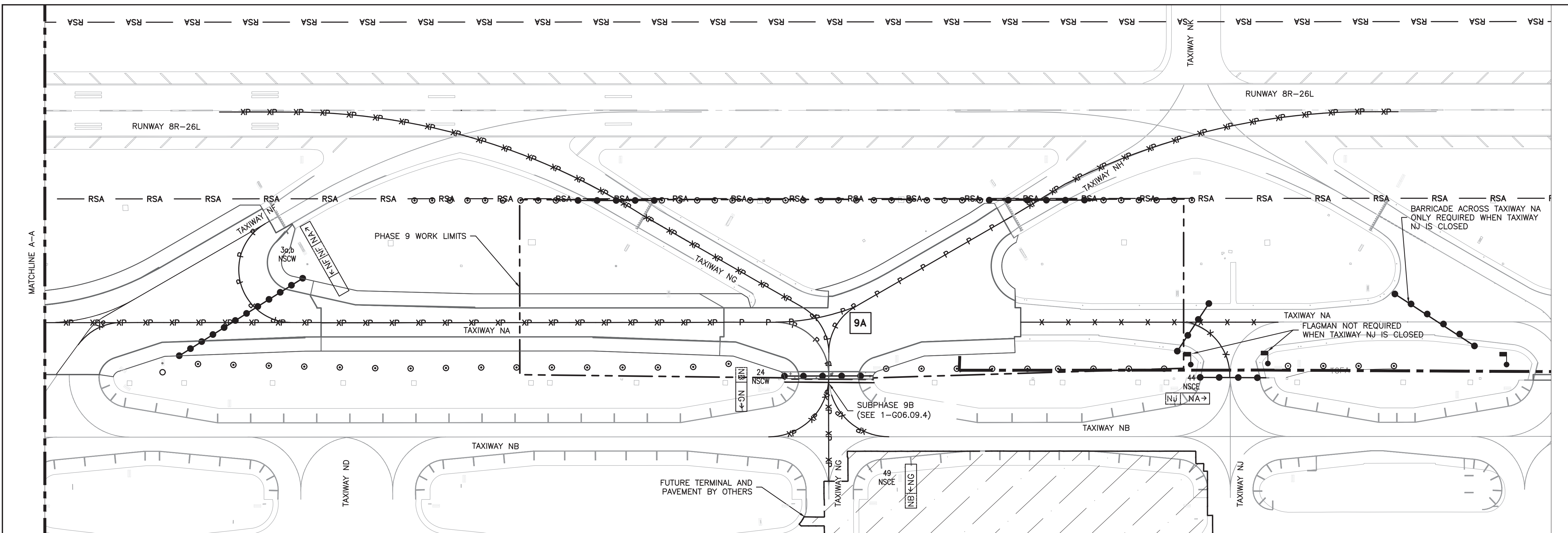
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PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Davej Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**G06.09.3**



**PHASING PLAN MARKING NOTES**

**LEGEND**

- # PHASE INDICATOR
- o MARKER POLE BARRICADE
- Flagman symbol FLAGMAN
- Low profile barricade symbol LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RSA RUNWAY SAFETY AREA
- X X MARKING REMOVAL
- XT XT MARKING REMOVAL, REPLACE WITH TEMPORARY Q INSTALLED THIS PHASE
- XP XP MARKING REMOVAL, REPLACE WITH PERMANENT Q INSTALLED THIS PHASE
- P P PERMANENT Q INSTALLED THIS PHASE
- T T TEMPORARY Q INSTALLED THIS PHASE
- 12 NSCW SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- NA ND SIGN PANEL LEGEND. RE: SCHEDULE
- Blank sign panel symbol BLANK SIGN PANEL
- 8L-26R LOCATION PANEL (L-85BL)
- Destination panel symbol MANDATORY INSTRUCTION PANEL (L-858R)

- ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
- ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (C08 SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
 

A. ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).

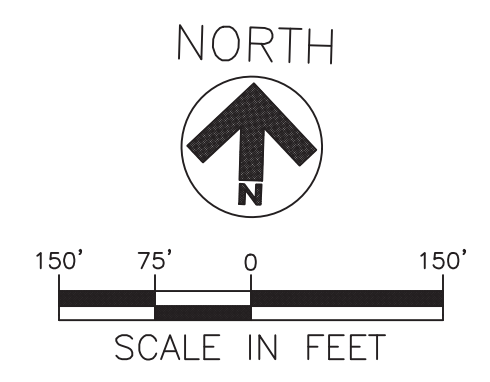
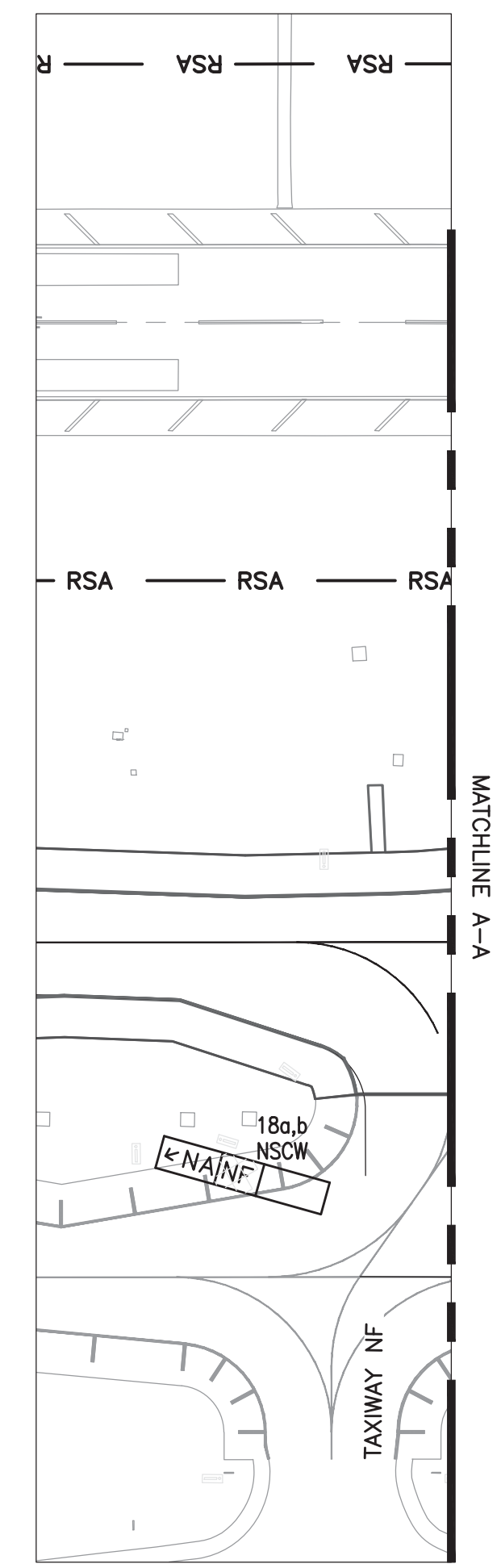
AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S), REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.

THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-620, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
 

A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.

B. TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.

C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
- THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.





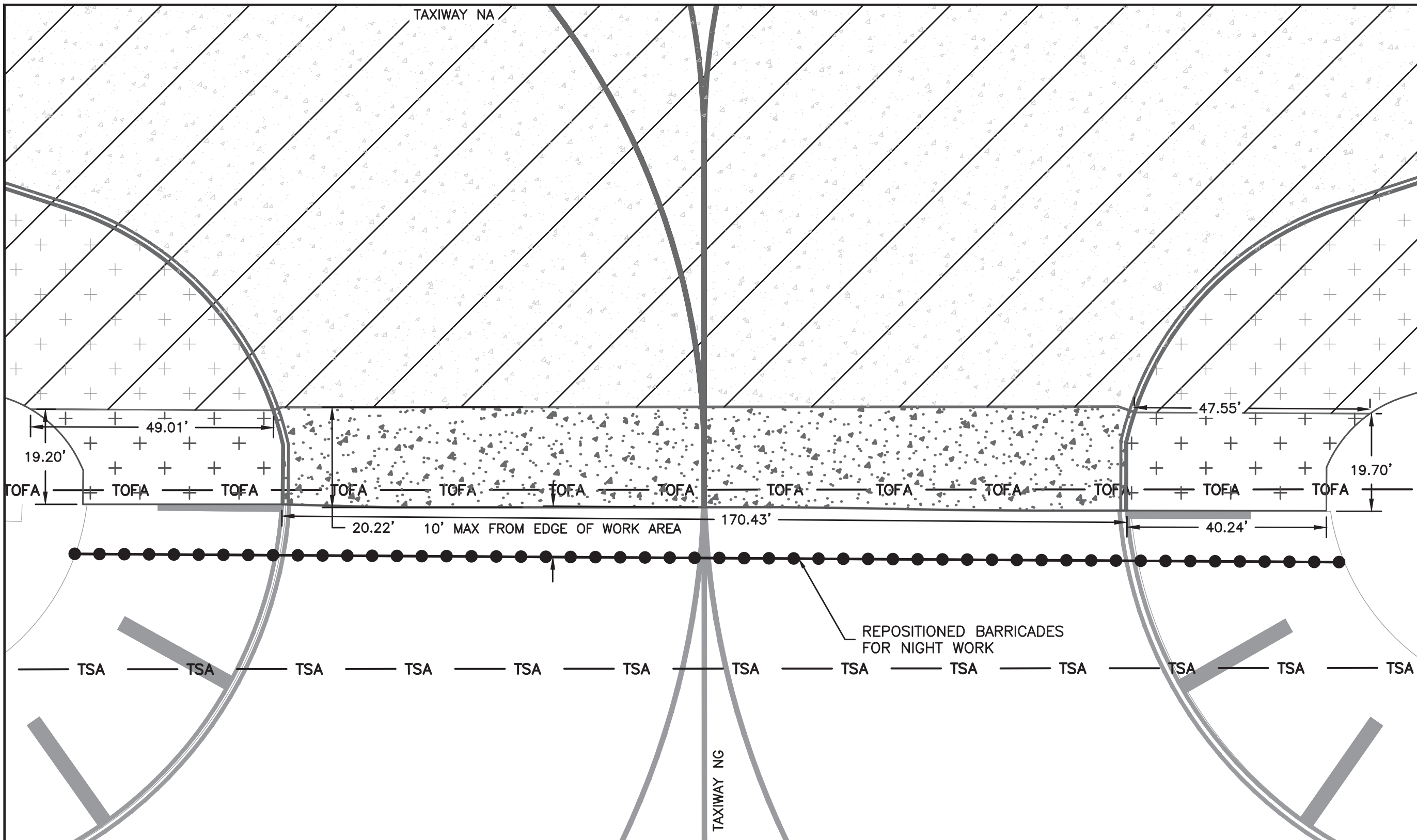


HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS

**RS&H**

RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

REVISIONS		
NO.	DESCRIPTION	DATE



1  
 G06.09.4 **SUBPHASE 9B - TAXIWAY NG**  
 SCALE: 1" = 20'

**LEGEND**

- CONCRETE PAVEMENT COMPLETED CONCURRENTLY
- ASPHALT SHOULDER PAVEMENT COMPLETED CONCURRENTLY
- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- LOW PROFILE BARRICADE (EXACT POSITION)
- TSA TAXIWAY SAFETY AREA
- TOFA TAXIWAY OBJECT FREE AREA
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE

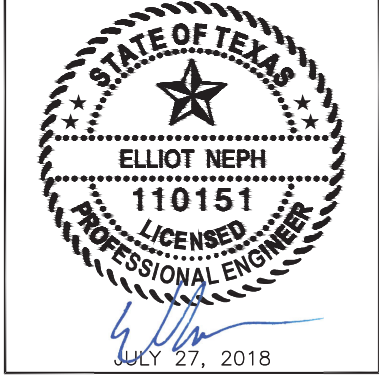
**NOTES**

- REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

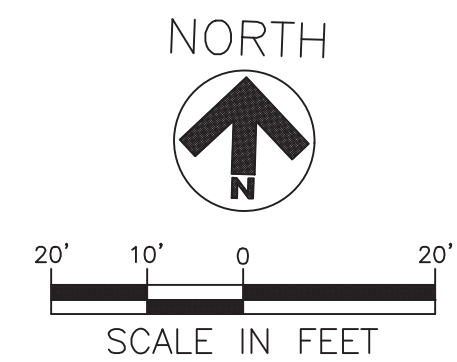
**PHASING PLAN - PHASE 9  
 TRANSITIONS AND TIE-INS**

ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=20'
DATE:	JULY 27, 2018



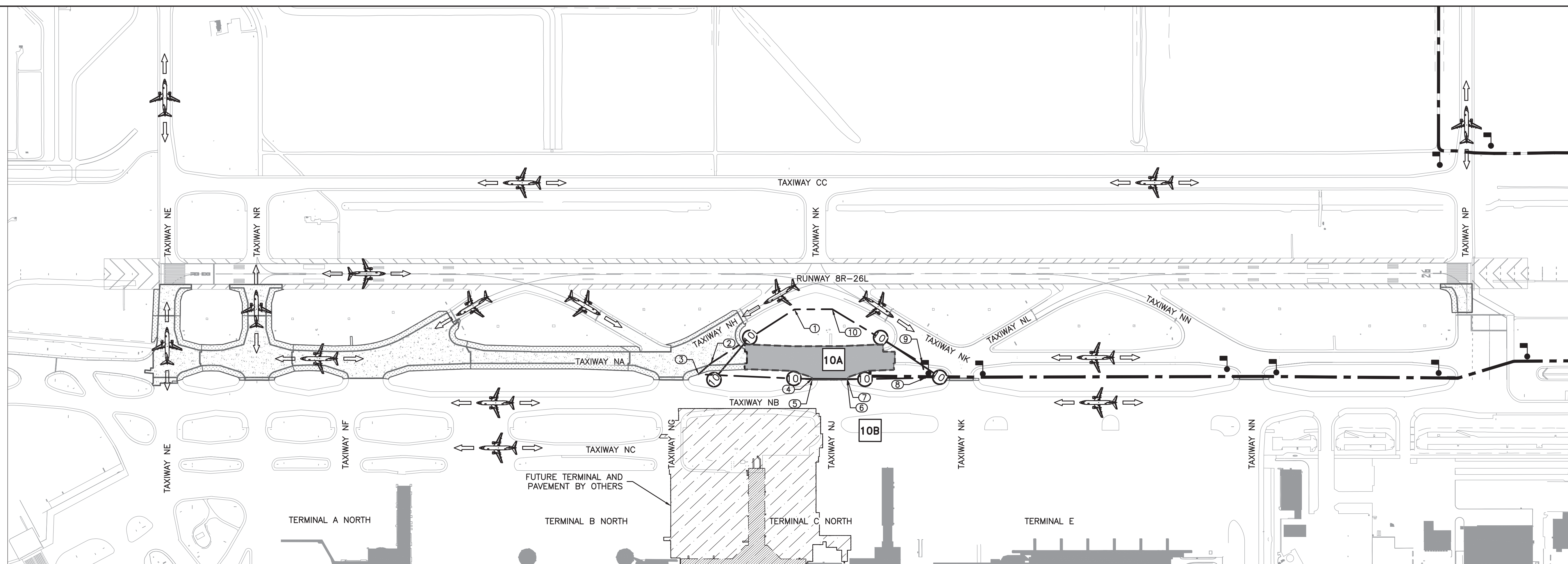
DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Rahmel* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.



**G06.09.4**





**LEGEND**

- PAVEMENT CONSTRUCTED THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- TABLE LOCATION POINT
- PHASE INDICATOR
- APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS

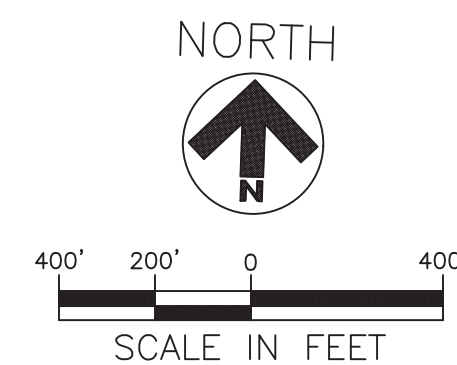
**PHASE 10 MOVEMENT NOTES**

1. SEE PLAN SHEET G06.03.1 AND G06.03.3-G06.03.7 FOR PROPOSED HAUL ROUTE.
2. THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 10:
  - A. TAXIWAY NA WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE EAST SIDE OF TAXIWAY NH TO THE EAST SIDE OF TAXIWAY NP.
  - B. TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) FROM THE EAST SIDE OF TAXIWAY NH TO THE EAST SIDE OF TAXIWAY NP, EXCEPT WHEN SUBJECT TO "MARKER POLE EVACUATION" OPERATIONS AND DURING SUBPHASE 10B CONSTRUCTION OPERATIONS.
  - C. DURING SUBPHASE 10B CONSTRUCTION OPERATIONS (NIGHTTIME OPERATIONS ONLY), TAXIWAY NB WILL BE RESTRICTED TO ADG VI AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE EAST SIDE OF TAXIWAY NH TO THE WEST SIDE OF TAXIWAY NK.
  - D. TAXIWAY NA WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE EAST SIDE OF TAXIWAY NH TO THE WEST SIDE OF TAXIWAY NK.
  - E. TAXIWAY NJ WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM TAXIWAY NA TO THE NORTH SIDE OF TAXIWAY NB.
3. THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSINGS WITH TAXIWAYS NP, NN, AND NK, OR AS DIRECTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN PHASE 10. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
4. THE CONTRACTOR SHALL MAKE ALL PERSONNEL AWARE OF "MARKER POLE EVACUATION" OPERATIONS. FLAGMEN AND ALL OTHER CONTRACTOR PERSONNEL SHALL BE ON CONSTANT ALERT TO IDENTIFY ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225).
5. REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES.

ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

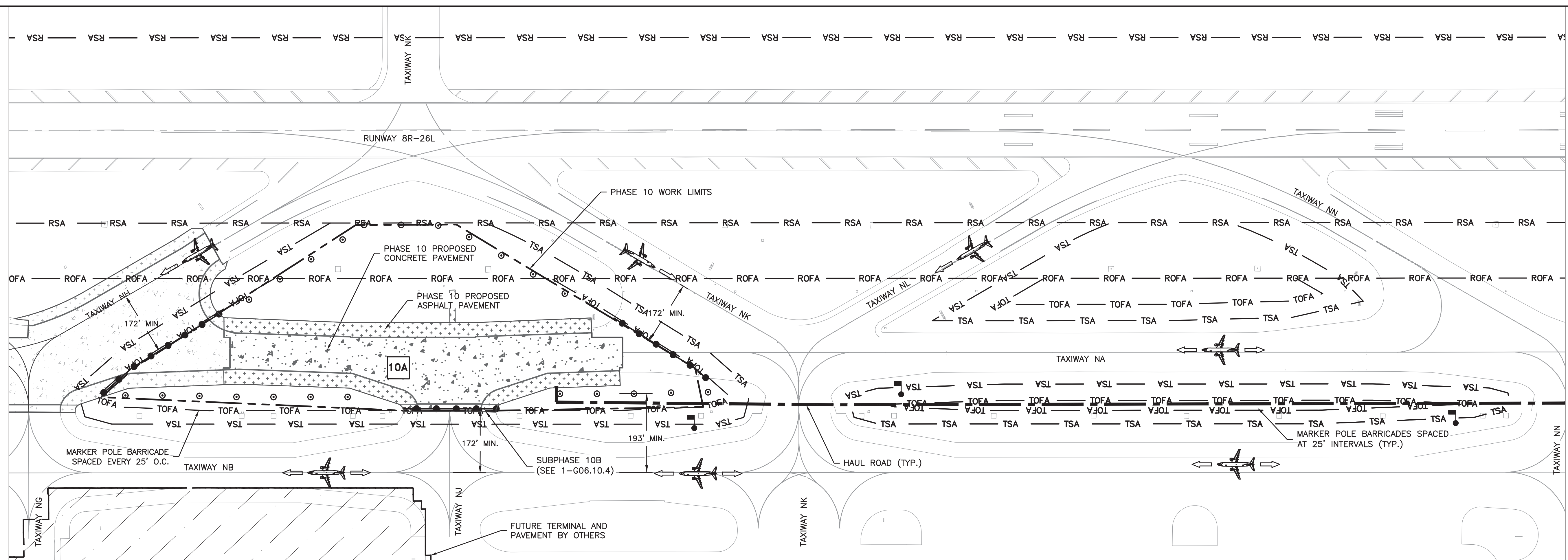
PHASE 10 WORK LIMITS		
POINT #	NORTHING	EASTING
1	13927697.06	3126953.26
2	13927293.65	3126369.20
3	13927210.82	3126281.33
4	13927204.68	3127096.87
5	13927198.78	3127097.21
6	13927207.16	3127347.39
7	13927211.75	3127347.24
8	13927235.86	3127905.93
9	13927338.96	3127881.60
10	13927706.80	3127224.54

PHASE 10					
DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
SUBPHASE 10A - 60 CALENDAR DAYS	SUBPHASE 10A - DAY AND NIGHT	RESTRICTIONS -- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NH TO TAXIWAY NP. -- DURING SUBPHASE 10A, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NH TO TAXIWAY NP.	RESTRICTIONS -- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NH TO TAXIWAY NP. -- DURING SUBPHASE 10A, TAXIWAY NB RESTRICTED TO ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NH TO TAXIWAY NP. -- DURING SUBPHASE 10B, TAXIWAY NB RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NH TO TAXIWAY NK.	-- ACROSS TAXIWAY NJ, NORTH OF TAXIWAY NB. -- ACROSS TAXIWAY NA, EAST OF TAXIWAY NH. -- ACROSS TAXIWAY NA, WEST OF TAXIWAY NK.	SUBPHASES 10A / 10B
SUBPHASE 10B - 23 CALENDAR DAYS	SUBPHASE 10B - NIGHT ONLY	RESTRICTIONS -- TAXIWAY NA CLOSED TAXIWAY NH TO TAXIWAY NK. -- TAXIWAY NJ CLOSED TAXIWAY NA TO TAXIWAY NB.	RESTRICTIONS -- TAXIWAY NA CLOSED TAXIWAY NH TO TAXIWAY NK. -- TAXIWAY NJ CLOSED TAXIWAY NA TO TAXIWAY NB.		





REVISIONS			
NO.	DESCRIPTION	DATE	BY



RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 10**  
**(2 OF 2)**

**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- PHASE 10 TAXIWAY SAFETY AREA
- PHASE 10 TAXIWAY OBJECT FREE AREA
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA

**PHASE 10 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

1. PHASE 10 MAY NOT COMMENCE UNTIL THE PHASE 9 WORK AREA IS OPEN TO ALL AIRCRAFT TRAFFIC.
2. ALL WORK IN SUBPHASE 10A MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS. THE CONTRACTOR WILL BE ALLOWED 60 CALENDAR DAYS TO COMPLETE SUBPHASE 10A.
3. SUBPHASE 10B SHALL BE COMPLETED CONCURRENTLY WITH SUBPHASE 10B. HOWEVER, SUBPHASE 10B SHALL BE LIMITED TO NIGHTTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 23 CALENDAR DAYS TO COMPLETE SUBPHASE 10B.
4. CONSTRUCTION TASKS FOR PHASE 10 ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.10.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 10.
 

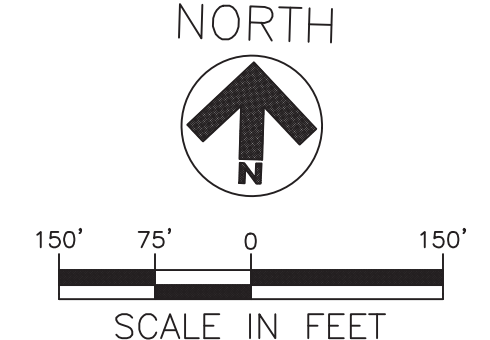
LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:

    - i. ACROSS TAXIWAY NJ, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
 

DURING SUBPHASE 10B, THESE BARRICADES WILL BE TEMPORARILY RELOCATED TO APPROXIMATELY 10 FEET SOUTH OF THE SUBPHASE 10B PAVING LIMITS.
    - ii. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NH TOFA, APPROXIMATELY 172 FEET FROM THE TAXIWAY NH CENTERLINE.
    - iii. ACROSS TAXIWAY NA, WEST OF THE TAXIWAY NK TOFA, APPROXIMATELY 172 FEET FROM THE TAXIWAY NK CENTERLINE.
 

MARKER POLE BARRICADES SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 25 FEET AT THE FOLLOWING LOCATIONS:

      - i. IN THE TAXIWAY NA / TAXIWAY NB INFIELD, APPROXIMATELY 193 FEET FROM THE TAXIWAY NB CENTERLINE, BETWEEN TAXIWAYS NG AND NJ, BETWEEN TAXIWAYS NJ AND NK, BETWEEN TAXIWAYS NK AND NN, AND BETWEEN TAXIWAYS NN AND NP. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 7 CONSTRUCTION OPERATIONS.
      - ii. IN THE INFIELD NORTH OF TAXIWAY NA, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE, BETWEEN TAXIWAYS NH AND NK. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 9 CONSTRUCTION OPERATIONS.
      - iii. IN THE INFIELD NORTH OF TAXIWAY NA, OUTSIDE THE RSA, APPROXIMATELY 172 FEET FROM THE TAXIWAY NH CENTERLINE.
      - iv. IN THE INFIELD NORTH OF TAXIWAY NA, OUTSIDE THE RSA, APPROXIMATELY 172 FEET FROM THE TAXIWAY NK CENTERLINE.
  - C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 10.
  - D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBSCURED THROUGHOUT THE DURATION OF PHASE 10.
  - E. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.10.3.
  - F. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
  - G. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
  - H. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
  - I. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
  - J. DEWATER EXCAVATION AREAS, AS APPLICABLE.
  - K. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
  - L. INSTALL NEW ELECTRICAL COMPONENTS.
  - M. CONSTRUCT NEW PAVEMENT SECTION.
  - N. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NG AND TAXIWAY NJ. REMOVE SECTION OF TEMPORARY HAUL ROAD BETWEEN TAXIWAY NJ AND TAXIWAY NK NOT REQUIRED FOR USE BY THE CONTRACTOR DURING PHASE 11 CONSTRUCTION OPERATIONS.
  - O. PERFORM FINISH GRADING ACTIVITIES.
  - P. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
  - Q. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED.
  - R. INSTALL END OF PHASE PAVEMENT MARKINGS. SEE SHEET G06.10.3.
  - S. PERFORM A FINAL CLEANING OF THE WORK AREA.
  - T. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
  - U. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
  - V. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
  - W. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.





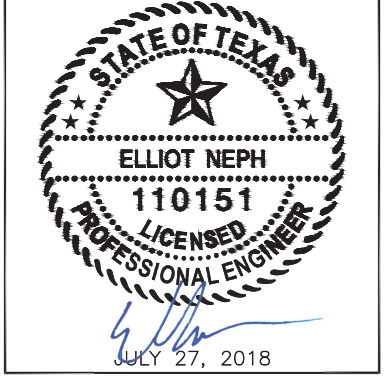
**RS&H**  
 RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 10  
 MARKINGS**

ISSUED FOR BID

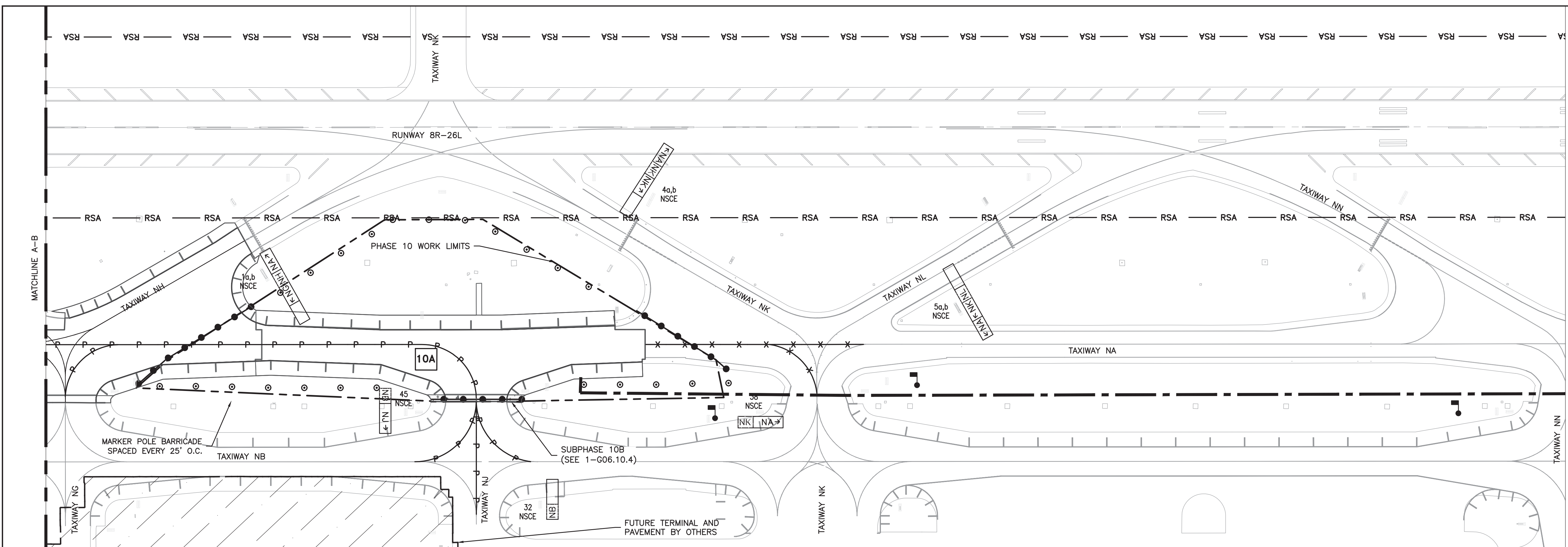
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DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Daraj Pahad* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**G06.10.3**

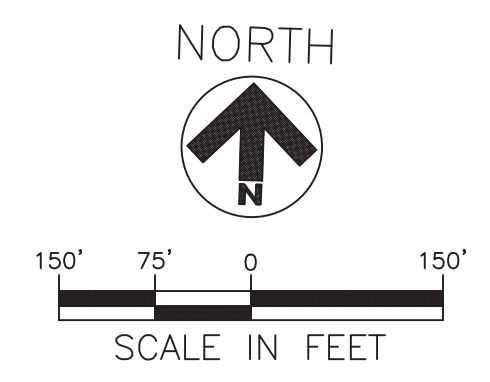
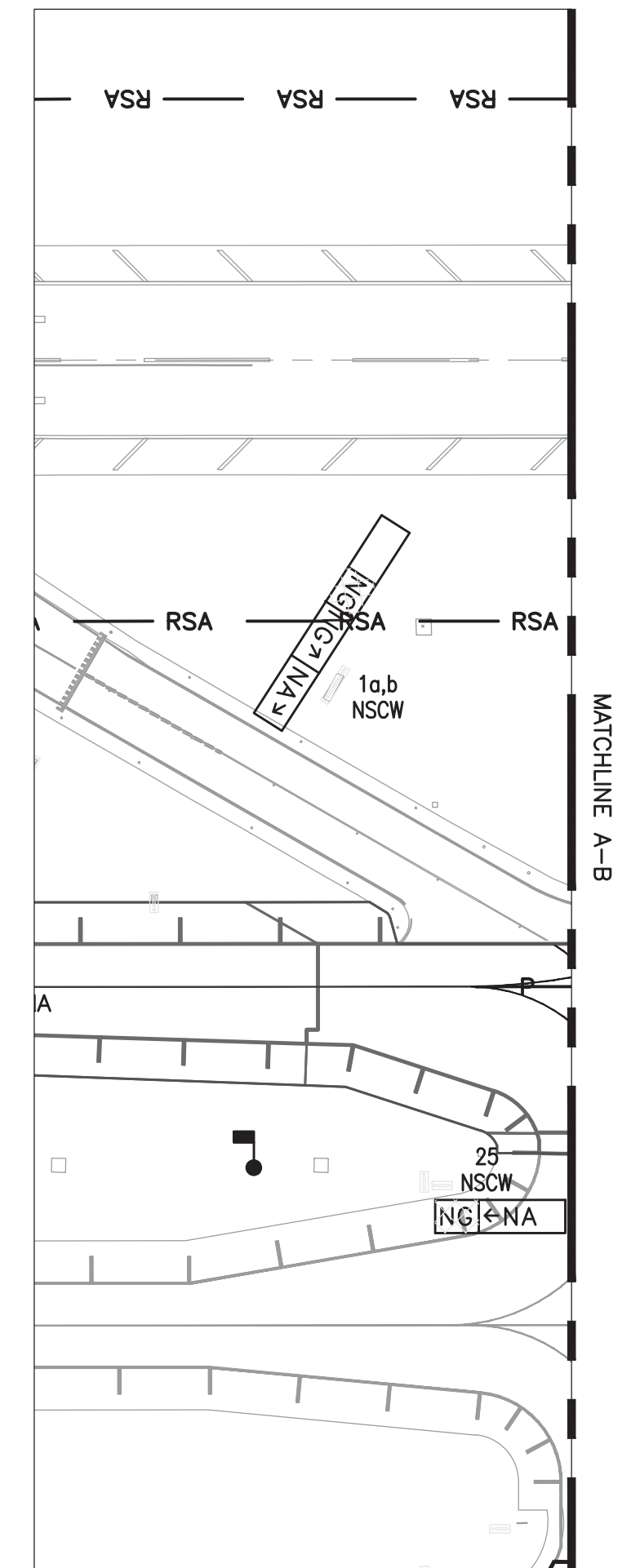


### LEGEND

- # PHASE INDICATOR
- MARKER POLE BARRICADE
- FLAGMAN
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- - - PHASE LIMITS
- RSA — RUNWAY SAFETY AREA
- X X @ MARKING REMOVAL
- XT XT @ MARKING REMOVAL, REPLACE WITH TEMPORARY @ INSTALLED THIS PHASE
- XP XP @ MARKING REMOVAL, REPLACE WITH PERMANENT @ INSTALLED THIS PHASE
- P P PERMANENT @ INSTALLED THIS PHASE
- T T TEMPORARY @ INSTALLED THIS PHASE
- 12 NCSW SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- NA ND SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- 8L-26R LOCATION PANEL (L-858L)
- MANDATORY INSTRUCTION PANEL (L-858Y)
- MANDATORY INSTRUCTION PANEL (L-858R)

### PHASING PLAN MARKING NOTES

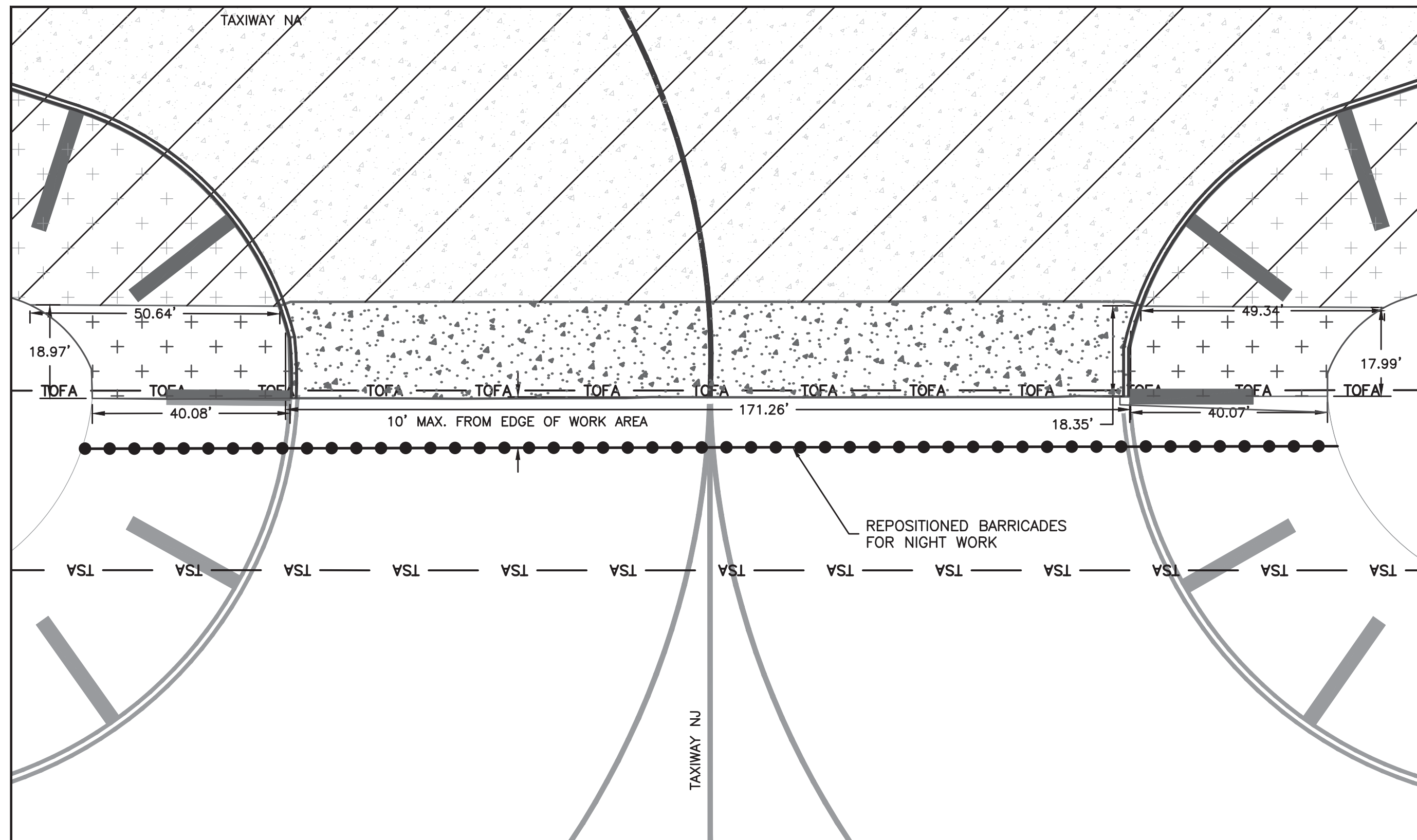
- ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
  - ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (COB SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
    - A. ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).
  - TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-520, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
    - A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.
    - B. TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.
    - C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
  - THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
  - ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
  - SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.
- AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S). REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.
- THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.





REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 10  
TRANSITIONS AND TIE-INS**



1  
G06.10.4  
**SUBPHASE 10B - TAXIWAY NJ**  
SCALE: 1" = 20'

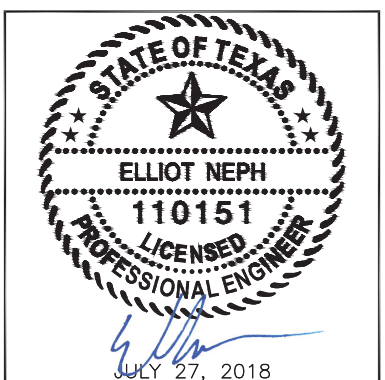
**LEGEND**

- CONCRETE PAVEMENT COMPLETED CONCURRENTLY
- PROPOSED ASPHALT SHOULDER PAVEMENT COMPLETED CONCURRENTLY
- PROPOSED CONCRETE PAVEMENT THIS PHASE
- ASPHALT SHOULDER PAVEMENT THIS PHASE
- LOW PROFILE BARRICADE (EXACT POSITION)
- TSA TAXIWAY SAFETY AREA
- TOFA TAXIWAY OBJECT FREE AREA
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE

**NOTES**

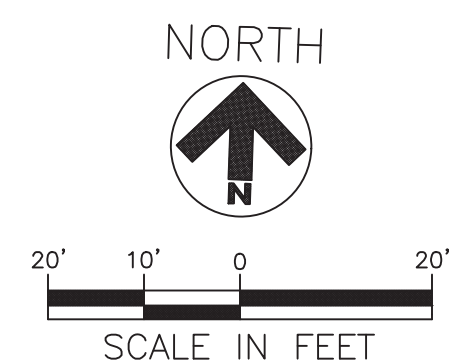
- REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.

ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=20'
DATE:	JULY 27, 2018



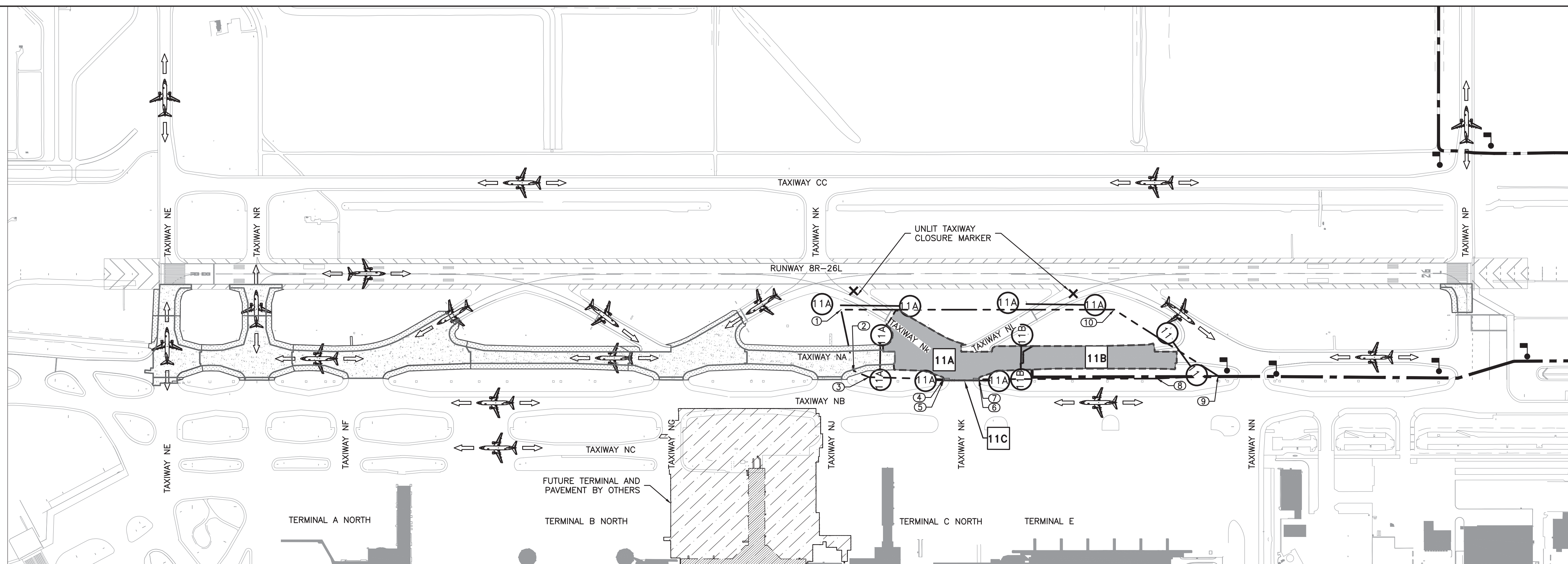
DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Rahmel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



G06.10.4





**LEGEND**

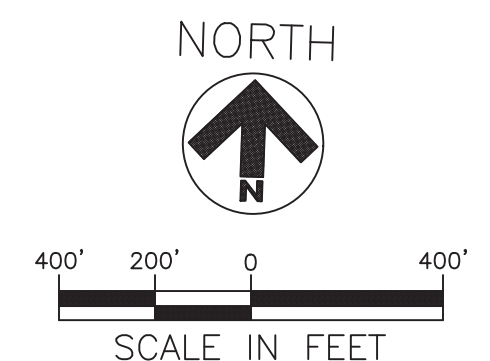
- PAVEMENT CONSTRUCTED THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- TABLE LOCATION POINT
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS

PHASE 11 WORK LIMITS		
POINT #	NORTHING	EASTING
1	13927705.27	3127287.25
2	13927270.38	3127392.59
3	13927229.04	3127502.23
4	13927230.53	3128038.37
5	13927222.36	3128038.63
6	13927230.80	3128291.00
7	13927238.47	3128290.71
8	13927284.16	3129564.50
9	13927317.00	3130002.31
10	13927767.24	3129243.33

**PHASE 11 MOVEMENT NOTES**

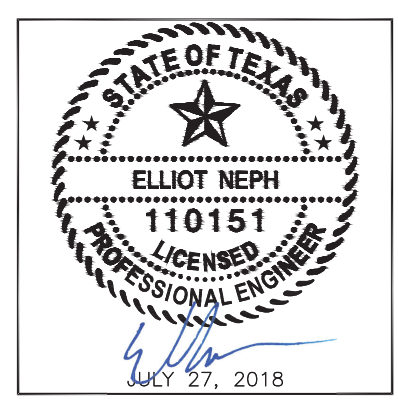
1. SEE PLAN SHEET G06.03.1 AND G06.03.3-G06.03.7 FOR PROPOSED HAUL ROUTE.
2. THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 11:
  - A. TAXIWAY NA WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE EAST SIDE OF TAXIWAY NJ TO THE EAST SIDE OF TAXIWAY NP.
  - B. TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) FROM THE EAST SIDE OF TAXIWAY NJ TO THE EAST SIDE OF TAXIWAY NP, EXCEPT WHEN SUBJECT TO "MARKER POLE EVACUATION" OPERATIONS AND DURING SUBPHASE 11C CONSTRUCTION OPERATIONS.
  - C. DURING SUBPHASE 11C CONSTRUCTION OPERATIONS (NIGHTTIME OPERATIONS ONLY), TAXIWAY NB WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE EAST SIDE OF TAXIWAY NJ TO THE WEST SIDE OF TAXIWAY NN.
  - D. TAXIWAY NA WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE EAST SIDE OF TAXIWAY NJ TO THE WEST SIDE OF TAXIWAY NN.
  - E. TAXIWAY NK WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
  - F. TAXIWAY NL WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO TAXIWAY NA.
3. THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSINGS WITH TAXIWAYS NP AND NN, OR AS DIRECTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN PHASE 11. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
4. THE CONTRACTOR SHALL MAKE ALL PERSONNEL AWARE OF "MARKER POLE EVACUATION" OPERATIONS. FLAGMEN AND ALL OTHER CONTRACTOR PERSONNEL SHALL BE ON CONSTANT ALERT TO IDENTIFY ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225).
5. REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

PHASE 11		DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
DURATION (DAYS)	WORK PERIOD	RESTRICTIONS -- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NJ TO TAXIWAY NP. -- DURING SUBPHASE 11A AND 11B, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NJ TO TAXIWAY NP. -- TAXIWAY NA CLOSED TAXIWAY NJ TO TAXIWAY NN. -- TAXIWAY NK CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NL CLOSED RUNWAY 8R - 26L TO TAXIWAY NA.	RESTRICTIONS -- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NJ TO TAXIWAY NP. -- DURING SUBPHASE 11A AND 11B, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NJ TO TAXIWAY NP. -- DURING SUBPHASE 11C, TAXIWAY NB RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NJ TO TAXIWAY NN. -- TAXIWAY NA CLOSED TAXIWAY NJ TO TAXIWAY NN. -- TAXIWAY NK CLOSED RUNWAY 8R - 26L TO TAXIWAY NB. -- TAXIWAY NL CLOSED RUNWAY 8R - 26L TO TAXIWAY NA.	-- ACROSS TAXIWAY NA, EAST OF TAXIWAY NJ. THESE BARRICADES REMOVED UPON COMPLETION OF SUBPHASE 11A. -- ACROSS TAXIWAY NK, NORTH OF TAXIWAY NB. THESE BARRICADES REMOVED UPON COMPLETION OF SUBPHASE 11A. -- ACROSS TAXIWAY NK, SOUTH OF THE RSA. THESE BARRICADES REMOVED UPON COMPLETION OF SUBPHASE 11A. -- ACROSS TAXIWAY NL, SOUTH OF THE RSA. THESE BARRICADES REMOVED UPON COMPLETION OF SUBPHASE 11A. -- ACROSS TAXIWAY NA, WEST OF TAXIWAY NN. -- ACROSS TAXIWAY NA, EAST OF TAXIWAY NL. INSTALL THESE BARRICADES UPON COMPLETION OF SUBPHASE 11A AND RETURN TO SERVICE OF TAXIWAYS NK AND NL.	SUBPHASES 11A / 11B / 11C



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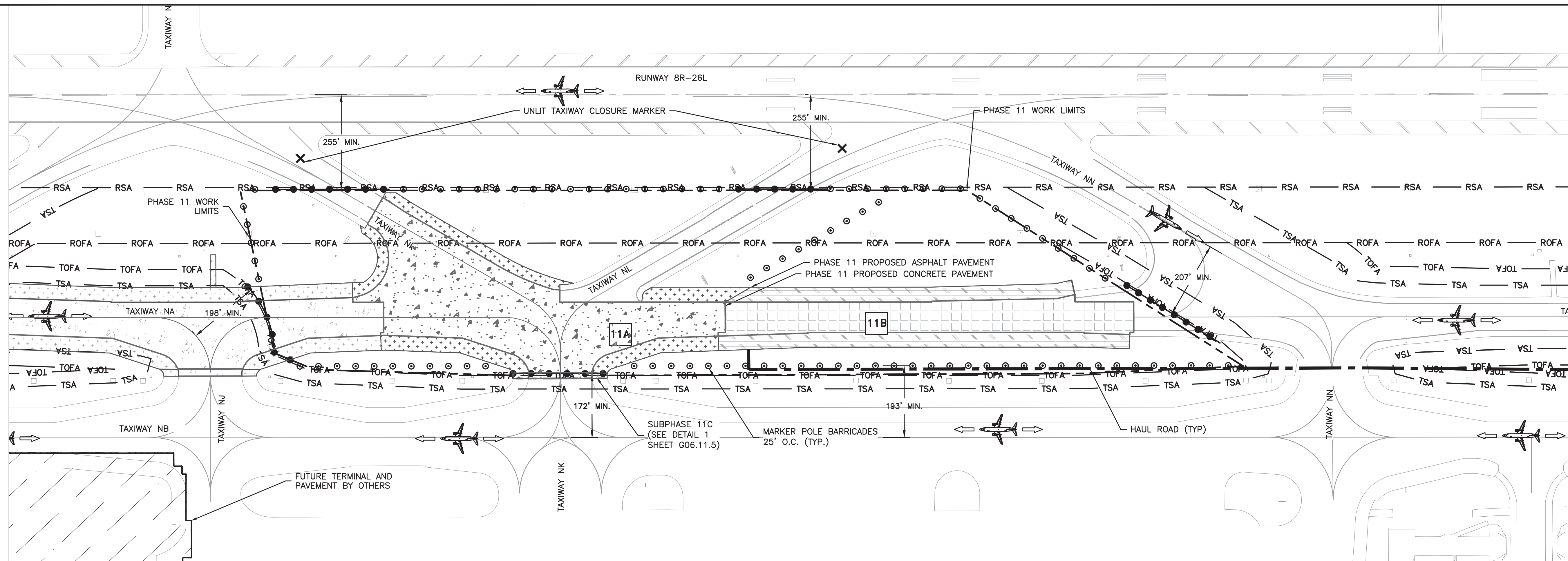
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DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1" = 400'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Pahel* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.





**PHASE 11 CONSTRUCTION SEQUENCING AND OPERATIONS  
 NOTES - SUBPHASE 11A**

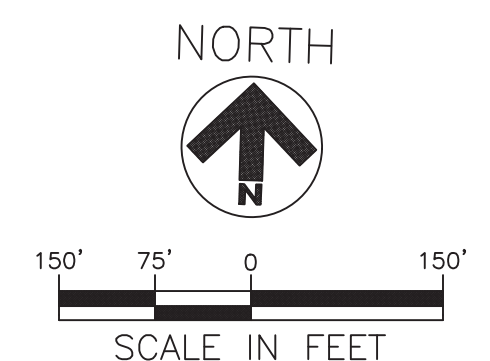
**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- PROPOSED CONCRETE PAVEMENT IN FOLLOWING SUBPHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT IN FOLLOWING SUBPHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- TSA PHASE 11 TAXIWAY SAFETY AREA
- TOFA PHASE 11 TAXIWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- ROFA RUNWAY OBJECT FREE AREA

1. PHASE 11 MAY NOT COMMENCE UNTIL THE PHASE 10 WORK AREA IS OPENED TO ALL AIRCRAFT TRAFFIC.
2. THE INTENT OF DIVIDING SUBPHASES 11A AND 11B IS TO MINIMIZE THE OVERALL DURATION OF PHASE 11. THE CONTRACTOR SHALL FOCUS INTENTLY ON COMPLETING THE DEMOLITION WORK OF SUBPHASE 11A PRIOR TO COMMENCEMENT OF SUBPHASE 11B. ALL WORK IN SUBPHASES 11A AND 11B MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS.
3. SUBPHASE 11C SHALL BE COMPLETED CONCURRENTLY WITH SUBPHASE 11A. HOWEVER, SUBPHASE 11C SHALL BE LIMITED TO NIGHTTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 23 CALENDAR DAYS TO COMPLETE SUBPHASE 11C.
4. THE CONTRACTOR WILL BE ALLOWED 82 CALENDAR DAYS TO COMPLETE PHASE 11.
5. CONSTRUCTION TASKS FOR PHASE SUBPHASE 11A ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.11.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 11.
    - i. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NJ TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NJ CENTERLINE.
    - ii. ACROSS TAXIWAY NK, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
    - iii. ACROSS TAXIWAY NK, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - iv. ACROSS TAXIWAY NL, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - v. ACROSS TAXIWAY NA, WEST OF THE TAXIWAY NN TOFA, APPROXIMATELY 207 FEET FROM THE TAXIWAY NN CENTERLINE.

- MARKER POLE BARRICADES SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 25 FEET AT THE FOLLOWING LOCATIONS:
- i. IN THE TAXIWAY NA / TAXIWAY NB INFIELD, APPROXIMATELY 193 FEET FROM THE TAXIWAY NB CENTERLINE, BETWEEN TAXIWAYS NJ AND NK, BETWEEN TAXIWAYS NK AND NN, AND BETWEEN TAXIWAYS NN AND NP. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 7 CONSTRUCTION OPERATIONS.
  - ii. IN THE INFIELD NORTH OF TAXIWAY NA, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE, BETWEEN TAXIWAYS NH AND NK. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 9 CONSTRUCTION OPERATIONS.
  - iii. IN THE INFIELD NORTH OF TAXIWAY NA, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE, BETWEEN TAXIWAYS NK AND NL AND BETWEEN TAXIWAYS NL AND NN.
- C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 11.
  - D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBLITERATED THROUGHOUT THE DURATION OF PHASE 11.
  - E. INSTALL UNLIT TAXIWAY CLOSURE MARKER AT THE ENTRANCE OF TAXIWAY NK FROM RUNWAY 8R - 26L.
  - F. INSTALL UNLIT TAXIWAY CLOSURE MARKER AT THE ENTRANCE OF TAXIWAY NL FROM RUNWAY 8R - 26L.
  - G. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.11.4.
  - H. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.

- I. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
- J. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
- K. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
- L. DEWATER EXCAVATION AREAS, AS APPLICABLE.
- M. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
- N. INSTALL NEW ELECTRICAL COMPONENTS.
- O. CONSTRUCT NEW PAVEMENT SECTION.
- P. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NJ AND TAXIWAY NK. REMOVE SECTION OF TEMPORARY HAUL ROAD BETWEEN TAXIWAY NK AND TAXIWAY NN NOT REQUIRED FOR USE BY THE CONTRACTOR DURING PHASE 12 CONSTRUCTION OPERATIONS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11B CONSTRUCTION OPERATIONS.
- Q. PERFORM FINISH GRADING ACTIVITIES.
- R. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
- S. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED. THIS SHALL BE CONCURRENT WITH SUBPHASE 11B CONSTRUCTION OPERATIONS.
- T. INSTALL END OF PHASE PAVEMENT MARKINGS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11B CONSTRUCTION OPERATIONS. SEE SHEET G06.11.4.
- U. PERFORM A FINAL CLEANING OF THE WORK AREA. THIS SHALL BE CONCURRENT WITH SUBPHASE 11B CONSTRUCTION OPERATIONS.
- V. REMOVE UNLIT TAXIWAY CLOSURE MARKERS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11B CONSTRUCTION OPERATIONS.
- W. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11B CONSTRUCTION OPERATIONS.
- X. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11B CONSTRUCTION OPERATIONS.
- Y. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA. THIS SHALL BE CONCURRENT WITH SUBPHASE 11B CONSTRUCTION OPERATIONS.
- Z. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.





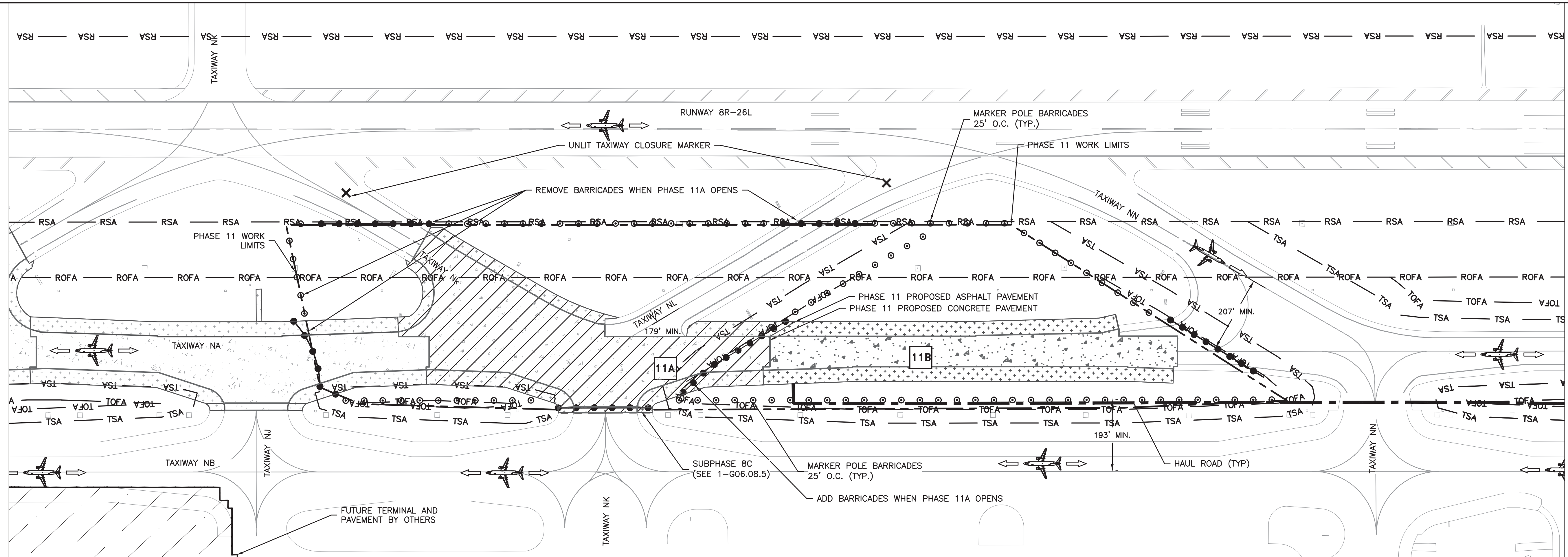


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 www.rsandh.com  
 TBPE Registration No. F-3401

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - PHASE 11  
SUBPHASE 11B (3 OF 3)**



**PHASE 11 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES - SUBPHASE 11B**

**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- CONCRETE PAVEMENT COMPLETED CONCURRENTLY
- ASPHALT SHOULDER PAVEMENT COMPLETED CONCURRENTLY
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- TSA PHASE 11 TAXIWAY SAFETY AREA
- TOFA PHASE 11 TAXIWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- ROFA RUNWAY OBJECT FREE AREA

1. PHASE 11 MAY NOT COMMENCE UNTIL THE PHASE 10 WORK AREA IS OPENED TO ALL AIRCRAFT TRAFFIC.
2. THE INTENT OF DIVIDING SUBPHASES 11A AND 11B IS TO MINIMIZE THE OVERALL DURATION OF PHASE 11. THE CONTRACTOR SHALL FOCUS INTENTLY ON COMPLETING THE DEMOLITION WORK OF SUBPHASE 11A PRIOR TO COMMENCEMENT OF SUBPHASE 11B. ALL WORK IN SUBPHASES 11A AND 11B MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS.
3. THE CONTRACTOR WILL BE ALLOWED 82 CALENDAR DAYS TO COMPLETE PHASE 11.
4. CONSTRUCTION TASKS FOR SUBPHASE 11B ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.11.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 11.
 

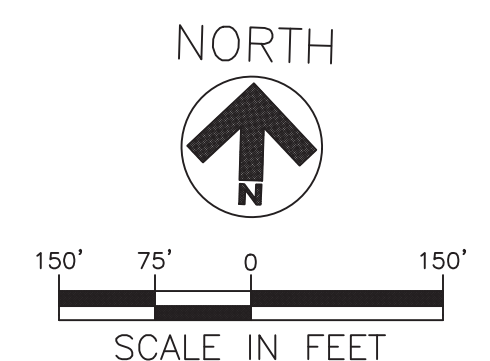
LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:

    - i. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NJ TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NJ CENTERLINE. THESE LOW-PROFILE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 11A CONSTRUCTION OPERATIONS. REMOVE THESE BARRICADES UPON COMPLETION OF SUBPHASE 11A.
    - ii. ACROSS TAXIWAY NK, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE. THESE LOW-PROFILE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 11A CONSTRUCTION OPERATIONS. REMOVE THESE BARRICADES UPON COMPLETION OF SUBPHASE 11A.
    - iii. ACROSS TAXIWAY NK, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE. THESE LOW-PROFILE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 11A CONSTRUCTION OPERATIONS. REMOVE THESE BARRICADES UPON COMPLETION OF SUBPHASE 11A.
- iv. ACROSS TAXIWAY NL, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE. THESE LOW-PROFILE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 11A CONSTRUCTION OPERATIONS. REMOVE THESE BARRICADES UPON COMPLETION OF SUBPHASE 11A.
- v. ACROSS TAXIWAY NA, WEST OF THE TAXIWAY NN TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NN CENTERLINE. THESE LOW-PROFILE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 11A CONSTRUCTION OPERATIONS.
- vi. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NL TOFA, APPROXIMATELY 179 FEET FROM THE TAXIWAY NL CENTERLINE. INSTALL THESE BARRICADES UPON COMPLETION OF SUBPHASE 11A AND RETURN TO SERVICE OF TAXIWAYS NK AND NL.
 

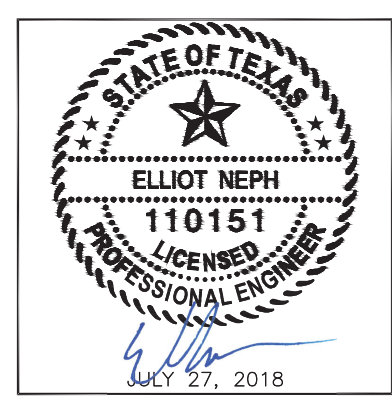
MARKER POLE BARRICADES SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 25 FEET AT THE FOLLOWING LOCATIONS:

  - i. IN THE TAXIWAY NA / TAXIWAY NB INFIELD, APPROXIMATELY 193 FEET FROM THE TAXIWAY NB CENTERLINE, BETWEEN TAXIWAYS NJ AND NK, BETWEEN TAXIWAYS NK AND NN, AND BETWEEN TAXIWAYS NN AND NP. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 7 CONSTRUCTION OPERATIONS.
  - ii. IN THE INFIELD NORTH OF TAXIWAY NA, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE, BETWEEN TAXIWAYS NH AND NK, BETWEEN TAXIWAYS NK AND NL, AND BETWEEN TAXIWAYS NL AND NN. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 11A CONSTRUCTION OPERATIONS.
  - iii. IN THE INFIELD NORTH OF TAXIWAY NA, OUTSIDE THE RSA, APPROXIMATELY 207 FEET FROM THE TAXIWAY NN CENTERLINE.

7. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED. THIS SHALL BE CONCURRENT WITH SUBPHASE 11A CONSTRUCTION OPERATIONS.
8. INSTALL END OF PHASE PAVEMENT MARKINGS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11A CONSTRUCTION OPERATIONS. SEE SHEET G06.11.4.
9. PERFORM A FINAL CLEANING OF THE WORK AREA. THIS SHALL BE CONCURRENT WITH SUBPHASE 11A CONSTRUCTION OPERATIONS.
10. REMOVE UNLIT TAXIWAY CLOSURE MARKERS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11A CONSTRUCTION OPERATIONS.
11. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11A CONSTRUCTION OPERATIONS.
12. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11A CONSTRUCTION OPERATIONS.
13. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA. THIS SHALL BE CONCURRENT WITH SUBPHASE 11A CONSTRUCTION OPERATIONS.
14. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.
15. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.11.4.
16. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
17. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
18. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
19. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
20. REMOVE AND SALVAGE / DISPOSE OF EXISTING DRAINAGE COMPONENTS.
21. DEWATER EXCAVATION AREAS, AS APPLICABLE.
22. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
23. INSTALL NEW DRAINAGE COMPONENTS.
24. INSTALL NEW ELECTRICAL COMPONENTS.
25. CONSTRUCT NEW PAVEMENT SECTION.
26. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NJ AND TAXIWAY NK. REMOVE SECTION OF TEMPORARY HAUL ROAD BETWEEN TAXIWAY NK AND TAXIWAY NN NOT REQUIRED FOR USE BY THE CONTRACTOR DURING PHASE 12 CONSTRUCTION OPERATIONS. THIS SHALL BE CONCURRENT WITH SUBPHASE 11A CONSTRUCTION OPERATIONS.
27. PERFORM FINISH GRADING ACTIVITIES.
28. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.



ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Davej Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

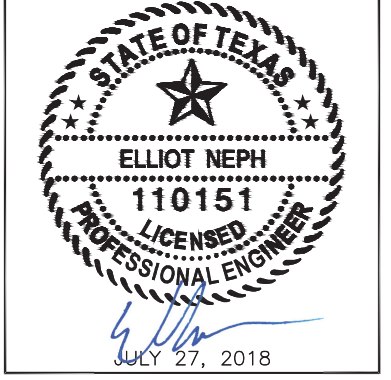
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 11  
 MARKINGS**

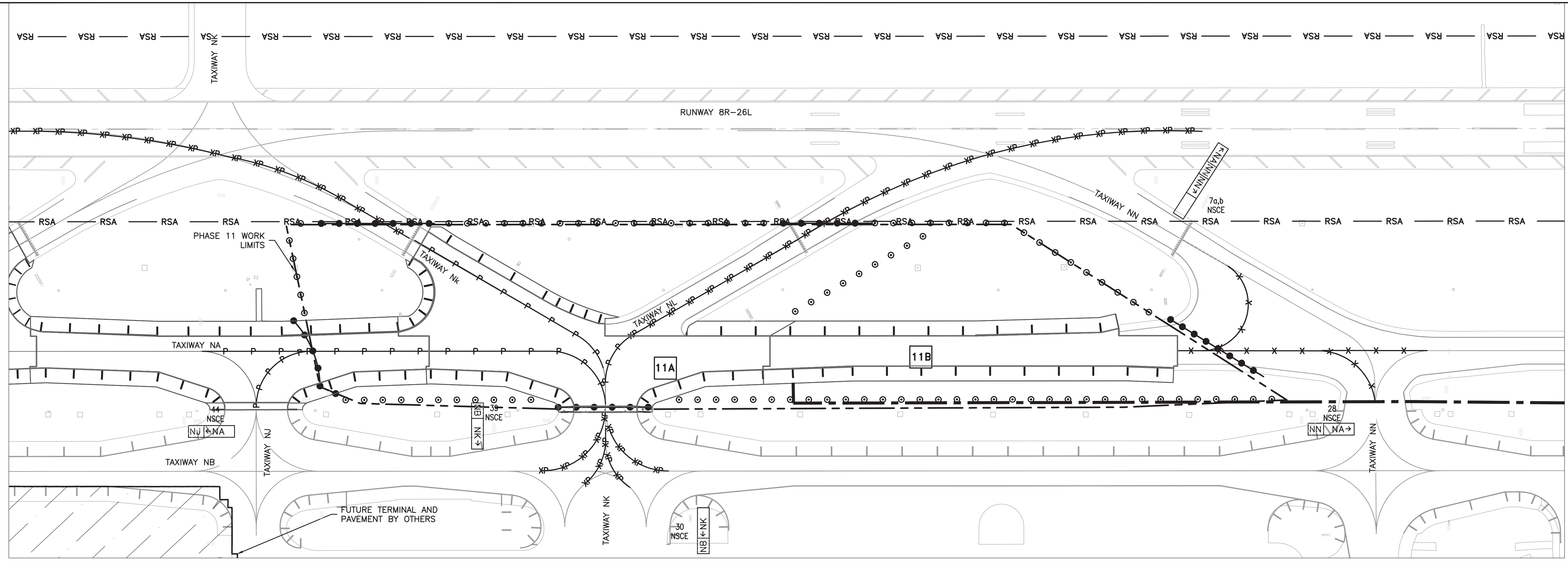
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DESIGNER: EBN
DRAWN BY: MRM
CHECKED BY: SMC
SCALE: 1"=150'
DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

G06.11.4



**LEGEND**

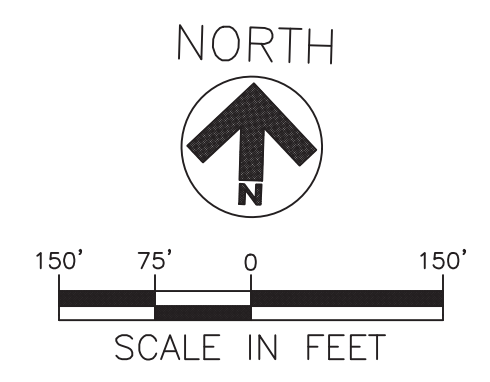
- # PHASE INDICATOR
- o MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- - - PHASE LIMITS
- RSA — RUNWAY SAFETY AREA
- x x Q MARKING REMOVAL
- xt xt Q MARKING REMOVAL, REPLACE WITH TEMPORARY Q INSTALLED THIS PHASE
- xp xp Q MARKING REMOVAL, REPLACE WITH PERMANENT Q INSTALLED THIS PHASE
- p p PERMANENT Q INSTALLED THIS PHASE
- t t TEMPORARY Q INSTALLED THIS PHASE
- 12 NCSW SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- NA ND SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- 8L-26R LOCATION PANEL (L-858L)
- MANDATORY INSTRUCTION PANEL (L-858Y)
- MANDATORY INSTRUCTION PANEL (L-858R)

**PHASING PLAN MARKING NOTES**

- ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
- ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (COB SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
  - A. ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).

AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S), REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.

THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-620, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
  - A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.
  - B. TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.
  - C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
- THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.





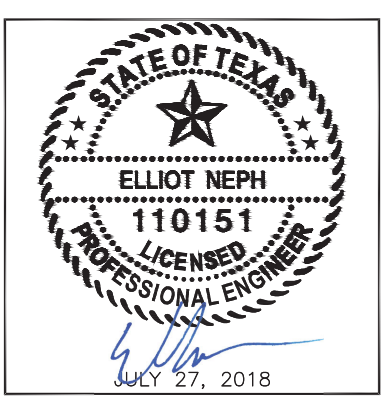


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 TBPE Registration No. F-3401

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 11  
 TRANSITIONS AND TIE-INS**

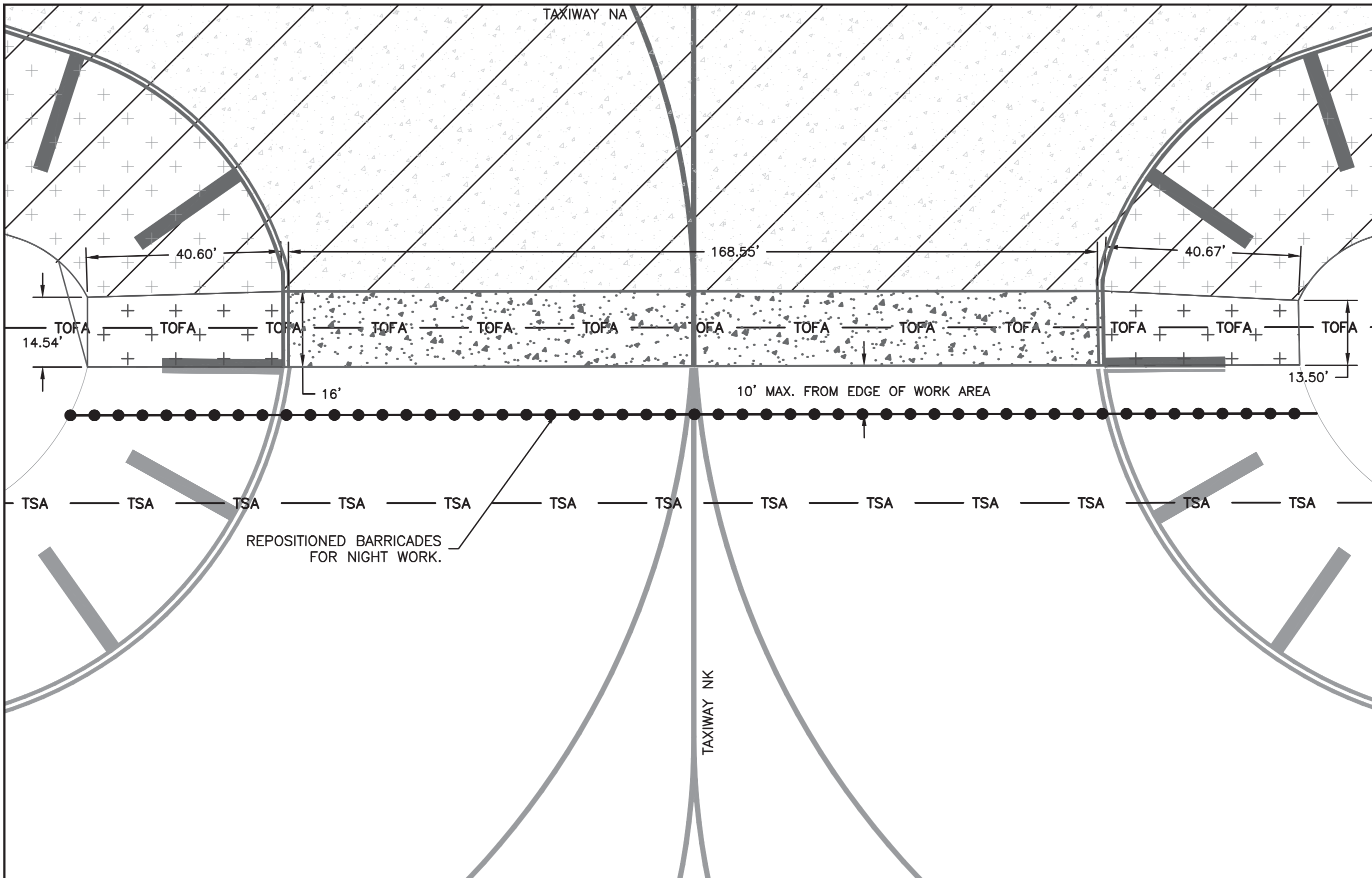
ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=20'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Rahmel* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**G06.11.5**



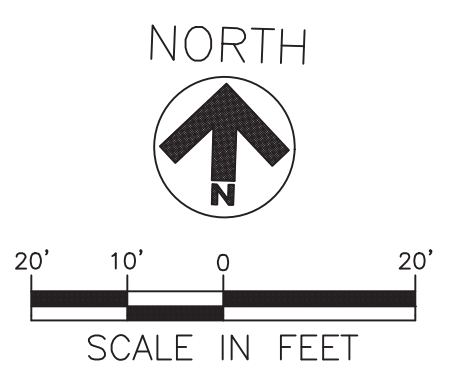
**1**  
 G06.11.5 **SUBPHASE 11C - TAXIWAY NK**  
 SCALE: 1" = 20'

**LEGEND**

- CONCRETE PAVEMENT COMPLETED CONCURRENTLY
- ASPHALT SHOULDER PAVEMENT COMPLETED CONCURRENTLY
- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- LOW PROFILE BARRICADE (EXACT POSITION)
- TSA TAXIWAY SAFETY AREA
- TOFA RUNWAY OBJECT FREE AREA
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE

**NOTES**

1. REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.





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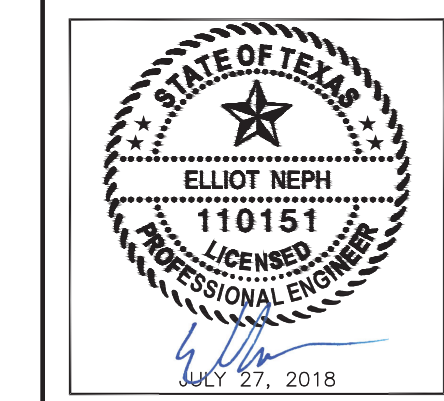
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 12**  
 (1 OF 3)

ISSUED FOR BID

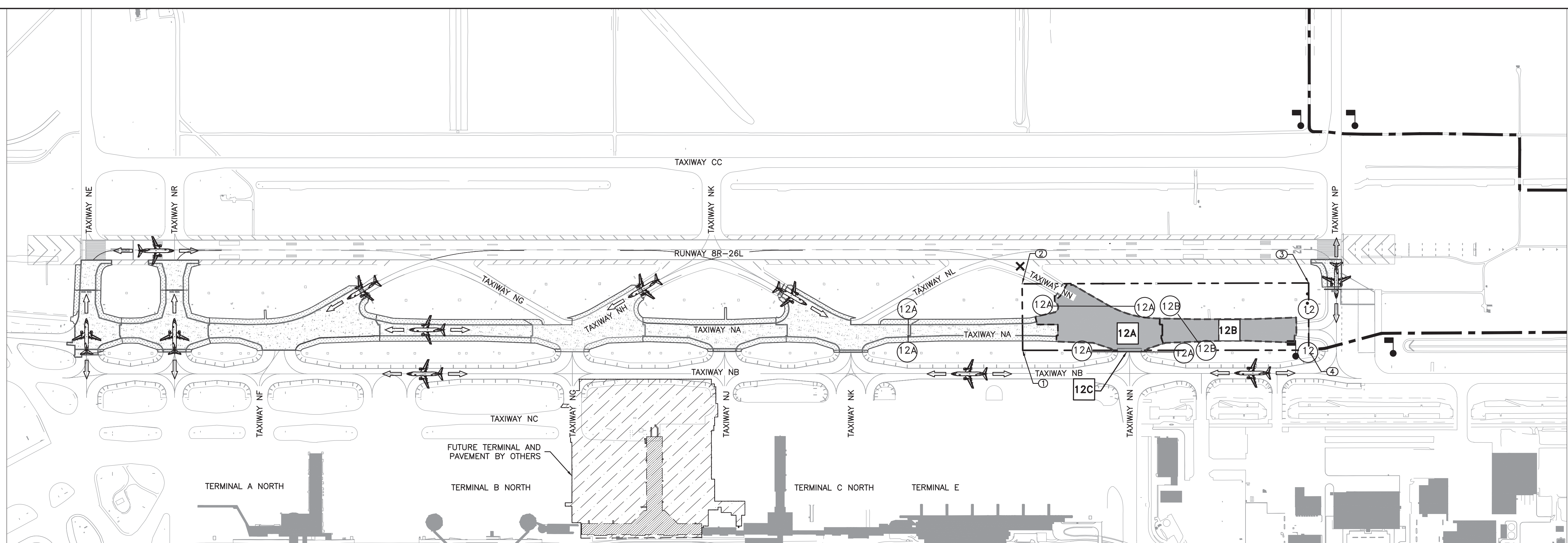
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1" = 400'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Pahnd* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**G06.12.1**



**PHASE 12 MOVEMENT NOTES**

- SEE PLAN SHEETS G06.03.1 AND G06.03.3 - G06.03.7 FOR PROPOSED HAUL ROUTE.
- THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 12:
  - TAXIWAY NA WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE WEST SIDE OF TAXIWAY NN TO THE EAST SIDE OF TAXIWAY NP.
  - TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) FROM THE WEST SIDE OF TAXIWAY NN TO THE EAST SIDE OF TAXIWAY NP, EXCEPT WHEN SUBJECT TO "MARKER POLE EVACUATION" OPERATIONS AND DURING SUBPHASE 12C CONSTRUCTION OPERATIONS.
  - DURING SUBPHASE 12C CONSTRUCTION OPERATIONS (NIGHTTIME OPERATIONS ONLY), TAXIWAY NB WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE WEST SIDE OF TAXIWAY NN TO THE WEST SIDE OF TAXIWAY NP.
  - TAXIWAY NA WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE EAST SIDE OF TAXIWAY NL TO THE WEST SIDE OF TAXIWAY NP.
  - TAXIWAY NK WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
  - TAXIWAY NL WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO TAXIWAY NA.
- THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSING WITH TAXIWAY NP, OR AS DIRECTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN PHASE 12. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
- THE CONTRACTOR SHALL MAKE ALL PERSONNEL AWARE OF "MARKER POLE EVACUATION" OPERATIONS. FLAGMEN AND ALL OTHER CONTRACTOR PERSONNEL SHALL BE ON CONSTANT ALERT TO IDENTIFY ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225).
- REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

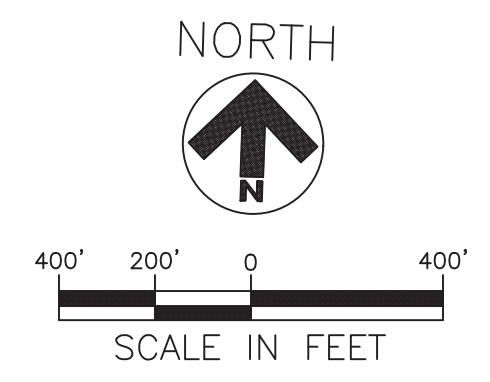
**LEGEND**

- PAVEMENT CONSTRUCTED THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- TABLE LOCATION POINT
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS

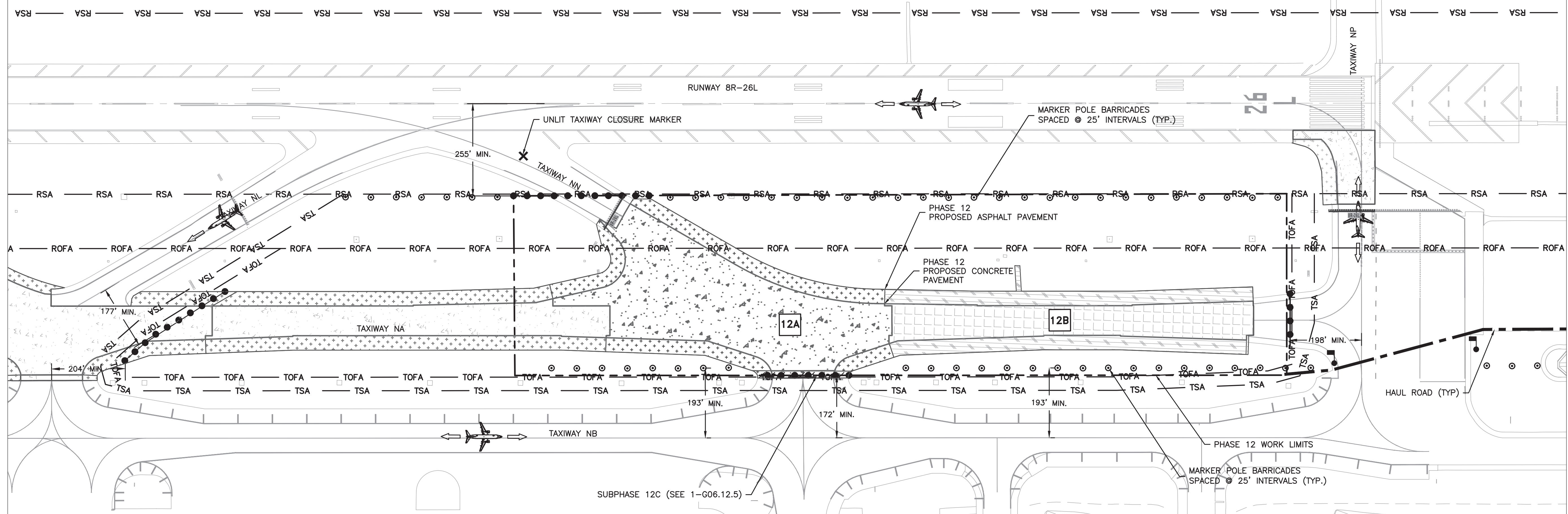
**PHASE 12 WORK LIMITS**

POINT #	NORTHING	EASTING
1	13927281.12	3129445.08
2	13927777.05	3129425.54
3	13927850.72	3131562.48
4	13927349.63	3131578.59

PHASE 12		DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
DURATION (DAYS)	WORK PERIOD	RESTRICTIONS --- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NN TO TAXIWAY NP. --- DURING SUBPHASE 12A AND 12B, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NN TO TAXIWAY NP. --- TAXIWAY NA CLOSED TAXIWAY NL TO TAXIWAY NP. --- TAXIWAY NK CLOSED TO RUNWAY 8R - 26L TO TAXIWAY NB. --- TAXIWAY NL CLOSED TO RUNWAY 8R - 26L TO TAXIWAY NA.	RESTRICTIONS --- TAXIWAY NA RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NN TO TAXIWAY NP. --- DURING SUBPHASE 12A AND 12B, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NN TO TAXIWAY NP. --- DURING SUBPHASE 12C, TAXIWAY NB RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NN TO TAXIWAY NP. --- TAXIWAY NA CLOSED TAXIWAY NL TO TAXIWAY NP. --- TAXIWAY NK CLOSED TO RUNWAY 8R - 26L TO TAXIWAY NB. --- TAXIWAY NL CLOSED TO RUNWAY 8R - 26L TO TAXIWAY NA.	--- ACROSS TAXIWAY NA, EAST OF TAXIWAY NL. THESE BARRICADES REMOVED UPON COMPLETION OF SUBPHASE 12A. --- ACROSS TAXIWAY NN, NORTH OF TAXIWAY NB. THESE BARRICADES REMOVED UPON COMPLETION OF SUBPHASE 12A. --- ACROSS TAXIWAY NN, SOUTH OF THE RSA. THESE BARRICADES REMOVED UPON COMPLETION OF SUBPHASE 12A. --- ACROSS TAXIWAY NA, WEST OF TAXIWAY NP. --- ACROSS TAXIWAY NA, EAST OF TAXIWAY NN.	SUBPHASES 12A / 12B / 12C, PHASE 14





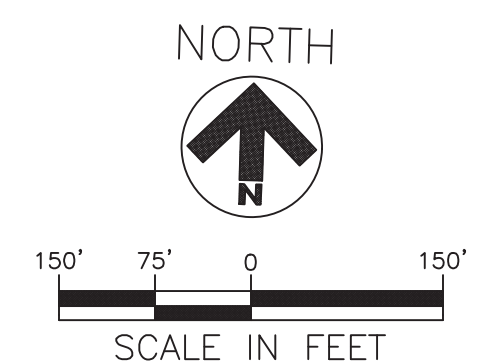


**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- PROPOSED CONCRETE PAVEMENT IN FOLLOWING SUBPHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT IN FOLLOWING SUBPHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- TSA PHASE 12 TAXIWAY SAFETY AREA
- TOFA PHASE 12 TAXIWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- ROFA RUNWAY OBJECT FREE AREA

**PHASE 12 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES - SUBPHASE 12A**

1. PHASE 12 MAY NOT COMMENCE UNTIL THE PHASE 11 WORK AREA IS OPENED TO ALL AIRCRAFT TRAFFIC.
2. THE INTENT OF DIVIDING SUBPHASES 12A AND 12B IS TO MINIMIZE THE OVERALL DURATION OF PHASE 12. THE CONTRACTOR SHALL FOCUS INTENTLY ON COMPLETING THE DEMOLITION WORK OF SUBPHASE 12A PRIOR TO COMMENCEMENT OF SUBPHASE 12B. ALL WORK IN SUBPHASES 12A AND 12B MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS.
3. SUBPHASE 12C SHALL BE COMPLETED CONCURRENTLY WITH SUBPHASE 12A. HOWEVER, SUBPHASE 12C SHALL BE LIMITED TO NIGHTTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 23 CALENDAR DAYS TO COMPLETE SUBPHASE 12C.
4. THE CONTRACTOR WILL BE ALLOWED 81 CALENDAR DAYS TO COMPLETE PHASE 12.
5. CONSTRUCTION TASKS FOR SUBPHASE 12A ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.12.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 12.
    - i. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NL TOFA, APPROXIMATELY 177 FEET FROM THE TAXIWAY NL CENTERLINE.
    - ii. ACROSS TAXIWAY NN, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.  
 DURING SUBPHASE 12C, THESE BARRICADES WILL BE TEMPORARILY RELOCATED TO APPROXIMATELY 10 FEET SOUTH OF THE SUBPHASE 12C PAVING LIMITS.
    - iii. ACROSS TAXIWAY NN, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
    - iv. ACROSS TAXIWAY NA, WEST OF THE TAXIWAY NP TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NP CENTERLINE.  
 MARKER POLE BARRICADES SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 25 FEET AT THE FOLLOWING LOCATIONS:
      - i. IN THE TAXIWAY NA / TAXIWAY NB INFIELD, APPROXIMATELY 193 FEET FROM THE TAXIWAY NB CENTERLINE, BETWEEN TAXIWAYS NK AND NN AND BETWEEN TAXIWAYS NN AND NP. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 7 CONSTRUCTION OPERATIONS.
      - ii. IN THE INFIELD NORTH OF TAXIWAY NA, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE, BETWEEN TAXIWAYS NL AND NN. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 11 CONSTRUCTION OPERATIONS.
      - iii. IN THE INFIELD NORTH OF TAXIWAY NA, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE TAXIWAYS NN AND NP.
  - C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 12.
  - D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBSCURED THROUGHOUT THE DURATION OF PHASE 12.
  - E. INSTALL UNLIT TAXIWAY CLOSURE MARKER AT THE ENTRANCE OF TAXIWAY NN FROM RUNWAY 8R - 26L.
  - F. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.12.4.
  - G. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
  - H. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
  - I. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT, CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
  - J. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
  - K. REMOVE AND SALVAGE / DISPOSE OF EXISTING DRAINAGE COMPONENTS.
  - L. DEWATER EXCAVATION AREAS, AS APPLICABLE.
  - M. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
  - N. INSTALL NEW DRAINAGE COMPONENTS.
  - O. INSTALL NEW ELECTRICAL COMPONENTS.
  - P. CONSTRUCT NEW PAVEMENT SECTION.
  - Q. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NK AND TAXIWAY NN. REMOVE SECTION OF TEMPORARY HAUL ROAD BETWEEN TAXIWAY NN AND TAXIWAY NP NOT REQUIRED FOR USE BY THE CONTRACTOR DURING PHASE 13 CONSTRUCTION OPERATIONS. THIS SHALL BE CONCURRENT WITH SUBPHASE 12B CONSTRUCTION OPERATIONS.
  - R. PERFORM FINISH GRADING ACTIVITIES.
  - S. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
  - T. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED. THIS SHALL BE CONCURRENT WITH SUBPHASE 12B CONSTRUCTION OPERATIONS.
  - U. INSTALL END OF PHASE PAVEMENT MARKINGS. THIS SHALL BE CONCURRENT WITH SUBPHASE 12B CONSTRUCTION OPERATIONS. SEE SHEET G06.12.4.
  - V. PERFORM A FINAL CLEANING OF THE WORK AREA. THIS SHALL BE CONCURRENT WITH SUBPHASE 12B CONSTRUCTION OPERATIONS.
  - W. REMOVE UNLIT TAXIWAY CLOSURE MARKER. THIS SHALL BE CONCURRENT WITH SUBPHASE 12B CONSTRUCTION OPERATIONS.
  - X. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THIS SHALL BE CONCURRENT WITH SUBPHASE 12B CONSTRUCTION OPERATIONS.
  - Y. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS. THIS SHALL BE CONCURRENT WITH SUBPHASE 12B CONSTRUCTION OPERATIONS.
  - Z. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA. THIS SHALL BE CONCURRENT WITH SUBPHASE 12B CONSTRUCTION OPERATIONS.
  - AA. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.



ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Pahnd* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
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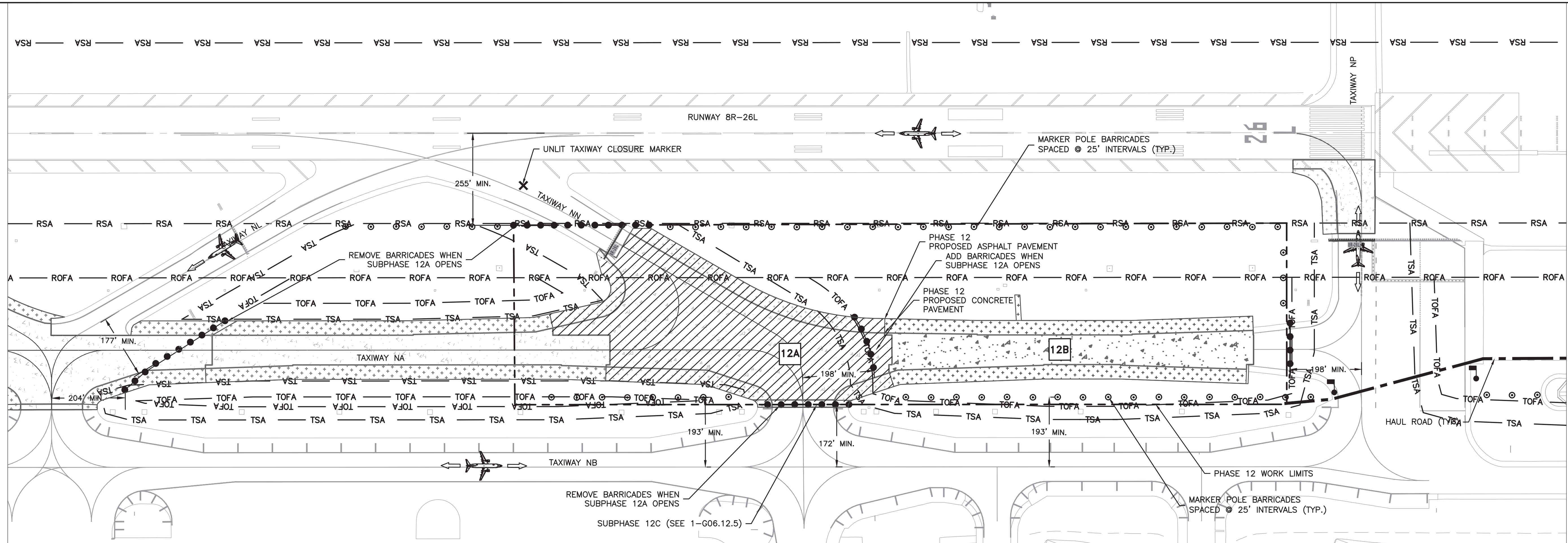




REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 12**  
**SUBPHASE 12B (3 OF 3)**

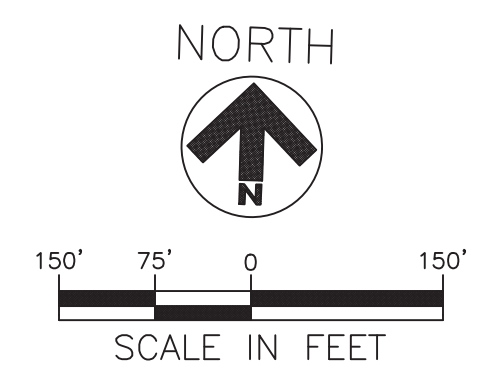


**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- CONCRETE PAVEMENT COMPLETED CONCURRENTLY
- ASPHALT SHOULDER PAVEMENT COMPLETED CONCURRENTLY
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- PHASE 12 TAXIWAY SAFETY AREA
- PHASE 12 TAXIWAY OBJECT FREE AREA
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA

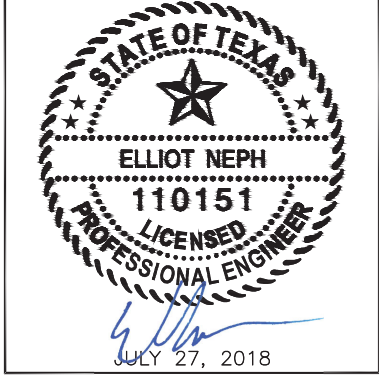
**PHASE 12 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES - SUBPHASE 12B**

1. PHASE 12 MAY NOT COMMENCE UNTIL THE PHASE 11 WORK AREA IS OPENED TO ALL AIRCRAFT TRAFFIC.
2. THE INTENT OF DIVIDING SUBPHASES 12A AND 12B IS TO MINIMIZE THE OVERALL DURATION OF PHASE 12. THE CONTRACTOR SHALL FOCUS INTENTLY ON COMPLETING THE DEMOLITION WORK OF SUBPHASE 12A PRIOR TO COMMENCEMENT OF SUBPHASE 12B. ALL WORK IN SUBPHASES 12A AND 12B MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS.
3. THE CONTRACTOR WILL BE ALLOWED 81 CALENDAR DAYS TO COMPLETE PHASE 12.
4. CONSTRUCTION TASKS FOR PHASE 12B ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.12.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 12.
    - LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
      - i. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NL TOFA, APPROXIMATELY 177 FEET FROM THE TAXIWAY NL CENTERLINE. THESE LOW-PROFILE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 12A CONSTRUCTION OPERATIONS. REMOVE THESE BARRICADES UPON COMPLETION OF SUBPHASE 12A.
      - ii. ACROSS TAXIWAY NN, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE. THESE LOW-PROFILE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 12A CONSTRUCTION OPERATIONS. REMOVE THESE BARRICADES UPON COMPLETION OF SUBPHASE 12A.
      - iii. ACROSS TAXIWAY NN, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE. THESE LOW-PROFILE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 12A CONSTRUCTION OPERATIONS. REMOVE THESE BARRICADES UPON COMPLETION OF SUBPHASE 12A.
      - iv. ACROSS TAXIWAY NA, WEST OF THE TAXIWAY NP TOFA, APPROXIMATELY 198 FEET FROM THE TAXIWAY NP CENTERLINE. THESE LOW-PROFILE BARRICADES SHOULD ALREADY BE IN PLACE FROM SUBPHASE 12A CONSTRUCTION OPERATIONS.
  - C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 12.
  - D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBFUSCATED THROUGHOUT THE DURATION OF PHASE 12.
  - E. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.12.4.
  - F. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
  - G. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
  - H. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
  - I. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
  - J. REMOVE AND SALVAGE / DISPOSE OF EXISTING DRAINAGE COMPONENTS.
  - K. DEWATER EXCAVATION AREAS, AS APPLICABLE.
  - L. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
  - M. INSTALL NEW DRAINAGE COMPONENTS.
  - N. INSTALL NEW ELECTRICAL COMPONENTS.
  - O. CONSTRUCT NEW PAVEMENT SECTION.
  - P. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NK AND TAXIWAY NN. REMOVE SECTION OF TEMPORARY HAUL ROAD BETWEEN TAXIWAY NN AND TAXIWAY NP. THIS SHALL BE CONCURRENT WITH SUBPHASE 12A CONSTRUCTION OPERATIONS.
  - Q. PERFORM FINISH GRADING ACTIVITIES.
  - R. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
  - S. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED. THIS SHALL BE CONCURRENT WITH SUBPHASE 12A CONSTRUCTION OPERATIONS.
  - T. INSTALL END OF PHASE PAVEMENT MARKINGS. THIS SHALL BE CONCURRENT WITH SUBPHASE 12A CONSTRUCTION OPERATIONS. SEE SHEET G06.12.4.
  - U. PERFORM A FINAL CLEANING OF THE WORK AREA. THIS SHALL BE CONCURRENT WITH SUBPHASE 12A CONSTRUCTION OPERATIONS.
  - V. REMOVE UNLIT TAXIWAY CLOSURE MARKER. THIS SHALL BE CONCURRENT WITH SUBPHASE 12A CONSTRUCTION OPERATIONS.
  - W. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THIS SHALL BE CONCURRENT WITH SUBPHASE 12A CONSTRUCTION OPERATIONS.
  - X. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBFUSCATED GUIDANCE SIGNS. THIS SHALL BE CONCURRENT WITH SUBPHASE 12A CONSTRUCTION OPERATIONS.
  - Y. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA. THIS SHALL BE CONCURRENT WITH SUBPHASE 12A CONSTRUCTION OPERATIONS.
  - Z. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.



ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
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DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Pahnd* DATE:  
 HOUSTON AIRPORT SYSTEMS  
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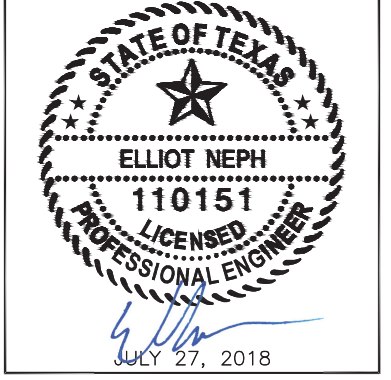


NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 12  
 MARKINGS**

ISSUED FOR BID

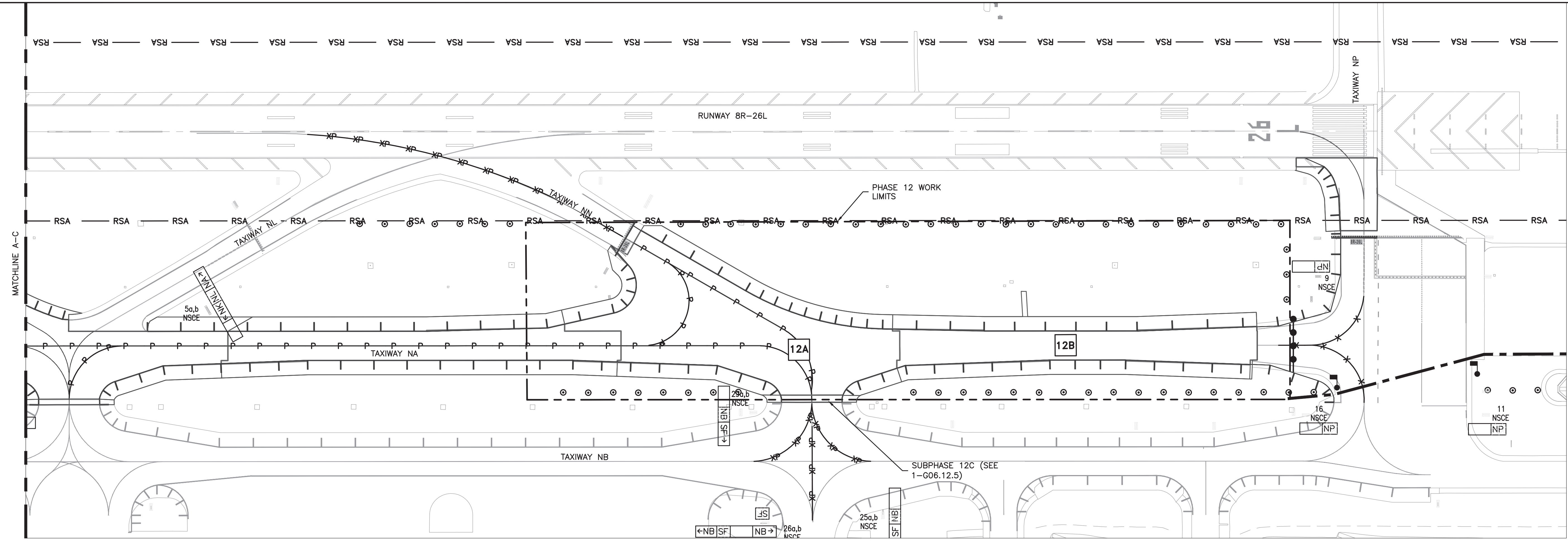
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	<i>Davej Pahnd</i>	
	HOUSTON AIRPORT SYSTEMS	AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

G06.12.4



### LEGEND

- # PHASE INDICATOR
- o MARKER POLE BARRICADE
- FLAGMAN
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RSA RUNWAY SAFETY AREA
- x-x MARKING REMOVAL
- xt-xt MARKING REMOVAL, REPLACE WITH TEMPORARY Q INSTALLED THIS PHASE
- xp-xp MARKING REMOVAL, REPLACE WITH PERMANENT Q INSTALLED THIS PHASE
- p-p PERMANENT Q INSTALLED THIS PHASE
- t-t TEMPORARY Q INSTALLED THIS PHASE
- 12 NCSW SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- NA ND SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- 8L-26R LOCATION PANEL (L-858L)
- DESTINATION PANEL (L-858Y)
- MANDATORY INSTRUCTION PANEL (L-858R)

### PHASING PLAN MARKING NOTES

- ALL PAVEMENT MARKING REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF MARKINGS.
- ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (COB SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
 

A. ALL PAVEMENT MARKINGS SHOWN ON THE PHASING DRAWINGS ASSUME ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS, INCLUDING PAVEMENT CURING WAITING PERIODS, HAVE BEEN ACHIEVED. IF THE PROJECT SCHEDULE REQUIRES THE CONTRACTOR TO OPEN ANY CLOSED PAVEMENT(S) BEFORE PERMANENT MARKINGS CAN BE APPLIED, OR IF SO DIRECTED BY AIRPORT OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY MARKINGS AS NECESSARY IN ORDER TO OPEN CLOSED THE CLOSED PAVEMENT(S).

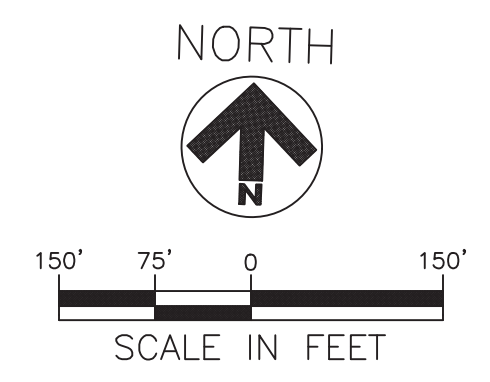
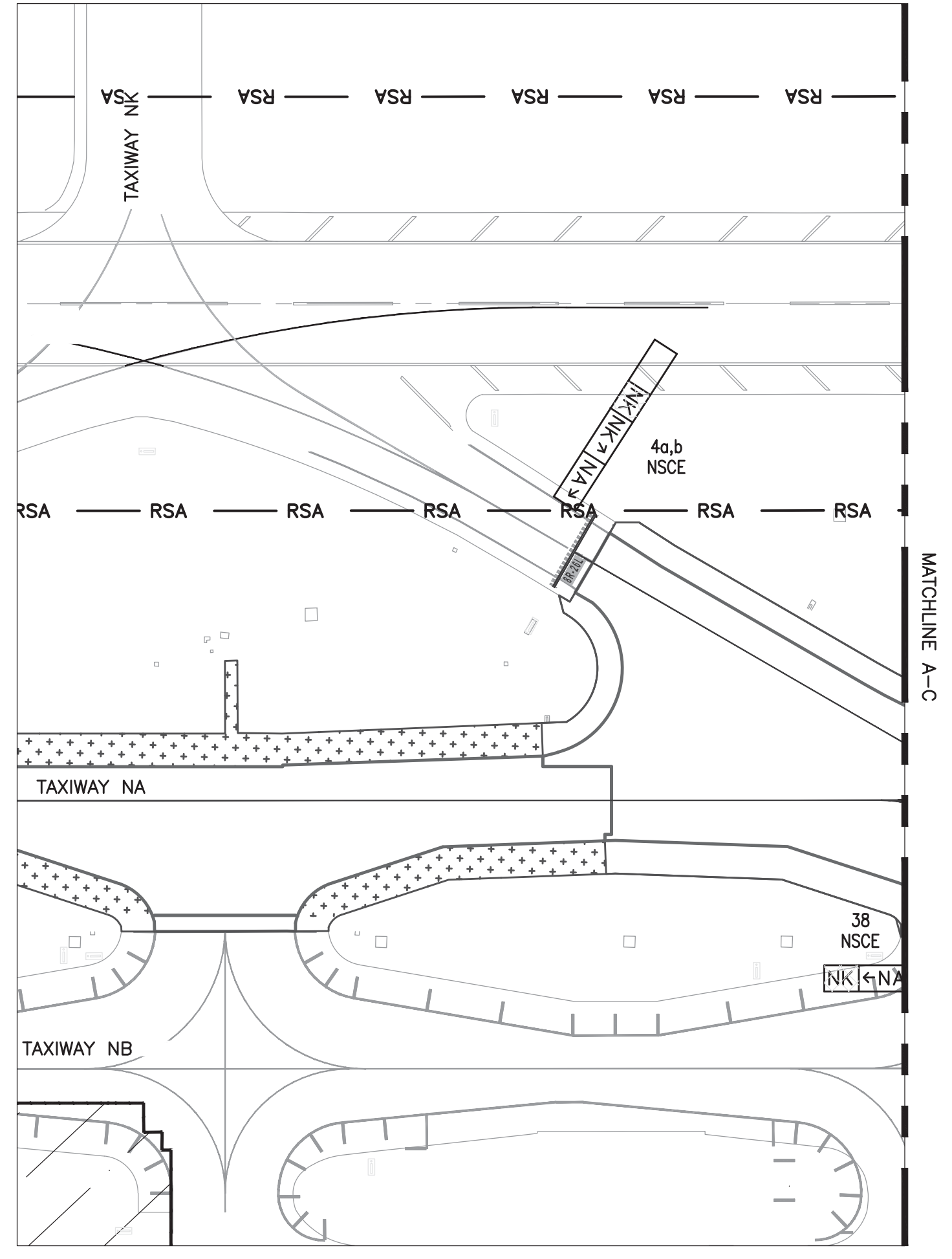
AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S), REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.

THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.
- TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-620, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
 

A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.

B. TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.

C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
- THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.







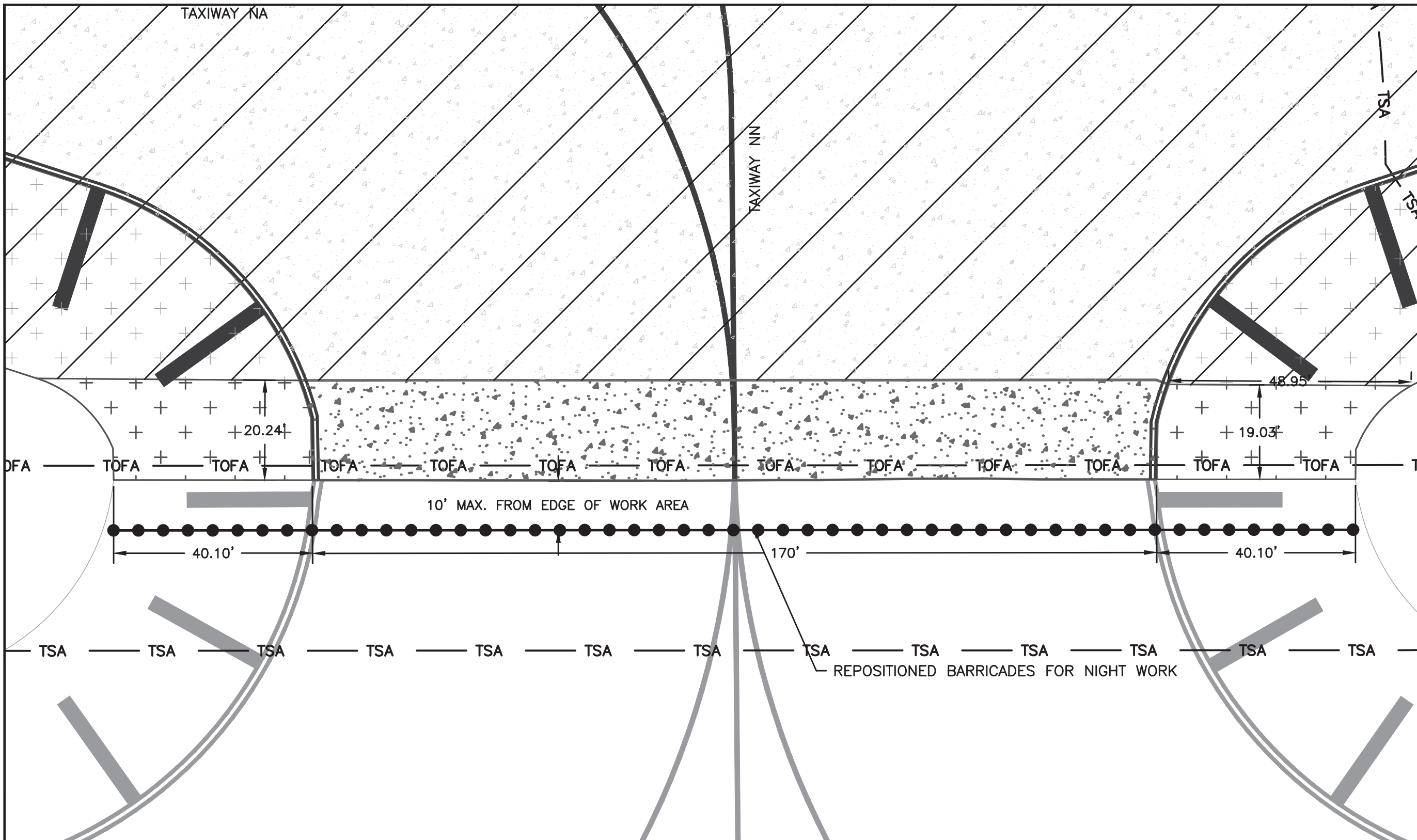
HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

**RS&H**  
 RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 12  
 TRANSITIONS AND TIE-INS**



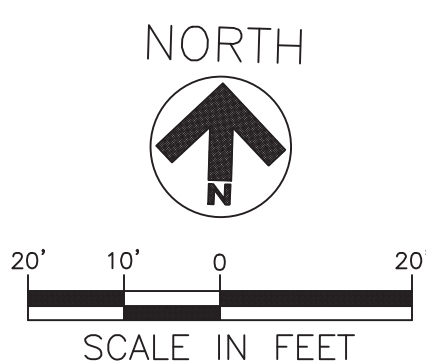
**1**  
 G06.12.5 **SUBPHASE 12C - TAXIWAY NN**  
 SCALE: 1" = 20'

**LEGEND**

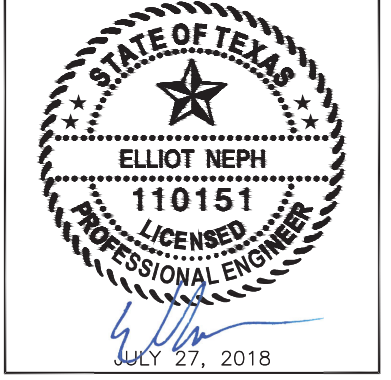
- CONCRETE PAVEMENT COMPLETED CONCURRENTLY
- ASPHALT PAVEMENT COMPLETED CONCURRENTLY
- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- LOW PROFILE BARRICADE (EXACT POSITION)
- TSA TAXIWAY SAFETY AREA
- TOFA RUNWAY OBJECT FREE AREA
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE
- TEMPORARY MARKING INSTALLED THIS PHASE

**NOTES**

- REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.



ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	ARM
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=20'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Rahmel* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

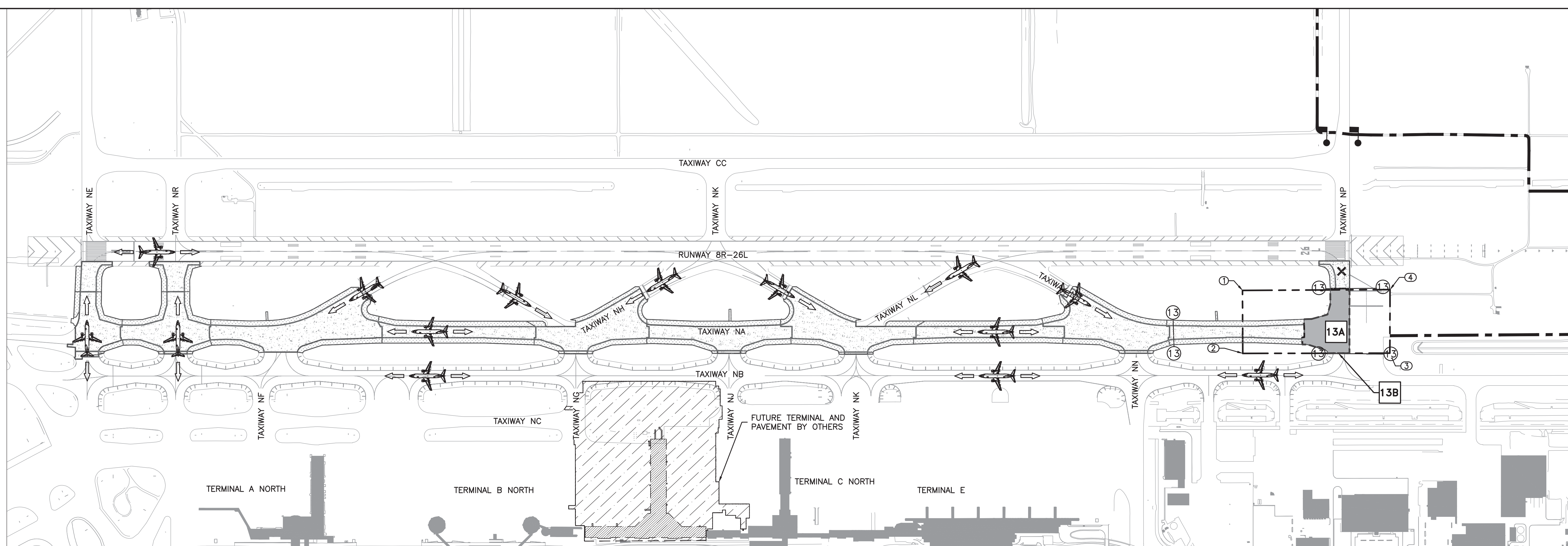
**G06.12.5**



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REVISIONS		
NO.	DESCRIPTION	DATE

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 13**  
 (1 OF 2)



**LEGEND**

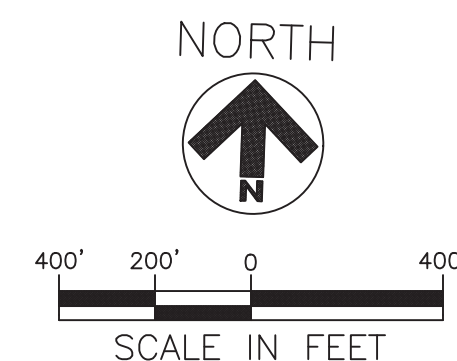
- PAVEMENT CONSTRUCTED THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS

**PHASE 13 NOTES MOVEMENT NOTES**

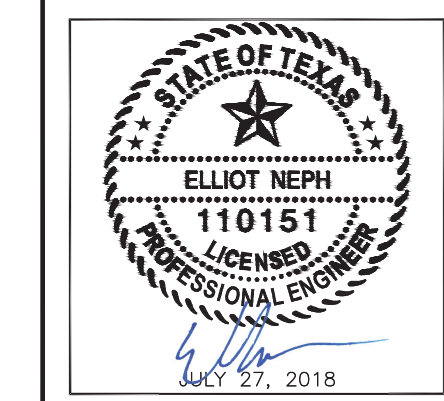
- SEE PLAN SHEET G06.03.1 AND G06.03.3 - G06.03.7 FOR PROPOSED HAUL ROUTE.
- THE FOLLOWING AIRFIELD AIRCRAFT TRAFFIC OPERATIONS WILL BE MODIFIED DURING PHASE 13:
  - A. TAXIWAY NB WILL BE RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) FROM THE EAST SIDE OF TAXIWAY NN TO THE EAST SIDE OF TAXIWAY NP, EXCEPT WHEN SUBJECT TO "MARKER POLE EVACUATION" OPERATIONS AND DURING SUBPHASE 13B CONSTRUCTION OPERATIONS.
  - B. DURING SUBPHASE 13B CONSTRUCTION OPERATIONS (NIGHTTIME OPERATIONS ONLY), TAXIWAY NB WILL BE RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) FROM THE EAST SIDE OF TAXIWAY NN TO THE EAST SIDE OF TAXIWAY NP.
  - C. TAXIWAY NA WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM THE EAST SIDE OF TAXIWAY NN TO THE EAST SIDE OF TAXIWAY NP.
  - D. TAXIWAY NP WILL BE CLOSED TO AIRCRAFT TRAFFIC FROM RUNWAY 8R - 26L TO THE NORTH SIDE OF TAXIWAY NB.
- THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSING WITH TAXIWAY NP, OR AS DIRECTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN PHASE 13. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED BY THE CONTRACTOR TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
- THE CONTRACTOR SHALL MAKE ALL PERSONNEL AWARE OF "MARKER POLE EVACUATION" OPERATIONS. FLAGMEN AND ALL OTHER CONTRACTOR PERSONNEL SHALL BE ON CONSTANT ALERT TO IDENTIFY ANY AIRCRAFT EXCEEDING THE OPERATIONAL CAPACITY OF THE MODIFIED ADG VI TOFA (I.E. AIRBUS A-380-800, ANTONOV AN 124, ANTONOV AN 225).
- REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

PHASE 13 WORK LIMITS		
POINT #	NORTHING	EASTING
1	13927790.64	3131013.93
2	13927323.67	3131030.76
3	13927359.47	3132121.02
4	13927830.59	3132107.46

PHASE 13					
DURATION (DAYS)	WORK PERIOD	DAYTIME (0600 HOURS TO 2200 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	NIGHTTIME (2200 HOURS TO 0600 HOURS) PAVEMENT CLOSURES / RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
SUBPHASE 13A - 51 CALENDAR DAYS	SUBPHASE 13A - DAY AND NIGHT	RESTRICTIONS -- DURING SUBPHASE 13A, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NN TO TAXIWAY NP. CLOSURES	RESTRICTIONS -- DURING SUBPHASE 13A, TAXIWAY NB RESTRICTED TO MODIFIED ADG VI AIRCRAFT OPERATIONS (TOFA - 335 FEET, MAXIMUM AIRCRAFT - B-747-8) TAXIWAY NN TO TAXIWAY NP. -- DURING SUBPHASE 13B, TAXIWAY NB RESTRICTED TO ADG IV AIRCRAFT OPERATIONS (TOFA - 259 FEET, MAXIMUM AIRCRAFT - B-767-400ER) TAXIWAY NN TO TAXIWAY NP. CLOSURES	-- ACROSS TAXIWAY NP AND THE RUN UP PAD, NORTH OF TAXIWAY NB. -- ACROSS TAXIWAY NP, SOUTH OF THE RSA. -- ACROSS TAXIWAY NA, EAST OF TAXIWAY NN.	SUBPHASES 13A / 13B, PHASE 14
SUBPHASE 13B - 23 CALENDAR DAYS	SUBPHASE 13B - NIGHT ONLY	-- TAXIWAY NA CLOSED TAXIWAY NN TO TAXIWAY NP. -- TAXIWAY NP CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.	-- TAXIWAY NA CLOSED TAXIWAY NN TO TAXIWAY NP. -- TAXIWAY NP CLOSED RUNWAY 8R - 26L TO TAXIWAY NB.		



ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1" = 400'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Dorey Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**G06.13.1**



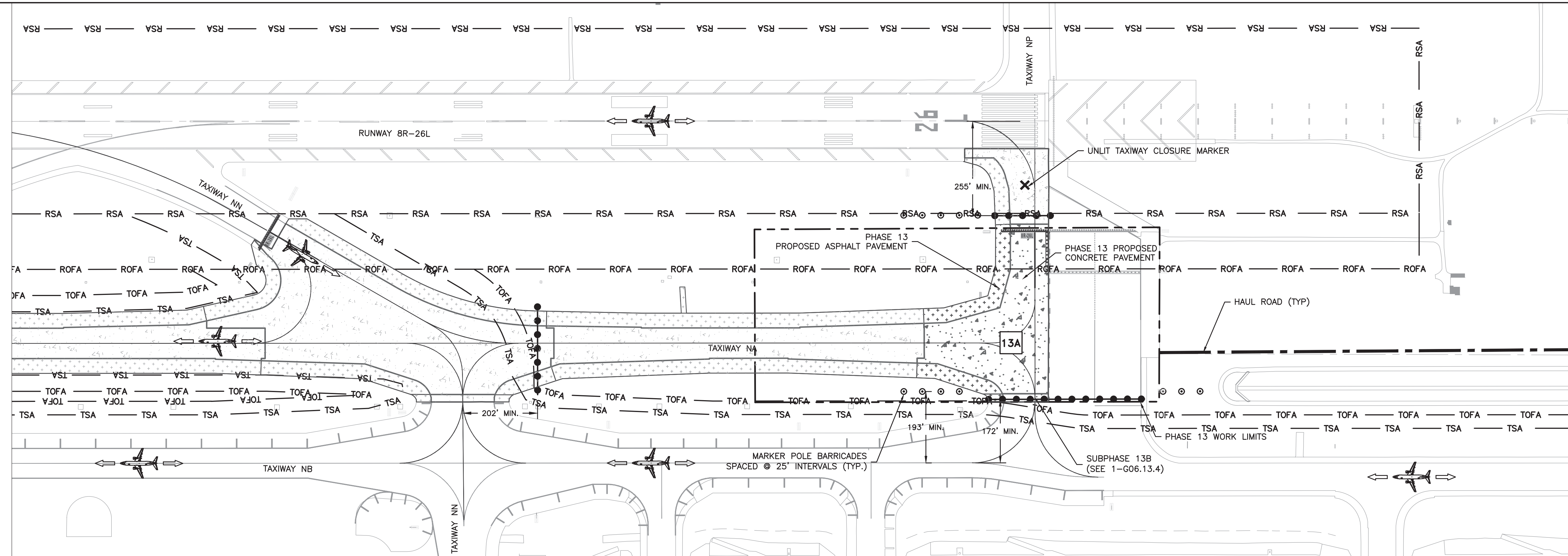
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 TBPE Registration No. F-3401

REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - PHASE 13**  
 (2 OF 2)

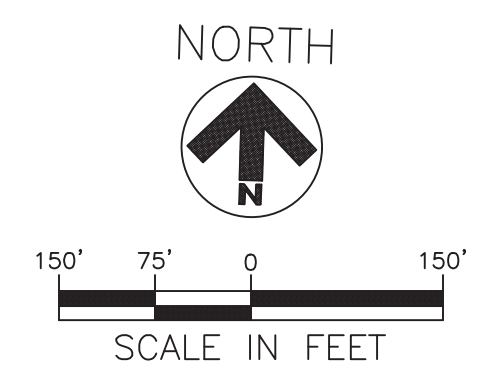


**LEGEND**

- PROPOSED CONCRETE PAVEMENT THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- CONCRETE PAVEMENT COMPLETED IN PREVIOUS PHASES
- ASPHALT SHOULDER PAVEMENT COMPLETED IN PREVIOUS PHASES
- AIRCRAFT TAXI ROUTE DURING PHASE
- FLAGMAN
- PHASE INDICATOR
- UNLIT TAXIWAY CLOSURE MARKER
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- PHASE 13 TAXIWAY SAFETY AREA
- PHASE 13 TAXIWAY OBJECT FREE AREA
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA

**PHASE 13 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

1. PHASE 13 MAY NOT COMMENCE UNTIL THE PHASE 12 WORK AREA IS OPENED TO ALL AIRCRAFT TRAFFIC.
2. ALL WORK IN SUBPHASE 13A MAY BE PERFORMED DURING DAYTIME AND NIGHTTIME CONSTRUCTION HOURS. THE CONTRACTOR WILL BE ALLOWED 51 CALENDAR DAYS TO COMPLETE SUBPHASE 13A.
3. SUBPHASE 13B SHALL BE COMPLETED CONCURRENTLY WITH SUBPHASE 13A. HOWEVER, SUBPHASE 13B SHALL BE LIMITED TO NIGHTTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 23 CALENDAR DAYS TO COMPLETE SUBPHASE 13B.
4. CONSTRUCTION TASKS FOR PHASE 13 ARE AS FOLLOWS:
  - A. WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED ON SHEET G06.13.1.
  - B. INSTALL BARRICADES AT THE LOCATIONS SHOWN. BARRICADES SHALL REMAIN THROUGHOUT THE DURATION OF PHASE 13.
    - LOW-PROFILE BARRICADES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
      - i. ACROSS TAXIWAY NP AND THE RUN UP PAD, NORTH OF THE MODIFIED TAXIWAY NB ADG VI TOFA (335 FEET, MAXIMUM AIRCRAFT - B-747-8), APPROXIMATELY 172 FEET FROM THE TAXIWAY NB CENTERLINE.
      - DURING SUBPHASE 13B, THESE BARRICADES WILL BE TEMPORARILY RELOCATED TO APPROXIMATELY 10 FEET SOUTH OF THE SUBPHASE 13B PAVING LIMITS.
      - ii. ACROSS TAXIWAY NP, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE.
      - iii. ACROSS TAXIWAY NA, EAST OF THE TAXIWAY NN TOFA, APPROXIMATELY 202 FEET FROM THE TAXIWAY NN CENTERLINE.
 MARKER POLE BARRICADES SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 25 FEET AT THE FOLLOWING LOCATIONS:
      - i. IN THE TAXIWAY NA / TAXIWAY NB INFIELD, APPROXIMATELY 193 FEET FROM THE TAXIWAY NB CENTERLINE, BETWEEN TAXIWAYS NN AND NP. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 7 CONSTRUCTION OPERATIONS.
      - ii. IN THE INFIELD NORTH OF TAXIWAY NA, SOUTH OF THE RSA, APPROXIMATELY 255 FEET FROM THE RUNWAY 8R - 26L CENTERLINE, BETWEEN TAXIWAYS NN AND NP. THESE MARKER POLE BARRICADES SHOULD ALREADY BE IN PLACE FROM PHASE 12 CONSTRUCTION OPERATIONS.
  - C. DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF PHASE 13.
  - D. DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH NIGHTTIME WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBSCURED THROUGHOUT THE DURATION OF PHASE 13.
  - E. INSTALL UNLIT TAXIWAY CLOSURE MARKER AT THE ENTRANCE OF TAXIWAY NP FROM RUNWAY 8R - 26L.
  - F. REMOVE REQUIRED EXISTING PAVEMENT MARKINGS. SEE SHEET G06.13.3.
  - G. VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
  - H. INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES.
  - I. SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT, INCLUDING TRANSITION PAVEMENTS CONSTRUCTED IN PHASE 8. CLEAN ADJACENT AREAS IMPACTED BY SAWCUTTING AND PAVEMENT REMOVAL OPERATIONS.
  - J. REMOVE AND SALVAGE / DISPOSE OF EXISTING ELECTRICAL COMPONENTS.
  - K. REMOVE AND SALVAGE / DISPOSE OF EXISTING DRAINAGE COMPONENTS.
  - L. DEWATER EXCAVATION AREAS, AS APPLICABLE.
  - M. PERFORM REQUIRED EARTHWORK AND GRADING OPERATIONS.
  - N. INSTALL NEW DRAINAGE COMPONENTS.
  - O. INSTALL NEW ELECTRICAL COMPONENTS.
  - P. CONSTRUCT NEW PAVEMENT SECTION.
  - Q. CONSTRUCT TEMPORARY PHASE TRANSITION PAVEMENT.
  - R. REMOVE REMAINDER OF HAUL ROAD BETWEEN TAXIWAY NN AND TAXIWAY NP.
  - S. PERFORM FINISH GRADING ACTIVITIES.
  - T. INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
  - U. REMOVE CURING COMPOUND FOR PAVEMENT MARKING AREAS. CLEAN ADJACENT AREAS IMPACTED.
  - V. INSTALL END OF PHASE PAVEMENT MARKINGS. SEE SHEET G06.13.3.
  - W. PERFORM A FINAL CLEANING OF THE WORK AREA.
  - X. REMOVE UNLIT TAXIWAY CLOSURE MARKER.
  - Y. RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
  - Z. RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
  - AA. REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
  - BB. WORK WITH AIRPORT OPERATIONS TO OPEN THE AIRFIELD PAVEMENTS MENTIONED ABOVE.



ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 ELLIOT NEPH  
 110151  
 LICENSED PROFESSIONAL ENGINEER  
 JULY 27, 2018

DEPARTMENT OF AVIATION

APPROVED BY:	DATE:
<i>Dorey Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

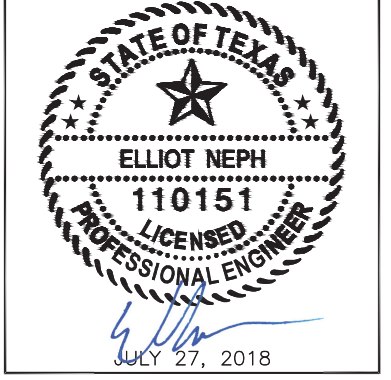
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 13  
 MARKINGS**

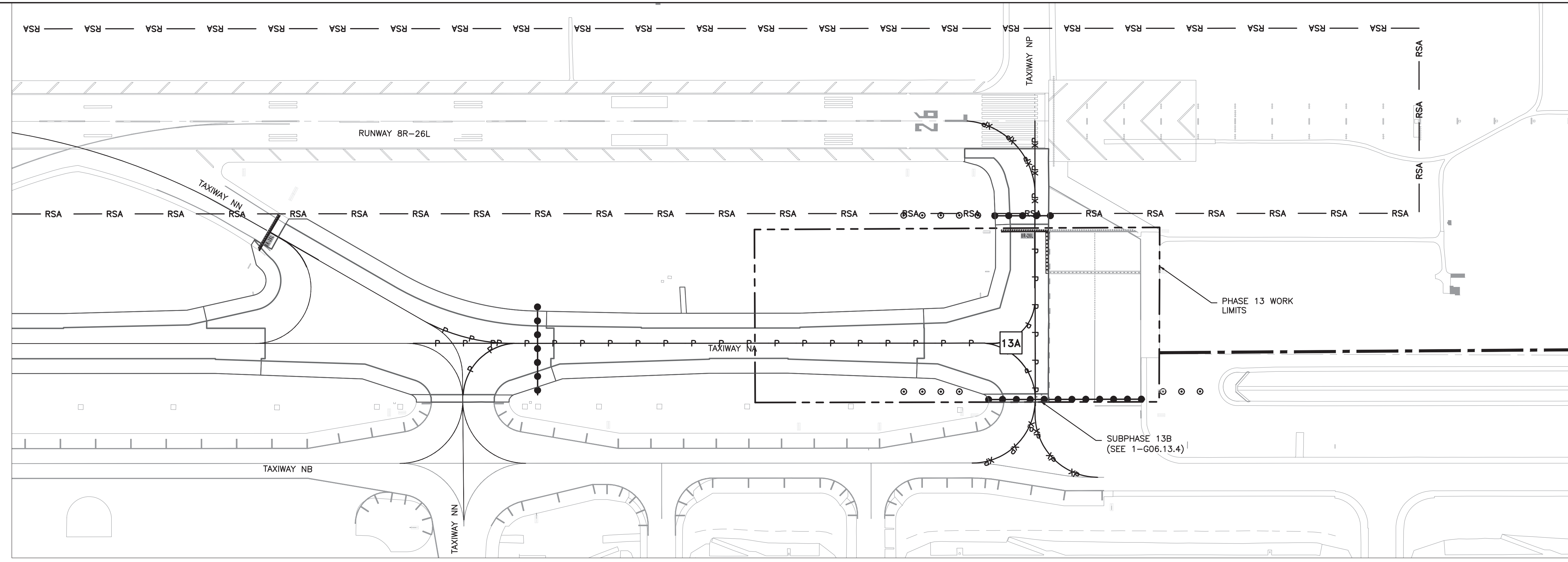
ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=150'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Davej Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**G06.13.3**

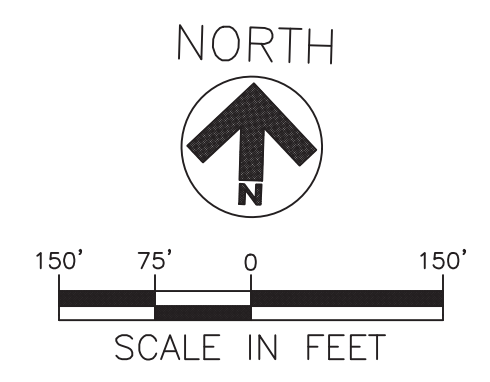


**LEGEND**

- PHASE INDICATOR
- MARKER POLE BARRICADE
- LOW PROFILE BARRICADE (EXACT POSITION)
- HAUL ROUTE
- PHASE LIMITS
- RUNWAY SAFETY AREA
- @ MARKING REMOVAL
- @ MARKING REMOVAL, REPLACE WITH TEMPORARY @ INSTALLED THIS PHASE
- @ MARKING REMOVAL, REPLACE WITH PERMANENT @ INSTALLED THIS PHASE
- PERMANENT @ INSTALLED THIS PHASE
- TEMPORARY @ INSTALLED THIS PHASE
- SIGN ON FOUNDATION. SUBSCRIPT DENOTES SIGN NUMBER. REFER TO TEMPORARY SIGN SCHEDULE
- SIGN PANEL LEGEND. RE: SCHEDULE
- BLANK SIGN PANEL
- LOCATION PANEL (L-858L)
- DESTINATION PANEL (L-858Y)
- MANDATORY INSTRUCTION PANEL (L-858R)

**PHASING PLAN MARKING NOTES**

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  - ALL PERMANENT MARKINGS SHALL BE INSTALLED AT THE END OF EACH PHASE IN ACCORDANCE WITH THE PAVEMENT MARKINGS PLAN SHEETS (G08 SERIES). THE PERMANENT MARKINGS SHOWN ON THIS SHEET ARE ONLY SHOWN AS A GENERAL GUIDANCE OF PERMANENT MARKING SEGMENTS TO BE INSTALLED IN THIS PHASE. THIS SHEET SHALL NOT BE USED TO INSTALL PERMANENT MARKINGS OTHER THAN AS A DESCRIPTOR OF PERMANENT MARKING SEGMENTS INSTALLED IN THIS PHASE.
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  - TEMPORARY MARKINGS SHOWN SHALL BE INSTALLED AT THE END OF EACH PHASE IN GENERAL CONFORMANCE WITH THE LOCATIONS, COLORS, AND DETAILS REQUIRED FOR PERMANENT MARKINGS. TEMPORARY MARKINGS SHALL BE INSTALLED USING THE PAINT TYPE(S), APPLICATION RATE(S), AND REQUIRED MEDIA SPECIFIED IN FAA ITEM P-620, RUNWAY AND TAXIWAY MARKING, FOR TEMPORARY MARKINGS.
    - A. TAXIWAY CENTERLINE MARKINGS AND MARKINGS WITHIN ANY TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE THE ONLY TYPES OF MARKINGS INSTALLED AS TEMPORARY MARKINGS, UNLESS ADDITIONAL TEMPORARY MARKINGS ARE REQUIRED PER NOTE 2.A. ALL OTHER MARKINGS SHALL BE INSTALLED AS PERMANENT MARKINGS WITHIN THE PHASE THAT THE PAVEMENT ON WHICH THEY ARE INSTALLED IS CONSTRUCTED.
    - B. TEMPORARY MARKINGS THROUGH TEMPORARY TRANSITION PAVEMENT AREAS SHALL BE INSTALLED TO CONNECT ANY NEW MARKINGS AND REMAINING EXISTING MARKINGS IN ORDER TO PROVIDE A CONTINUOUS, NON-BROKEN MARKING AS THE PAVEMENT IS RETURNED TO SERVICE.
    - C. TEMPORARY MARKINGS INSTALLED IN THIS PHASE WILL BE REMOVED IN A SUBSEQUENT PHASE AND PERMANENT MARKINGS WILL BE INSTALLED AT THAT TIME.
  - THE CONTRACTOR SHALL COMPLETELY OBLITERATE ALL MARKINGS DAMAGED BY THE CONTRACTOR DURING THIS PHASE AND NOT SCHEDULED FOR REMOVAL AND / OR REPLACEMENT DURING THIS PHASE. THESE MARKINGS SHALL BE REINSTALLED BY THE CONTRACTOR PRIOR TO PHASE COMPLETION. ANY MARKING THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
  - ANY MARKING (TEMPORARY OR PERMANENT) THAT IS NOT INSTALLED CORRECTLY WITH RESPECT TO LOCATION, DIMENSIONS, COLOR, MEDIA APPLICATION, OR ALIGNMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
  - SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS.
- AFTER ALL NECESSARY PERMANENT MARKING APPLICATION CONDITIONS HAVE BEEN MET, THE CONTRACTOR SHALL RETURN TO THE APPROPRIATE PAVEMENT(S). REMOVE ALL TEMPORARY MARKINGS, AND REMARK WITH PERMANENT MARKINGS. THIS WORK WILL BE CONSIDERED CONCLUSIVE WORK OUTSIDE THE IDENTIFIED PHASE LIMITS AND SHALL BE COMPLETED DURING NIGHTTIME CONSTRUCTION HOURS.
- THE CONTRACTOR SHALL COORDINATE ACCESS TO AND TEMPORARY CLOSURES OF THE APPROPRIATE PAVEMENT(S) WITH AIRPORT OPERATIONS IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02, WHICH MAY REQUIRE AN AIRPORT OPERATIONS ESCORT. ALL COSTS ASSOCIATED WITH PAVEMENT CLOSURE(S) REQUIRED FOR THIS WORK, INCLUDING LABOR, EQUIPMENT, MATERIALS, TEMPORARY BARRICADES, TEMPORARY LIGHTING, AND OTHER INCIDENTALS REQUIRED BY AIRPORT OPERATIONS SHALL BE SUBSIDIARY TO THE SECTION 01 59 01, TEMPORARY CONSTRUCTION ITEMS.







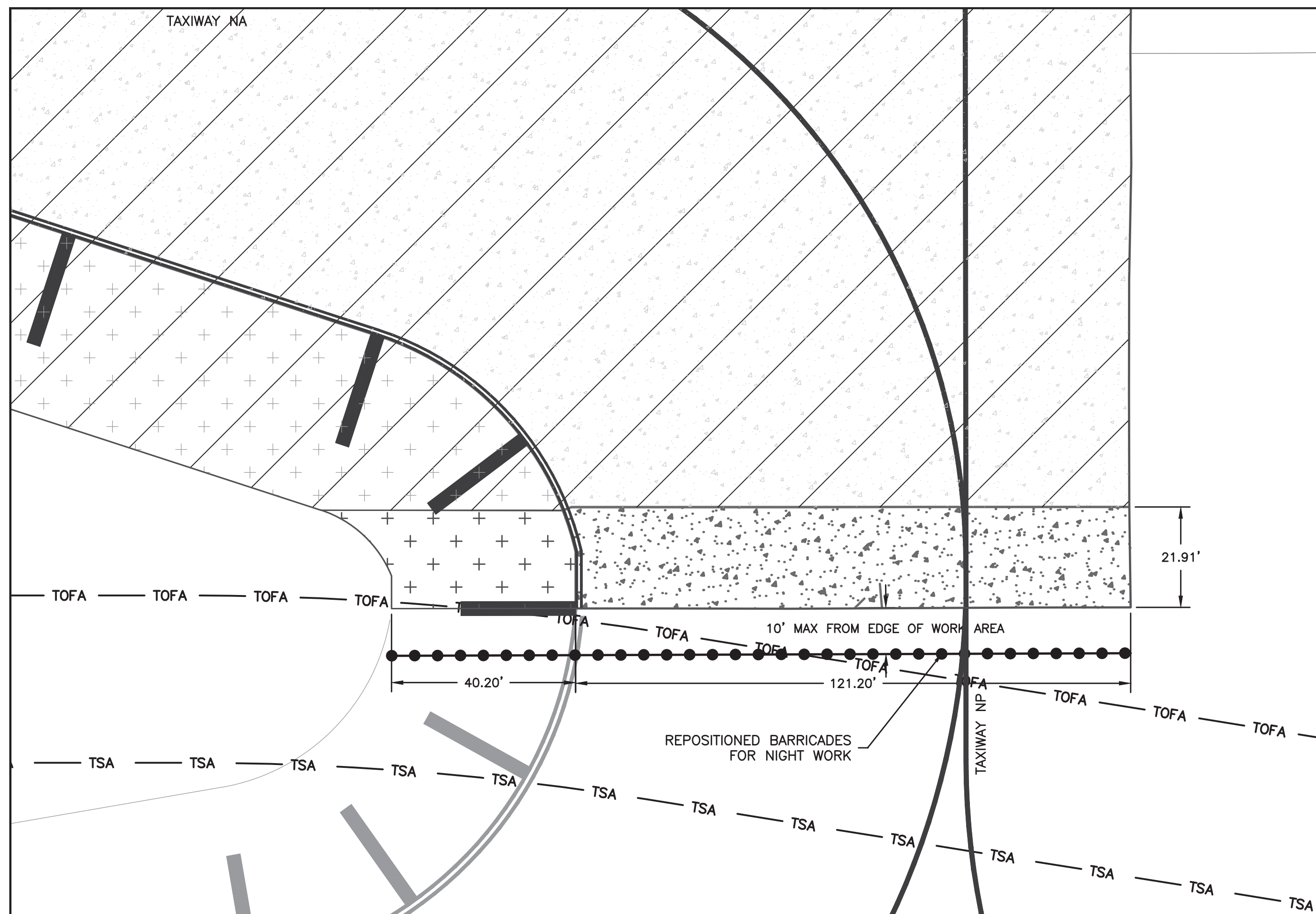
HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS

**RS&H**

RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
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 TBPE Registration No. F-3401

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PHASING PLAN - PHASE 13**  
**TRANSITIONS AND TIE-INS**



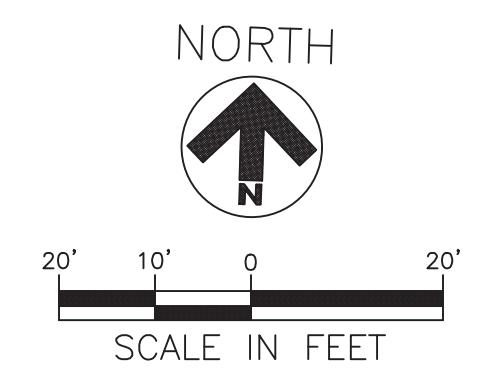
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 G06.13.4 **SUBPHASE 13B - TAXIWAY NP**  
 SCALE: 1" = 20'

**LEGEND**

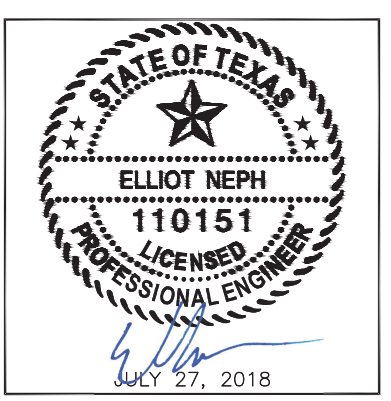
- CONCRETE PAVEMENT COMPLETED CONCURRENTLY
- ASPHALT PAVEMENT COMPLETED CONCURRENTLY
- PROPOSED CONCRETE PAVEMENT COMPLETED THIS PHASE
- PROPOSED ASPHALT SHOULDER PAVEMENT THIS PHASE
- LOW PROFILE BARRICADE (EXACT POSITION)
- TSA TAXIWAY SAFETY AREA
- TOFA RUNWAY OBJECT FREE AREA
- EXISTING PAVEMENT MARKING
- PERMANENT MARKING INSTALLED THIS PHASE

**NOTES**

- REFER TO EXISTING CONDITIONS AND DEMOLITION PLAN SHEETS (C01 SERIES) AND PROPOSED GEOMETRY PLAN SHEETS (C02 SERIES) FOR PAVEMENT REMOVAL AND CONSTRUCTION LIMITS.



ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=20'
DATE:	JULY 27, 2018

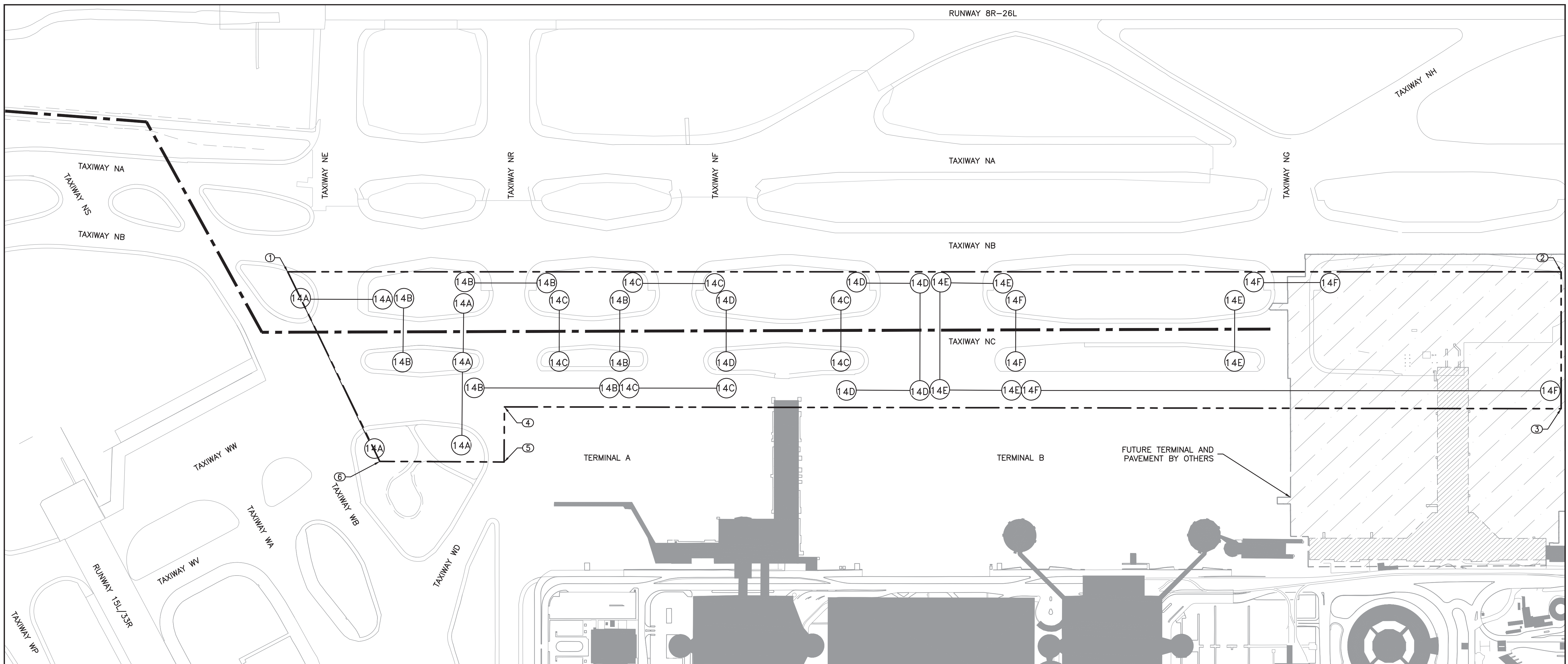


DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Rahmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**G06.13.4**





**PHASE 14 MOVEMENT NOTES**

- SEE PLAN SHEET G06.03.1 FOR PROPOSED HAUL ROUTE.
- PHASE 14 WILL BE SUBJECT TO "IN THE BOX" OPERATIONS. THE CONTRACTOR SHALL INSTALL LOW-PROFILE BARRICADES ALONG THE TOFA OF EACH ADJACENT PAVEMENT TO SET THE BOUNDARY, OR "BOX", OF EACH WORK AREA. THE CONTRACTOR SHALL CONTAIN ALL WORK TO AREAS OUTSIDE ACTIVE TOFAS.
- DURING PHASE 14, IT IS INTENDED THAT TAXIWAY CLOSURES ARE MINIMIZED AS MUCH AS POSSIBLE. ONLY ONE TAXIWAY CONNECTING THE NORTH RAMP TO TAXIWAY NB (TAXIWAYS NE, NR, NF, ND, AND NG) MAY BE CLOSED AT ANY GIVEN TIME. THE CONTRACTOR SHALL NOTE THAT ONLY ONE OF THE DUAL ACCESS LANES FROM THE NORTH RAMP TO TAXIWAY NB ALONG TAXIWAY ND MAY BE CLOSED AT ANY GIVEN TIME. AS SUCH, THE WORK AREAS OF PHASE 14 HAVE BEEN SUBDIVIDED AS FOLLOWS:
  - SUBPHASE 14A - TAXIWAY NE AND ADJACENT PORTIONS OF TAXIWAY NC AND THE NORTH RAMP.
  - SUBPHASE 14B - TAXIWAY NR AND ADJACENT PORTIONS OF TAXIWAY NC AND THE NORTH RAMP.
  - SUBPHASE 14C - TAXIWAY NF AND ADJACENT PORTIONS OF TAXIWAY NC AND THE NORTH RAMP.
  - SUBPHASE 14D - TAXIWAY ND (WEST) AND ADJACENT PORTIONS OF TAXIWAY NC AND THE NORTH RAMP.
  - SUBPHASE 14E - TAXIWAY ND (EAST) AND ADJACENT PORTIONS OF TAXIWAY NC AND THE NORTH RAMP.
  - SUBPHASE 14F - TAXIWAY NG AND ADJACENT PORTIONS OF TAXIWAY NC AND THE NORTH RAMP.
- THE CONTRACTOR SHALL INSTALL BARRICADES FOR ONLY ONE SUBPHASE AT A TIME AND SHALL NOT INSTALL BARRICADES FOR A SUBPHASE EXCEPT IMMEDIATELY PRIOR TO PERFORMING THE REQUIRED WORK OF THAT SUBPHASE.
- THE CONTRACTOR SHALL PROVIDE TWO (2) DESIGNATED FLAGMEN ALONG THE HAUL ROUTE, AT EACH SIDE OF CROSSINGS WITH ALL ACTIVE TAXIWAYS, UNLESS ESCORTED BY AIRPORT OPERATIONS, WHENEVER CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN PHASE 14. PLACEMENTS OF FLAGMEN SHALL BE SUBMITTED TO AIRPORT OPERATIONS FOR REVIEW AND APPROVAL.
- REQUIRED WORK ITEMS OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS (TYPICALLY PREPARATORY, COMPLEMENTARY, OR CONCLUSIVE IN NATURE WITH RESPECT TO THE WORK SPECIFIED WITHIN THE PRIMARY PHASE LIMITS) SHOULD BE PERFORMED IN A MANNER SO AS TO MINIMIZE THE NUMBER, FREQUENCY, AND DURATION OF ADDITIONAL PAVEMENT CLOSURES. THE CONTRACTOR IS EXPECTED TO WORK IN A MANNER TO HELP MEET THIS INTENDED GOAL, INCLUDING COORDINATION AND ORGANIZATION OF CONTRACTOR AND SUBCONTRACTOR WORK FORCES. ADDITIONAL PAVEMENT CLOSURES FOR ALL NECESSARY RELATED WORK OUTSIDE OF THE IDENTIFIED PHASE LIMITS / BARRICADED AREAS SHALL BE COORDINATED IN ACCORDANCE WITH THE AIRPORT SAFETY REQUIREMENTS PROVIDED ON SHEET G04.02 AND MAY REQUIRE AN AIRPORT OPERATIONS ESCORT.

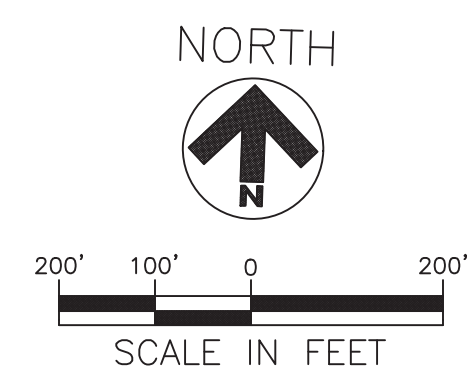
**PHASE 14 CONSTRUCTION SEQUENCING AND OPERATIONS NOTES**

- PHASE 14 MAY HAVE A FLEXIBLE START DATE, TO BE COMPLETED CONCURRENTLY WITH PHASES 12 OR 13 (WITH APPROVAL BY AIRPORT OPERATIONS), OR AT AN ALTERNATE TIME TO BE COORDINATED WITH AIRPORT OPERATIONS. PHASE 14 MAY NOT OCCUR WHEN ANY PORTION OF EITHER TAXIWAY NA OR TAXIWAY NB WEST OF TAXIWAY NJ IS CLOSED, UNLESS OTHERWISE APPROVED BY AIRPORT OPERATIONS.
- ALL WORK IN PHASE 14 SHALL BE LIMITED TO DAYTIME CONSTRUCTION HOURS ONLY. THE CONTRACTOR WILL BE ALLOWED 12 CALENDAR DAYS TO COMPLETE PHASE 14.
- CONSTRUCTION TASKS FOR PHASE 14 ARE AS FOLLOWS:
  - WORK WITH AIRPORT OPERATIONS TO MODIFY THE AIRFIELD PAVEMENTS AS NOTED IN THE PHASE 14 MOVEMENT NOTES, THIS SHEET.
  - INSTALL LOW-PROFILE BARRICADES AS NOTED IN THE TABLE, ON SHEET G06.14.2.
  - DE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS. THE LIGHTS SHALL REMAIN OFF THROUGHOUT THE DURATION OF THE APPROPRIATE SUBPHASE OF PHASE 14.
  - DE-ENERGIZE APPROPRIATE GUIDANCE SIGNS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS AT THE BEGINNING OF EACH WORK PERIOD. PROVIDE TEMPORARY "BLANK" SIGN PANELS FOR ANY DIRECTIONAL SIGNAGE LEADING TO CLOSED PAVEMENT AREAS IF THE SIGN HAS ADDITIONAL DIRECTIONAL INFORMATION THAT MUST REMAIN (SEE PLAN SHEET G06.00.3 FOR TEMPORARY GUIDANCE SIGN SCHEDULE REQUIREMENTS). THE SIGNS SHALL REMAIN DISABLED OR OBSCURED THROUGHOUT THE DURATION OF THE APPROPRIATE SUBPHASE OF PHASE 14.
- VERIFY LOCATION(S) OF UTILITIES WITHIN THE WORK AREA.
- PERFORM REQUIRED ELECTRICAL IMPROVEMENTS.
- PERFORM A FINAL CLEANING OF THE WORK AREA.
- RE-ENERGIZE TAXIWAY EDGE AND CENTERLINE LIGHTS WITHIN OR LEADING TO CLOSED PAVEMENT AREAS.
- RE-ENERGIZE OR REMOVE "BLANK" SIGN PANELS FROM OBSCURED GUIDANCE SIGNS.
- REMOVE ALL BARRICADES, EQUIPMENT, MATERIALS, AND PERSONNEL FROM THE WORK AREA.
- WORK WITH AIRPORT OPERATIONS TO OPEN ANY CLOSED AIRFIELD PAVEMENTS.

**LEGEND**

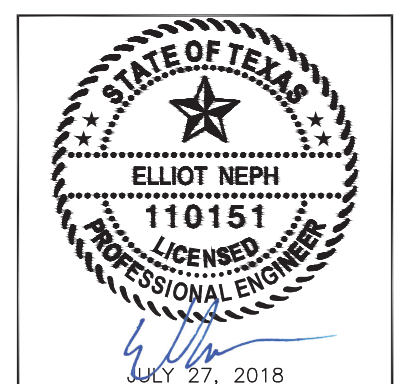
- APPROXIMATE BARRICADE LOCATION (SEE NEXT SHEET FOR EXACT LOCATIONS)
- HAUL ROUTE
- PHASE LIMITS
- TABLE LOCATION POINT

PHASE 14 WORK LIMITS		
POINT #	NORTHING	EASTING
1	13926772.71	3122291.81
2	13926925.61	3127118.11
3	13926406.56	3127134.55
4	13926286.73	3123129.40
5	13926077.79	3123134.70
6	13926065.08	3122663.62



ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1" = 200'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Daraj Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	





HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL

AIRPORT HOUSTON, TEXAS

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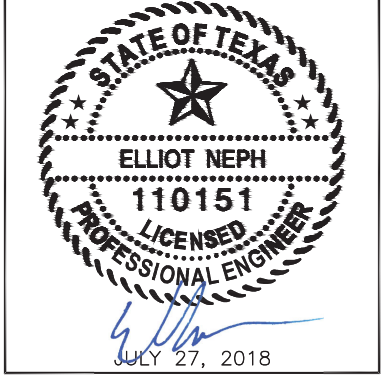
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PHASING PLAN - PHASE 14**  
(2 OF 2)

ISSUED FOR BID

PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: N.T.S.  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Palmer* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**

C.I.P. NO.  
**A-000570**

H.A.S. NO.

SHEET NO.

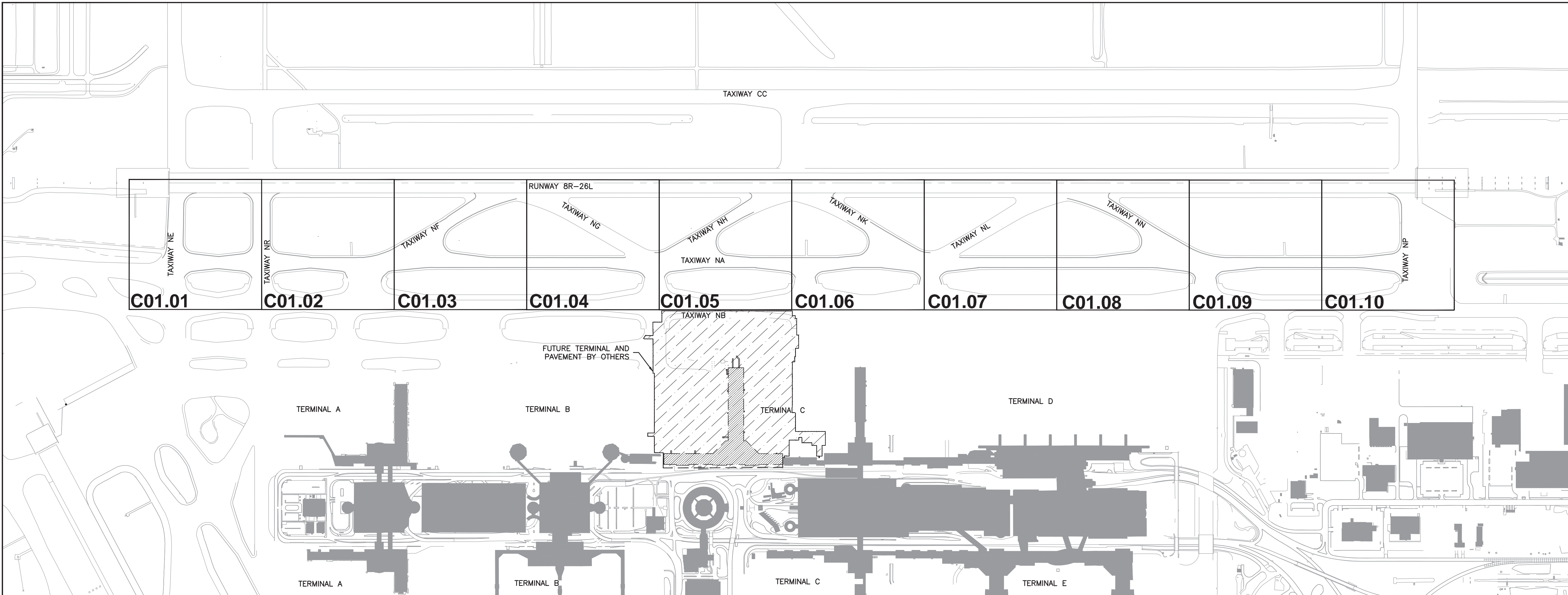
G06.14.2

PHASE 14					
DURATION (DAYS)	WORK PERIOD	SUBPHASE	PAVEMENT CLOSURES/RESTRICTIONS	BARRICADE LOCATIONS	ALLOWED CONCURRENT WORK
12 CALENDAR DAYS	DAY ONLY	SUBPHASE 14	RESTRICTIONS -- N/A CLOSURES -- TAXIWAY NE CLOSED TAXIWAY NB TO TAXIWAY WB. -- TAXIWAY NC CLOSED TAXIWAY NE TO TAXIWAY WB. -- TAXIWAY WW CLOSED TAXIWAY NE TO TAXIWAY WB.	-- ACROSS TAXIWAY NE, 198' SOUTH OF TAXIWAY NB CENTERLINE. -- ACROSS TAXIWAYS NC AND WW, 198' EAST OF TAXIWAY WB CENTERLINE. -- ACROSS TAXIWAY NC, 198' WEST OF TAXIWAY NR CENTERLINE. -- ACROSS TAXIWAY WW, 198' WEST OF TAXIWAY NR CENTERLINE.	TO BE DETERMINED
		SUBPHASE 14B	RESTRICTIONS -- TAXIWAY WW RESTRICTED TO ADG III AIRCRAFT OPERATIONS (TOFA - 186 FEET, MAXIMUM AIRCRAFT - B-737-900ER) BETWEEN TAXIWAY NE AND TAXIWAY NR. -- TWO NORTH AIRCRAFT PARKING SPOTS ON NORTH RAMP BETWEEN TAXIWAY NR AND TAXIWAY NF RESTRICTED TO TUG-IN OPERATIONS. CLOSURES -- TAXIWAY NR CLOSED TAXIWAY NB TO NORTH RAMP. -- TAXIWAY NC CLOSED TAXIWAY NE TO TAXIWAY NF.	-- ACROSS TAXIWAY NR, 198' SOUTH OF TAXIWAY NB CENTERLINE. -- ACROSS TAXIWAY NC, 198' WEST OF TAXIWAY NF CENTERLINE. -- ACROSS TAXIWAY NC, 198' EAST OF TAXIWAY NE CENTERLINE. -- ACROSS NORTH EDGE OF NORTH RAMP, AT CONCRETE / ASPHALT SHOULDER DEMARCATION, FROM 198' WEST OF TAXIWAY NR CENTERLINE TO 198' WEST OF TAXIWAY NF CENTERLINE. -- ACROSS TAXIWAY NR, IN LINE WITH NORTH EDGE OF NORTH RAMP.	
		SUBPHASE 14C	RESTRICTIONS -- TERMINAL A NORTHWEST GATE RESTRICTED TO TUG-IN OPERATIONS ONLY. -- TERMINAL A NORTHEAST GATE RESTRICTED TO TUG-IN OPERATIONS ONLY. CLOSURES -- TAXIWAY NF CLOSED TAXIWAY NB TO NORTH RAMP. -- TAXIWAY NC CLOSED TAXIWAY NR TO TAXIWAY ND (WEST).	-- ACROSS TAXIWAY NF, 198' SOUTH OF TAXIWAY NB CENTERLINE. -- ACROSS TAXIWAY NC, 198' WEST OF TAXIWAY ND (WEST) CENTERLINE. -- ACROSS TAXIWAY NC, 198' EAST OF TAXIWAY NR CENTERLINE. -- ACROSS NORTH EDGE OF NORTH RAMP, AT CONCRETE / ASPHALT SHOULDER DEMARCATION, FROM 198' WEST OF TAXIWAY NF CENTERLINE TO 198' WEST OF TAXIWAY ND (WEST) CENTERLINE. -- ACROSS TAXIWAY NF, IN LINE WITH NORTH EDGE OF NORTH RAMP.	
		SUBPHASE 14D	RESTRICTIONS -- TERMINAL A NORTHEAST GATE RESTRICTED TO TUG-IN OPERATIONS ONLY. CLOSURES -- TAXIWAY ND (WEST) CLOSED TAXIWAY NB TO NORTH RAMP. -- TAXIWAY NC CLOSED TAXIWAY NF TO TAXIWAY ND (EAST).	-- ACROSS TAXIWAY ND (WEST), 198' SOUTH OF TAXIWAY NB CENTERLINE. -- ACROSS TAXIWAY NC, 198' WEST OF TAXIWAY ND (EAST) CENTERLINE. -- ACROSS TAXIWAY NC, 198' EAST OF TAXIWAY NF CENTERLINE. -- ACROSS TAXIWAY ND (WEST), IN LINE WITH NORTH EDGE OF NORTH RAMP, AT CONCRETE / ASPHALT SHOULDER DEMARCATION, FROM 198' WEST OF TAXIWAY ND (WEST) CENTERLINE TO 198' WEST OF TAXIWAY ND (EAST) CENTERLINE.	
		SUBPHASE 14E	RESTRICTIONS -- NORTH RAMP NORTH CENTERLINE RESTRICTED TO ADG III AIRCRAFT OPERATIONS (TOFA - 186 FEET, MAXIMUM AIRCRAFT - B-737-900ER) BETWEEN TAXIWAY ND (WEST) AND TAXIWAY NG. CLOSURES -- TAXIWAY ND (EAST) CLOSED TAXIWAY NB TO NORTH RAMP. -- TAXIWAY NC CLOSED TAXIWAY ND (WEST) TO TAXIWAY NG.	-- ACROSS TAXIWAY ND (EAST), 198' SOUTH OF TAXIWAY NB CENTERLINE. -- ACROSS TAXIWAY NC, 198' WEST OF TAXIWAY NG CENTERLINE. -- ACROSS TAXIWAY NC, 198' EAST OF TAXIWAY ND (WEST) CENTERLINE. -- ACROSS TAXIWAY ND (EAST), IN LINE WITH NORTH EDGE OF NORTH RAMP, AT CONCRETE / ASPHALT SHOULDER DEMARCATION, FROM 198' EAST OF TAXIWAY ND (WEST) CENTERLINE TO 198' EAST OF TAXIWAY ND (EAST) CENTERLINE.	
		SUBPHASE 14F	RESTRICTIONS -- NORTH RAMP NORTH CENTERLINE RESTRICTED TO ADG III AIRCRAFT OPERATIONS (TOFA - 186 FEET, MAXIMUM AIRCRAFT - B-737-900ER) BETWEEN TAXIWAY ND (EAST) AND TAXIWAY NG. CLOSURES -- TAXIWAY NG CLOSED TAXIWAY NB TO NORTH RAMP. -- TAXIWAY NC CLOSED TAXIWAY ND (EAST) TO TAXIWAY NG.	-- ACROSS TAXIWAY NG, 198' SOUTH OF TAXIWAY NB CENTERLINE. -- ACROSS TAXIWAY NC, 198' EAST OF TAXIWAY ND (EAST) CENTERLINE. -- ACROSS NORTH EDGE OF NORTH RAMP, AT CONCRETE / ASPHALT SHOULDER DEMARCATION, FROM 198' EAST OF TAXIWAY ND (EAST) CENTERLINE TO 425' EAST OF TAXIWAY NG CENTERLINE. -- ACROSS TAXIWAY NG, IN LINE WITH NORTH EDGE OF NORTH RAMP.	



REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING CONDITIONS AND DEMOLITION  
 KEY PLAN**



**DEMOLITION GENERAL NOTES**

- SEE ELECTRICAL SHEETS (E02 SERIES) FOR ELECTRICAL DEMOLITION REQUIREMENTS.
- SEE DRAINAGE SHEETS (D01 SERIES) FOR DRAINAGE DEMOLITION REQUIREMENTS.
- THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT ALL EXISTING, ABOVE-GROUND ELEMENTS THAT ARE DESIGNATED TO REMAIN IN PLACE THROUGHOUT THE PLANS.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ANY REQUIRED TRENCH SAFETY SYSTEMS RELATED TO PROPOSED DEMOLITION WORK, IN ACCORDANCE WITH SECTION 01561, TRENCH SAFETY SYSTEM, PRIOR TO COMMENCEMENT OF ANY DEMOLITION ACTIVITIES.
- ALL SWPPP / EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO PERFORMING ANY EARTH DISTURBING ACTIVITIES. SEE SWPPP PLAN SHEETS FOR REQUIREMENTS.
- WHEN REMOVING PAVEMENT MARKINGS, THE CONTRACTOR SHALL BLAST AN AREA LARGER THAN THE ACTUAL MARKINGS SUCH THAT THE CONTINUED VISUAL APPEARANCE OF THE REMOVED MARKING DOES NOT REMAIN. SEE PHASING PLAN SHEETS FOR PAVEMENT MARKING REMOVAL LIMITS. SEE DEMOLITION PLAN DETAILS FOR GUIDANCE OF PAVEMENT MARKING REMOVAL LIMITS.
- ALL MATERIALS REMOVED THAT ARE NOT DESIGNATED FOR RE-USE OR RE-INSTALLATION WITHIN THE SCOPE OF THE PROJECT, OR DESIGNATED AS A SALVAGEABLE MATERIAL, SHALL BE LEGALLY DISPOSED OF OFFSITE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- THE CONTRACTOR SHALL REFERENCE THE GEOTECHNICAL INVESTIGATION REPORT WITHIN THE PROJECT MANUAL FOR INFORMATION REGARDING DEPTH OF EXISTING PAVEMENT SECTIONS. PAVEMENT SECTIONS CAN GENERALLY BE DESCRIBED AS FOLLOWS:
  - TAXIWAY PAVEMENT
    - SURFACE REINFORCED CONCRETE PAVEMENT (AVERAGE DEPTH 17.72 INCHES, MAX DEPTH 19.75 INCHES, MIN DEPTH 16.875 INCHES)
    - ASPHALT BOND BREAKER (AVERAGE DEPTH 1.85 INCHES, MAX DEPTH 2.5 INCHES, MIN DEPTH 1.0 INCHES)
    - SUBLAYER REINFORCED CONCRETE PAVEMENT (AVERAGE DEPTH 12.48 INCHES, MAX DEPTH 14.375 INCHES, MIN DEPTH 11.5 INCHES)
    - VARIABLE SUBGRADE MATERIALS - CEMENT STABILIZED SUBGRADE OR LIME STABILIZED SUBGRADE (AVERAGE DEPTH 10.22 INCHES, MAX DEPTH 16.375 INCHES, MIN DEPTH 8.375 INCHES)
  - SHOULDER PAVEMENT
    - ASPHALT (3 INCHES - NO CORING DATA AVAILABLE)
    - CRUSHED CONCRETE BASE (12 INCHES - NO CORING DATA AVAILABLE)
    - CEMENT STABILIZED SAND (9 INCHES - NO CORING DATA AVAILABLE)
- REMOVAL OF EXISTING PAVEMENTS SHALL BE MEASURED AND PAID FOR BY THE LAYER OF MATERIAL PER SQUARE YARD REMOVED (AS DESCRIBED IN NOTE 8), IN ACCORDANCE WITH

- FAA ITEM P-101, SURFACE PREPARATION. EXISTING PAVEMENT THICKNESSES DENOTED ARE APPROXIMATE AND MAY NOT ACCURATELY REFLECT ACTUAL EXISTING PAVEMENT THICKNESSES. REMOVAL OF EXISTING PAVEMENTS SHALL INCLUDE SAWCUTTING, REMOVAL, AND DISPOSAL OF ALL MATERIAL LAYERS OF THE PAVEMENT SECTION AS REQUIRED TO MEET THE REMOVAL DEPTH REQUIREMENTS LISTED HEREIN. NO ADDITIONAL PAYMENT SHALL BE MADE IF ACTUAL PAVEMENT SECTIONS VARY FROM THE PAVEMENT SECTIONS SHOWN IN THE PLANS OR GEOTECHNICAL INVESTIGATION REPORT, INCLUDING THICKENED PAVEMENT EDGES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY, AS PART OF THE BIDDING PROCESS, TO DETERMINE THE LEVEL OF EFFORT REQUIRED TO REMOVE THE PAVEMENT AREAS SHOWN.
- EXISTING PAVEMENTS SHALL BE REMOVED TO DEPTHS AS FOLLOWS:
    - EXISTING TAXIWAY PAVEMENT SHALL BE REMOVED (AS DESCRIBED IN NOTE 9) TO A MINIMUM DEPTH OF 32 INCHES BELOW PROPOSED TOP OF PAVEMENT GRADE OR TO THE BOTTOM OF THE SUBLAYER REINFORCED CONCRETE PAVEMENT, WHICHEVER IS DEEPER.
      - SHOULD THE BOTTOM OF THE SUBLAYER REINFORCED CONCRETE PAVEMENT NOT MEET THE 32 INCH MINIMUM DEPTH REQUIREMENT, THE CONTRACTOR SHALL REMOVE THE ADDITIONAL REQUIRED DEPTH OF EXISTING SUBGRADE MATERIAL IN ORDER TO MEET THE 32 INCH MINIMUM DEPTH REQUIREMENT. THIS ADDITIONAL MATERIAL REMOVAL SHALL BE CONSIDERED UNCLASSIFIED EXCAVATION AND SHALL BE PAID FOR WITH THE CORRESPONDING UNIT PRICE AS NOTED IN FAA ITEM P-152, EXCAVATION AND EMBANKMENT.
      - SHOULD THE BOTTOM OF THE SUBLAYER REINFORCED CONCRETE PAVEMENT EXCEED THE 32 INCH MINIMUM DEPTH REQUIREMENT, THE CONTRACTOR SHALL FILL THE ADDITIONALLY EXCAVATED VOID(S) TO THE BOTTOM OF THE PROPOSED SUBGRADE MATERIAL. THIS ADDITIONAL FILL SHALL BE CONSIDERED EMBANKMENT MATERIAL AND SHALL BE PAID FOR WITH THE CORRESPONDING UNIT PRICE AS NOTED IN FAA ITEM P-152, EXCAVATION AND EMBANKMENT.
    - EXISTING SHOULDER PAVEMENT WITHIN THE LIMITS OF THE PROPOSED TAXIWAY PAVEMENT (CONCRETE) SHALL BE REMOVED TO A MINIMUM DEPTH OF 32 INCHES BELOW PROPOSED TOP OF PAVEMENT GRADE. IN ORDER TO MEET THE 32 INCH MINIMUM DEPTH REQUIREMENT, THE CONTRACTOR SHALL REMOVE THE ADDITIONAL REQUIRED DEPTH OF EXISTING SUBGRADE MATERIAL BELOW THE CEMENT STABILIZED SAND IN ORDER TO MEET THE 32 INCH MINIMUM DEPTH REQUIREMENT. THIS ADDITIONAL MATERIAL REMOVAL SHALL BE CONSIDERED UNCLASSIFIED EXCAVATION AND SHALL BE PAID FOR WITH THE CORRESPONDING UNIT PRICE AS NOTED IN FAA ITEM P-152, EXCAVATION AND EMBANKMENT.
    - EXISTING SHOULDER PAVEMENT WITHIN THE LIMITS OF THE PROPOSED SHOULDER PAVEMENT BUT OUTSIDE THE PROPOSED TAXIWAY PAVEMENT SHALL BE REMOVED (AS DESCRIBED IN NOTE 9) TO A MINIMUM DEPTH OF 13.5 INCHES BELOW PROPOSED TOP OF PAVEMENT GRADE OR TO THE BOTTOM OF THE EXISTING CRUSHED CONCRETE BASE, WHICHEVER IS DEEPER.
      - SHOULD THE BOTTOM OF THE EXISTING CRUSHED CONCRETE BASE NOT MEET THE 13.5 INCH MINIMUM DEPTH REQUIREMENT, THE CONTRACTOR SHALL REMOVE THE ADDITIONAL REQUIRED DEPTH OF EXISTING SUBGRADE MATERIAL IN ORDER TO MEET THE 13.5 INCH MINIMUM DEPTH REQUIREMENT. THIS ADDITIONAL MATERIAL REMOVAL SHALL BE CONSIDERED UNCLASSIFIED EXCAVATION AND SHALL BE PAID FOR WITH THE CORRESPONDING UNIT PRICE AS NOTED IN FAA ITEM P-152, EXCAVATION AND EMBANKMENT.
      - SHOULD THE BOTTOM OF THE EXISTING CRUSHED CONCRETE BASE EXCEED THE 13.5 INCH MINIMUM DEPTH REQUIREMENT, THE CONTRACTOR SHALL FILL THE ADDITIONALLY EXCAVATED VOID(S) TO THE BOTTOM OF THE PROPOSED SUBGRADE MATERIAL. THIS

- ADDITIONAL FILL SHALL BE CONSIDERED EMBANKMENT MATERIAL AND SHALL BE PAID FOR WITH THE CORRESPONDING UNIT PRICE AS NOTED IN FAA ITEM P-152, EXCAVATION AND EMBANKMENT.
- METHOD OF REMOVAL OF EXISTING PAVEMENTS SHALL BE AT THE CONTRACTOR'S DISCRETION, UNLESS OTHERWISE NOTED IN THE PLANS OR PROJECT MANUAL. THE METHOD OF REMOVAL CHOSEN BY THE CONTRACTOR SHALL NOT IMPACT THE UNIT PRICES BID BY THE CONTRACTOR FOR THE VARIOUS PAVEMENT REMOVAL ITEMS.
  - THE CONTRACTOR SHALL UTILIZE THE SAWCUT METHOD NOTED FOR THE REMOVAL OF ANY CONCRETE PAVEMENTS ADJACENT TO EXISTING CONCRETE PANELS DESIGNATED TO REMAIN IN PLACE. THIS SHALL INCLUDE AT PHASE BREAKS, EVEN IF THE ADJACENT PAVEMENT IS DESIGNATED FOR REMOVAL AND IS ONLY TO REMAIN IN PLACE TEMPORARILY UNTIL A SUBSEQUENT PHASE COMMENCES. SEE DEMOLITION PLAN DETAILS FOR SAWCUT METHOD REQUIREMENTS.
  - FALLING WEIGHT DEMOLITION EQUIPMENT SHALL NOT BE PERMITTED ON THIS PROJECT. ALL DEMOLITION EQUIPMENT SHALL BE HYDRAULIC EQUIPMENT.
  - REMOVAL OF ANY SUBSURFACE STRUCTURES FOUND IN AN EXCAVATION AREA SHALL BE CONSIDERED UNCLASSIFIED EXCAVATION, UNLESS OTHERWISE NOTED IN THE PLANS OR PROJECT MANUAL, AND SHALL BE PAID FOR WITH THE CORRESPONDING UNIT PRICE AS NOTED IN FAA ITEM P-152, EXCAVATION AND EMBANKMENT.
  - ANY PAVEMENTS REMOVED OUTSIDE THE SPECIFIED LIMITS OF REMOVAL DUE TO NEGLIGENCE OR DAMAGE ON THE PART OF THE CONTRACTOR SHALL NOT BE PAID FOR. RECONSTRUCTION OF THESE PAVEMENTS SHALL BE PERFORMED AT THE CONTRACTORS EXPENSE.
  - DEMOLITION OF PAVEMENTS SHALL FOLLOW THE APPROPRIATE PHASE OF CONSTRUCTION AND SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF ANY DEMOLITION ACTIVITIES.
  - COORDINATES AND STATION OFFSETS PROVIDED IN THE DEMOLITION PLANS ARE APPROXIMATE LIMITS OF DEMOLITION. PAVEMENT REMOVAL LIMITS ARE INTENDED TO BE LOCATED ALONG OR ADJACENT TO EXISTING CONCRETE JOINTS, UNLESS OTHERWISE NOTED. VERIFY REMOVAL LIMITS WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF ANY DEMOLITION ACTIVITIES. REFER TO SHEETS C01.11, C01.12, AND C01.13 FOR DEMOLITION LOCATION LIMITS COORDINATES AND STATION OFFSETS.
  - REFER TO SHEET C01.14 FOR DEMOLITION DETAILS.

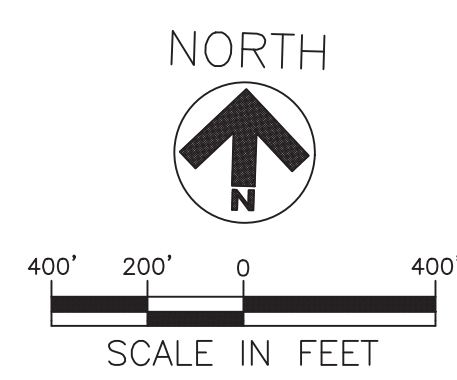
**UTILITIES NOTES**

- THE CONTRACTOR SHALL ANTICIPATE ALL UNDERGROUND OBSTRUCTIONS SUCH AS, BUT NOT LIMITED TO, WATER MAINS, GAS LINES, STORM AND SANITARY SEWERS, TELEPHONE OR ELECTRIC LIGHT OR POWER DUCTS, CONCRETE, AND DEBRIS. ANY SUCH LINES OR OBSTRUCTIONS INDICATED IN THE PLANS SHOW ONLY THE APPROXIMATE LOCATIONS AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE OWNER AND ENGINEER HAVE ENDEAVORED IN THESE PLANS TO FAMILIARIZE THE CONTRACTOR WITH ALL KNOWN UTILITIES AND OBSTRUCTIONS, BUT THIS SHALL NOT RELIEVE THE CONTRACTOR FROM FULL RESPONSIBILITY IN ANTICIPATING ALL UNDERGROUND OBSTRUCTIONS, WHETHER OR NOT SHOWN IN THE PLANS.
- THE CONTRACTOR SHALL NOTIFY ALL INVOLVED UTILITY COMPANIES OF ANY EXCAVATION OR BORING A MINIMUM OF 72 HOURS IN ADVANCE TO HAVE THEIR UTILITIES LOCATED AND MARKED IN THE FIELD.

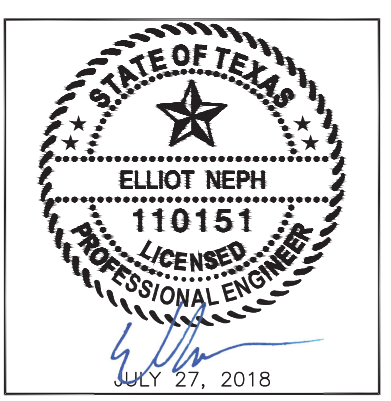
- THE CONTRACTOR SHALL CONTACT TEXAS ONE CALL (811) AND THE FOLLOWING LOCAL UTILITY OWNERS (LIST NOT INCLUSIVE OF ALL POTENTIAL UTILITY OWNERS) TO VERIFY ALL UNDERGROUND UTILITY LOCATIONS IN THE VICINITY OF THE PROPOSED WORK:
 

CABLE OWNER	CONTACT PERSON	PHONE NUMBER
FAA	BRIAN HOLDER	(281) 253-6464
HOUSTON AIRPORT SYSTEM	OPERATIONS	(281) 233-1131
CENTERPOINT ENERGY	UTILITY COORDINATING COMMITTEE	(713) 223-4567
AT&T TEXAS / SWBT	DAMAGE PREVENTION	(800) 344-8377
FUEL SYSTEM	MARK TORBEN	(281) 831-7842
  - AFTER LOCATING UNDERGROUND UTILITY LOCATIONS, ALL UNDERGROUND UTILITIES SHALL BE UNCOVERED BY THE CONTRACTOR TO VERIFY LOCATION AND ELEVATION PRIOR TO COMMENCING CONSTRUCTION OPERATIONS. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE PROJECT.
  - THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY OWNER IF A UTILITY INSPECTOR MUST BE ON SITE WHEN LOCATING OR EXCAVATING NEAR UTILITIES. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE PROJECT.
- 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 ANY CHANGES SHALL BE AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIFICATIONS.
- ALL DAMAGED UTILITIES SHALL BE REPAIRED EXPEDITIOUSLY AT NO ADDITIONAL EXPENSE TO THE OWNER.
  - 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.

NOTE: PHASES 4 AND 7  
 CONSTRUCTED UNDER PN 675



ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=400'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davey Palmer* DATE:   
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.   
 SHEET NO. **C01.00**



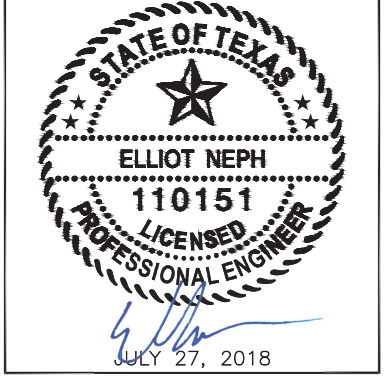
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (1 OF 10)**

ISSUED FOR BID

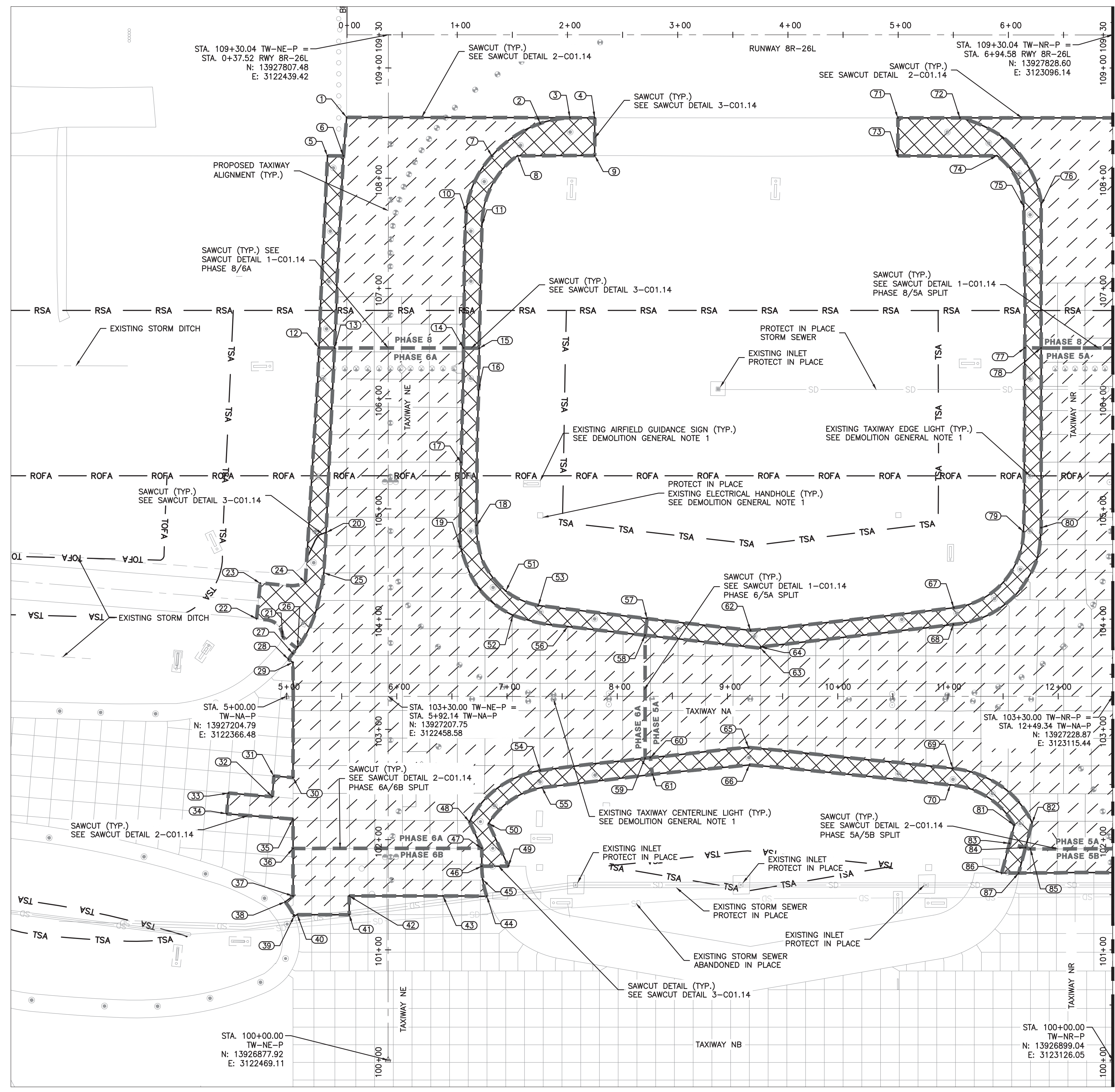
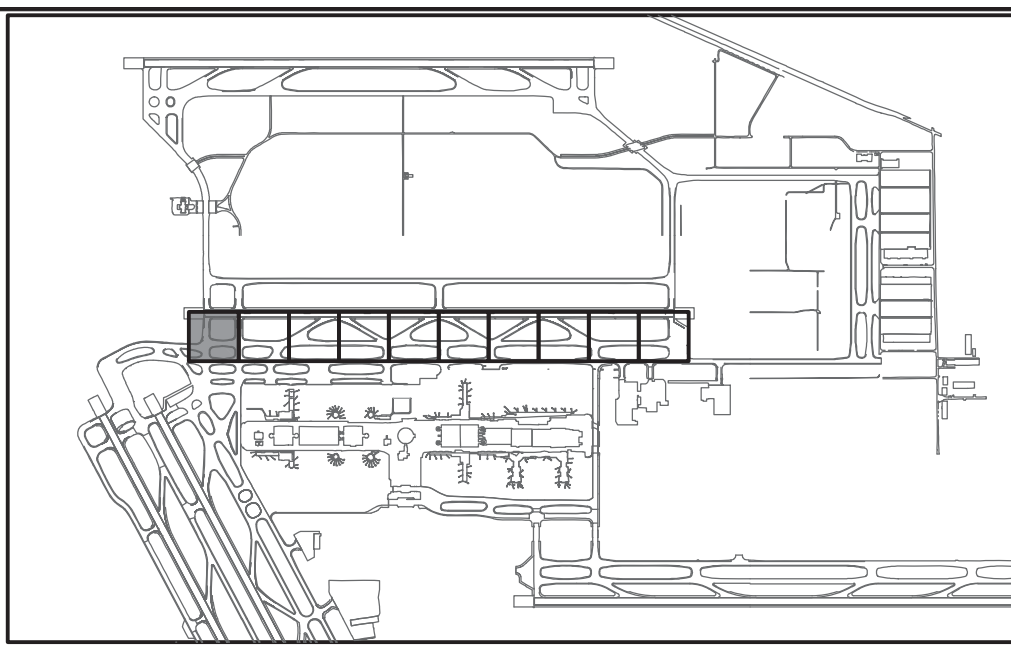
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Pahml*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

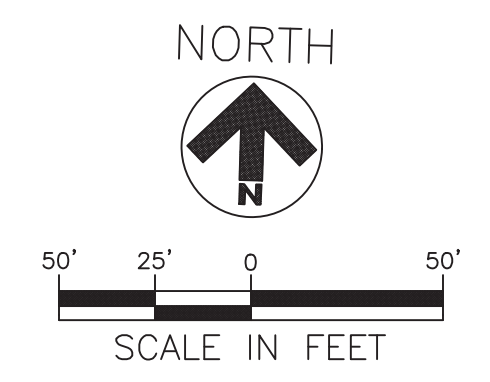
PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C01.01



**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA TEMPORARY TAXIWAY SAFETY AREA
- TOFA TEMPORARY TAXIWAY OBJECT FREE AREA
- ROFA RUNWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- SD EXISTING STORM SEWER
- PHASE LIMITS
- EXISTING TAXIWAY C LIGHT
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT





REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (2 OF 10)**

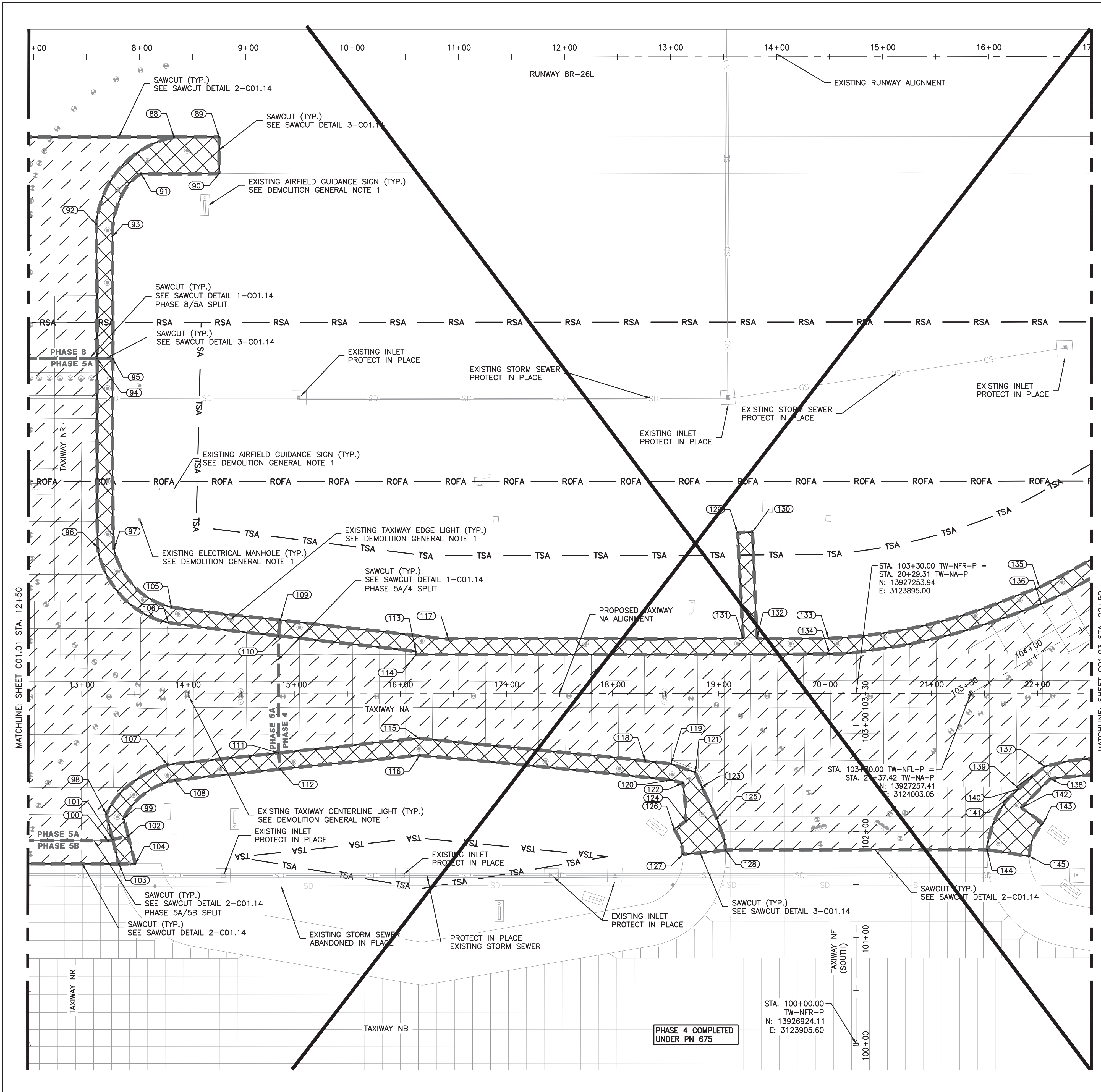
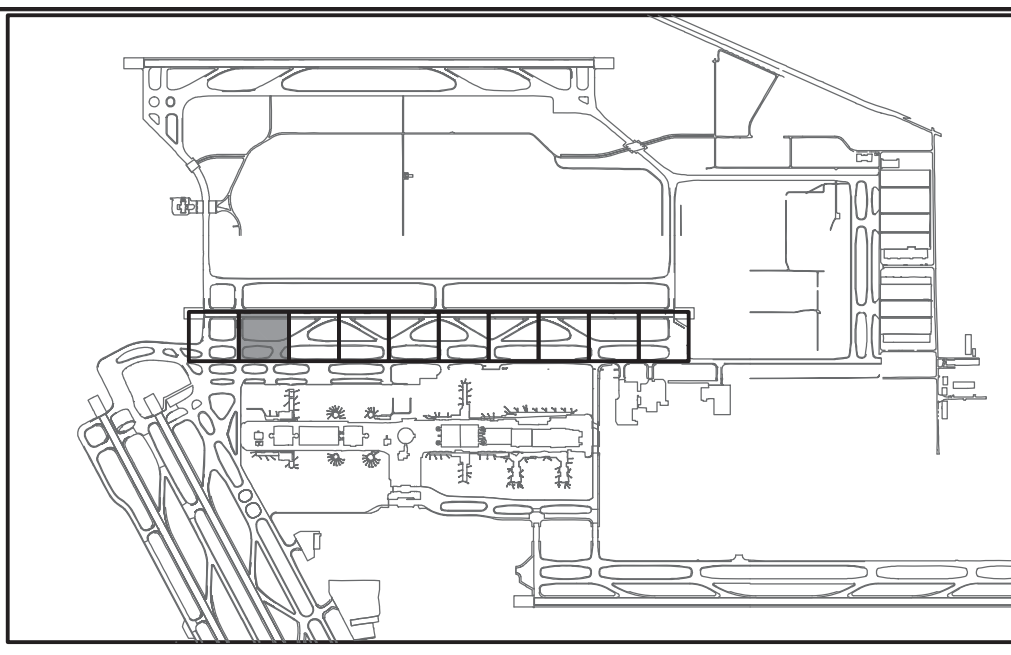
ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davey Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

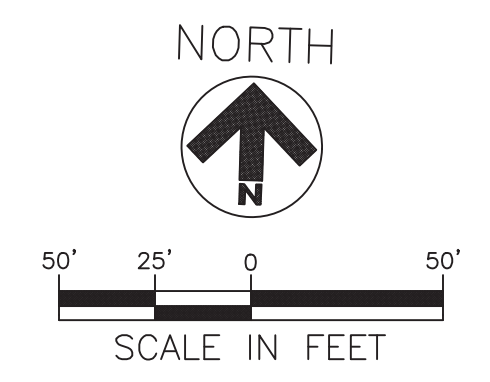


**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA TEMPORARY TAXIWAY SAFETY AREA
- TOFA TEMPORARY TAXIWAY OBJECT FREE AREA
- ROFA RUNWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- SD EXISTING STORM SEWER
- PHASE LIMITS
- EXISTING TAXIWAY C LIGHT
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT

NOTE: PHASE 4 COMPLETED UNDER PN 675

PHASE 4 COMPLETED UNDER PN 675







HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS

**RS&H**

RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (3 OF 10)**

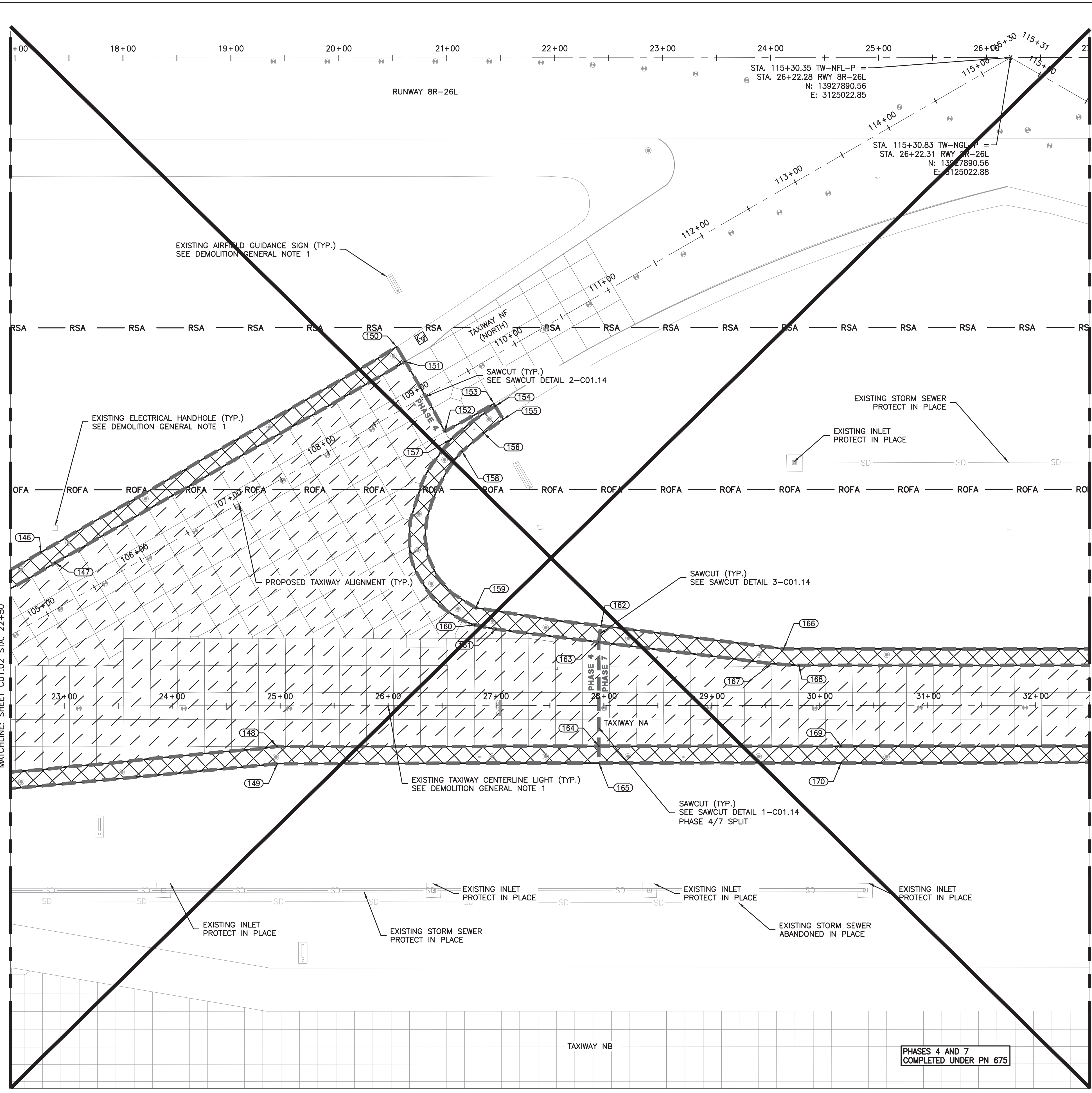
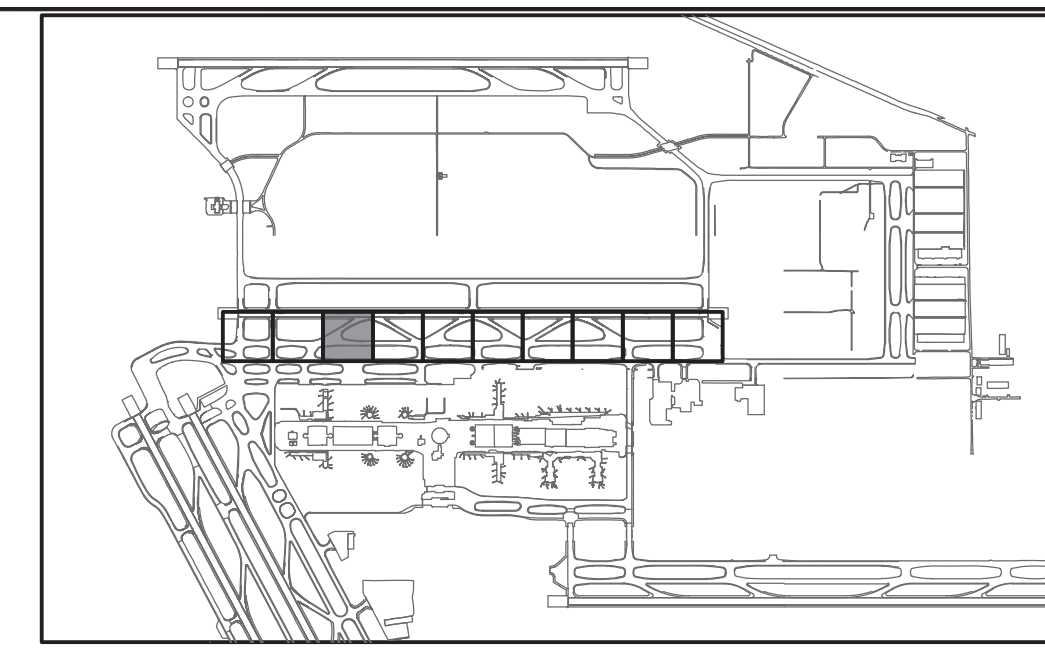
ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

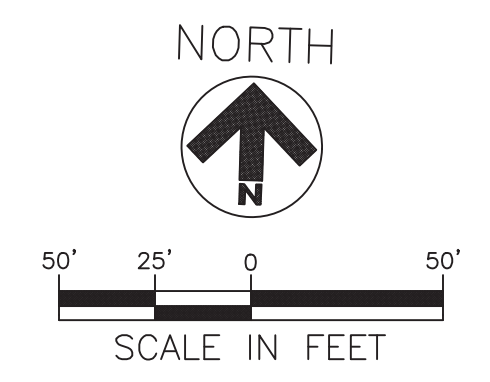
**C01.03**



**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA TEMPORARY TAXIWAY SAFETY AREA
- TOFA TEMPORARY TAXIWAY OBJECT FREE AREA
- ROFA RUNWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- SD EXISTING STORM SEWER
- PHASE LIMITS
- EXISTING TAXIWAY C LIGHT
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT

NOTE: PHASES 4 AND 7  
 CONSTRUCTED UNDER PN 675



PHASES 4 AND 7  
 COMPLETED UNDER PN 675





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 TBPE Registration No. F-3401

REVISIONS  
 NO. DESCRIPTION DATE BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (4 OF 10)**

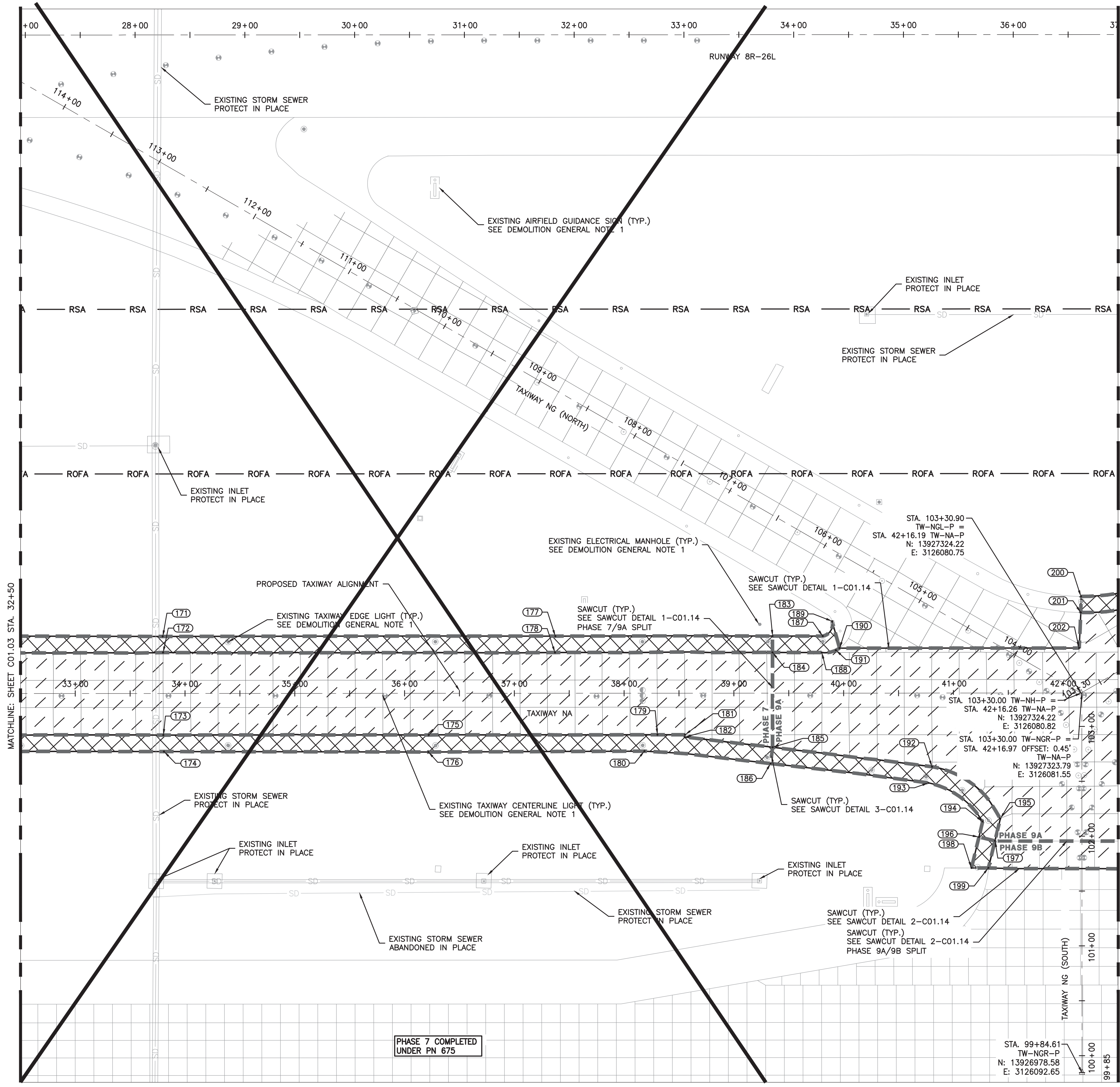
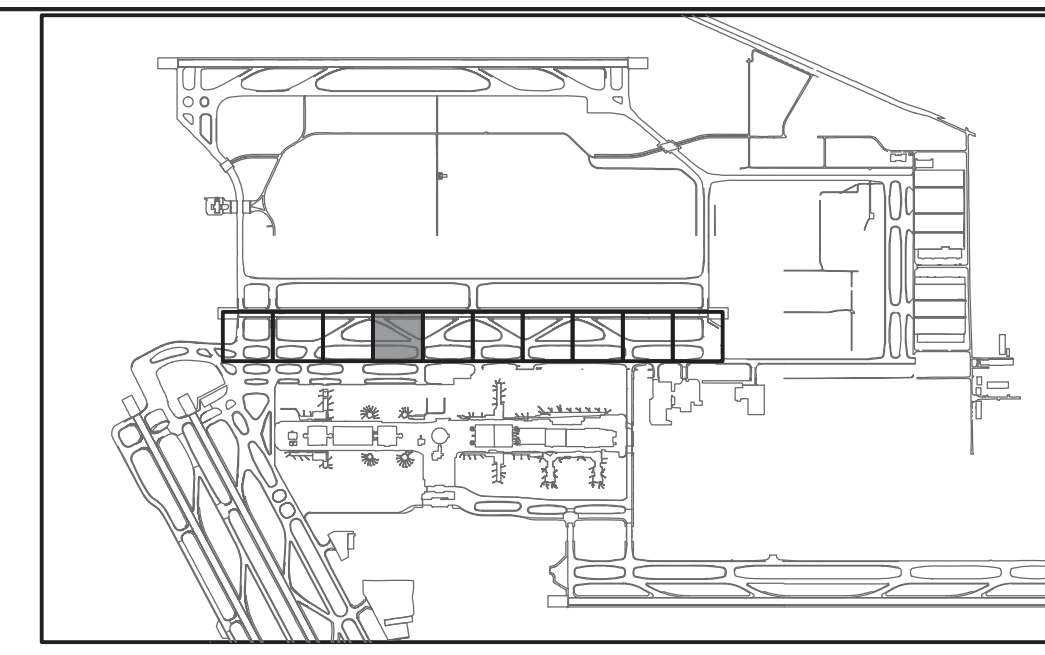
ISSUED FOR BID  
 PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1"=50'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Dorey Pahml*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

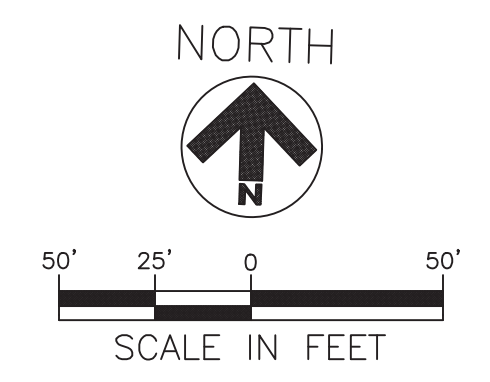
C01.04



**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA — TEMPORARY TAXIWAY SAFETY AREA
- TOFA — TEMPORARY TAXIWAY OBJECT FREE AREA
- ROFA — RUNWAY OBJECT FREE AREA
- RSA — RUNWAY SAFETY AREA
- SD — EXISTING STORM SEWER
- PHASE LIMITS
- EXISTING TAXIWAY C LIGHT
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT

NOTE: PHASE 7 COMPLETED UNDER PN 675

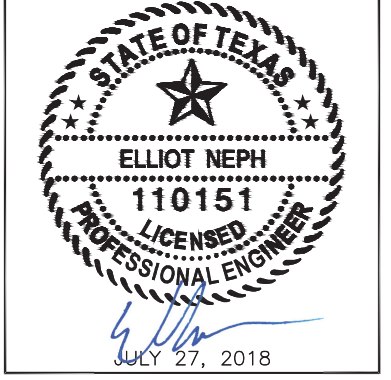




REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (5 OF 10)**

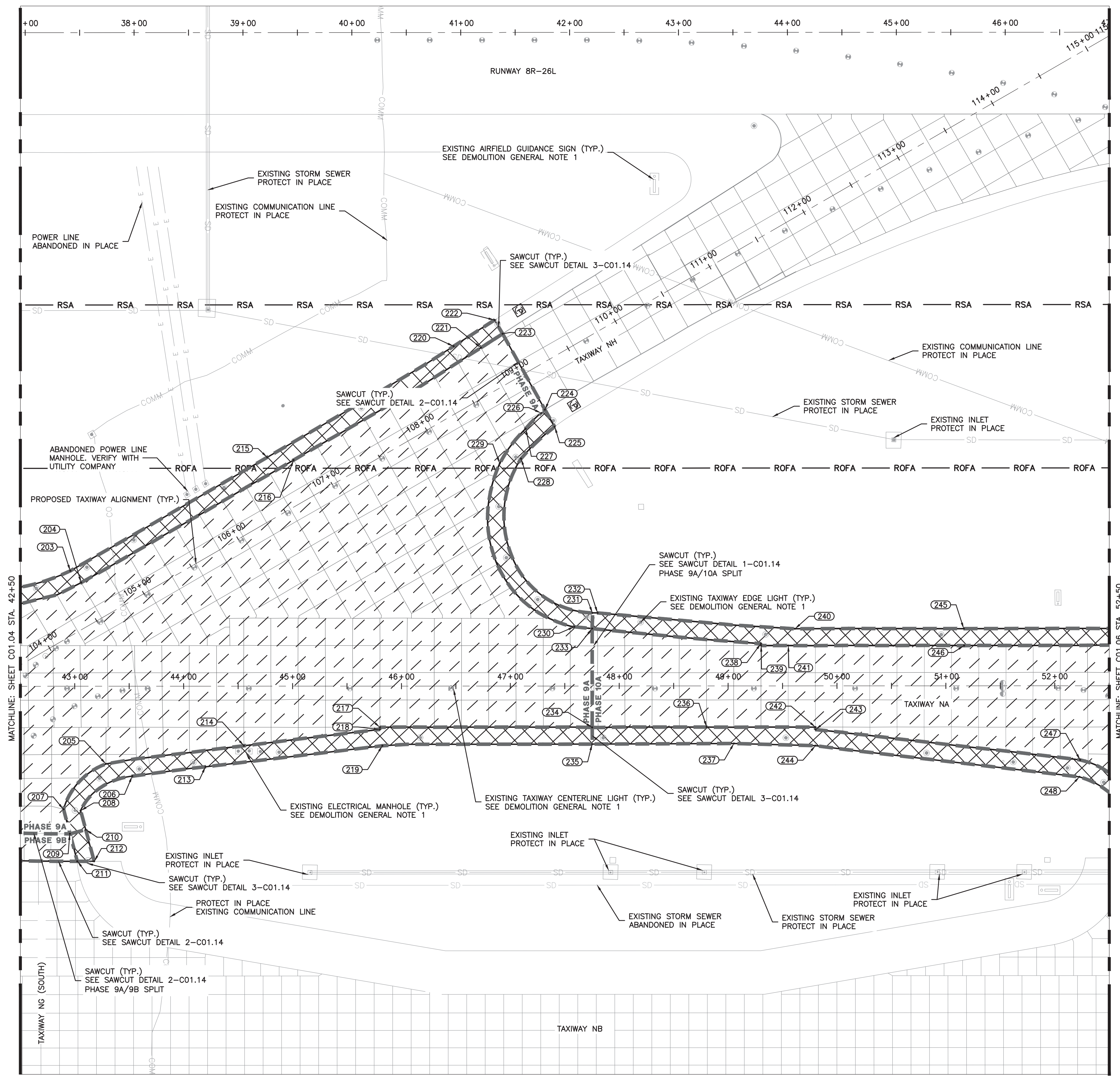
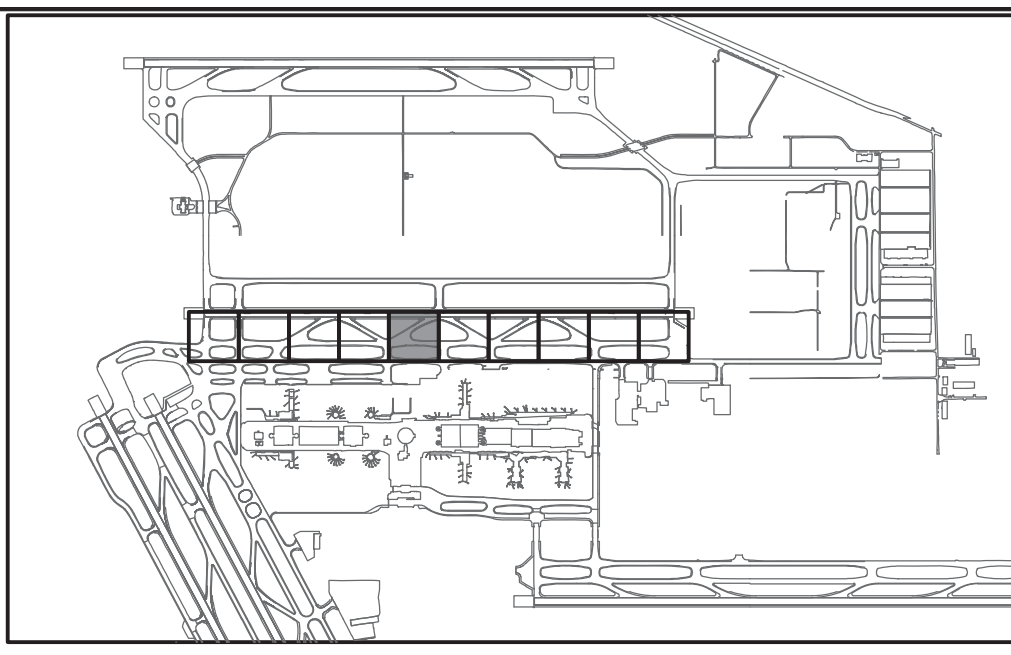
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PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Pahmel* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

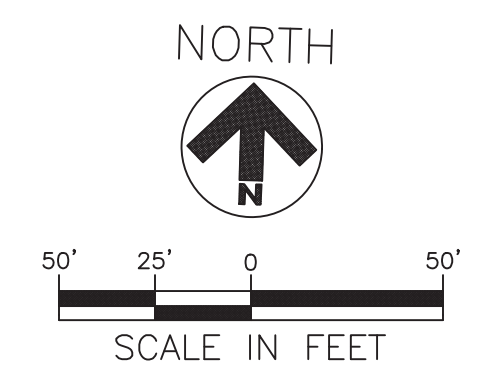
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C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**C01.05**



**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA — TEMPORARY TAXIWAY SAFETY AREA
- TOFA — TEMPORARY TAXIWAY OBJECT FREE AREA
- ROFA — RUNWAY OBJECT FREE AREA
- RSA — RUNWAY SAFETY AREA
- SD — EXISTING STORM SEWER
- PHASE LIMITS
- EXISTING TAXIWAY CL LIGHT
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT







HOUSTON AIRPORT SYSTEM  
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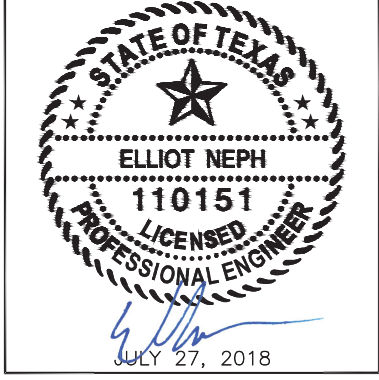
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (6 OF 10)**

ISSUED FOR BID

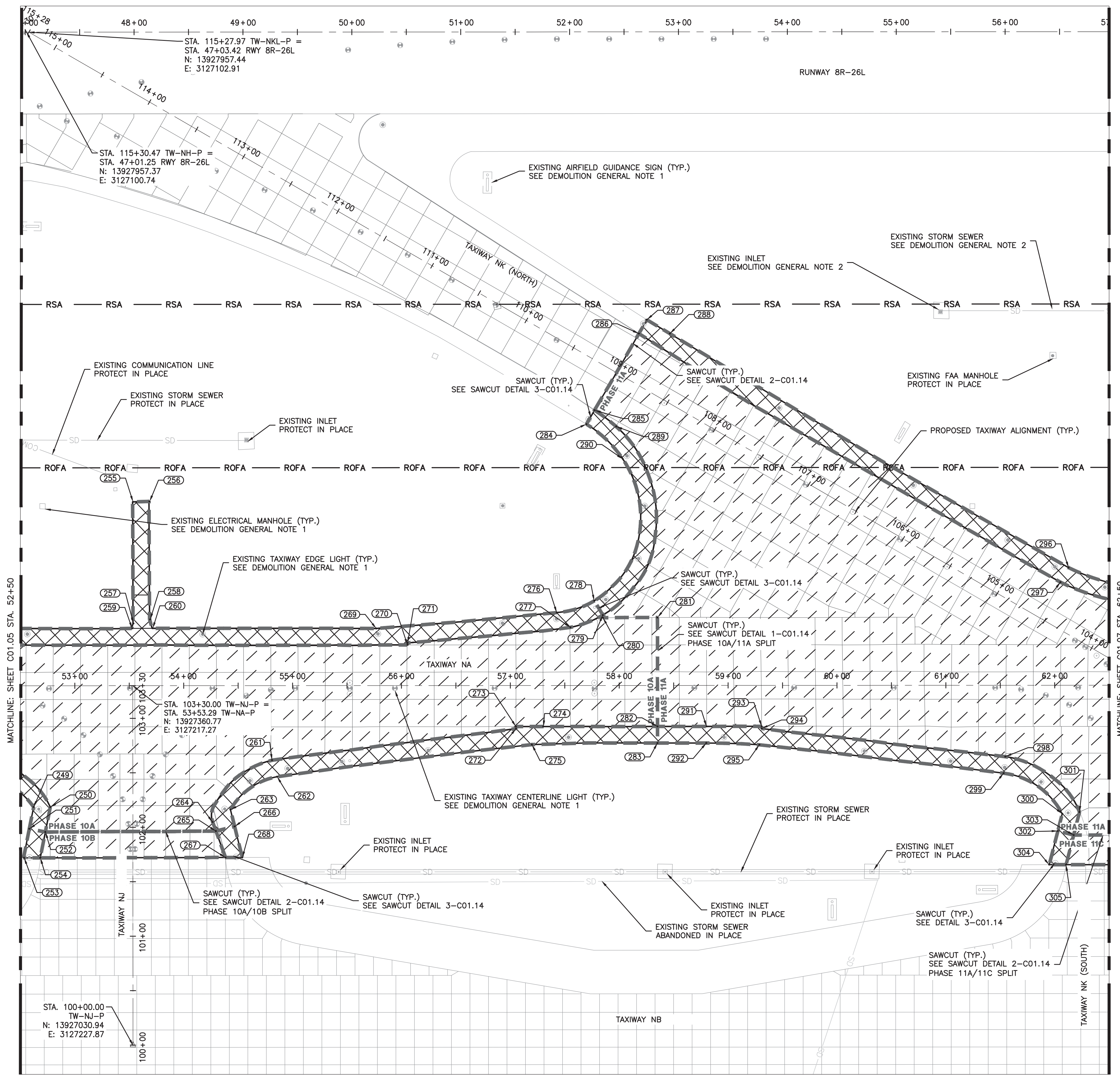
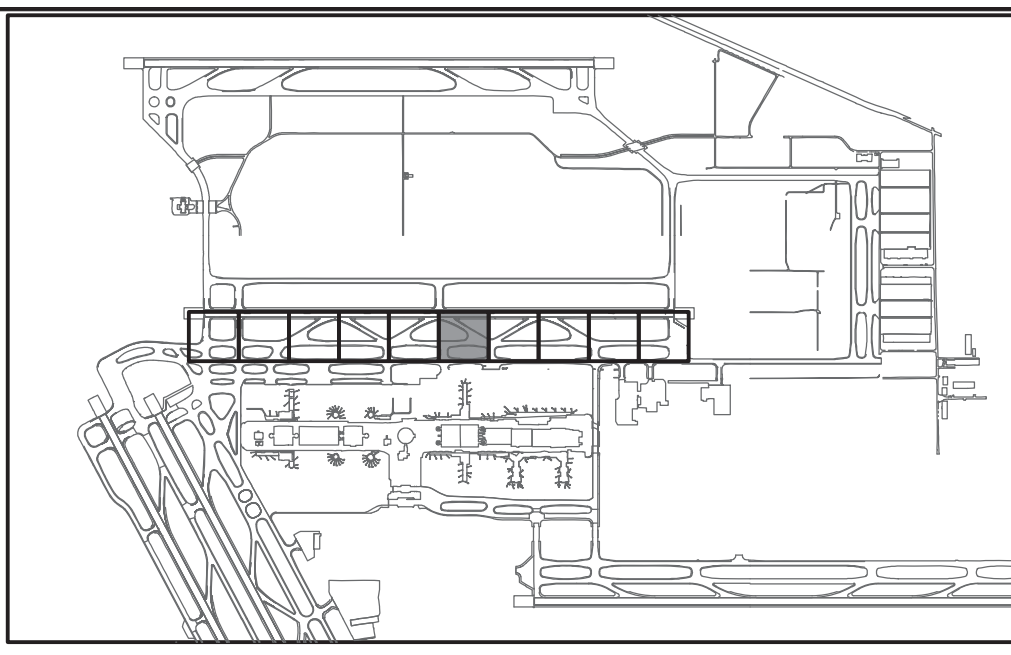
PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1"=50'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Daraj Rahmal* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

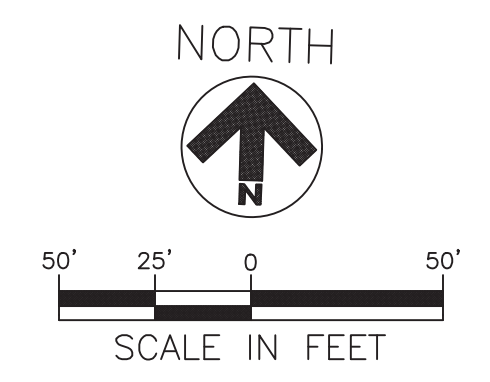
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 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

**C01.06**



**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA — TEMPORARY TAXIWAY SAFETY AREA
- TOFA — TEMPORARY TAXIWAY OBJECT FREE AREA
- ROFA — RUNWAY OBJECT FREE AREA
- RSA — RUNWAY SAFETY AREA
- SD — EXISTING STORM SEWER
- PHASE LIMITS
- EXISTING TAXIWAY C LIGHT
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT





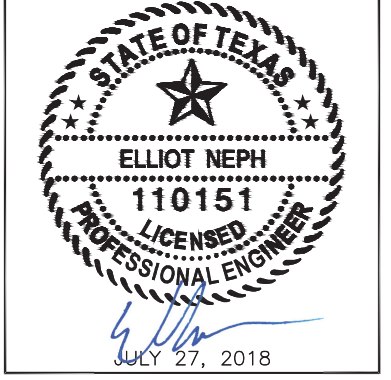
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (7 OF 10)**

ISSUED FOR BID

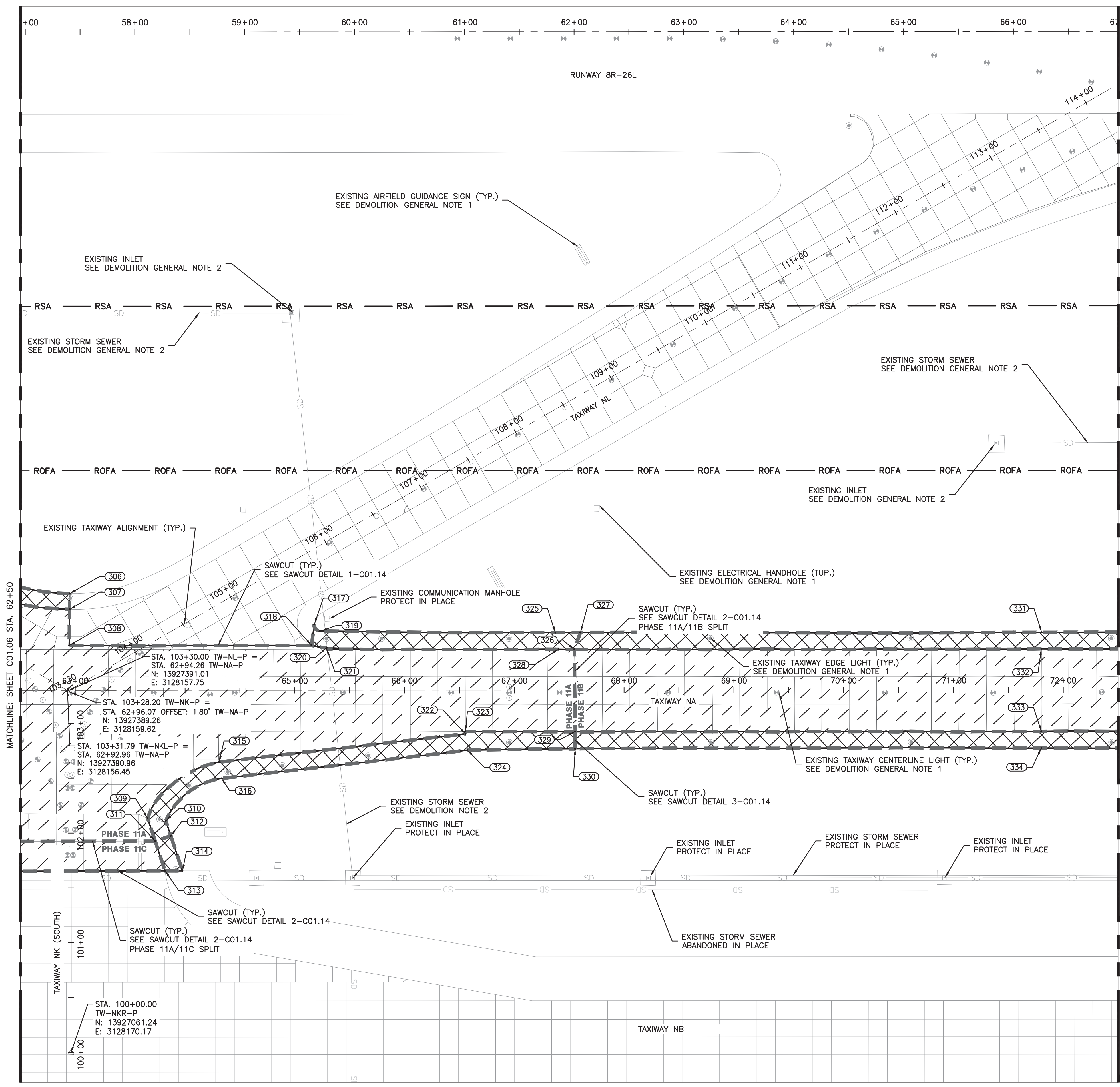
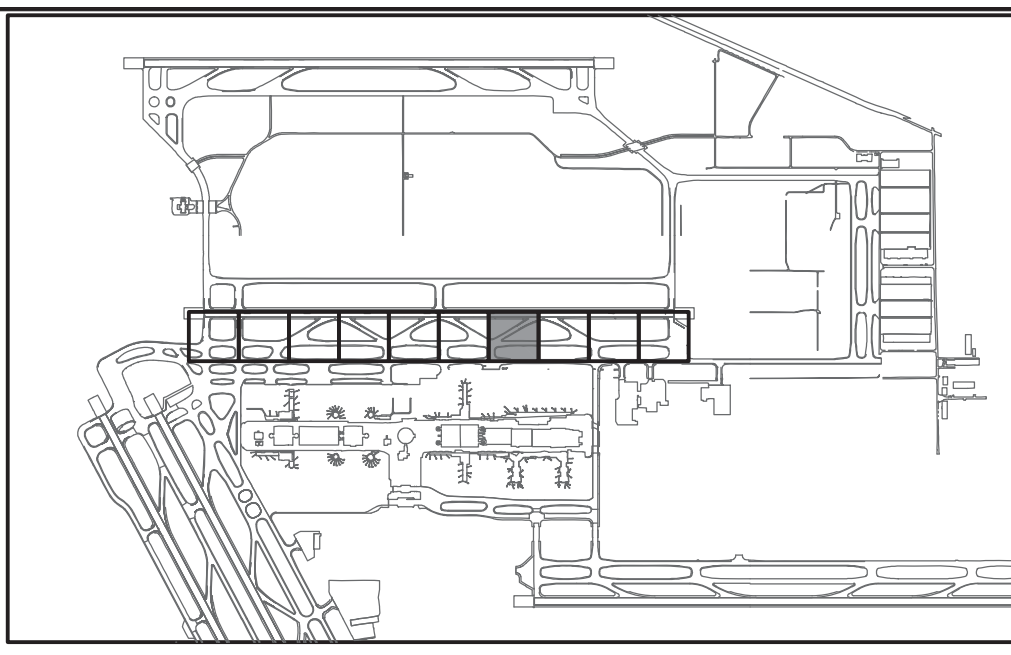
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CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Rahmel* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

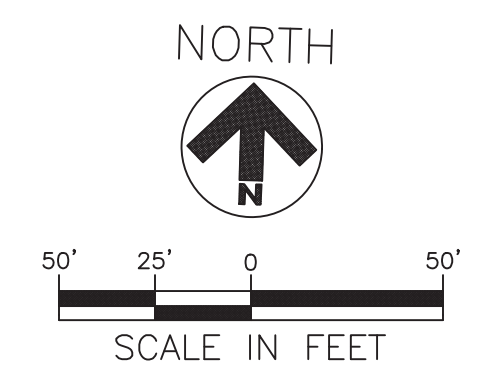
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 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C01.07**



**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA ——— TEMPORARY TAXIWAY SAFETY AREA
- TOFA ——— TEMPORARY TAXIWAY OBJECT FREE AREA
- ROFA ——— RUNWAY OBJECT FREE AREA
- RSA ——— RUNWAY SAFETY AREA
- SD ——— EXISTING STORM SEWER
- PHASE LIMITS
- EXISTING TAXIWAY CENTERLINE LIGHT
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT





REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (8 OF 10)**

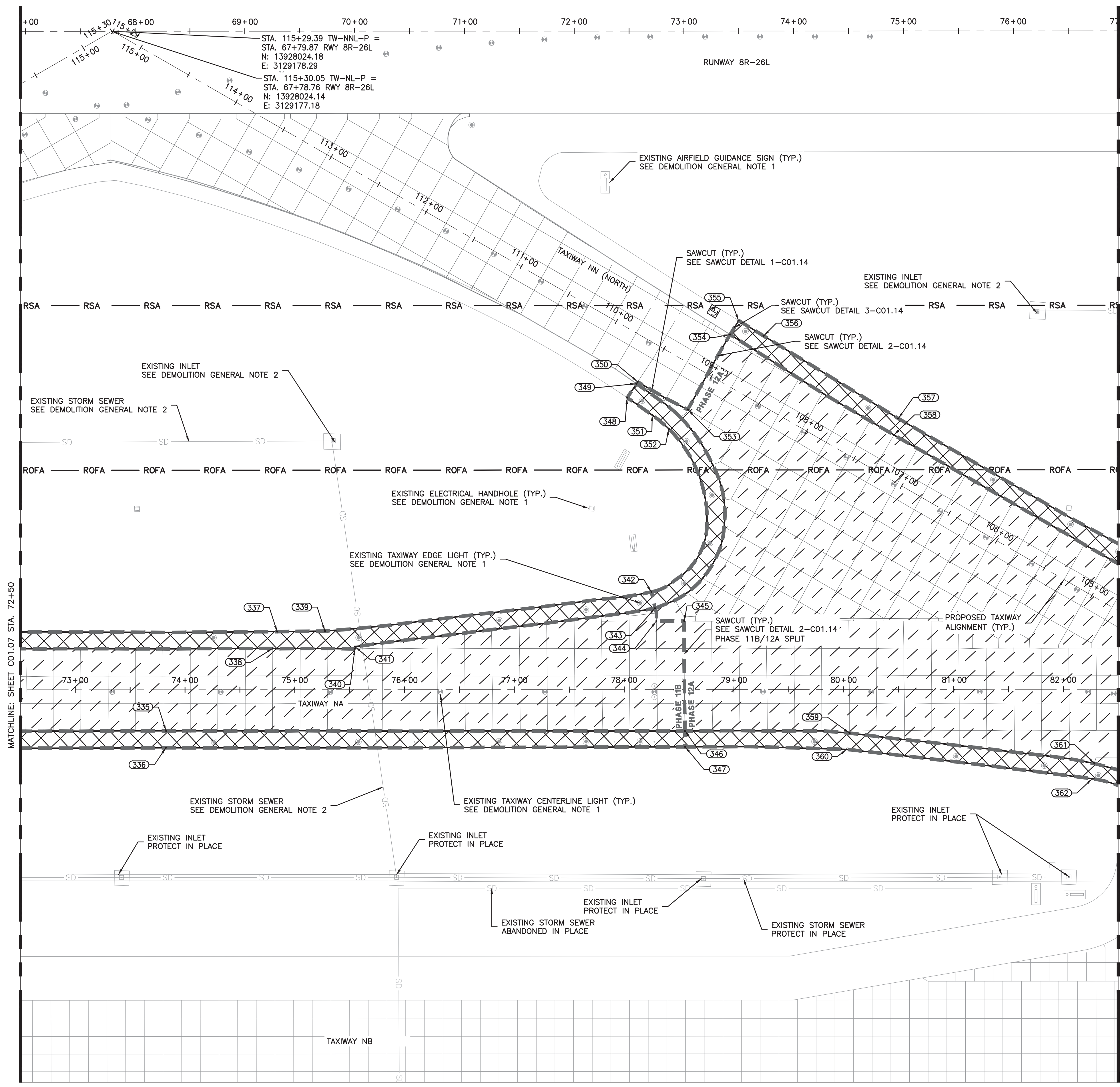
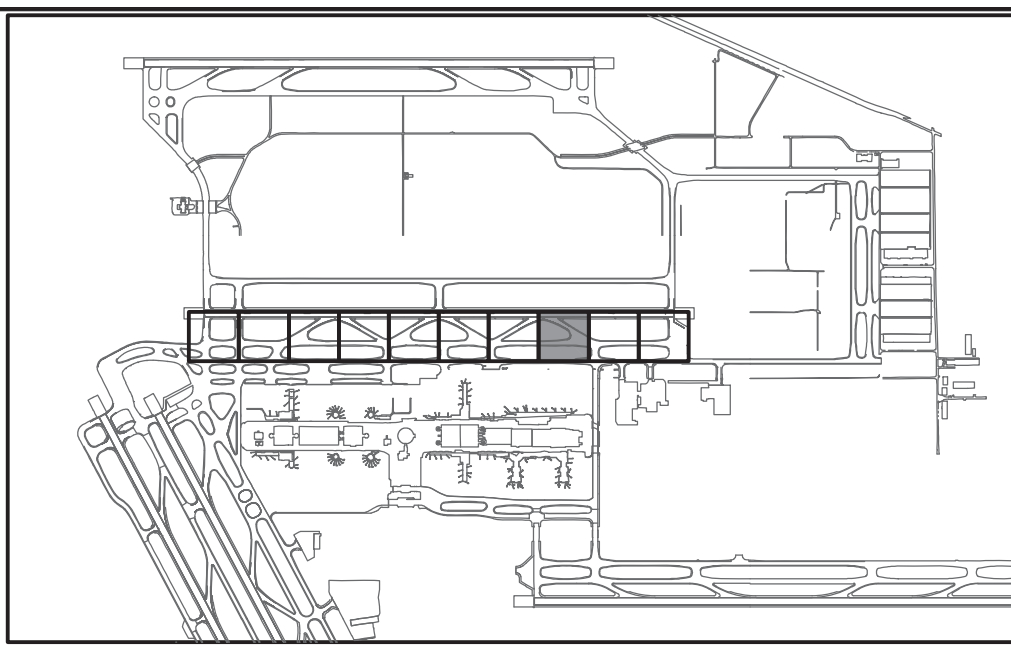
ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

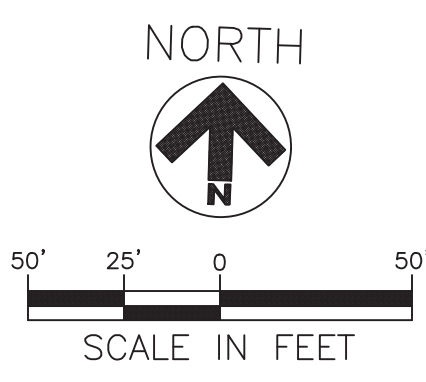
PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C01.08**



**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA TEMPORARY TAXIWAY SAFETY AREA
- TOFA TEMPORARY TAXIWAY OBJECT FREE AREA
- ROFA RUNWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- EXISTING STORM SEWER
- PHASE LIMITS
- EXISTING TAXIWAY C LIGHT
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT







HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL AIRPORT  
 HOUSTON, TEXAS

**RS&H**

RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

REVISIONS		
NO.	DESCRIPTION	DATE

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (9 OF 10)**

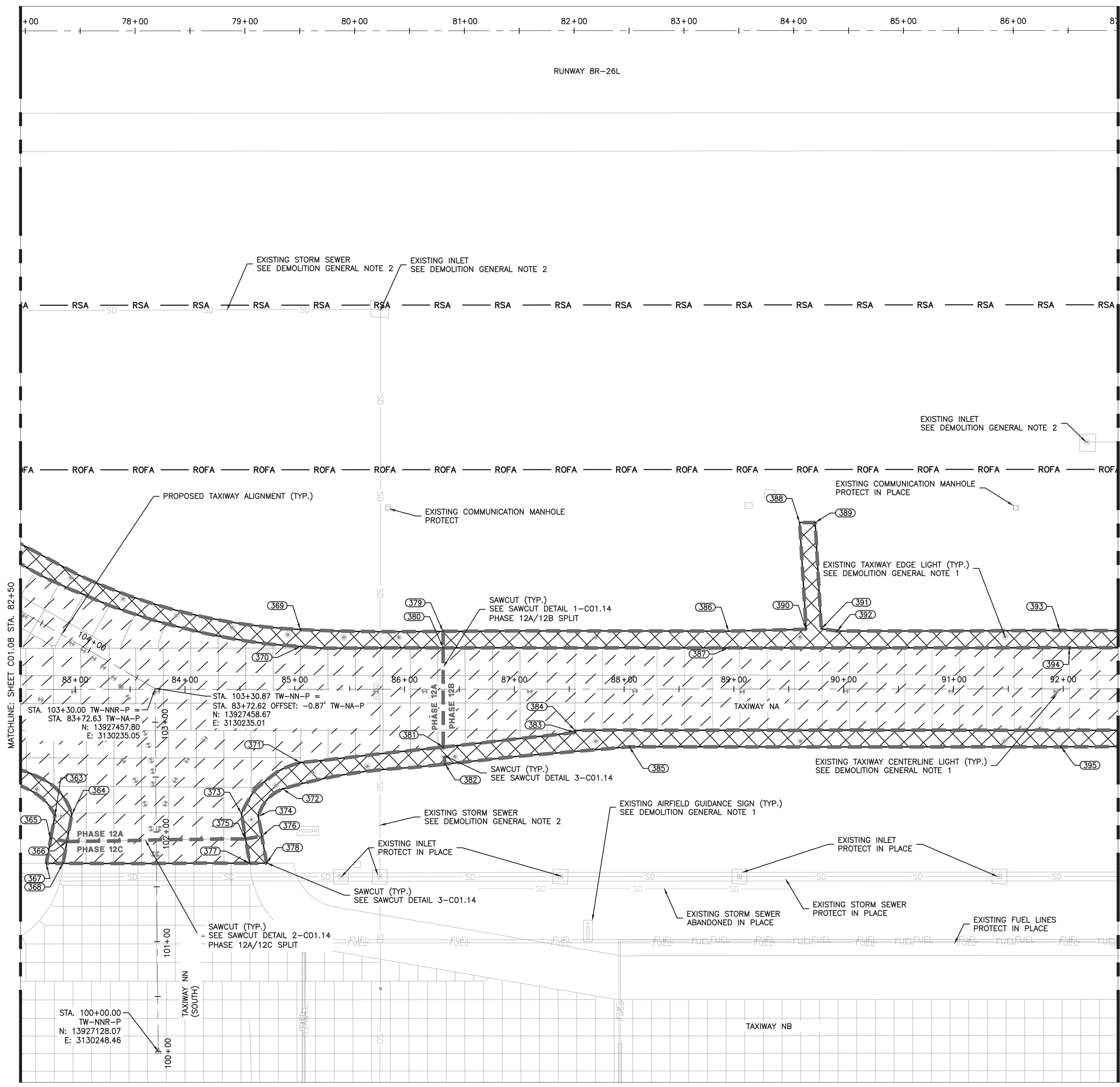
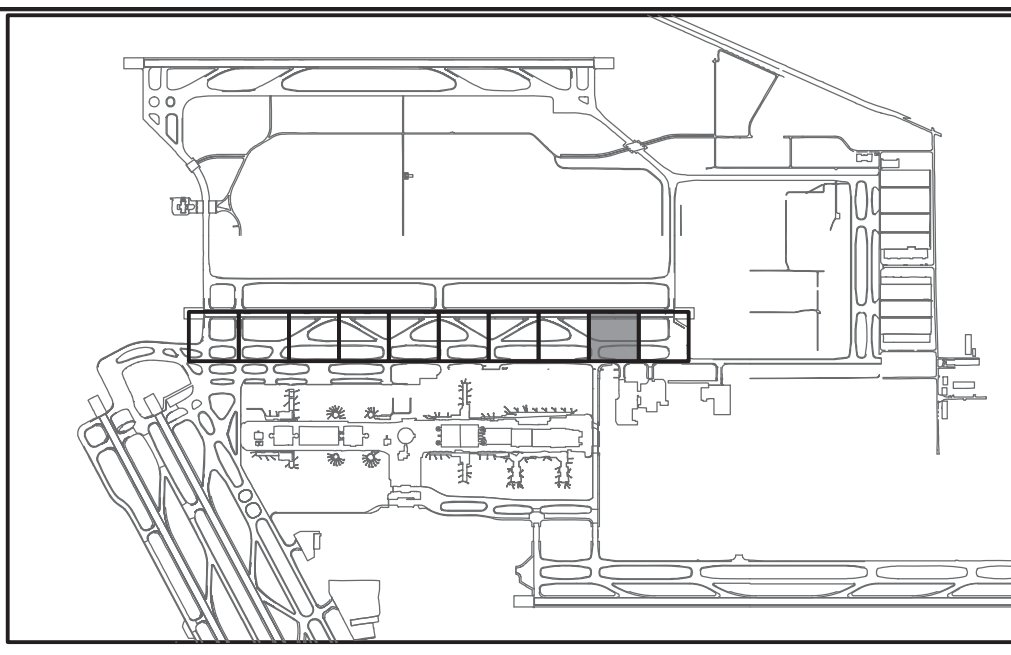
ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

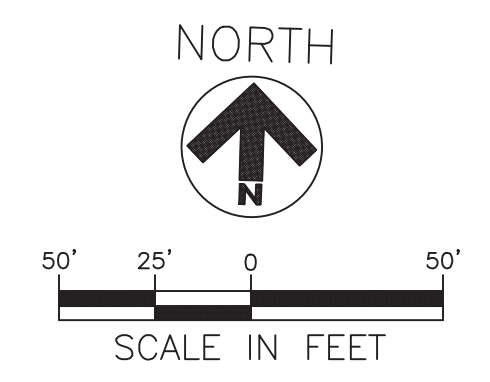
PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

**C01.09**



**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA TEMPORARY TAXIWAY SAFETY AREA
- TOFA TEMPORARY TAXIWAY OBJECT FREE AREA
- ROFA RUNWAY OBJECT FREE AREA
- RSA RUNWAY SAFETY AREA
- SD EXISTING STORM SEWER
- PHASE LIMITS
- EXISTING TAXIWAY LIGHT
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT





REVISIONS

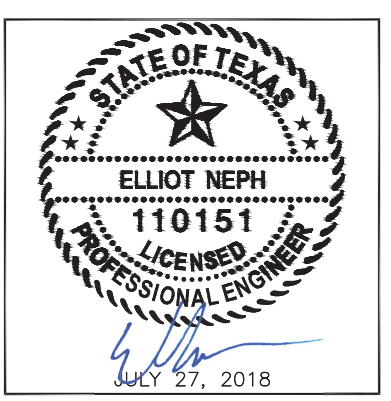
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**EXISTING CONDITIONS AND  
 DEMOLITION PLAN (10 OF 10)**

ISSUED FOR BID

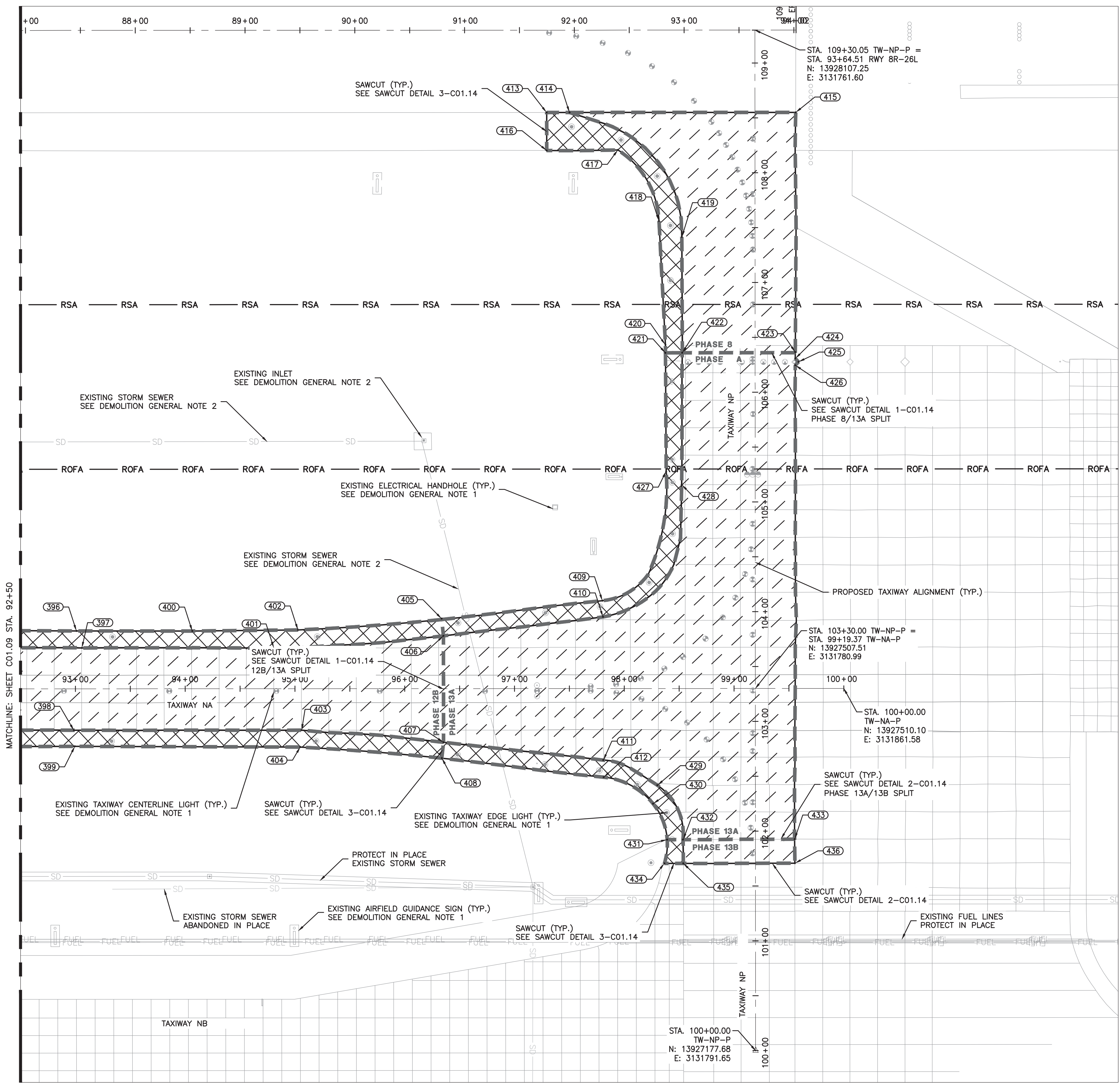
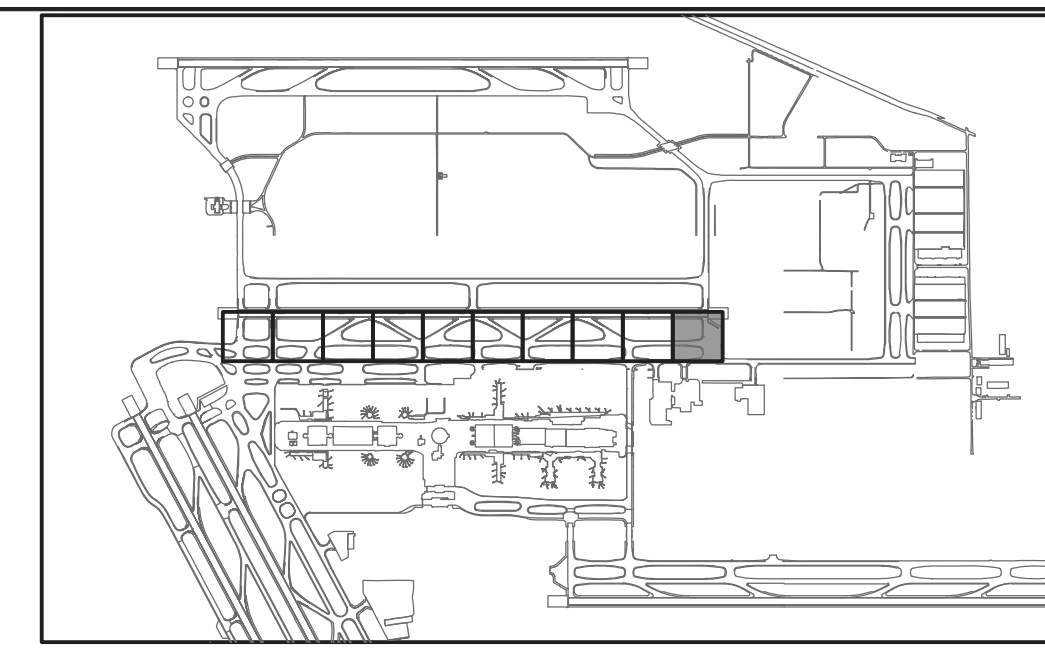
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Dorey Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

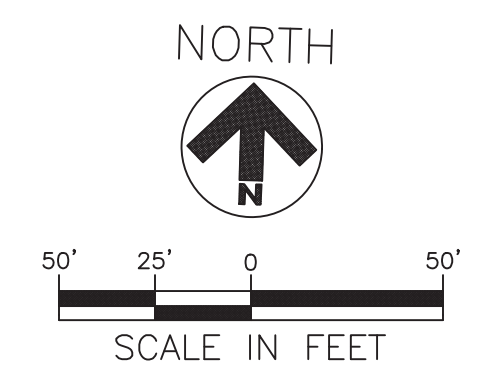
PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C01.10**



**LEGEND**

- CONCRETE PAVEMENT DEMO
- ASPHALT PAVEMENT DEMO
- TSA TEMPORARY TAXIWAY SAFETY AREA
- TOFA TEMPORARY TAXIWAY OBJECT FREE AREA
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- EXISTING INLET
- EXISTING ELECTRICAL HANDHOLE
- EXISTING AIRFIELD GUIDANCE SIGN
- DEMOLITION LIMIT LOCATION POINT





DEMOLITION POINTS		
POINT	NORTHING/EASTING	STATION/OFFSET
1	N: 13927731.45 E: 3122404.01	TW-NE-P STATION: 108+55.18 OFFSET: 37.82' L
2	N: 13927731.66 E: 3122579.79	TW-NE-P STATION: 108+49.78 OFFSET: 137.87' R
3	N: 13927737.62 E: 3122806.54	TW-NE-P STATION: 108+54.88 OFFSET: 164.81' R
4	N: 13927738.31 E: 3122629.00	TW-NE-P STATION: 108+54.85 OFFSET: 187.27' R
5	N: 13927695.99 E: 3122387.81	TW-NE-P STATION: 108+20.25 OFFSET: 55.14' L
6	N: 13927696.44 E: 3122402.22	TW-NE-P STATION: 108+20.24 OFFSET: 40.73' L
7	N: 13927700.69 E: 3122536.79	TW-NE-P STATION: 108+20.19 OFFSET: 93.91' R
8	N: 13927701.55 E: 3122560.05	TW-NE-P STATION: 108+20.31 OFFSET: 117.19' R
9	N: 13927704.02 E: 3122630.05	TW-NE-P STATION: 108+20.55 OFFSET: 187.22' R
10	N: 13927648.90 E: 3122515.19	TW-NE-P STATION: 107+69.12 OFFSET: 70.67' R
11	N: 13927637.82 E: 3122529.81	TW-NE-P STATION: 107+57.57 OFFSET: 84.93' R
12	N: 13927521.57 E: 3122385.64	TW-NE-P STATION: 106+45.99 OFFSET: 62.88' L
13	N: 13927522.02 E: 3122399.78	TW-NE-P STATION: 106+45.99 OFFSET: 48.74' L
14	N: 13927525.74 E: 3122516.73	TW-NE-P STATION: 106+45.97 OFFSET: 68.28' R
15	N: 13927525.98 E: 3122530.97	TW-NE-P STATION: 106+45.76 OFFSET: 82.52' R
16	N: 13927487.76 E: 3122531.63	TW-NE-P STATION: 106+07.54 OFFSET: 81.95' R
17	N: 13927421.95 E: 3122517.87	TW-NE-P STATION: 105+42.20 OFFSET: 66.10' R
18	N: 13927365.21 E: 3122533.73	TW-NA-P STATION: 6+72.32 OFFSET: 154.97' L
19	N: 13927345.77 E: 3122519.60	TW-NA-P STATION: 6+57.57 OFFSET: 135.99' L
20	N: 13927354.26 E: 3122397.47	TW-NA-P STATION: 5+35.78 OFFSET: 148.40' L
21	N: 13927258.54 E: 3122361.20	TW-NE-P STATION: 103+83.87 OFFSET: 95.70' L
22	N: 13927274.22 E: 3122337.06	TW-NE-P STATION: 104+00.32 OFFSET: 119.33' L
23	N: 13927306.47 E: 3122339.30	TW-NE-P STATION: 104+32.48 OFFSET: 116.07' L
24	N: 13927308.42 E: 3122380.15	TW-NA-P STATION: 5+16.99 OFFSET: 103.14' L
25	N: 13927317.72 E: 3122396.64	TW-NA-P STATION: 5+33.77 OFFSET: 111.90' L
26	N: 13927250.06 E: 3122374.97	TW-NA-P STATION: 5+09.94 OFFSET: 44.98' L
27	N: 13927243.80 E: 3122370.83	TW-NA-P STATION: 5+05.60 OFFSET: 38.85' L
28	N: 13927238.38 E: 3122367.05	TW-NA-P STATION: 5+01.64 OFFSET: 33.56' L
29	N: 13927235.66 E: 3122371.26	TW-NA-P STATION: 5+05.77 OFFSET: 30.70' L
30	N: 13927131.26 E: 3122374.65	TW-NE-P STATION: 102+56.22 OFFSET: 86.33' L

DEMOLITION POINTS		
POINT	NORTHING/EASTING	STATION/OFFSET
31	N: 13927132.06 E: 3122370.38	TW-NE-P STATION: 102+57.58 OFFSET: 103.66' L
32	N: 13927113.35 E: 3122356.50	TW-NE-P STATION: 102+38.90 OFFSET: 105.04' L
33	N: 13927115.36 E: 3122316.63	TW-NE-P STATION: 102+42.19 OFFSET: 144.82' L
34	N: 13927096.49 E: 3122315.65	TW-NE-P STATION: 102+23.36 OFFSET: 146.41' L
35	N: 13927093.63 E: 3122375.84	TW-NA-P STATION: 9+05.78 OFFSET: 111.40' R
36	N: 13927066.99 E: 3122376.79	TW-NA-P STATION: 9+05.87 OFFSET: 138.05' R
37	N: 13927023.92 E: 3122378.09	TW-NA-P STATION: 9+05.79 OFFSET: 181.15' R
38	N: 13927018.36 E: 3122371.32	TW-NE-P STATION: 101+43.49 OFFSET: 93.26' L
39	N: 13927005.69 E: 3122379.81	TW-NA-P STATION: 5+06.93 OFFSET: 199.42' R
40	N: 13927007.05 E: 3122382.49	TW-NA-P STATION: 5+09.64 OFFSET: 198.15' R
41	N: 13927008.57 E: 3122429.62	TW-NA-P STATION: 5+56.80 OFFSET: 198.15' R
42	N: 13927025.56 E: 3122429.07	TW-NA-P STATION: 5+56.80 OFFSET: 181.15' R
43	N: 13927028.30 E: 3122514.03	TW-NA-P STATION: 6+41.80 OFFSET: 181.14' R
44	N: 13927029.29 E: 3122553.81	TW-NA-P STATION: 6+81.59 OFFSET: 181.43' R
45	N: 13927044.17 E: 3122549.73	TW-NA-P STATION: 6+77.99 OFFSET: 166.42' R
46	N: 13927056.42 E: 3122548.44	TW-NA-P STATION: 6+77.09 OFFSET: 154.14' R
47	N: 13927072.66 E: 3122547.92	TW-NA-P STATION: 6+77.09 OFFSET: 137.89' R
48	N: 13927096.44 E: 3122535.97	TW-NA-P STATION: 6+65.92 OFFSET: 113.74' R
49	N: 13927057.19 E: 3122572.48	TW-NA-P STATION: 7+01.15 OFFSET: 154.14' R
50	N: 13927095.40 E: 3122553.34	TW-NA-P STATION: 6+83.24 OFFSET: 115.34' R
51	N: 13927306.67 E: 3122562.14	TW-NA-P STATION: 6+98.83 OFFSET: 95.54' L
52	N: 13927284.86 E: 3122569.35	TW-NA-P STATION: 7+05.34 OFFSET: 73.51' L
53	N: 13927294.48 E: 3122592.05	TW-NA-P STATION: 7+28.34 OFFSET: 82.40' L
54	N: 13927144.89 E: 3122598.61	TW-NA-P STATION: 7+30.08 OFFSET: 67.33' R
55	N: 13927129.41 E: 3122600.56	TW-NA-P STATION: 7+31.53 OFFSET: 82.87' R
56	N: 13927276.20 E: 3122619.45	TW-NA-P STATION: 7+55.13 OFFSET: 63.24' L
57	N: 13927285.77 E: 3122691.06	TW-NA-P STATION: 8+27.01 OFFSET: 70.51' L
58	N: 13927270.64 E: 3122689.72	TW-NA-P STATION: 8+25.19 OFFSET: 55.43' L
59	N: 13927159.13 E: 3122693.31	TW-NA-P STATION: 8+25.19 OFFSET: 56.14' R
60	N: 13927159.84 E: 3122698.07	TW-NA-P STATION: 8+29.97 OFFSET: 55.58' R

DEMOLITION POINTS		
POINT	NORTHING/EASTING	STATION/OFFSET
61	N: 13927144.61 E: 3122700.39	TW-NA-P STATION: 8+31.80 OFFSET: 70.88' R
62	N: 13927278.09 E: 3123785.24	TW-NA-P STATION: 9+20.90 OFFSET: 59.81' L
63	N: 13927262.27 E: 3122794.82	TW-NA-P STATION: 9+29.96 OFFSET: 43.69' L
64	N: 13927263.40 E: 3122794.87	TW-NA-P STATION: 9+30.05 OFFSET: 44.81' L
65	N: 13927171.90 E: 3122786.90	TW-NA-P STATION: 9+19.14 OFFSET: 46.38' R
66	N: 13927156.06 E: 3122788.20	TW-NA-P STATION: 9+19.94 OFFSET: 62.26' R
67	N: 13927304.56 E: 3122968.90	TW-NA-P STATION: 11+05.32 OFFSET: 80.36' L
68	N: 13927289.44 E: 3122968.96	TW-NA-P STATION: 11+04.89 OFFSET: 65.24' L
69	N: 13927158.90 E: 3122972.72	TW-NA-P STATION: 11+04.45 OFFSET: 65.35' R
70	N: 13927143.81 E: 3122971.04	TW-NA-P STATION: 11+02.28 OFFSET: 80.37' R
71	N: 13927747.06 E: 3122903.86	TW-NR-P STATION: 108+54.72 OFFSET: 194.80' L
72	N: 13927748.87 E: 3122960.12	TW-NR-P STATION: 108+54.73 OFFSET: 138.52' L
73	N: 13927712.67 E: 3122904.97	TW-NR-P STATION: 108+20.32 OFFSET: 194.80' L
74	N: 13927715.69 E: 3122994.70	TW-NR-P STATION: 108+20.45 OFFSET: 105.02' L
75	N: 13927670.32 E: 3123020.57	TW-NR-P STATION: 107+74.27 OFFSET: 80.62' L
76	N: 13927672.29 E: 3123036.24	TW-NR-P STATION: 107+75.74 OFFSET: 64.90' L
77	N: 13927542.27 E: 3123025.59	TW-NR-P STATION: 106+46.13 OFFSET: 79.72' L
78	N: 13927542.62 E: 3123040.46	TW-NR-P STATION: 106+46.00 OFFSET: 64.85' L
79	N: 13927375.67 E: 3123029.80	TW-NA-P STATION: 11+68.47 OFFSET: 149.48' L
80	N: 13927379.70 E: 3123045.71	TW-NA-P STATION: 11+84.50 OFFSET: 152.99' L
81	N: 13927109.28 E: 3123030.08	TW-NA-P STATION: 11+60.18 OFFSET: 116.78' R
82	N: 13927111.69 E: 3123046.03	TW-NA-P STATION: 11+76.20 OFFSET: 114.89' R
83	N: 13927092.55 E: 3123026.23	TW-NA-P STATION: 11+55.79 OFFSET: 133.38' R
84	N: 13927089.18 E: 3123040.84	TW-NA-P STATION: 11+70.30 OFFSET: 137.22' R
85	N: 13927088.15 E: 3123045.33	TW-NA-P STATION: 11+74.75 OFFSET: 138.40' R
86	N: 13927065.42 E: 3123019.98	TW-NA-P STATION: 11+48.68 OFFSET: 160.30' R
87	N: 13927065.92 E: 3123035.48	TW-NA-P STATION: 11+64.19 OFFSET: 160.30' R
88	N: 13927757.76 E: 3123236.18	TW-NR-P STATION: 108+54.74 OFFSET: 137.68' R
89	N: 13927759.13 E: 3123278.67	TW-NR-P STATION: 108+54.74 OFFSET: 180.20' R
90	N: 13927724.61 E: 3123279.78	TW-NR-P STATION: 108+20.20 OFFSET: 180.20' R

DEMOLITION POINTS		
POINT	NORTHING/EASTING	STATION/OFFSET
91	N: 13927721.98 E: 3123734.53	TW-NR-P STATION: 108+19.93 OFFSET: 106.69' R
92	N: 13927673.20 E: 3123165.58	TW-NR-P STATION: 107+72.49 OFFSET: 64.41' R
93	N: 13927661.86 E: 3123181.12	TW-NR-P STATION: 107+60.65 OFFSET: 79.57' R
94	N: 13927546.81 E: 3123170.40	TW-NR-P STATION: 106+46.00 OFFSET: 65.16' R
95	N: 13927547.22 E: 3123185.11	TW-NR-P STATION: 106+45.94 OFFSET: 79.87' R
96	N: 13927368.34 E: 3123176.93	TW-NA-P STATION: 13+15.29 OFFSET: 137.42' L
97	N: 13927368.33 E: 3123191.76	TW-NA-P STATION: 13+30.11 OFFSET: 136.94' L
98	N: 13927117.87 E: 3123192.72	TW-NA-P STATION: 13+23.02 OFFSET: 113.43' R
99	N: 13927113.76 E: 3123208.45	TW-NA-P STATION: 13+38.61 OFFSET: 118.04' R
100	N: 13927092.92 E: 3123195.13	TW-NA-P STATION: 13+24.63 OFFSET: 138.45' R
101	N: 13927094.14 E: 3123199.45	TW-NA-P STATION: 13+28.98 OFFSET: 137.36' R
102	N: 13927098.23 E: 3123213.88	TW-NA-P STATION: 13+43.53 OFFSET: 133.74' R
103	N: 13927071.56 E: 3123205.85	TW-NA-P STATION: 13+34.65 OFFSET: 160.13' R
104	N: 13927072.11 E: 3123221.29	TW-NA-P STATION: 13+50.10 OFFSET: 160.08' R
105	N: 13927314.98 E: 3123247.84	TW-NA-P STATION: 13+84.44 OFFSET: 81.81' L
106	N: 13927300.28 E: 3123245.36	TW-NA-P STATION: 13+81.49 OFFSET: 67.20' L
107	N: 13927166.28 E: 3123248.79	TW-NA-P STATION: 13+80.61 OFFSET: 66.85' R
108	N: 13927151.90 E: 3123256.04	TW-NA-P STATION: 13+87.39 OFFSET: 81.45' R
109	N: 13927305.89 E: 3123350.58	TW-NA-P STATION: 14+86.84 OFFSET: 69.43' L
110	N: 13927291.11 E: 3123349.41	TW-NA-P STATION: 14+85.19 OFFSET: 54.68' L
111	N: 13927180.74 E: 3123352.96	TW-NA-P STATION: 14+85.19 OFFSET: 55.74' R
112	N: 13927165.58 E: 3123355.00	TW-NA-P STATION: 14+86.75 OFFSET: 70.96' R
113	N: 13927280.54 E: 3123479.16	TW-NA-P STATION: 16+14.53 OFFSET: 39.96' L
114	N: 13927277.40 E: 3123479.27	TW-NA-P STATION: 16+14.55 OFFSET: 36.81' L
115	N: 13927198.71 E: 3123484.96	TW-NA-P STATION: 16+17.70 OFFSET: 42.02' R
116	N: 13927182.72 E: 3123485.98	TW-NA-P STATION: 16+18.21 OFFSET: 58.04' R
117	N: 13927293.11 E: 3123509.66	TW-NA-P STATION: 16+45.43 OFFSET: 51.54' L
118	N: 13927184.23 E: 3123698.57	TW-NA-P STATION: 18+30.74 OFFSET: 63.36' R
119	N: 13927182.23 E: 3123722.82	TW-NA-P STATION: 18+54.91 OFFSET: 66.14' R
120	N: 13927167.09 E: 3123723.81	TW-NA-P STATION: 18+55.42 OFFSET: 81.30' R

DEMOLITION POINTS		
POINT	NORTHING/EASTING	STATION/OFFSET
121	N: 13927174.87 E: 3123734.53	TW-NA-P STATION: 18+77.80 OFFSET: 74.24' R
122	N: 13927164.40 E: 3124509.94	TW-NA-P STATION: 18+66.04 OFFSET: 84.33' R
123	N: 13927161.51 E: 3123752.56	TW-NA-P STATION: 18+83.97 OFFSET: 87.80' R
124	N: 13927128.88 E: 3123738.48	TW-NA-P STATION: 18+68.84 OFFSET: 119.96' R
125	N: 13927132.36 E: 3123767.51	TW-NA-P STATION: 18+97.98 OFFSET: 117.42' R
126	N: 13927120.63 E: 3123727.74	TW-NA-P STATION: 18+57.85 OFFSET: 127.86' R
127	N: 13927097.20 E: 3123736.89	TW-NA-P STATION: 18+66.24 OFFSET: 151.58' R
128	N: 13927102.53 E: 3123776.55	TW-NA-P STATION: 19+06.05 OFFSET: 147.52' R
129	N: 13927402.03 E: 3123778.57	TW-NA-P STATION: 19+17.70 OFFSET: 151.76' L
130	N: 13927402.84 E: 3123792.83	TW-NA-P STATION: 19+31.77 OFFSET: 152.11' L
131	N: 13927302.56 E: 3123787.02	TW-NA-P STATION: 19+22.94 OFFSET: 52.07' L
132	N: 13927302.98 E: 3123799.89	TW-NA-P STATION: 19+35.82 OFFSET: 52.07' L
133	N: 13927305.15 E: 3123867.45	TW-NA-P STATION: 20+03.41 OFFSET: 52.07' L
134	N: 13927290.35 E: 3123868.97	TW-NA-P STATION: 20+04.46 OFFSET: 37.23' L
135	N: 13927359.38 E: 3124064.66	TW-NA-P STATION: 22+02.27 OFFSET: 99.93' L
136	N: 13927343.66 E: 3124066.65	TW-NA-P STATION: 22+03.76 OFFSET: 84.36' L
137	N: 13927190.97 E: 3124074.73	TW-NA-P STATION: 22+06.92 OFFSET: 68.72' R
138	N: 13927179.62 E: 3124080.27	TW-NA-P STATION: 22+12.09 OFFSET: 80.23' R
139	N: 13927170.91 E: 3124049.13	TW-NA-P STATION: 21+80.69 OFFSET: 87.94' R
140	N: 13927168.82 E: 3124050.75	TW-NA-P STATION: 21+82.24 OFFSET: 90.08' R
141	N: 13927159.67 E: 3124041.19	TW-NA-P STATION: 21+72.39 OFFSET: 98.92' R
142	N: 13927151.30 E: 3124053.89	TW-NA-P STATION: 21+84.82 OFFSET: 107.69' R
143	N: 13927137.31 E: 3124075.13	TW-NA-P STATION: 22+05.59 OFFSET: 122.36' R
144	N: 13927110.58 E: 3125243.10	TW-NA-P STATION: 21+52.73 OFFSET: 147.41' R
145	N: 13927105.90 E: 31254063.01	TW-NA-P STATION: 21+92.47 OFFSET: 153.36' R
146	N: 13927404.14 E: 3124139.68	TW-NA-P STATION: 22+78.68 OFFSET: 142.26' L
147	N: 13927394.67 E: 3124153.05	TW-NA





REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT DEMOLITION POINTS TABLE (2 OF 3)**

DEMOLITION POINTS			DEMOLITION POINTS			DEMOLITION POINTS			DEMOLITION POINTS			DEMOLITION POINTS			DEMOLITION POINTS			DEMOLITION POINTS																																																																																																																																																																																																																																																																																																																																																																																																																																									
POINT	NORTHING/EASTING	STATION/OFFSET	POINT	NORTHING/EASTING	STATION/OFFSET	POINT	NORTHING/EASTING	STATION/OFFSET	POINT	NORTHING/EASTING	STATION/OFFSET	POINT	NORTHING/EASTING	STATION/OFFSET	POINT	NORTHING/EASTING	STATION/OFFSET	POINT	NORTHING/EASTING	STATION/OFFSET	POINT	NORTHING/EASTING	STATION/OFFSET	POINT	NORTHING/EASTING	STATION/OFFSET	POINT	NORTHING/EASTING	STATION/OFFSET																																																																																																																																																																																																																																																																																																																																																																																																																														
211	N: 13927166.37 E: 3126171.90	TW-NA-P STATION: 43+02.22 OFFSET: 160.70' R	241	N: 13927385.00 E: 3126818.19	TW-NA-P STATION: 49+55.20 OFFSET: 37.05' L	271	N: 13927408.01 E: 3127468.26	TW-NA-P STATION: 56+05.67 OFFSET: 39.15' L	301	N: 13927272.36 E: 3128090.02	TW-NA-P STATION: 62+22.75 OFFSET: 116.41' R	331	N: 13927471.94 E: 3129041.86	TW-NA-P STATION: 71+80.52 OFFSET: 52.48' L	361	N: 13927385.65 E: 3130093.04	TW-NA-P STATION: 82+28.37 OFFSET: 67.55' R	391	N: 13927532.13 E: 3130840.00	TW-NA-P STATION: 89+79.66 OFFSET: 54.85' L	212	N: 13927166.84 E: 3126187.42	TW-NA-P STATION: 43+17.74 OFFSET: 160.72' R	242	N: 13927310.94 E: 3126845.63	TW-NA-P STATION: 49+80.24 OFFSET: 37.86' R	272	N: 13927332.53 E: 3127570.36	TW-NA-P STATION: 57+05.29 OFFSET: 39.56' R	302	N: 13927254.33 E: 3128070.66	TW-NA-P STATION: 62+02.82 OFFSET: 133.81' R	332	N: 13927457.01 E: 3129042.04	TW-NA-P STATION: 71+80.21 OFFSET: 37.55' L	362	N: 13927371.65 E: 3130091.58	TW-NA-P STATION: 82+26.47 OFFSET: 81.49' R	392	N: 13927530.58 E: 3130854.47	TW-NA-P STATION: 89+94.07 OFFSET: 52.83' L	213	N: 13927256.80 E: 3126286.94	TW-NA-P STATION: 44+20.10 OFFSET: 174.01' R	243	N: 13927308.68 E: 3126845.74	TW-NA-P STATION: 49+80.29 OFFSET: 40.11' R	273	N: 13927334.45 E: 3127570.22	TW-NA-P STATION: 57+05.21 OFFSET: 37.65' R	303	N: 13927251.09 E: 3128085.30	TW-NA-P STATION: 62+17.36 OFFSET: 137.52' R	333	N: 13927381.77 E: 3129044.31	TW-NA-P STATION: 71+80.07 OFFSET: 37.72' R	363	N: 13927340.21 E: 3130147.61	TW-NA-P STATION: 82+81.46 OFFSET: 114.72' R	393	N: 13927537.56 E: 3131057.28	TW-NA-P STATION: 91+97.00 OFFSET: 53.29' L	214	N: 13927277.22 E: 3126321.58	TW-NA-P STATION: 44+55.38 OFFSET: 54.72' R	244	N: 13927293.90 E: 3126846.21	TW-NA-P STATION: 49+80.28 OFFSET: 54.90' R	274	N: 13927335.22 E: 3127595.25	TW-NA-P STATION: 57+30.25 OFFSET: 37.68' R	304	N: 13927223.16 E: 3128063.75	TW-NA-P STATION: 61+94.92 OFFSET: 164.73' R	334	N: 13927366.55 E: 3129044.84	TW-NA-P STATION: 71+80.11 OFFSET: 52.95' R	364	N: 13927341.55 E: 3130162.96	TW-NA-P STATION: 82+96.85 OFFSET: 37.38' L	394	N: 13927521.94 E: 3131066.57	TW-NA-P STATION: 92+05.78 OFFSET: 37.38' L	215	N: 13927542.61 E: 3126334.57	TW-NH-P STATION: 106+60.77 OFFSET: 51.71' L	245	N: 13927405.64 E: 3126978.93	TW-NA-P STATION: 51+16.52 OFFSET: 52.51' L	275	N: 13927318.33 E: 3127585.33	TW-NA-P STATION: 57+19.80 OFFSET: 54.25' R	305	N: 13927223.66 E: 3128079.23	TW-NA-P STATION: 62+10.40 OFFSET: 164.73' R	335	N: 13927388.42 E: 3129246.96	TW-NA-P STATION: 73+82.82 OFFSET: 37.59' R	365	N: 13927318.80 E: 3130144.46	TW-NA-P STATION: 82+77.62 OFFSET: 136.02' R	395	N: 13927431.53 E: 3131061.64	TW-NA-P STATION: 91+97.95 OFFSET: 52.82' R	216	N: 13927540.78 E: 3126358.77	TW-NH-P STATION: 106+80.36 OFFSET: 37.40' L	246	N: 13927390.04 E: 3126979.66	TW-NA-P STATION: 51+16.75 OFFSET: 36.90' L	276	N: 13927440.14 E: 3127604.39	TW-NA-P STATION: 57+42.77 OFFSET: 66.89' L	306	N: 13927479.31 E: 3128155.80	TW-NA-P STATION: 62+95.15 OFFSET: 88.32' L	336	N: 13927373.03 E: 3129247.21	TW-NA-P STATION: 73+82.58 OFFSET: 52.98' R	366	N: 13927316.62 E: 3130159.30	TW-NA-P STATION: 82+92.39 OFFSET: 138.67' R	396	N: 13927540.34 E: 3131161.26	TW-NA-P STATION: 93+01.02 OFFSET: 52.73' L	217	N: 13927298.14 E: 3126445.82	TW-NA-P STATION: 45+80.23 OFFSET: 37.80' R	247	N: 13927288.54 E: 3127089.55	TW-NA-P STATION: 52+23.32 OFFSET: 68.09' R	277	N: 13927426.96 E: 3127617.38	TW-NA-P STATION: 57+55.32 OFFSET: 53.30' L	307	N: 13927464.95 E: 3128156.03	TW-NA-P STATION: 62+94.91 OFFSET: 73.96' L	337	N: 13927482.11 E: 3129345.18	TW-NA-P STATION: 74+84.01 OFFSET: 52.90' L	367	N: 13927296.08 E: 3130141.12	TW-NA-P STATION: 82+73.56 OFFSET: 158.62' R	397	N: 13927525.00 E: 3131166.51	TW-NA-P STATION: 93+05.78 OFFSET: 37.23' L	218	N: 13927296.16 E: 3126445.92	TW-NA-P STATION: 45+80.27 OFFSET: 39.78' R	248	N: 13927272.92 E: 3127089.46	TW-NA-P STATION: 52+22.73 OFFSET: 83.69' R	278	N: 13927452.07 E: 3127638.47	TW-NA-P STATION: 57+77.21 OFFSET: 77.72' L	308	N: 13927432.00 E: 3128156.77	TW-NA-P STATION: 62+94.60 OFFSET: 41.00' L	338	N: 13927466.69 E: 3129341.55	TW-NA-P STATION: 74+79.88 OFFSET: 37.60' L	368	N: 13927296.55 E: 3130156.35	TW-NA-P STATION: 82+88.80 OFFSET: 158.64' R	398	N: 13927449.80 E: 3131161.80	TW-NA-P STATION: 92+98.65 OFFSET: 37.78' R	219	N: 13927281.25 E: 3126448.62	TW-NA-P STATION: 45+82.49 OFFSET: 54.78' R	249	N: 13927246.53 E: 3127129.78	TW-NA-P STATION: 52+62.17 OFFSET: 111.36' R	279	N: 13927439.22 E: 3127646.75	TW-NA-P STATION: 57+85.07 OFFSET: 64.61' L	309	N: 13927276.80 E: 3128233.05	TW-NA-P STATION: 63+65.85 OFFSET: 116.57' R	339	N: 13927484.02 E: 3129388.70	TW-NA-P STATION: 75+27.56 OFFSET: 53.41' L	369	N: 13927516.39 E: 3130365.81	TW-NA-P STATION: 85+05.21 OFFSET: 54.36' L	399	N: 13927435.20 E: 3131163.13	TW-NA-P STATION: 92+99.51 OFFSET: 52.41' R	220	N: 13927649.98 E: 3126502.37	TW-NH-P STATION: 108+59.95 OFFSET: 54.43' L	250	N: 13927246.91 E: 3127145.04	TW-NA-P STATION: 52+77.45 OFFSET: 111.47' R	280	N: 13927436.77 E: 3127646.86	TW-NA-P STATION: 57+85.10 OFFSET: 62.16' L	310	N: 13927275.09 E: 3128249.66	TW-NA-P STATION: 63+82.39 OFFSET: 118.81' R	340	N: 13927468.68 E: 3129416.51	TW-NA-P STATION: 75+54.86 OFFSET: 37.18' L	370	N: 13927501.01 E: 3130366.27	TW-NA-P STATION: 85+05.18 OFFSET: 38.97' L	400	N: 13927543.60 E: 3131266.75	TW-NA-P STATION: 94+06.56 OFFSET: 52.59' L	221	N: 13927649.35 E: 3126527.51	TW-NH-P STATION: 108+80.99 OFFSET: 40.63' L	251	N: 13927226.44 E: 3127126.44	TW-NA-P STATION: 52+58.20 OFFSET: 131.33' R	281	N: 13927438.64 E: 3127696.91	TW-NA-P STATION: 58+35.19 OFFSET: 137.34' R	311	N: 13927256.26 E: 3128240.59	TW-NA-P STATION: 63+72.73 OFFSET: 137.34' R	341	N: 13927470.69 E: 3129416.47	TW-NA-P STATION: 75+54.89 OFFSET: 39.19' L	371	N: 13927395.21 E: 3130369.59	TW-NA-P STATION: 85+05.09 OFFSET: 66.88' R	401	N: 13927530.60 E: 3131341.51	TW-NA-P STATION: 94+80.86 OFFSET: 37.21' L	222	N: 13927675.19 E: 3126539.22	TW-NH-P STATION: 109+04.56 OFFSET: 56.41' L	252	N: 13927223.99 E: 3127141.24	TW-NA-P STATION: 52+72.91 OFFSET: 134.26' R	282	N: 13927338.68 E: 3127700.13	TW-NA-P STATION: 58+35.19 OFFSET: 37.59' R	312	N: 13927261.43 E: 3128254.67	TW-NA-P STATION: 63+86.97 OFFSET: 132.63' R	342	N: 13927529.09 E: 3129684.76	TW-NA-P STATION: 78+24.92 OFFSET: 88.94' L	372	N: 13927370.69 E: 3130354.12	TW-NA-P STATION: 84+88.85 OFFSET: 90.89' R	402	N: 13927547.65 E: 3131362.94	TW-NA-P STATION: 95+02.83 OFFSET: 53.56' L	223	N: 13927662.77 E: 3126547.02	TW-NH-P STATION: 109+04.64 OFFSET: 41.75' L	253	N: 13927199.59 E: 3127122.49	TW-NA-P STATION: 52+53.38 OFFSET: 158.04' R	283	N: 13927323.44 E: 3127700.62	TW-NA-P STATION: 58+35.19 OFFSET: 52.84' R	313	N: 13927229.45 E: 3128250.44	TW-NA-P STATION: 63+81.71 OFFSET: 164.45' R	343	N: 13927514.30 E: 3129688.51	TW-NA-P STATION: 78+28.19 OFFSET: 74.03' L	373	N: 13927347.19 E: 3130317.40	TW-NA-P STATION: 84+51.38 OFFSET: 113.20' R	403	N: 13927456.44 E: 3131369.05	TW-NA-P STATION: 95+06.00 OFFSET: 37.80' R	224	N: 13927594.41 E: 3126588.06	TW-NH-P STATION: 109+03.45 OFFSET: 37.98' R	254	N: 13927200.10 E: 3127137.28	TW-NA-P STATION: 52+68.18 OFFSET: 158.01' R	284	N: 13927613.96 E: 3127626.07	TW-NK-P STATION: 109+04.53 OFFSET: 54.77' L	314	N: 13927229.96 E: 3128266.23	TW-NA-P STATION: 63+97.50 OFFSET: 164.45' R	344	N: 13927502.66 E: 3129690.10	TW-NA-P STATION: 78+29.41 OFFSET: 62.34' L	374	N: 13927345.03 E: 3130332.81	TW-NA-P STATION: 84+66.71 OFFSET: 115.86' R	404	N: 13927441.01 E: 3131368.43	TW-NA-P STATION: 95+04.89 OFFSET: 53.21' R	225	N: 13927578.94 E: 3126597.48	TW-NH-P STATION: 109+03.29 OFFSET: 56.09' R	255	N: 13927529.44 E: 3127212.28	TW-NA-P STATION: 53+53.73 OFFSET: 168.75' L	285	N: 13927626.99 E: 3127633.11	TW-NK-P STATION: 109+04.50 OFFSET: 39.97' L	315	N: 13927329.99 E: 3128296.46	TW-NA-P STATION: 64+30.94 OFFSET: 65.45' R	345	N: 13927503.62 E: 3129715.38	TW-NA-P STATION: 78+54.70 OFFSET: 62.49' L	375	N: 13927324.09 E: 3130321.90	TW-NA-P STATION: 84+55.14 OFFSET: 136.43' R	405	N: 13927562.09 E: 3131493.41	TW-NA-P STATION: 96+33.69 OFFSET: 63.79' L	226	N: 13927591.33 E: 3126584.60	TW-NH-P STATION: 108+98.88 OFFSET: 38.77' R	256	N: 13927530.37 E: 3127227.25	TW-NA-P STATION: 53+68.72 OFFSET: 169.20' L	286	N: 13927698.59 E: 3127671.62	TW-NK-P STATION: 109+04.50 OFFSET: 41.34' R	316	N: 13927315.27 E: 3128299.13	TW-NA-P STATION: 64+33.13 OFFSET: 80.24' R	346	N: 13927403.39 E: 3129719.29	TW-NA-P STATION: 78+55.39 OFFSET: 37.81' R	376	N: 13927327.17 E: 3130336.54	TW-NA-P STATION: 84+69.87 OFFSET: 133.83' R	406	N: 13927546.46 E: 3131495.51	TW-NA-P STATION: 96+35.29 OFFSET: 48.10' L	227	N: 13927576.31 E: 3126570.88	TW-NH-P STATION: 108+79.31 OFFSET: 44.29' R	257	N: 13927417.89 E: 3127216.15	TW-NA-P STATION: 53+54.01 OFFSET: 57.13' L	287	N: 13927711.53 E: 3127678.49	TW-NK-P STATION: 109+04.57 OFFSET: 55.99' R	317	N: 13927458.25 E: 3128379.24	TW-NA-P STATION: 65+17.79 OFFSET: 60.09' L	347	N: 13927388.95 E: 3129719.79	TW-NA-P STATION: 78+55.43 OFFSET: 52.25' R	377	N: 13927302.11 E: 3130326.39	TW-NA-P STATION: 84+58.92 OFFSET: 158.55' R	407	N: 13927449.52 E: 3131498.63	TW-NA-P STATION: 96+35.29 OFFSET: 48.89' R	228	N: 13927548.70 E: 3126567.52	TW-NH-P STATION: 108+61.90 OFFSET: 65.97' R	258	N: 13927422.09 E: 3127213.28	TW-NA-P STATION: 53+69.27 OFFSET: 60.84' L	288	N: 13927699.49 E: 3127700.00	TW-NA-P STATION: 58+46.66 OFFSET: 323.04' L	318	N: 13927439.11 E: 3128377.40	TW-NA-P STATION: 65+15.34 OFFSET: 41.02' L	348	N: 13927705.35 E: 3129657.13	TW-NA-P STATION: 78+02.96 OFFSET: 265.99' L	378	N: 13927302.60 E: 3130341.71	TW-NA-P STATION: 84+74.25 OFFSET: 158.55' R	408	N: 13927435.01 E: 3131497.56	TW-NA-P STATION: 96+33.76 OFFSET: 63.36' R	229	N: 13927543.67 E: 3126548.24	TW-NH-P STATION: 108+42.86 OFFSET: 60.08' L	259	N: 13927413.31 E: 3127215.10	TW-NA-P STATION: 53+52.81 OFFSET: 52.59' L	289	N: 13927612.69 E: 3127653.40	TW-NK-P STATION: 108+79.86 OFFSET: 42.95' L	319	N: 13927452.48 E: 3128385.50	TW-NA-P STATION: 65+23.87 OFFSET: 54.12' L	349	N: 13927718.33 E: 3129665.14	TW-NA-P STATION: 78+11.39 OFFSET: 278.71' L	379	N: 13927518.90 E: 3130495.69	TW-NA-P STATION: 86+35.10 OFFSET: 52.69' L	409	N: 13927583.11 E: 3131639.23	TW-NA-P STATION: 97+80.12 OFFSET: 80.11' L	230	N: 13927395.98 E: 3126621.37	TW-NA-P STATION: 47+58.83 OFFSET: 54.35' L	260	N: 13927414.00 E: 3127233.84	TW-NA-P STATION: 53+71.57 OFFSET: 52.67' L	290	N: 13927583.05 E: 3127660.50	TW-NK-P STATION: 108+59.56 OFFSET: 65.69' L	320	N: 13927437.39 E: 3128391.26	TW-NA-P STATION: 65+29.14 OFFSET: 38.85' L	350	N: 13927720.03 E: 3129666.19	TW-NA-P STATION: 78+12.49 OFFSET: 37.62' L	380	N: 13927503.84 E: 3130496.26	TW-NA-P STATION: 86+35.19 OFFSET: 37.62' L	410	N: 13927568.33 E: 3131640.29	TW-NA-P STATION: 97+80.70 OFFSET: 65.31' L	231	N: 13927409.25 E: 3126637.70	TW-NA-P STATION: 47+75.58 OFFSET: 67.09' L	261	N: 13927296.44 E: 3127347.29	TW-NA-P STATION: 54+81.18 OFFSET: 68.47' R	291	N: 13927340.06 E: 3127745.21	TW-NA-P STATION: 58+80.29 OFFSET: 37.66' R	321	N: 13927436.13 E: 3128391.20	TW-NA-P STATION: 65+29.04 OFFSET: 37.59' L	351	N: 13927690.14 E: 3129680.45	TW-NA-P STATION: 78+25.79 OFFSET: 250.04' L	381	N: 13927413.53 E: 3130499.17	TW-NA-P STATION: 86+35.19 OFFSET: 52.73' R	411	N: 13927437.89 E: 3131644.60	TW-NA-P STATION: 97+80.82 OFFSET: 65.20' R	232	N: 13927409.41 E: 3126642.29	TW-NA-P STATION: 47+80.18





HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

**RS&H**

**RS&H, Inc.**  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

REVISIONS

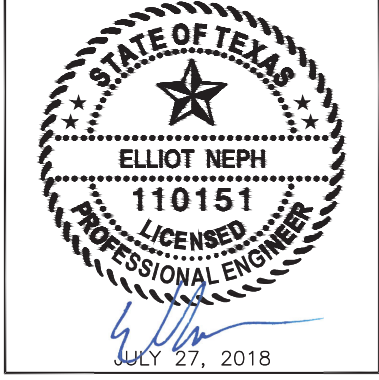
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PAVEMENT DEMOLITION  
POINTS TABLE (3 OF 3)**

ISSUED FOR BID

PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: NTS  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION

APPROVED BY: *Donaj Rahmel* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**

C.I.P. NO. **A-000570**

H.A.S. NO. \_\_\_\_\_

SHEET NO. \_\_\_\_\_

**C01.13**

DEMOLITION POINTS		
POINT	NORTHING/EASTING	STATION/OFFSET
421	N: 13927810.65 E: 3131689.49	TW-NP-P STATION: 106+35.94 OFFSET: 81.66' L
422	N: 13927811.22 E: 3131704.74	TW-NP-P STATION: 106+36.02 OFFSET: 66.40' L
423	N: 13927815.15 E: 3131807.61	TW-NP-P STATION: 106+36.62 OFFSET: 36.55' R
424	N: 13927809.31 E: 3131807.82	TW-NP-P STATION: 106+30.77 OFFSET: 36.56' R
425	N: 13927806.28 E: 3131810.88	TW-NP-P STATION: 106+27.64 OFFSET: 39.53' R
426	N: 13927803.09 E: 3131808.01	TW-NP-P STATION: 106+24.55 OFFSET: 36.55' R
427	N: 13927702.72 E: 3131693.55	TW-NA-P STATION: 98+38.25 OFFSET: 197.92' L
428	N: 13927690.95 E: 3131708.08	TW-NA-P STATION: 98+52.39 OFFSET: 185.69' L
429	N: 13927416.55 E: 3131694.59	TW-NA-P STATION: 98+30.09 OFFSET: 88.14' R
430	N: 13927399.64 E: 3131691.23	TW-NA-P STATION: 98+26.19 OFFSET: 104.93' R
431	N: 13927367.30 E: 3131705.13	TW-NA-P STATION: 98+39.04 OFFSET: 137.70' R
432	N: 13927367.78 E: 3131719.53	TW-NA-P STATION: 98+53.45 OFFSET: 137.68' R
433	N: 13927371.42 E: 3131821.07	TW-NA-P STATION: 99+55.05 OFFSET: 137.31' R
434	N: 13927345.54 E: 3131703.26	TW-NA-P STATION: 98+36.47 OFFSET: 159.39' R
435	N: 13927346.10 E: 3131720.40	TW-NA-P STATION: 98+53.63 OFFSET: 159.39' R
436	N: 13927349.53 E: 3131822.07	TW-NA-P STATION: 99+55.36 OFFSET: 159.22' R



**RS&H**  
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 11011 Richmond Ave., Suite 900  
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 www.rsandh.com  
 TBPE Registration No. F-3401

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**DEMOLITION DETAILS**

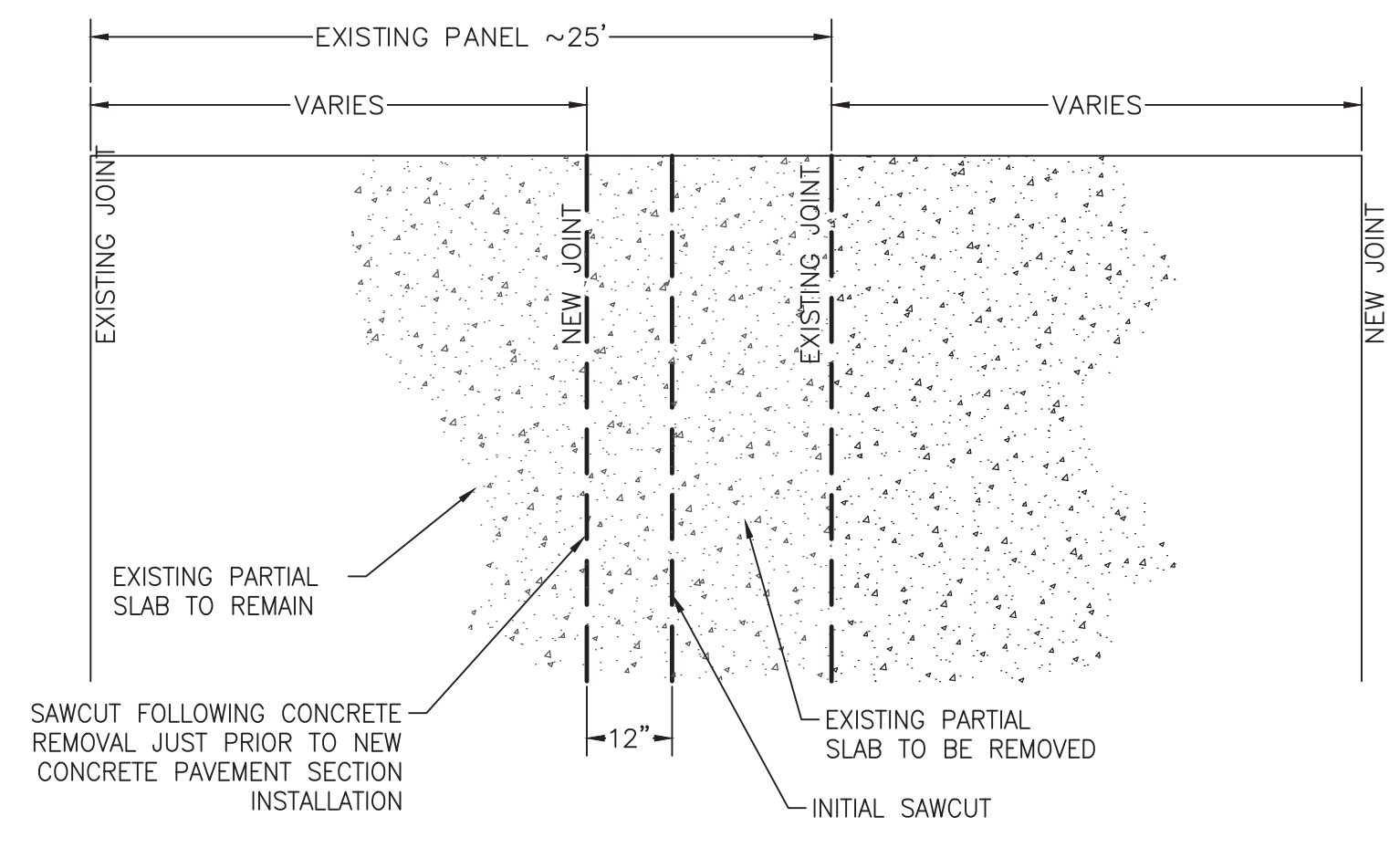
ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	NTS
DATE:	JULY 27, 2018



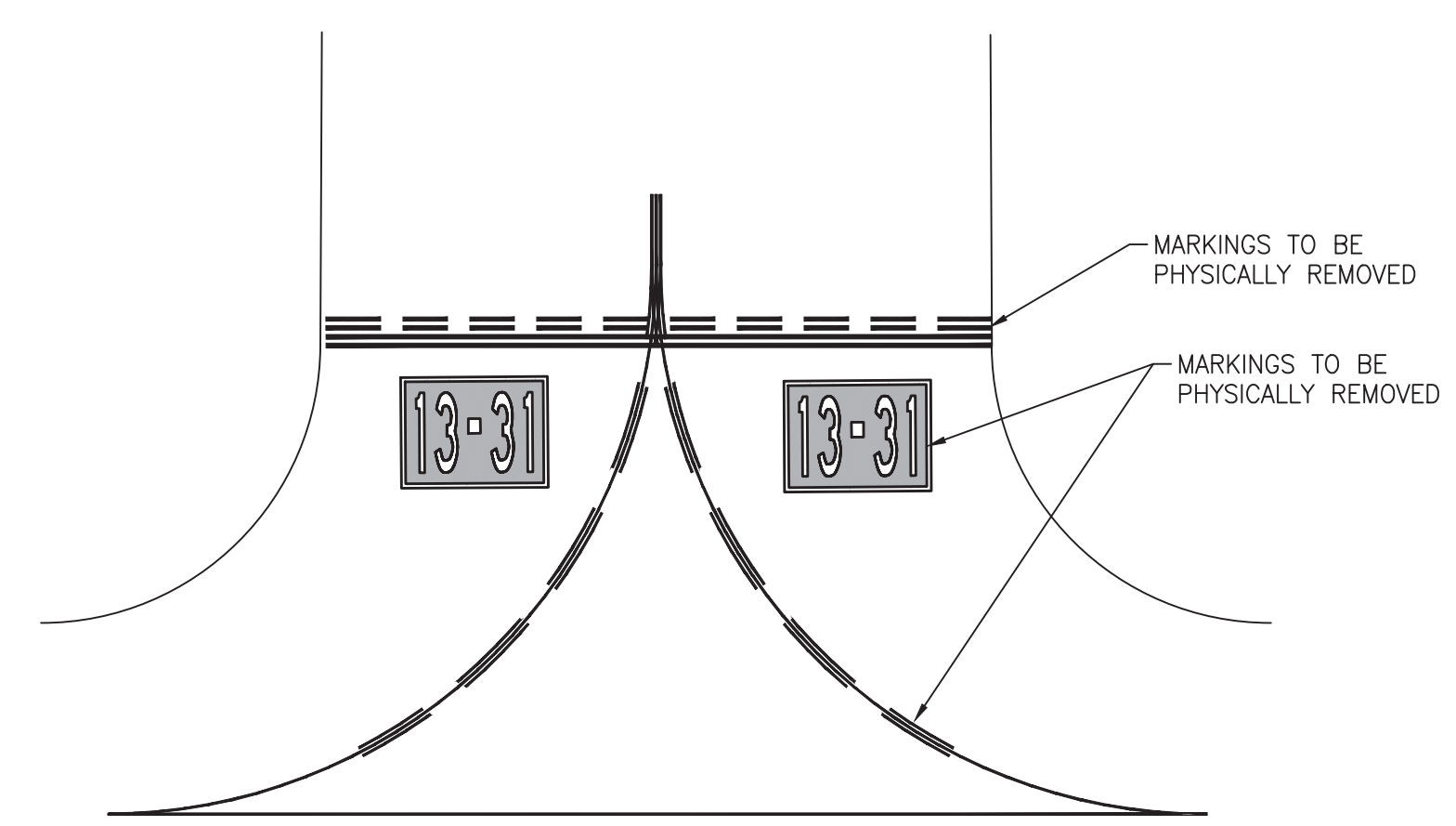
DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C01.14**

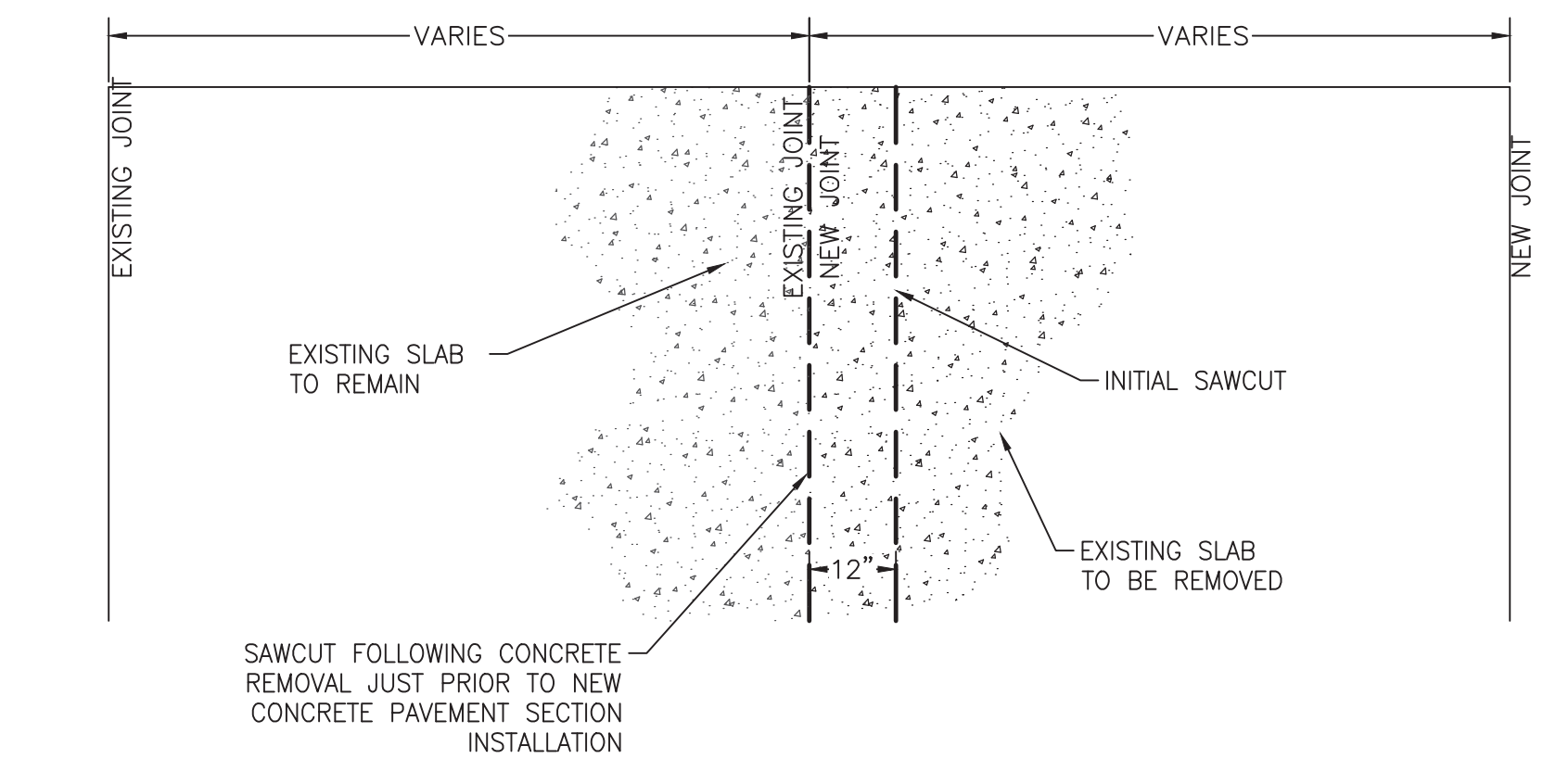


**1 SAWCUT DETAIL 1**  
 C01.14 SCALE: N.T.S.



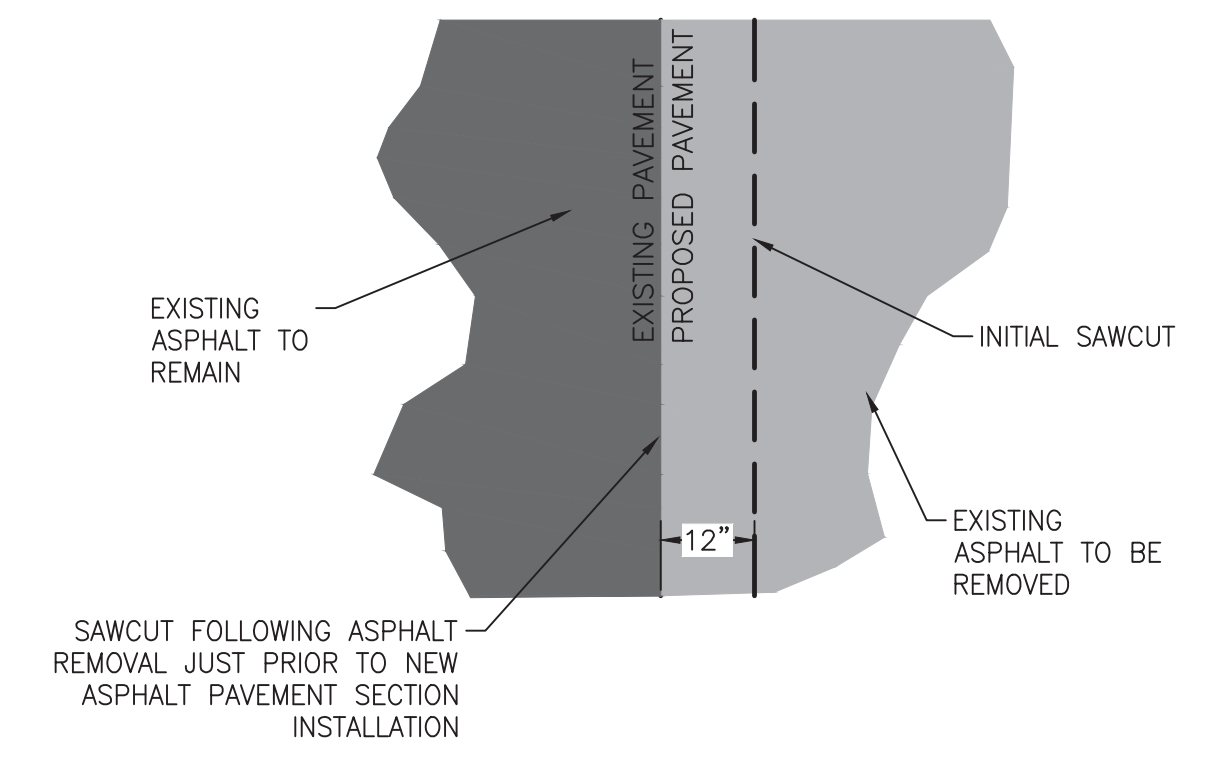
**4 TAXIWAY PAVEMENT MARKING REMOVAL AREA GUIDELINES (TYP.)**  
 C01.14 SCALE: N.T.S.

- NOTES:**
1. THE CONTRACTOR SHALL OBLITERATE ALL EXISTING TAXIWAY MARKINGS AS SHOWN IN THE PLANS. ALL MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH SECTION 32 01 90.34, REMOVAL OF PAINTED PAVEMENT MARKINGS.
  2. ALL MARKINGS DESIGNATED FOR REMOVAL SHALL BE REMOVED TO APPROXIMATELY ONE (1) FOOT OUTSIDE OF THE EXISTING MARKINGS.
  3. REMOVAL OF EXISTING MARKINGS FOR PAVEMENTS TO BE REMOVED IS NOT REQUIRED AND SHALL NOT BE PAID FOR.
  4. THE CONTRACTOR SHALL REMARK ALL REMOVED MARKINGS AT THE COMPLETION OF EACH PHASE.



**2 SAWCUT DETAIL 2**  
 C01.14 SCALE: N.T.S.

- NOTES:**
1. SAWCUTTING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 02 41 13.14, SAWCUTTING.



**3 SAWCUT DETAIL 3**  
 C01.14 SCALE: N.T.S.

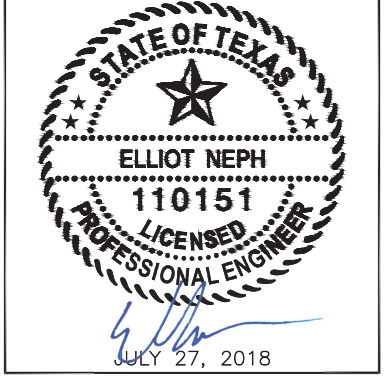


**RS&H**  
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 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED GEOMETRY  
 KEY PLAN**

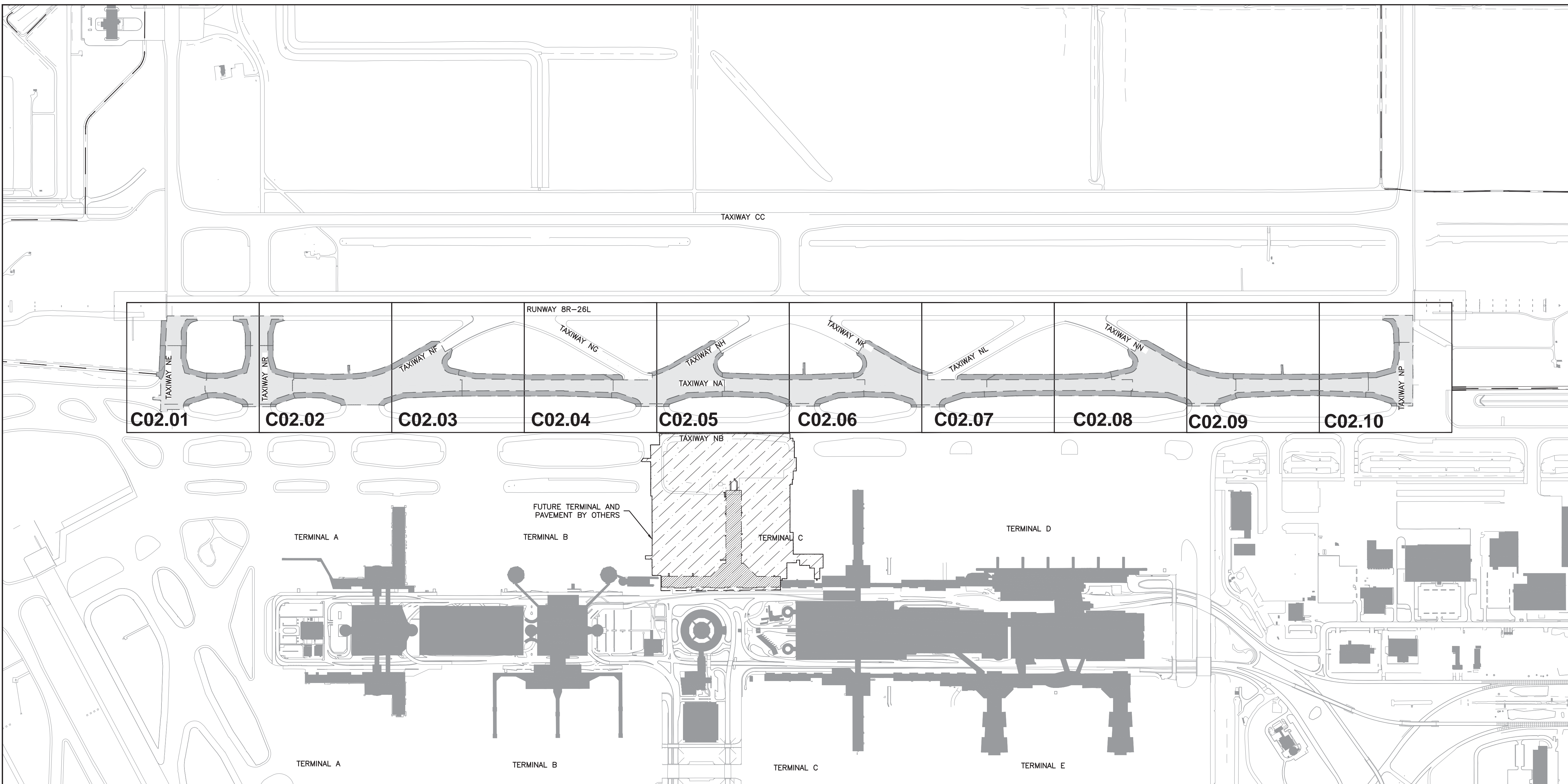
ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=400'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Rahmel* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

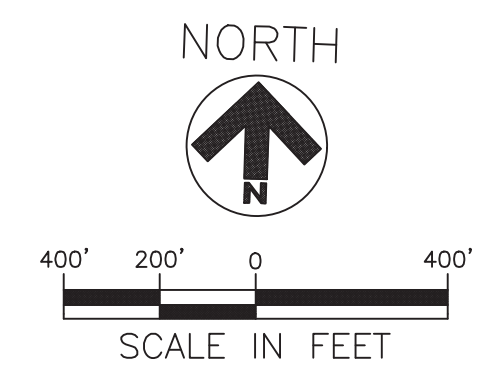
PROJECT NO. \_\_\_\_\_  
**0907**  
 C.I.P. NO. \_\_\_\_\_  
**A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C02.00**



**GEOMETRY GENERAL NOTES**

- THE PAVEMENT GEOMETRY OF THE PROJECT WAS DESIGNED TO MEET OR EXCEED THE FOLLOWING ADG AND TDG CRITERIA OF FAA ADVISORY CIRCULAR 150 / 5300-13A-CHANGE 1, AIRPORT DESIGN:
  - TAXIWAY NA - ADG VI; TDG 7; PARALLEL TAXIWAY.
  - TAXIWAY NE (NORTH OF TAXIWAY NA) - ADG VI; TDG 7; RIGHT-ANGLE EXIT TAXIWAY.
  - TAXIWAY NE (SOUTH OF TAXIWAY NA) - ADG VI; TDG 7; CROSSOVER TAXIWAY WITH DIRECTIONAL REVERSAL.
  - TAXIWAY NR (NORTH OF TAXIWAY NA) - ADG VI; TDG 7; RIGHT-ANGLE EXIT TAXIWAY.
  - TAXIWAY NR (SOUTH OF TAXIWAY NA) - ADG VI; TDG 7; CROSSOVER TAXIWAY WITH DIRECTIONAL REVERSAL.
  - TAXIWAY NF (NORTH OF TAXIWAY NA) - ADG VI; TDG 7; HIGH-SPEED EXIT TAXIWAY.
  - TAXIWAY NF (SOUTH OF TAXIWAY NA) - ADG VI; TDG 7; CROSSOVER TAXIWAY WITH DIRECTIONAL REVERSAL.
  - TAXIWAY NG (SOUTH OF TAXIWAY NA) - ADG VI; TDG 7; CROSSOVER TAXIWAY WITH DIRECTIONAL REVERSAL.
  - TAXIWAY NH (NORTH OF TAXIWAY NA) - ADG V; TDG 5; HIGH-SPEED EXIT TAXIWAY.
  - TAXIWAY NJ (SOUTH OF TAXIWAY NA) - ADG VI; TDG 7; CROSSOVER TAXIWAY WITH DIRECTIONAL REVERSAL.
  - TAXIWAY NK (NORTH OF TAXIWAY NA) - ADG V; TDG 5; HIGH-SPEED EXIT TAXIWAY.
  - TAXIWAY NK (SOUTH OF TAXIWAY NA) - ADG VI; TDG 7; CROSSOVER TAXIWAY WITH DIRECTIONAL REVERSAL.
  - TAXIWAY NN (NORTH OF TAXIWAY NA) - ADG VI; TDG 7; HIGH-SPEED EXIT TAXIWAY.
  - TAXIWAY NN (SOUTH OF TAXIWAY NA) - ADG VI; TDG 7; CROSSOVER TAXIWAY WITH DIRECTIONAL REVERSAL.
  - TAXIWAY NP (NORTH OF TAXIWAY NA) - ADG VI; TDG 7; RIGHT-ANGLE EXIT TAXIWAY.
  - TAXIWAY NP (SOUTH OF TAXIWAY NA) - ADG VI; TDG 7; CROSSOVER TAXIWAY WITH DIRECTIONAL REVERSAL.
- MINIMUM RELEVANT DESIGN CRITERIA FOR ADG VI, TDG 7 TAXIWAYS ARE AS FOLLOWS:
  - TAXIWAY WIDTH - 82 FEET.
  - TAXIWAY SHOULDER WIDTH - 40 FEET.
  - TAXIWAY SAFETY AREA - 262 FEET.
  - TAXIWAY OBJECT FREE AREA - 386 FEET.
  - MAXIMUM WINGSPAN - 262 FEET.
- MINIMUM RELEVANT DESIGN CRITERIA FOR ADG V, TDG 5 TAXIWAYS ARE AS FOLLOWS:
  - TAXIWAY WIDTH - 75 FEET.
  - TAXIWAY SHOULDER WIDTH - 30 FEET.
  - TAXIWAY SAFETY AREA - 214 FEET.
  - TAXIWAY OBJECT FREE AREA - 320 FEET.
  - MAXIMUM WINGSPAN - 171 FEET.
- MINIMUM RELEVANT DESIGN CRITERIA FOR ADG VI RUNWAYS ARE AS FOLLOWS:
  - RUNWAY SAFETY AREA - 500 FEET.
- TIE-IN LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL TIE-IN TO EXISTING PAVEMENTS AT AN EXISTING JOINT, UNLESS OTHERWISE SHOWN IN THE PLANS.
- REFER TO SHEETS C02.11-C02.13 FOR GEOMETRY LOCATION LIMIT COORDINATES AND STATION OFFSETS.
- REFER TO SHEETS C03.14 AND C03.15 FOR TYPICAL PAVEMENT SECTION DETAILS.



NOTE: PHASES 4 AND 7  
 COMPLETED UNDER PN 675



REVISIONS

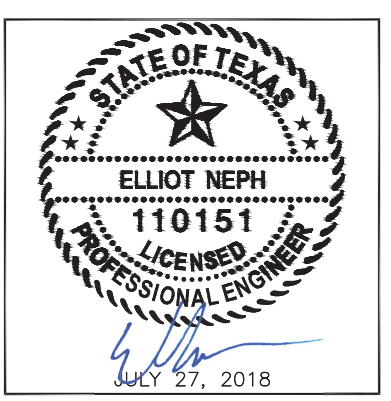
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

# PROPOSED GEOMETRY PLANS (1 OF 10)

ISSUED FOR BID

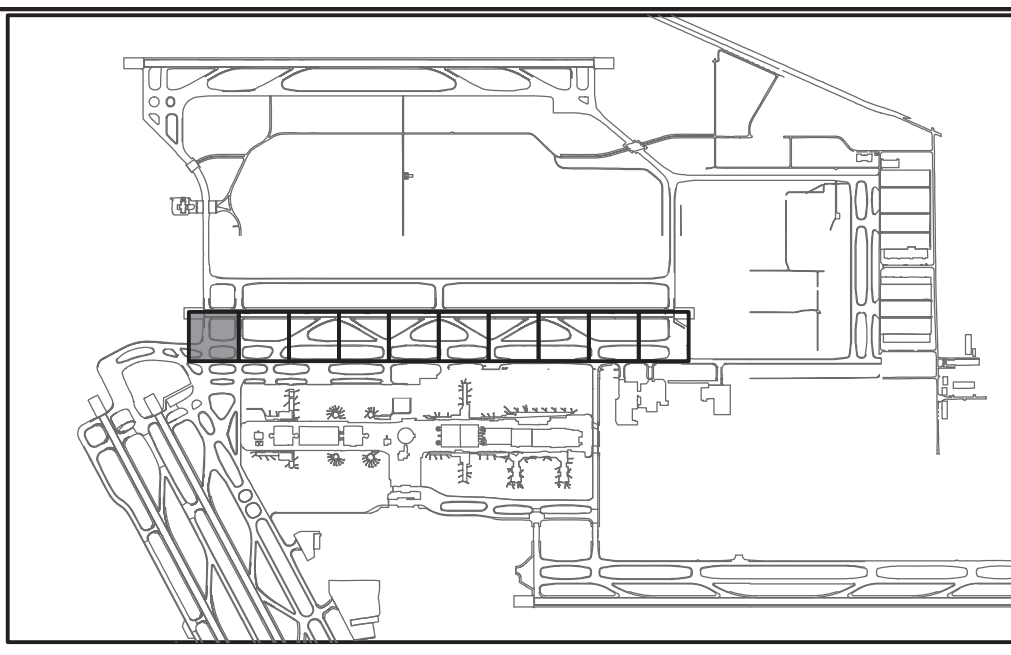
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Dorey Pahnd* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C02.01**

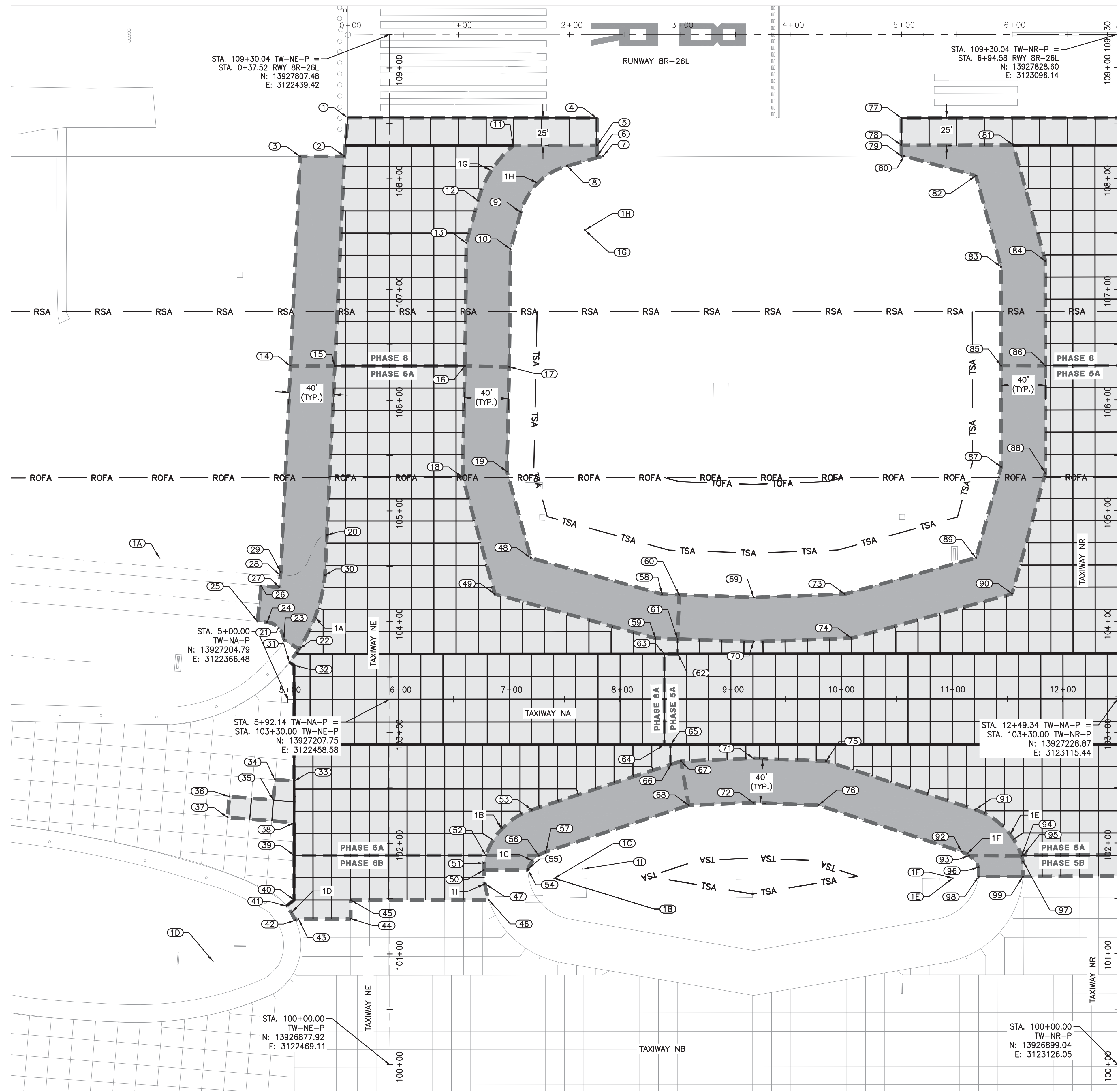
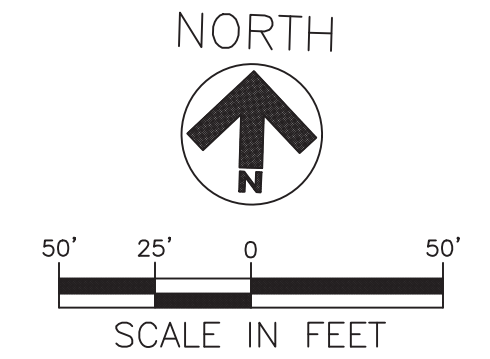


### LEGEND

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- ROFA — PROPOSED RUNWAY OBJECT FREE AREA
- RSA — PROPOSED RUNWAY SAFETY AREA
- TOFA — PROPOSED TAXIWAY OBJECT FREE AREA
- TSA — PROPOSED TAXIWAY SAFETY AREA
- PROPOSED GEOMETRY LOCATION POINTS
- #L CURVE IDENTIFICATION LABEL
- PHASE LIMITS

- NOTE:
- SEE DETAIL 6-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING ASPHALT PAVEMENT TO REMAIN.
  - SEE DETAIL 4-C03.15, 5-C03.15, 7A-C03.15, 7B-C03.15, AND 9-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT TO REMAIN.
  - PROPOSED JOINTS ON THIS PLAN SHEET ARE ONLY SHOWN FOR REFERENCE AND SHOULD NOT BE USED TO CONSTRUCT PROPOSED PAVEMENT OF THE PROJECT. SEE THE C06 SERIES PLAN SHEETS FOR PROPOSED JOINT LOCATIONS.

CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
1A	150'	TW-NE-P STATION: 104+57.28 OFFSET: 207.61' L N: 13927328.33 E: 3122247.01
1B	65'	TW-NA-P STATION: 7+40.60 OFFSET: 161.69' R N: 13927050.92 E: 3122612.16
1C	25'	TW-NA-P STATION: 7+40.60 OFFSET: 161.69' R N: 13927050.92 E: 3122612.16
1D	83'	TW-NE-P STATION: 100+93.22 OFFSET: 159.34' L N: 13925966.00 E: 3122306.88
1E	65'	TW-NA-P STATION: 11+00.85 OFFSET: 161.69' R N: 13927062.49 E: 3122972.22
1F	25'	TW-NA-P STATION: 11+00.85 OFFSET: 161.69' R N: 13927062.49 E: 3122972.22
1G	100'	TW-NA-P STATION: 7+68.54 OFFSET: 423.64' L N: 13927636.84 E: 3122621.27
1H	60'	TW-NA-P STATION: 7+68.54 OFFSET: 423.64' L N: 13927636.84 E: 3122621.27
1I	89.2'	TW-NA-P STATION: 7+66.26 OFFSET: 153.46' R N: 13927059.96 E: 3122637.54





REVISIONS

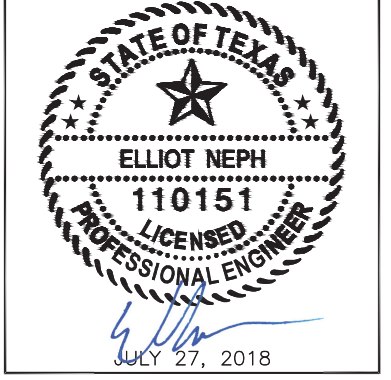
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PROPOSED GEOMETRY PLANS (2 OF 10)**

ISSUED FOR BID

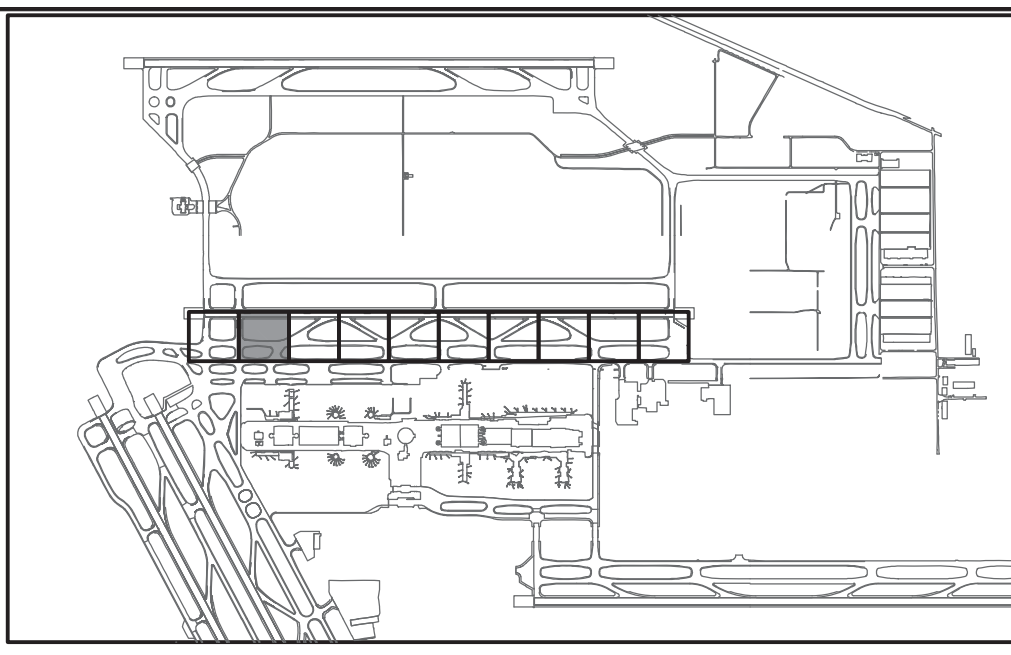
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Dorey Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C02.02**



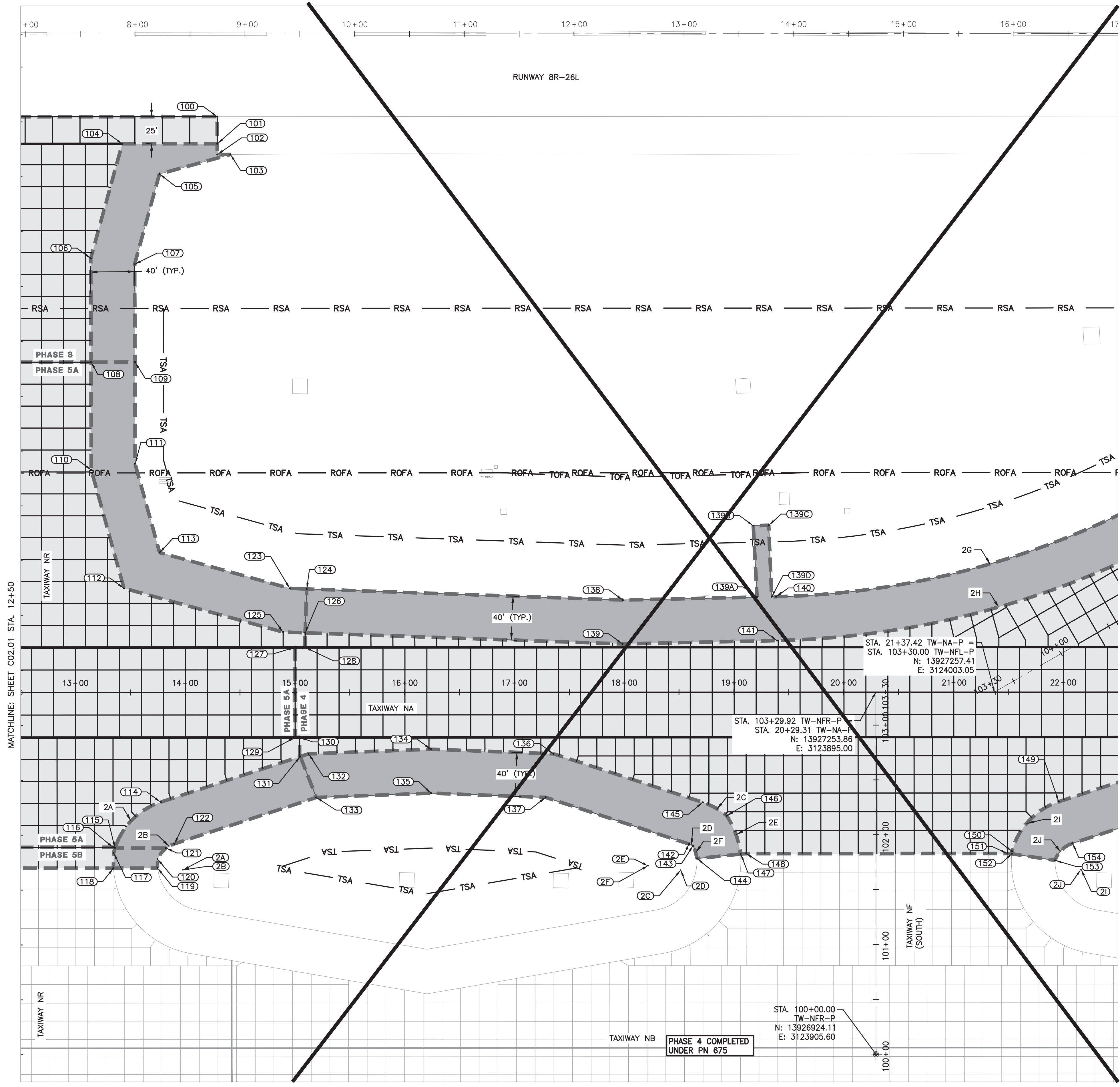
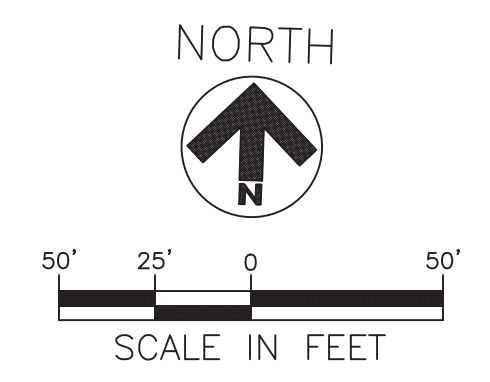
**LEGEND**

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- PROPOSED RUNWAY OBJECT FREE AREA
- PROPOSED RUNWAY SAFETY AREA
- PROPOSED TAXIWAY OBJECT FREE AREA
- PROPOSED TAXIWAY SAFETY AREA
- PROPOSED GEOMETRY LOCATION POINTS
- CURVE IDENTIFICATION LABEL
- PHASE LIMITS

- NOTE:
- SEE DETAIL 6-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING ASPHALT PAVEMENT TO REMAIN.
  - SEE DETAIL 4-C03.15, 5-C03.15, 7A-C03.15, 7B-C03.15, AND 8-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT TO REMAIN.
  - PROPOSED JOINTS ON THIS PLAN SHEET ARE ONLY SHOWN FOR REFERENCE AND SHOULD NOT BE USED TO CONSTRUCT PROPOSED PAVEMENT OF THE PROJECT. SEE THE C06 SERIES PLAN SHEETS FOR PROPOSED JOINT LOCATIONS.

CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
2A	65'	TW-NA-P STATION: 13+97.91 OFFSET: 161.68' R N: 13927072.05 E: 3123269.13
2B	25'	TW-NA-P STATION: 13+97.91 OFFSET: 161.68' R N: 13927072.05 E: 3123269.13
2C	65'	TW-NA-P STATION: 18+51.41 OFFSET: 162.12' R N: 13927086.19 E: 3123722.41
2D	45'	TW-NA-P STATION: 18+51.41 OFFSET: 162.12' R N: 13927086.19 E: 3123722.41
2E	85'	TW-NA-P STATION: 18+21.72 OFFSET: 158.14' R N: 13927089.21 E: 3123692.60
2F	25'	TW-NA-P STATION: 18+21.72 OFFSET: 158.14' R N: 13927089.21 E: 3123692.60
2G	760'	TW-NA-P STATION: 19+22.28 OFFSET: 846.86' L N: 13928096.92 E: 3123760.81
2H	800'	TW-NA-P STATION: 19+22.28 OFFSET: 846.86' L N: 13928096.92 E: 3123760.81
2I	65'	TW-NA-P STATION: 22+16.11 OFFSET: 161.62' R N: 13927098.40 E: 3124086.90
2J	25'	TW-NA-P STATION: 22+16.11 OFFSET: 161.62' R N: 13927098.40 E: 3124086.90

NOTE: PHASE 4 COMPLETED UNDER PN 675





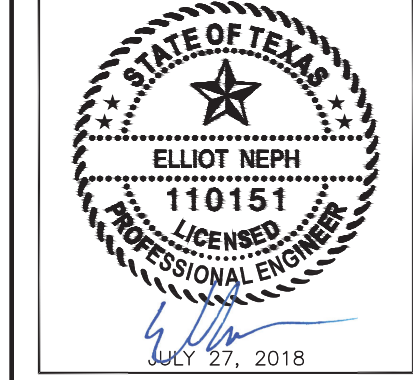


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REVISIONS  
 NO. DESCRIPTION DATE BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED GEOMETRY PLANS (3 OF 10)**

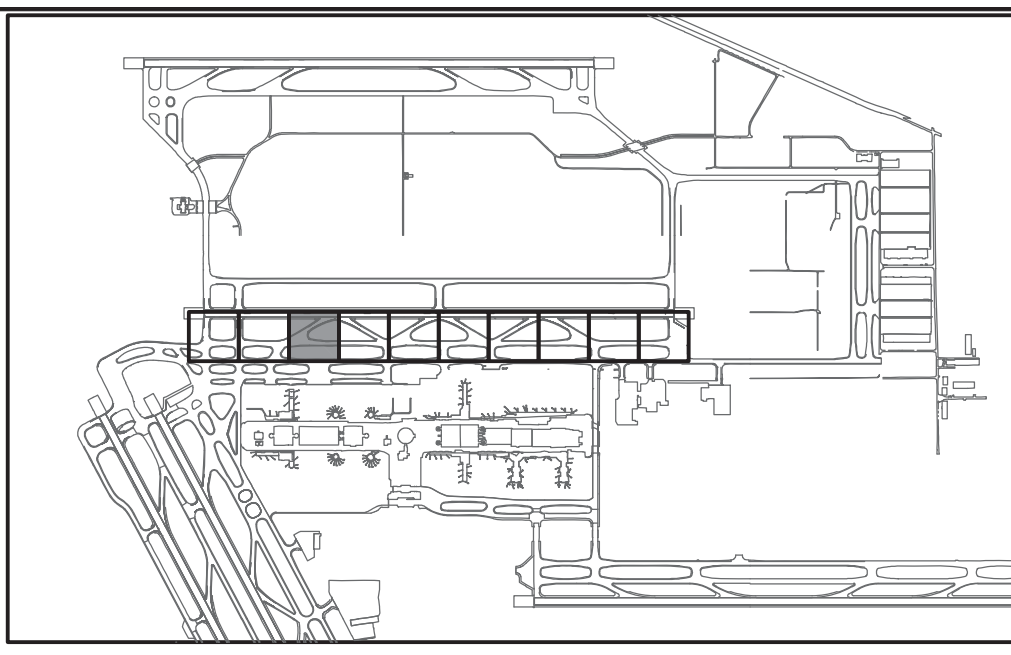
ISSUED FOR BID  
 PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1"=50'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Dorey Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C02.03



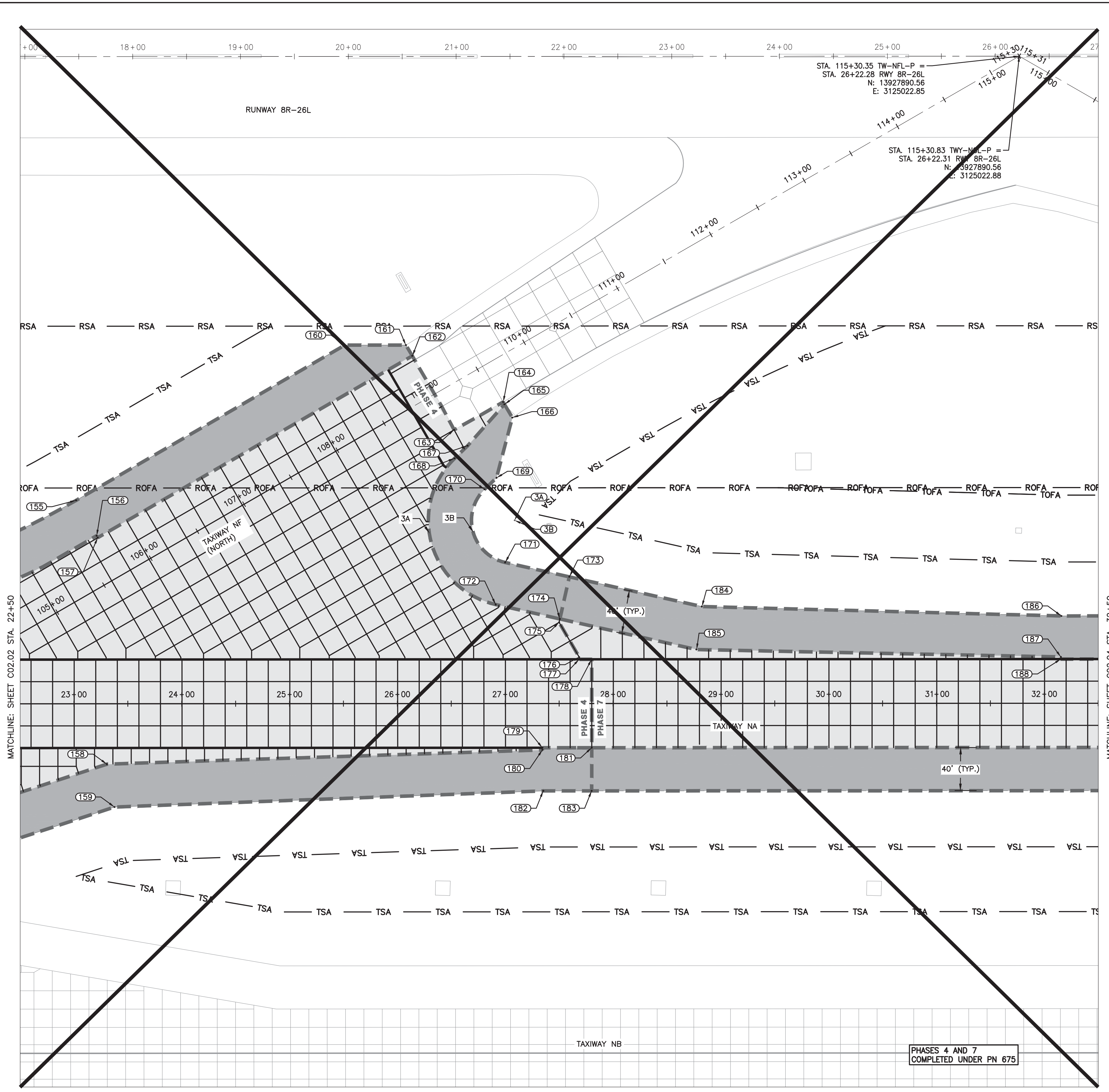
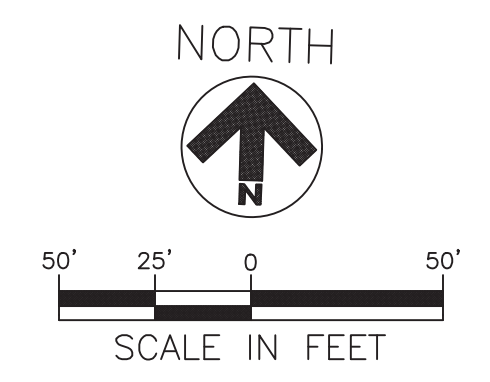
**LEGEND**

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- ROFA — PROPOSED RUNWAY OBJECT FREE AREA
- RSA — PROPOSED RUNWAY SAFETY AREA
- TOFA — PROPOSED TAXIWAY OBJECT FREE AREA
- TSA — PROPOSED TAXIWAY SAFETY AREA
- PROPOSED GEOMETRY LOCATION POINTS
- CURVE IDENTIFICATION LABEL
- PHASE LIMITS

- NOTE:
- SEE DETAIL 6-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING ASPHALT PAVEMENT TO REMAIN.
  - SEE DETAIL 4-C03.15, 5-C03.15, 7A-C03.15, 7B-C03.15, AND 8-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT TO REMAIN.
  - PROPOSED JOINTS ON THIS PLAN SHEET ARE ONLY SHOWN FOR REFERENCE AND SHOULD NOT BE USED TO CONSTRUCT PROPOSED PAVEMENT OF THE PROJECT. SEE THE C06 SERIES PLAN SHEETS FOR PROPOSED JOINT LOCATIONS.

CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
3A	80'	TW-NA-P STATION: 27+08.79 OFFSET: 169.87' L N: 13927445.55 E: 3124568.67
3B	40'	TW-NA-P STATION: 27+08.79 OFFSET: 169.87' L N: 13927445.55 E: 3124568.67

NOTE: PHASES 4 AND 7  
 CONSTRUCTED UNDER PN 675



PHASES 4 AND 7  
 COMPLETED UNDER PN 675





HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL AIRPORT  
 HOUSTON, TEXAS

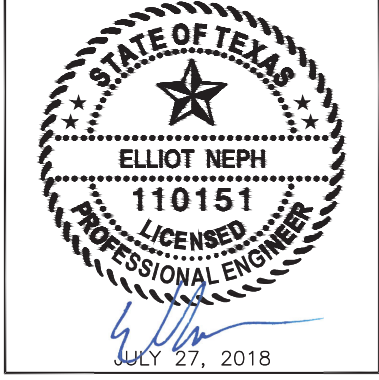
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REVISIONS  
 NO. DESCRIPTION DATE BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED GEOMETRY PLANS (4 OF 10)**

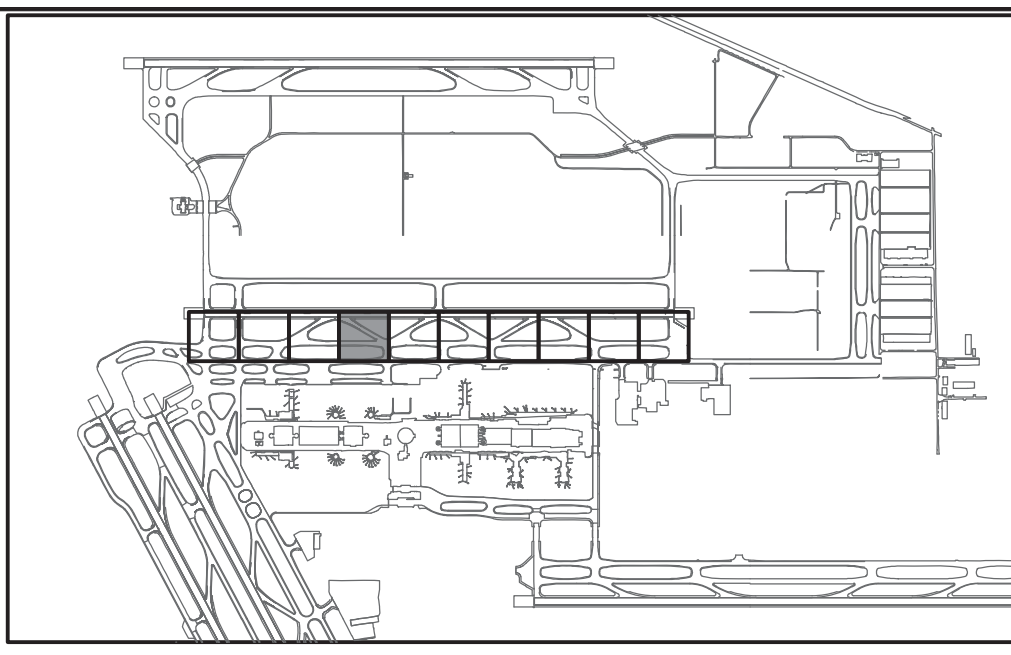
ISSUED FOR BID  
 PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1"=50'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Rahml*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C02.04



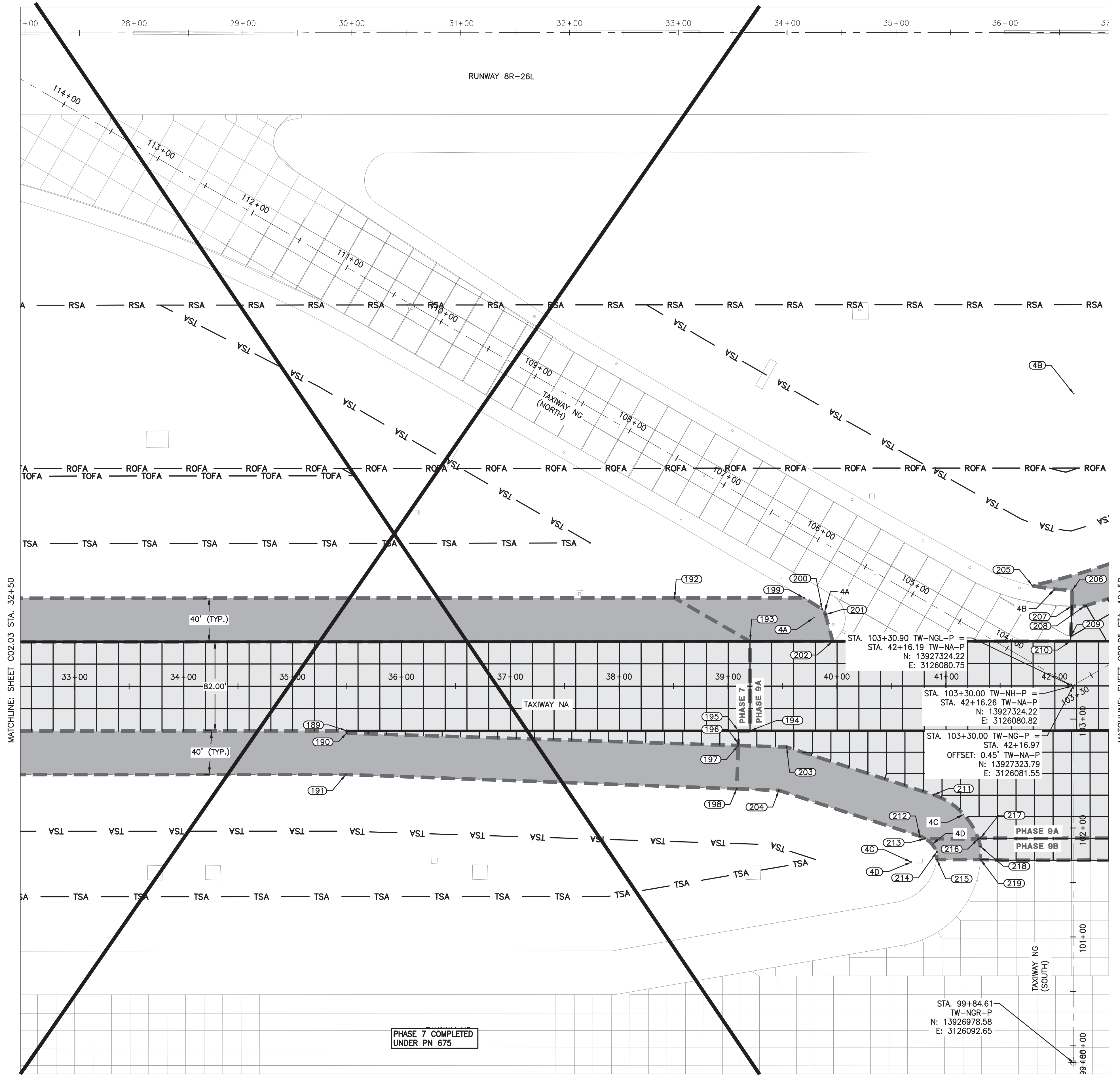
**LEGEND**

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- ROFA PROPOSED RUNWAY OBJECT FREE AREA
- RSA PROPOSED RUNWAY SAFETY AREA
- TOFA PROPOSED TAXIWAY OBJECT FREE AREA
- TSA PROPOSED TAXIWAY SAFETY AREA
- PROPOSED GEOMETRY LOCATION POINTS
- CURVE IDENTIFICATION LABEL
- PHASE LIMITS

- NOTE:
- SEE DETAIL 6-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING ASPHALT PAVEMENT TO REMAIN.
  - SEE DETAIL 4-C03.15, 5-C03.15, 7A-C03.15, 7B-C03.15, AND 8-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT TO REMAIN.
  - PROPOSED JOINTS ON THIS PLAN SHEET ARE ONLY SHOWN FOR REFERENCE AND SHOULD NOT BE USED TO CONSTRUCT PROPOSED PAVEMENT OF THE PROJECT. SEE THE C06 SERIES PLAN SHEETS FOR PROPOSED JOINT LOCATIONS.

CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
4A	10.93'	TW-NA-P STATION: 39+79.02 OFFSET: 62.72' L N: 13927379.29 E: 3125841.70
4B	180.17'	TW-NA-P STATION: 42+17.82 OFFSET: 268.19' L N: 13927592.32 E: 3126073.77
4C	65'	TW-NA-P STATION: 40+68.48 OFFSET: 161.69' R N: 13927157.86 E: 3125938.32
4D	25'	TW-NA-P STATION: 40+68.48 OFFSET: 161.69' R N: 13927157.86 E: 3125938.32

NOTE: PHASE 7 COMPLETED UNDER PN 675

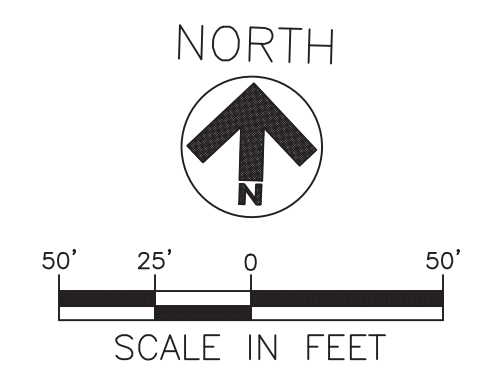


MATCHLINE: SHEET C02.03 STA. 32+50

MATCHLINE: SHEET C02.05 STA. 42+50

PHASE 7 COMPLETED UNDER PN 675

STA. 99+84.61  
 TW-NGR-P  
 N: 13926978.58  
 E: 3126092.65







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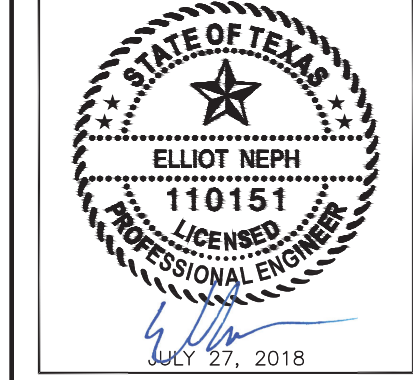
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED GEOMETRY PLANS (5 OF 10)**

ISSUED FOR BID

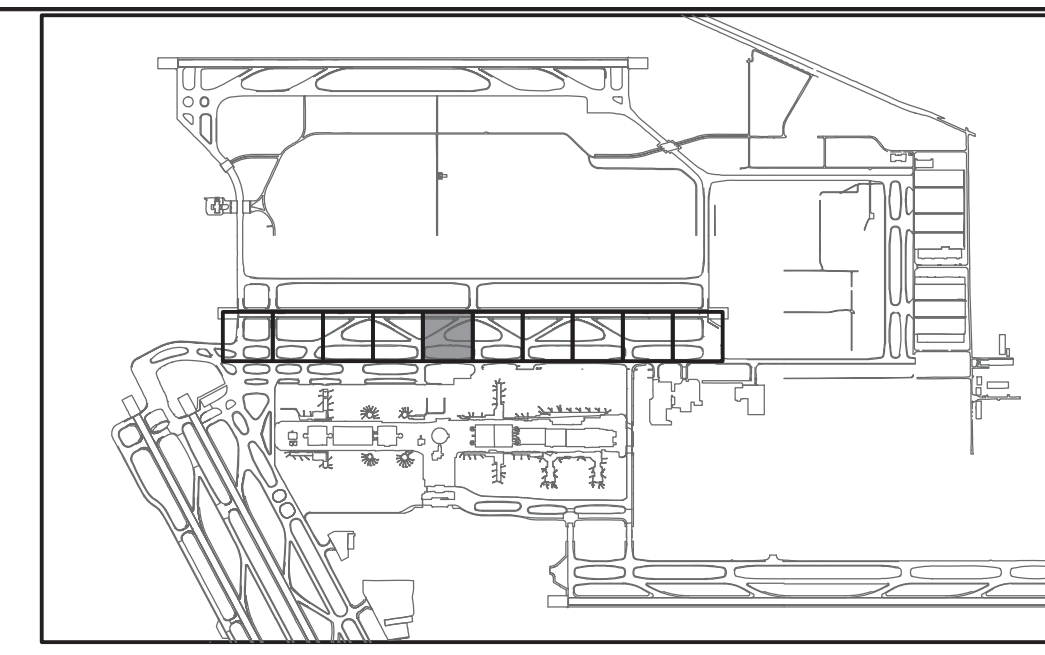
PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1"=50'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C02.05**



**LEGEND**

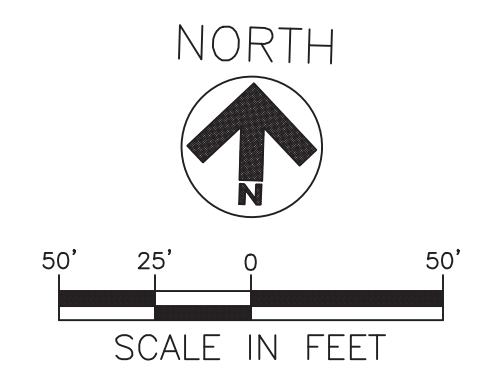
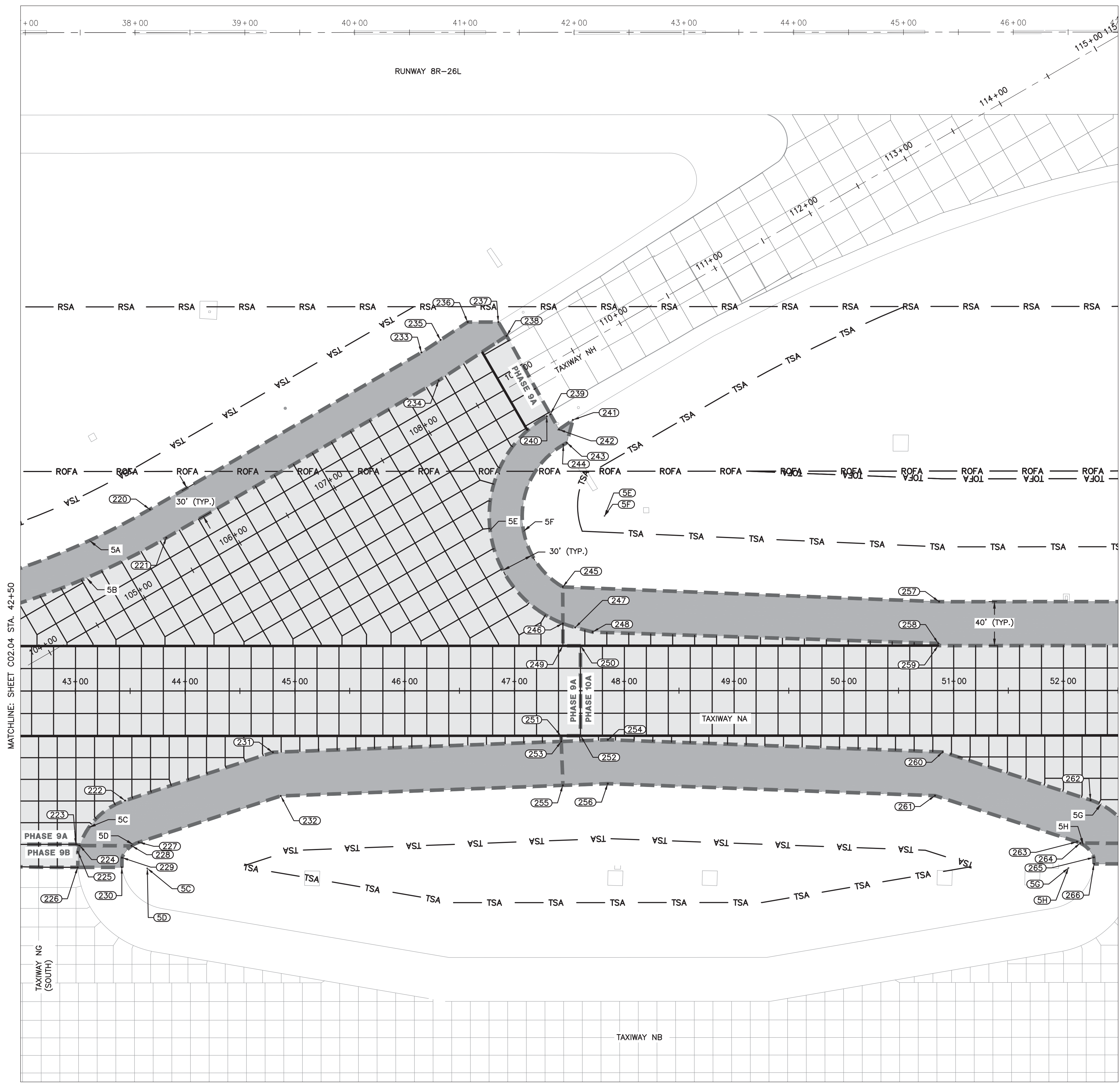
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- ROFA — PROPOSED RUNWAY OBJECT FREE AREA
- RSA — PROPOSED RUNWAY SAFETY AREA
- TOFA — PROPOSED TAXIWAY OBJECT FREE AREA
- TSA — PROPOSED TAXIWAY SAFETY AREA
- ⊕ PROPOSED GEOMETRY LOCATION POINTS
- #L CURVE IDENTIFICATION LABEL
- PHASE LIMITS

NOTE:

- SEE DETAIL 6-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING ASPHALT PAVEMENT TO REMAIN.
- SEE DETAIL 4-C03.15, 5-C03.15, 7A-C03.15, 7B-C03.15, AND 8-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT TO REMAIN.
- PROPOSED JOINTS ON THIS PLAN SHEET ARE ONLY SHOWN FOR REFERENCE AND SHOULD NOT BE USED TO CONSTRUCT PROPOSED PAVEMENT OF THE PROJECT. SEE THE C06 SERIES PLAN SHEETS FOR PROPOSED JOINT LOCATIONS.

CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
5A	670'	TW-NA-P STATION: 40+33.20 OFFSET: 745.86' L N: 13928063.81 E: 3125873.89
5B	700'	TW-NA-P STATION: 40+33.20 OFFSET: 745.86' L N: 13928063.81 E: 3125873.89
5C	65'	TW-NA-P STATION: 43+65.54 OFFSET: 161.68' R N: 13927167.42 E: 3126235.22
5D	25'	TW-NA-P STATION: 43+65.54 OFFSET: 161.68' R N: 13927167.42 E: 3126235.22
5E	105'	TW-NA-P STATION: 47+82.21 OFFSET: 159.20' L N: 13927501.53 E: 3126641.36
5F	75'	TW-NA-P STATION: 47+82.21 OFFSET: 159.20' L N: 13927501.53 E: 3126641.36

CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
5G	65'	TW-NA-P STATION: 52+04.84 OFFSET: 161.69' R N: 13927194.38 E: 3127074.09
5H	25'	TW-NA-P STATION: 52+04.84 OFFSET: 161.69' R N: 13927194.38 E: 3127074.09





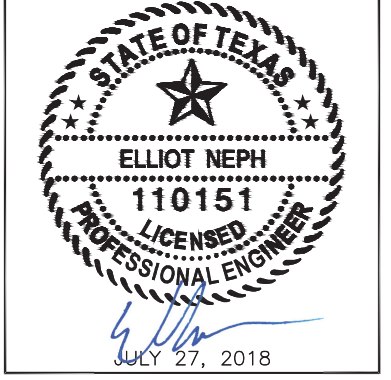
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED GEOMETRY PLANS (6 OF 10)**

ISSUED FOR BID

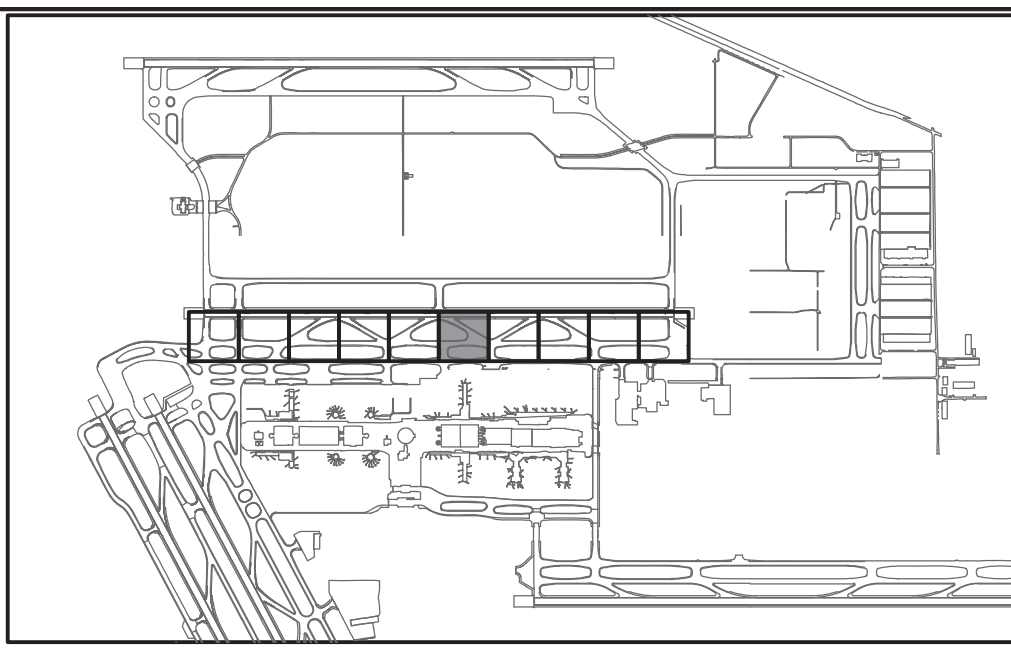
PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1"=50'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C02.06



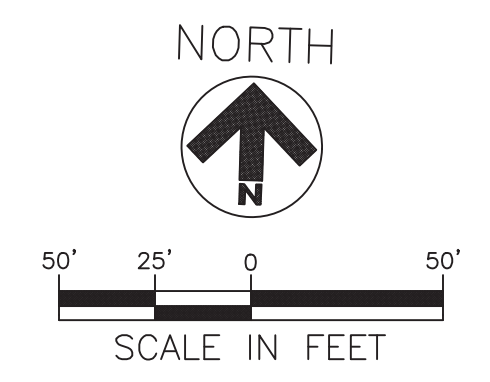
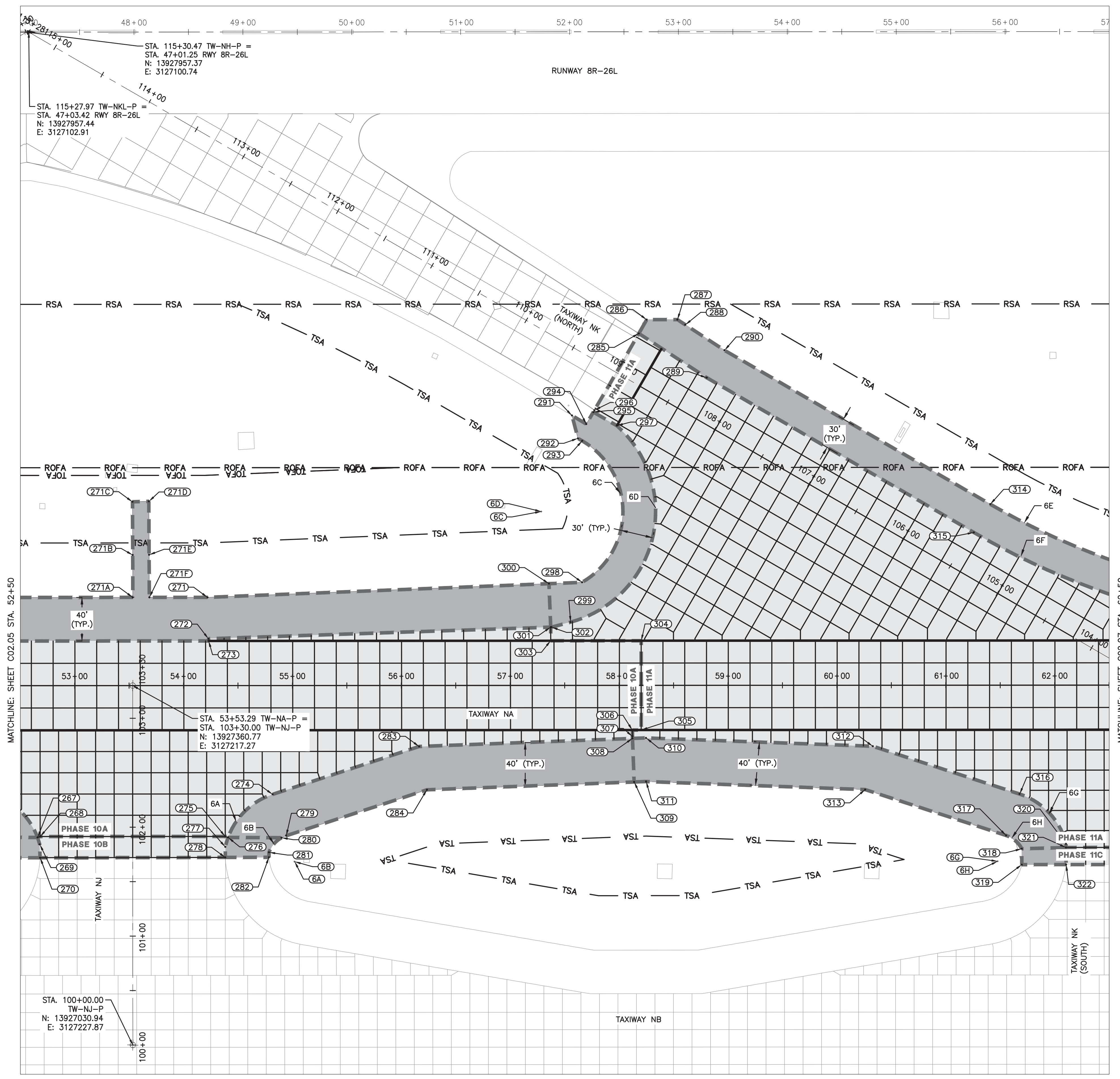
**LEGEND**

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- ROFA — PROPOSED RUNWAY OBJECT FREE AREA
- RSA — PROPOSED RUNWAY SAFETY AREA
- TOFA — PROPOSED TAXIWAY OBJECT FREE AREA
- TSA — PROPOSED TAXIWAY SAFETY AREA
- ⊕ PROPOSED GEOMETRY LOCATION POINTS
- #L CURVE IDENTIFICATION LABEL
- PHASE LIMITS

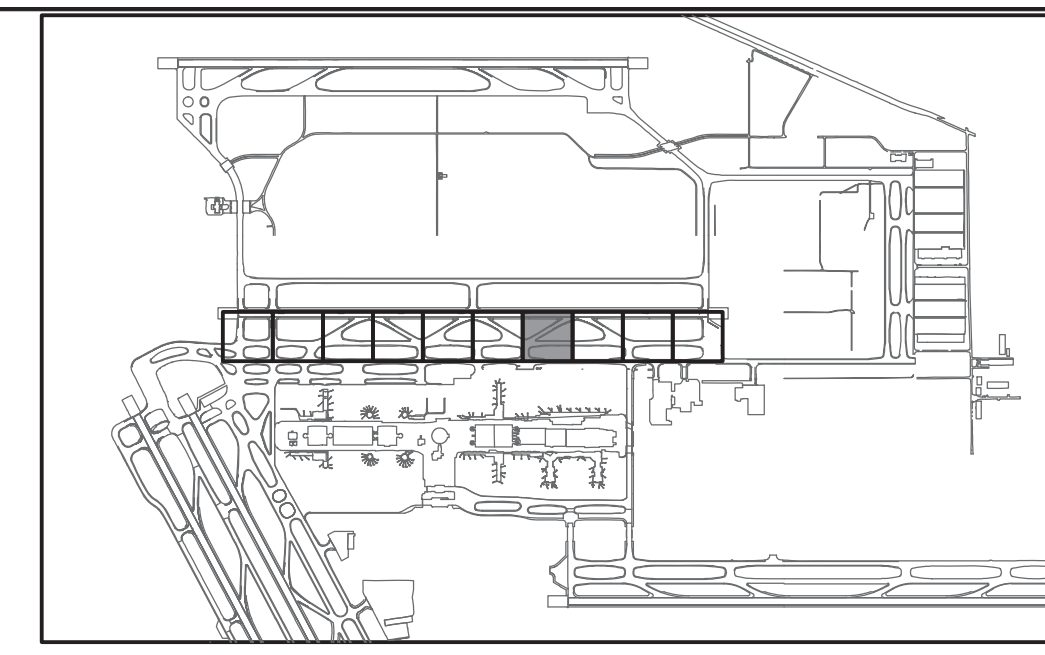
- NOTE:
- SEE DETAIL 6-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING ASPHALT PAVEMENT TO REMAIN.
  - SEE DETAIL 4-C03.15, 5-C03.15, 7A-C03.15, 7B-C03.15, AND 8-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT TO REMAIN.
  - PROPOSED JOINTS ON THIS PLAN SHEET ARE ONLY SHOWN FOR REFERENCE AND SHOULD NOT BE USED TO CONSTRUCT PROPOSED PAVEMENT OF THE PROJECT. SEE THE C06 SERIES PLAN SHEETS FOR PROPOSED JOINT LOCATIONS.

CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
6A	65'	TW-NA-P STATION: 55+01.90 OFFSET: 161.68' R N: 13927203.95 E: 3127370.99
6B	25'	TW-NA-P STATION: 55+01.90 OFFSET: 161.68' R N: 13927203.95 E: 3127370.99
6C	75'	TW-NA-P STATION: 57+28.63 OFFSET: 159.63' L N: 13927532.37 E: 3127587.28
6D	105'	TW-NA-P STATION: 57+28.63 OFFSET: 159.63' L N: 13927532.37 E: 3127587.28
6E	670'	TW-NA-P STATION: 64+76.98 OFFSET: 745.81' L N: 13928142.30 E: 3128316.41
6F	700'	TW-NA-P STATION: 64+76.98 OFFSET: 745.81' L N: 13928142.30 E: 3128316.41

CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
6G	65'	TW-NA-P STATION: 61+47.58 OFFSET: 161.69' R N: 13927224.68 E: 3128016.34
6H	25'	TW-NA-P STATION: 61+47.58 OFFSET: 161.69' R N: 13927224.68 E: 3128016.34







REVISIONS

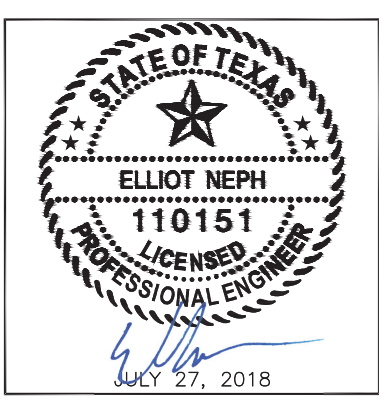
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PROPOSED GEOMETRY PLANS (7 OF 10)**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Rahmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

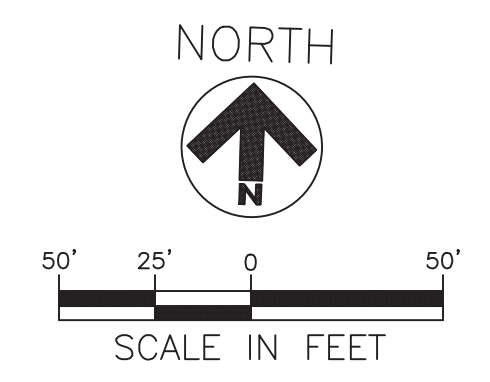
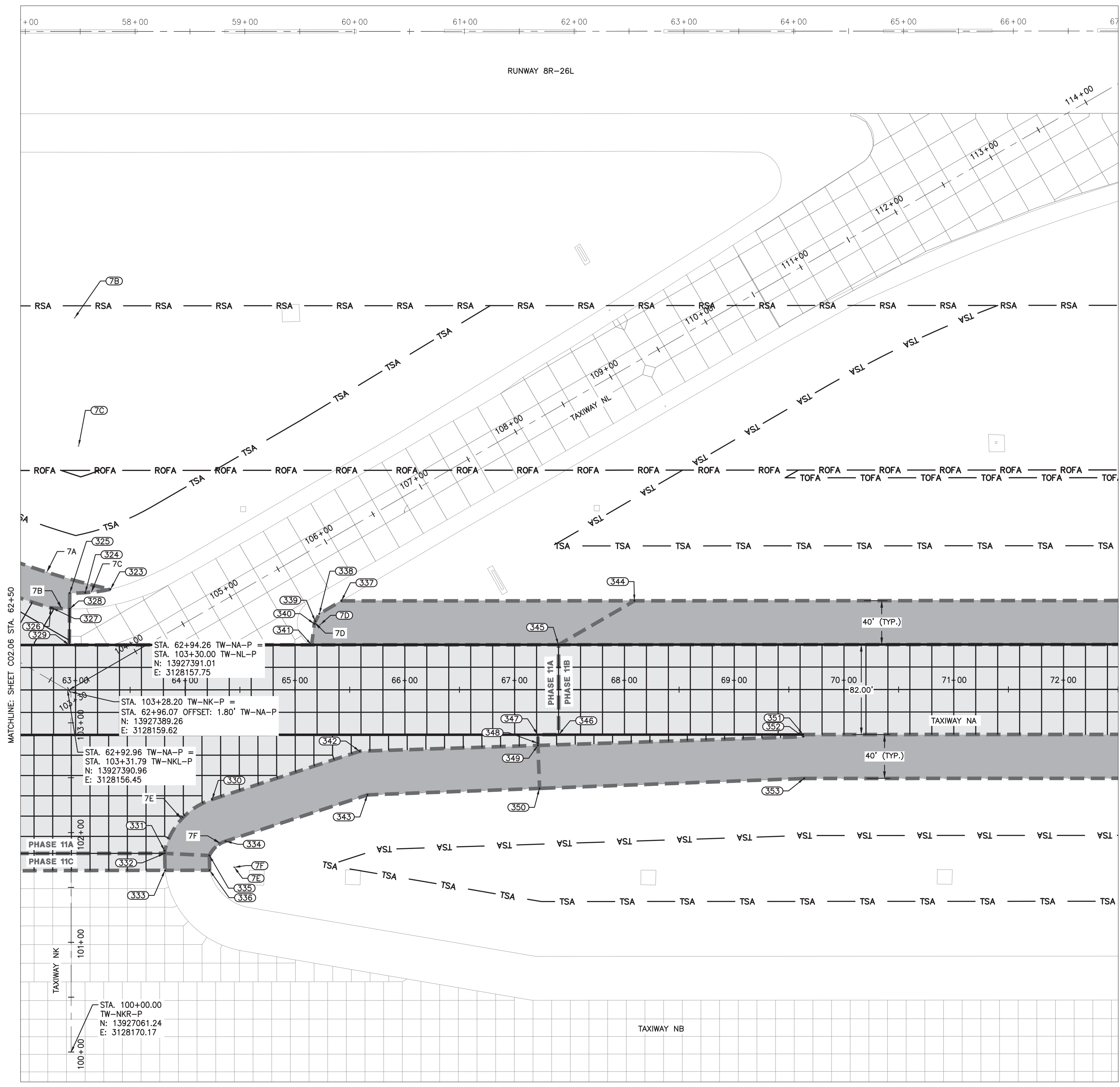
**C02.07**

**LEGEND**

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- PROPOSED RUNWAY OBJECT FREE AREA
- PROPOSED RUNWAY SAFETY AREA
- PROPOSED TAXIWAY OBJECT FREE AREA
- PROPOSED TAXIWAY SAFETY AREA
- PROPOSED GEOMETRY LOCATION POINTS
- CURVE IDENTIFICATION LABEL
- PHASE LIMITS

- NOTE:
- SEE DETAIL 6-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING ASPHALT PAVEMENT TO REMAIN.
  - SEE DETAIL 4-C03.15, 5-C03.15, 7A-C03.15, 7B-C03.15, AND 8-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT TO REMAIN.
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CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
7A	670'	TW-NA-P STATION: 64+76.98 OFFSET: 745.81' L N: 13928142.30 E: 3128316.41
7B	265.19'	TW-NA-P STATION: 62+99.57 OFFSET: 339.10' L N: 13927730.10 E: 3128152.16
7C	133.70'	TW-NA-P STATION: 63+03.13 OFFSET: 222.23' L N: 13927613.41 E: 3128159.48
7D	5.35'	TW-NA-P STATION: 65+23.09 OFFSET: 59.41' L N: 13927457.74 E: 3128384.56
7E	65'	TW-NA-P STATION: 64+44.64 OFFSET: 161.68' R N: 13927234.24 E: 3128313.25
7F	25'	TW-NA-P STATION: 64+44.64 OFFSET: 161.68' R N: 13927234.24 E: 3128313.25







HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS

**RS&H**

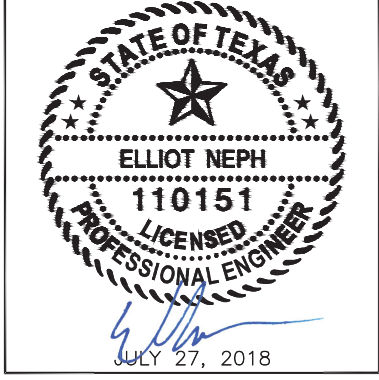
RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

REVISIONS  
 NO. DESCRIPTION DATE BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED GEOMETRY PLANS (8 OF 10)**

ISSUED FOR BID

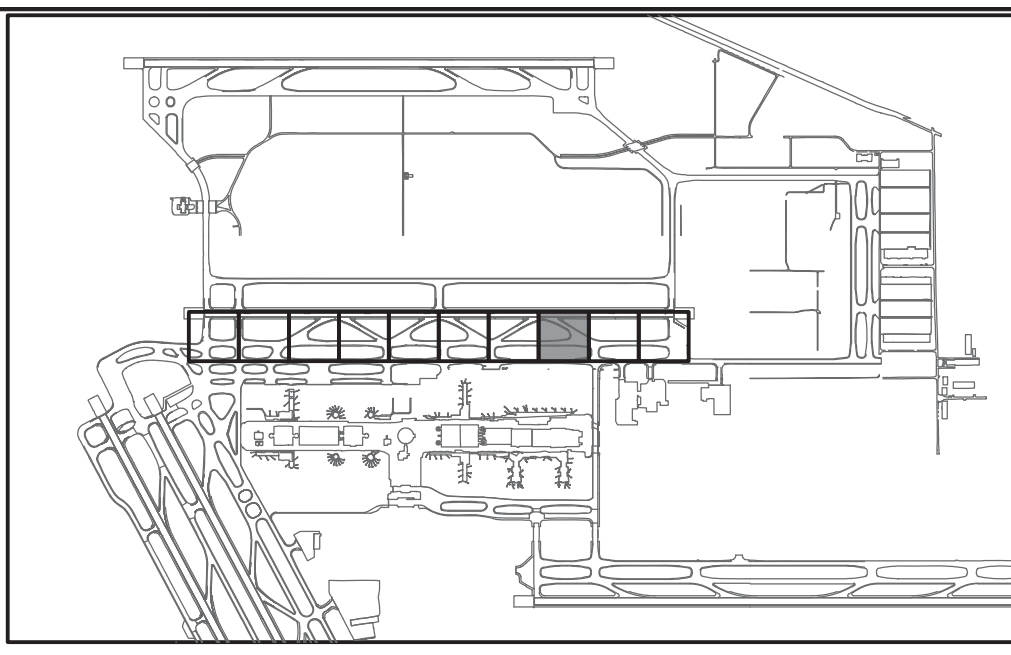
PROJECT MGR: BMS  
 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1"=50'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Pahnd*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C02.08

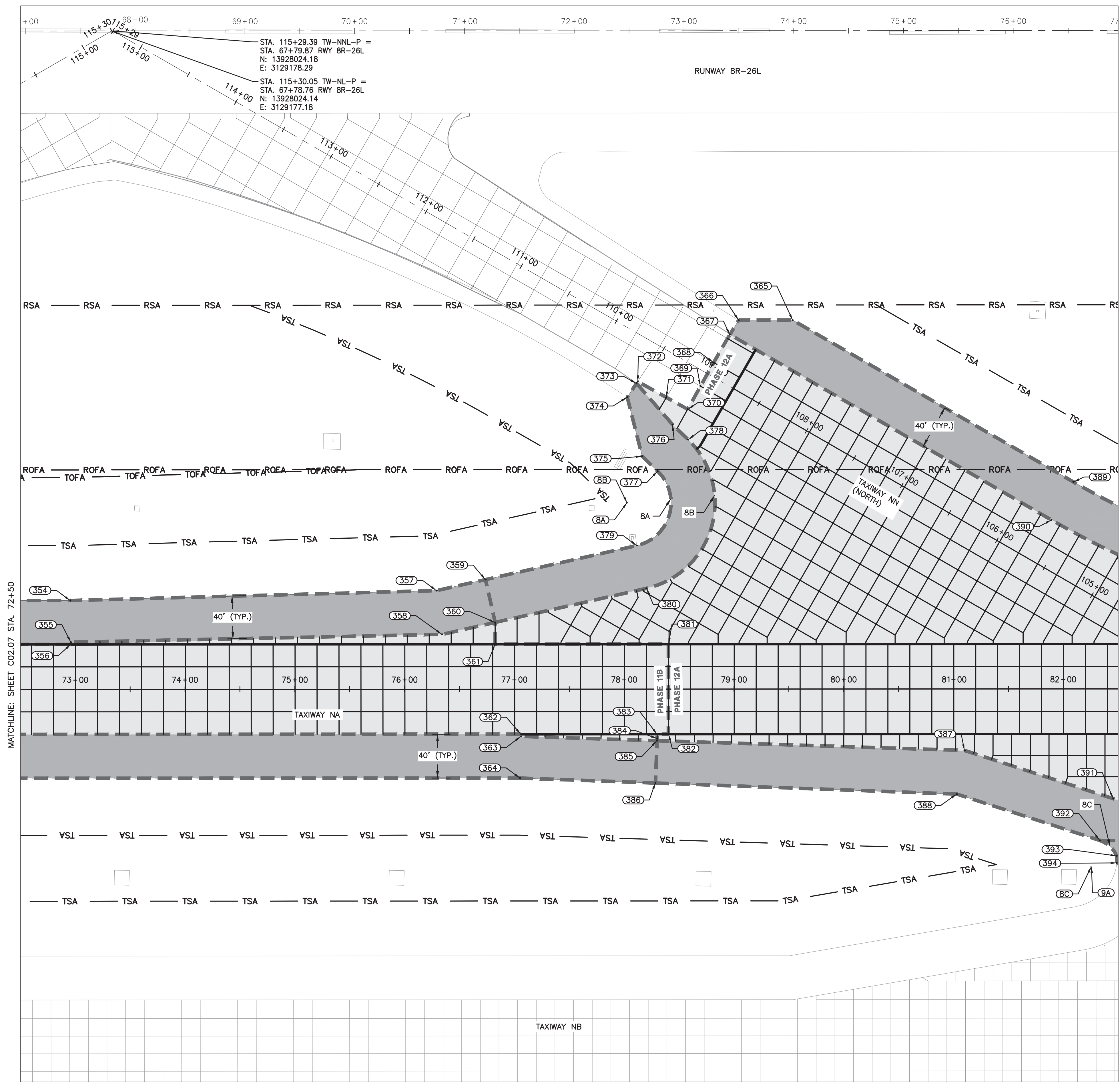
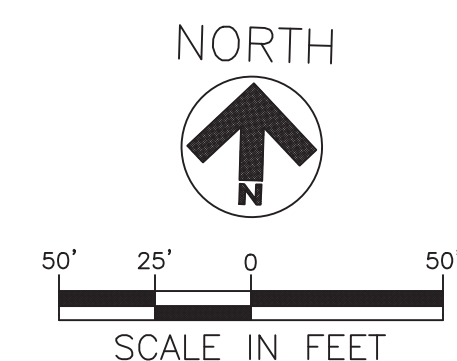


**LEGEND**

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- PROPOSED RUNWAY OBJECT FREE AREA
- PROPOSED RUNWAY SAFETY AREA
- PROPOSED TAXIWAY OBJECT FREE AREA
- PROPOSED TAXIWAY SAFETY AREA
- PROPOSED GEOMETRY LOCATION POINTS
- CURVE IDENTIFICATION LABEL
- PHASE LIMITS

- NOTE:
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  - SEE DETAIL 4-C03.15, 5-C03.15, 7A-C03.15, 7B-C03.15, AND 8-C03.15 FOR TRANSITION REQUIREMENTS AT INTERSECTION OF NEW CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT TO REMAIN.
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CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
8A	40'	TW-NA-P STATION: 78+02.80 OFFSET: 169.88' L N: 13927609.28 E: 3129660.05
8B	80'	TW-NA-P STATION: 78+02.80 OFFSET: 169.88' L N: 13927609.28 E: 3129660.05
8C	25'	TW-NA-P STATION: 82+25.51 OFFSET: 161.86' R N: 13927291.29 E: 3130093.21







HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL AIRPORT  
 HOUSTON, TEXAS

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REVISIONS

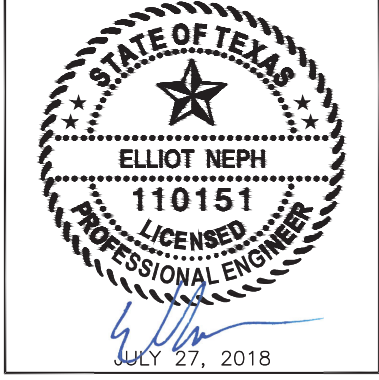
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

# PROPOSED GEOMETRY PLANS (9 OF 10)

ISSUED FOR BID

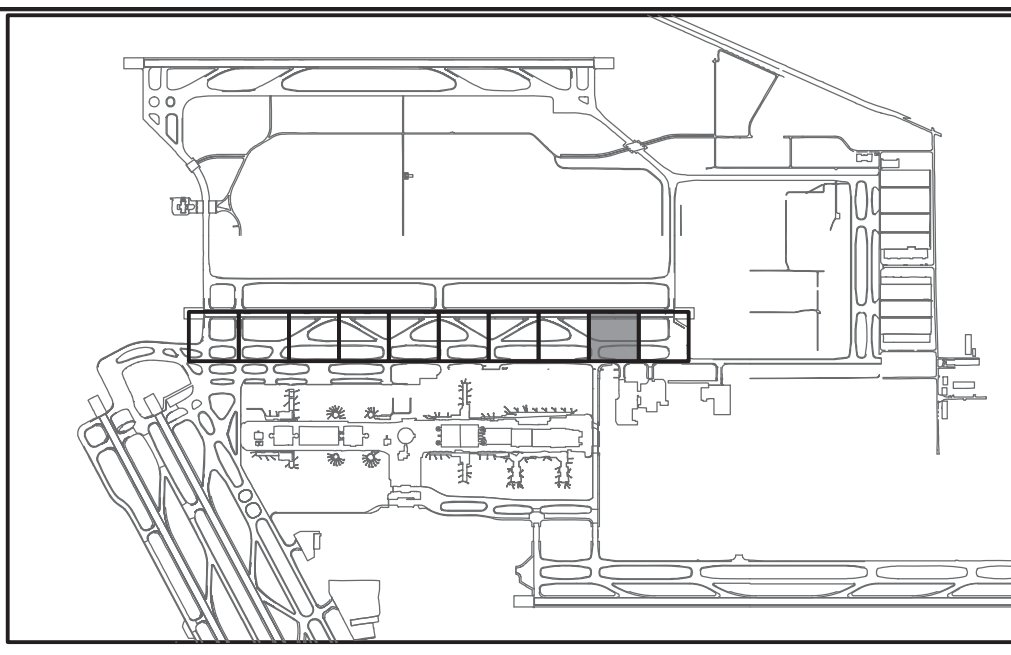
PROJECT MGR:	BMS
DESIGNER:	MRM
DRAWN BY:	NLH
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C02.09**

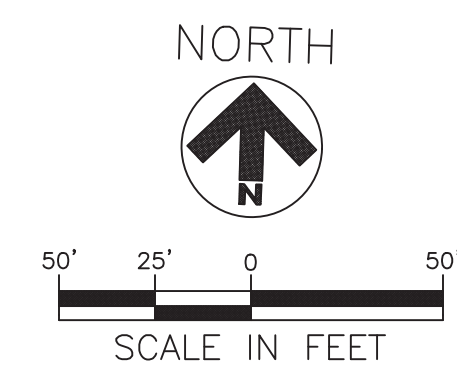
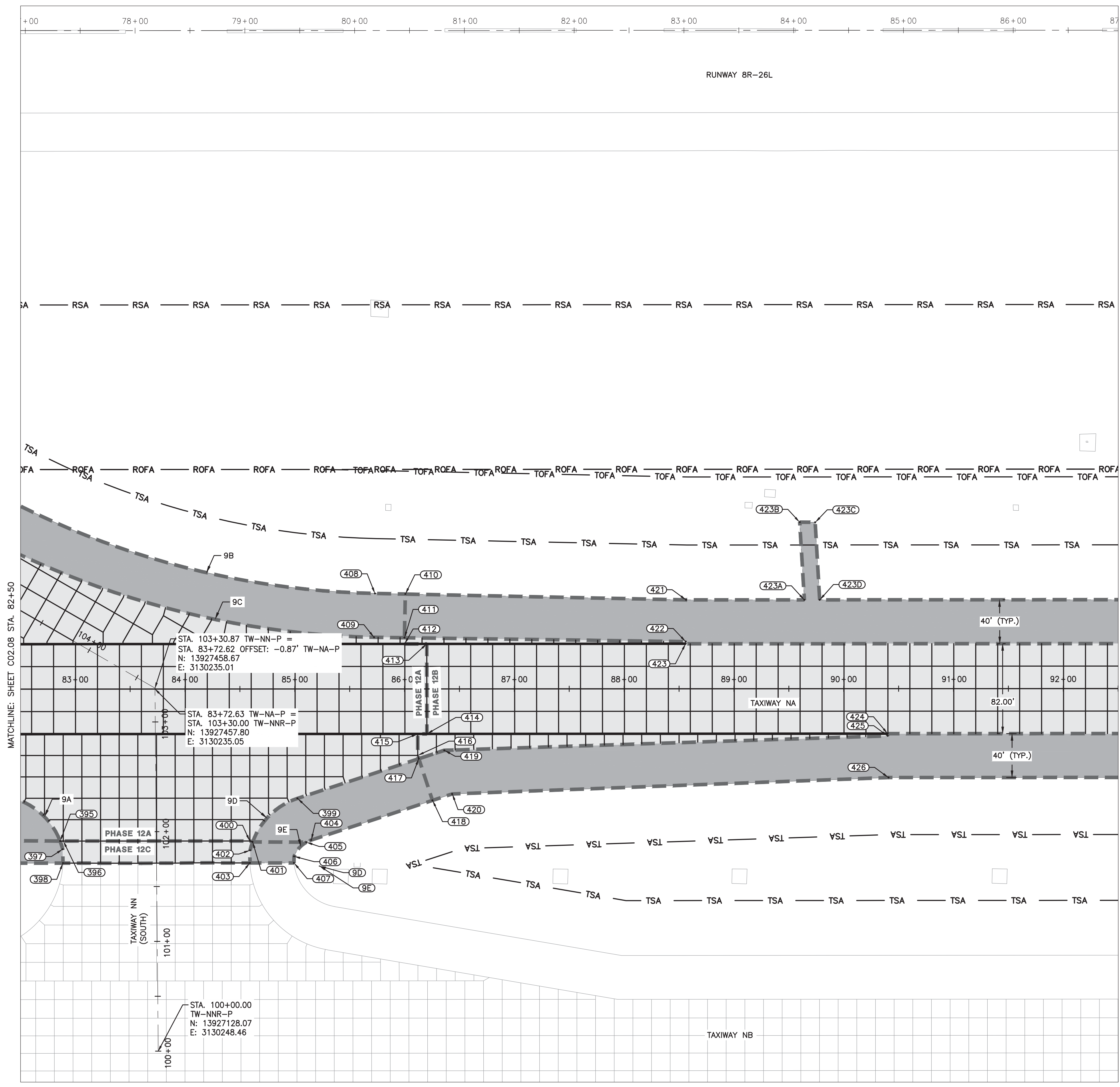


### LEGEND

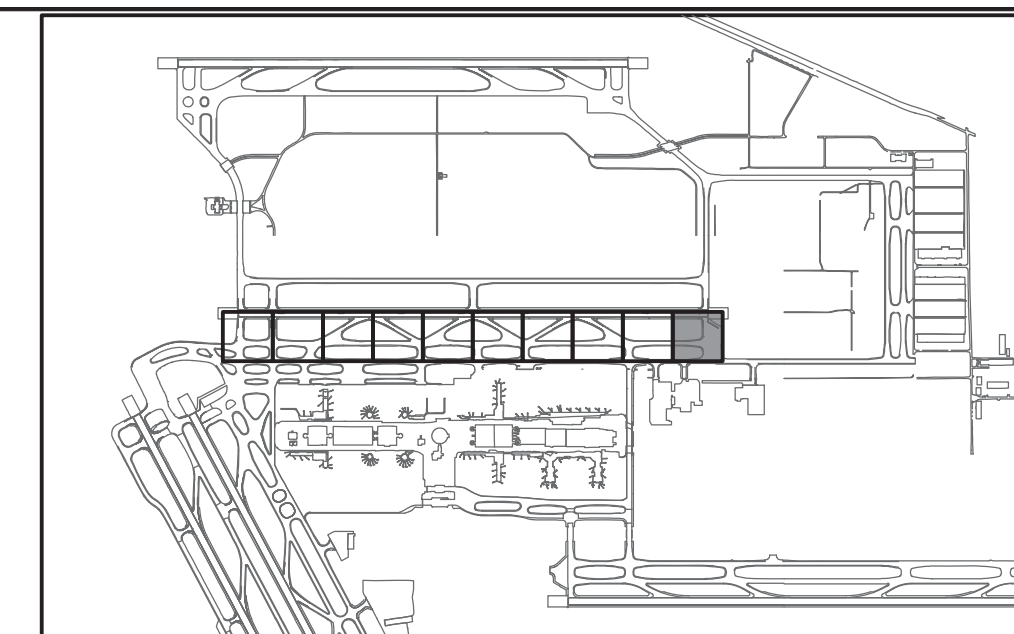
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- ROFA — PROPOSED RUNWAY OBJECT FREE AREA
- RSA — PROPOSED RUNWAY SAFETY AREA
- TOFA — PROPOSED TAXIWAY OBJECT FREE AREA
- TSA — PROPOSED TAXIWAY SAFETY AREA
- PROPOSED GEOMETRY LOCATION POINTS
- CURVE IDENTIFICATION LABEL
- — — — — PHASE LIMITS

- NOTE:
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CURVE DATA TABLE		
CURVE NO.	RADIUS	CENTER LOCATION
9A	65'	TW-NA-P STATION: 82+25.51 OFFSET: 161.86' R N: 13927291.29 E: 3130093.21
9B	760'	TW-NA-P STATION: 85+89.29 OFFSET: 846.86' L N: 13928311.19 E: 3130424.37
9C	800'	TW-NA-P STATION: 85+89.29 OFFSET: 846.86' L N: 13928311.19 E: 3130424.37
9D	65'	TW-NA-P STATION: 85+22.58 OFFSET: 161.51' R N: 13927301.19 E: 3130390.11
9E	25'	TW-NA-P STATION: 85+22.58 OFFSET: 161.51' R N: 13927301.19 E: 3130390.11







REVISIONS

NO.	DESCRIPTION	DATE	BY

**LEGEND**

- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- PROPOSED RUNWAY OBJECT FREE AREA
- PROPOSED RUNWAY SAFETY AREA
- PROPOSED TAXIWAY OBJECT FREE AREA
- PROPOSED TAXIWAY SAFETY AREA
- PROPOSED GEOMETRY LOCATION POINTS
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- PHASE LIMITS

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CURVE DATA TABLE

CURVE NO.	RADIUS	CENTER LOCATION
10A	25'	TW-NA-P STATION: 97+70.91 OFFSET: 161.70' R N: 13927341.13 E: 3131637.80
10B	65'	TW-NA-P STATION: 97+70.91 OFFSET: 161.70' R N: 13927341.13 E: 3131637.80
10C	100'	TW-NA-P STATION: 97+42.99 OFFSET: 423.74' L N: 13927925.36 E: 3131591.08
10D	60'	TW-NA-P STATION: 97+42.99 OFFSET: 423.74' L N: 13927925.36 E: 3131591.08

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED GEOMETRY PLANS (10 OF 10)**

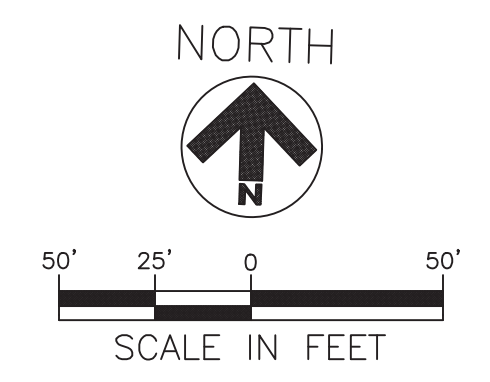
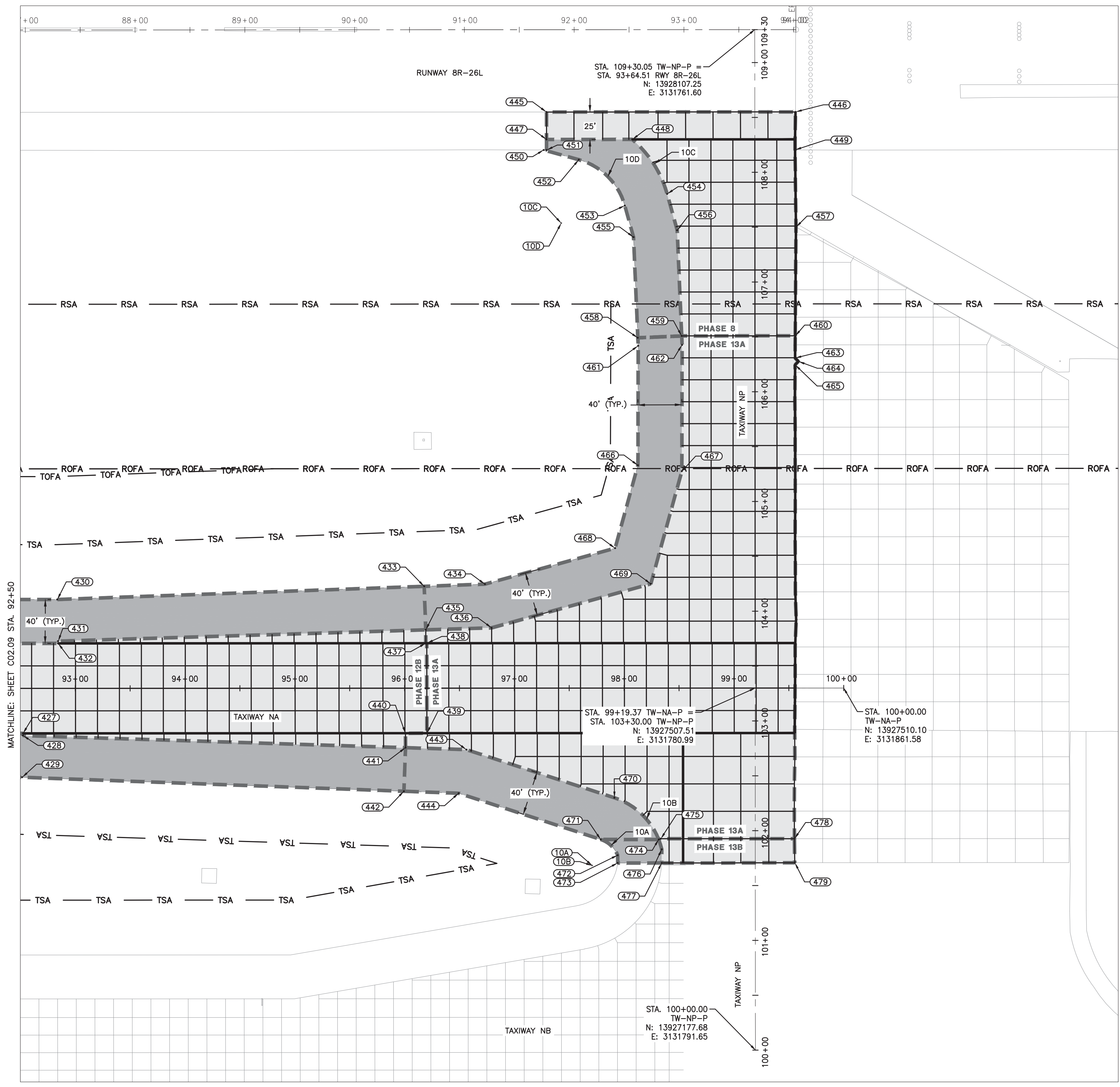
ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_







HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



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 TBPE Registration No. F-3401

REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

PROPOSED GEOMETRY  
 POINTS TABLE (1 OF 3)

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
1	N: 13927731.45 E: 3122404.01	TW-NE-P STATION: 108+55.18 OFFSET: 37.82' L
2	N: 13927696.44 E: 3122402.22	TW-NE-P STATION: 108+20.24 OFFSET: 40.73' L
3	N: 13927695.15 E: 3122362.16	TW-NE-P STATION: 108+20.23 OFFSET: 80.81' L
4	N: 13927738.31 E: 3122629.00	TW-NE-P STATION: 108+54.85 OFFSET: 187.27' R
5	N: 13927713.55 E: 3122629.75	TW-NE-P STATION: 108+30.08 OFFSET: 187.24' R
6	N: 13927704.02 E: 3122630.05	TW-NE-P STATION: 108+20.55 OFFSET: 187.22' R
7	N: 13927704.21 E: 3122635.87	TW-NE-P STATION: 108+20.54 OFFSET: 193.05' R
8	N: 13927694.14 E: 3122603.47	TW-NE-P STATION: 108+11.51 OFFSET: 160.34' R
9	N: 13927650.94 E: 3122562.95	TW-NE-P STATION: 107+69.63 OFFSET: 118.47' R
10	N: 13927617.46 E: 3122554.86	TW-NE-P STATION: 107+36.42 OFFSET: 109.31' R
11	N: 13927711.13 E: 3122554.33	TW-NE-P STATION: 108+30.06 OFFSET: 111.77' R
12	N: 13927660.34 E: 3122524.07	TW-NE-P STATION: 107+80.27 OFFSET: 79.91' R
13	N: 13927621.82 E: 3122514.76	TW-NE-P STATION: 107+42.06 OFFSET: 69.37' R
14	N: 13927505.73 E: 3122359.52	TW-NE-P STATION: 106+30.99 OFFSET: 89.49' L
15	N: 13927507.01 E: 3122399.55	TW-NE-P STATION: 106+30.99 OFFSET: 49.45' L
16	N: 13927510.74 E: 3122516.93	TW-NE-P STATION: 106+30.97 OFFSET: 68.00' R
17	N: 13927511.17 E: 3122556.93	TW-NE-P STATION: 106+30.13 OFFSET: 107.99' R
18	N: 13927410.31 E: 3122518.03	TW-NE-P STATION: 105+30.56 OFFSET: 65.88' R
19	N: 13927416.59 E: 3122557.96	TW-NE-P STATION: 105+35.56 OFFSET: 106.00' R
20	N: 13927354.24 E: 3122397.20	TW-NA-P STATION: 5+35.50 OFFSET: 148.39' L
21	N: 13927269.09 E: 3122356.33	TW-NE-P STATION: 103+94.58 OFFSET: 100.24' L
22	N: 13927250.44 E: 3122375.20	TW-NA-P STATION: 5+10.18 OFFSET: 45.35' L
23	N: 13927258.54 E: 3122361.20	TW-NE-P STATION: 103+83.87 OFFSET: 95.70' L
24	N: 13927273.63 E: 3122345.62	TW-NE-P STATION: 103+99.45 OFFSET: 110.79' L
25	N: 13927274.22 E: 3122337.06	TW-NE-P STATION: 104+00.32 OFFSET: 119.33' L
26	N: 13927306.47 E: 3122339.30	TW-NE-P STATION: 104+32.48 OFFSET: 116.07' L
27	N: 13927305.67 E: 3122355.84	TW-NE-P STATION: 104+31.15 OFFSET: 99.56' L
28	N: 13927316.34 E: 3122356.35	TW-NE-P STATION: 104+41.80 OFFSET: 98.70' L
29	N: 13927319.53 E: 3122356.66	TW-NE-P STATION: 104+44.97 OFFSET: 98.30' L
30	N: 13927317.72 E: 3122396.63	TW-NA-P STATION: 5+33.76 OFFSET: 111.90' L

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
31	N: 13927238.38 E: 3122367.05	TW-NA-P STATION: 5+01.64 OFFSET: 33.56' L
32	N: 13927235.66 E: 3122371.26	TW-NA-P STATION: 5+05.77 OFFSET: 30.70' L
33	N: 13927131.26 E: 3122374.65	TW-NA-P STATION: 5+05.80 OFFSET: 73.76' R
34	N: 13927132.06 E: 3122357.28	TW-NE-P STATION: 102+57.58 OFFSET: 103.66' L
35	N: 13927113.48 E: 3122356.54	TW-NE-P STATION: 102+39.04 OFFSET: 104.99' L
36	N: 13927115.36 E: 3122316.63	TW-NE-P STATION: 102+42.19 OFFSET: 144.82' L
37	N: 13927096.49 E: 3122315.65	TW-NE-P STATION: 102+23.36 OFFSET: 146.41' L
38	N: 13927093.63 E: 3122375.84	TW-NA-P STATION: 5+05.78 OFFSET: 111.40' R
39	N: 13927064.05 E: 3122376.96	TW-NA-P STATION: 5+05.95 OFFSET: 141.00' R
40	N: 13927023.92 E: 3122378.09	TW-NA-P STATION: 5+05.79 OFFSET: 181.15' R
41	N: 13927018.36 E: 3122371.32	TW-NE-P STATION: 101+43.50 OFFSET: 93.25' L
42	N: 13927005.69 E: 3122379.81	TW-NA-P STATION: 5+06.93 OFFSET: 199.42' R
43	N: 13927007.05 E: 3122382.49	TW-NA-P STATION: 5+09.64 OFFSET: 198.15' R
44	N: 13927008.57 E: 3122429.62	TW-NA-P STATION: 5+56.80 OFFSET: 198.15' R
45	N: 13927025.56 E: 3122429.07	TW-NA-P STATION: 5+56.80 OFFSET: 181.15' R
46	N: 13927029.57 E: 3122848.54	TW-NA-P STATION: 6+81.50 OFFSET: 181.14' R
47	N: 13927044.17 E: 3122549.73	TW-NA-P STATION: 6+77.99 OFFSET: 166.42' L
48	N: 13927339.30 E: 3122581.96	TW-NA-P STATION: 7+19.69 OFFSET: 127.52' L
49	N: 13927305.75 E: 3122550.49	TW-NA-P STATION: 6+87.16 OFFSET: 95.00' L
50	N: 13927056.42 E: 3122548.44	TW-NA-P STATION: 6+77.09 OFFSET: 154.14' R
51	N: 13927062.70 E: 3122548.24	TW-NA-P STATION: 6+77.09 OFFSET: 147.85' R
52	N: 13927069.61 E: 3122549.91	TW-NA-P STATION: 6+78.98 OFFSET: 141.00' R
53	N: 13927112.04 E: 3122590.04	TW-NA-P STATION: 7+20.46 OFFSET: 99.89' R
54	N: 13927057.70 E: 3122588.42	TW-NA-P STATION: 7+17.09 OFFSET: 154.14' R
55	N: 13927058.69 E: 3122588.40	TW-NA-P STATION: 7+17.10 OFFSET: 153.16' R
56	N: 13927071.14 E: 3122597.46	TW-NA-P STATION: 7+26.56 OFFSET: 141.00' R
57	N: 13927074.42 E: 3122603.65	TW-NA-P STATION: 7+32.86 OFFSET: 137.92' R
58	N: 13927310.42 E: 3122701.52	TW-NA-P STATION: 8+38.26 OFFSET: 94.81' L
59	N: 13927270.43 E: 3122696.70	TW-NA-P STATION: 8+32.15 OFFSET: 55.00' L
60	N: 13927310.37 E: 3122716.91	TW-NA-P STATION: 8+53.64 OFFSET: 94.27' L

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
61	N: 13927270.37 E: 3122716.78	TW-NA-P STATION: 8+52.22 OFFSET: 54.29' L
62	N: 13927257.08 E: 3122717.13	TW-NA-P STATION: 8+52.15 OFFSET: 41.00' L
63	N: 13927256.70 E: 3122705.25	TW-NA-P STATION: 8+40.26 OFFSET: 41.00' L
64	N: 13927174.75 E: 3122707.89	TW-NA-P STATION: 8+40.26 OFFSET: 41.00' R
65	N: 13927174.92 E: 3122713.42	TW-NA-P STATION: 8+45.79 OFFSET: 41.00' R
66	N: 13927157.11 E: 3122714.61	TW-NA-P STATION: 8+46.42 OFFSET: 58.84' R
67	N: 13927160.23 E: 3122723.23	TW-NA-P STATION: 8+55.13 OFFSET: 56.00' R
68	N: 13927120.71 E: 3122731.58	TW-NA-P STATION: 8+62.20 OFFSET: 95.76' R
69	N: 13927310.16 E: 3123034.21	TW-NA-P STATION: 9+20.90 OFFSET: 91.89' L
70	N: 13927270.15 E: 3122785.50	TW-NA-P STATION: 9+20.90 OFFSET: 51.87' L
71	N: 13927164.77 E: 3122788.70	TW-NA-P STATION: 9+20.71 OFFSET: 53.56' R
72	N: 13927124.77 E: 3122789.99	TW-NA-P STATION: 9+20.71 OFFSET: 93.59' R
73	N: 13927315.72 E: 3122866.41	TW-NA-P STATION: 10+03.23 OFFSET: 94.81' L
74	N: 13927276.13 E: 3122873.79	TW-NA-P STATION: 10+09.34 OFFSET: 55.00' L
75	N: 13927164.45 E: 3122854.33	TW-NA-P STATION: 9+86.30 OFFSET: 56.00' R
76	N: 13927124.47 E: 3123167.54	TW-NA-P STATION: 9+79.22 OFFSET: 95.76' R
77	N: 13927747.06 E: 3122903.86	TW-NA-P STATION: 10+54.53 OFFSET: 524.72' L
78	N: 13927722.39 E: 3122904.66	TW-NA-P STATION: 10+54.53 OFFSET: 500.04' L
79	N: 13927712.67 E: 3122904.97	TW-NA-P STATION: 10+54.53 OFFSET: 490.31' L
80	N: 13927712.74 E: 3122907.46	TW-NA-P STATION: 10+57.02 OFFSET: 490.30' L
81	N: 13927725.64 E: 3123005.76	TW-NA-P STATION: 11+55.69 OFFSET: 500.04' L
82	N: 13927696.96 E: 3122972.79	TW-NA-P STATION: 11+21.81 OFFSET: 472.43' L
83	N: 13927615.46 E: 3122998.12	TW-NA-P STATION: 11+44.51 OFFSET: 390.16' L
84	N: 13927622.15 E: 3123247.01	TW-NA-P STATION: 11+84.51 OFFSET: 395.57' L
85	N: 13927526.36 E: 3123000.95	TW-NA-P STATION: 11+44.47 OFFSET: 301.02' L
86	N: 13927527.63 E: 3123040.93	TW-NA-P STATION: 11+84.47 OFFSET: 301.00' L
87	N: 13927434.90 E: 3123003.85	TW-NA-P STATION: 11+44.43 OFFSET: 209.51' L
88	N: 13927430.77 E: 3123044.00	TW-NA-P STATION: 11+84.43 OFFSET: 204.09' L
89	N: 13927352.23 E: 3122983.88	TW-NA-P STATION: 11+21.82 OFFSET: 127.52' L
90	N: 13927320.77 E: 3123017.43	TW-NA-P STATION: 11+54.34 OFFSET: 95.00' L

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
91	N: 13927124.91 E: 3123290.36	TW-NA-P STATION: 11+20.99 OFFSET: 99.89' R
92	N: 13927086.50 E: 3122979.20	TW-NA-P STATION: 11+08.60 OFFSET: 137.92' R
93	N: 13927083.29 E: 3122986.09	TW-NA-P STATION: 11+15.38 OFFSET: 141.35' R
94	N: 13927084.54 E: 3123033.37	TW-NA-P STATION: 11+62.68 OFFSET: 141.62' R
95	N: 13927085.22 E: 3123035.25	TW-NA-P STATION: 11+64.57 OFFSET: 141.00' R
96	N: 13927072.91 E: 3122994.95	TW-NA-P STATION: 11+23.90 OFFSET: 152.01' R
97	N: 13927079.56 E: 3123034.94	TW-NA-P STATION: 11+64.08 OFFSET: 146.64' R
98	N: 13927064.62 E: 3122995.30	TW-NA-P STATION: 11+23.99 OFFSET: 160.30' R
99	N: 13927065.92 E: 3123035.48	TW-NA-P STATION: 11+64.19 OFFSET: 160.30' R
100	N: 13927759.13 E: 3123278.67	TW-NA-P STATION: 14+29.53 OFFSET: 524.74' L
101	N: 13927734.44 E: 3123279.46	TW-NA-P STATION: 14+29.53 OFFSET: 500.04' L
102	N: 13927724.61 E: 3123279.78	TW-NA-P STATION: 14+29.53 OFFSET: 490.20' L
103	N: 13927725.06 E: 3123291.75	TW-NA-P STATION: 14+41.51 OFFSET: 490.26' L
104	N: 13927731.66 E: 3123192.96	TW-NA-P STATION: 13+42.98 OFFSET: 500.04' L
105	N: 13927705.15 E: 3123227.70	TW-NA-P STATION: 13+76.86 OFFSET: 472.43' L
106	N: 13927626.43 E: 3123603.54	TW-NA-P STATION: 13+14.19 OFFSET: 395.68' L
107	N: 13927622.37 E: 3123207.71	TW-NA-P STATION: 13+54.21 OFFSET: 390.33' L
108	N: 13927531.81 E: 3123170.85	TW-NA-P STATION: 13+14.46 OFFSET: 301.00' L
109	N: 13927533.13 E: 3123210.83	TW-NA-P STATION: 13+54.46 OFFSET: 301.04' L
110	N: 13927433.83 E: 3123174.09	TW-NA-P STATION: 13+14.55 OFFSET: 202.97' L
111	N: 13927440.55 E: 3123213.89	TW-NA-P STATION: 13+54.55 OFFSET: 208.40' L
112	N: 13927326.88 E: 3123207.33	TW-NA-P STATION: 13+44.34 OFFSET: 95.00' L
113	N: 13927360.43 E: 3123236.79	TW-NA-P STATION: 13+76.86 OFFSET: 127.52' L
114	N: 13927133.17 E: 3123580.19	TW-NA-P STATION: 13+77.77 OFFSET: 99.88' R
115	N: 13927090.11 E: 3123206.69	TW-NA-P STATION: 13+36.09 OFFSET: 141.62' R
116	N: 13927090.67 E: 3123204.77	TW-NA-P STATION: 13+34.18 OFFSET: 141.00' R
117	N: 13927085.52 E: 3123205.54	TW-NA-P STATION: 13+34.79 OFFSET: 146.18' R
118	N: 13927071.56 E: 3123205.83	TW-NA-P STATION: 13+34.63 OFFSET: 160.13' R
119	N: 13927072.99 E: 3123245.97	TW-NA-P STATION: 13+74.80 OFFSET: 159.99' R
120	N: 13927081.05 E: 3123245.81	TW-NA-P STATION: 13+74.89 OFFSET: 151.93' R

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
121	N: 13927091.35 E: 3123253.24	TW-NA-P STATION: 13+82.65 OFFSET: 141.88' R
122	N: 13927095.55 E: 3123260.62	TW-NA-P STATION: 13+90.16 OFFSET: 137.91' R
123	N: 13927331.55 E: 3123358.37	TW-NA-P STATION: 14+95.45 OFFSET: 94.82' L
124	N: 13927331.50 E: 3123373.76	TW-NA-P STATION: 15+10.83 OFFSET: 94.27' L
125	N: 13927291.57 E: 3123353.54	TW-NA-P STATION: 14+89.34 OFFSET: 55.01' L
126	N: 13927291.50 E: 3123373.63	TW-NA-P STATION: 15+09.41 OFFSET: 54.30' L
127	N: 13927277.91 E: 3123364.91	TW-NA-P STATION: 15+00.26 OFFSET: 41.00' L
128	N: 13927278.21 E: 3123373.98	TW-NA-P STATION: 15+09.34 OFFSET: 41.00' L
129	N: 13927195.96 E: 3123367.55	TW-NA-P STATION: 15+00.26 OFFSET: 41.00' R
130	N: 13927196.09 E: 3123371.59	TW-NA-P STATION: 15+04.31 OFFSET: 41.00' R
131	N: 13927178.68 E: 3123372.77	TW-NA-P STATION: 15+04.93 OFFSET: 58.44' R
132	N: 13927181.35 E: 3123380.17	TW-NA-P STATION: 15+12.41 OFFSET: 56.00' R
133	N: 13927141.84 E: 3123388.52	TW-NA-P STATION: 15+19.49 OFFSET: 95.76' R
134	N: 13927189.08 E: 3123491.55	TW-NA-P STATION: 16+23.99 OFFSET: 51.86' R
135	N: 13927149.07 E: 3123492.84	TW-NA-P STATION: 16+23.99 OFFSET: 91.88' R
136	N: 13927188.53 E: 3124469.00	TW-NA-P STATION: 17+35.56 OFFSET: 56.00' R
137	N: 13927148.55 E: 3123597.41	TW-NA-P STATION: 17+28.49 OFFSET: 95.76' R
138	N: 1	



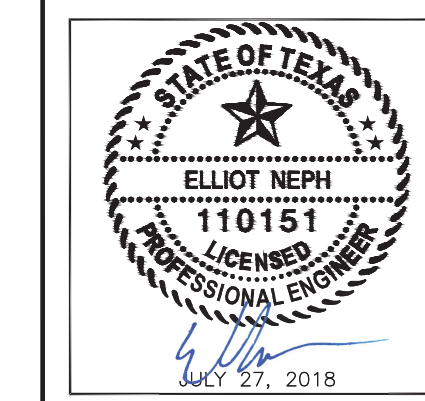


REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

# PROPOSED GEOMETRY POINTS TABLE (2 OF 3)

ISSUED FOR BID			
PROJECT MGR:	BMS	DESIGNER:	EBN
DRAWN BY:	MRM	CHECKED BY:	SMC
SCALE:	NTS	DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION			
APPROVED BY:	DATE:		
<i>Dorey Palmer</i>			
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE			

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C02.12

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
291	N: 13927621.47 E: 3127612.61	TW-NA-P STATION: 57+56.81 OFFSET: 247.86' L
292	N: 13927600.57 E: 3127618.81	TW-NA-P STATION: 57+62.34 OFFSET: 226.78' L
293	N: 13927598.43 E: 3127622.80	TW-NA-P STATION: 57+66.25 OFFSET: 224.51' L
294	N: 13927613.96 E: 3127626.07	TW-NA-P STATION: 57+70.02 OFFSET: 239.92' L
295	N: 13927625.19 E: 3127632.16	TW-NA-P STATION: 57+76.47 OFFSET: 250.95' L
296	N: 13927626.96 E: 3127633.07	TW-NA-P STATION: 57+77.44 OFFSET: 252.70' L
297	N: 13927613.43 E: 3127654.02	TW-NA-P STATION: 57+97.94 OFFSET: 238.50' L
298	N: 13927468.63 E: 3127626.80	TW-NA-P STATION: 57+66.08 OFFSET: 94.65' L
299	N: 13927431.75 E: 3127617.29	TW-NA-P STATION: 57+55.39 OFFSET: 58.10' L
300	N: 13927466.45 E: 3127596.43	TW-NA-P STATION: 57+35.65 OFFSET: 93.44' L
301	N: 13927426.55 E: 3127599.30	TW-NA-P STATION: 57+37.24 OFFSET: 53.48' L
302	N: 13927426.60 E: 3127600.02	TW-NA-P STATION: 57+37.96 OFFSET: 53.50' L
303	N: 13927414.08 E: 3127599.70	TW-NA-P STATION: 57+37.24 OFFSET: 41.00' L
304	N: 13927416.75 E: 3127682.68	TW-NA-P STATION: 58+20.26 OFFSET: 41.00' L
305	N: 13927334.79 E: 3127685.32	TW-NA-P STATION: 58+20.26 OFFSET: 41.00' R
306	N: 13927334.54 E: 3127677.28	TW-NA-P STATION: 58+12.22 OFFSET: 41.00' R
307	N: 13927328.81 E: 3127677.46	TW-NA-P STATION: 58+12.22 OFFSET: 46.73' R
308	N: 13927326.82 E: 3127677.60	TW-NA-P STATION: 58+12.29 OFFSET: 48.73' R
309	N: 13927286.91 E: 3127680.37	TW-NA-P STATION: 58+13.78 OFFSET: 88.70' R
310	N: 13927327.68 E: 3127689.99	TW-NA-P STATION: 58+24.71 OFFSET: 48.27' R
311	N: 13927287.67 E: 3127691.28	TW-NA-P STATION: 58+24.71 OFFSET: 88.29' R
312	N: 13927326.64 E: 3127898.45	TW-NA-P STATION: 60+33.03 OFFSET: 56.00' R
313	N: 13927286.67 E: 3127892.66	TW-NA-P STATION: 60+25.95 OFFSET: 95.76' R
314	N: 13927552.20 E: 3127999.12	TW-NA-P STATION: 61+40.89 OFFSET: 166.21' L
315	N: 13927525.78 E: 3127984.91	TW-NA-P STATION: 61+25.84 OFFSET: 140.26' L
316	N: 13927287.10 E: 3128034.48	TW-NA-P STATION: 61+67.72 OFFSET: 99.89' R
317	N: 13927248.69 E: 3128023.32	TW-NA-P STATION: 61+55.32 OFFSET: 137.92' R
318	N: 13927236.89 E: 3128038.12	TW-NA-P STATION: 61+69.74 OFFSET: 150.19' R
319	N: 13927222.36 E: 3128038.63	TW-NA-P STATION: 61+69.79 OFFSET: 164.73' R
320	N: 13927242.71 E: 3128078.60	TW-NA-P STATION: 62+10.38 OFFSET: 145.67' R

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
267	N: 13927218.67 E: 3127134.38	TW-NA-P STATION: 52+65.88 OFFSET: 139.36' R
268	N: 13927219.60 E: 3127136.69	TW-NA-P STATION: 52+68.22 OFFSET: 138.50' R
269	N: 13927212.31 E: 3127136.57	TW-NA-P STATION: 52+67.86 OFFSET: 145.79' R
270	N: 13927200.10 E: 3127137.27	TW-NA-P STATION: 52+68.17 OFFSET: 158.01' R
271	N: 13927443.94 E: 3127283.47	TW-NA-P STATION: 54+22.13 OFFSET: 81.00' L
271A	N: 13927441.73 E: 3127214.83	TW-NA-P STATION: 53+53.46 OFFSET: 81.00' L
271B	N: 13927480.66 E: 3127213.51	TW-NA-P STATION: 53+53.39 OFFSET: 119.96' L
271C	N: 13927529.42 E: 3127211.78	TW-NA-P STATION: 53+53.22 OFFSET: 168.75' L
271D	N: 13927530.35 E: 3127226.75	TW-NA-P STATION: 53+68.22 OFFSET: 169.20' L
271E	N: 13927481.28 E: 3127228.53	TW-NA-P STATION: 53+68.42 OFFSET: 120.09' L
271F	N: 13927442.22 E: 3127230.02	TW-NA-P STATION: 53+68.65 OFFSET: 81.00' L
272	N: 13927405.98 E: 3127285.48	TW-NA-P STATION: 54+22.92 OFFSET: 43.00' L
273	N: 13927403.98 E: 3127285.54	TW-NA-P STATION: 54+22.92 OFFSET: 41.00' L
274	N: 13927265.07 E: 3127348.88	TW-NA-P STATION: 54+81.76 OFFSET: 99.88' R
275	N: 13927225.07 E: 3127306.61	TW-NA-P STATION: 54+38.22 OFFSET: 138.50' R
276	N: 13927224.20 E: 3127309.23	TW-NA-P STATION: 54+40.82 OFFSET: 139.45' R
277	N: 13927215.50 E: 3127307.03	TW-NA-P STATION: 54+38.34 OFFSET: 148.08' R
278	N: 13927205.82 E: 3127307.35	TW-NA-P STATION: 54+38.35 OFFSET: 157.76' R
279	N: 13927227.45 E: 3127362.49	TW-NA-P STATION: 54+94.15 OFFSET: 137.91' R
280	N: 13927225.50 E: 3127358.34	TW-NA-P STATION: 54+89.94 OFFSET: 139.72' R
281	N: 13927211.75 E: 3127347.24	TW-NA-P STATION: 54+78.41 OFFSET: 153.12' R
282	N: 13927207.16 E: 3127347.39	TW-NA-P STATION: 54+78.41 OFFSET: 157.71' R
283	N: 13927313.25 E: 3127482.04	TW-NA-P STATION: 56+16.40 OFFSET: 56.00' R
284	N: 13927273.73 E: 3127490.39	TW-NA-P STATION: 56+23.47 OFFSET: 95.76' R
285	N: 13927698.59 E: 3127984.91	TW-NA-P STATION: 58+18.26 OFFSET: 323.05' L
286	N: 13927711.53 E: 3127678.49	TW-NA-P STATION: 58+25.54 OFFSET: 335.76' L
287	N: 13927712.44 E: 3127706.65	TW-NA-P STATION: 58+53.73 OFFSET: 335.76' L
288	N: 13927707.98 E: 3127714.01	TW-NA-P STATION: 58+60.94 OFFSET: 331.07' L
289	N: 13927660.01 E: 3127735.27	TW-NA-P STATION: 58+80.65 OFFSET: 282.44' L
290	N: 13927685.73 E: 3127750.71	TW-NA-P STATION: 58+96.90 OFFSET: 307.65' L

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
237	N: 13927675.19 E: 3126539.22	TW-NA-P STATION: 46+85.70 OFFSET: 336.05' L
238	N: 13927662.77 E: 3127136.69	TW-NA-P STATION: 46+93.09 OFFSET: 323.39' L
239	N: 13927592.69 E: 3126589.13	TW-NA-P STATION: 47+32.93 OFFSET: 251.99' L
240	N: 13927590.74 E: 3126585.99	TW-NA-P STATION: 47+29.73 OFFSET: 250.14' L
241	N: 13927588.20 E: 3126609.87	TW-NA-P STATION: 47+53.51 OFFSET: 246.83' L
242	N: 13927578.94 E: 3126597.48	TW-NA-P STATION: 47+40.83 OFFSET: 237.98' L
243	N: 13927567.20 E: 3126604.95	TW-NA-P STATION: 47+47.93 OFFSET: 226.01' L
244	N: 13927565.25 E: 3126601.77	TW-NA-P STATION: 47+44.68 OFFSET: 224.16' L
245	N: 13927435.75 E: 3126605.34	TW-NA-P STATION: 47+44.09 OFFSET: 94.61' L
246	N: 13927402.45 E: 3127228.53	TW-NA-P STATION: 47+44.27 OFFSET: 61.29' L
247	N: 13927399.19 E: 3126617.87	TW-NA-P STATION: 47+55.44 OFFSET: 57.67' L
248	N: 13927395.53 E: 3126633.82	TW-NA-P STATION: 47+71.26 OFFSET: 53.50' L
249	N: 13927382.17 E: 3126607.25	TW-NA-P STATION: 47+44.27 OFFSET: 41.00' L
250	N: 13927382.69 E: 3126623.23	TW-NA-P STATION: 47+60.26 OFFSET: 41.00' L
251	N: 13927300.16 E: 3126608.17	TW-NA-P STATION: 47+42.56 OFFSET: 41.00' R
252	N: 13927300.73 E: 3126625.86	TW-NA-P STATION: 47+60.26 OFFSET: 41.00' R
253	N: 13927294.92 E: 3126608.54	TW-NA-P STATION: 47+42.76 OFFSET: 46.25' R
254	N: 13927297.86 E: 3126650.86	TW-NA-P STATION: 47+85.16 OFFSET: 44.67' R
255	N: 13927255.02 E: 3126611.30	TW-NA-P STATION: 47+44.24 OFFSET: 86.22' R
256	N: 13927257.85 E: 3126652.15	TW-NA-P STATION: 47+85.16 OFFSET: 84.70' R
257	N: 13927433.17 E: 3126948.56	TW-NA-P STATION: 50+87.05 OFFSET: 81.00' L
258	N: 13927395.16 E: 3126948.99	TW-NA-P STATION: 50+86.26 OFFSET: 43.00' L
259	N: 13927393.16 E: 3126949.06	TW-NA-P STATION: 50+86.26 OFFSET: 41.00' L
260	N: 13927296.34 E: 3126956.20	TW-NA-P STATION: 50+90.29 OFFSET: 56.00' R
261	N: 13927256.37 E: 3127650.40	TW-NA-P STATION: 50+83.21 OFFSET: 95.76' R
262	N: 13927256.80 E: 3127092.23	TW-NA-P STATION: 52+24.98 OFFSET: 99.89' R
263	N: 13927218.39 E: 3127081.06	TW-NA-P STATION: 52+12.58 OFFSET: 137.92' R
264	N: 13927217.34 E: 3127083.99	TW-NA-P STATION: 52+15.48 OFFSET: 139.07' R
265	N: 13927204.68 E: 3127096.87	TW-NA-P STATION: 52+27.94 OFFSET: 152.14' R
266	N: 13927198.78 E: 3127097.21	TW-NA-P STATION: 52+28.09 OFFSET: 158.04' R

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
207	N: 13927397.61 E: 3126078.31	TW-NA-P STATION: 42+16.11 OFFSET: 73.43' L
208	N: 13927398.05 E: 3126090.14	TW-NA-P STATION: 42+27.95 OFFSET: 73.49' L
209	N: 13927370.01 E: 3126077.95	TW-NA-P STATION: 42+14.86 OFFSET: 45.86' L
210	N: 13927365.15 E: 3126077.80	TW-NA-P STATION: 42+14.55 OFFSET: 41.00' L
211	N: 13927220.28 E: 3125956.46	TW-NA-P STATION: 40+88.62 OFFSET: 99.89' R
212	N: 13927181.87 E: 3125945.29	TW-NA-P STATION: 40+76.22 OFFSET: 137.92' R
213	N: 13927179.82 E: 3125950.26	TW-NA-P STATION: 40+81.12 OFFSET: 140.13' R
214	N: 13927167.82 E: 3125961.25	TW-NA-P STATION: 40+91.72 OFFSET: 152.48' R
215	N: 13927160.96 E: 3125961.41	TW-NA-P STATION: 40+91.66 OFFSET: 159.34' R
216	N: 13927181.11 E: 3126606.01	TW-NA-P STATION: 41+29.89 OFFSET: 140.41' R
217	N: 13927181.83 E: 3126000.88	TW-NA-P STATION: 41+31.78 OFFSET: 139.75' R
218	N: 13927174.13 E: 3126001.25	TW-NA-P STATION: 41+31.90 OFFSET: 147.46' R
219	N: 13927162.24 E: 3126001.54	TW-NA-P STATION: 41+31.81 OFFSET: 159.35' R
220	N: 13927494.54 E: 3126227.21	TW-NA-P STATION: 43+68.04 OFFSET: 165.53' L
221	N: 13927469.06 E: 3126243.03	TW-NA-P STATION: 43+83.03 OFFSET: 139.54' L
222	N: 13927228.54 E: 3126213.10	TW-NA-P STATION: 43+45.40 OFFSET: 99.88' R
223	N: 13927187.25 E: 3126169.58	TW-NA-P STATION: 43+00.57 OFFSET: 139.75' R
224	N: 13927186.22 E: 3126173.00	TW-NA-P STATION: 43+03.95 OFFSET: 140.89' R
225	N: 13927180.38 E: 3126171.53	TW-NA-P STATION: 43+02.29 OFFSET: 146.69' R
226	N: 13927166.37 E: 3126171.91	TW-NA-P STATION: 43+02.23 OFFSET: 160.70' R
227	N: 13927190.93 E: 3126226.72	TW-NA-P STATION: 43+57.79 OFFSET: 137.91' R
228	N: 13927187.47 E: 3126220.29	TW-NA-P STATION: 43+51.26 OFFSET: 141.16' R
229	N: 13927176.40 E: 3126211.89	TW-NA-P STATION: 43+42.51 OFFSET: 151.95' R
230	N: 13927167.60 E: 3126212.13	TW-NA-P STATION: 43+42.47 OFFSET: 160.77' R
231	N: 13927276.73 E: 3126346.27	TW-NA-P STATION: 44+80.04 OFFSET: 56.00' R
232	N: 13927237.21 E: 3126354.63	TW-NA-P STATION: 44+87.13 OFFSET: 95.76' R
233	N: 13927645.28 E: 3126470.02	TW-NA-P STATION: 46+15.58 OFFSET: 308.38' L
234	N: 13927620.25 E: 3126486.58	TW-NA-P STATION: 46+31.32 OFFSET: 282.83' L
235	N: 13927657.23 E: 3126487.01	TW-NA-P STATION: 46+32.93 OFFSET: 319.78' L
236	N: 13927674.29 E: 3126511.26	TW-NA-P STATION: 46+57.72 OFFSET: 336.05' L

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
177	N: 13927318.68 E: 3124632.67	TW-NA-P STATION: 27+68.68 OFFSET: 41.00' L
178	N: 13927319.05 E: 3124644.25	TW-NA-P STATION: 27+80.26 OFFSET: 41.00' L
179	N: 13927235.62 E: 3124601.21	TW-NA-P STATION: 27+34.56 OFFSET: 41.00' R
180	N: 13927233.63 E: 3124601.27	TW-NA-P STATION: 27+34.56 OFFSET: 43.00' R
181	N: 13927237.09 E: 3124646.89	TW-NA-P STATION: 27+80.26 OFFSET: 41.00' R
182	N: 13927195.67 E: 3124603.24	TW-NA-P STATION: 27+35.30 OFFSET: 81.00' R
183	N: 13927197.11 E: 3124648.10	TW-NA-P STATION: 27+80.19 OFFSET: 81.00' R
184	N: 13927371.19 E: 3124744.74	TW-NA-P STATION: 28+82.38 OFFSET: 89.88' L
185	N: 13927331.17 E: 3124741.06	TW-NA-P STATION: 28+77.42 OFFSET: 50.00' L
186	N: 13927373.03 E: 3125999.01	TW-NA-P STATION: 32+15.91 OFFSET: 81.00' L
187	N: 13927335.04 E: 3125079.12	TW-NA-P STATION: 32+15.42 OFFSET:





**RS&H, Inc.**  
 11011 Richmond Ave., Suite 900  
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 TBPE Registration No. F-3401

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED GEOMETRY  
 POINTS TABLE (3 OF 3)**

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
351	N: 13927371.52 E: 3128827.60	TW-NA-P STATION: 69+63.14 OFFSET: 41.00' R
352	N: 13927369.53 E: 3128827.66	TW-NA-P STATION: 69+63.14 OFFSET: 43.00' R
353	N: 13927331.57 E: 3128829.63	TW-NA-P STATION: 69+63.88 OFFSET: 81.00' R
354	N: 13927504.15 E: 3129155.96	TW-NA-P STATION: 72+95.59 OFFSET: 81.00' L
355	N: 13927466.18 E: 3129157.72	TW-NA-P STATION: 72+96.13 OFFSET: 43.00' L
356	N: 13927464.18 E: 3129157.78	TW-NA-P STATION: 72+96.13 OFFSET: 41.00' L
357	N: 13927523.74 E: 3129489.08	TW-NA-P STATION: 76+29.16 OFFSET: 89.88' L
358	N: 13927484.04 E: 3129495.32	TW-NA-P STATION: 76+34.13 OFFSET: 50.00' L
359	N: 13927535.19 E: 3129533.32	TW-NA-P STATION: 76+73.75 OFFSET: 99.90' L
360	N: 13927496.46 E: 3129543.33	TW-NA-P STATION: 76+82.52 OFFSET: 60.87' L
361	N: 13927476.60 E: 3129543.97	TW-NA-P STATION: 76+82.52 OFFSET: 41.00' L
362	N: 13927395.40 E: 3129569.98	TW-NA-P STATION: 77+05.90 OFFSET: 41.00' R
363	N: 13927393.40 E: 3129570.05	TW-NA-P STATION: 77+05.90 OFFSET: 43.00' R
364	N: 13927355.39 E: 3129570.53	TW-NA-P STATION: 77+05.16 OFFSET: 81.00' R
365	N: 13927780.37 E: 3129805.55	TW-NN-P STATION: 108+61.31 OFFSET: 81.00' R
366	N: 13927778.79 E: 3129756.34	TW-NN-P STATION: 109+03.95 OFFSET: 56.39' R
367	N: 13927765.40 E: 3129748.74	TW-NN-P STATION: 109+04.34 OFFSET: 41.00' R
368	N: 13927739.48 E: 3129734.78	TW-NN-P STATION: 109+04.41 OFFSET: 11.56' R
369	N: 13927717.55 E: 3129723.52	TW-NN-P STATION: 109+03.99 OFFSET: 13.09' L
370	N: 13927696.19 E: 3129712.51	TW-NN-P STATION: 109+03.62 OFFSET: 37.12' L
371	N: 13927706.06 E: 3129692.52	TW-NN-P STATION: 109+03.90 OFFSET: 37.84' L
372	N: 13927720.03 E: 3129666.19	TW-NN-P STATION: 109+55.71 OFFSET: 37.95' L
373	N: 13927718.33 E: 3129665.14	TW-NN-P STATION: 109+55.83 OFFSET: 39.95' L
374	N: 13927705.35 E: 3129657.13	TW-NN-P STATION: 109+56.77 OFFSET: 55.18' L
375	N: 13927652.08 E: 3129672.40	TW-NN-P STATION: 109+18.17 OFFSET: 94.93' L
376	N: 13927681.70 E: 3129699.29	TW-NN-P STATION: 109+08.44 OFFSET: 56.13' L
377	N: 13927638.89 E: 3129686.93	TW-NA-P STATION: 78+30.62 OFFSET: 198.61' L
378	N: 13927668.51 E: 3129713.82	TW-NN-P STATION: 108+89.41 OFFSET: 60.90' L
379	N: 13927570.55 E: 3129670.06	TW-NA-P STATION: 78+11.56 OFFSET: 130.85' L
380	N: 13927531.83 E: 3129680.08	TW-NA-P STATION: 78+20.33 OFFSET: 91.82' L

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
381	N: 13927481.67 E: 3129701.64	TW-NA-P STATION: 78+40.26 OFFSET: 41.00' L
382	N: 13927399.71 E: 3129704.27	TW-NA-P STATION: 78+40.26 OFFSET: 41.00' R
383	N: 13927399.37 E: 3129693.99	TW-NA-P STATION: 78+29.98 OFFSET: 41.01' R
384	N: 13927395.40 E: 3129694.12	TW-NA-P STATION: 78+29.98 OFFSET: 44.99' R
385	N: 13927393.40 E: 3129694.12	TW-NA-P STATION: 78+29.91 OFFSET: 46.99' R
386	N: 13927354.78 E: 3129693.93	TW-NA-P STATION: 78+28.48 OFFSET: 85.58' R
387	N: 13927393.39 E: 3129974.41	TW-NA-P STATION: 81+10.05 OFFSET: 56.00' R
388	N: 13927353.42 E: 3129968.63	TW-NA-P STATION: 81+03.00 OFFSET: 95.77' R
389	N: 13927641.11 E: 3130065.78	TW-NA-P STATION: 82+09.34 OFFSET: 188.65' L
390	N: 13927605.84 E: 3130046.90	TW-NA-P STATION: 81+89.34 OFFSET: 154.01' L
391	N: 13927353.72 E: 3130111.30	TW-NA-P STATION: 82+45.60 OFFSET: 100.05' R
392	N: 13927315.30 E: 3130100.16	TW-NA-P STATION: 82+33.24 OFFSET: 136.09' R
393	N: 13927301.70 E: 3130115.94	TW-NA-P STATION: 82+48.56 OFFSET: 152.19' R
394	N: 13927295.32 E: 3130116.26	TW-NA-P STATION: 82+48.69 OFFSET: 158.58' R
395	N: 13927316.59 E: 3130153.08	TW-NA-P STATION: 82+86.17 OFFSET: 138.50' R
396	N: 13927316.68 E: 3130155.89	TW-NA-P STATION: 82+88.98 OFFSET: 138.50' R
397	N: 13927309.14 E: 3130155.71	TW-NA-P STATION: 82+88.55 OFFSET: 146.04' R
398	N: 13927296.55 E: 3130156.35	TW-NA-P STATION: 82+88.80 OFFSET: 158.64' R
399	N: 13927362.30 E: 3130367.94	TW-NA-P STATION: 85+02.39 OFFSET: 99.73' R
400	N: 13927322.15 E: 3130325.80	TW-NA-P STATION: 84+58.98 OFFSET: 138.50' R
401	N: 13927321.33 E: 3130328.31	TW-NA-P STATION: 84+61.46 OFFSET: 139.40' R
402	N: 13927313.59 E: 3130326.30	TW-NA-P STATION: 84+59.21 OFFSET: 147.07' R
403	N: 13927302.11 E: 3130326.51	TW-NA-P STATION: 84+59.04 OFFSET: 158.55' R
404	N: 13927324.69 E: 3130381.58	TW-NA-P STATION: 85+14.81 OFFSET: 137.75' R
405	N: 13927322.63 E: 3130377.24	TW-NA-P STATION: 85+10.41 OFFSET: 139.68' R
406	N: 13927309.38 E: 3130366.49	TW-NA-P STATION: 84+99.23 OFFSET: 152.57' R
407	N: 13927303.40 E: 3130366.60	TW-NA-P STATION: 84+99.15 OFFSET: 158.55' R
408	N: 13927551.23 E: 3130432.64	TW-NA-P STATION: 85+73.12 OFFSET: 87.03' L
409	N: 13927511.23 E: 3130433.07	TW-NA-P STATION: 85+72.27 OFFSET: 47.04' L
410	N: 13927551.53 E: 3130460.25	TW-NA-P STATION: 86+00.73 OFFSET: 86.44' L

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
411	N: 13927511.73 E: 3130460.68	TW-NA-P STATION: 85+99.88 OFFSET: 46.65' L
412	N: 13927506.08 E: 3130460.86	TW-NA-P STATION: 85+99.88 OFFSET: 41.00' L
413	N: 13927506.74 E: 3130481.23	TW-NA-P STATION: 86+20.26 OFFSET: 41.00' L
414	N: 13927424.78 E: 3130483.87	TW-NA-P STATION: 86+20.26 OFFSET: 41.00' R
415	N: 13927424.52 E: 3130475.59	TW-NA-P STATION: 86+11.98 OFFSET: 41.00' R
416	N: 13927404.88 E: 3130476.22	TW-NA-P STATION: 86+11.98 OFFSET: 60.64' R
417	N: 13927401.96 E: 3130477.28	TW-NA-P STATION: 86+12.94 OFFSET: 63.60' R
418	N: 13927364.36 E: 3130490.92	TW-NA-P STATION: 86+25.37 OFFSET: 101.62' R
419	N: 13927410.30 E: 3130500.27	TW-NA-P STATION: 86+36.18 OFFSET: 56.00' R
420	N: 13927370.79 E: 3130508.63	TW-NA-P STATION: 86+43.28 OFFSET: 95.76' R
421	N: 13927554.31 E: 3130716.08	TW-NA-P STATION: 88+56.51 OFFSET: 81.00' L
422	N: 13927516.32 E: 3130716.91	TW-NA-P STATION: 88+56.13 OFFSET: 43.00' L
423	N: 13927514.32 E: 3130716.94	TW-NA-P STATION: 88+56.09 OFFSET: 41.00' L
423A	N: 13927557.77 E: 3130823.74	TW-NA-P STATION: 89+64.24 OFFSET: 81.00' L
423B	N: 13927628.37 E: 3130817.23	TW-NA-P STATION: 89+59.99 OFFSET: 151.77' L
423C	N: 13927628.71 E: 3130831.34	TW-NA-P STATION: 89+74.11 OFFSET: 151.65' L
423D	N: 13927558.22 E: 3130837.66	TW-NA-P STATION: 89+78.16 OFFSET: 81.00' L
424	N: 13927438.27 E: 3130903.46	TW-NA-P STATION: 90+40.07 OFFSET: 41.00' R
425	N: 13927436.27 E: 3130903.53	TW-NA-P STATION: 90+40.07 OFFSET: 43.00' R
426	N: 13927398.32 E: 3130905.49	TW-NA-P STATION: 90+40.81 OFFSET: 81.00' R
427	N: 13927445.09 E: 3131115.61	TW-NA-P STATION: 92+52.33 OFFSET: 41.00' R
428	N: 13927443.10 E: 3131115.67	TW-NA-P STATION: 92+52.33 OFFSET: 43.00' R
429	N: 13927405.09 E: 3131116.15	TW-NA-P STATION: 92+51.59 OFFSET: 81.00' R
430	N: 13927568.04 E: 3131143.00	TW-NA-P STATION: 92+83.66 OFFSET: 81.00' L
431	N: 13927530.08 E: 3131144.93	TW-NA-P STATION: 92+84.37 OFFSET: 43.00' L
432	N: 13927528.08 E: 3131144.99	TW-NA-P STATION: 92+84.37 OFFSET: 41.00' L
433	N: 13927590.62 E: 3131476.69	TW-NA-P STATION: 96+17.90 OFFSET: 92.85' L
434	N: 13927594.36 E: 3131531.95	TW-NA-P STATION: 96+73.25 OFFSET: 94.81' L
435	N: 13927551.02 E: 3131479.37	TW-NA-P STATION: 96+19.30 OFFSET: 53.18' L
436	N: 13927554.77 E: 3131539.34	TW-NA-P STATION: 96+79.36 OFFSET: 55.00' L

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
437	N: 13927538.85 E: 3131479.82	TW-NA-P STATION: 96+19.37 OFFSET: 41.00' L
438	N: 13927538.88 E: 3131480.72	TW-NA-P STATION: 96+20.26 OFFSET: 41.00' L
439	N: 13927456.92 E: 3131483.35	TW-NA-P STATION: 96+20.26 OFFSET: 41.00' R
440	N: 13927456.25 E: 3131463.93	TW-NA-P STATION: 96+00.83 OFFSET: 41.00' R
441	N: 13927443.09 E: 3131464.36	TW-NA-P STATION: 96+00.83 OFFSET: 54.21' R
442	N: 13927403.36 E: 3131464.16	TW-NA-P STATION: 95+99.36 OFFSET: 93.91' R
443	N: 13927443.09 E: 3131519.89	TW-NA-P STATION: 96+56.34 OFFSET: 56.00' R
444	N: 13927403.12 E: 3131514.10	TW-NA-P STATION: 96+49.27 OFFSET: 95.76' R
445	N: 13928026.18 E: 3131574.38	TW-NP-P STATION: 108+55.08 OFFSET: 189.74' L
446	N: 13928033.48 E: 3131801.10	TW-NP-P STATION: 108+55.04 OFFSET: 37.10' R
447	N: 13928001.20 E: 3131575.19	TW-NP-P STATION: 108+30.08 OFFSET: 189.74' L
448	N: 13928003.71 E: 3131653.22	TW-NP-P STATION: 108+30.07 OFFSET: 111.67' L
449	N: 13927998.89 E: 3131801.75	TW-NP-P STATION: 108+20.45 OFFSET: 36.63' R
450	N: 13927991.48 E: 3131572.89	TW-NP-P STATION: 108+20.44 OFFSET: 192.35' L
451	N: 13927991.55 E: 3131575.51	TW-NP-P STATION: 108+20.43 OFFSET: 189.73' L
452	N: 13927983.69 E: 3131605.17	TW-NP-P STATION: 108+11.61 OFFSET: 160.34' L
453	N: 13927943.18 E: 3131648.37	TW-NP-P STATION: 107+69.73 OFFSET: 118.47' L
454	N: 13927955.06 E: 3131686.57	TW-NP-P STATION: 107+80.36 OFFSET: 79.91' L
455	N: 13927914.76 E: 3131657.21	TW-NP-P STATION: 107+41.04 OFFSET: 110.56' L
456	N: 13927922.29 E: 3131696.76	TW-NP-P STATION: 107+47.28 OFFSET: 70.78' L
457	N: 13927928.58 E: 3131804.82	TW-NP-P STATION: 107+50.08 OFFSET: 37.42' R
458	N: 13927823.14 E: 3131664.04	TW-NP-P STATION: 106+49.24 OFFSET: 106.68' L
459	N: 13927826.11 E: 3131703.93	TW-NP-P STATION: 106+50.93 OFFSET: 66.72' L
460	N: 13927829.52 E: 3131807.28	TW-NP-P STATION: 106+50.99 OFFSET: 36.68' R
461	N: 13927815.82 E: 3131664.59	TW-NP-P STATION: 106+41.91 OFFSET: 106.38' L
462	N: 13927817.90 E: 3131704.55	TW-NP-P STATION: 106+42.70 OFFSET: 66.37' L
463	N: 13927809.31 E: 3131807.82	TW-NP-P STATION: 106+30.77 OFFSET: 36.56' R
464	N: 13927806.28 E: 3131810.88	TW-NP-P STATION: 106+27.64 OFFSET: 39.53' R
465	N: 13927803.09 E: 3131808.01	TW-NP-P STATION: 106+24.55 OFFSET: 36.55' R
466	N: 13927707.06 E: 3131667.81	TW-NP-P STATION: 105+33.10 OFFSET: 106.68' L

GEOMETRY POINTS TABLE		
POINT #	NORTHING/EASTING	STATION/OFFSET
467	N: 13927702.88 E: 3131707.95	TW-NA-P STATION: 98+52.65 OFFSET: 197.62' L
468	N: 13927630.87 E: 3131649.41	TW-NA-P STATION: 97+91.83 OFFSET: 127.52' L
469	N: 13927599.41 E: 3131682.97	TW-NA-P STATION: 98+24.36 OFFSET: 95.00' L
470	N: 13927403.54 E: 3131655.94	TW-NA-P STATION: 97+91.05 OFFSET: 99.90' R
471	N: 13927365.13 E: 3131644.78	TW-NA-P STATION: 97+78.65 OFFSET: 137.93' R
472	N: 13927351.27 E: 3131660.65	TW-NA-P STATION: 97+94.07 OFFSET: 152.30' R
473	N: 13927344.17 E: 3131660.88	TW-NA-P STATION: 97+94.08 OFFSET: 159.39' R
474	N: 13927366.72 E: 3131697.55	TW-NA-P STATION: 98+31.45 OFFSET: 138.03' R
475	N: 13927367.51 E: 3131699.39	TW-NA-P STATION: 98+33.31 OFFSET: 137.31' R
476	N: 13927357.85 E: 3131700.61	TW-NA-P STATION: 98+34.22 OFFSET: 147.00' R
477	N: 13927345.46 E: 3131701.01	TW-NA-P STATION: 98+34.23 OFFSET: 159.39' R
478	N: 13927371.42 E: 3131821.07	TW-NA-P STATION: 99+55.05 OFFSET: 137.31' R
479	N: 13927349.53 E: 3131822.07	TW-NA-P STATION: 99+55.35 OFFSET: 159.22' R

ISSUED FOR BID	
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	NTS
DATE:	JULY 27, 2018







1225 North Loop West  
 Suite 320  
 Houston, Texas 77008  
 (832) 494-3800  
 Firm Registration No.  
 F-10161

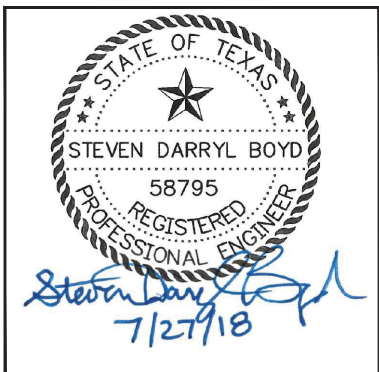
REVISIONS		
NO.	DESCRIPTION	DATE

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**TAXIWAY NA CENTERLINE  
 PROFILE KEY PLAN**

ISSUED FOR BID

PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018

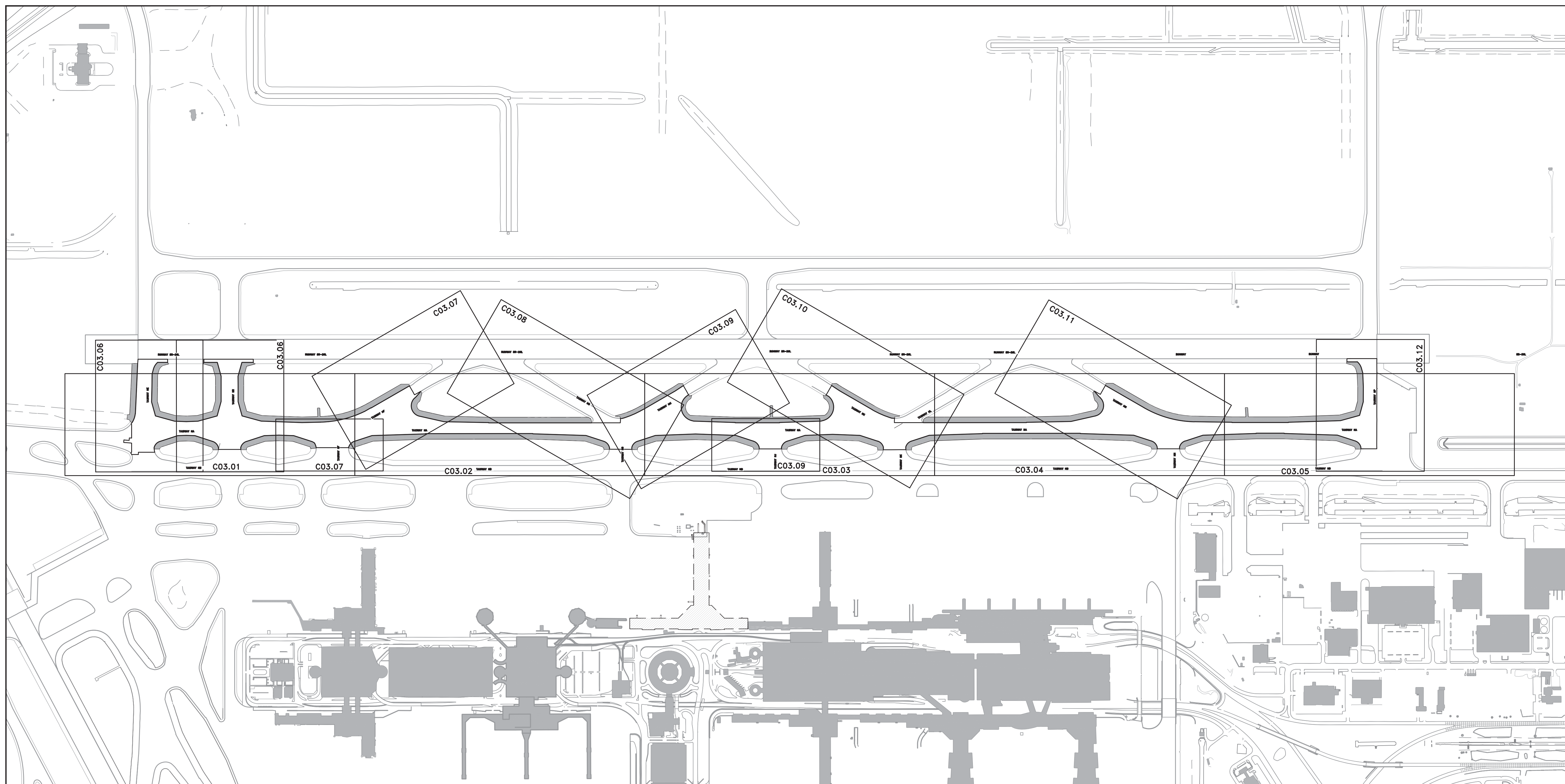
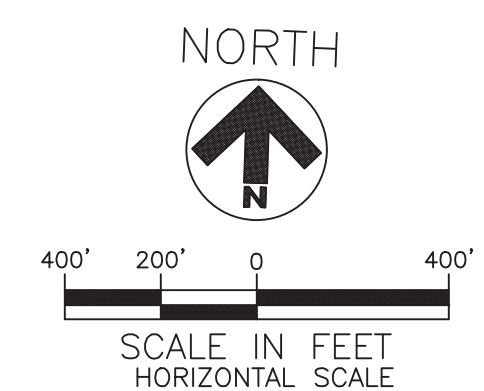
NOTE: PHASES 2, 3, 4, AND 7  
 CONSTRUCTED UNDER PN 675



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C03.00





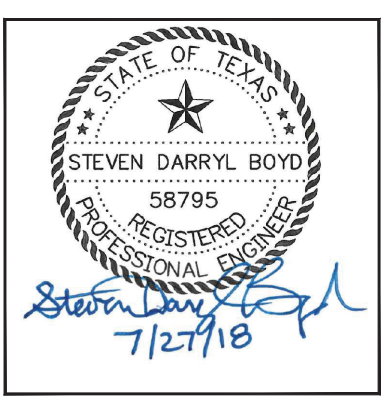


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REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**TAXIWAY NA CENTERLINE  
 PROFILE (1 OF 5)**

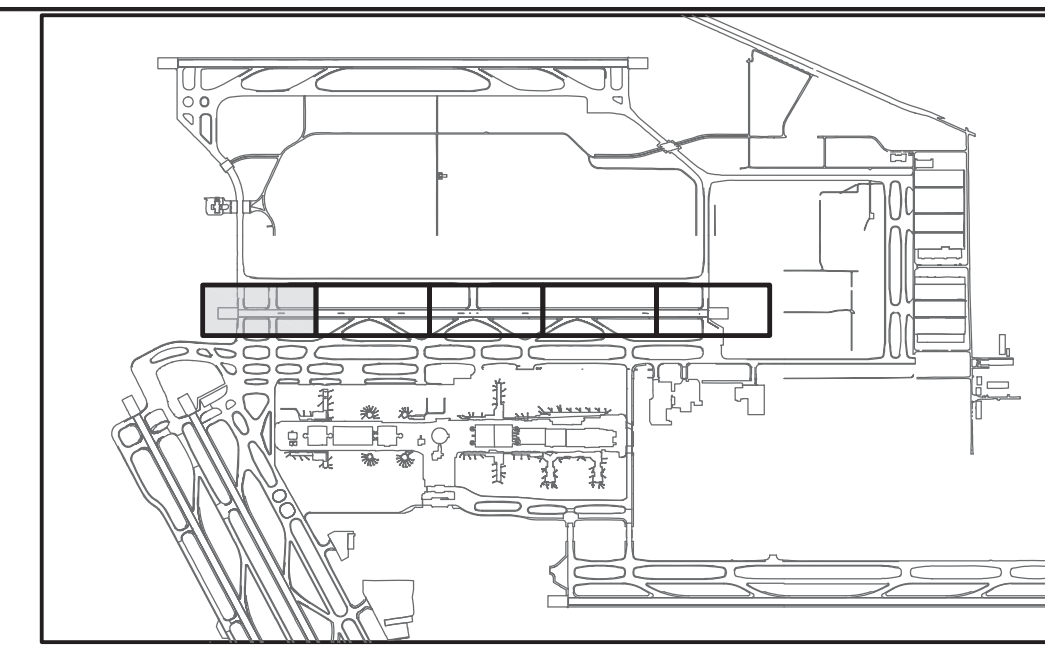
ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Palmer* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**C03.01**

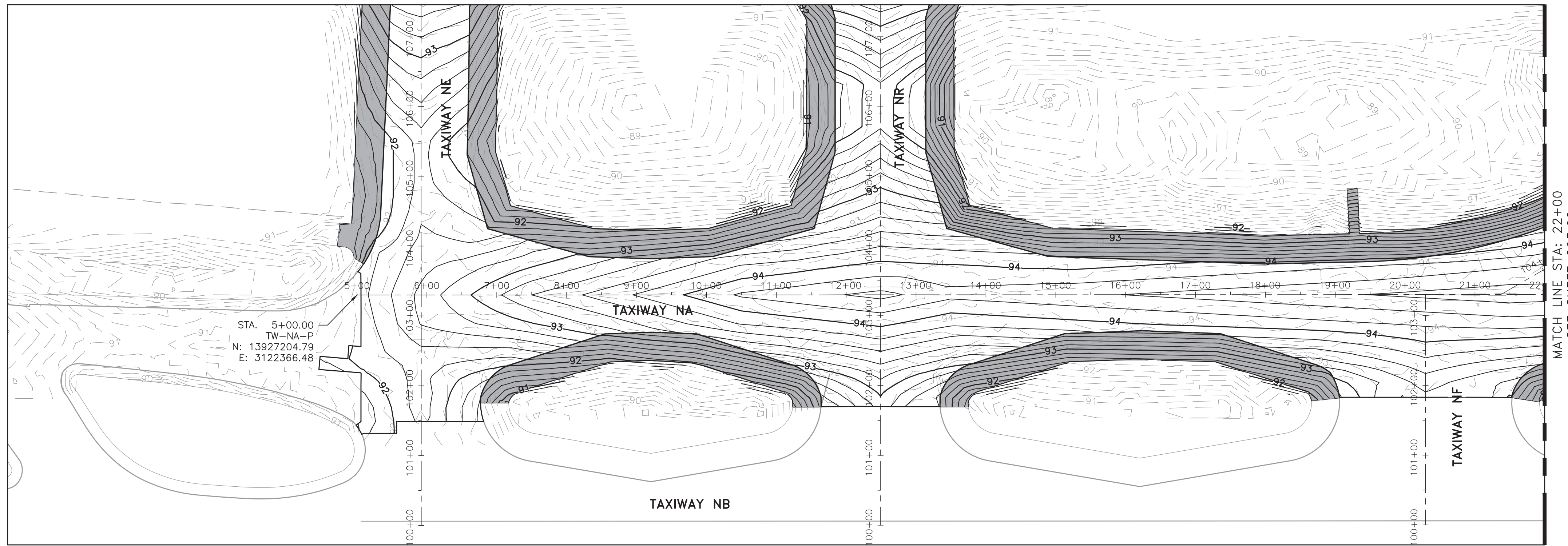


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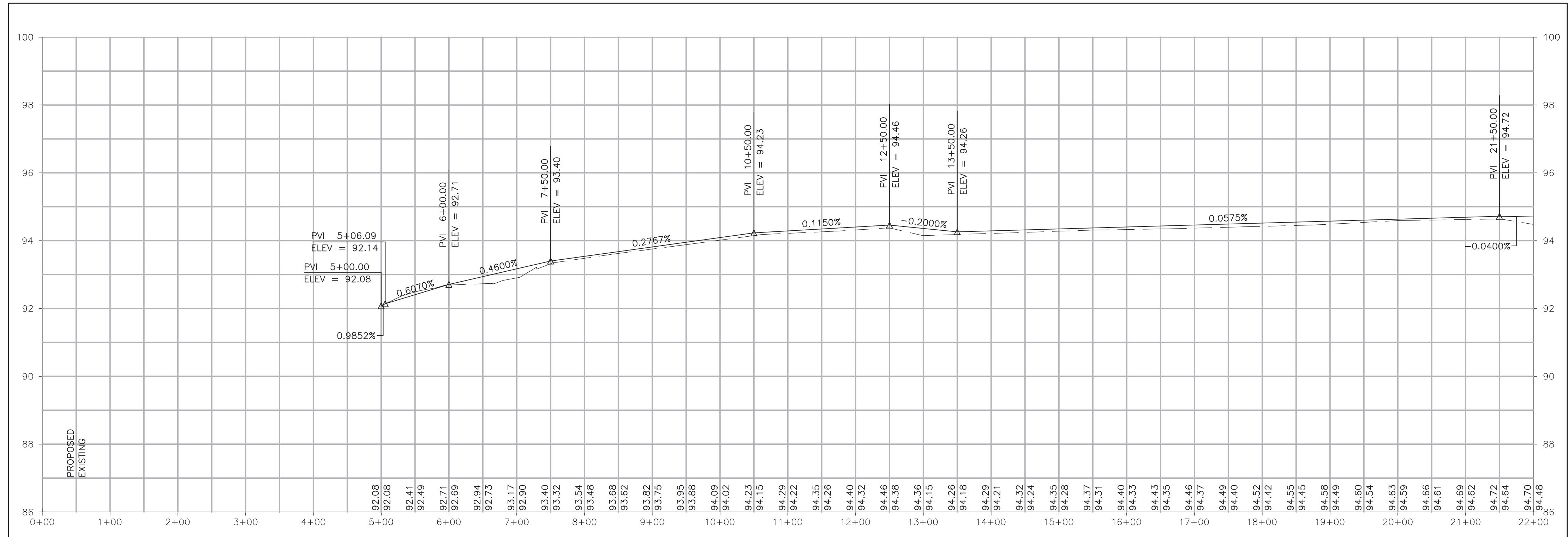
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- EXISTING CONTOUR
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

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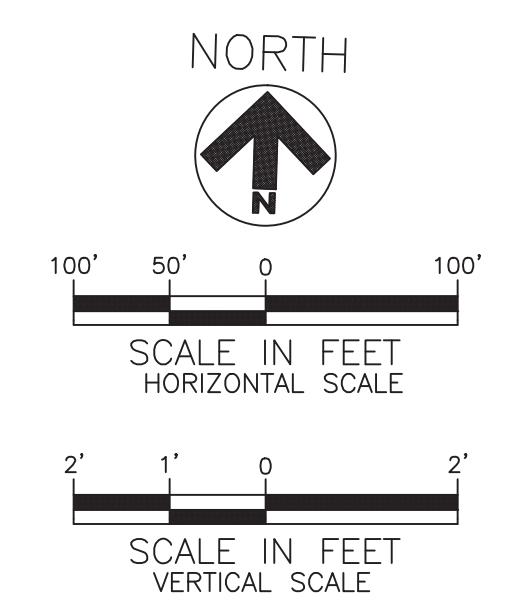
- DEPTH OF EXISTING UTILITIES ARE UNKNOWN. CONTRACTOR TO VERIFY DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION OPERATIONS.



**PLAN TAXIWAY NA**



**PROFILE TAXIWAY NA**







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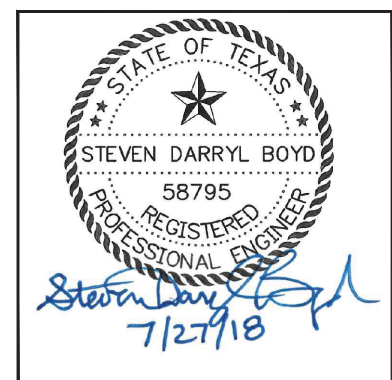
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**TAXIWAY NA CENTERLINE  
 PROFILE (2 OF 5)**

ISSUED FOR BID

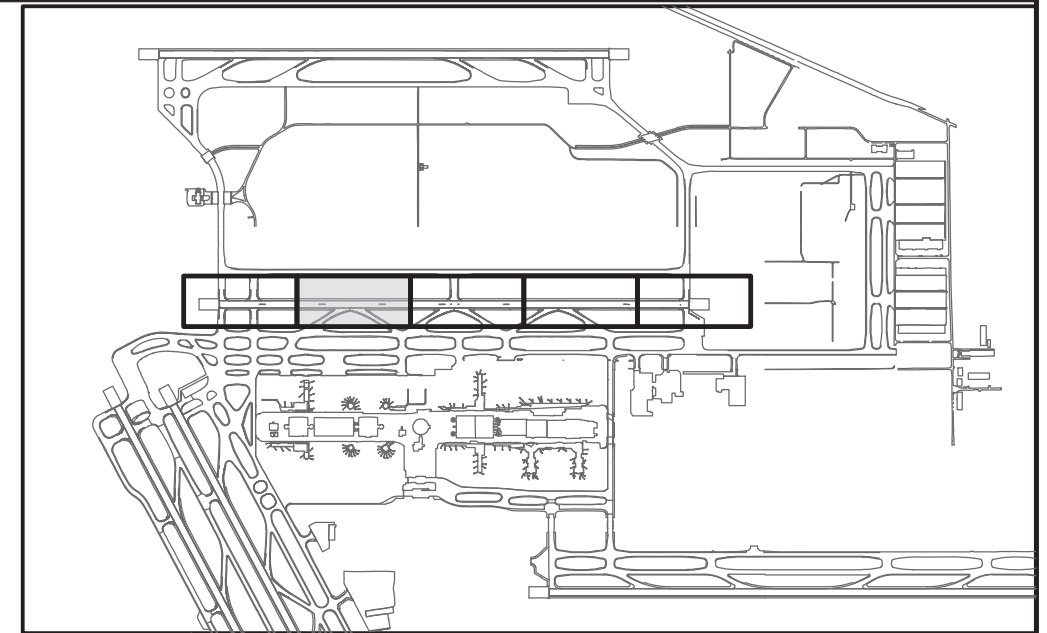
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DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Denaj Rahal* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**C03.02**

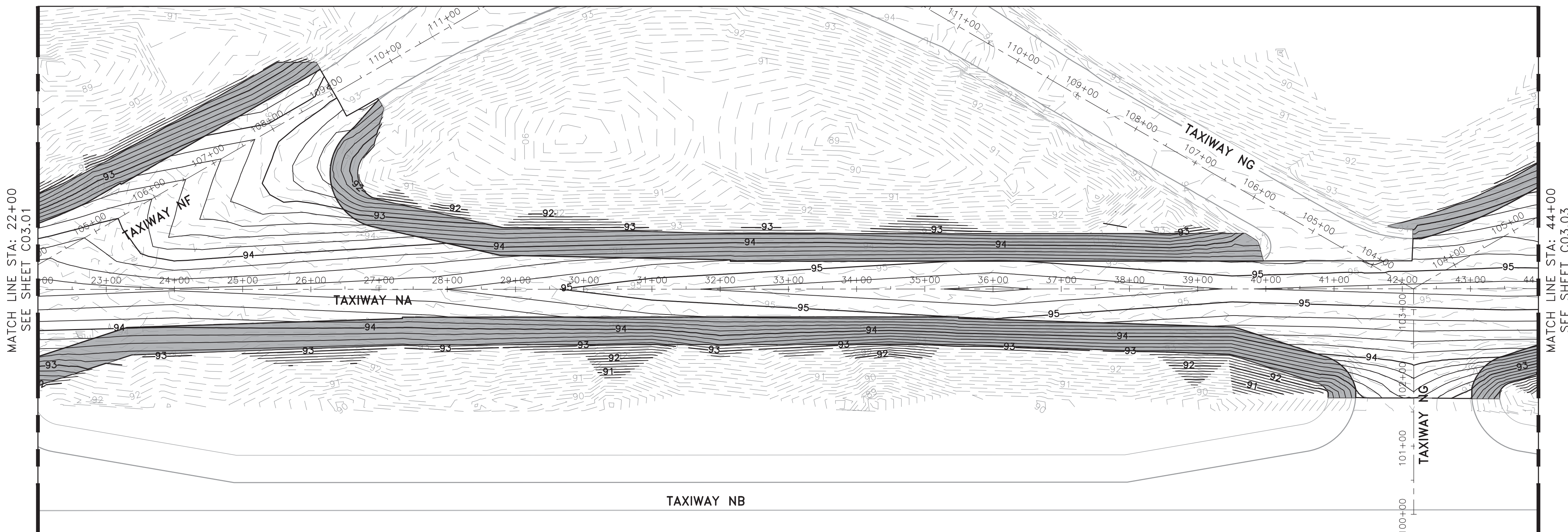


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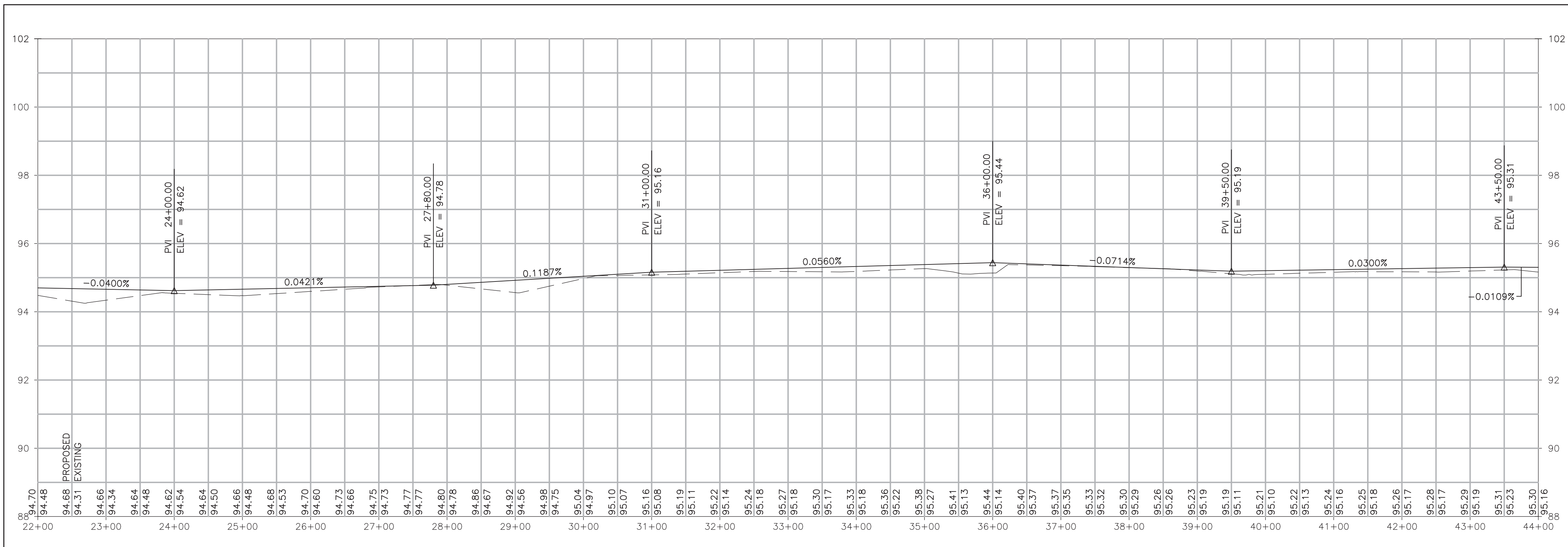
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- EXISTING CONTOUR
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

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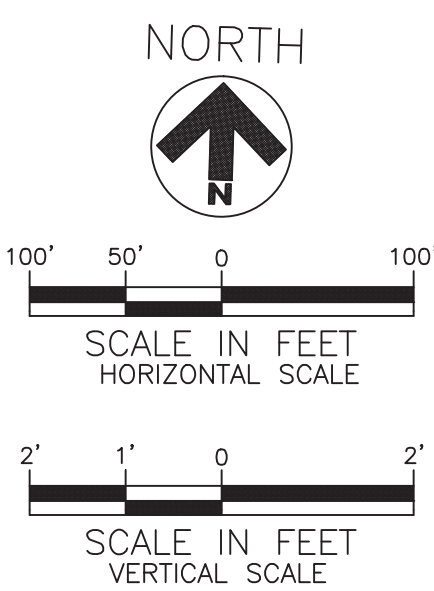
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**PLAN TAXIWAY NA**



**PROFILE TAXIWAY NA**







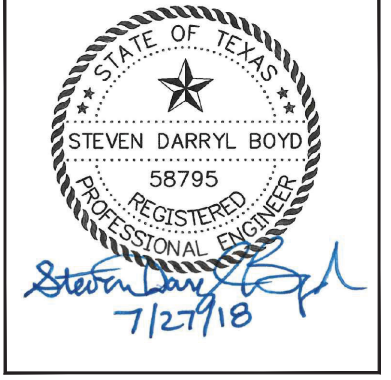
1225 North Loop West  
 Suite 320  
 Houston, Texas 77008  
 (832) 494-3800  
 Firm Registration No. F-10161

REVISIONS  
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NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**TAXIWAY NA CENTERLINE  
 PROFILE (3 OF 5)**

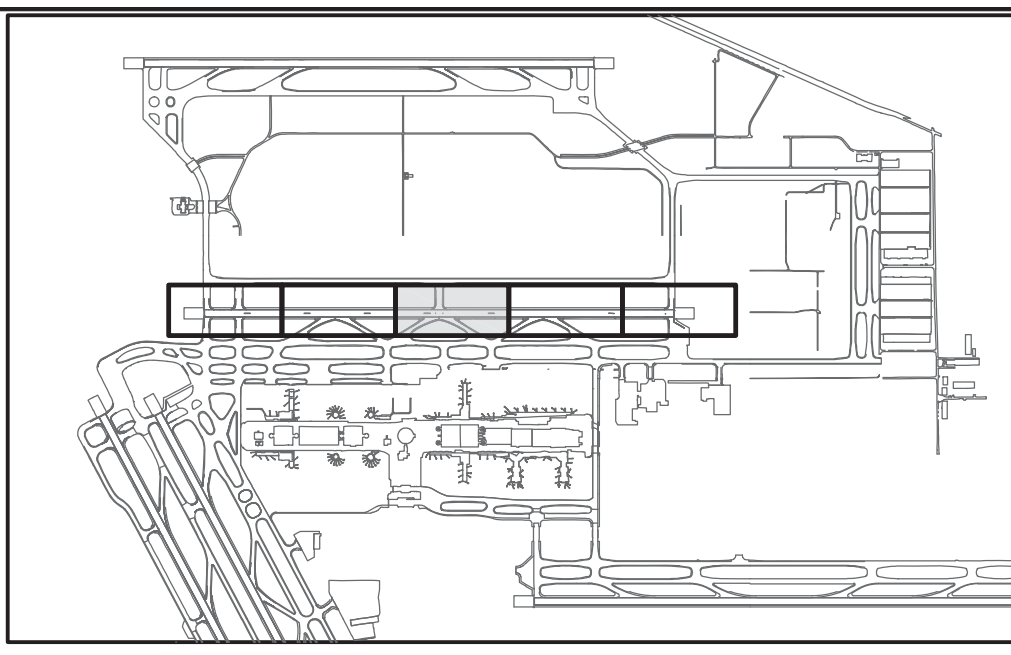
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 DESIGNER: TM  
 DRAWN BY: KE  
 CHECKED BY: DB  
 SCALE: AS INDICATED  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**C03.03**

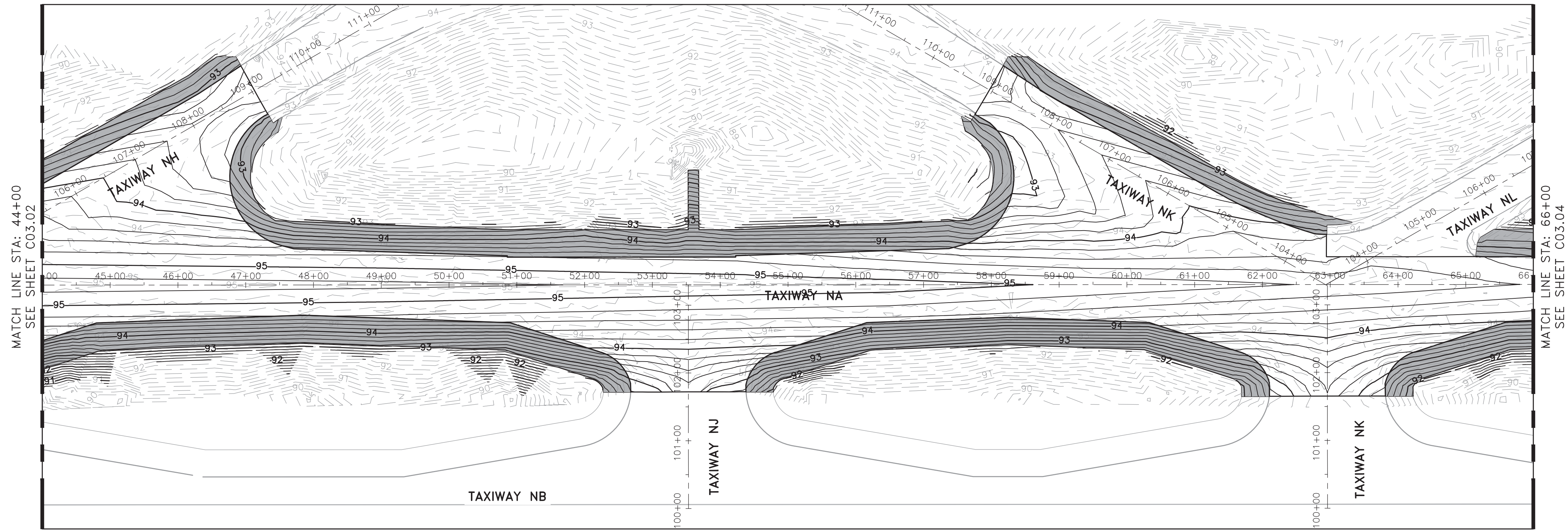


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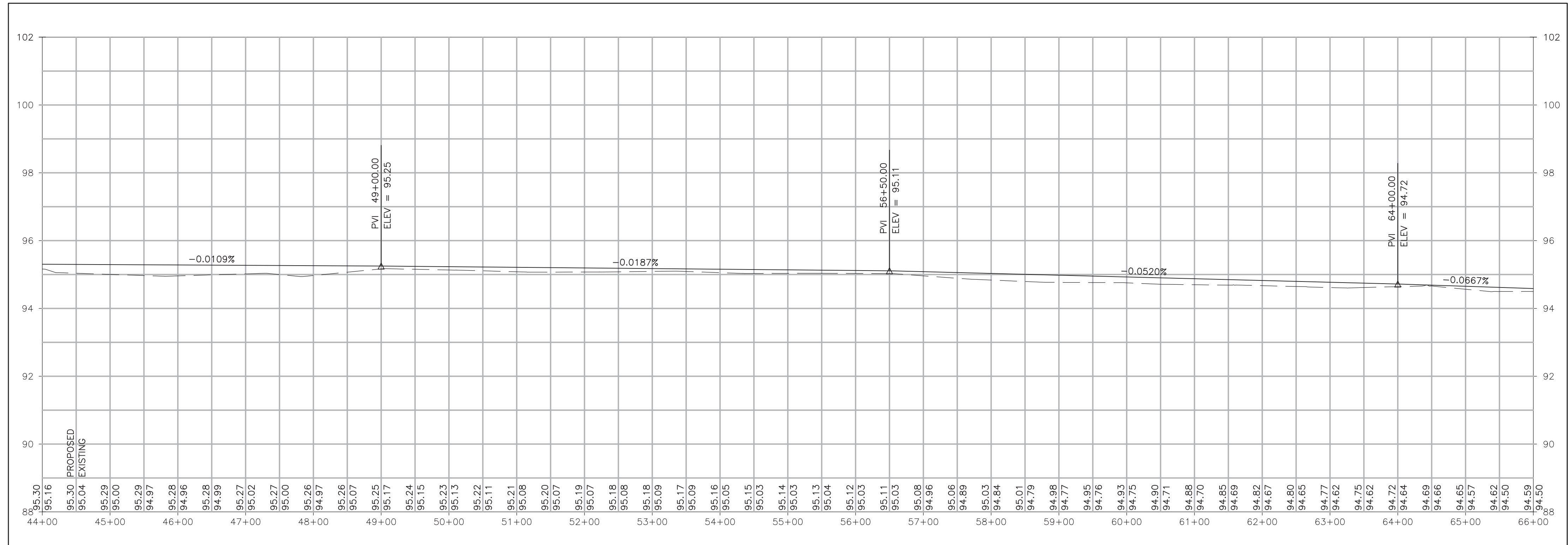
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- EXISTING CONTOUR
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

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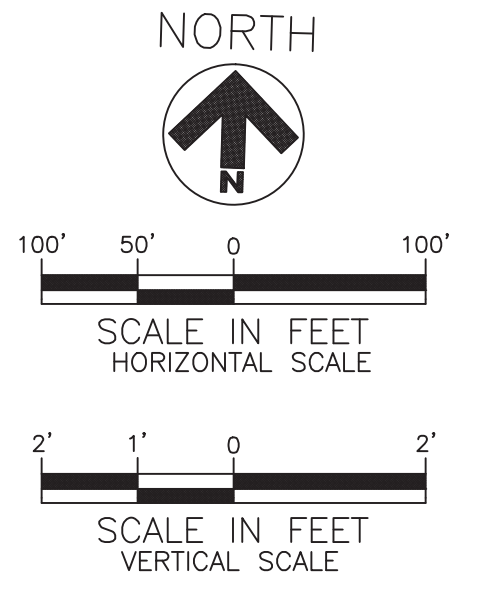
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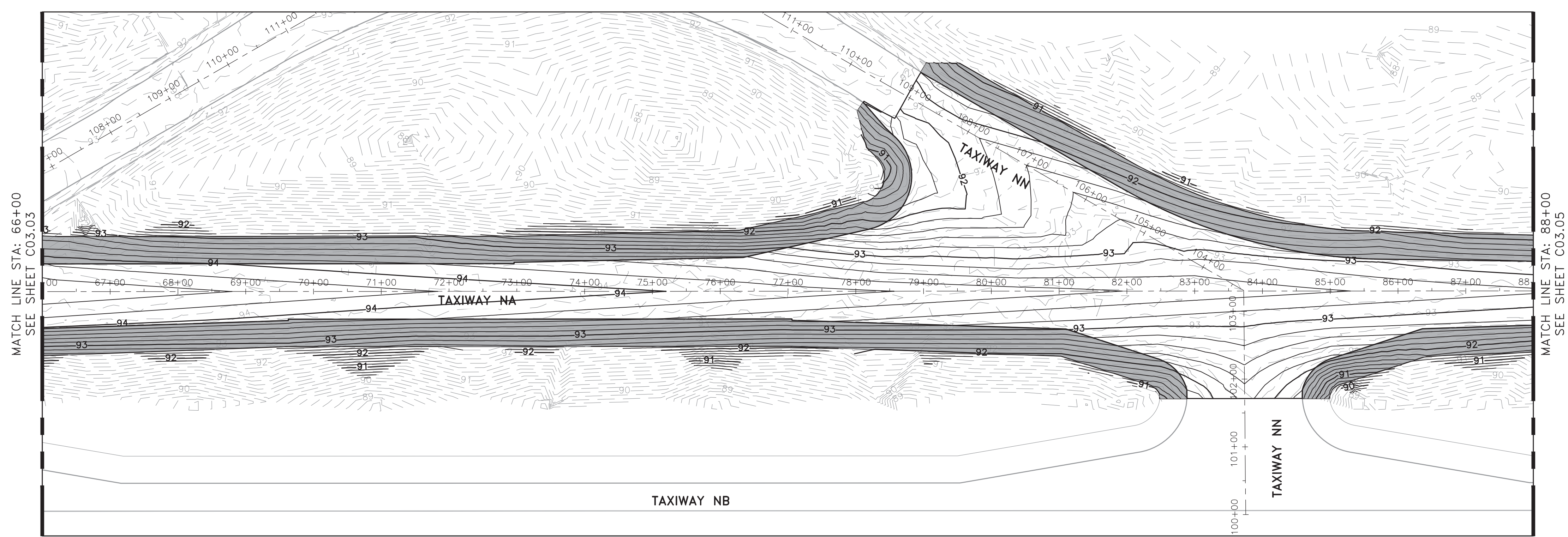
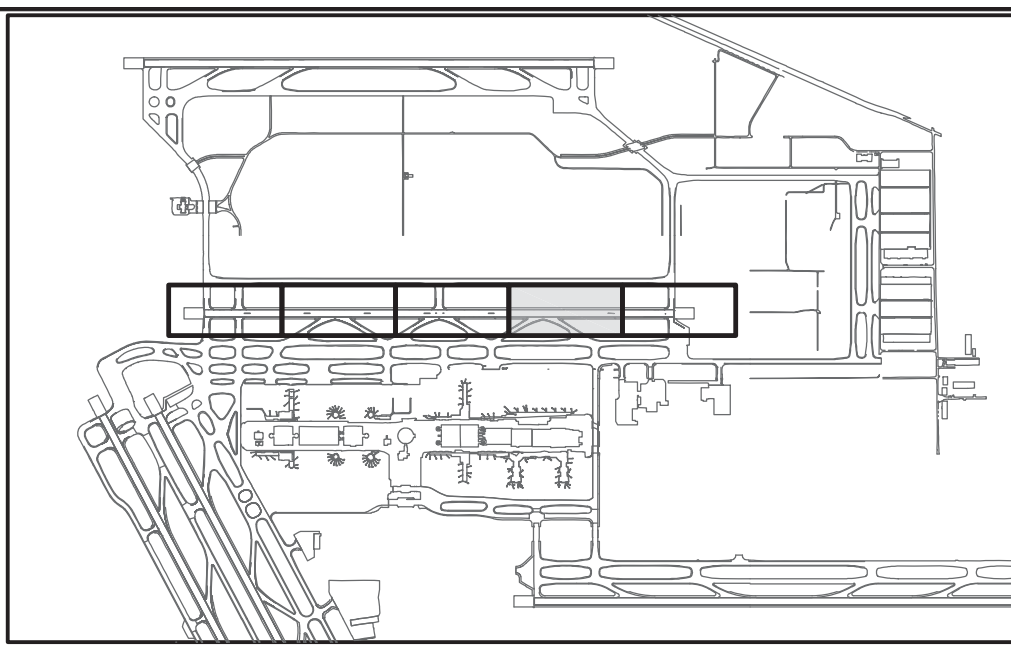
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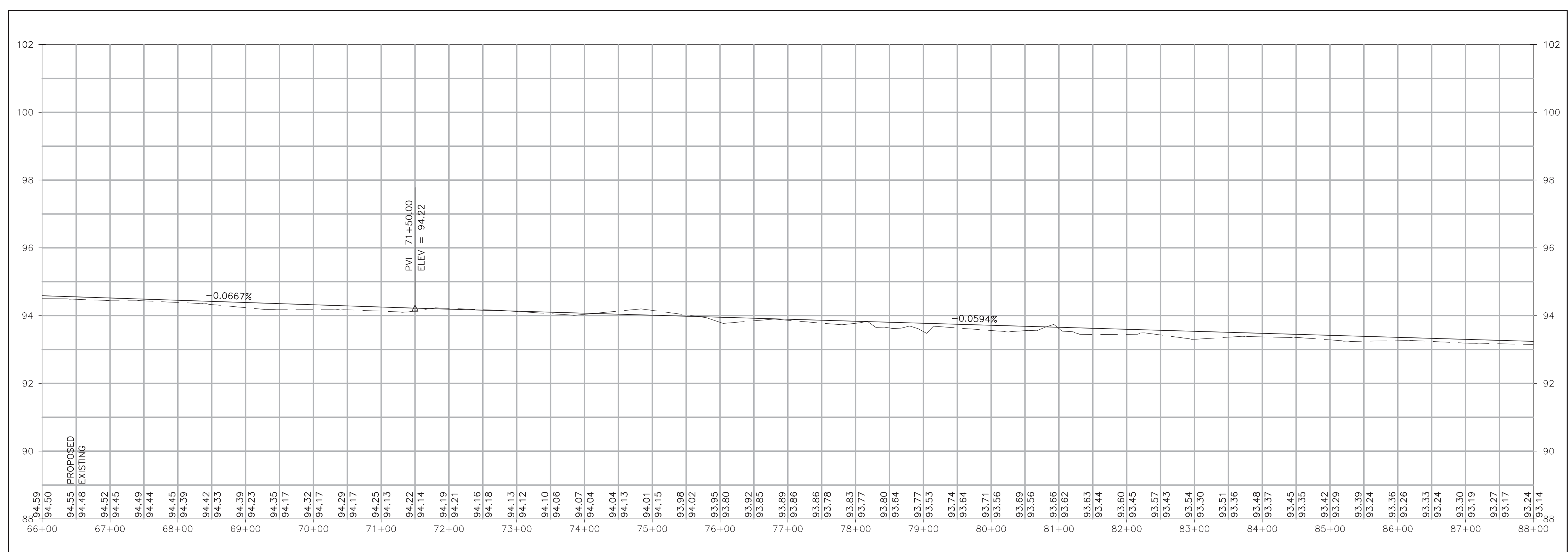
**PROFILE TAXIWAY NA**







PLAN TAXIWAY NA



PROFILE TAXIWAY NA

LEGEND

- NEW TAXIWAY SHOULDER PAVEMENT
- EXISTING CONTOUR
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

NOTES:

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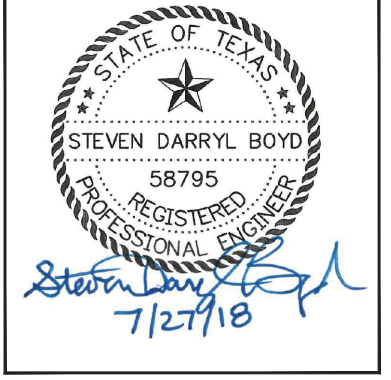
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**TAXIWAY NA CENTERLINE  
 PROFILE (4 OF 5)**

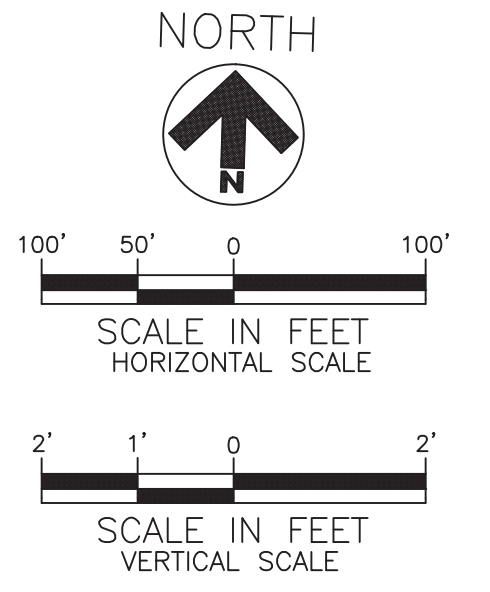
ISSUED FOR BID

PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Palmer* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

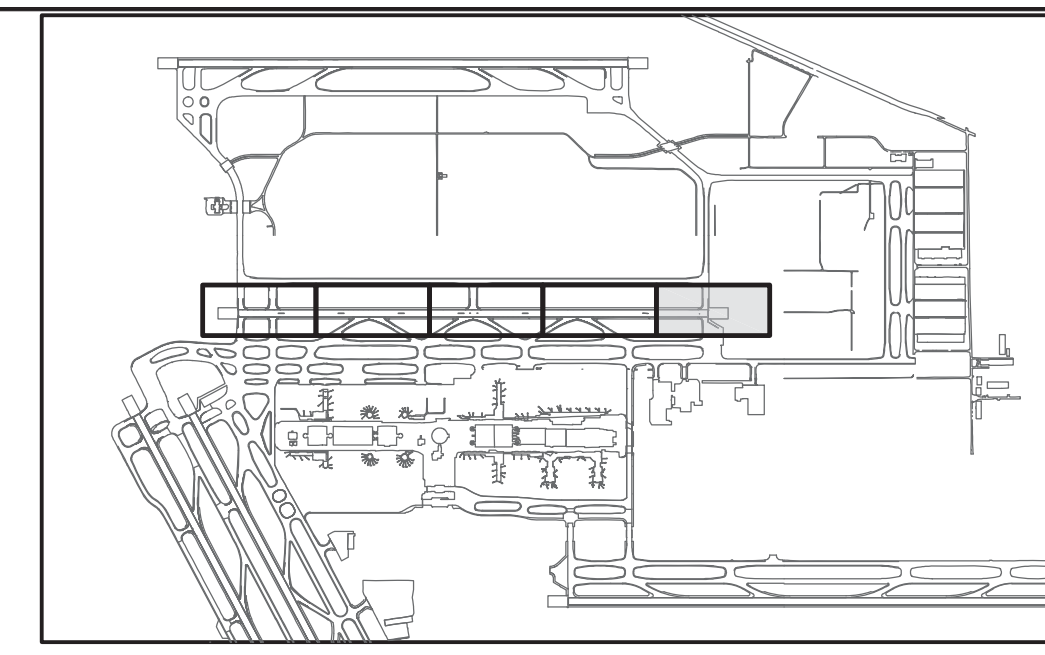






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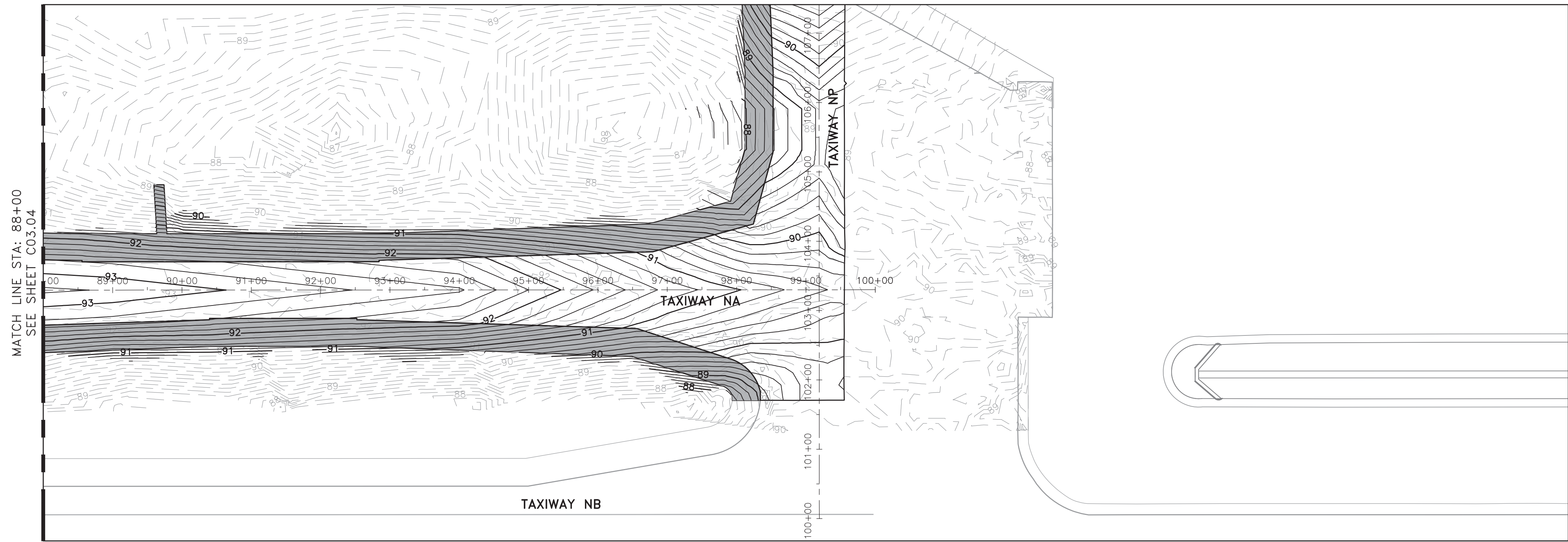


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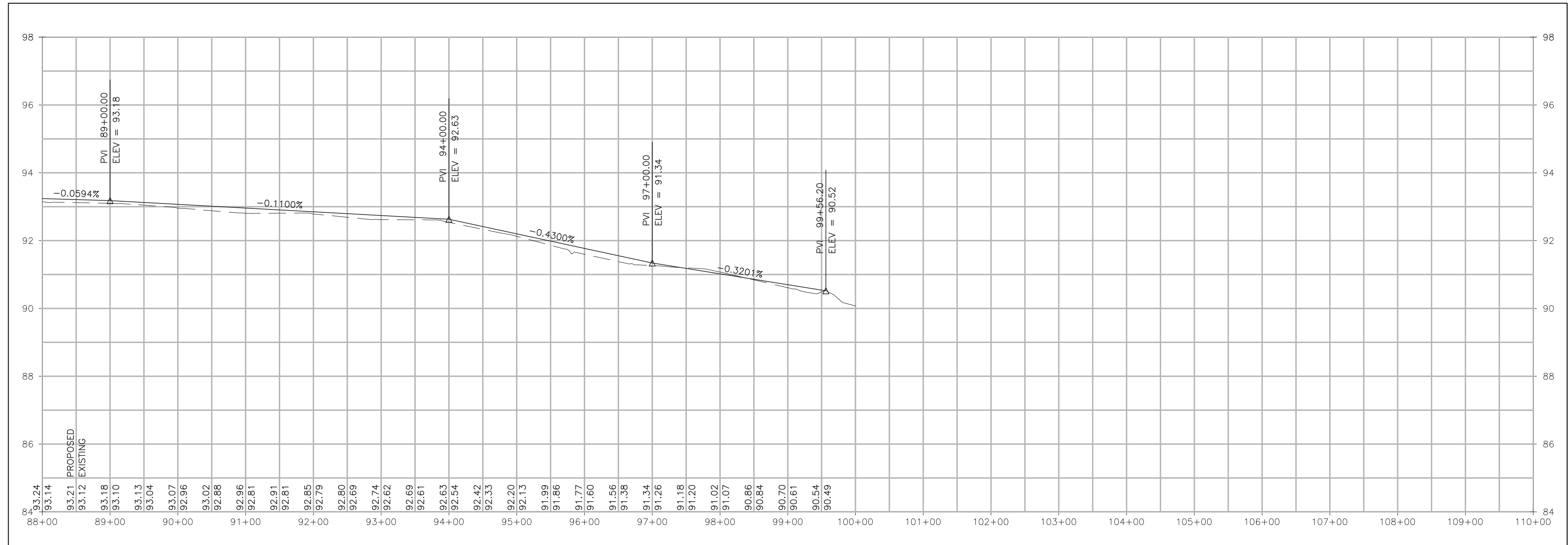
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- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

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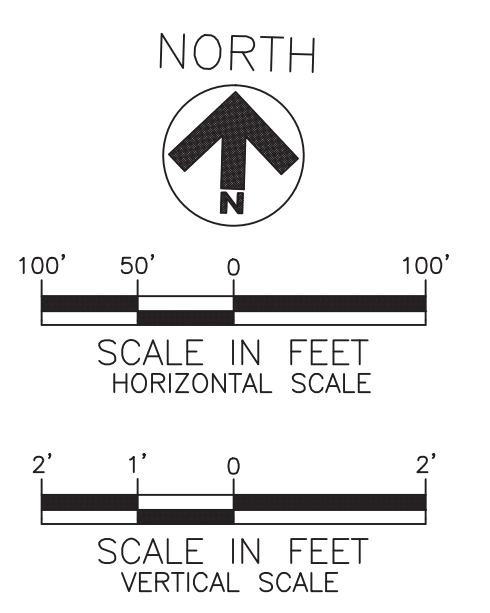
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**PLAN TAXIWAY NA**

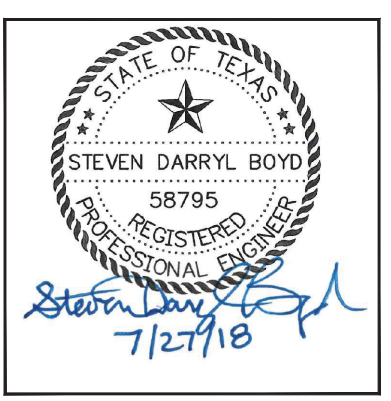


**PROFILE TAXIWAY NA**



RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**TAXIWAY NA CENTERLINE  
 PROFILE (5 OF 5)**

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Palmer* DATE: JULY 27, 2018  
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PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
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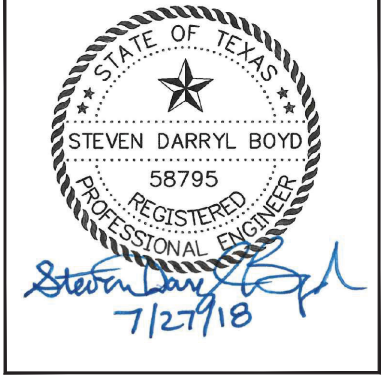
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RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

# TAXIWAY CONNECTOR CENTERLINE PROFILES (1 OF 7)

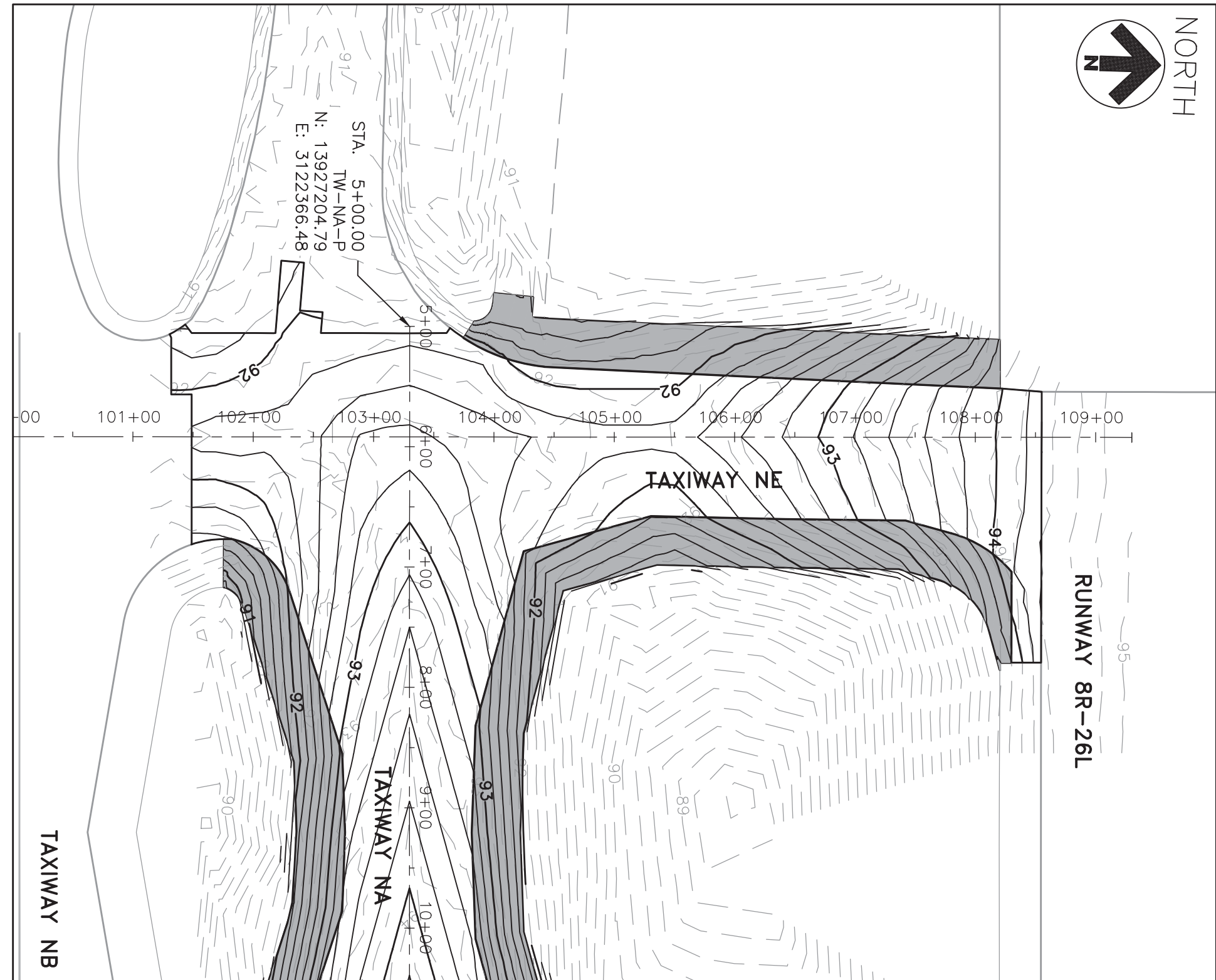
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SCALE:	AS INDICATED
DATE:	JULY 27, 2018



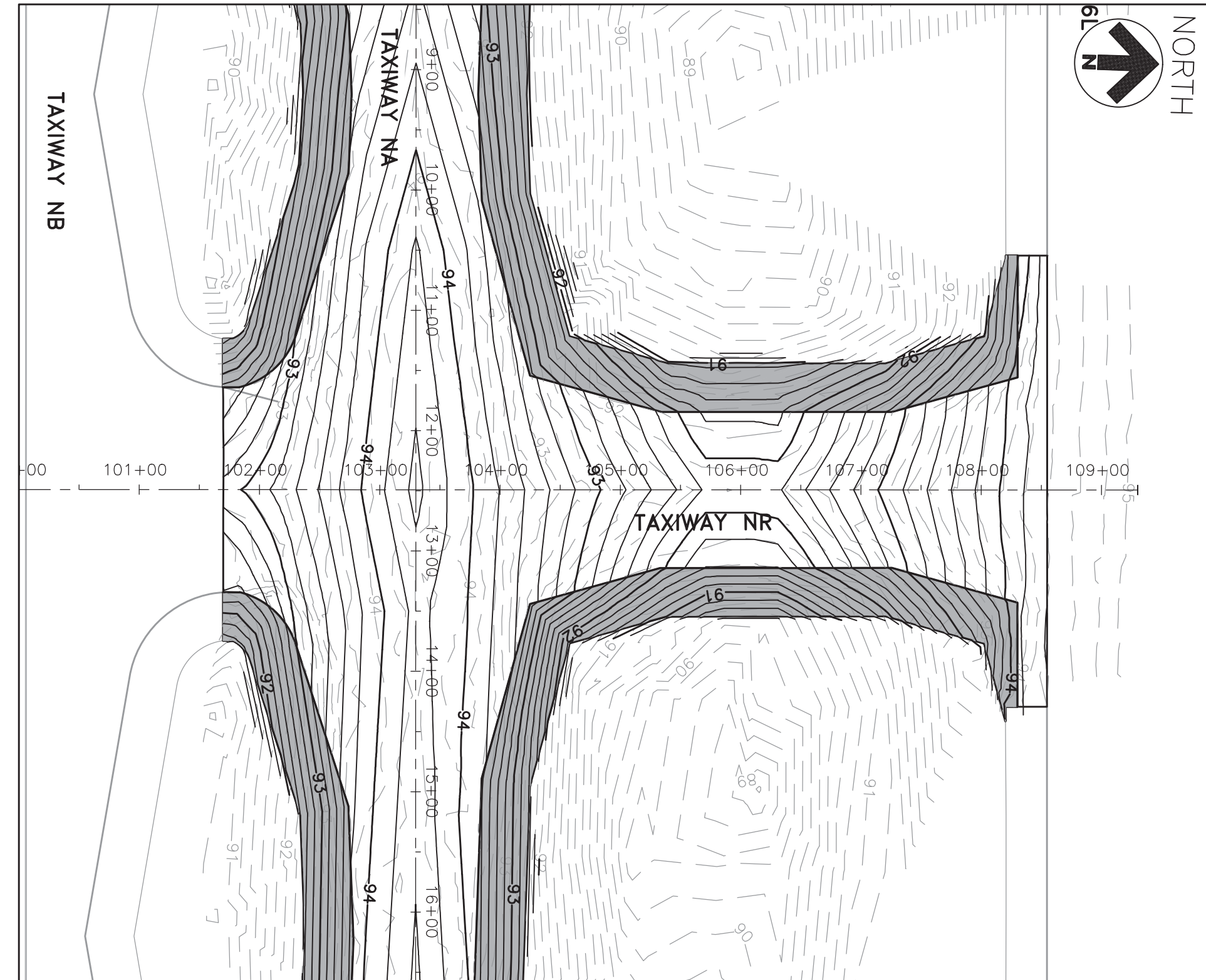
DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Rahal</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C03.06



TAXIWAY NE - PLAN



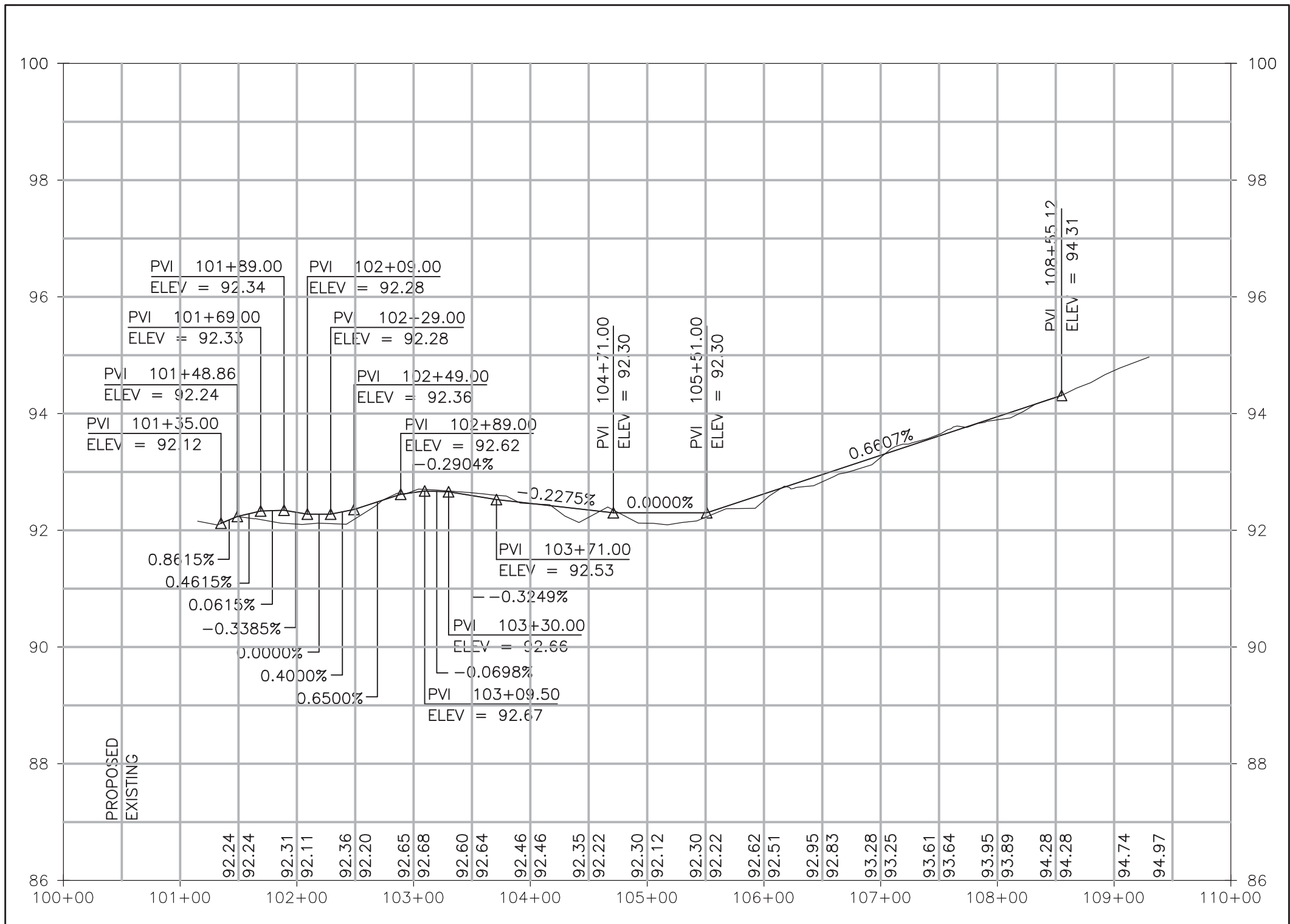
TAXIWAY NR - PLAN

LEGEND

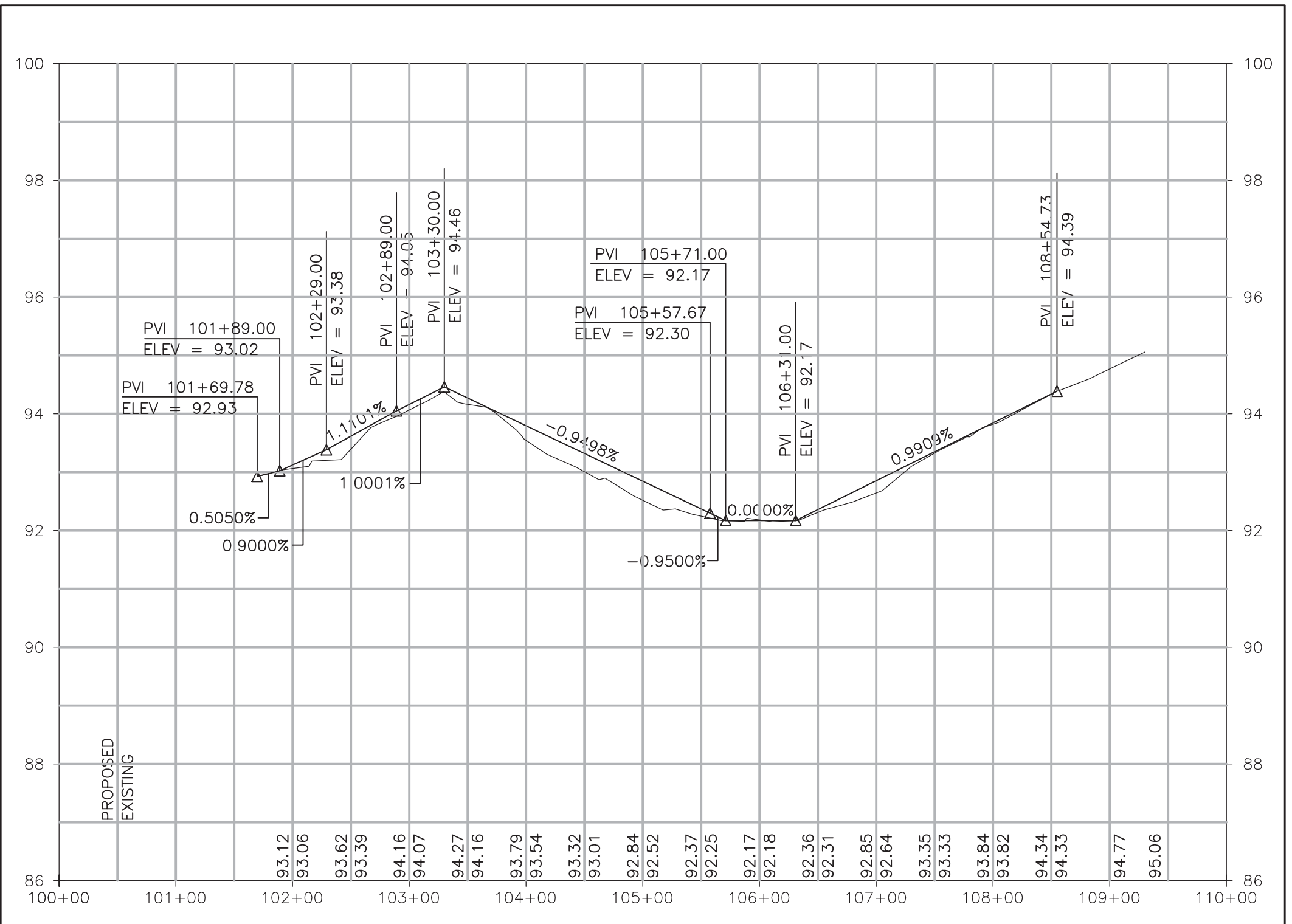
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- EXISTING CONTOUR
- 91 NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

NOTES:

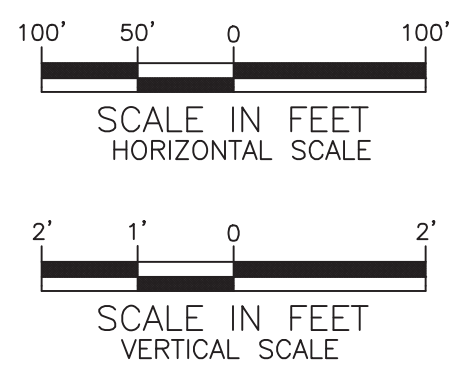
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TAXIWAY NE - PROFILE



TAXIWAY NR - PROFILE





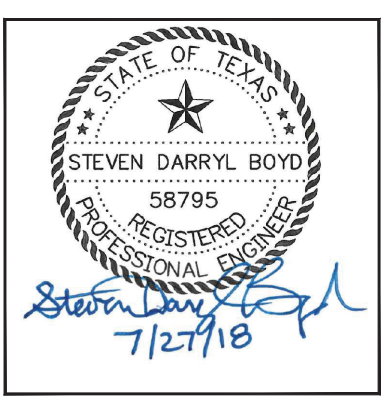


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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**TAXIWAY CONNECTOR**  
**CENTERLINE PROFILES (2 OF 7)**

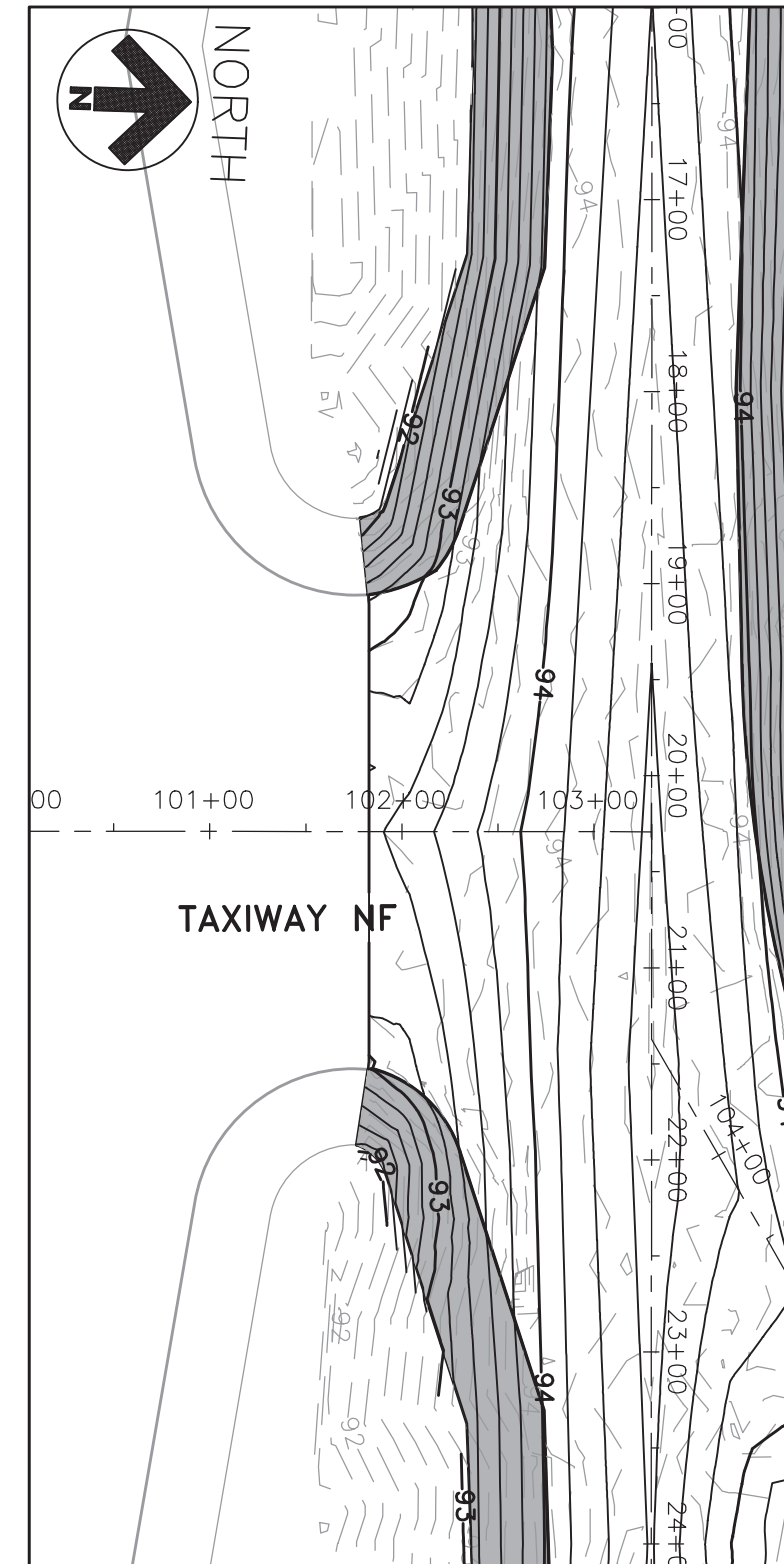
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DESIGNER:	TM
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SCALE:	AS INDICATED
DATE:	JULY 27, 2018



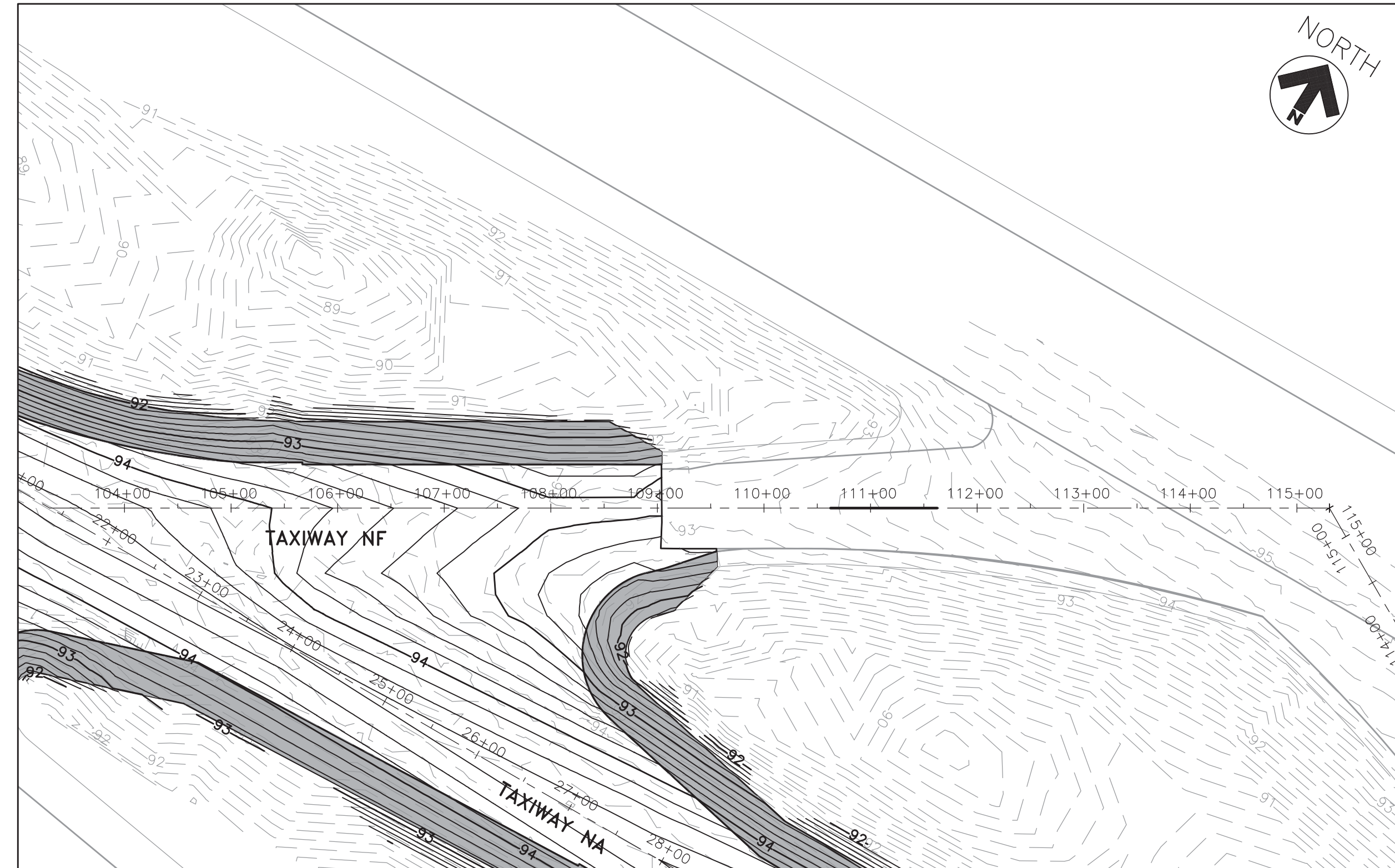
DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Palmer* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C03.07



TAXIWAY NF - PLAN



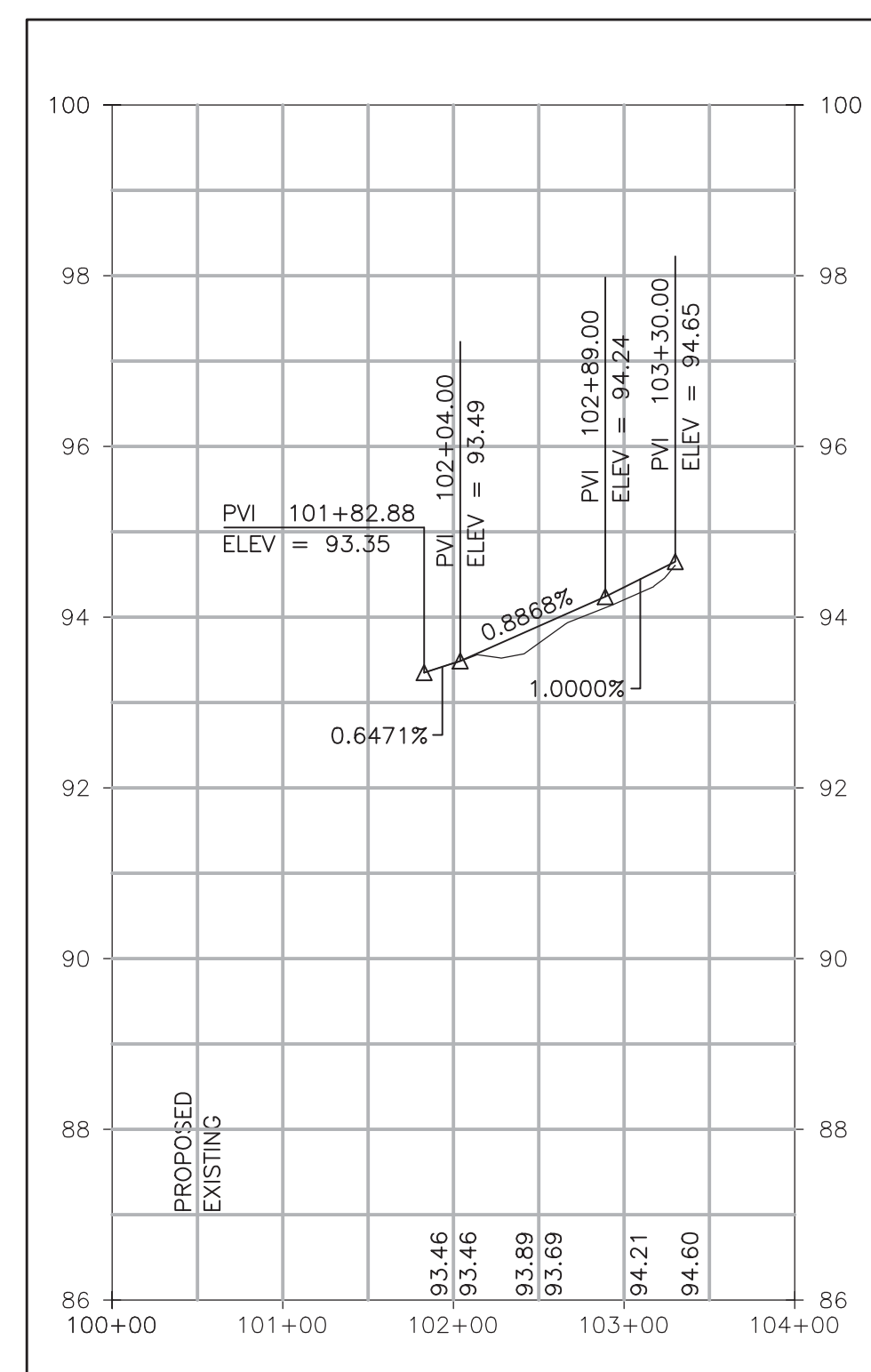
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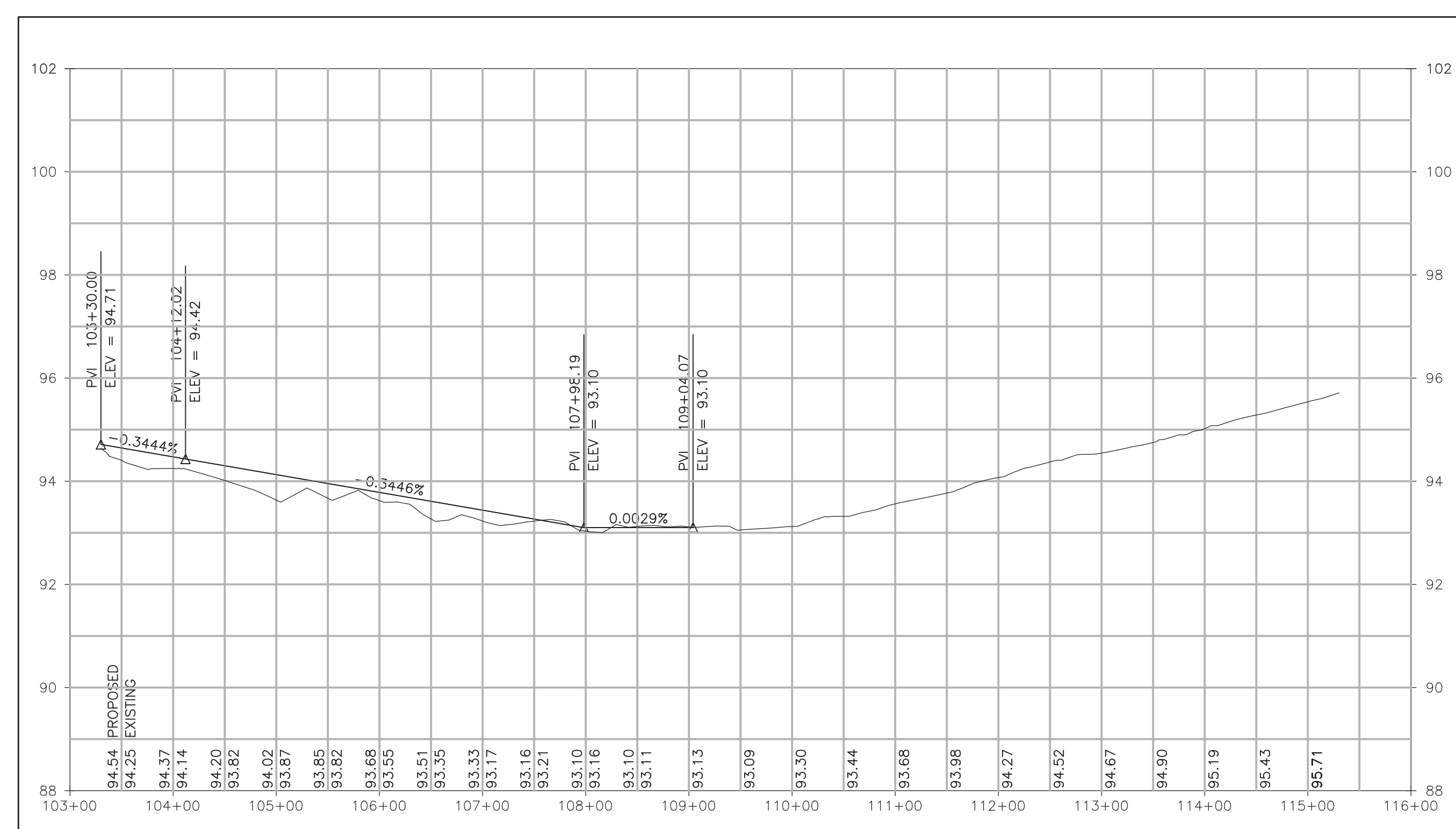
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- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

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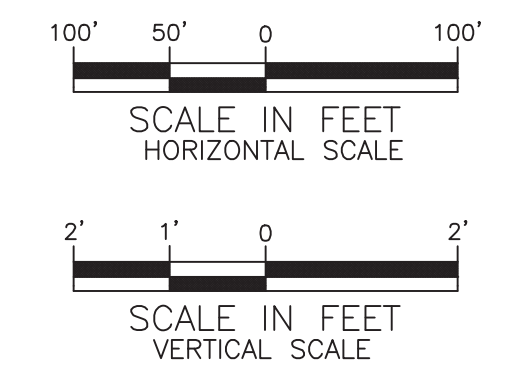
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TAXIWAY NF - PROFILE



TAXIWAY NF - PROFILE







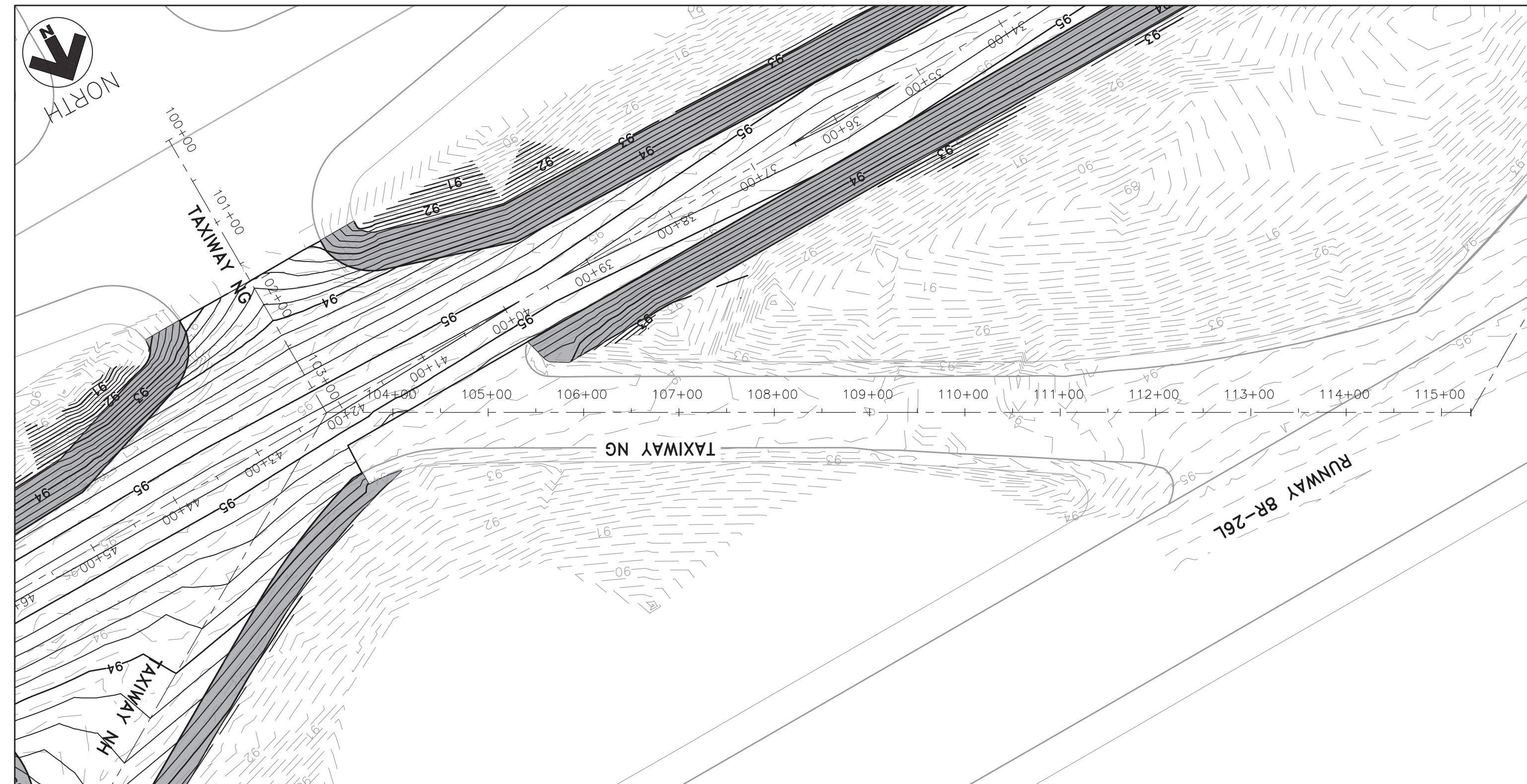
HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS



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TAXIWAY NG - PLAN

LEGEND

- NEW TAXIWAY SHOULDER PAVEMENT
- EXISTING CONTOUR
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

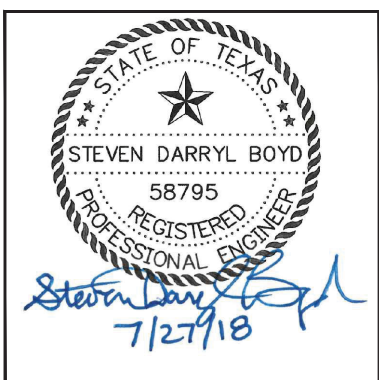
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RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

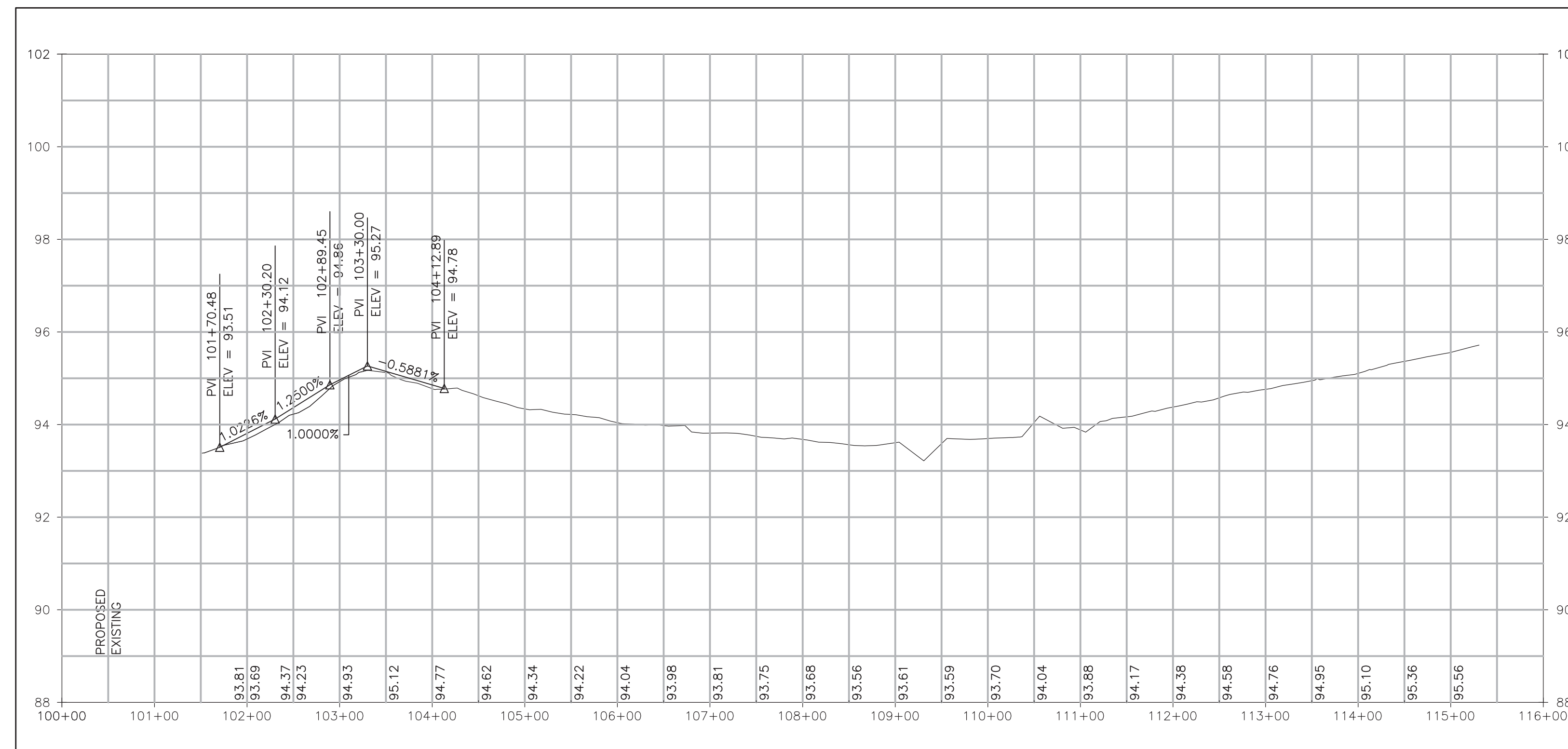
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CENTERLINE PROFILES (3 OF 7)

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018

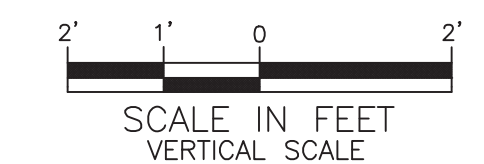
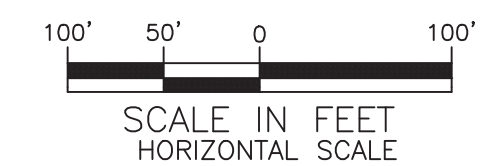


DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Palmer</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



TAXIWAY NG - PROFILE





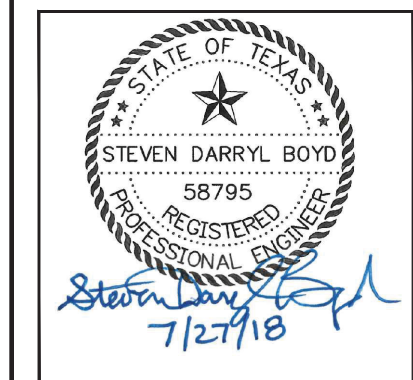


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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**TAXIWAY CONNECTOR**  
**CENTERLINE PROFILES (4 OF 7)**

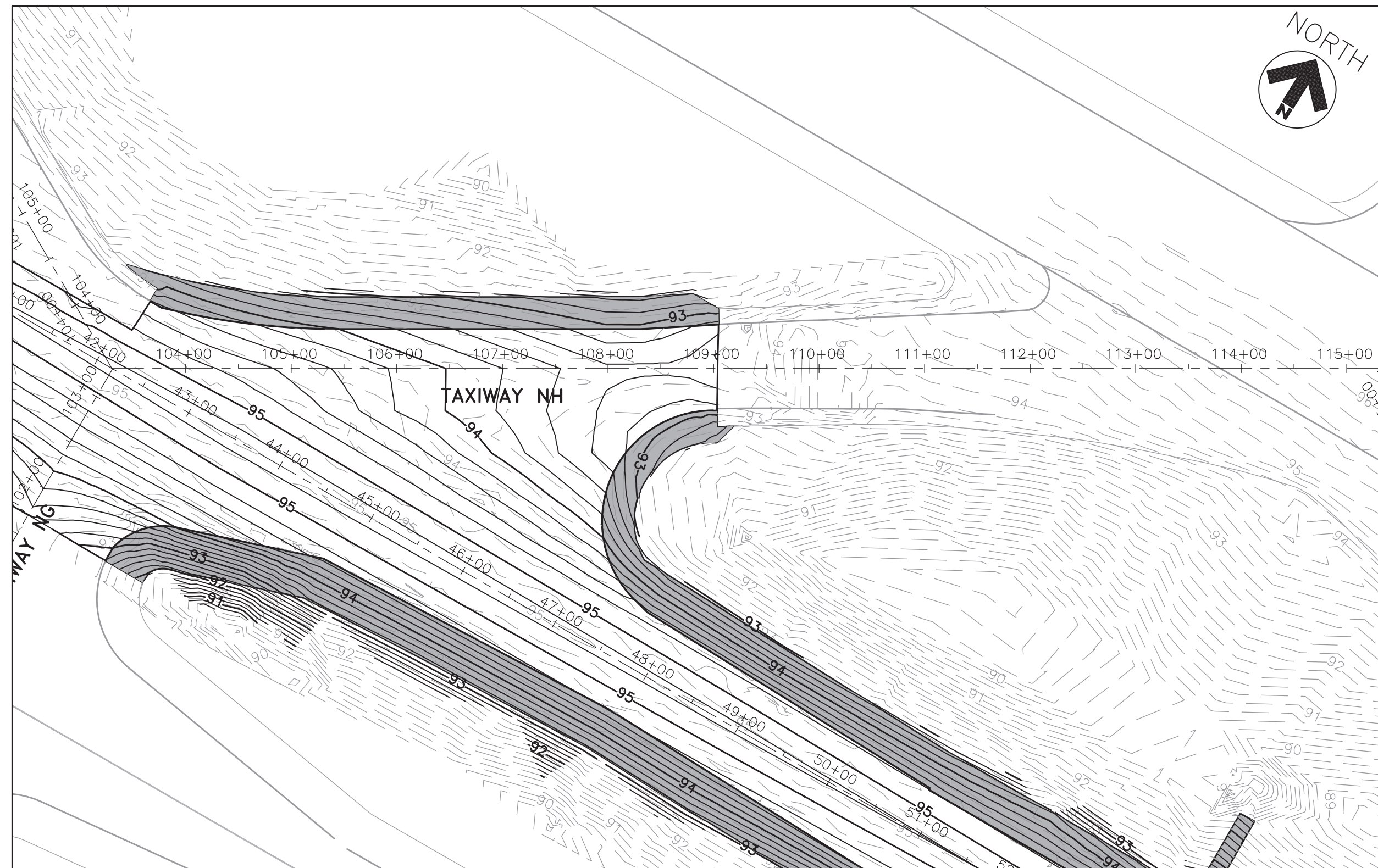
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DESIGNER:	TM
DRAWN BY:	KE
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SCALE:	AS INDICATED
DATE:	JULY 27, 2018



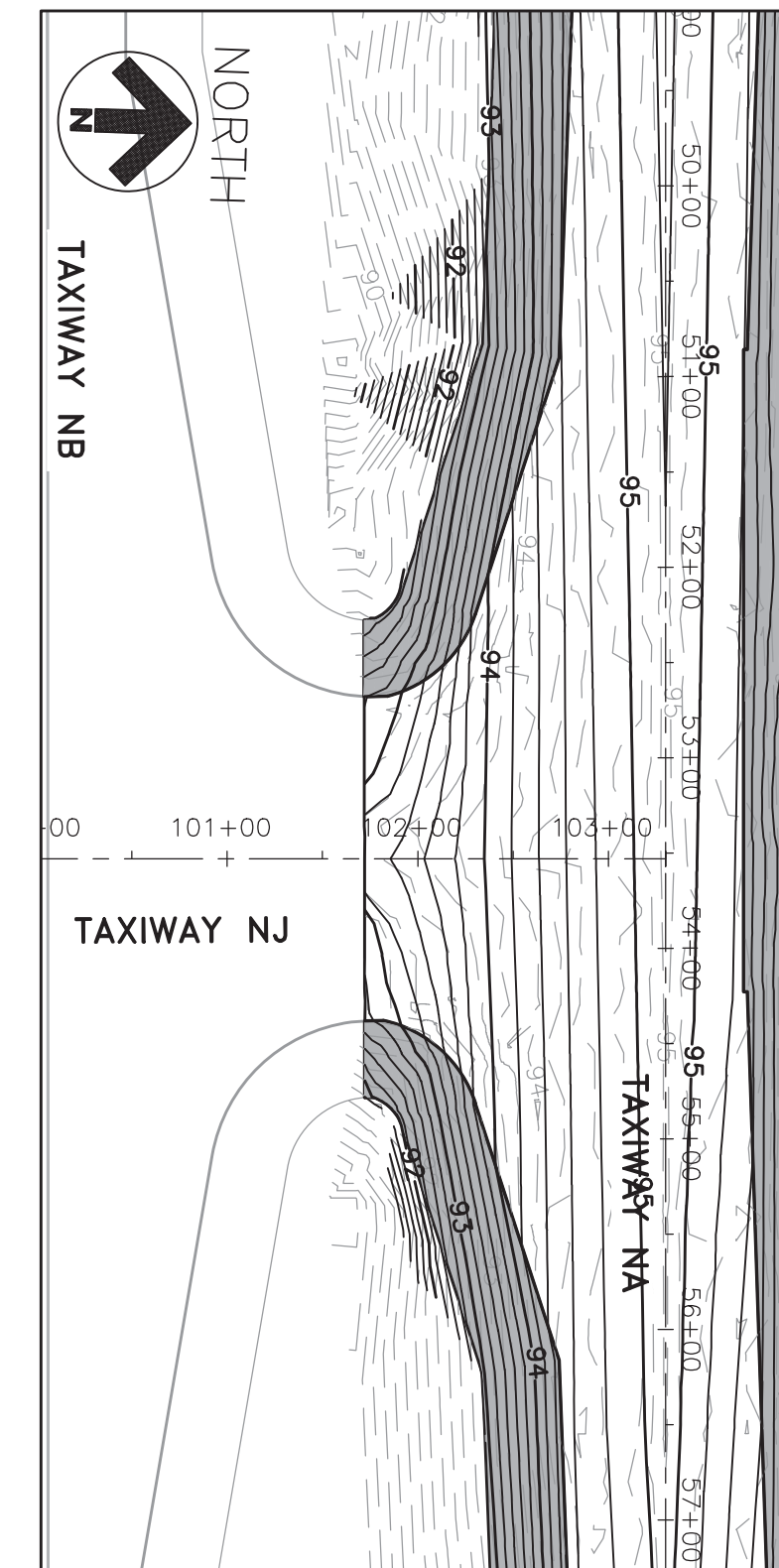
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 APPROVED BY: DATE:  
*Denaj Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**C03.09**



**TAXIWAY NH - PLAN**



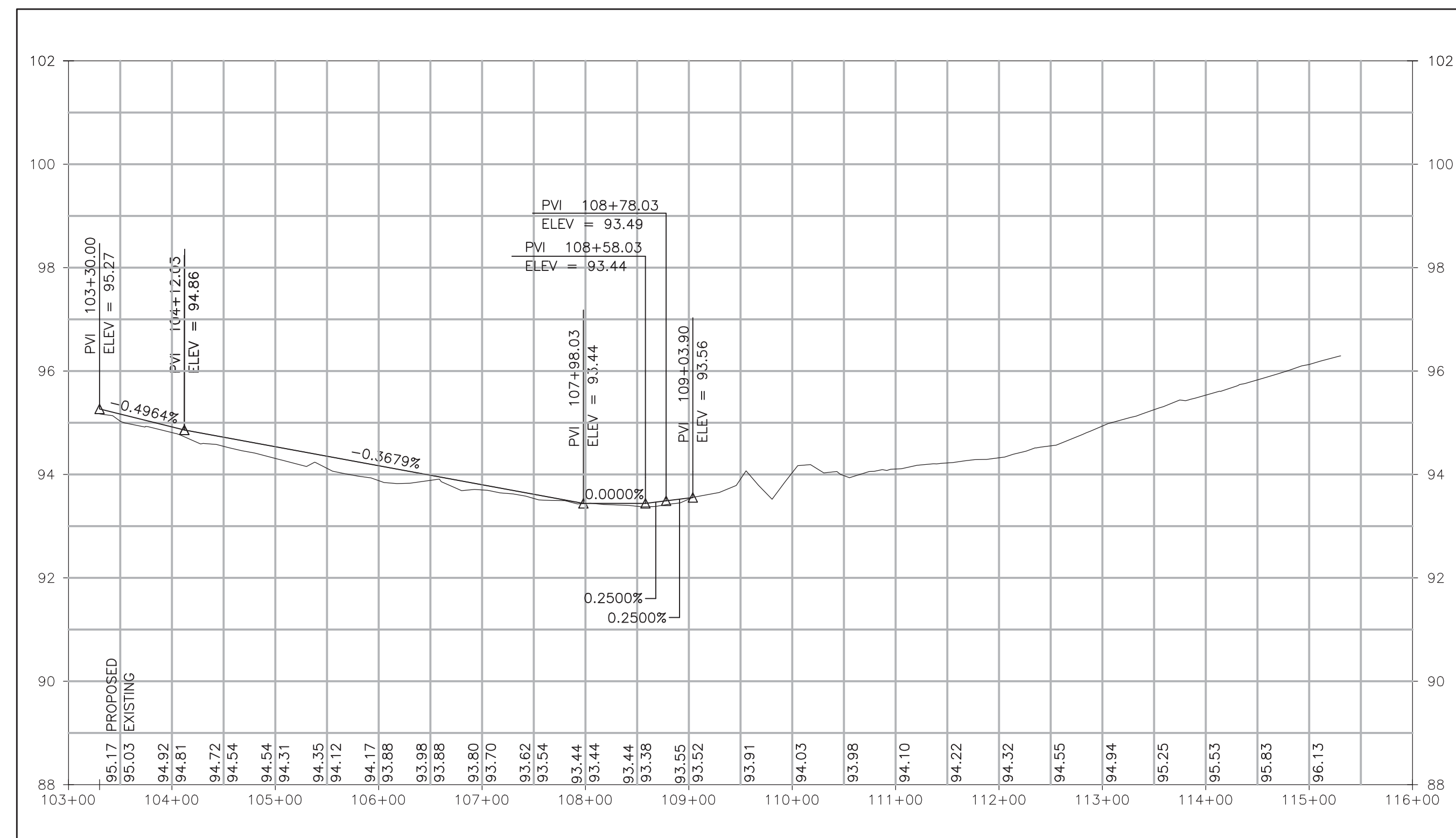
**TAXIWAY NJ - PLAN**

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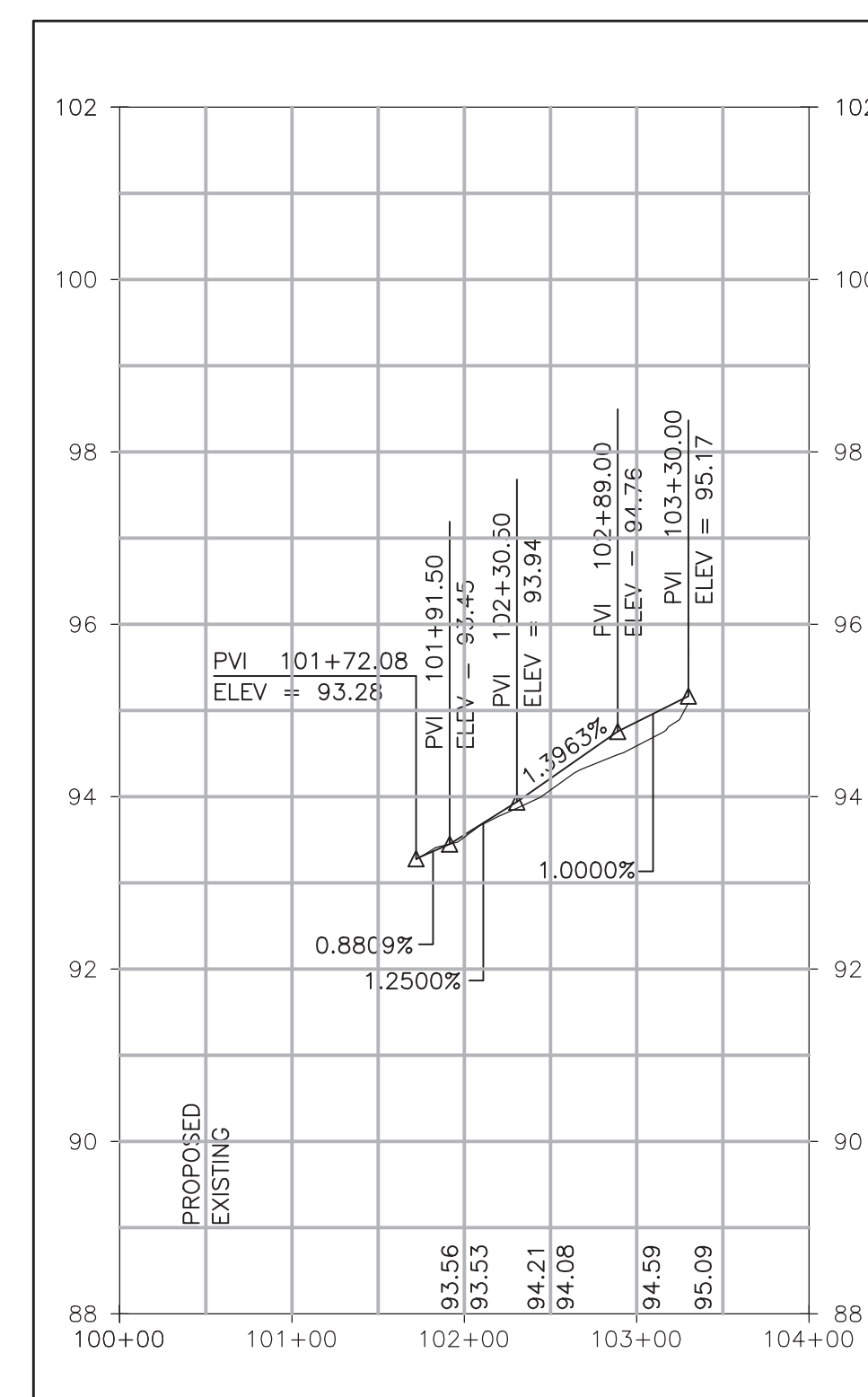
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- EXISTING CONTOUR
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

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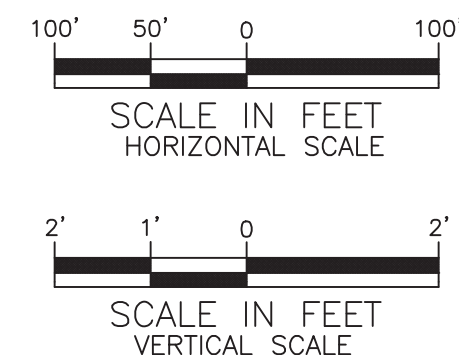
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**TAXIWAY NH - PROFILE**



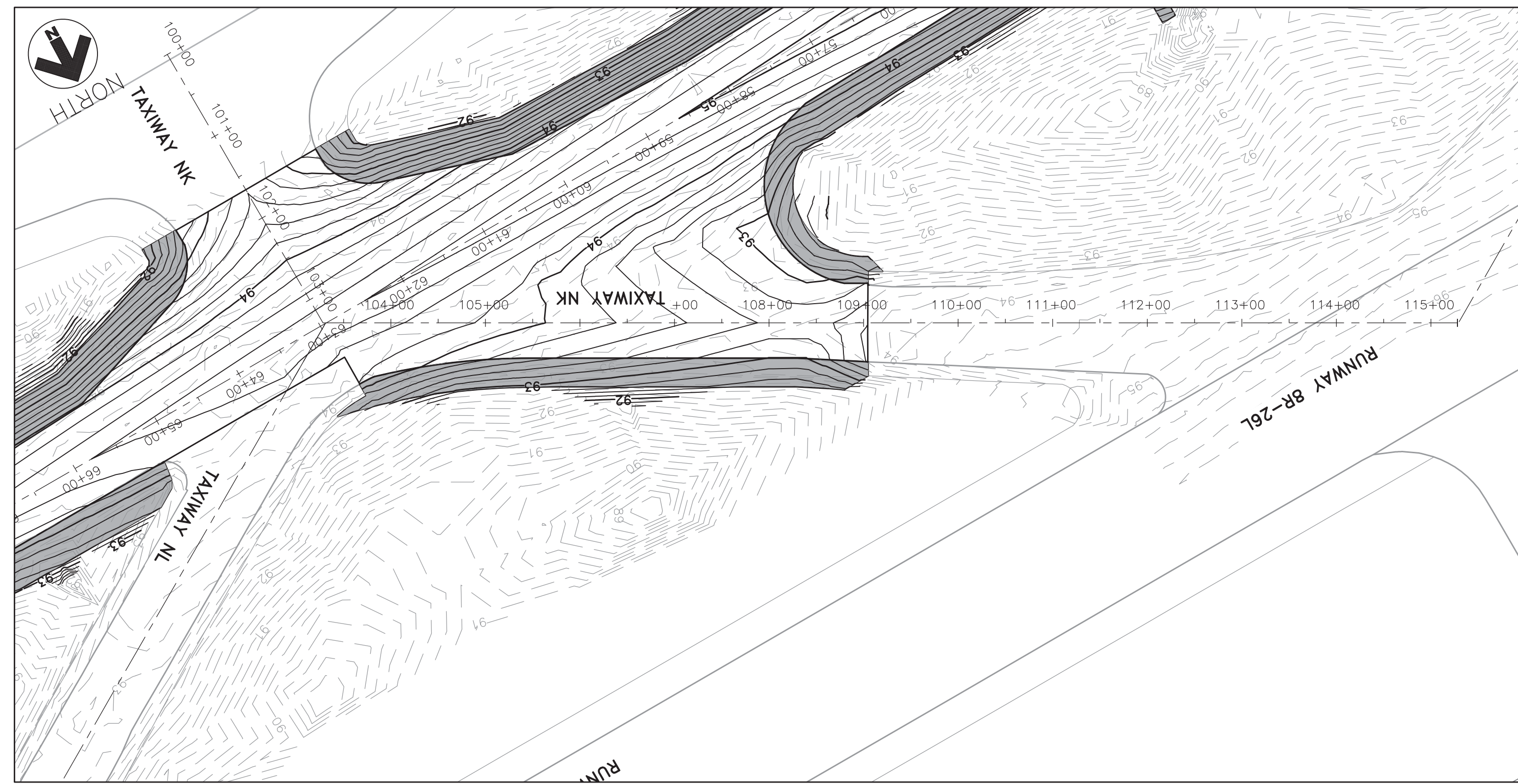
**TAXIWAY NJ - PROFILE**







REVISIONS			
NO.	DESCRIPTION	DATE	BY



**TAXIWAY NK - PLAN**

**LEGEND**

- NEW TAXIWAY SHOULDER PAVEMENT
- EXISTING CONTOUR
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

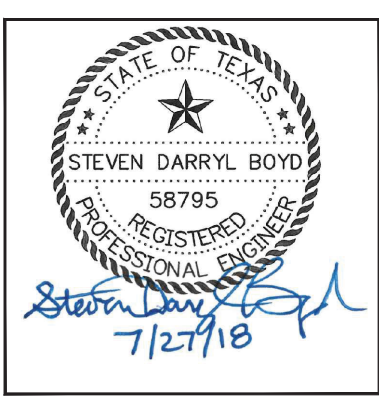
**NOTES:**

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

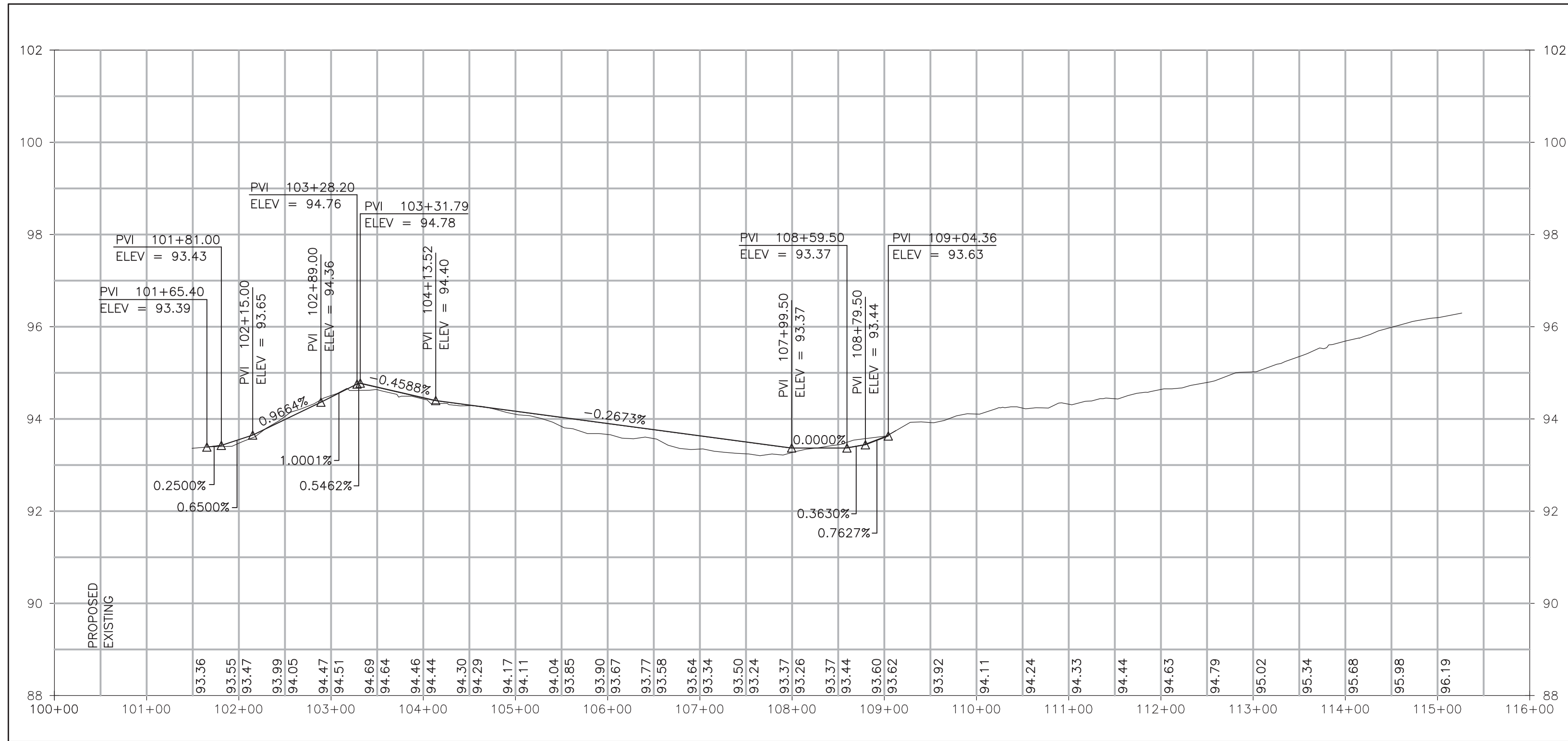
**TAXIWAY CONNECTOR  
 CENTERLINE PROFILES (5 OF 7)**

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018

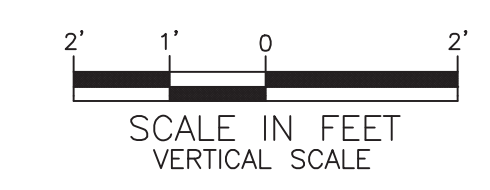
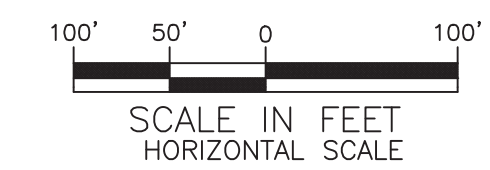


DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
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HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	<b>0907</b>
C.I.P. NO.	<b>A-000570</b>
H.A.S. NO.	
SHEET NO.	



**TAXIWAY NK - PROFILE**







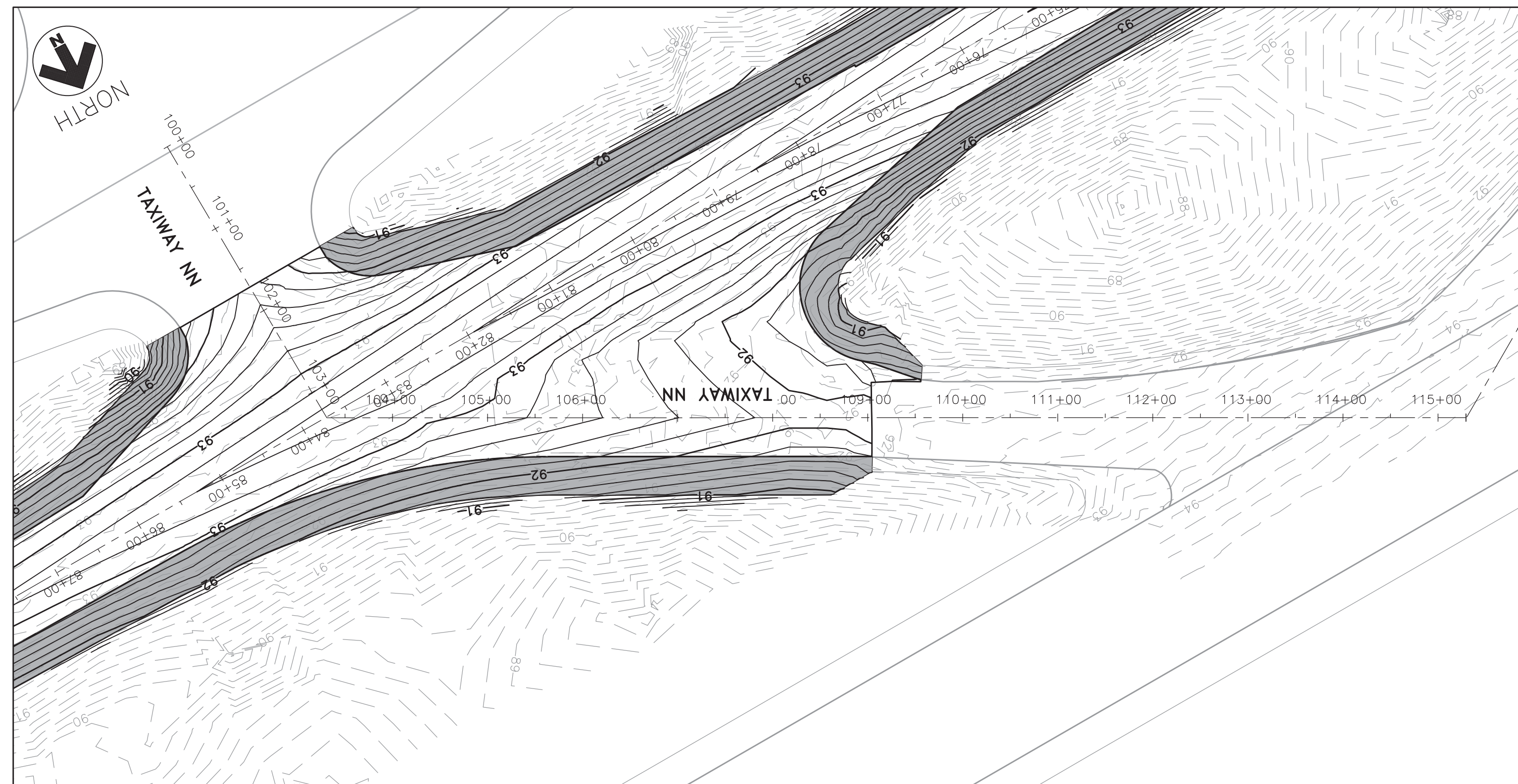
HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS



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TAXIWAY NN - PLAN

LEGEND

- NEW TAXIWAY SHOULDER PAVEMENT
- EXISTING CONTOUR
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

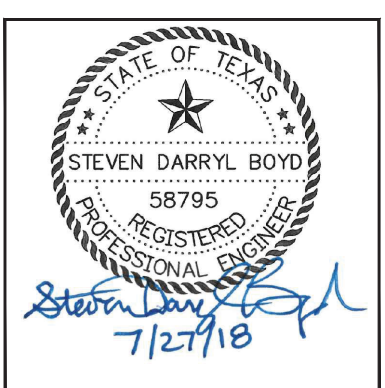
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RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

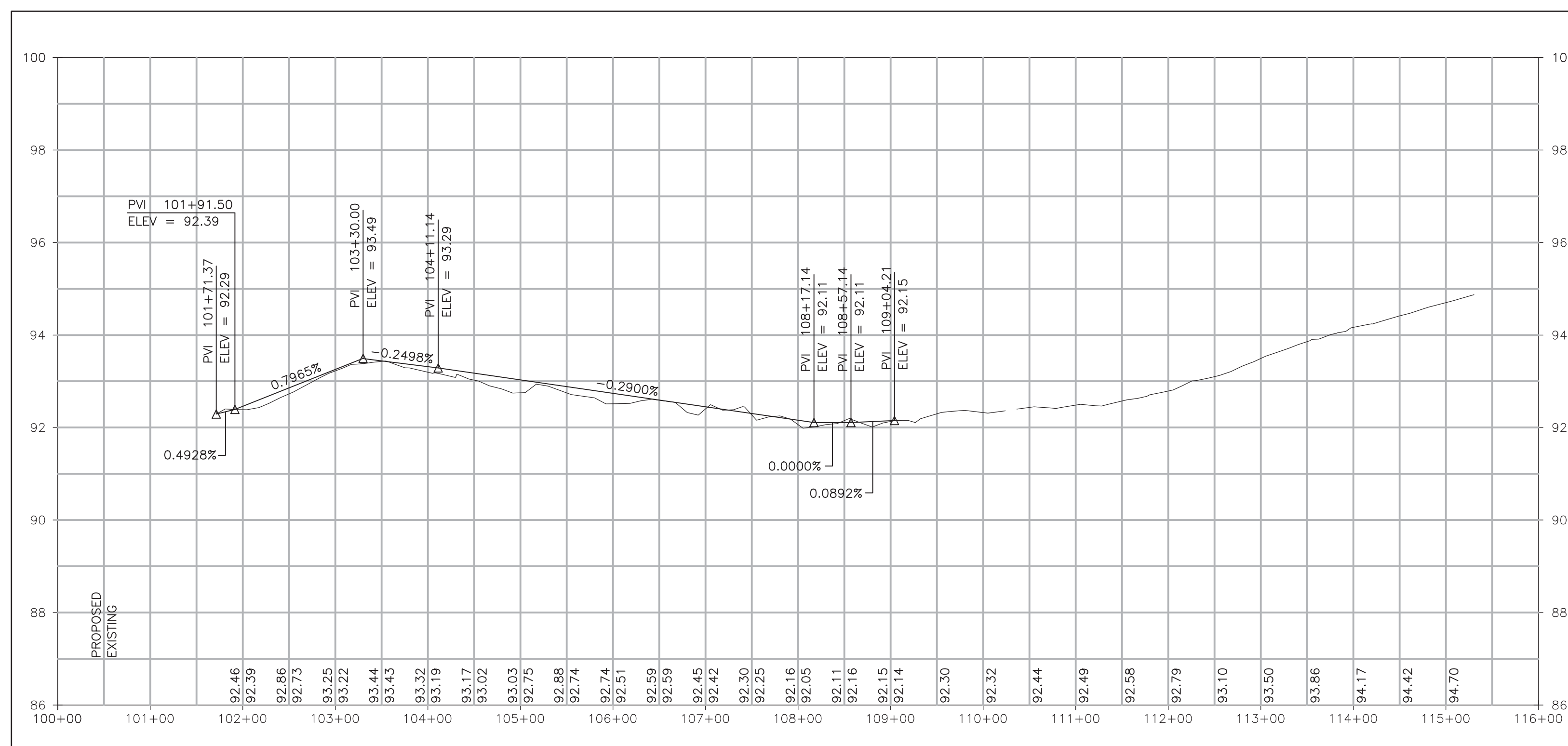
TAXIWAY CONNECTOR  
CENTERLINE PROFILES (6 OF 7)

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DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018

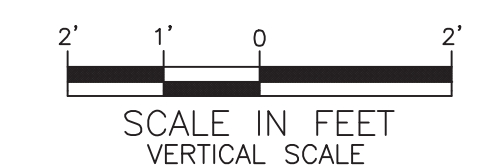
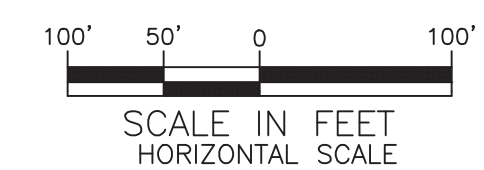


DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Palmer</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



TAXIWAY NN - PROFILE







HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS



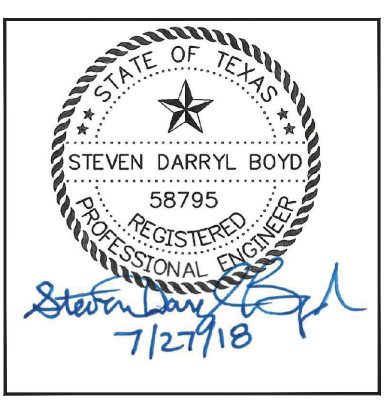
1225 North Loop West  
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RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

## TAXIWAY CONNECTOR CENTERLINE PROFILES (7 OF 7)

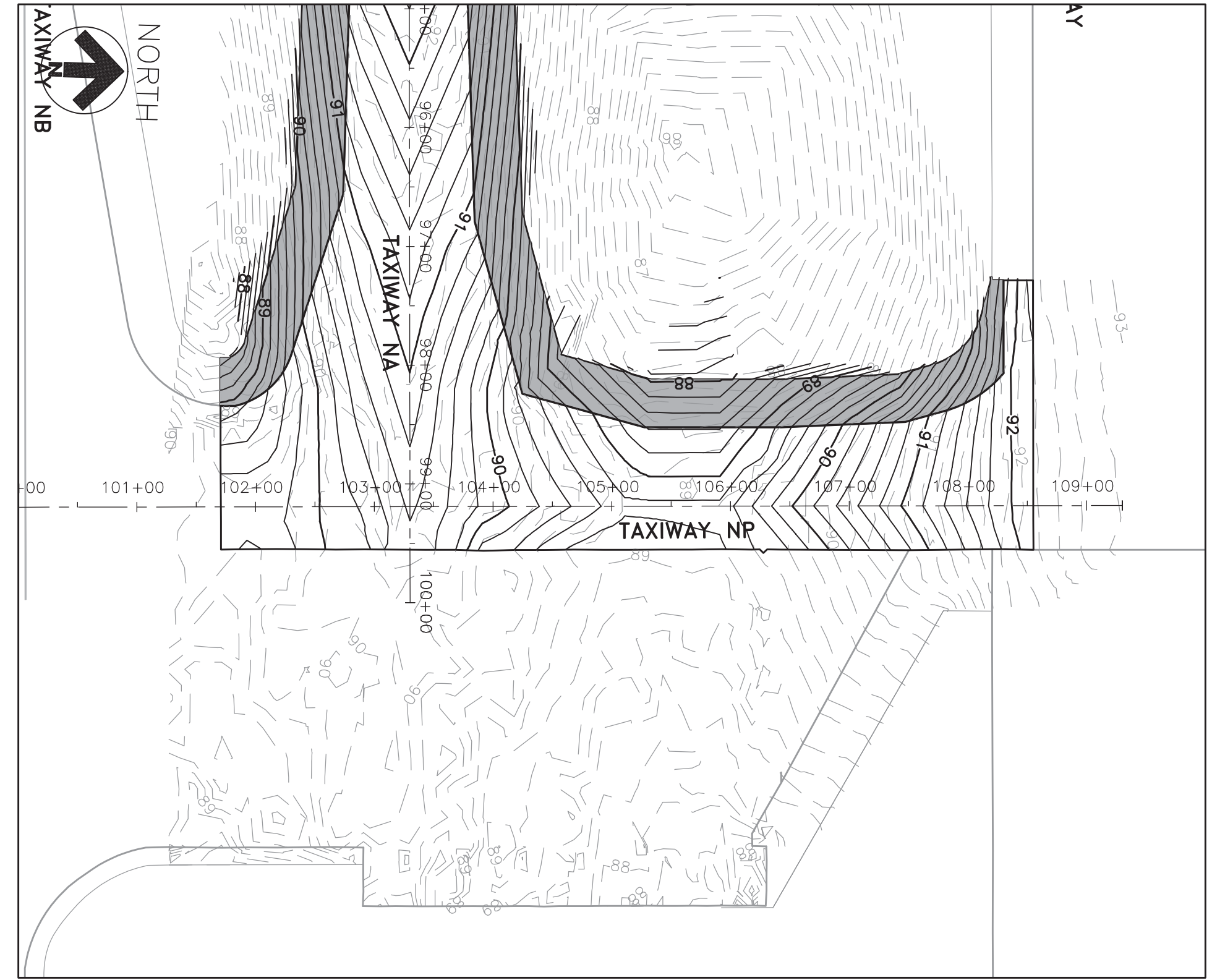
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DATE:	JULY 27, 2018



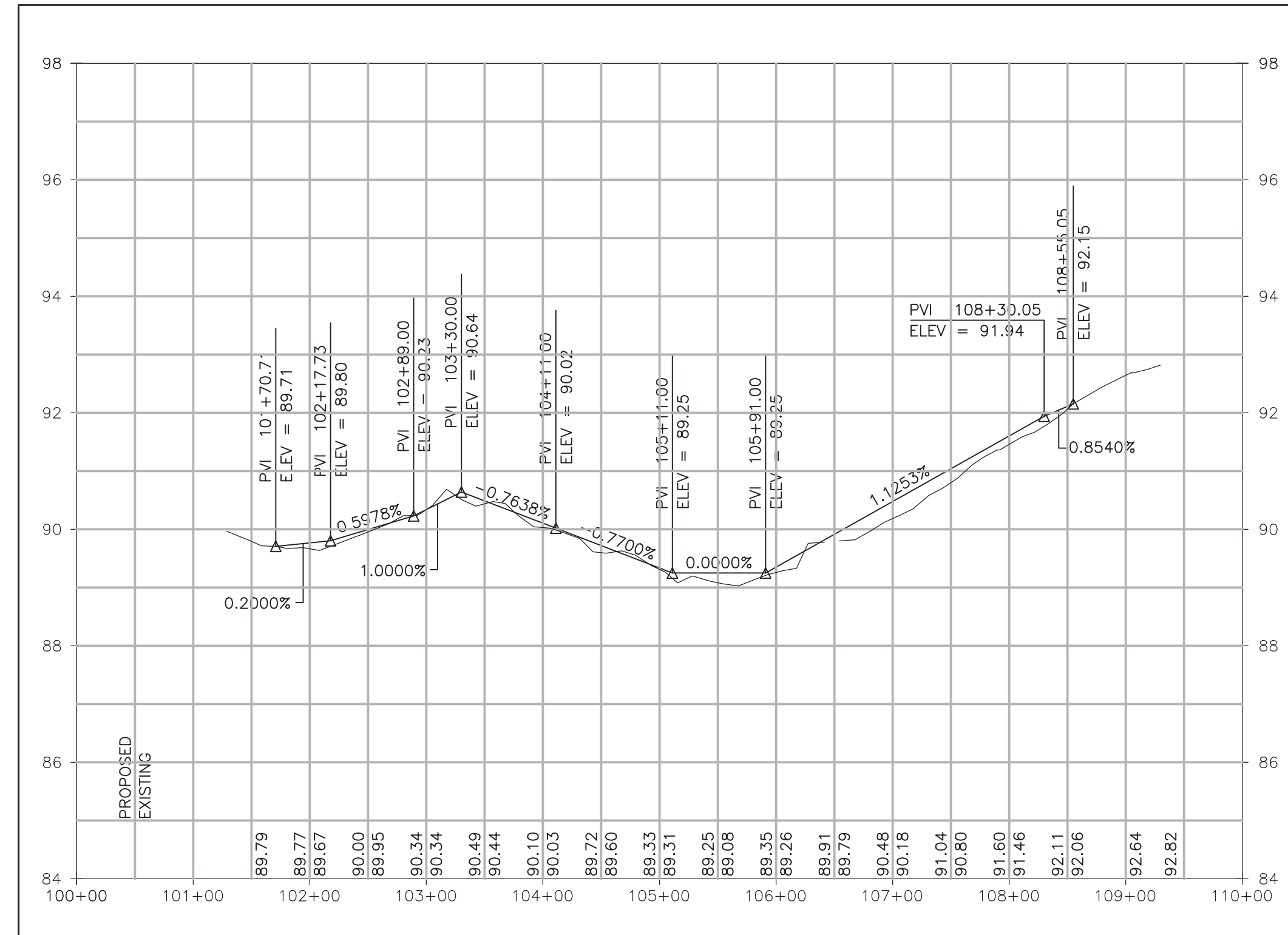
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APPROVED BY: *Danaj Palmer* DATE: JULY 27, 2018  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
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SHEET NO.	

C03.12



TAXIWAY NP - PLAN



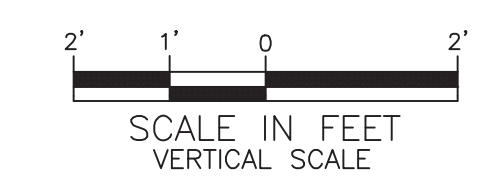
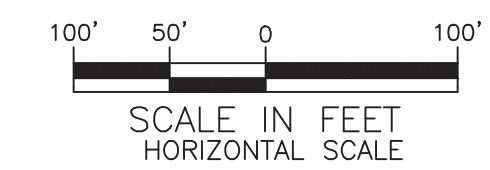
TAXIWAY NP - PROFILE

### LEGEND

- NEW TAXIWAY SHOULDER PAVEMENT
- EXISTING CONTOUR
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR

### NOTES:

- DEPTH OF EXISTING UTILITIES ARE UNKNOWN. CONTRACTOR TO VERIFY DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION OPERATIONS.





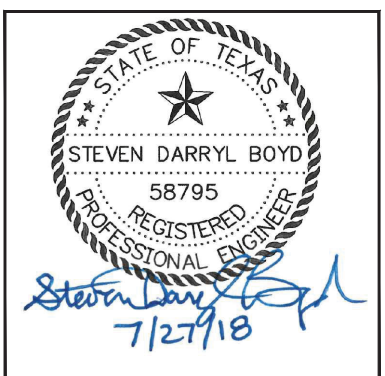


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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT DETAILS**  
 (1 OF 4)

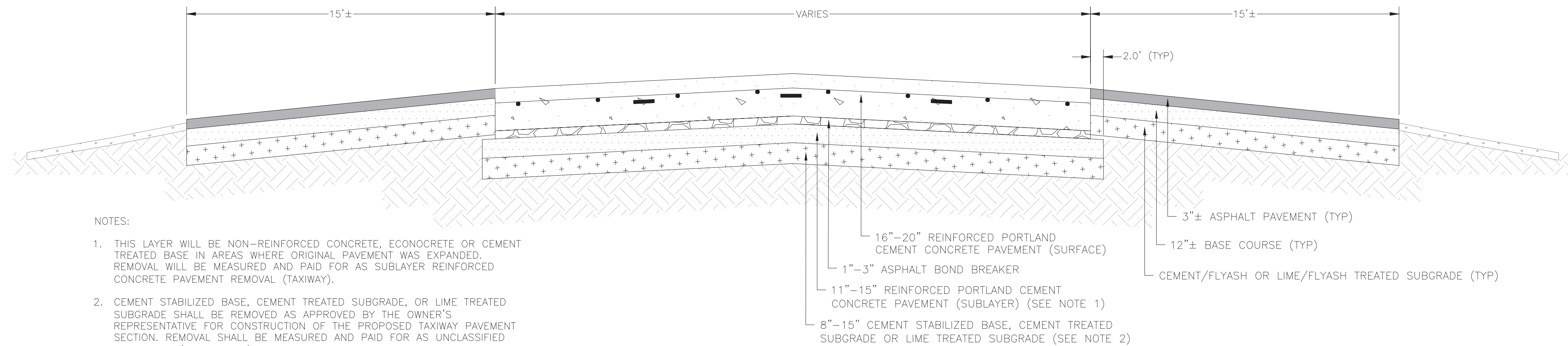
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SCALE:	NTS
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
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PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

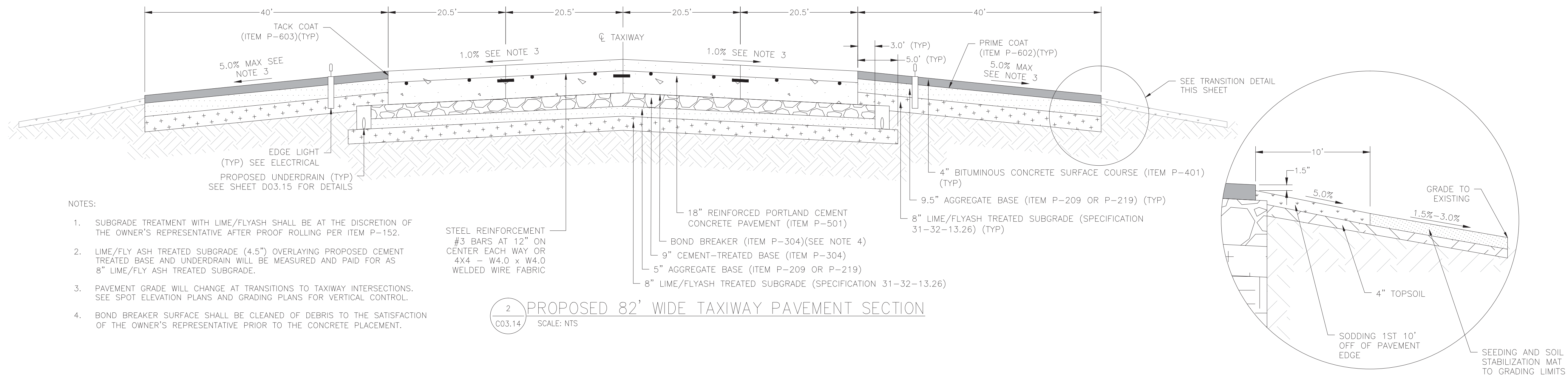
C03.14



NOTES:

- THIS LAYER WILL BE NON-REINFORCED CONCRETE, ECONCRETE OR CEMENT TREATED BASE IN AREAS WHERE ORIGINAL PAVEMENT WAS EXPANDED. REMOVAL WILL BE MEASURED AND PAID FOR AS SUBLAYER REINFORCED CONCRETE PAVEMENT REMOVAL (TAXIWAY).
- CEMENT STABILIZED BASE, CEMENT TREATED SUBGRADE, OR LIME TREATED SUBGRADE SHALL BE REMOVED AS APPROVED BY THE OWNER'S REPRESENTATIVE FOR CONSTRUCTION OF THE PROPOSED TAXIWAY PAVEMENT SECTION. REMOVAL SHALL BE MEASURED AND PAID FOR AS UNCLASSIFIED EXCAVATION (ITEM P-152).
- UNCLASSIFIED EXCAVATION SHALL BE EMBANKED AS APPROVED BY THE OWNER'S REPRESENTATIVE FOR CONSTRUCTION OF THE PROPOSED TAXIWAY PAVEMENT SECTION. EMBANKMENT SHALL BE SUBSIDIARY TO THE MEASUREMENT AND PAYMENT FOR UNCLASSIFIED EXCAVATION (ITEM P-152).

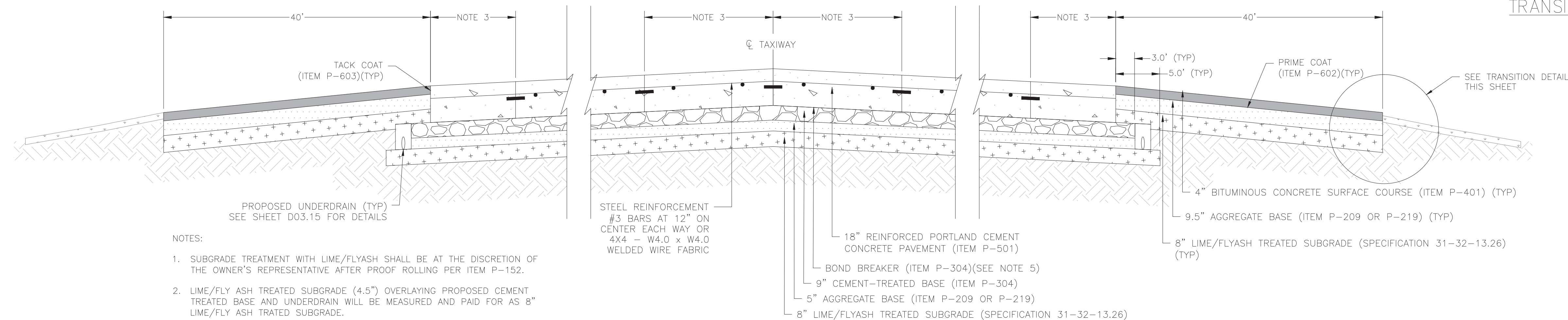
1 TYPICAL EXISTING TAXIWAY PAVEMENT SECTION  
 C03.14 SCALE: NTS



NOTES:

- SUBGRADE TREATMENT WITH LIME/FLYASH SHALL BE AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE AFTER PROOF ROLLING PER ITEM P-152.
- LIME/FLY ASH TREATED SUBGRADE (4.5") OVERLAYING PROPOSED CEMENT TREATED BASE AND UNDERDRAIN WILL BE MEASURED AND PAID FOR AS 8" LIME/FLY ASH TREATED SUBGRADE.
- PAVEMENT GRADE WILL CHANGE AT TRANSITIONS TO TAXIWAY INTERSECTIONS. SEE SPOT ELEVATION PLANS AND GRADING PLANS FOR VERTICAL CONTROL.
- BOND BREAKER SURFACE SHALL BE CLEANED OF DEBRIS TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE PRIOR TO THE CONCRETE PLACEMENT.

2 PROPOSED 82' WIDE TAXIWAY PAVEMENT SECTION  
 C03.14 SCALE: NTS



NOTES:

- SUBGRADE TREATMENT WITH LIME/FLYASH SHALL BE AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE AFTER PROOF ROLLING PER ITEM P-152.
- LIME/FLY ASH TREATED SUBGRADE (4.5") OVERLAYING PROPOSED CEMENT TREATED BASE AND UNDERDRAIN WILL BE MEASURED AND PAID FOR AS 8" LIME/FLY ASH TREATED SUBGRADE.
- NUMBER AND DIMENSIONS OF CONCRETE PANELS WILL VARY. SEE JOINT LAYOUT PLANS.
- PAVEMENT GRADES WILL VARY. SEE SPOT ELEVATION PLANS AND GRADING PLANS FOR VERTICAL CONTROL.
- BOND BREAKER SURFACE SHALL BE CLEANED OF DEBRIS TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE PRIOR TO THE CONCRETE PLACEMENT.

3 TYPICAL PROPOSED TAXIWAY PAVEMENT SECTION  
 C03.14 SCALE: NTS

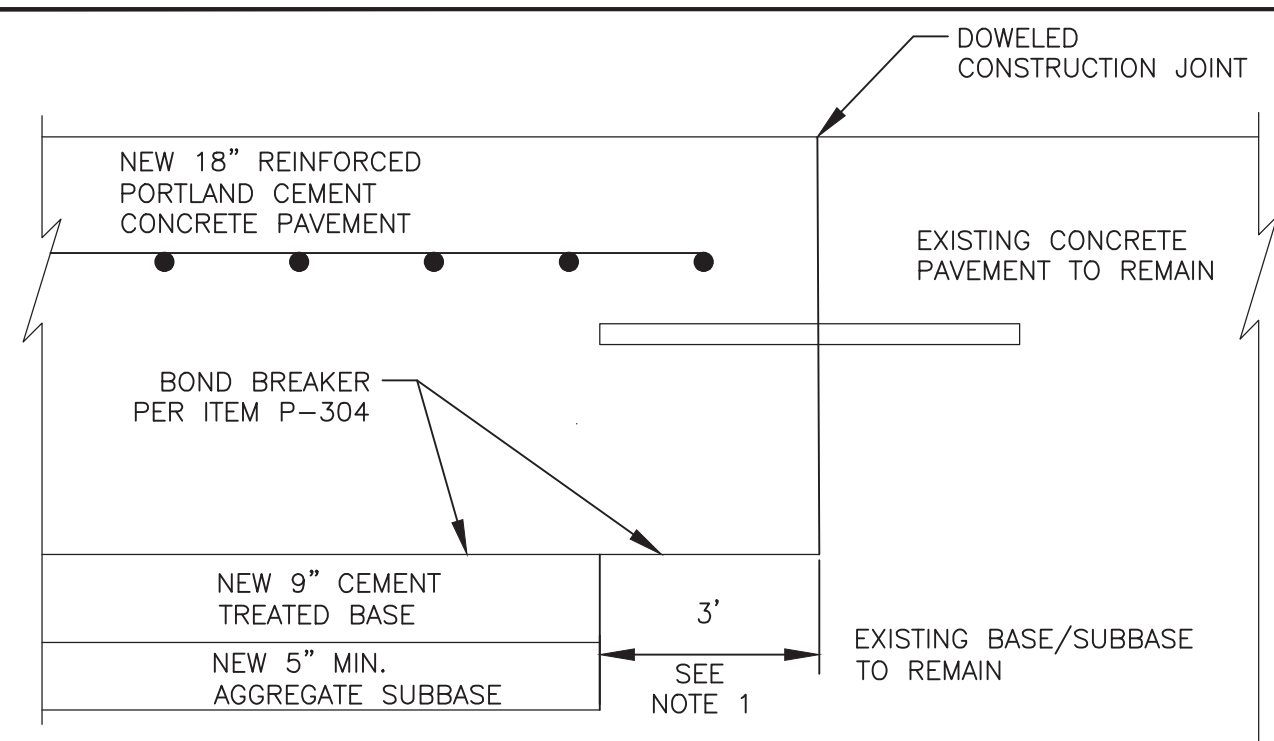


REVISIONS

NO.	DESCRIPTION	DATE	BY

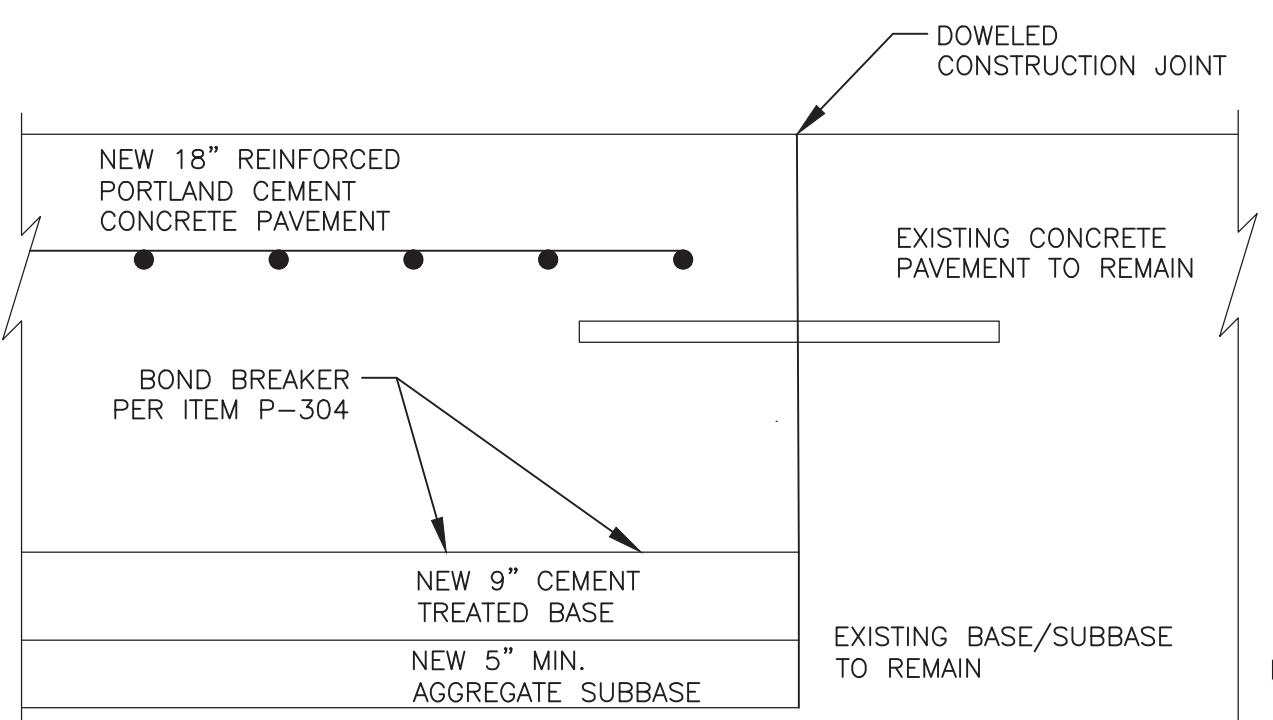
RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PAVEMENT DETAILS (2 OF 4)**



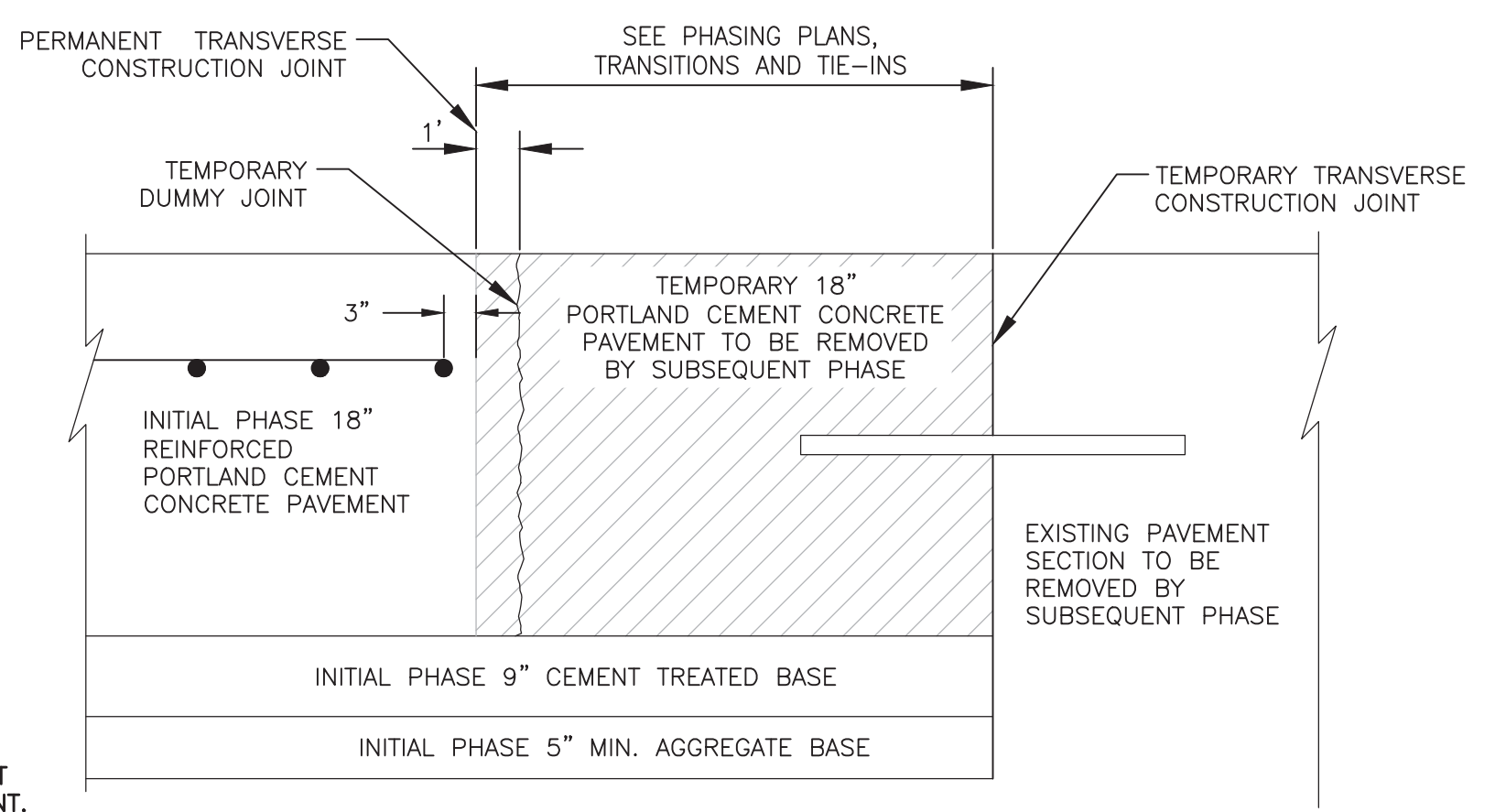
**NOTES:**  
 1. MILL EXISTING BASE/SUBBASE AS REQUIRED FOR NEW 18" CONCRETE PLACEMENT. WORK SHALL BE SUBSIDIARY TO EXISTING BASE/SUBBASE DEMOLITION.

**4**  
 C03.15 SCALE: NTS  
 DOWELED CONSTRUCTION JOINT AT NEW PAVEMENT SECTION TO EXISTING PAVEMENT SECTION TO REMAIN (NORTH OF TAXIWAY NA)

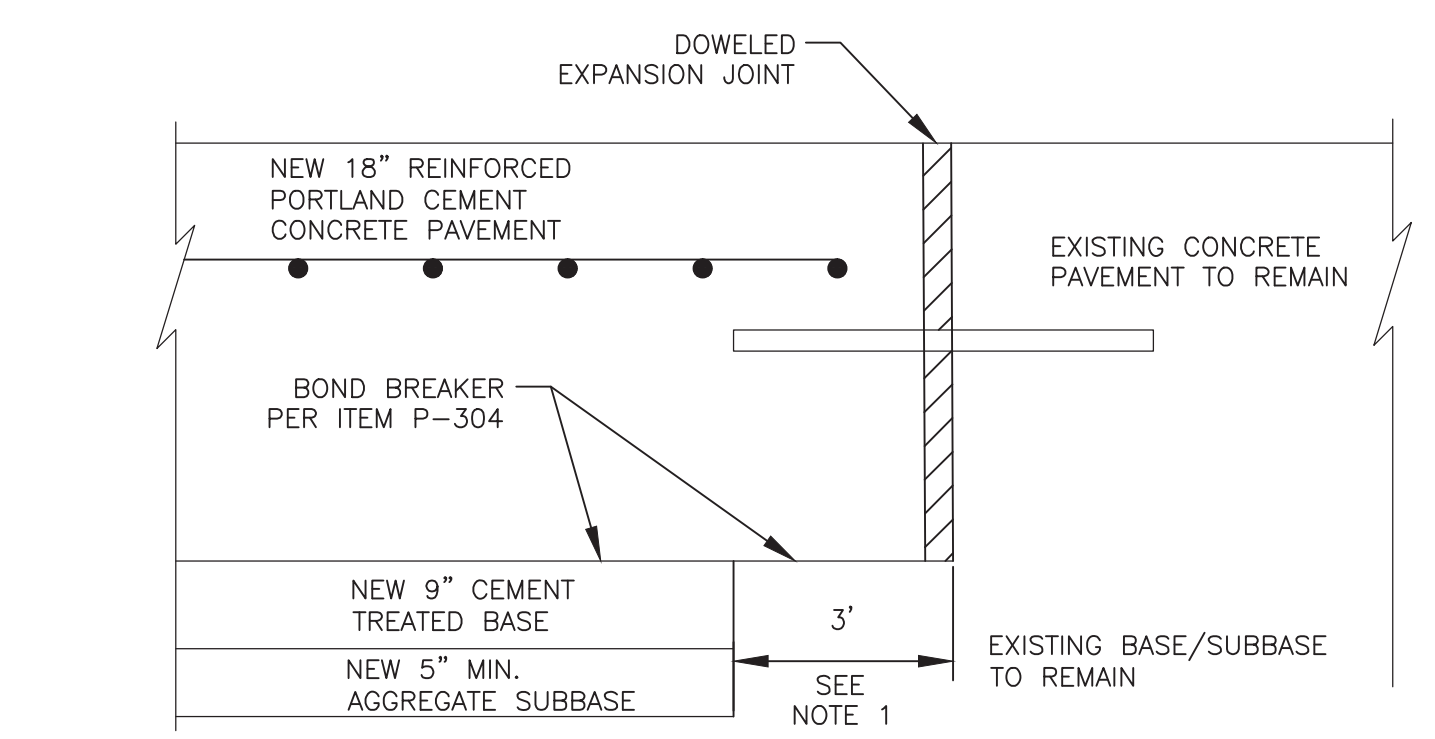


**NOTE:**  
 1. PROVIDE MIN. 3" CLR BETWEEN REINFORCEMENT AND PERMANENT TRANSVERSE CONSTRUCTION JOINT.

**8**  
 C03.15 SCALE: NTS  
 DOWELED CONSTRUCTION JOINT AT NEW PAVEMENT SECTION TO EXISTING PAVEMENT SECTION TO REMAIN (NORTH OF TAXIWAY NA)

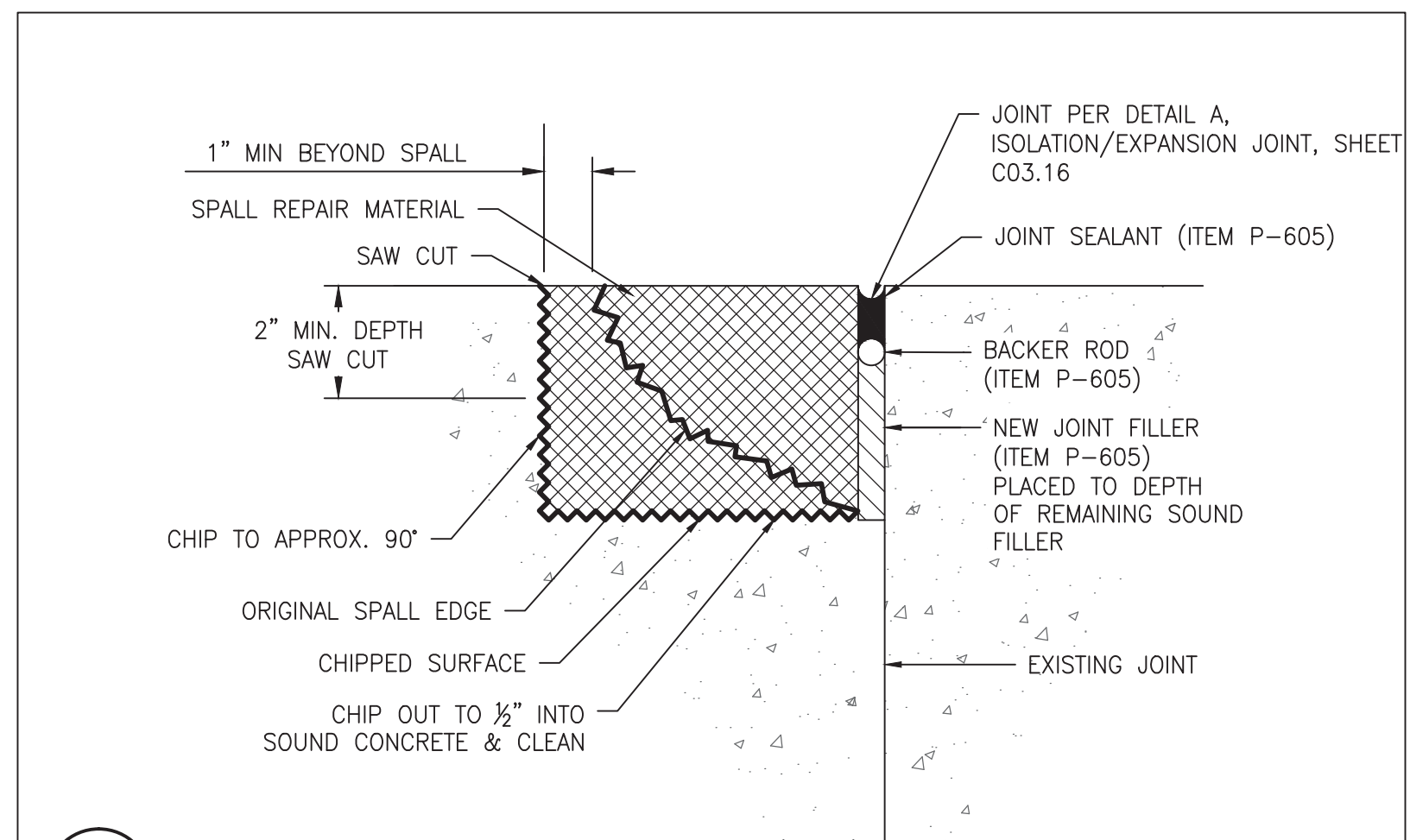


**7A**  
 C03.15 SCALE: NTS  
 INTERIM JOINT AT PHASE BOUNDARIES, NEW PAVEMENT SECTION TO EXISTING PAVEMENT DESIGNATED FOR LATER REMOVAL

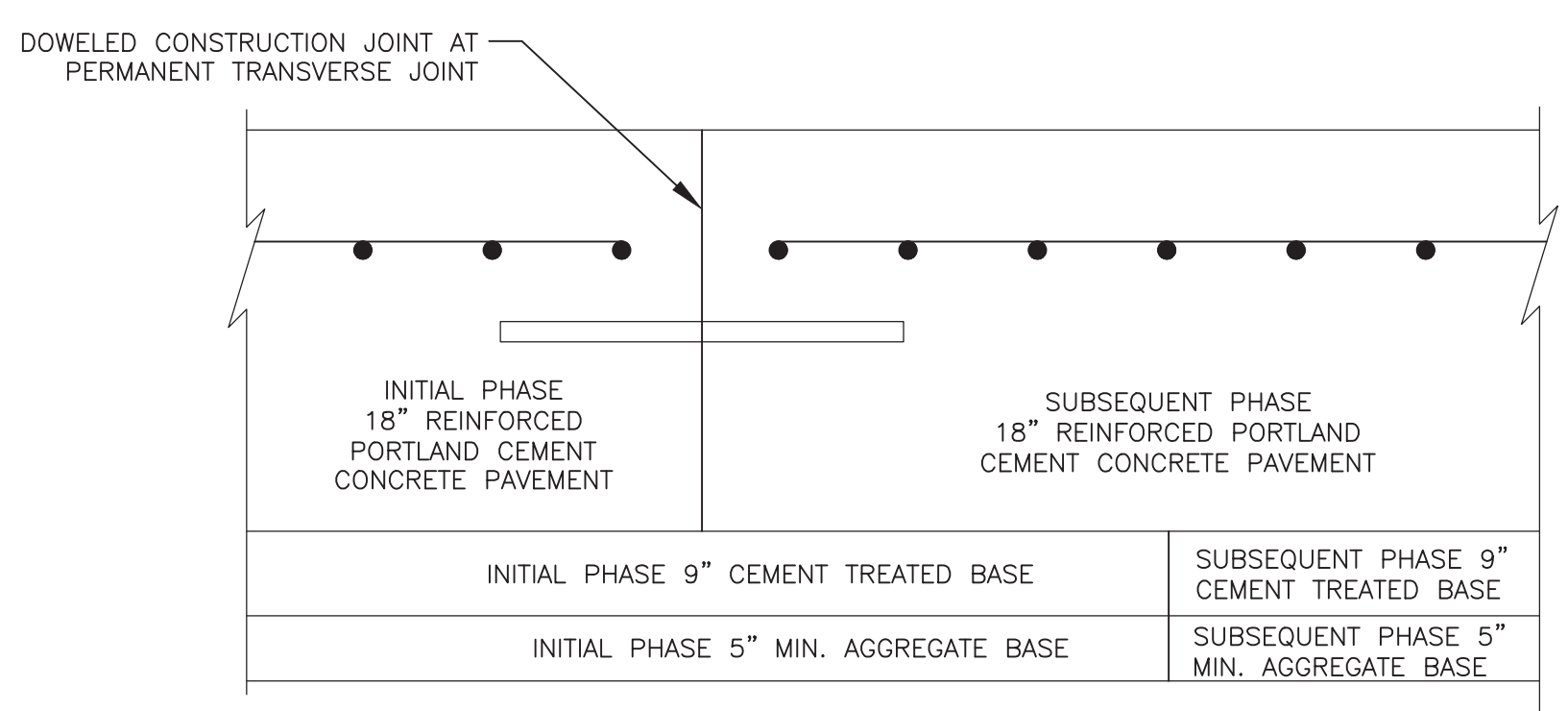


**5**  
 C03.15 SCALE: NTS  
 DOWELED EXPANSION JOINT AT NEW PAVEMENT SECTION TO EXISTING PAVEMENT SECTION TO REMAIN

**NOTE :**  
 1. MILL EXISTING BASE/SUBBASE AS REQUIRED FOR NEW 18" CONCRETE PLACEMENT. WORK SHALL BE SUBSIDIARY TO EXISTING BASE/SUBBASE DEMOLITION.

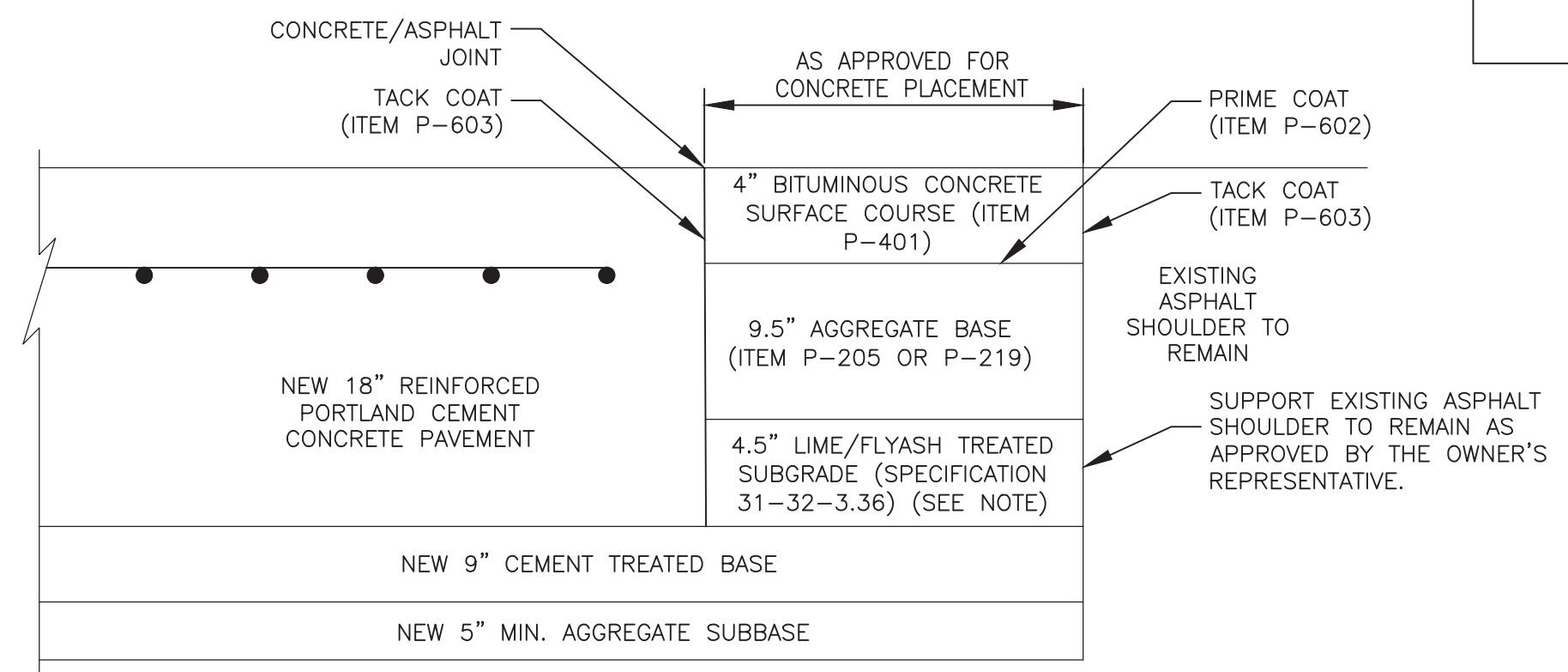


**9**  
 C03.15 SCALE: NTS  
**SPALL REPAIR SECTION**  
**NOTES:**  
 1. SPALL REPAIR DETAILS ARE ADDED AS A GUIDE FOR REPAIR OF CONCRETE IN THE EVENT THAT THE CONTRACTOR DAMAGES ANY CONCRETE PANELS.  
 2. THERE IS NO PAY ITEM FOR SPALL REPAIRS. THE COST OF REPAIR IS INCIDENTAL TO THE PROJECT.  
 3. SEE ITEM P501, "PORTLAND CEMENT CONCRETE PAVEMENT" PARAGRAPH 501-4.19.F.  
 4. LOCATION OF REPAIR TO BE DETERMINED IN THE FIELD AND CLEARLY MARKED.



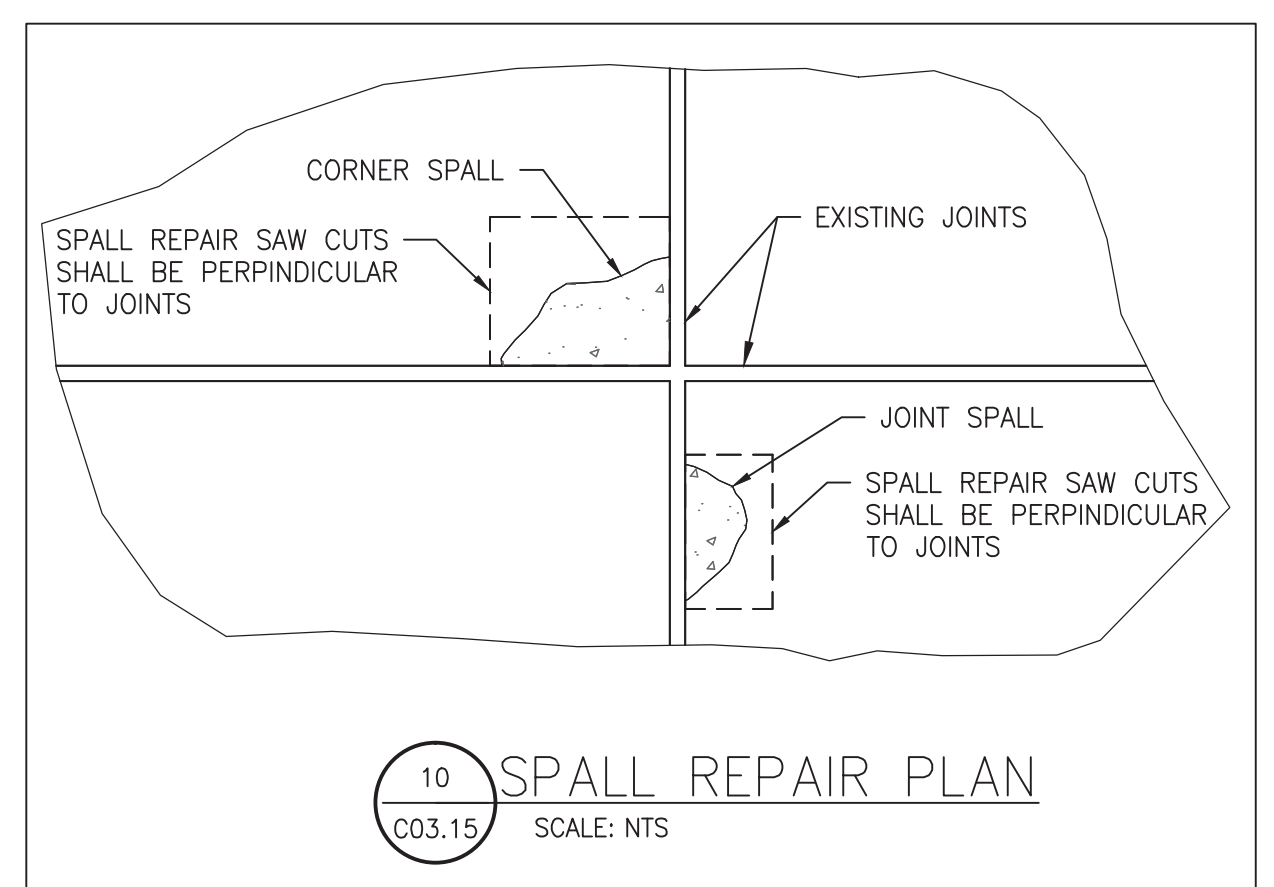
**7B**  
 C03.15 SCALE: NTS  
 DOWELED CONSTRUCTION JOINT AT PERMANENT TRANSVERSE JOINT

**7B**  
 C03.15 SCALE: NTS  
 FINAL JOINT AT PHASE BOUNDARIES, INITIAL PAVEMENT SECTION TO SUBSEQUENT PAVEMENT SECTION

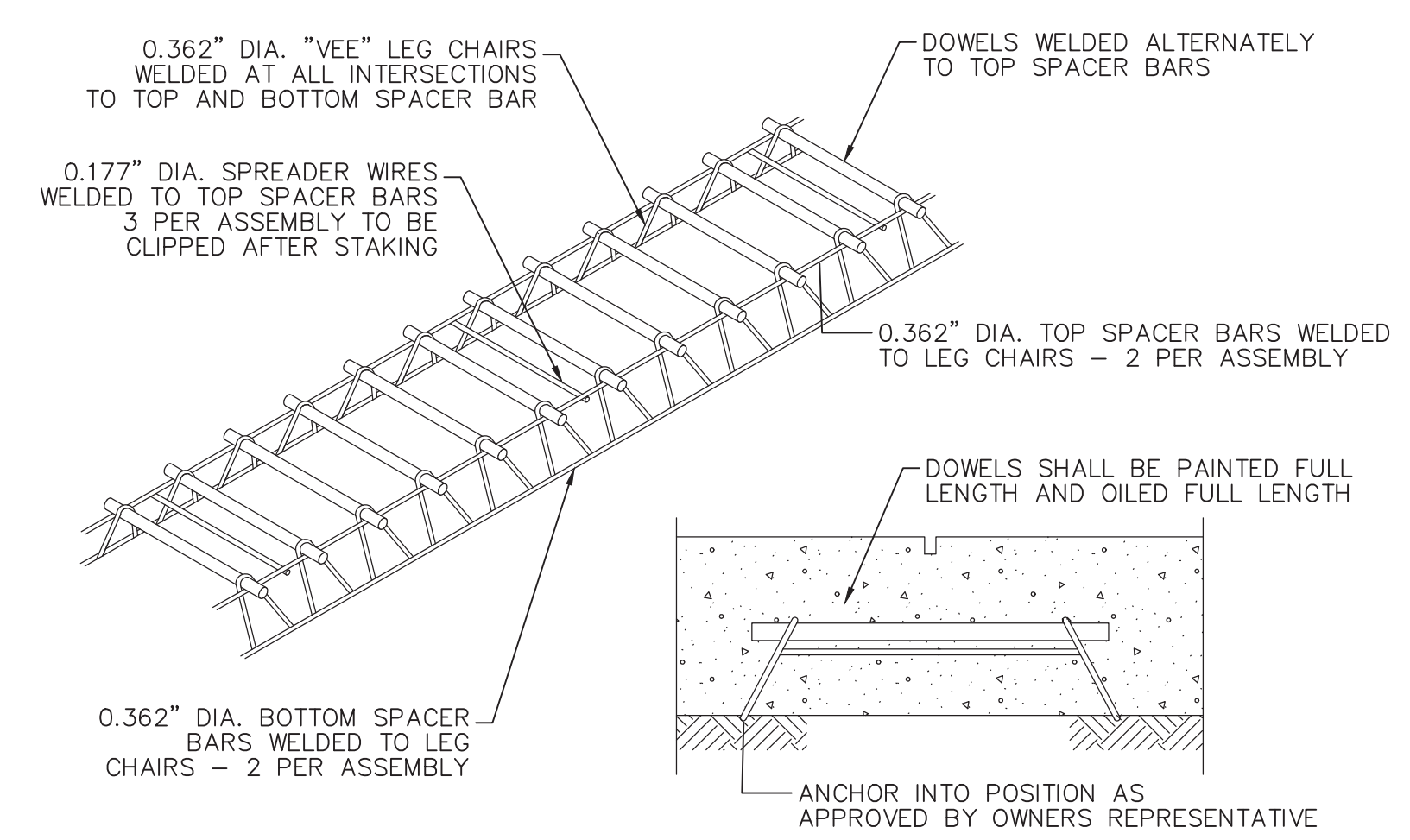


**6**  
 C03.15 SCALE: NTS  
 JOINT AT NEW PAVEMENT SECTION TO EXISTING ASPHALT SHOULDER TO REMAIN

**NOTE :**  
 9.5" LIME/FLYASH TREATED SUBGRADE SHALL BE MEASURED AND PAID AS 8" LIME/FLYASH TREATED SUBGRADE.



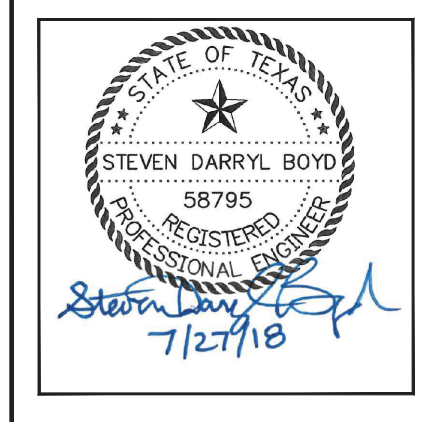
**10**  
 C03.15 SCALE: NTS  
**SPALL REPAIR PLAN**



**11**  
 C03.15 SCALE: NTS  
**DOWEL BAR ASSEMBLY, CONTRACTION JOINT**

ISSUED FOR BID

PROJECT MGR:	DB
DESIGNER:	KE
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CHECKED BY:	DB
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DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Pehel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**C03.15**



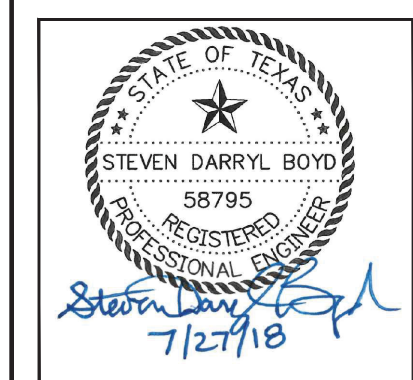


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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT DETAILS**  
 (3 OF 4)

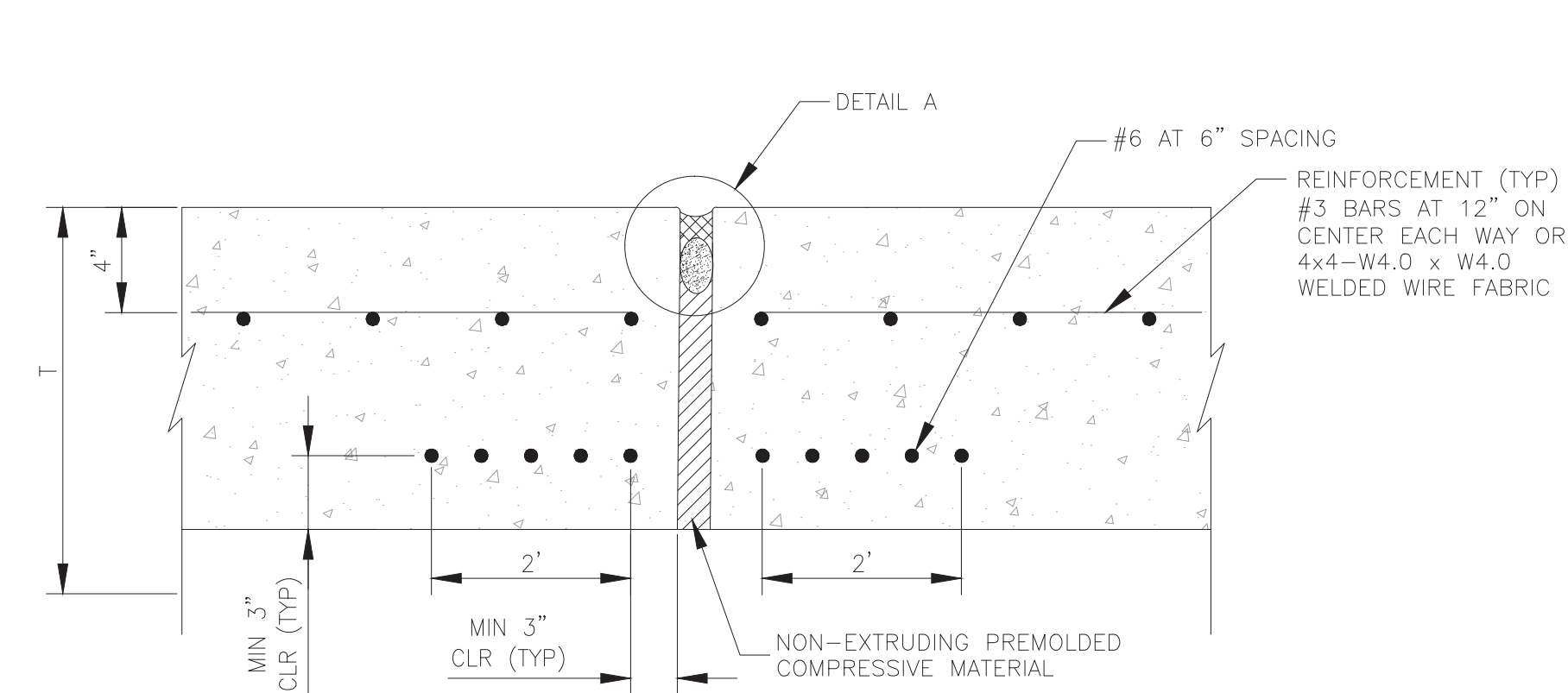
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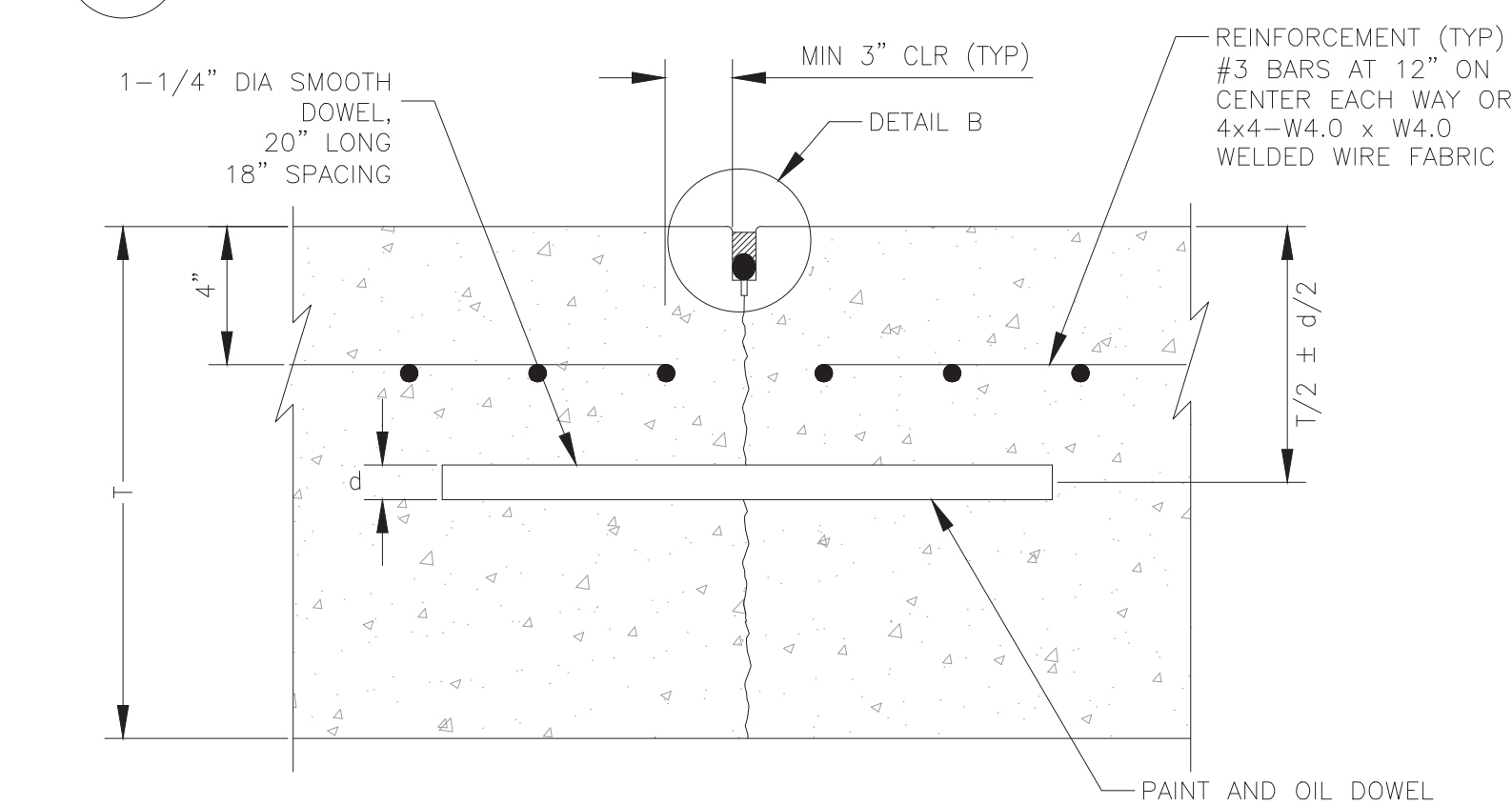
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APPROVED BY:	DATE:
<i>Danaj Rahal</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

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H.A.S. NO.	
SHEET NO.	

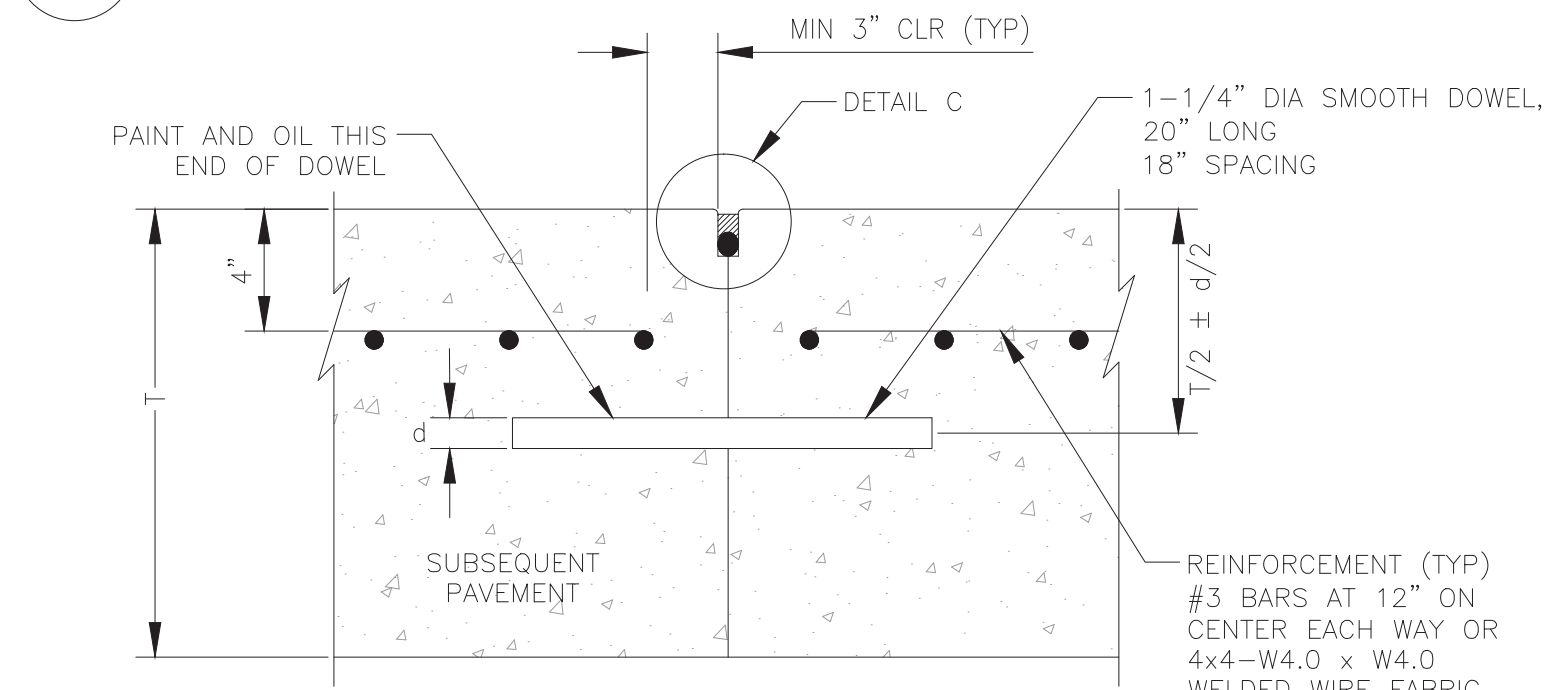
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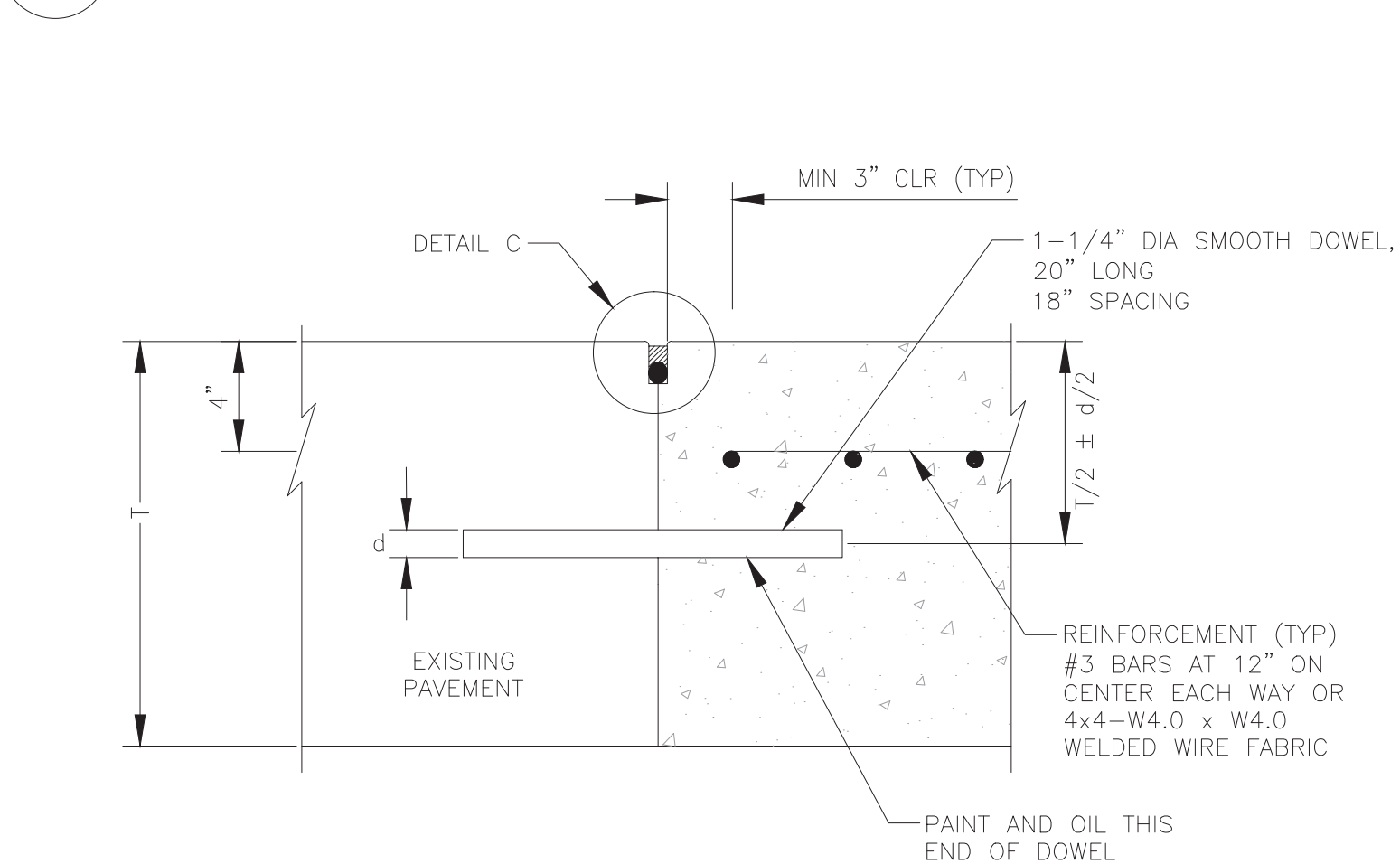
12 REINFORCED ISOLATION JOINT  
 C03.16 SCALE: N.T.S.



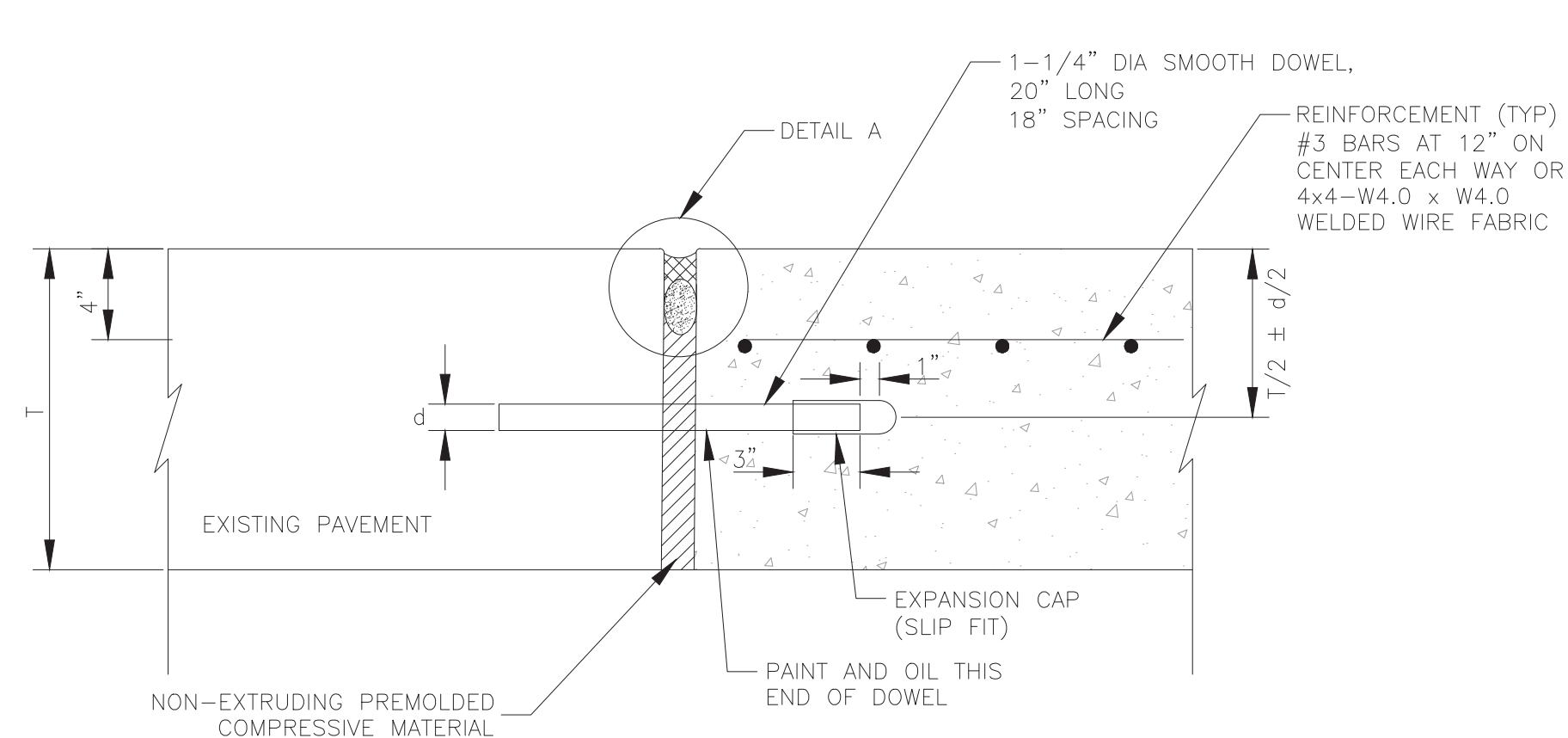
13 DOWELED CONTRACTION JOINT  
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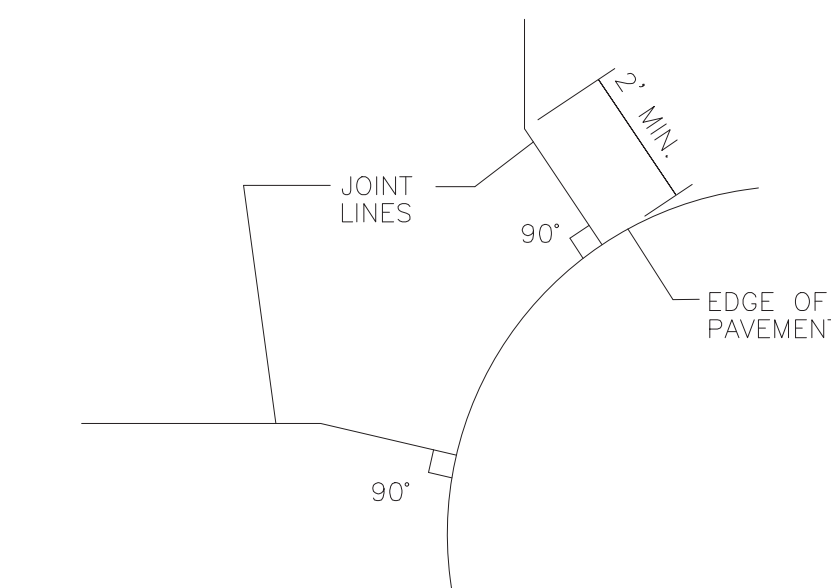
14 DOWELED CONSTRUCTION JOINT  
 C03.16 SCALE: N.T.S.



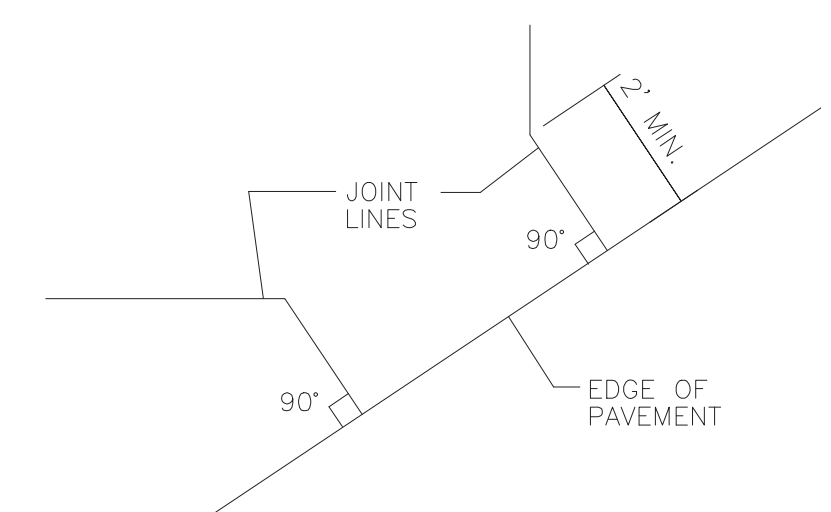
15 DOWELED CONSTRUCTION JOINT WITH EXISTING PAVEMENT  
 C03.16 SCALE: NTS



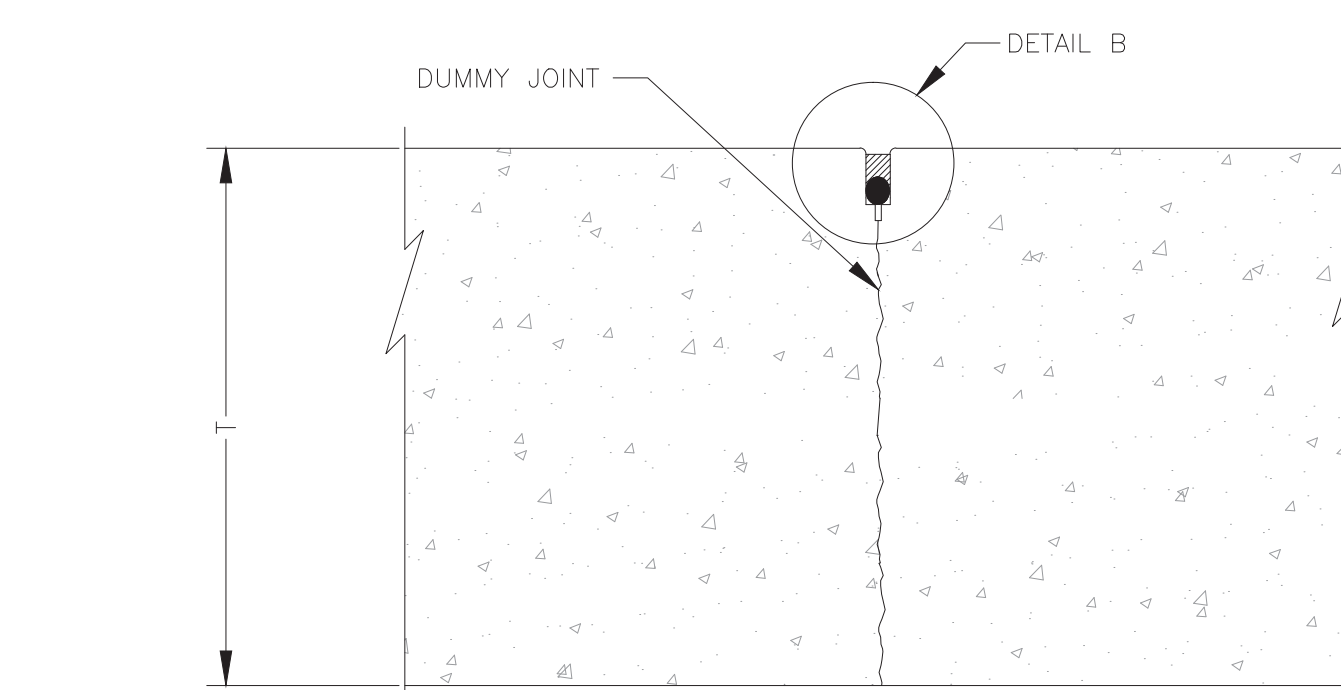
16 DOWELED EXPANSION JOINT  
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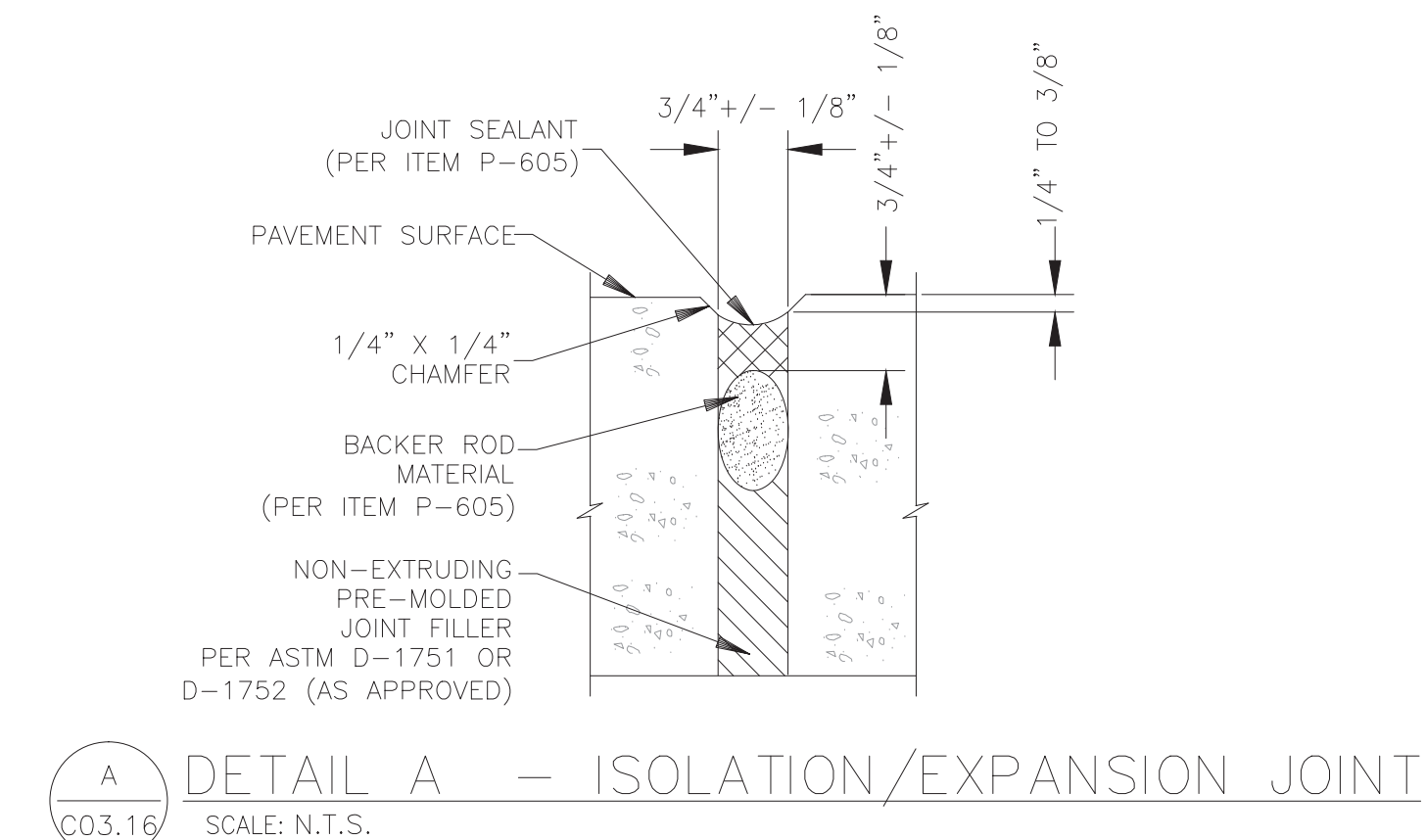
17 TYPICAL FILLET JOINTS  
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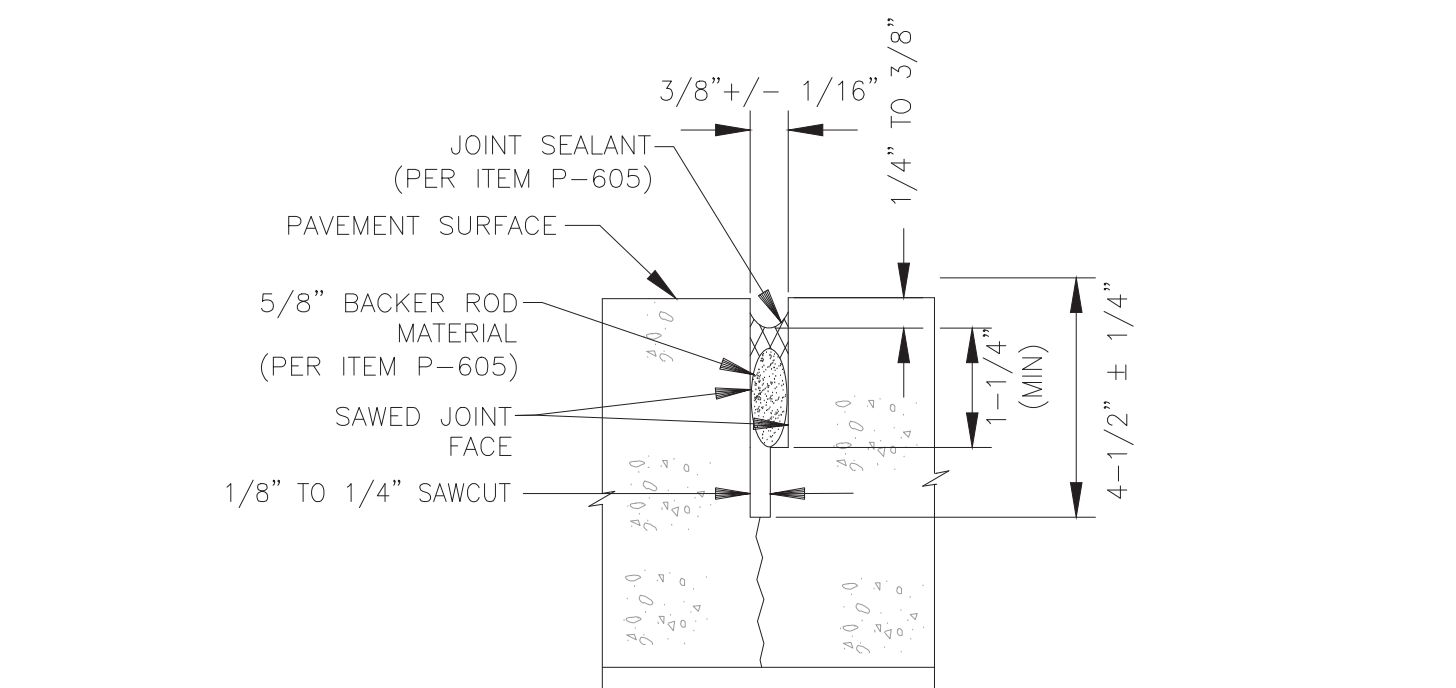
18 TYPICAL TRANSITION JOINTS  
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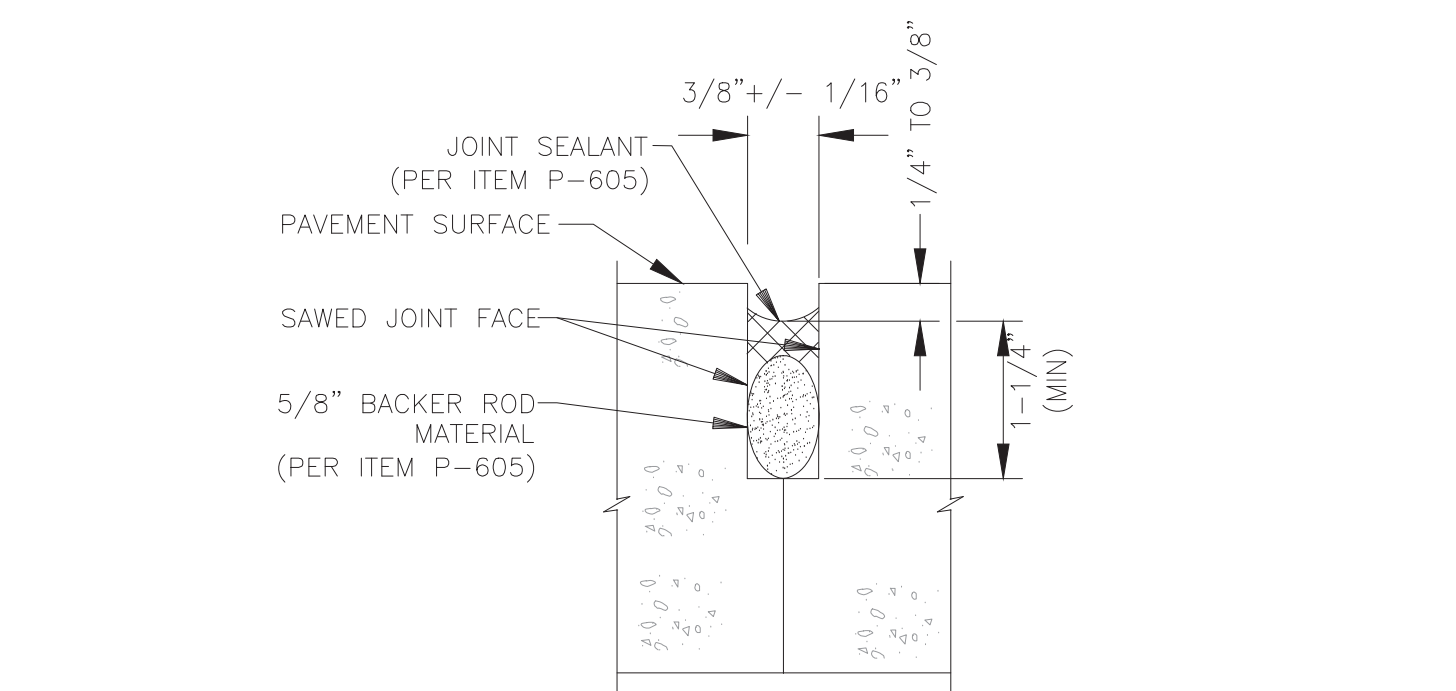
20 DUMMY JOINT  
 C03.16 SCALE: N.T.S.



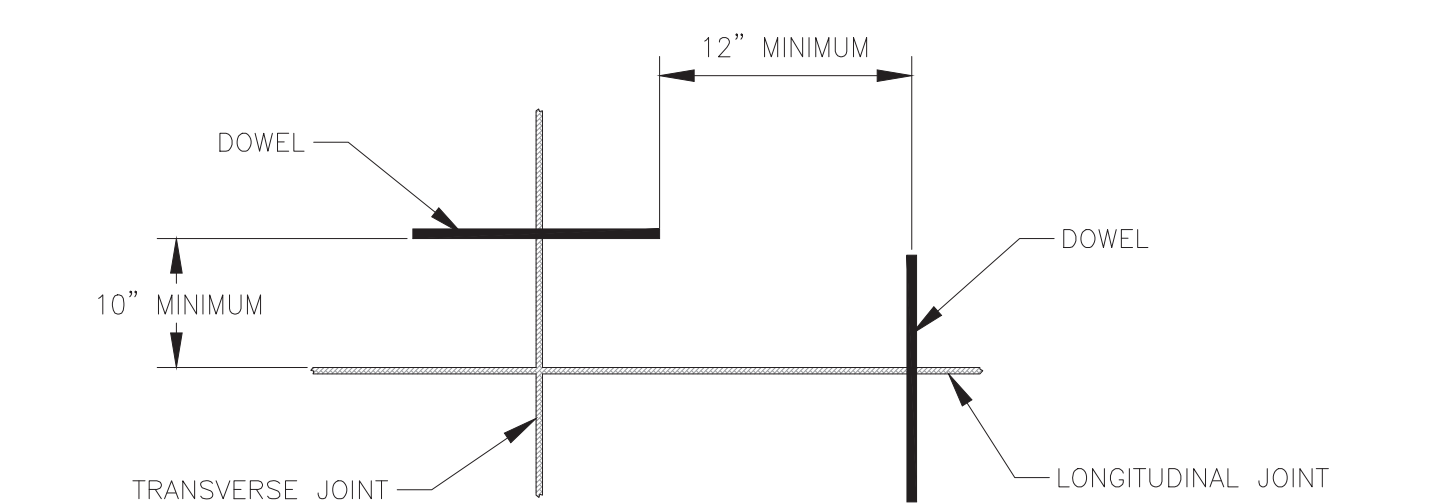
A DETAIL A - ISOLATION/EXPANSION JOINT  
 C03.16 SCALE: N.T.S.



B DETAIL B - CONTRACTION/DUMMY JOINT  
 C03.16 SCALE: N.T.S.



C DETAIL C - CONSTRUCTION JOINT  
 C03.16 SCALE: N.T.S.



D DETAIL D - POSITION OF DOWELS AT EDGE OF JOINT (PLAN VIEW)  
 C03.16 SCALE: NTS

- NOTES:
- BACKER ROD MATERIAL MUST BE COMPATIBLE WITH THE TYPE OF SEALANT USED.
  - ALL JOINTS MUST BE ADEQUATELY CLEANED AFTER SAWCUTTING, IMMEDIATELY PRIOR TO THE INSTALLATION OF JOINT SEALANT.





HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

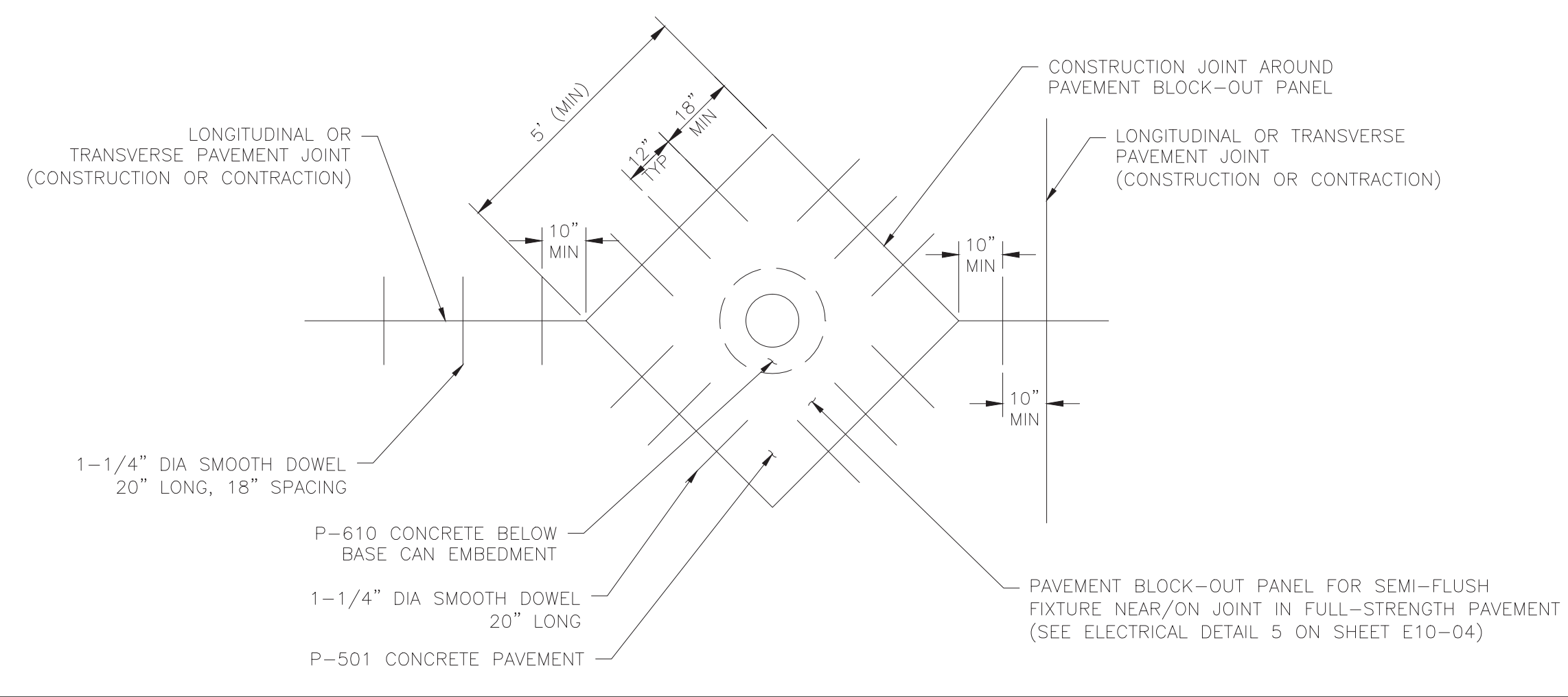


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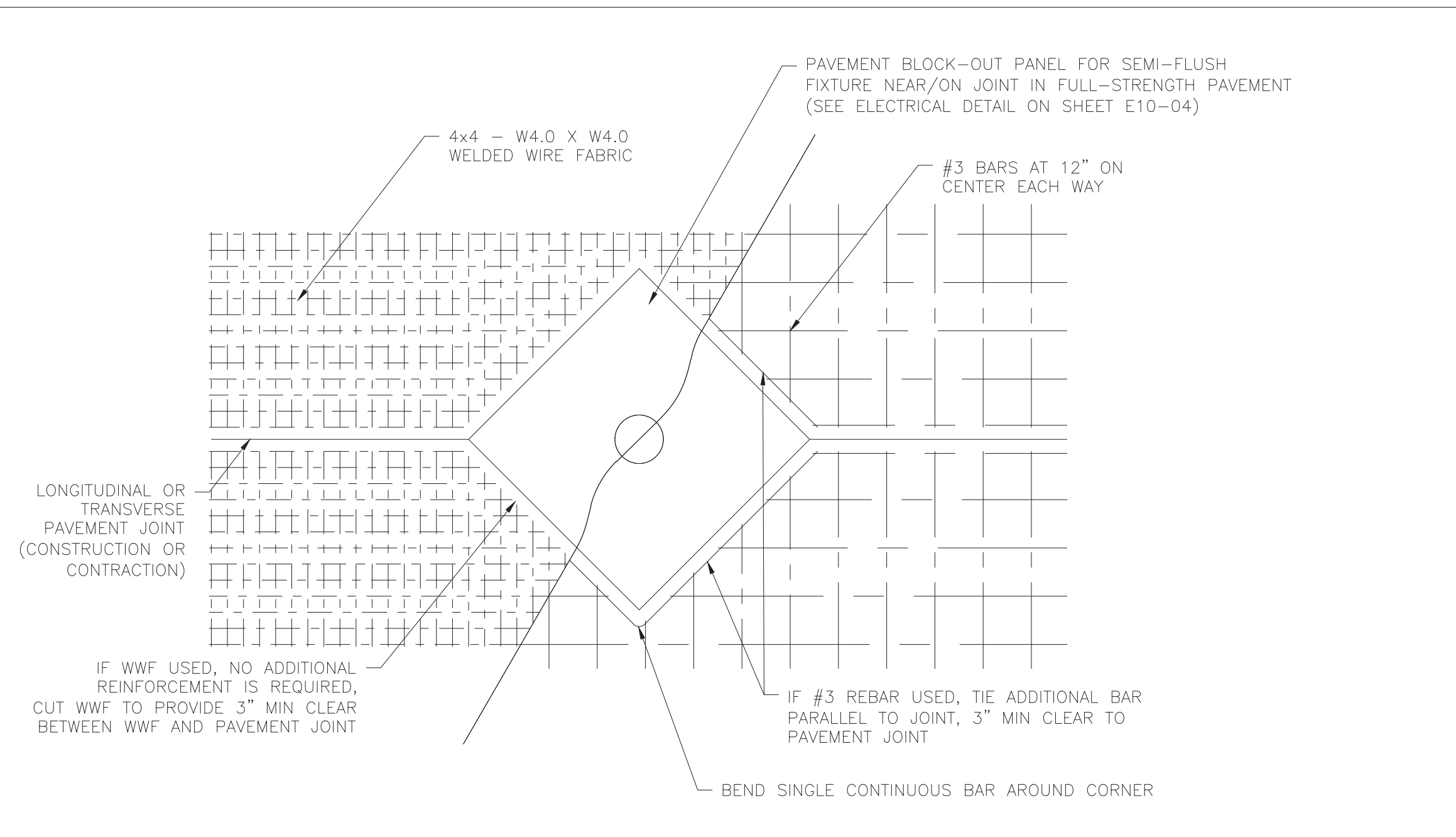
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NOTE:  
SEE ELECTRICAL DETAILS FOR  
BASE CAN INSTALLATION



21 PAVEMENT BLOCK-OUT PANEL DOWEL PLACEMENT  
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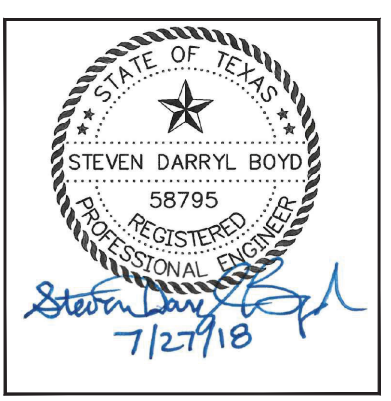


22 EMBEDDED STEEL PLACEMENT FOR PAVEMENT BLOCK-OUT PANEL  
C03.17 SCALE: N.T.S.

RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
PAVEMENT DETAILS  
(4 OF 4)

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PROJECT MGR: DB  
DESIGNER: KE  
DRAWN BY: KE  
CHECKED BY: DB  
SCALE: NTS  
DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
APPROVED BY: DATE:  
Dennis Palmer JULY 27, 2018  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO.  
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A-000570  
H.A.S. NO.  
SHEET NO.

C03.17









HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS

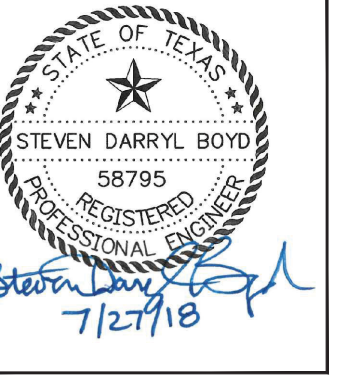


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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**GRADING LAYOUT PLAN**  
 (1 OF 9)

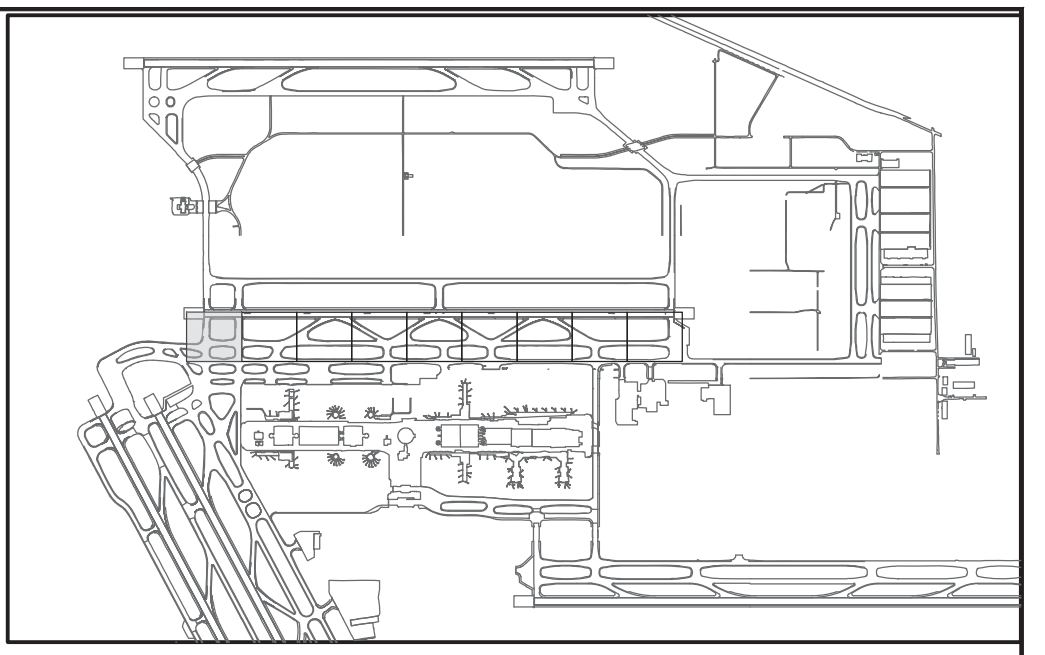
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DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Dennis Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

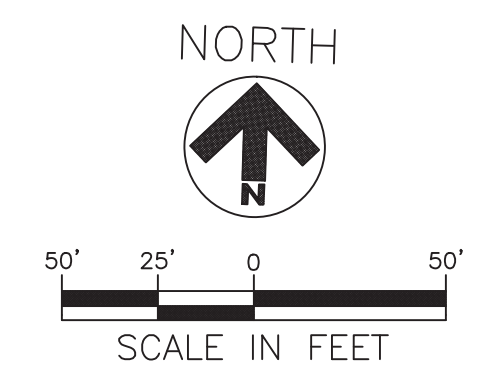
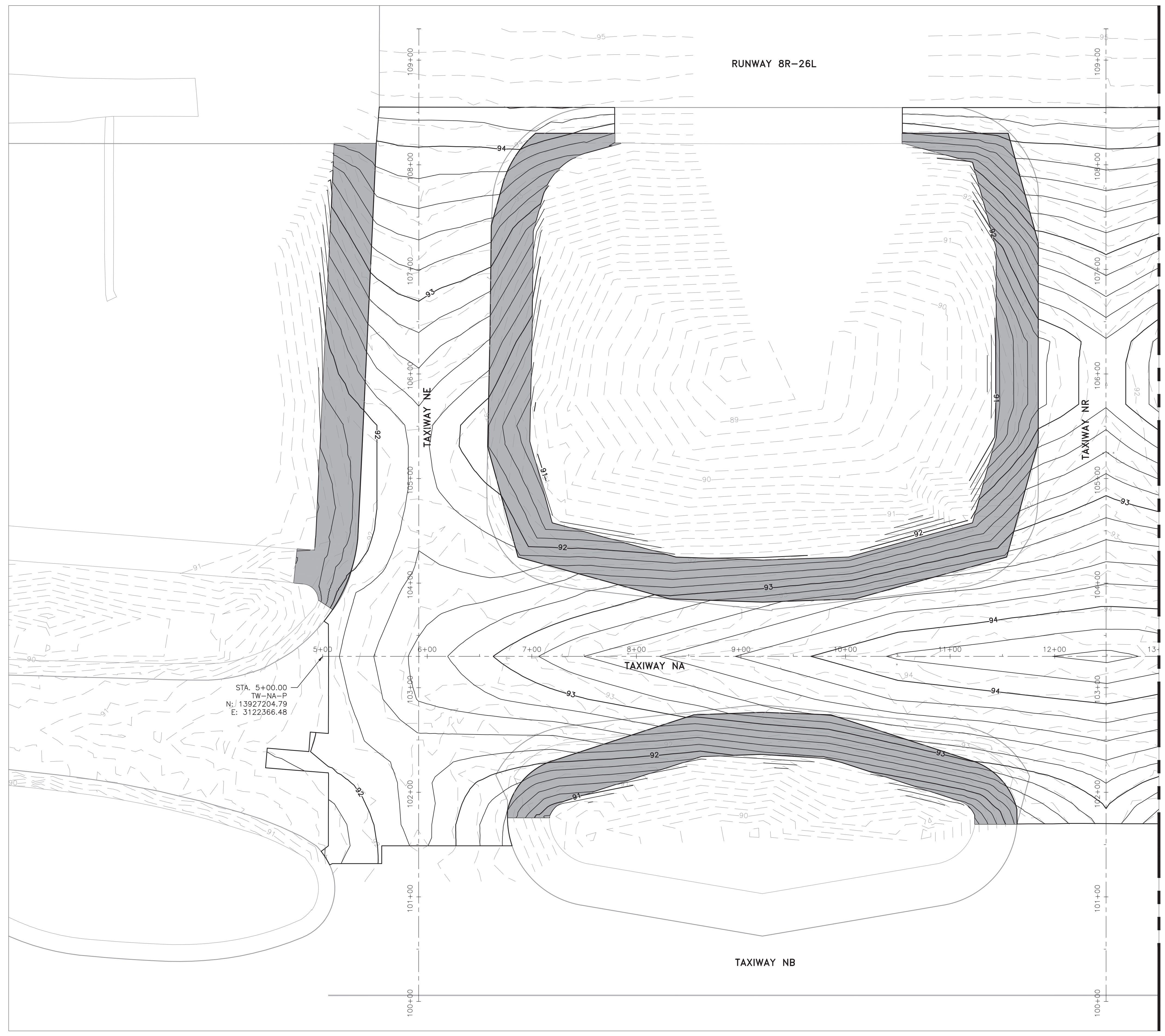
PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C04.01



**LEGEND**

- TAXIWAY SHOULDER PAVEMENT
- 91 NEW MAJOR CONTOUR
- NEW MINOR CONTOUR
- EXISTING CONTOUR



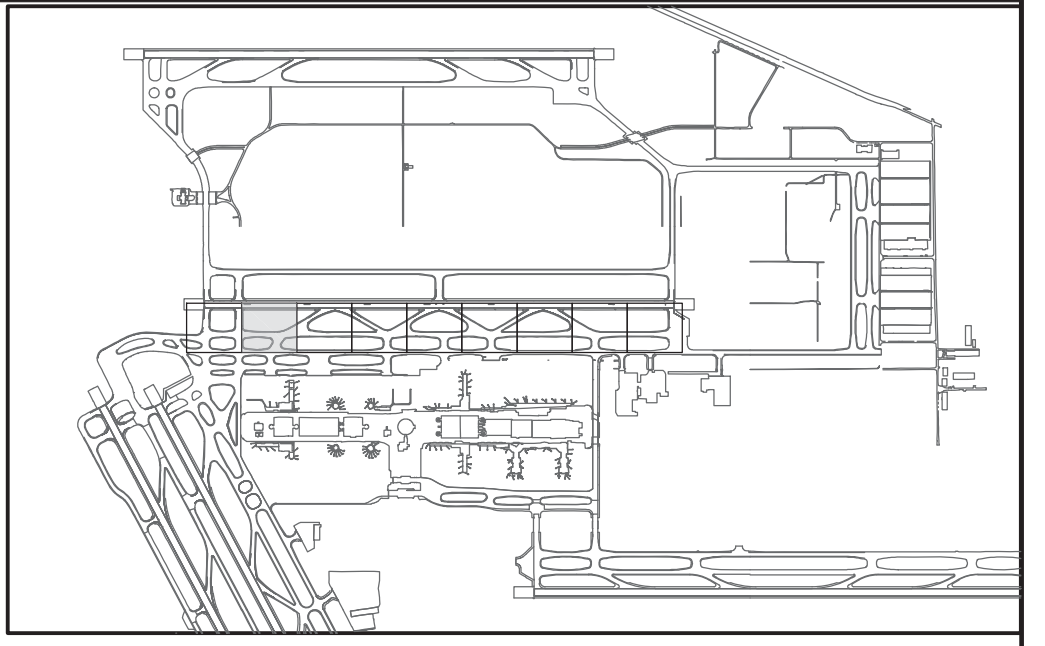





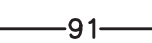


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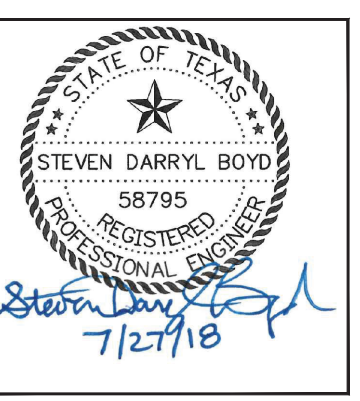
**LEGEND**

-  TAXIWAY SHOULDER PAVEMENT
-  91 NEW MAJOR CONTOUR
-  NEW MINOR CONTOUR
-  EXISTING CONTOUR

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**GRADING LAYOUT PLAN**  
 (2 OF 9)

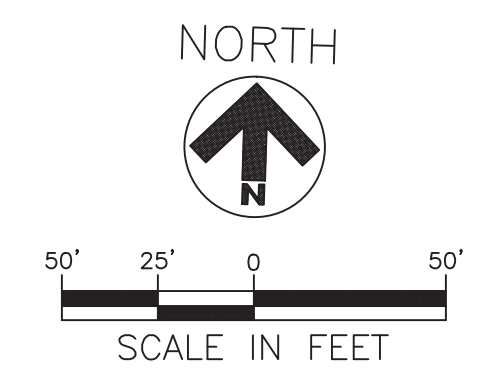
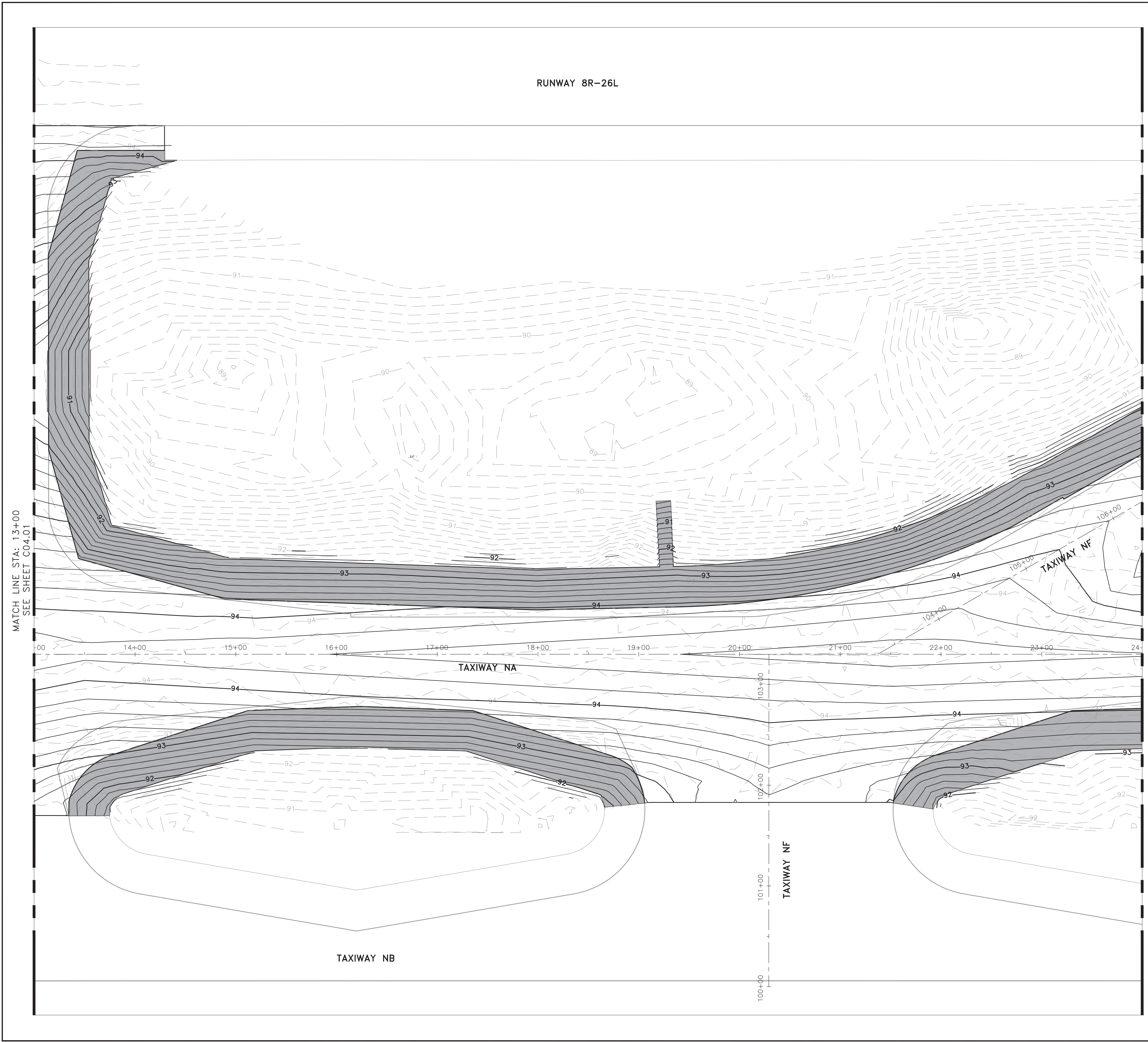
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DESIGNER:	TM
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DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Donaj Pehel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
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PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**C04.02**







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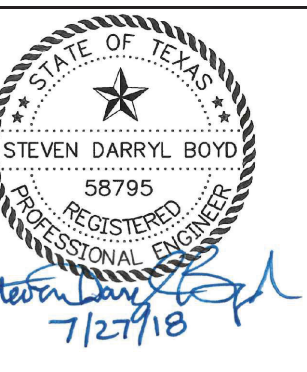
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**GRADING LAYOUT PLAN**  
 (3 OF 9)

ISSUED FOR BID

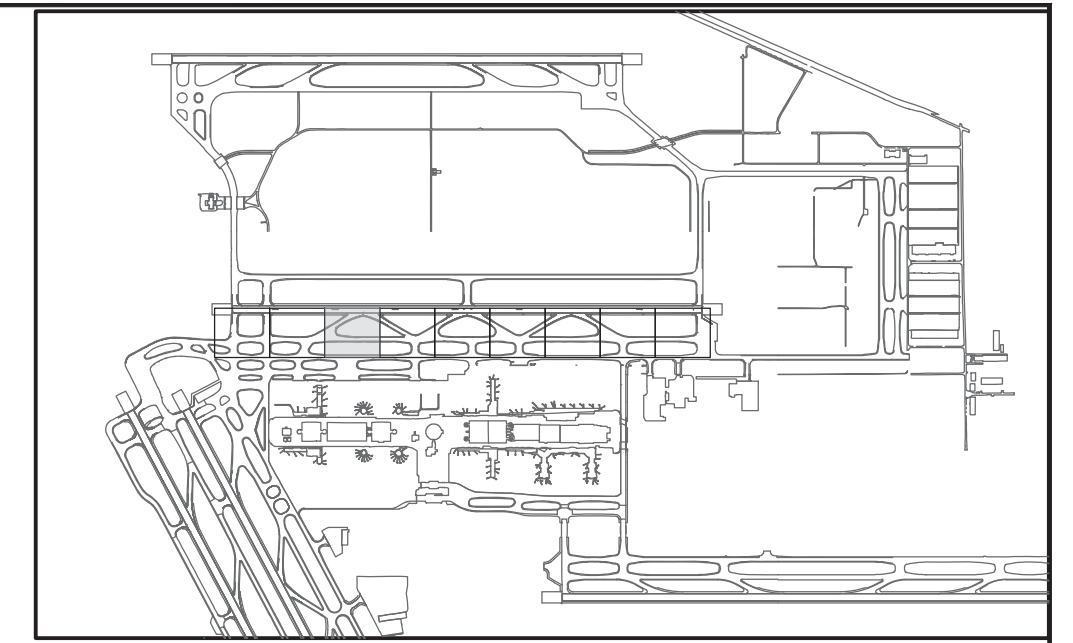
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DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Donaj Pehmel</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

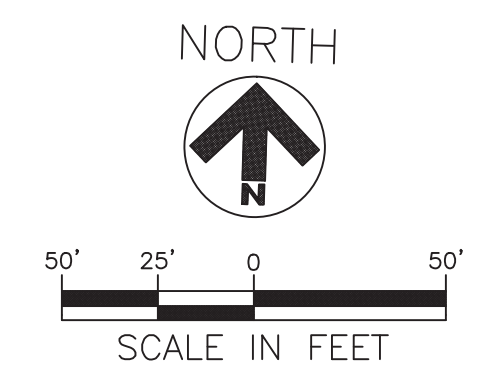
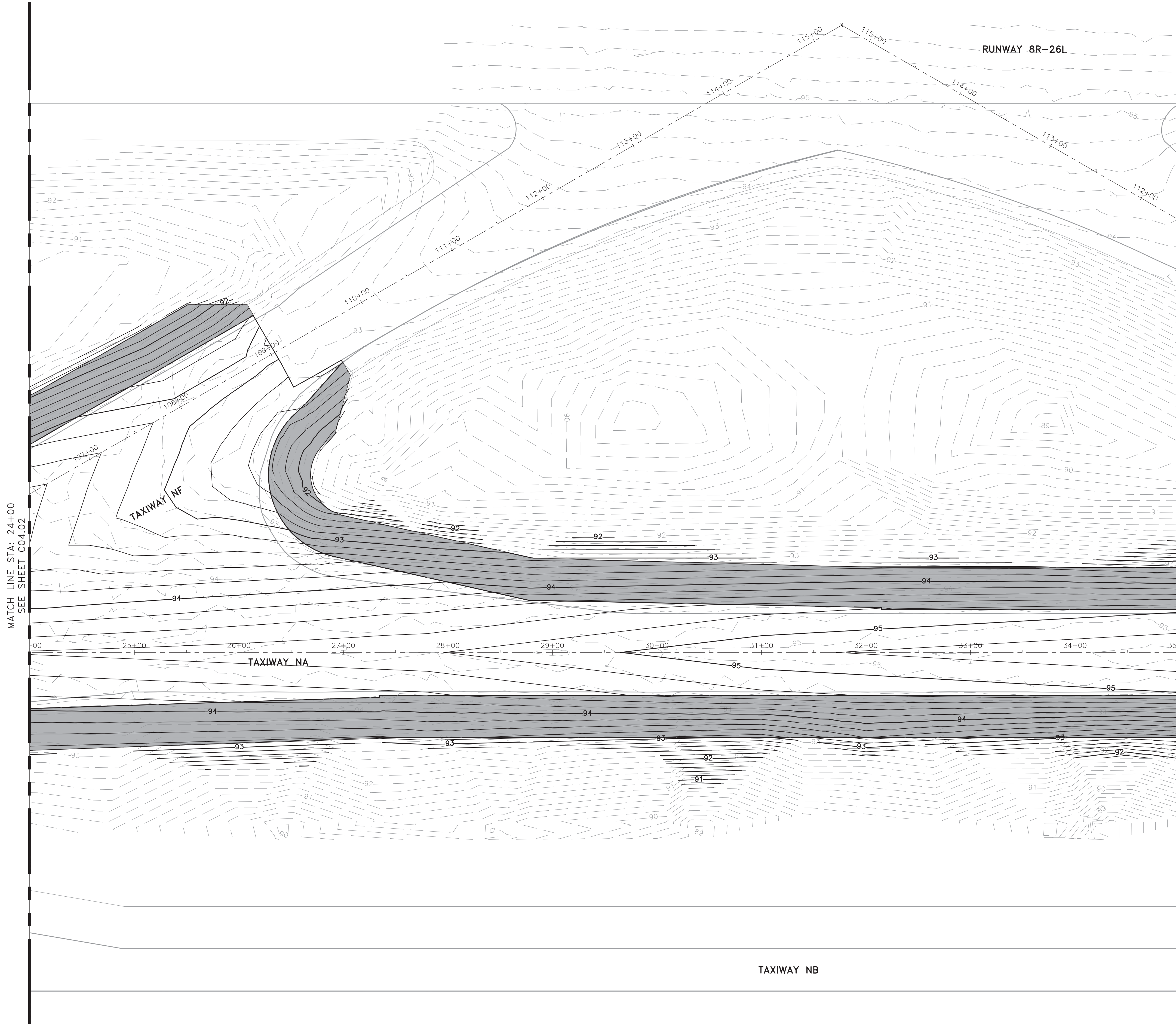
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H.A.S. NO.	
SHEET NO.	

C04.03



LEGEND

- TAXIWAY SHOULDER PAVEMENT
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR
- EXISTING CONTOUR





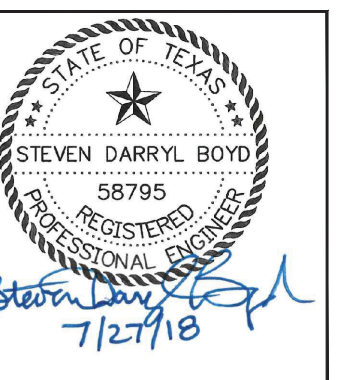


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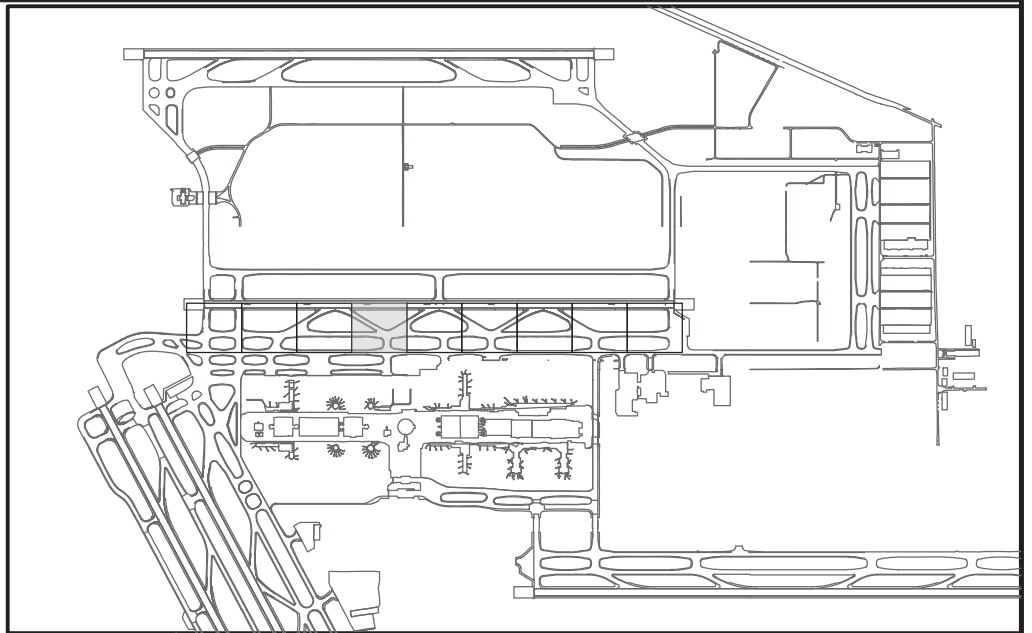
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 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**GRADING LAYOUT PLAN**  
 (4 OF 9)

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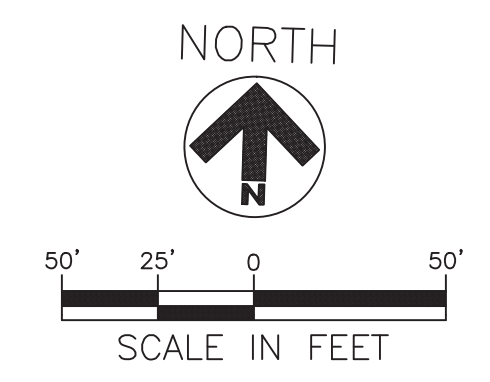
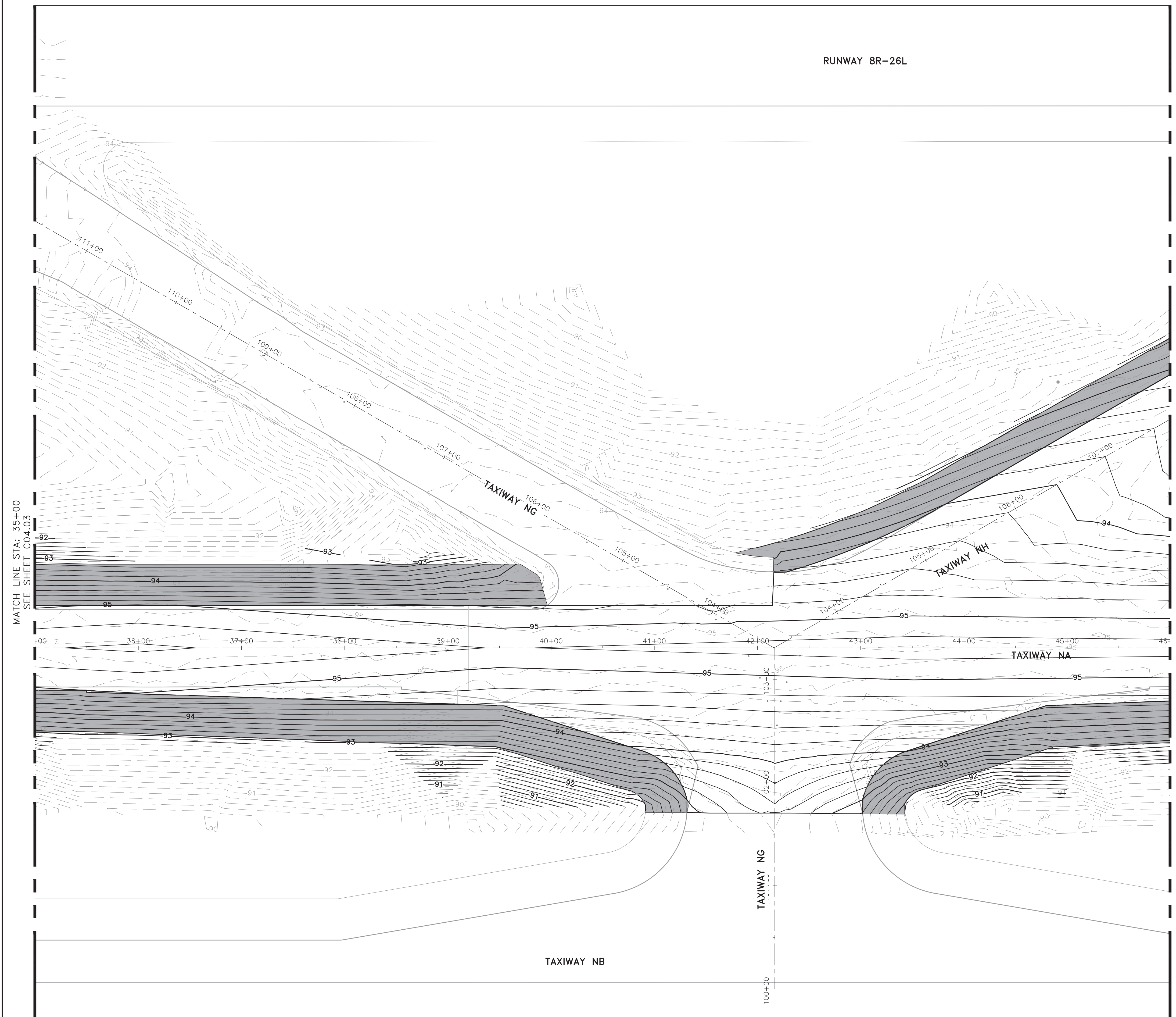
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 HOUSTON AIRPORT SYSTEMS  
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PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.   
 SHEET NO. **C04.04**



**LEGEND**

- TAXIWAY SHOULDER PAVEMENT
- 91 NEW MAJOR CONTOUR
- NEW MINOR CONTOUR
- EXISTING CONTOUR







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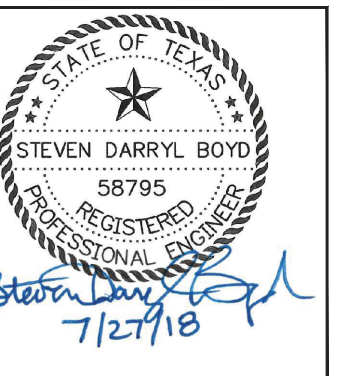
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NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
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**GRADING LAYOUT PLAN**  
 (5 OF 9)

ISSUED FOR BID

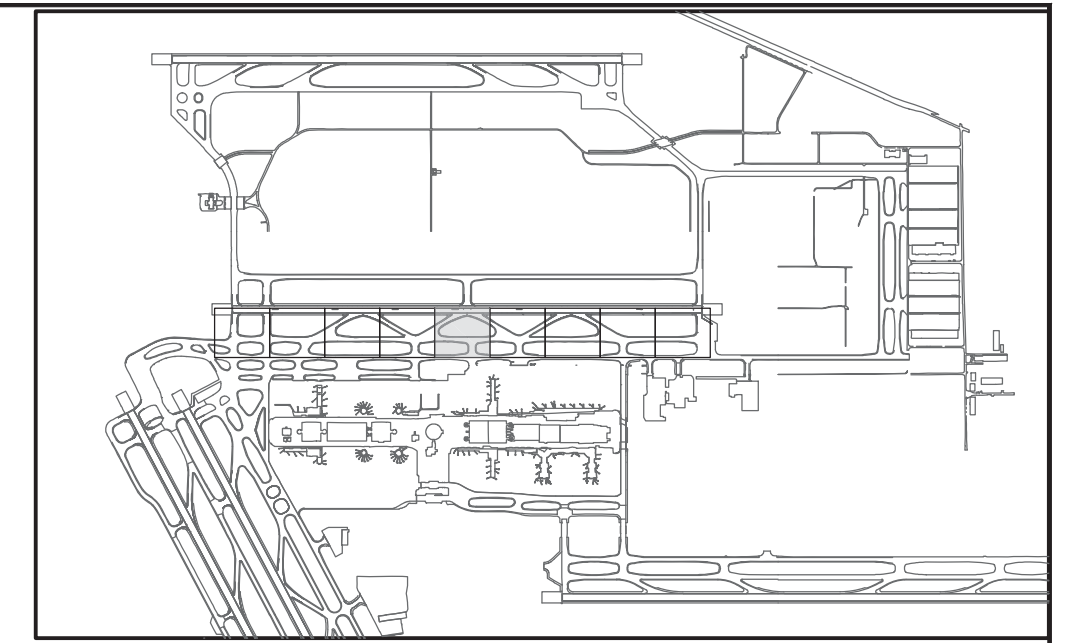
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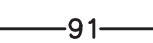
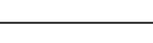
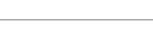
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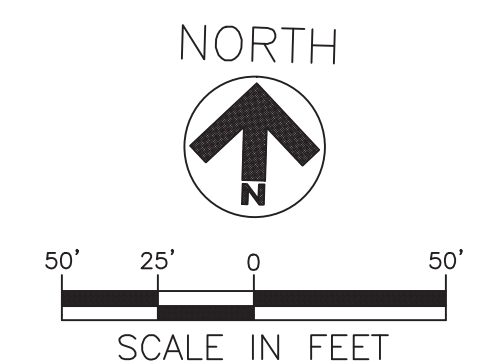
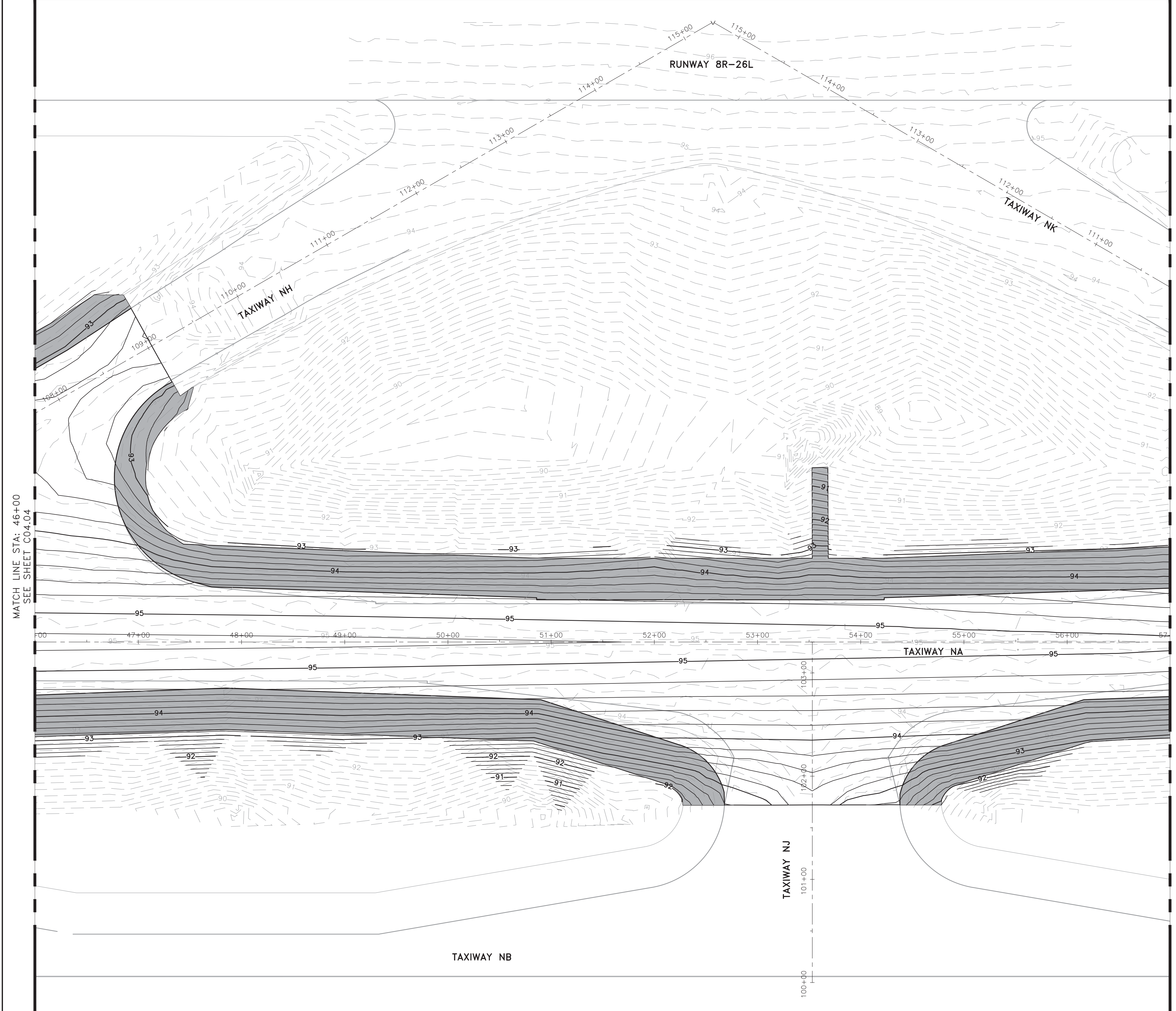
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 H.A.S. NO.  
 SHEET NO.

**C04.05**



**LEGEND**

-  TAXIWAY SHOULDER PAVEMENT
-  91 NEW MAJOR CONTOUR
-  NEW MINOR CONTOUR
-  EXISTING CONTOUR





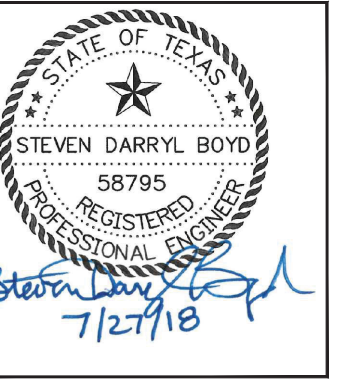


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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**GRADING LAYOUT PLAN**  
 (6 OF 9)

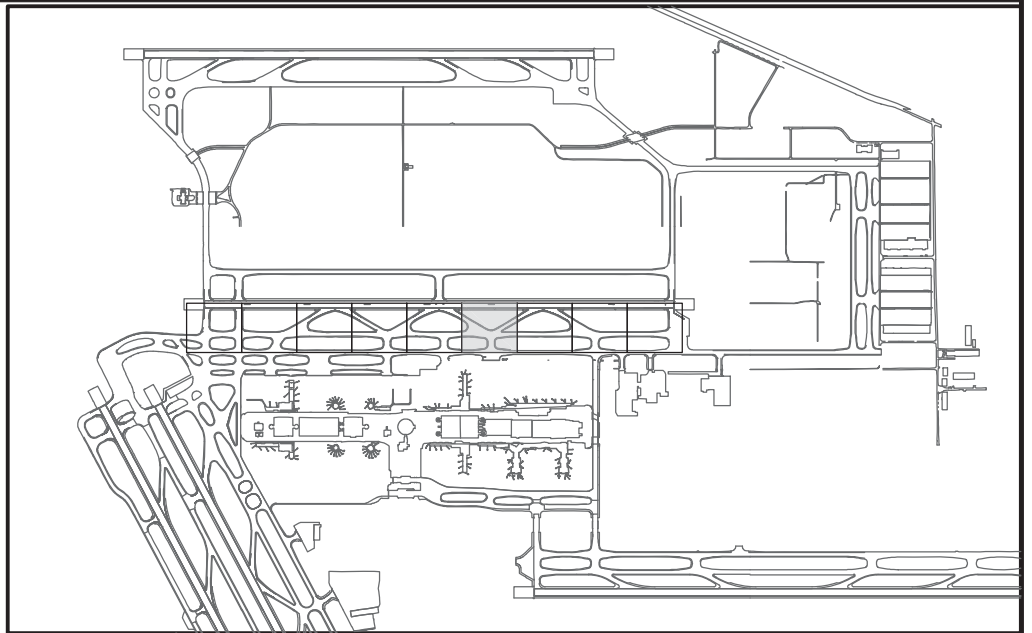
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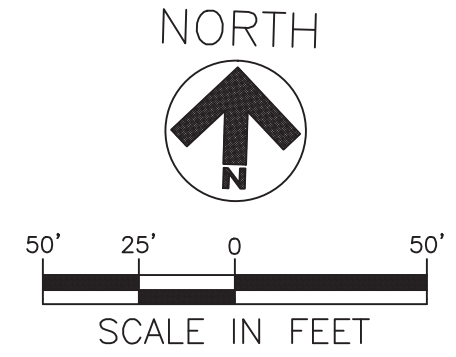
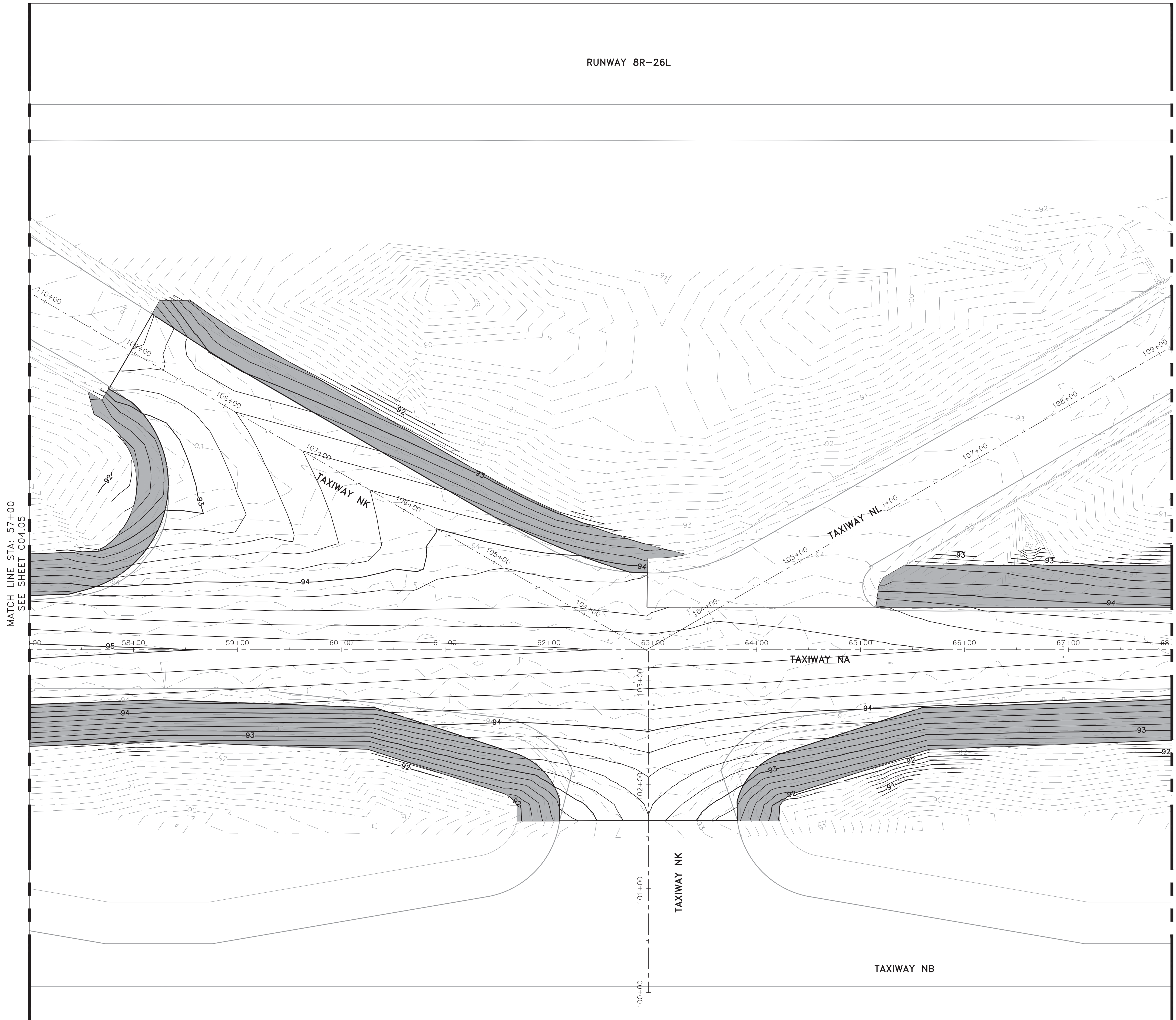
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H.A.S. NO.	
SHEET NO.	

C04.06

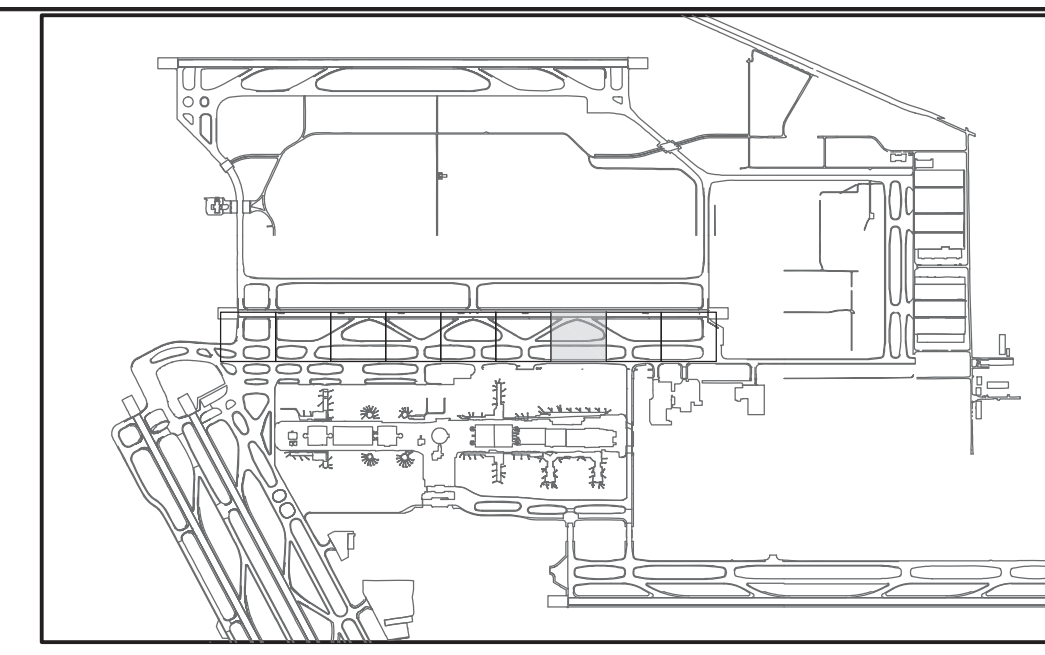


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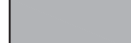



- TAXIWAY SHOULDER PAVEMENT
- 91 NEW MAJOR CONTOUR
- NEW MINOR CONTOUR
- EXISTING CONTOUR







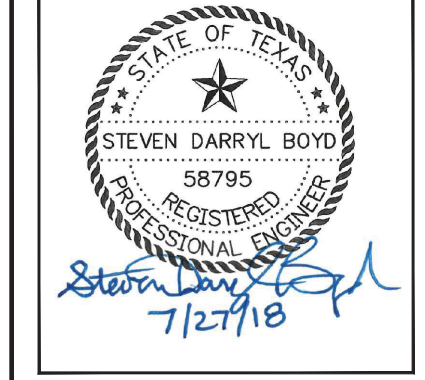
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-  TAXIWAY SHOULDER PAVEMENT
-  NEW MAJOR CONTOUR
-  NEW MINOR CONTOUR
-  EXISTING CONTOUR

REVISIONS			
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**GRADING LAYOUT PLAN**  
 (7 OF 9)

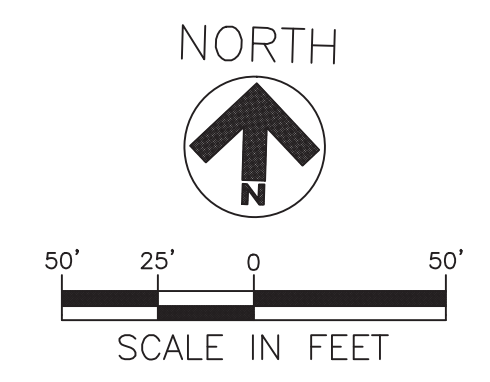
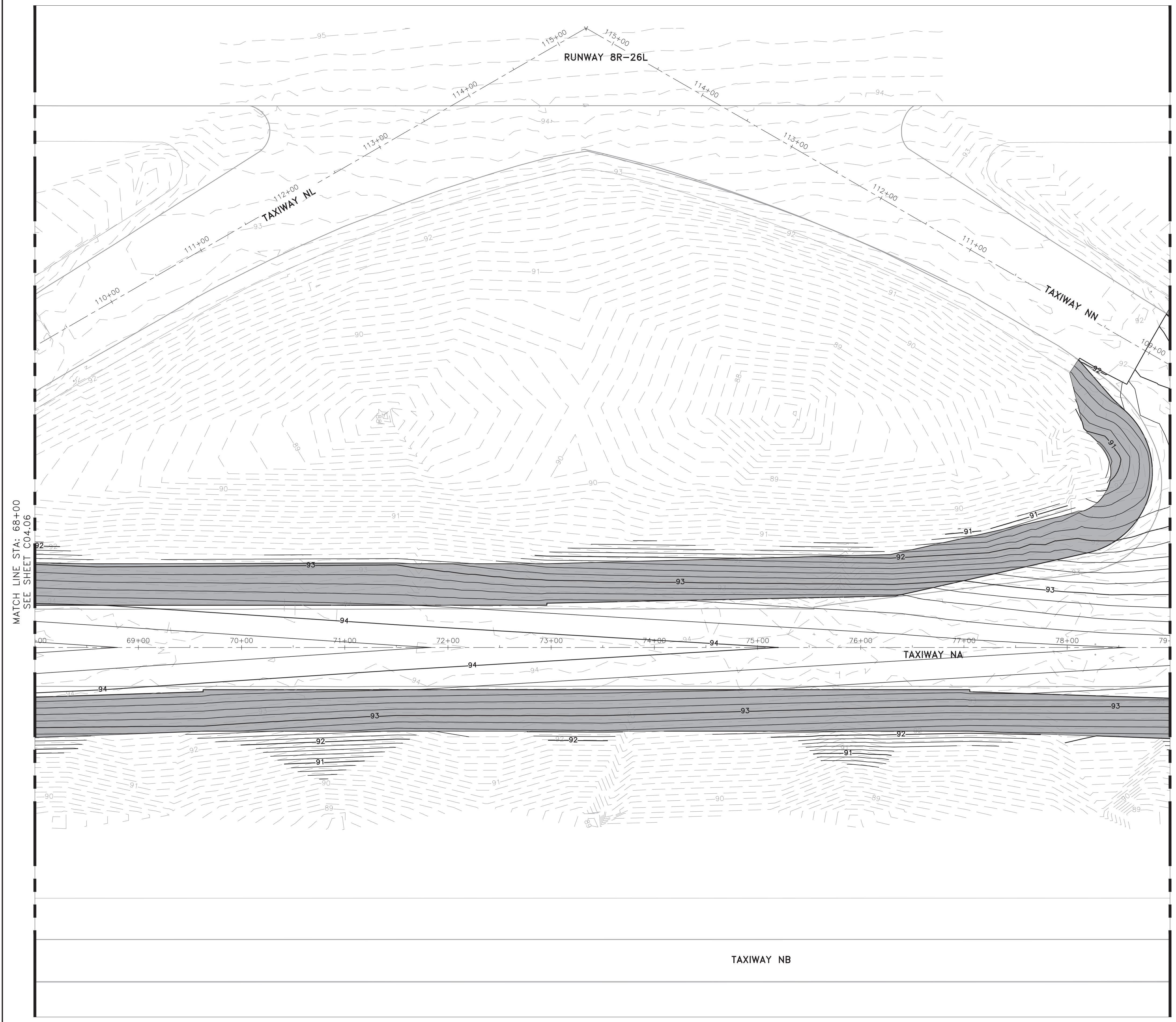
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DATE:	JULY 27, 2018



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APPROVED BY:	DATE:
<i>Denaj Palmer</i>	JULY 27, 2018
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PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**C04.07**





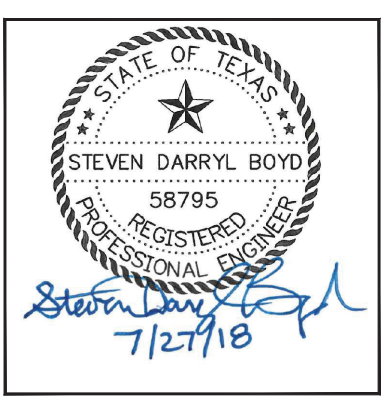


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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**GRADING LAYOUT PLAN**  
 (8 OF 9)

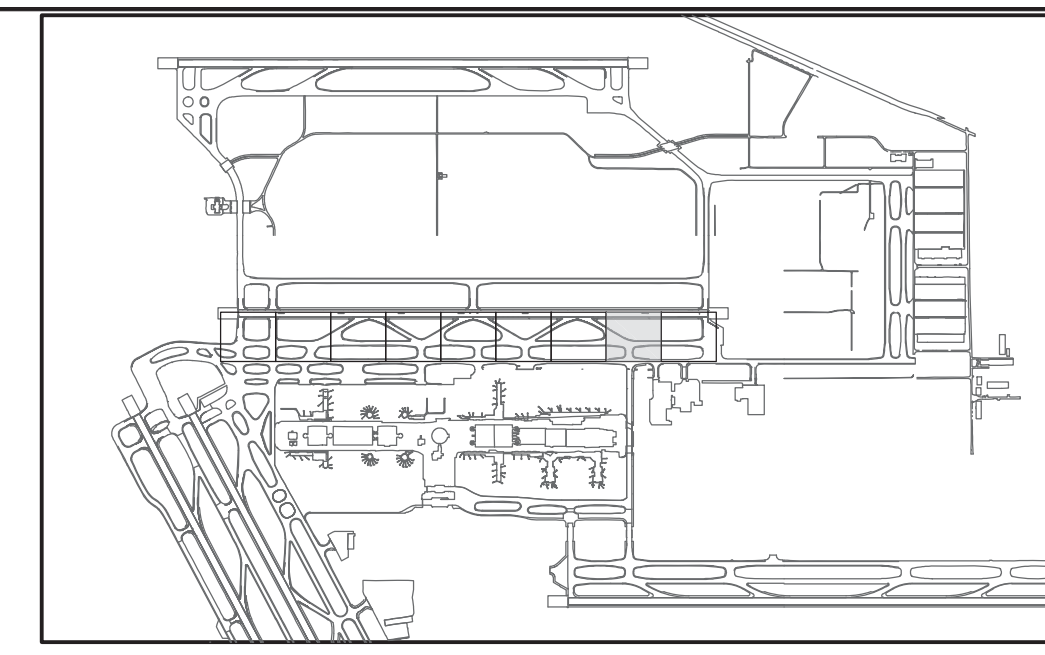
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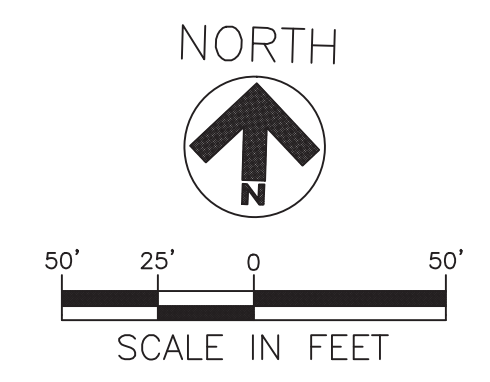
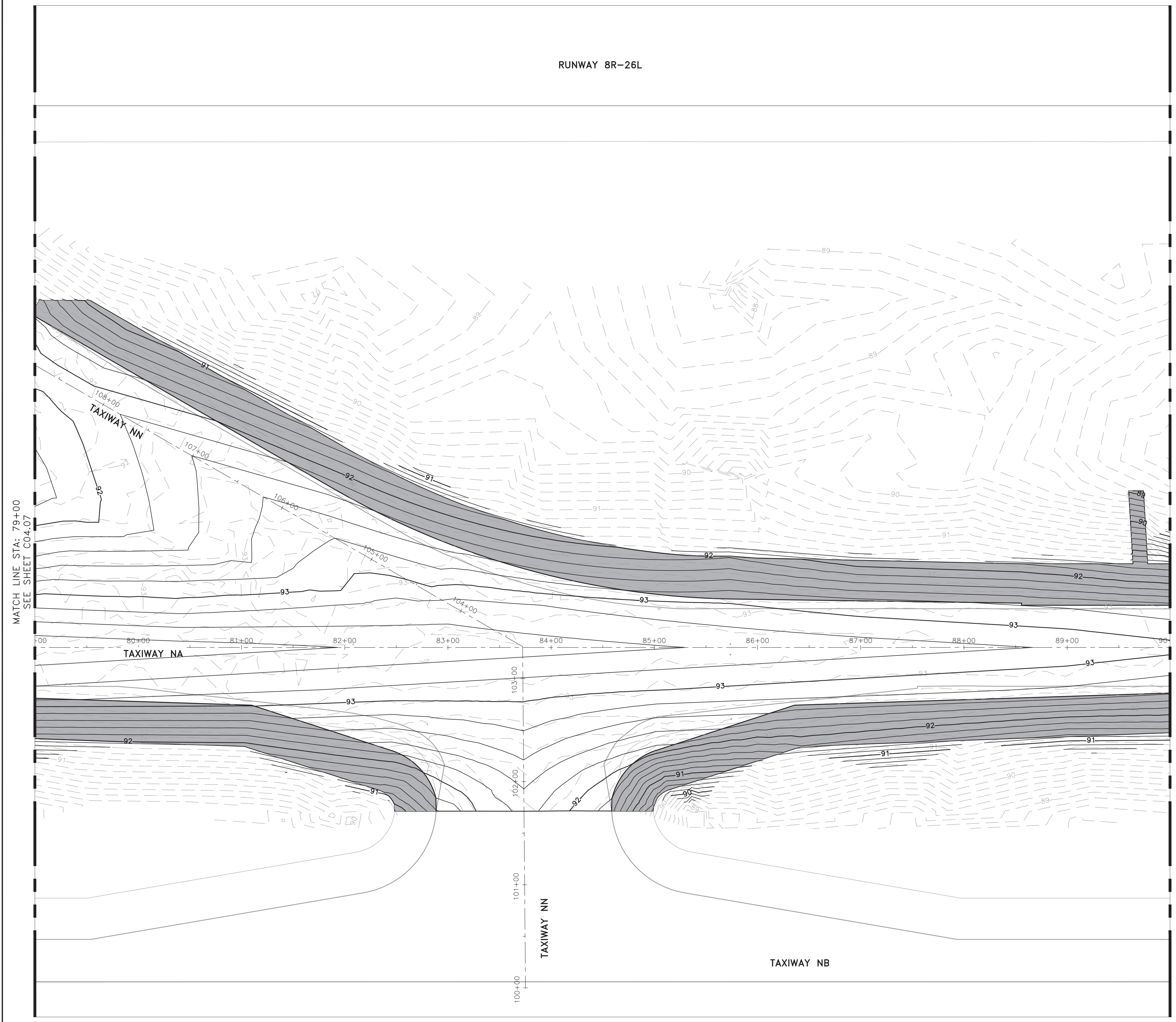
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C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C04.08



**LEGEND**

- TAXIWAY SHOULDER PAVEMENT
- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR
- EXISTING CONTOUR







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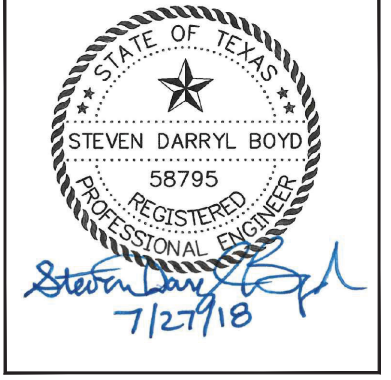
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

## GRADING LAYOUT PLAN (9 OF 9)

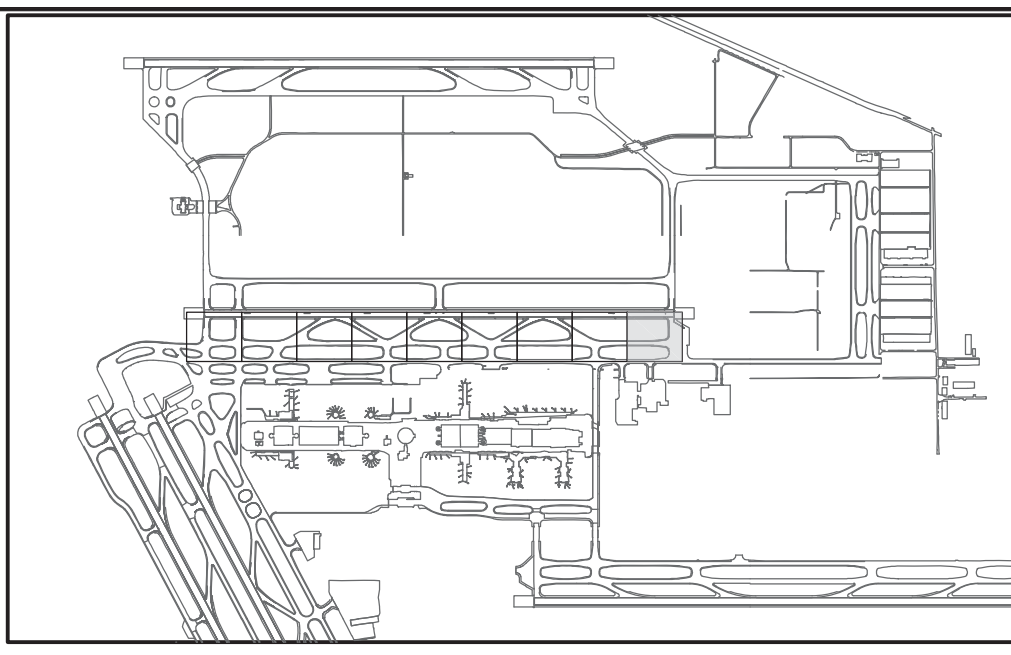
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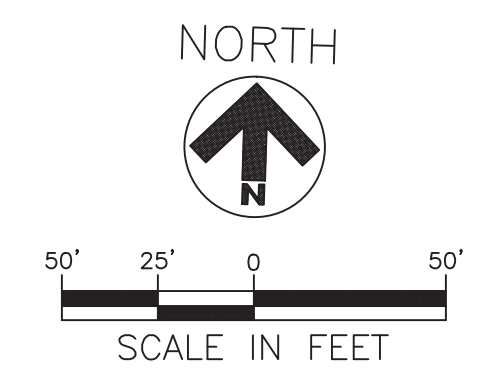
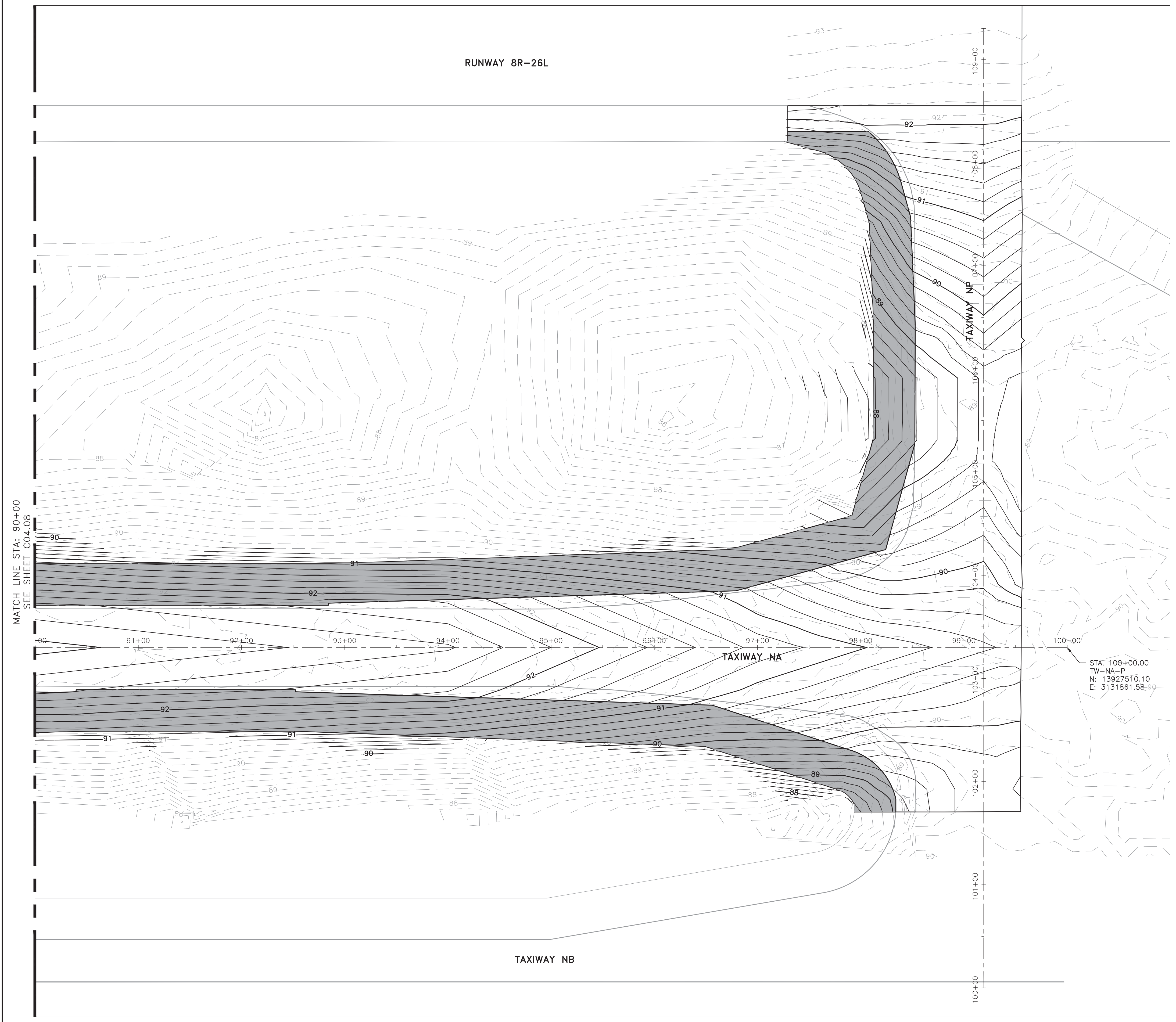
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**C04.09**



### LEGEND

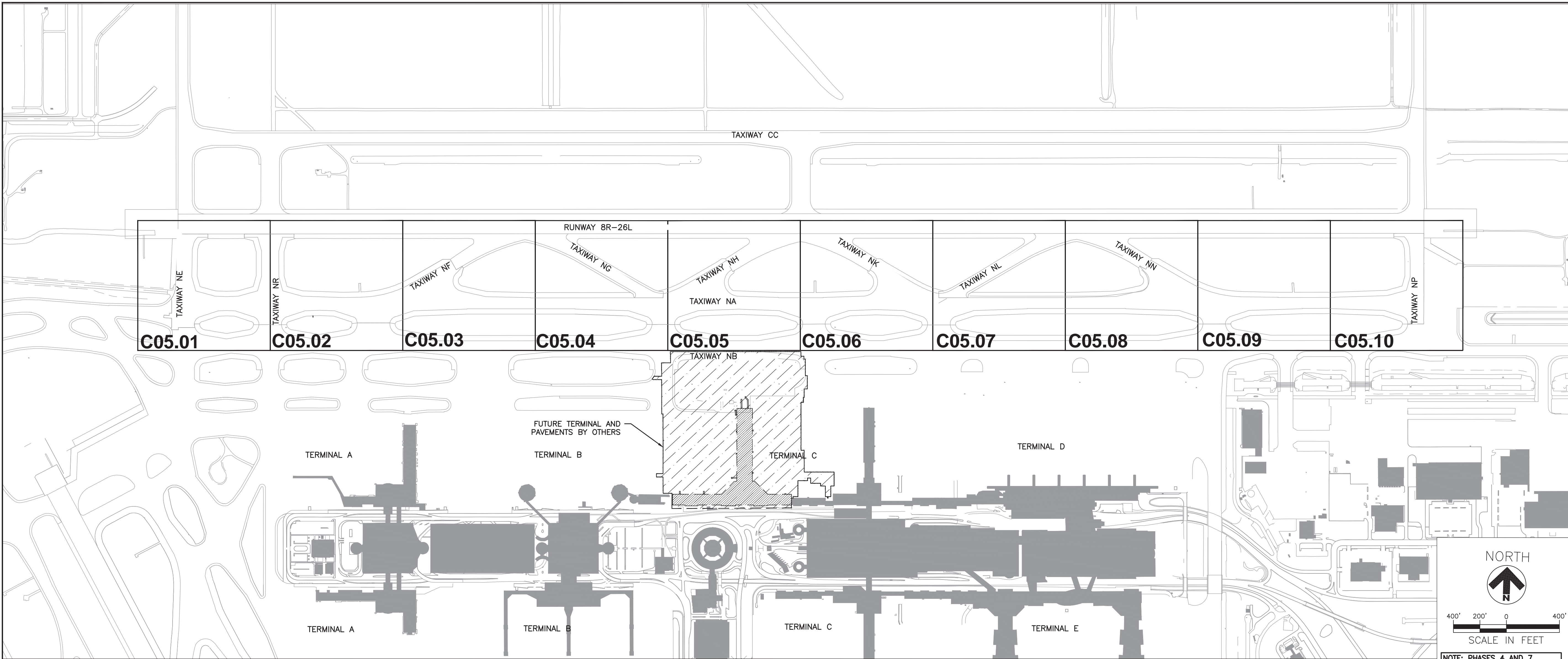
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- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR
- EXISTING CONTOUR





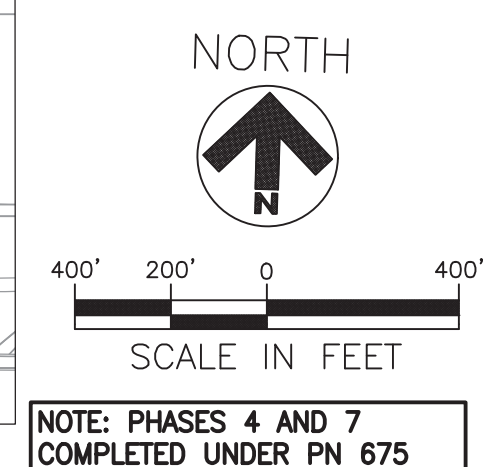
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NO.	DESCRIPTION	DATE

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM WATER POLLUTION  
 PREVENTION KEY PLAN**



**SWPPP GENERAL NOTES**

- THE IMPLEMENTATION OF THE SWPPP SHALL BE COORDINATED BY THE CONTRACTOR IN ACCORDANCE WITH THE PROJECT CONSTRUCTION PHASING AND SEQUENCING. CHANGES SHALL BE REVIEWED AND APPROVED BY THE ENGINEER OR OWNER PRIOR TO IMPLEMENTATION.
- EVERY SOIL DISTURBING ACTIVITY SHALL HAVE AN ACCOMPANYING BEST MANAGEMENT PRACTICE (BMP), AND EITHER CONSTRUCTION SITE NOTICE (CSN) FOR THOSE ACTIVITIES DISTURBING MORE THAN ONE (1) BUT LESS THAN FIVE (5) ACRES, OR NOTICE OF INTENT (NOI) FOR THOSE ACTIVITIES DISTURBING FIVE (5) OR MORE ACRES INCLUDING THOSE ACTIVITIES LESS THAN FIVE (5) ACRES, BUT A PART OF A COMMON PLAN OF DEVELOPMENT TOTALING FIVE (5) OR MORE ACRES. A COPY OF THE APPROPRIATE CSN OR NOI SHALL BE PROVIDED TO THE OWNER PRIOR TO PERFORMING ANY GRADING ACTIVITIES.  
  
THE CSN OR NOI SHALL BE POSTED IN A LOCATION VIEWABLE TO THE PUBLIC UNTIL CONSTRUCTION IS COMPLETE AND NOTICE OF TERMINATION (NOT) SUBMITTED. THE SWPPP SHALL BE READILY AVAILABLE FOR REVIEW BY FEDERAL, STATE, OR LOCAL OFFICIALS.
- THE CONTRACTOR SHALL INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES AROUND ANY TEMPORARILY DISTURBED AREAS NOT SHOWN IN THE PLANS. THESE AREAS WILL TYPICALLY BE ASSOCIATED WITH PREPARATORY OR CONCLUSIVE WORK WITH RESPECT TO A PHASE OR SUBPHASE. COORDINATE APPROPRIATE ADDITIONAL TEMPORARY EROSION CONTROL MEASURES WITH THE OWNER'S REPRESENTATIVE. PAYMENT FOR ADDITIONAL EROSION CONTROL MEASURES SHALL BE PAID FOR WITH THE CORRESPONDING UNIT PRICE AS NOTED IN FAA ITEM P-156, TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL.  
  
THESE AREAS AND PREVENTING ANY MATERIAL RUNOFF FROM THESE AREAS.
- THE CONTRACTOR SHALL INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES AROUND ANY STAGING, STOCKPILE, STORAGE, OR BATCH PLANT AREAS PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS AT NO EXPENSE TO THE OWNER. AT MINIMUM, THE CONTRACTOR SHALL INSTALL FILTER FABRIC BARRIERS AROUND THESE AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE AREAS AND PREVENTING ANY MATERIAL RUNOFF FROM THESE AREAS.
- 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 WIND OR JET BLAST ONTO THE AIRFIELD SURFACES.
- THE CONTRACTOR SHALL SUBMIT, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES, PROPOSED CONCRETE WASHOUT PLAN / MATERIALS FOR APPROVAL. A PIT OR BERMED AREA, LINED WITH PLASTIC OR AN EQUIVALENT CONTAINMENT MEASURE, SHALL BE PROVIDED FOR CONCRETE WASHOUT. THE CONTAINMENT SHALL BE SIX (6) CUBIC FEET FOR EVERY TEN (10) CUBIC YARDS OF CONCRETE PLACED PLUS A ONE (1) FOOT FREE BOARD. THE DISCHARGE OF WASHOUT WATER TO DRAINAGE WAYS OR STORM DRAIN INFRASTRUCTURE SHALL BE PROHIBITED.
- THE CONTRACTOR SHALL INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES PRIOR TO BEGINNING ANY PHASE. THE REMOVAL AND PROPER DISPOSAL OF TEMPORARY EROSION CONTROL MEASURES SHALL BE ACCOMPLISHED BY THE CONTRACTOR EITHER AT THE COMPLETION OF THE APPROPRIATE PHASE (IF VEGETATION HAS BEEN ESTABLISHED) OR THEREAFTER, AS DIRECTED BY THE OWNER'S REPRESENTATIVE. REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE PERFORMED DURING NIGHTTIME CONSTRUCTION HOURS, UNLESS OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE. TYPICAL SEQUENCING OF EROSION CONTROL MEASURES FOR EACH PHASE IS AS FOLLOWS:
  - INSTALL FILTER FABRIC BARRIERS, INLET PROTECTION BARRIERS, AND STABILIZED CONSTRUCTION EXITS AS REQUIRED WITHIN THE DEFINED PHASE AREA.
  - PERFORM ALL PROPOSED CONSTRUCTION WORK WITHIN THE DEFINED PHASE AREA.
  - INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
  - REMOVE TEMPORARY EROSION CONTROL MEASURES.
- THE CONTRACTOR SHALL INSTALL APPROPRIATE TEMPORARY EROSION CONTROL MEASURES IN ACCORDANCE WITH THE FOLLOWING PARAMETERS:
  - THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING B MPS, IN CONFORMANCE WITH SECTION 01410 - TPDES REQUIREMENTS, AND WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) CONSTRUCTION GENERAL PERMIT NUMBER TXR 150000 ISSUED MARCH 5, 2013, OR CURRENT AT TIME OF AGREEMENT, (THE CONSTRUCTION GENERAL PERMIT).
  - NO SOIL DISTURBING ACTIVITIES SHALL OCCUR PRIOR TO THE SWPPP AND ASSOCIATED B MPS BEING COMPLETELY IMPLEMENTED, AND THEN INSPECTED BY THE OWNER'S REPRESENTATIVE.
  - FILTER FABRIC BARRIERS SHALL TYPICALLY BE INSTALLED FIVE (5) FEET OUTSIDE OF ANY DISTURBED AREAS, EXCEPT IN AREAS NEAR ACTIVE TAXIWAYS OR RUNWAYS. IN AREAS NEAR ACTIVE TAXIWAYS, FILTER FABRIC BARRIERS SHALL BE PLACED OUTSIDE OF THE TOFA. FOR WORK ADJACENT TO ACTIVE RUNWAYS, FILTER FABRIC BARRIERS SHALL BE PLACED OUTSIDE OF THE RSA.
  - FILTER FABRIC BARRIERS SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF TEMPORARY HAUL ROADS AND SHALL BE KEPT OUTSIDE ANY ACTIVE TOFAS AND / OR RSAS.
- REFER TO PLAN SHEET C02.00 FOR RSA AND TOFA DIMENSIONS.
- THE CONTRACTOR SHALL KEEP ALL EXPOSED OR AFFECTED STORM SEWERS FREE OF SILT AND / OR EXCAVATED MATERIALS. THE CONTRACTOR SHALL INSTALL INLET PROTECTION BARRIERS AND FILTER FABRIC BARRIERS AT LOCATIONS SHOWN ON THE SWPPP PLANS TO PROHIBIT SILT AND / OR EXCAVATED MATERIALS FROM ENTERING DRAINAGE INLETS AND EVENTUALLY POLLUTING THE RECEIVING STORM SEWERS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF APPROPRIATE TEMPORARY EROSION CONTROL MEASURES DURING THE INTERIM PROCESS OF REMOVAL AND INSTALLATION OF STORM SEWER RELATED STRUCTURES.
  - UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL CLEAN ALL DRAINAGE STRUCTURES OF ANY ACCUMULATED SILT OR SEDIMENT.
  - WHEN EXISTING DRAINAGE INLETS ARE DESIGNATED FOR REMOVAL AND REPLACEMENT, THE CONTRACTOR SHALL FIRST INSTALL AN INLET PROTECTION BARRIER AROUND THE EXISTING DRAINAGE INLET. WHEN THE INLET IS REMOVED AND REPLACED, THE CONTRACTOR SHALL REINSTALL AN INLET PROTECTION BARRIER AROUND THE NEW INLET. MEASUREMENT FOR PAYMENT FOR THIS SEQUENCE OF WORK SHALL BE TWO (2) INLET PROTECTION BARRIERS.
- THE CONTRACTOR SHALL INSTALL THE APPROPRIATE VEGETATION IMMEDIATELY AFTER COMPLETION OF GRADING ACTIVITIES.
  - ALL DISTURBED AREAS SHALL BE GRADED FOR PROPER DRAINAGE AND TAMPED PRIOR TO INSTALLING VEGETATION.
  - SOD SHALL BE PLACED ALONG ALL DISTURBED PAVEMENT EDGES (PROPOSED AND EXISTING) FOR A WIDTH OF 10 FEET, UNLESS OTHERWISE SHOWN IN THE PLANS.
- THE CONTRACTOR SHALL FOLLOW GOOD HOUSE KEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES. THE CONTRACTOR SHALL MONITOR THE SITE REGULARLY TO KEEP SITE FREE OF TRASH AND CONSTRUCTION DEBRIS.
- SOD SHALL BE PLACED SURROUNDING ALL DISTURBED DRAINAGE STRUCTURES (PROPOSED AND EXISTING) FOR A WIDTH OF 10 FEET, UNLESS OTHERWISE SHOWN IN THE PLANS.
- SOD SHALL BE PLACED ACROSS THE ENTIRE WIDTH OF DISTURBED AREA FOR STORM SEWER REMOVAL AND INSTALLATIONS. FOR ESTIMATING PURPOSES, A WIDTH OF 20 FEET HAS BEEN UTILIZED FOR THESE ITEMS.
- ALL SOD INSTALLED SHALL BE STAKED TO PREVENT DAMAGE FROM JET BLAST.
- SEEDING AND SOIL RETENTION BLANKETS SHALL BE PLACED ALONG ALL DISTURBED AREAS NOT DESIGNATED FOR SODDING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL INSTALLED VEGETATION IN A MANNER THAT AVOIDS EROSION UNTIL FINAL INSPECTION AND ACCEPTANCE OF ALL WORK. THE CONTRACTOR SHALL SUBMIT, IN ACCORDANCE WITH SECTION 01330 - SUBMITTAL PROCEDURES, A WATERING PLAN TO THE ENGINEER PRIOR TO INSTALLATION OF ANY VEGETATIVE MATERIALS. WATERING SHALL BE COMPLETED AT NO DIRECT EXPENSE TO THE OWNER.
- THE CONTRACTOR SHALL MAINTAIN ALL VEGETATED AREAS, INCLUDING REPLACEMENT OF TOPSOIL, REGRADING, RESEEDING / RESODDING, REPLACEMENT / REPAIR OF B MPS, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE UNTIL FINAL INSPECTION AND ACCEPTANCE OF THE WORK. THIS SHALL INCLUDE MOWING. THE CONTRACTOR SHALL MOW INSTALLED VEGETATED AREAS SO THAT THE GRASS HEIGHT IS MAINTAINED BETWEEN SIX (6) AND TWELVE (12) INCHES AT NO EXPENSE TO THE OWNER.
- THE CONTRACTOR SHALL INSPECT AND MAINTAIN THE EROSION CONTROL MEASURES OF THE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER. THE CONTRACTOR SHALL PERFORM THE APPROPRIATE ADJUSTMENTS / REPAIRS TO THE EROSION CONTROL MEASURES AS NEEDED AS NO EXPENSE TO THE OWNER. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ADJUSTMENTS / REPAIRS SUCH THAT THE ADJUSTMENTS / REPAIRS MAY BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
- UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL REMOVE ALL REMAINING INSTALLED EROSION CONTROL DEVICES AND PROPERLY DISPOSE OF THEM OFFSITE.
- REFER TO SHEET C05.11 FOR SWPPP DETAILS.
- NO MODIFICATIONS WILL BE MADE TO SWPPP-RELATED BID ITEM QUANTITIES OR UNIT PRICES FOR DIFFERENCES BETWEEN ACTUAL QUANTITIES INSTALLED AND THE ENGINEER'S ESTIMATED QUANTITIES SHOWN IN THE BID PROPOSAL, UNLESS THEY ARE PREVIOUSLY SHOWN IN THE CONTRACTOR-PREPARED, ENGINEER-APPROVED SWPPP OR UNLESS THEY ARE PREVIOUSLY APPROVED BY THE ENGINEER OR OWNER IN WRITING.



ISSUED FOR BID

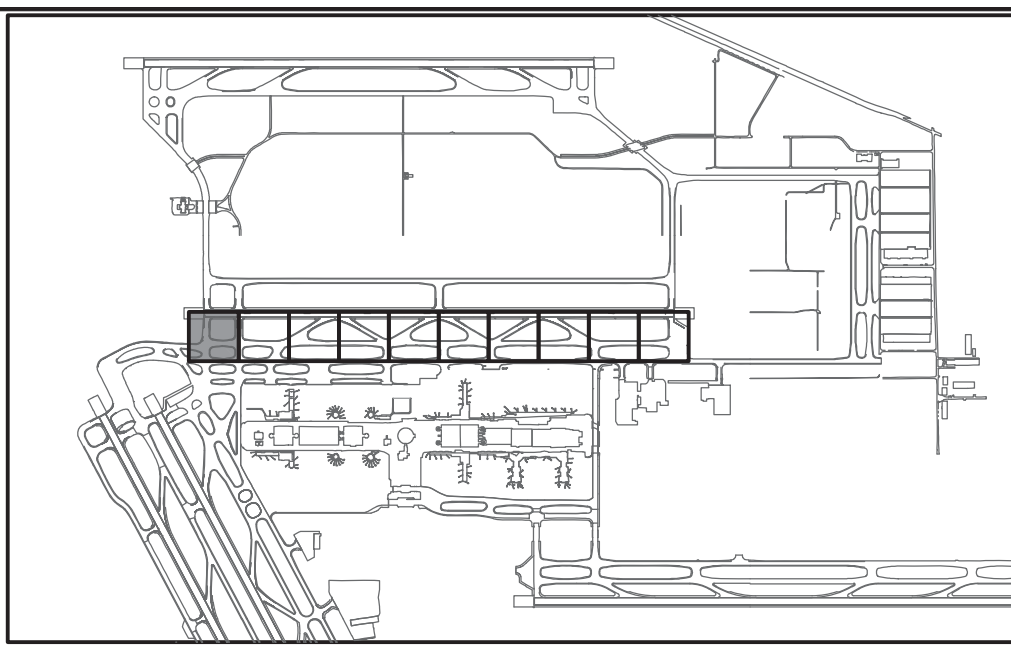
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 DESIGNER: EBN  
 DRAWN BY: MRM  
 CHECKED BY: SMC  
 SCALE: 1"=400'  
 DATE: JULY 27, 2018

DEPARTMENT OF AVIATION  
 APPROVED BY: *Davey Pahnd* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO. **C05.00**



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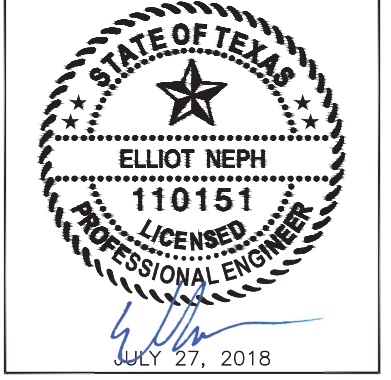
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM WATER POLLUTION  
 PREVENTION PLANS (1 OF 10)**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

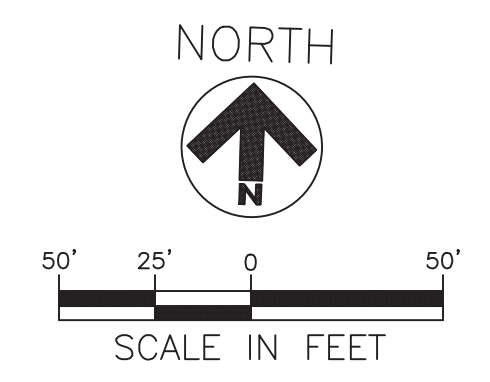
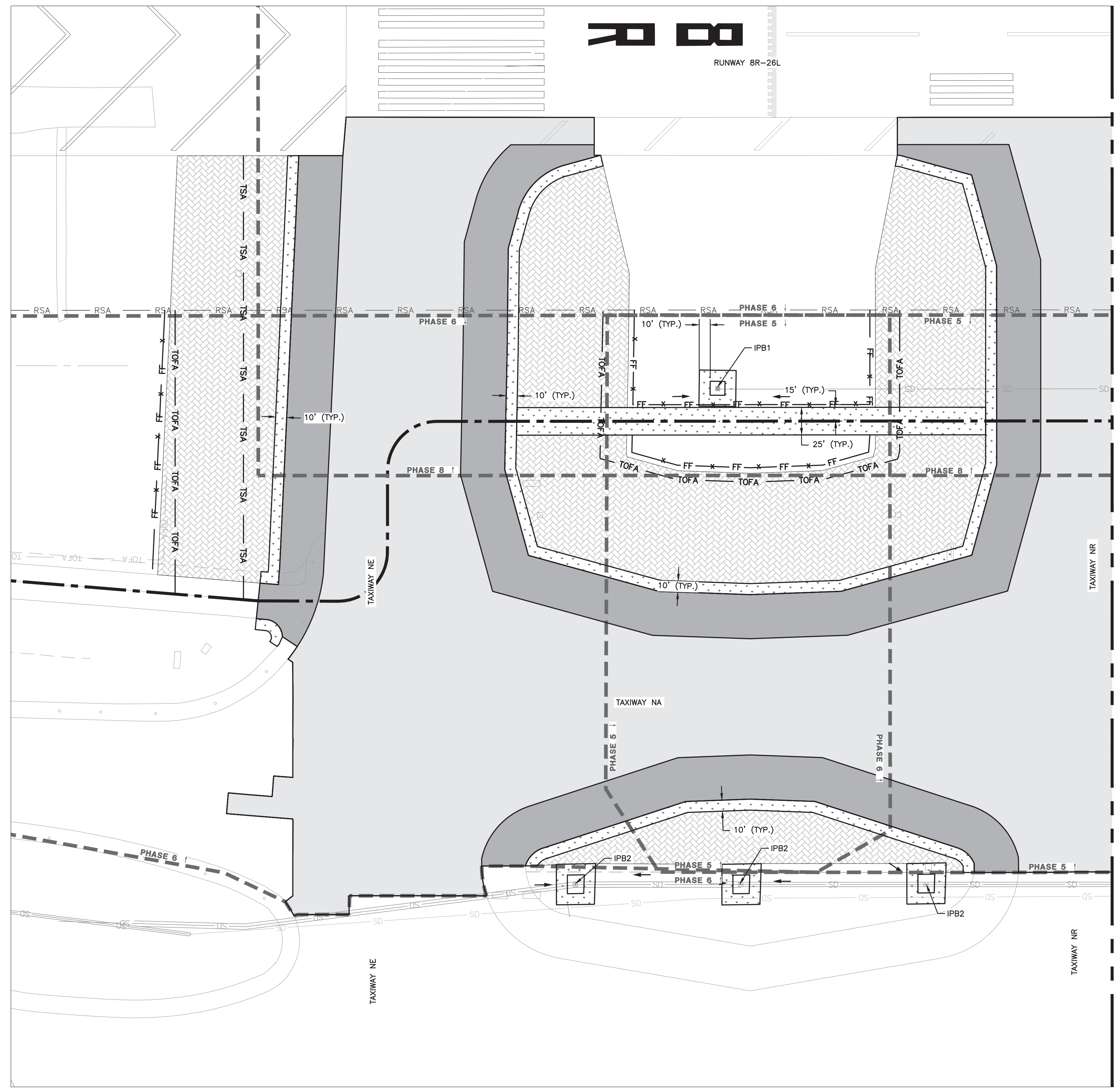
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C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C05.01

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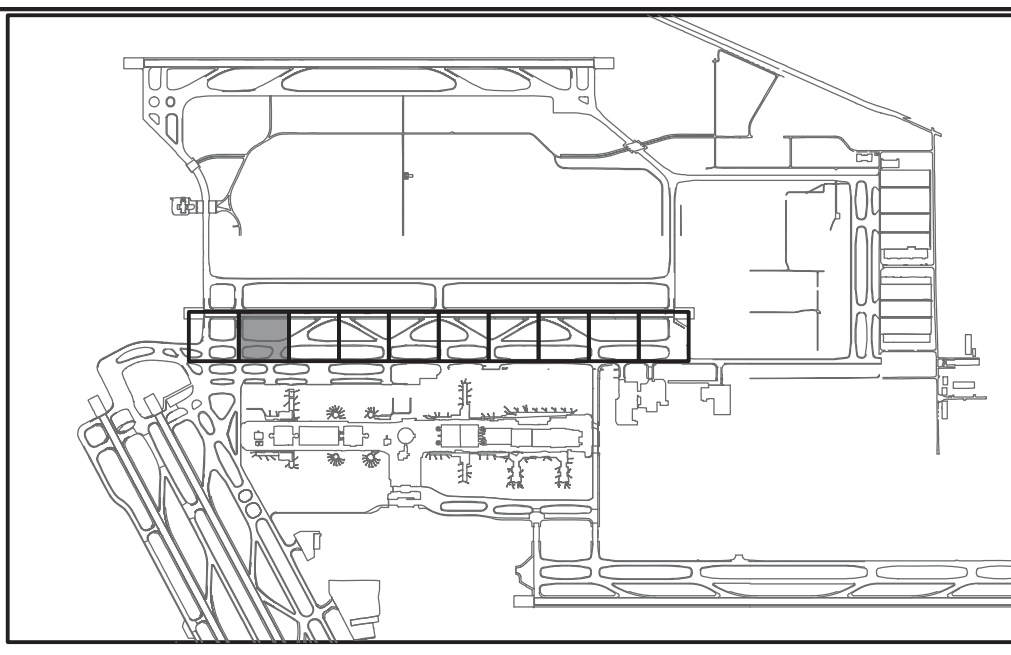
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- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- SEEDING AND SOIL RETENTION BLANKET
- IPB1 INLET PROTECTION BARRIER 1
- IPB2 INLET PROTECTION BARRIER 2
- DIRECTION OF FLOW
- FF FILTER FABRIC FENCE
- TSA PROPOSED TAXIWAY SAFETY AREA
- TOFA PROPOSED TAXIWAY OBJECT FREE AREA
- RSA EXISTING RUNWAY SAFETY AREA
- PHASE LIMITS
- SD EXISTING STORM SEWER
- SD PROPOSED STORM SEWER
- HAUL ROAD
- INLET

NOTE:  
 1. SEEDING AND SOIL RETENTION BLANKET SHOWN AT TYPICAL DIMENSIONS OF 100' WIDTH FROM OUTSIDE EDGE OF SOD (110' FROM EDGE OF PROPOSED PAVEMENT) EXCEPT AT TIE-IN LOCATION AND ATYPICALLY SHAPED AREAS. HOWEVER, ONLY THOSE AREAS DISTURBED BY CONSTRUCTION OPERATIONS SHALL RECEIVE INSTALLATION OF SEEDING AND SOIL RETENTION BLANKETS. SEE THE C04 PLAN SHEETS FOR EXISTING AND PROPOSED GRADES.





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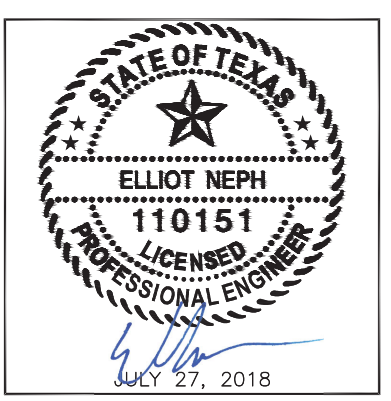
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM WATER POLLUTION  
 PREVENTION PLANS (2 OF 10)**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davey Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C05.02

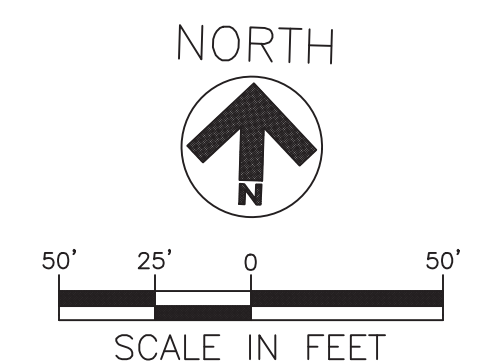
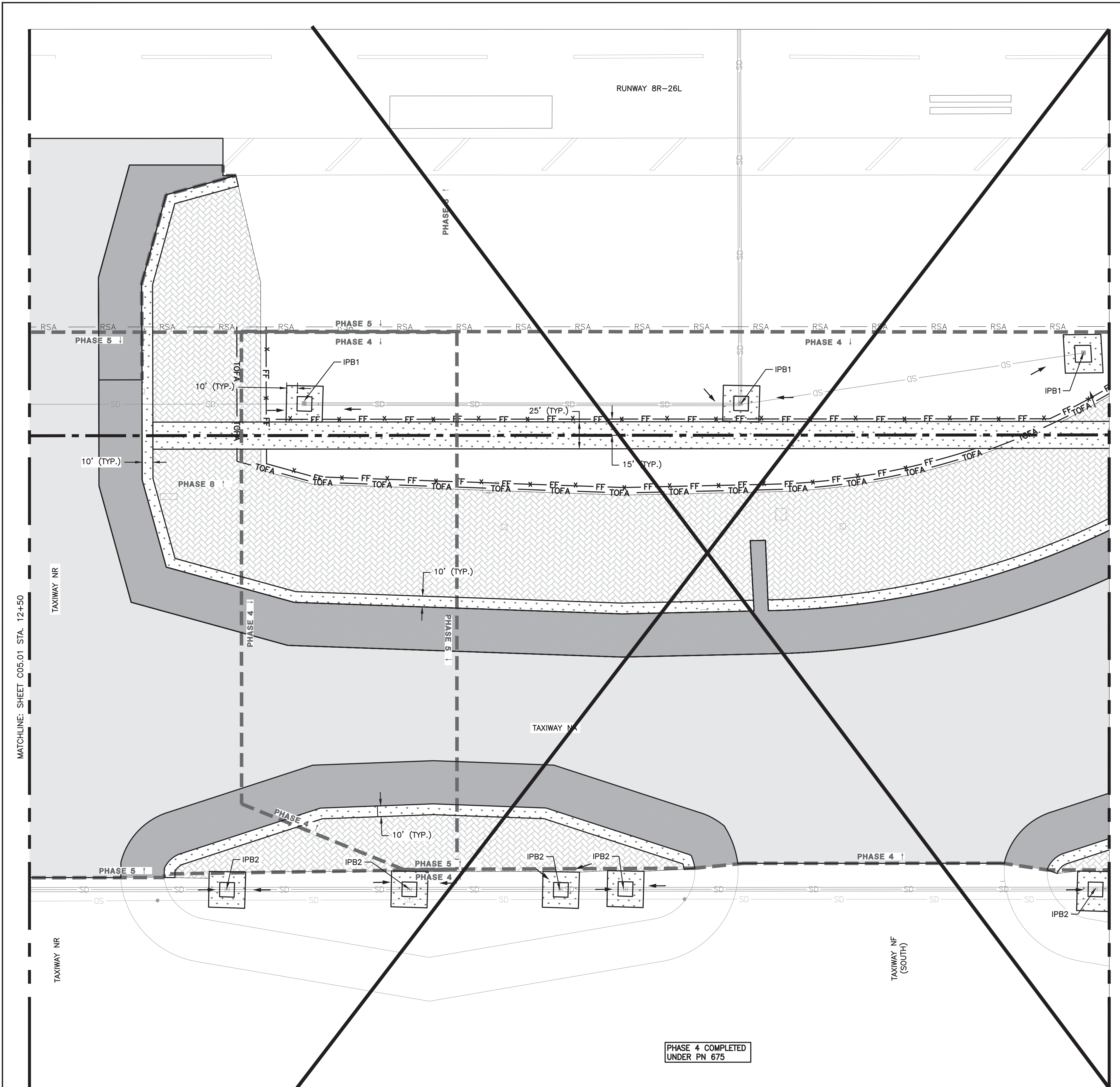
**LEGEND:**

- SODDING
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- SEEDING AND SOIL RETENTION BLANKET
- IPB1
- IPB2
- DIRECTION OF FLOW
- FF
- TSA
- TOFA
- RSA
- PHASE LIMITS
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- HAUL ROAD
- INLET

NOTE:  
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NOTE: PHASE 4 COMPLETED UNDER PN 675

PHASE 4 COMPLETED UNDER PN 675



MATCHLINE: SHEET C05.01 STA. 12+50

MATCHLINE: SHEET C05.03 STA. 22+50

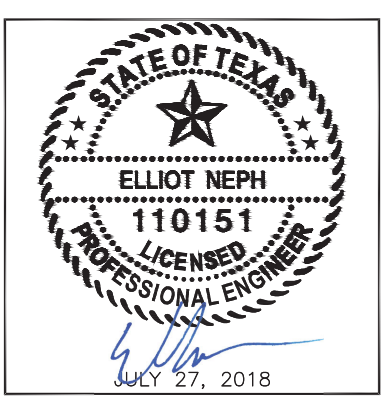


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REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM WATER POLLUTION  
 PREVENTION PLANS (3 OF 10)**

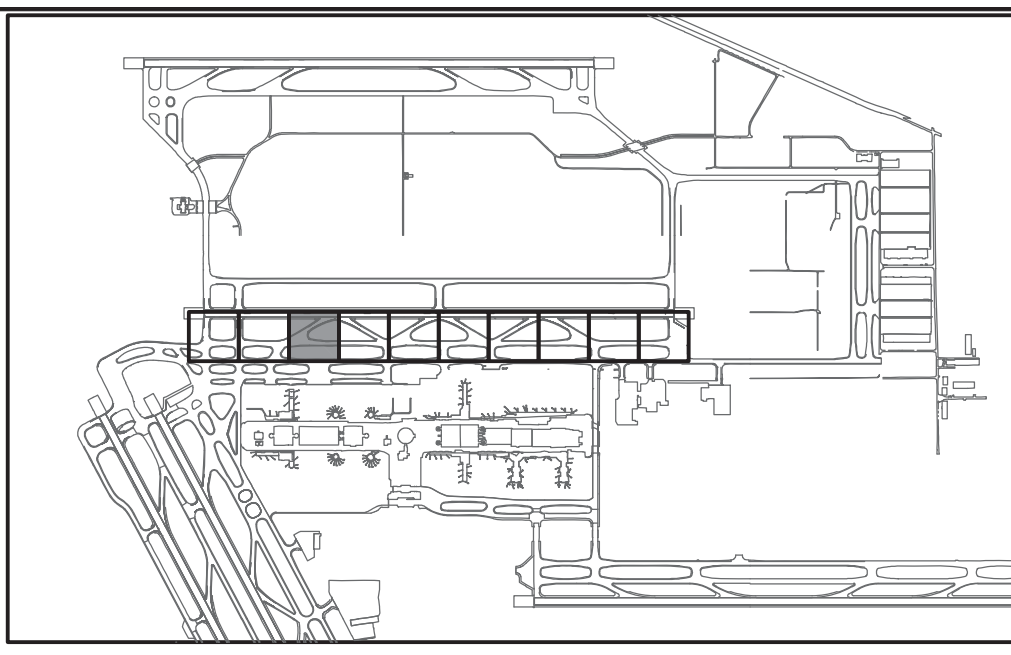
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PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Davej Rahmel* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C05.03**



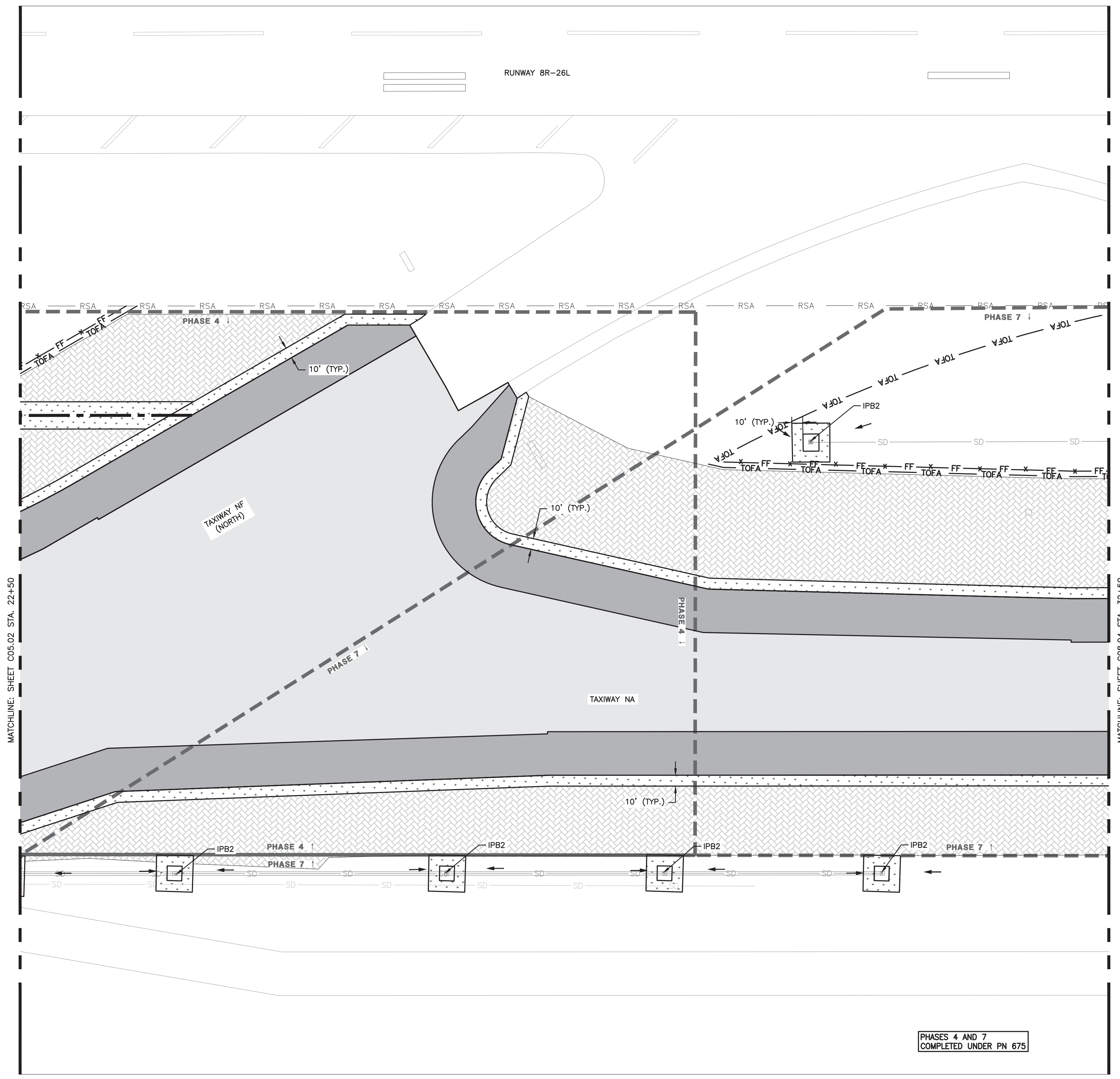
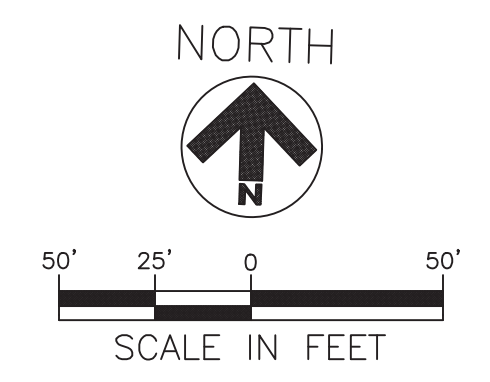
**LEGEND:**

- SODDING
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- SEEDING AND SOIL RETENTION BLANKET
- IPB1 INLET PROTECTION BARRIER 1
- IPB2 INLET PROTECTION BARRIER 2
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- PHASE LIMITS
- SD EXISTING STORM SEWER
- SD PROPOSED STORM SEWER
- HAUL ROAD
- INLET

NOTE:  
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NOTE: PHASES 4 AND 7 COMPLETED UNDER PN 675. HOWEVER, ALL INLET PROTECTION BARRIERS ON THIS PLAN SHEET SHOULD BE INSTALLED AS SHOWN FOR THE CONSTRUCTION OF PHASE 9. RESTORATION OF HAUL ROAD IS REQUIRED AFTER REMOVAL BY THE CONTRACTOR. COORDINATE FINAL SWPPP BMP INSTALLATION DIRECTIONS WITH HAS.

PHASES 4 AND 7  
 COMPLETED UNDER PN 675

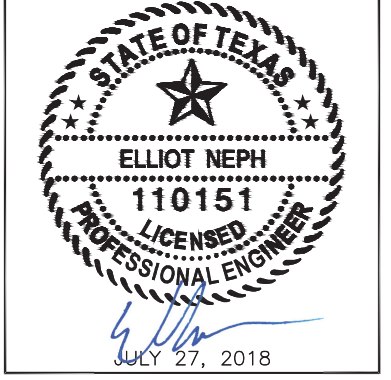




REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM WATER POLLUTION  
 PREVENTION PLANS (4 OF 10)**

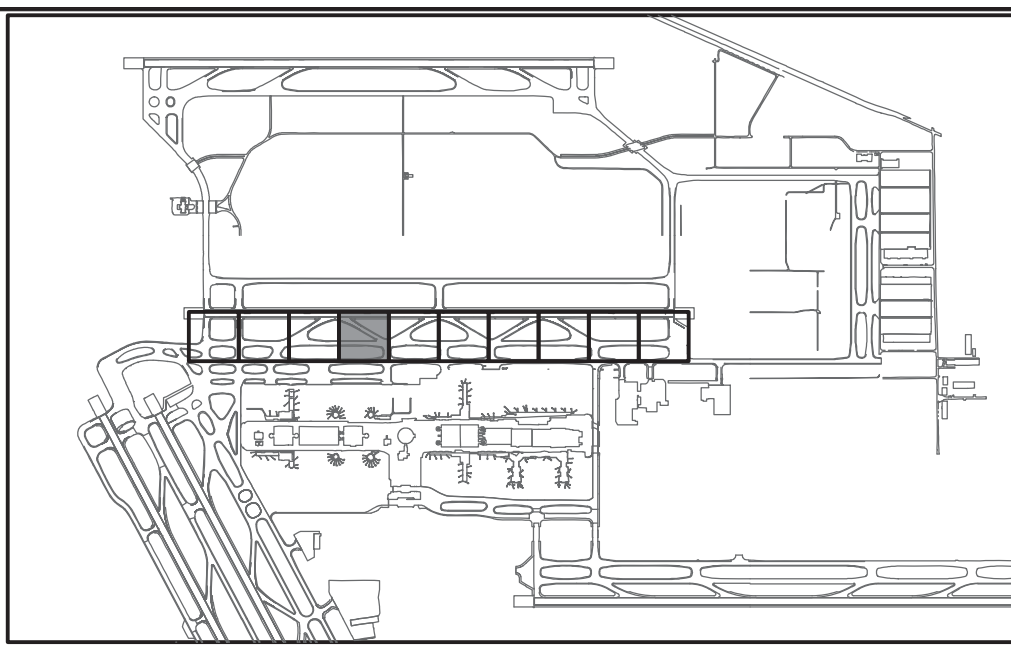
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PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Palmer* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_

**C05.04**

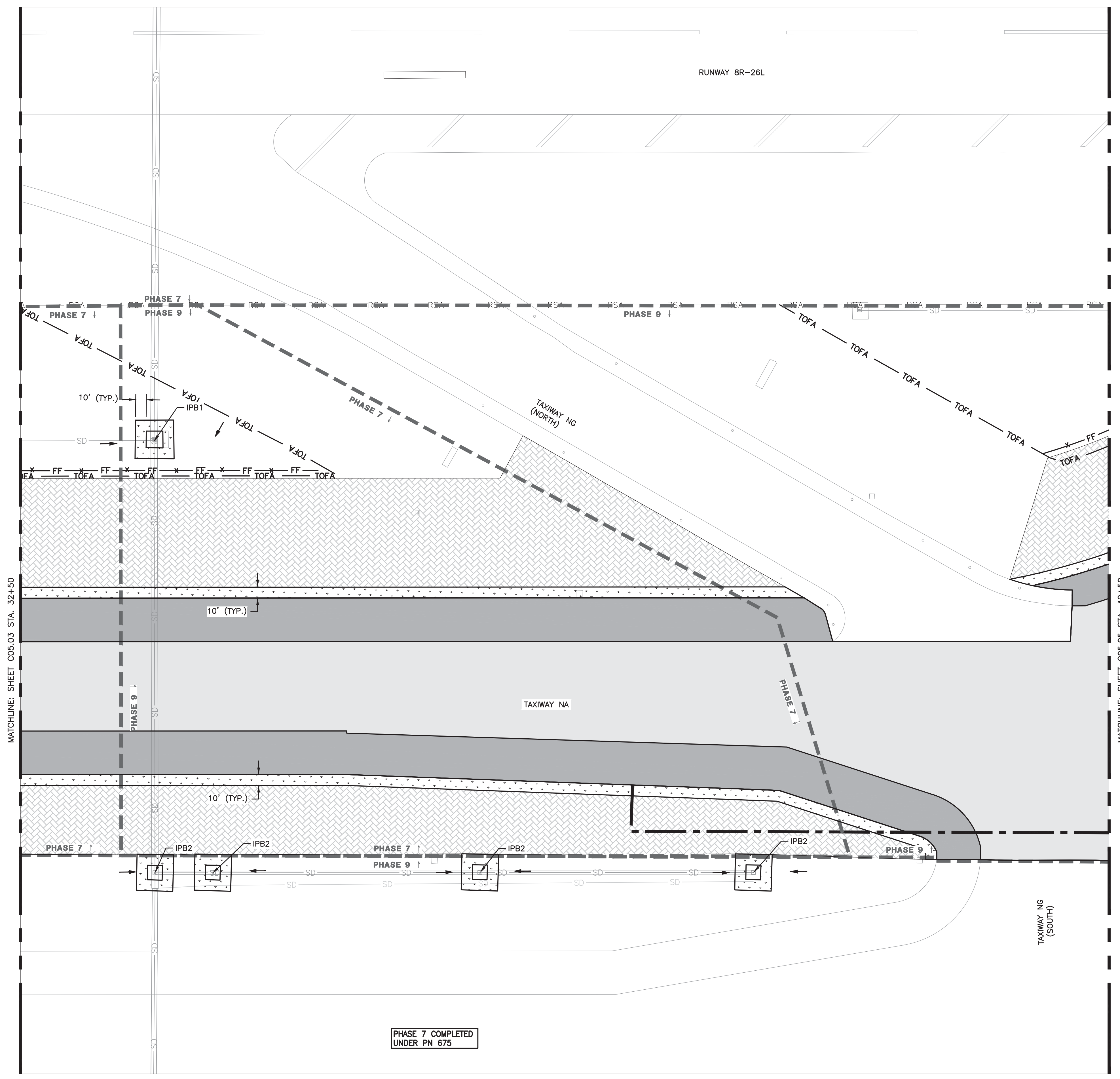


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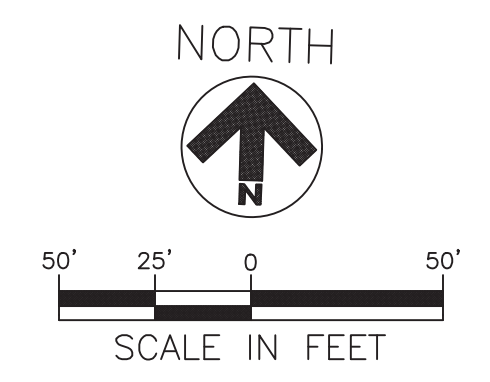
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- PROPOSED ASPHALT SHOULDER
- SEEDING AND SOIL RETENTION BLANKET
- IPB1 INLET PROTECTION BARRIER 1
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- SD EXISTING STORM SEWER
- SD PROPOSED STORM SEWER
- HAUL ROAD
- INLET

NOTE:  
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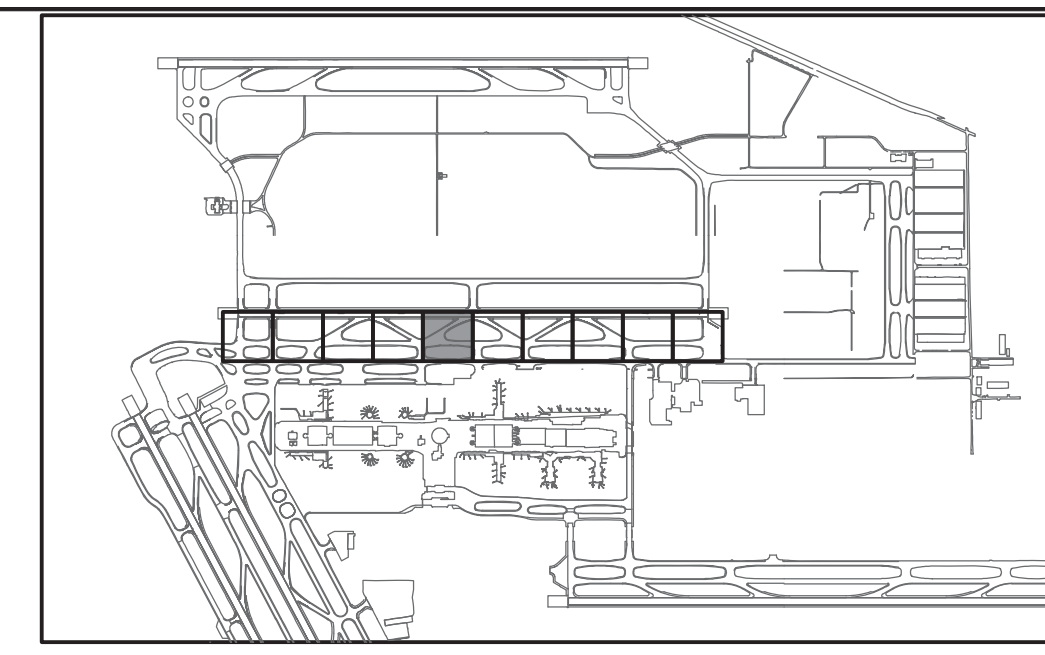
NOTE: PHASE 7 COMPLETED UNDER PN 675. HOWEVER, ALL INLET PROTECTION BARRIERS ON THIS PLAN SHEET SHOULD BE INSTALLED AS SHOWN FOR THE RECONSTRUCTION OF PHASE 9. RESTORATION OF HAUL ROAD IS REQUIRED AFTER REMOVAL BY THE CONTRACTOR. COORDINATE FINAL SWPPP BMP INSTALLATION DIRECTIONS WITH HAS.



PHASE 7 COMPLETED UNDER PN 675







REVISIONS

NO.	DESCRIPTION	DATE	BY

**LEGEND:**

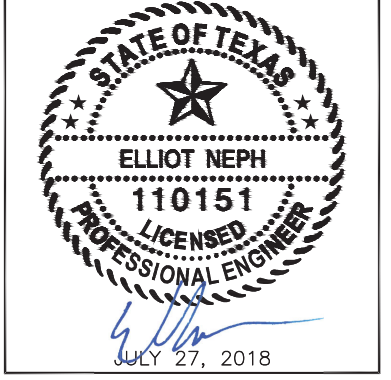
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- PROPOSED ASPHALT SHOULDER
- SEEDING AND SOIL RETENTION BLANKET
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- INLET

NOTE:  
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM WATER POLLUTION  
 PREVENTION PLANS (5 OF 10)**

ISSUED FOR BID

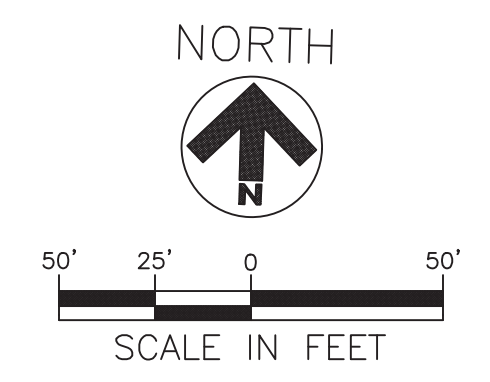
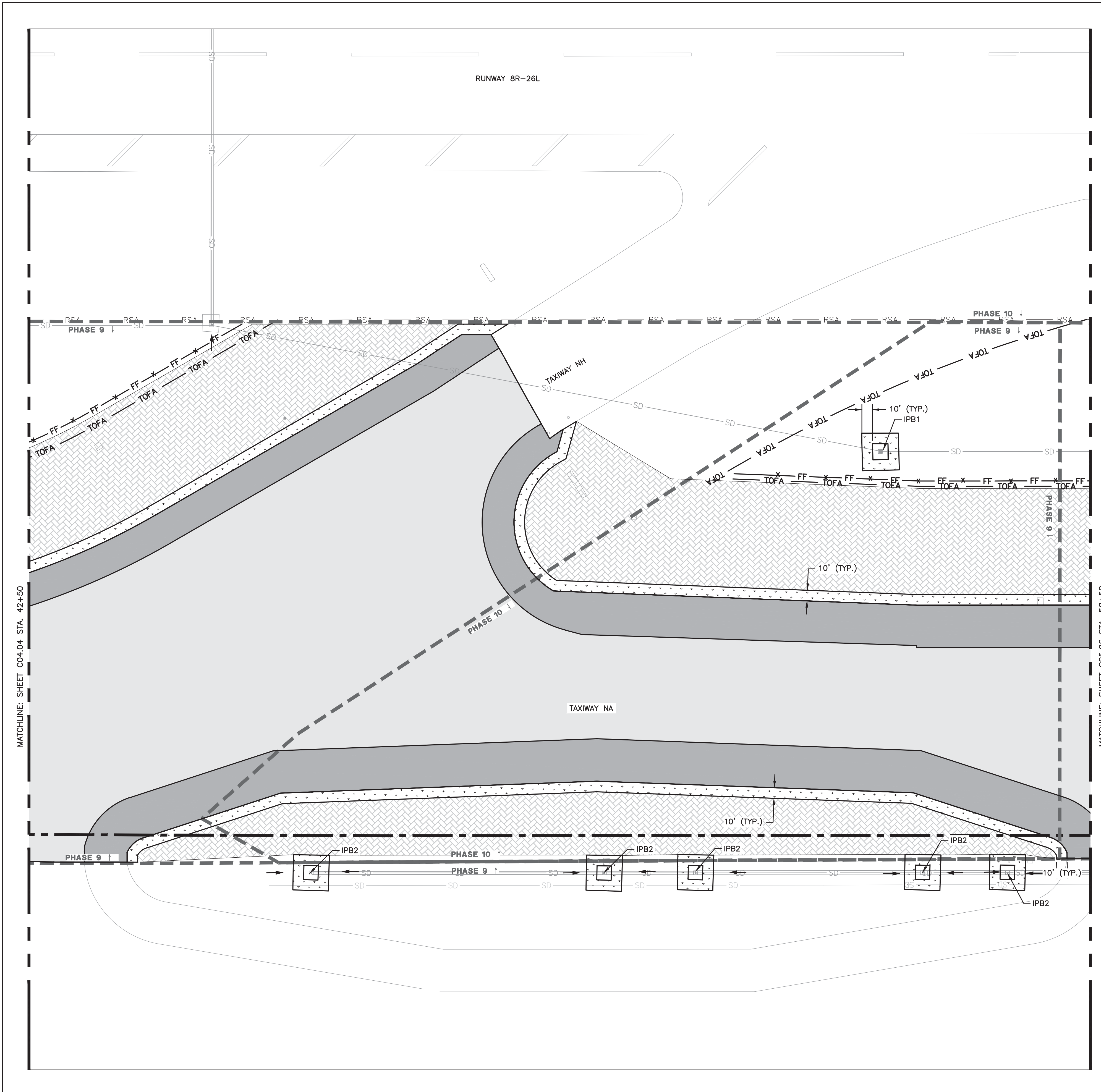
PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donaj Pahmed*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C05.05











HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL AIRPORT  
 HOUSTON, TEXAS

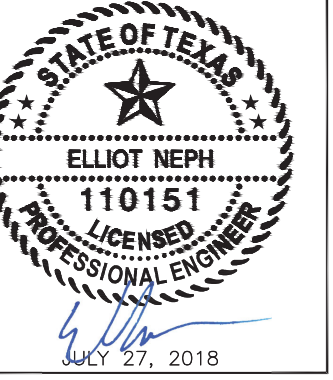
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REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM WATER POLLUTION PREVENTION PLANS (7 OF 10)**

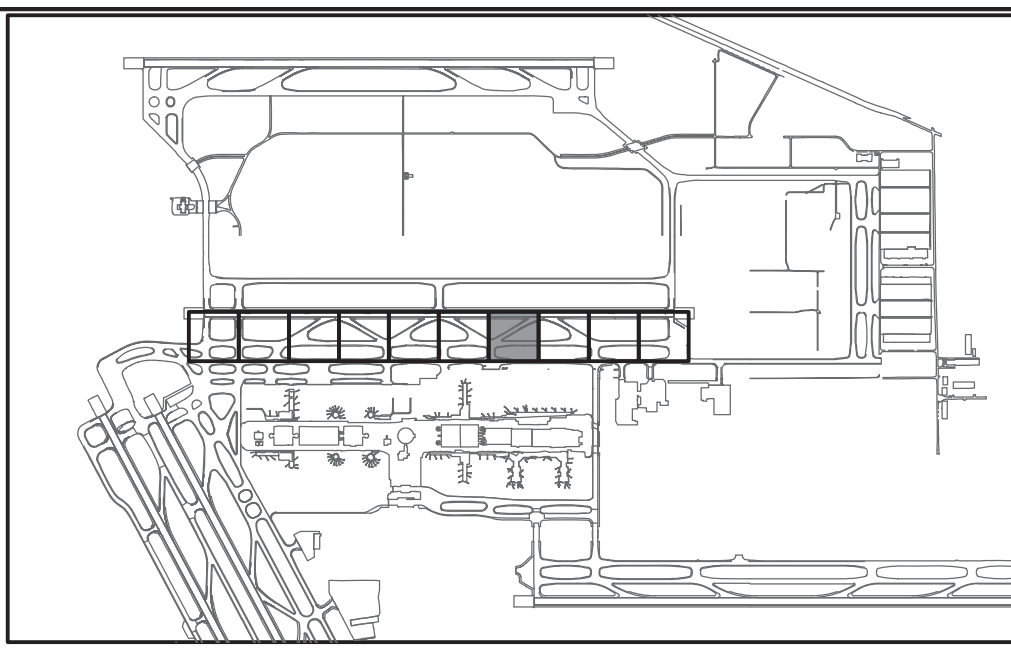
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DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Pahmed*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

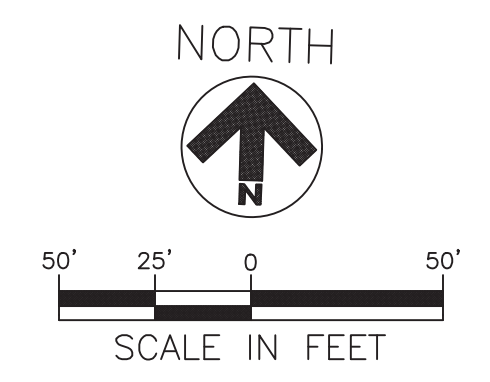
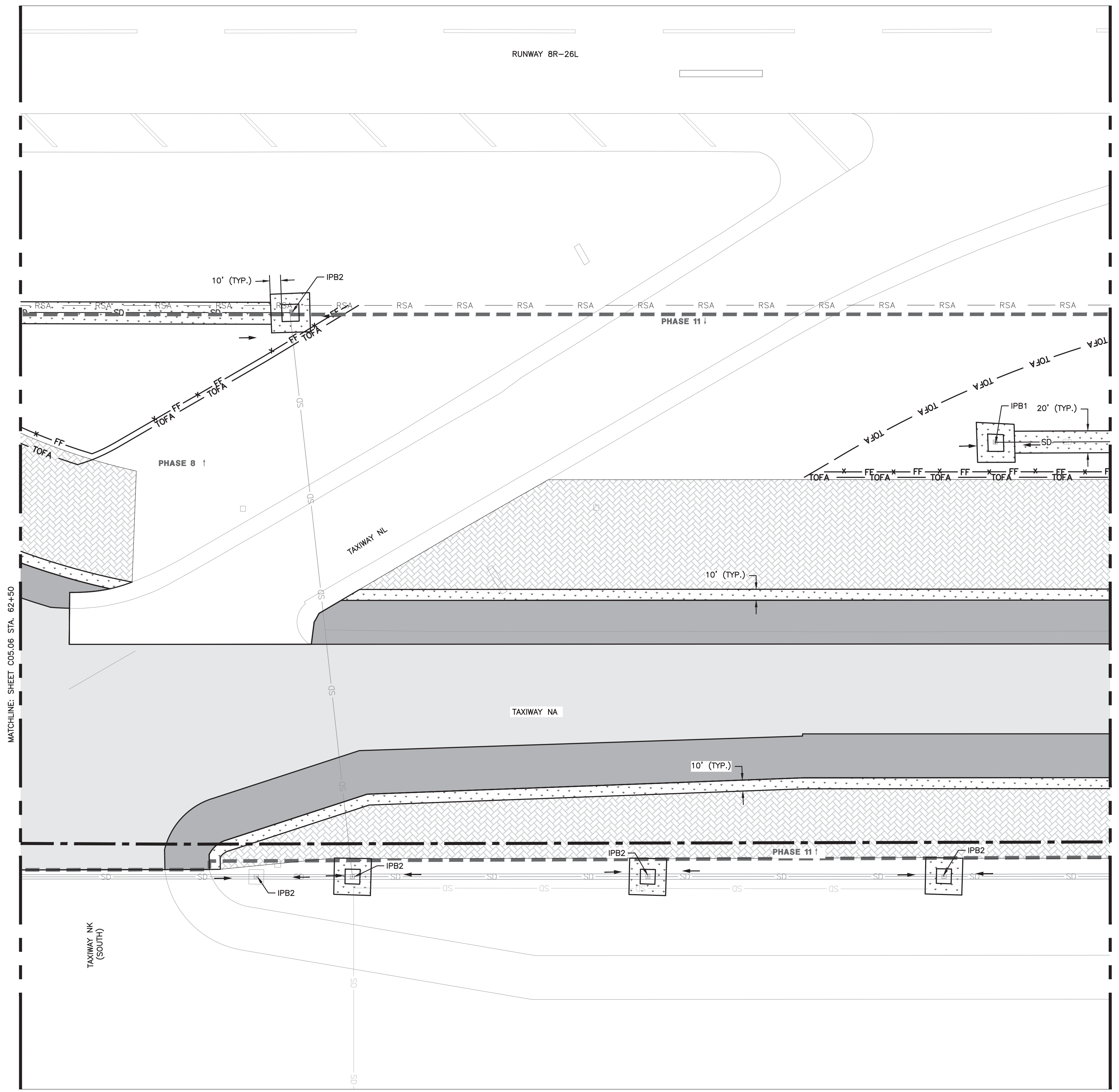
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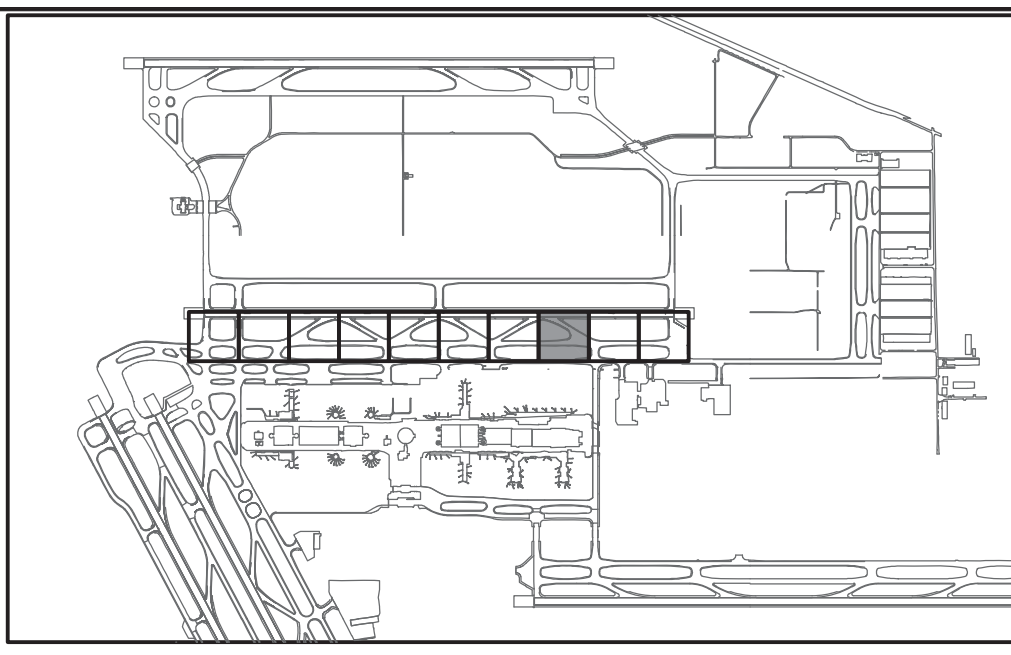
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- PROPOSED ASPHALT SHOULDER
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- IPB1 INLET PROTECTION BARRIER 1
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- PHASE LIMITS
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- HAUL ROAD
- INLET

NOTE:  
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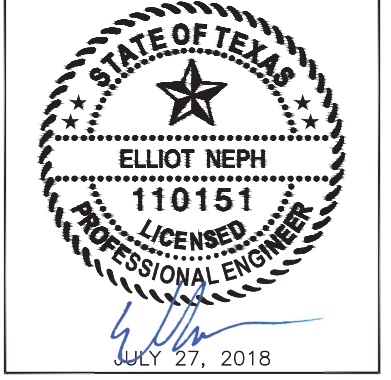
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM WATER POLLUTION  
 PREVENTION PLANS (8 OF 10)**

ISSUED FOR BID

PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

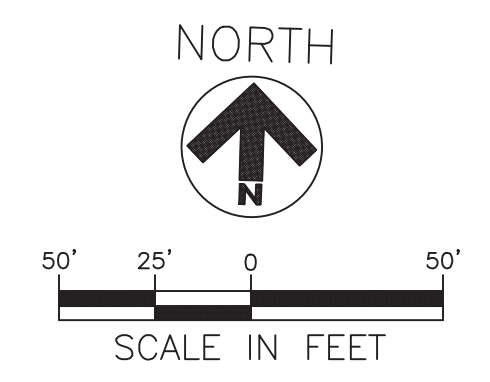
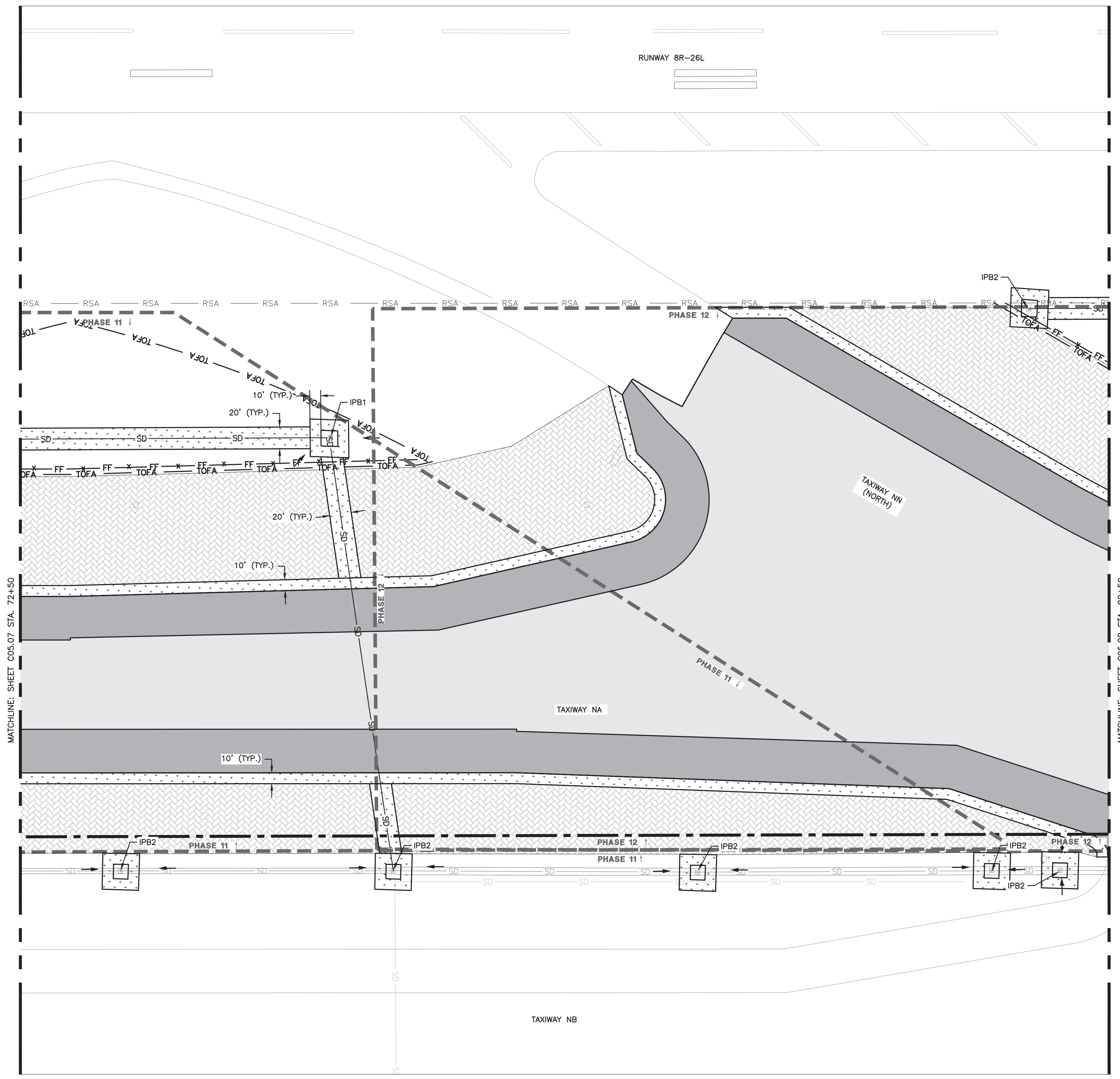
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 H.A.S. NO.  
 SHEET NO.

**C05.08**

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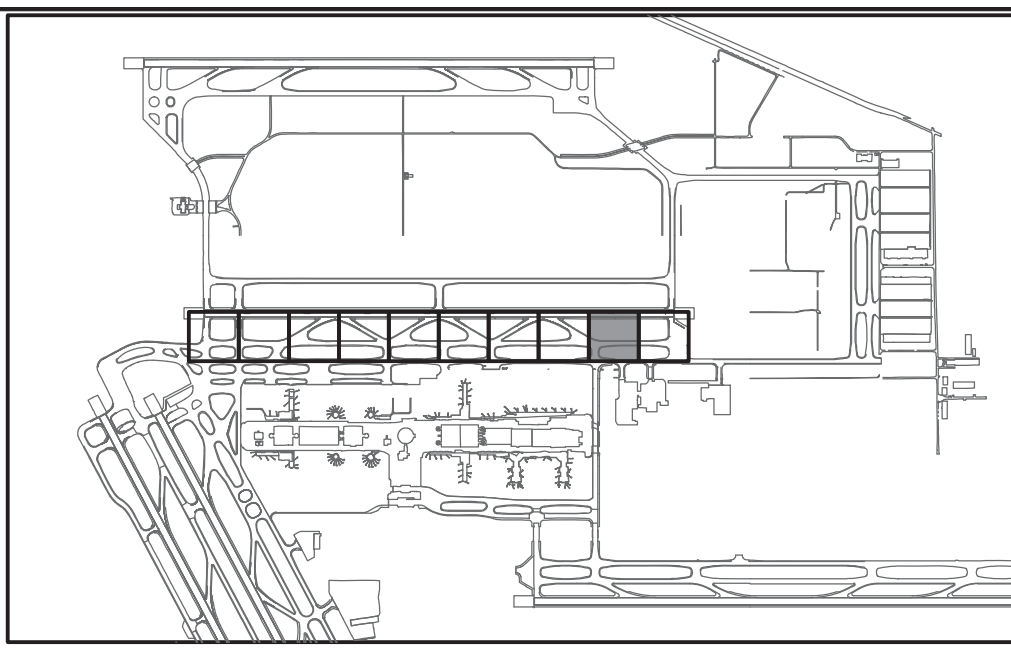
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- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- SEEDING AND SOIL RETENTION BLANKET
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- HAUL ROAD
- INLET

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REVISIONS

NO.	DESCRIPTION	DATE	BY

**LEGEND:**

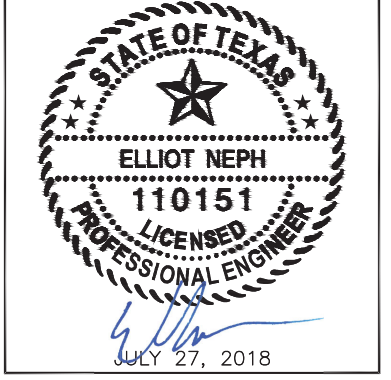
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- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- SEEDING AND SOIL RETENTION BLANKET
- IPB1 INLET PROTECTION BARRIER 1
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- DIRECTION OF FLOW
- FF FILTER FABRIC FENCE
- TSA PROPOSED TAXIWAY SAFETY AREA
- TOFA PROPOSED TAXIWAY OBJECT FREE AREA
- RSA EXISTING RUNWAY SAFETY AREA
- PHASE LIMITS
- SD EXISTING STORM SEWER
- SD PROPOSED STORM SEWER
- HAUL ROAD
- INLET

NOTE:  
 1. SEEDING AND SOIL RETENTION BLANKET SHOWN AT TYPICAL DIMENSIONS OF 100' WIDTH FROM OUTSIDE EDGE OF SOD (110' FROM EDGE OF PROPOSED PAVEMENT) EXCEPT AT TIE-IN LOCATION AND ATYPICALLY SHAPED AREAS. HOWEVER, ONLY THOSE AREAS DISTURBED BY CONSTRUCTION OPERATIONS SHALL RECEIVE INSTALLATION OF SEEDING AND SOIL RETENTION BLANKETS. SEE THE C04 PLAN SHEETS FOR EXISTING AND PROPOSED GRADES.

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM WATER POLLUTION  
 PREVENTION PLANS (9 OF 10)**

ISSUED FOR BID

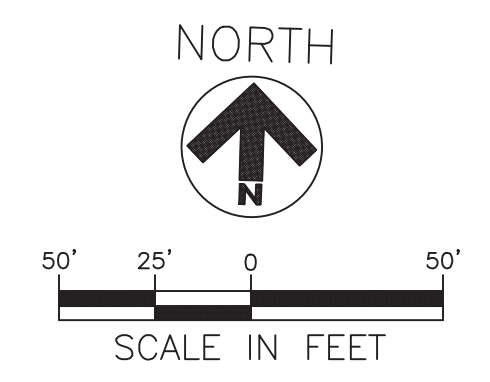
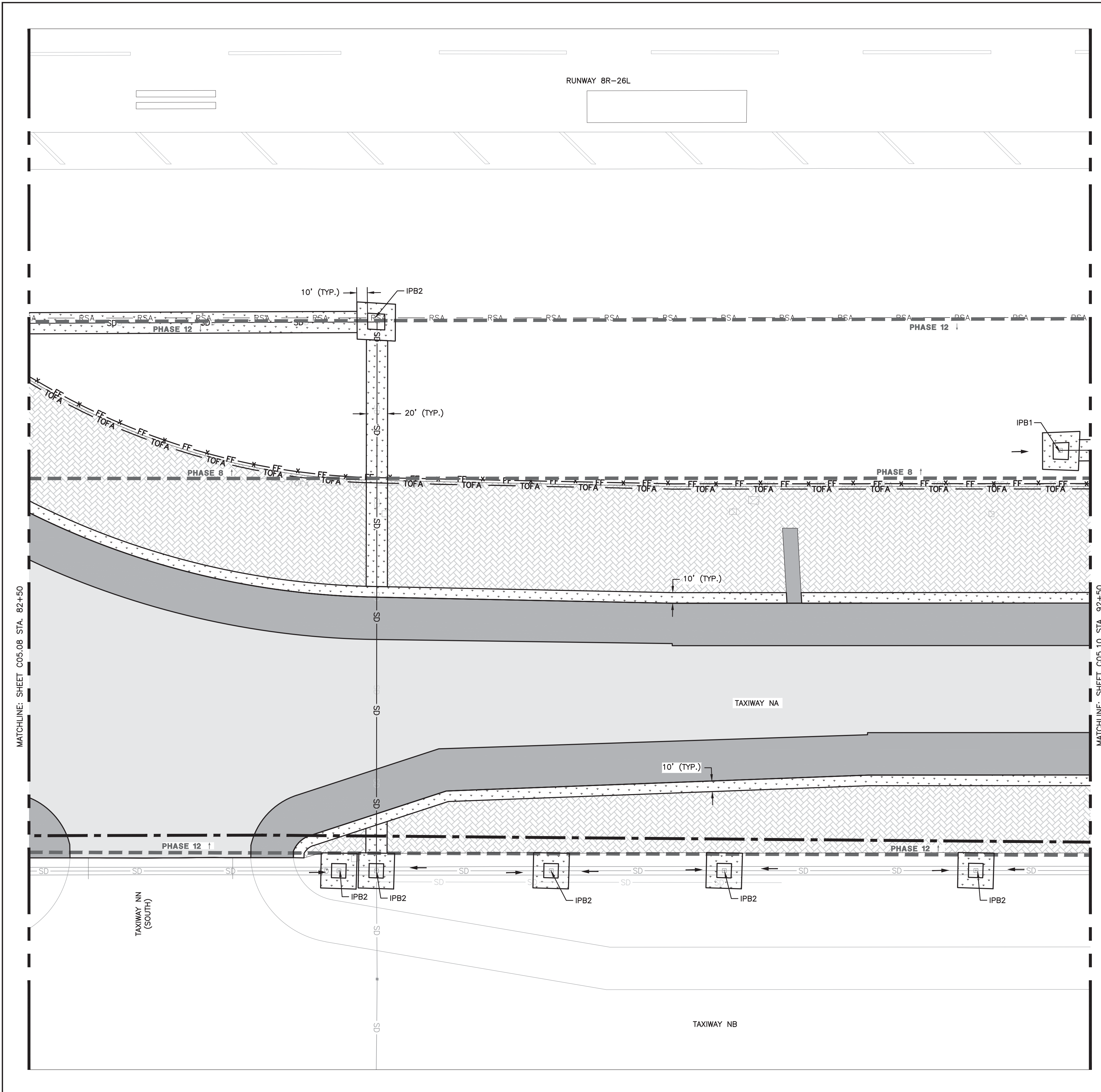
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DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

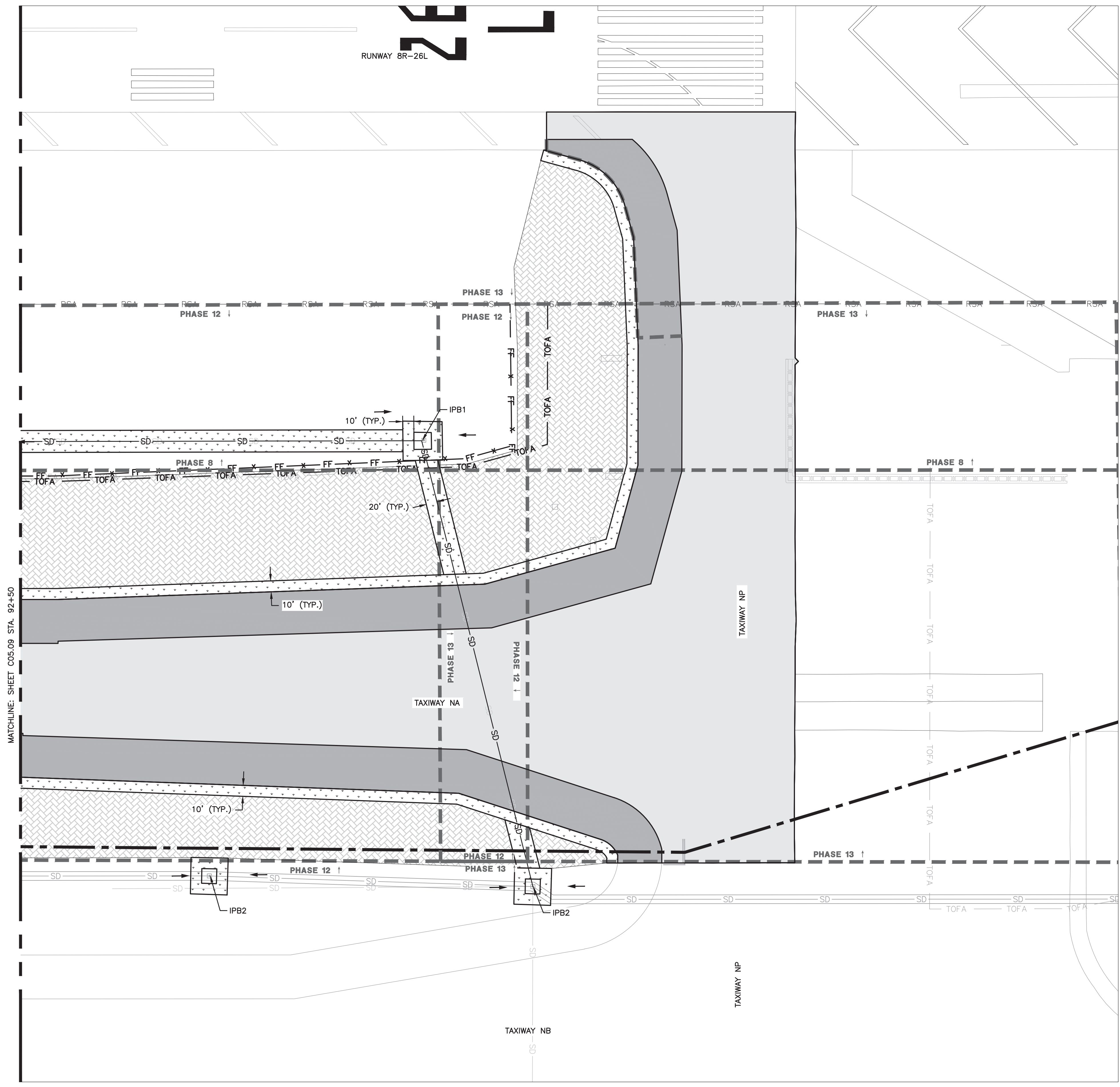
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 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

**C05.09**

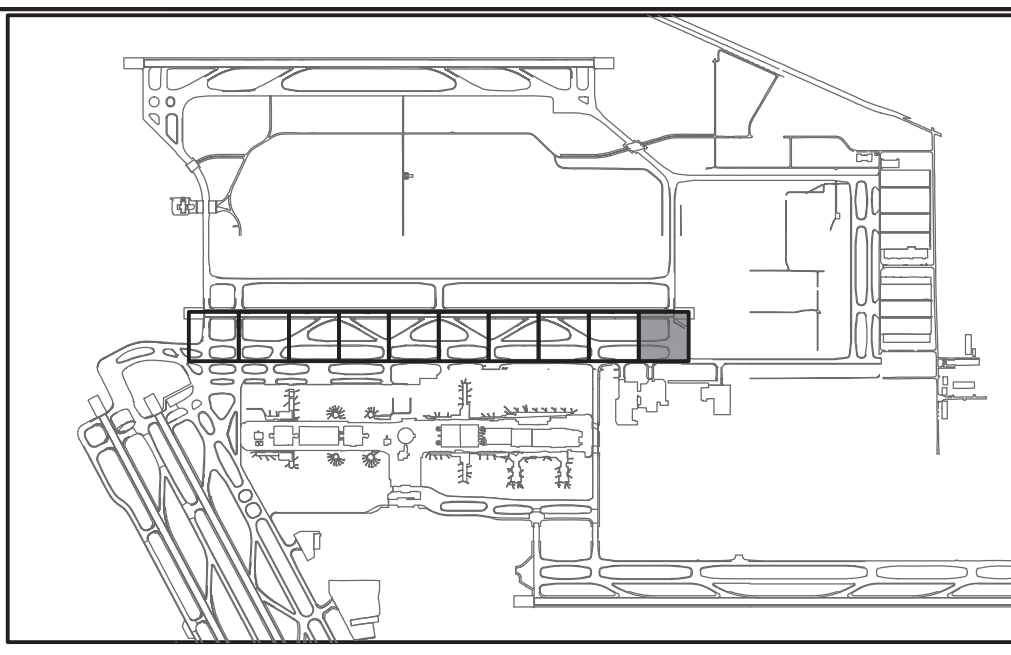




2E  
RUNWAY 8R-26L



MATCHLINE: SHEET C05.09 STA. 92+50



**HOUSTON AIRPORT SYSTEM**  
 GEORGE BUSH INTERCONTINENTAL AIRPORT  
 HOUSTON, TEXAS

**RS&H**  
 RS&H, Inc.  
 11011 Richmond Ave., Suite 900  
 Houston, Texas 77042  
 713-914-4455 FAX 713-914-0155  
 www.rsandh.com  
 TBPE Registration No. F-3401

**LEGEND:**

- SODDING
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- SEEDING AND SOIL RETENTION BLANKET
- IPB1 INLET PROTECTION BARRIER 1
- IPB2 INLET PROTECTION BARRIER 2
- DIRECTION OF FLOW
- FF FILTER FABRIC FENCE
- TSA PROPOSED TAXIWAY SAFETY AREA
- TOFA PROPOSED TAXIWAY OBJECT FREE AREA
- RSA EXISTING RUNWAY SAFETY AREA
- PHASE LIMITS
- SD EXISTING STORM SEWER
- SD PROPOSED STORM SEWER
- HAUL ROAD
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REVISIONS

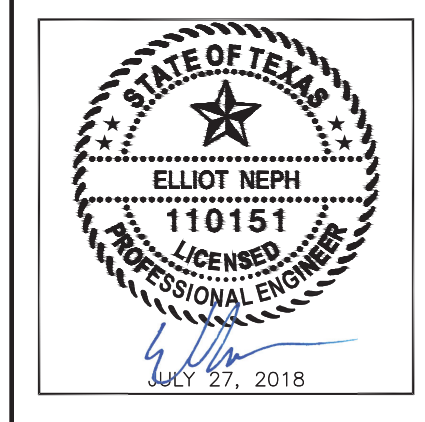
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**STORM WATER POLLUTION PREVENTION PLANS (10 OF 10)**

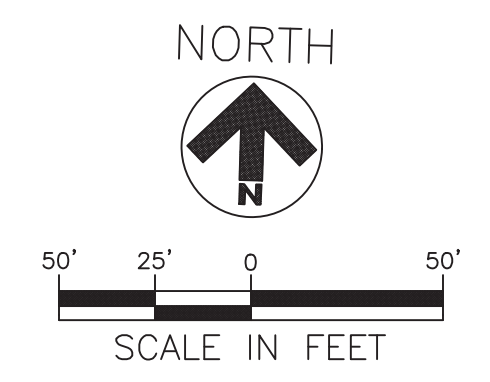
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PROJECT MGR:	BMS
DESIGNER:	EBN
DRAWN BY:	MRM
CHECKED BY:	SMC
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Davej Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



**C05.10**



REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

SWPPP DETAILS

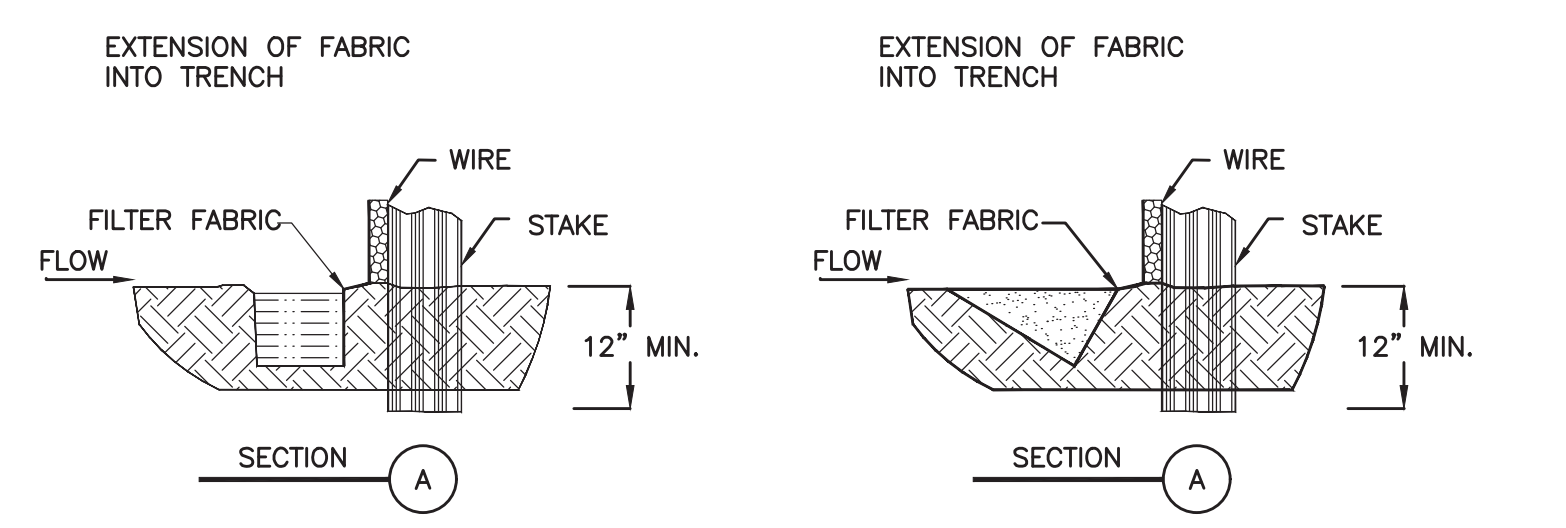
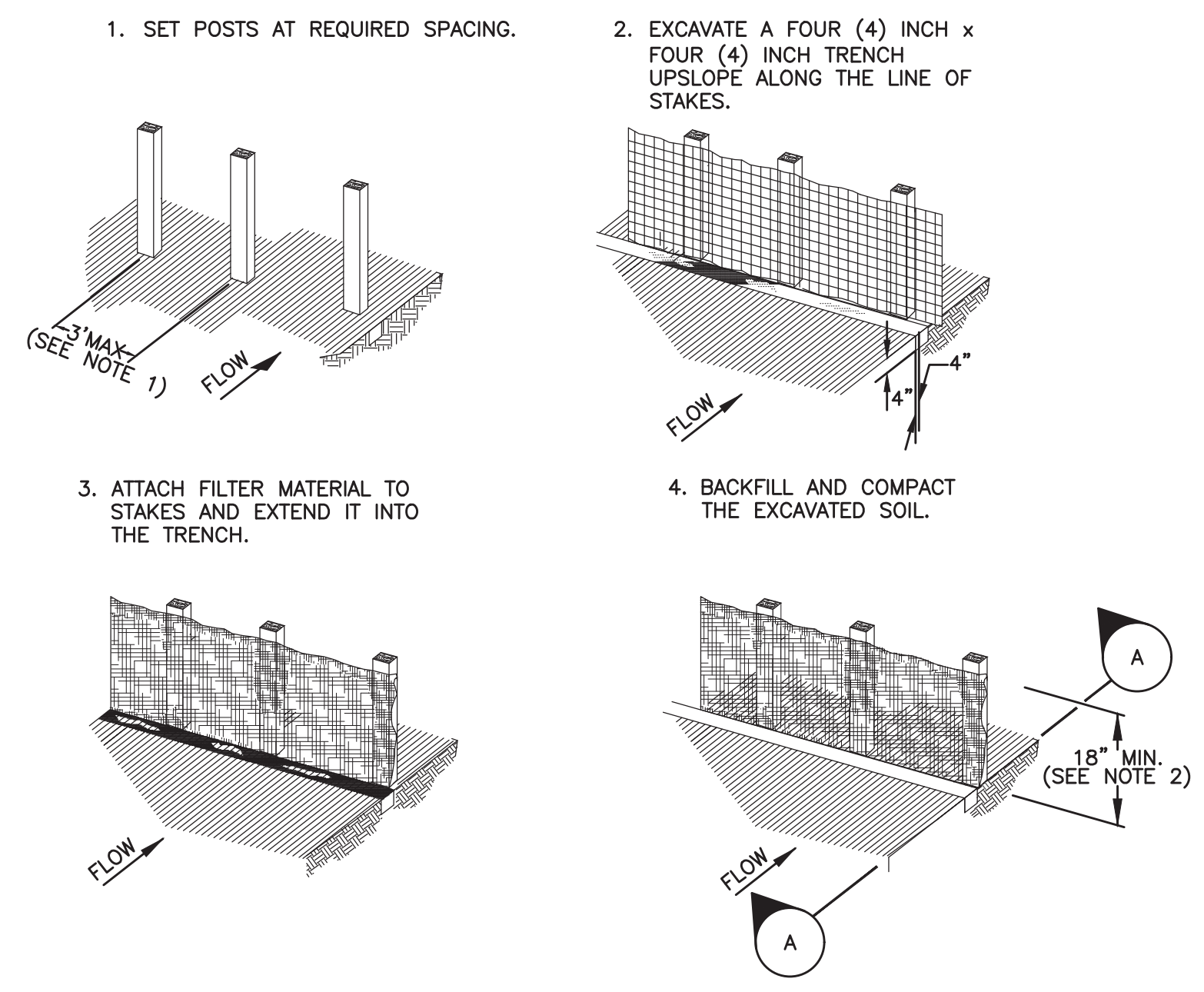
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DESIGNER:	EBN
DRAWN BY:	ALL
CHECKED BY:	SMC
SCALE:	NTS
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Davej Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

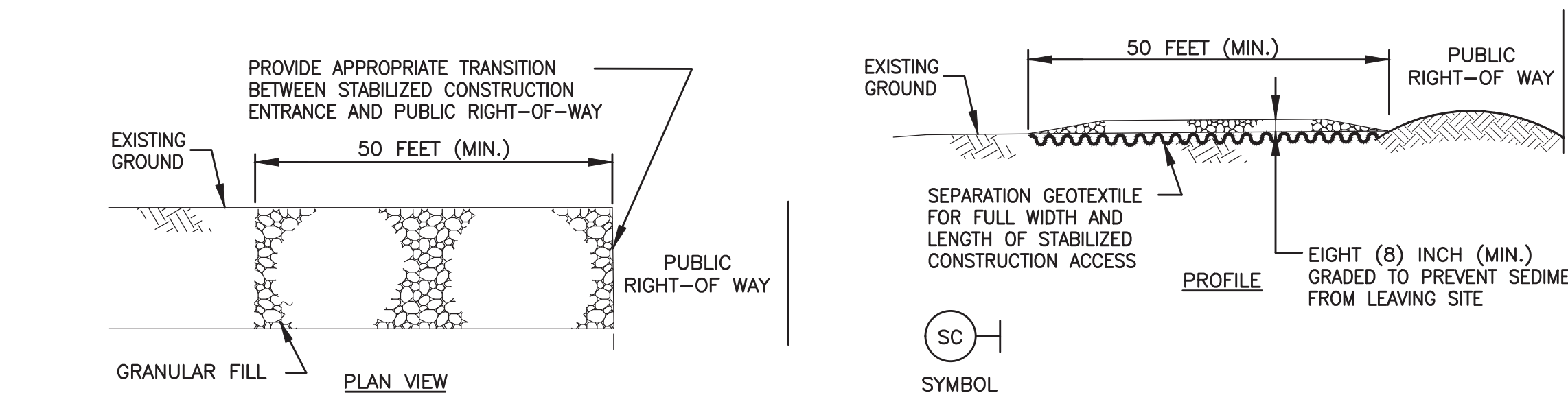
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C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C05.11

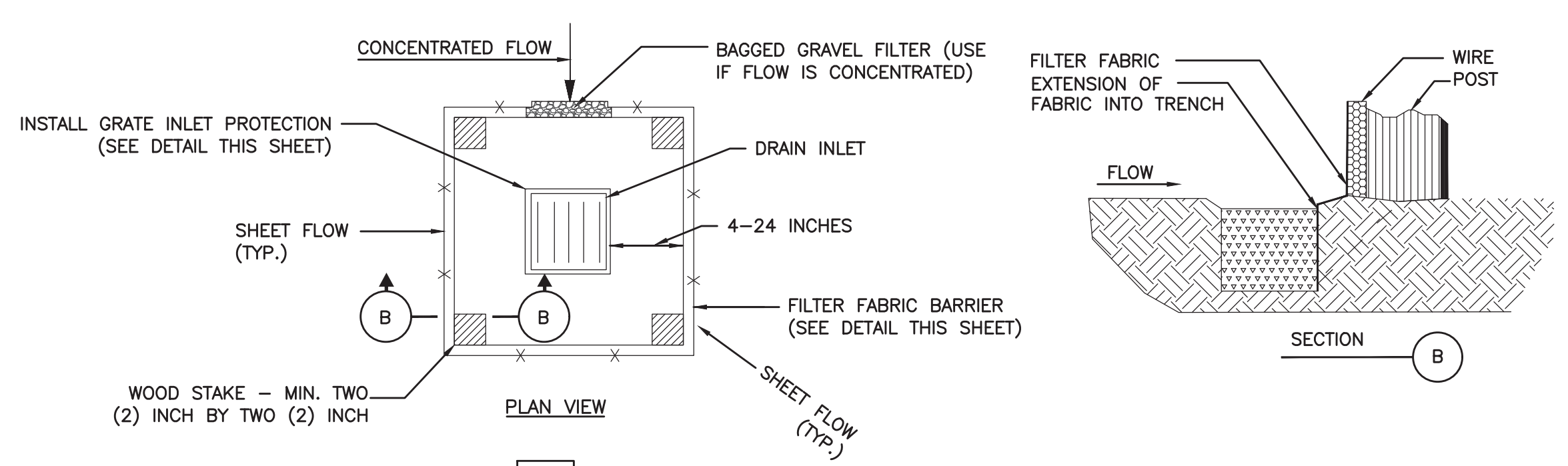


- NOTES:
- TWO (2) INCH BY TWO (2) INCH WOODEN STAKES TO BE SET UP AT MAX SPACING OF THREE (3) FEET AND EMBEDDED A MIN OF EIGHT (8) INCHES. IF PRE-ASSEMBLED FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO EIGHT (8) FEET MAX.
  - ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC FENCE SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
  - WHEN TWO (2) SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED SIX (6) INCHES AT THE POSTS, AND FOLDED.
  - SEE FAA SPECIFICATION P-156, TEMPORARY AIR AND WATER POLLUTION CONTROL, SOIL EROSION, AND SILTATION CONTROL, FOR IMPLEMENTATION OF FILTER FABRIC BARRIERS.

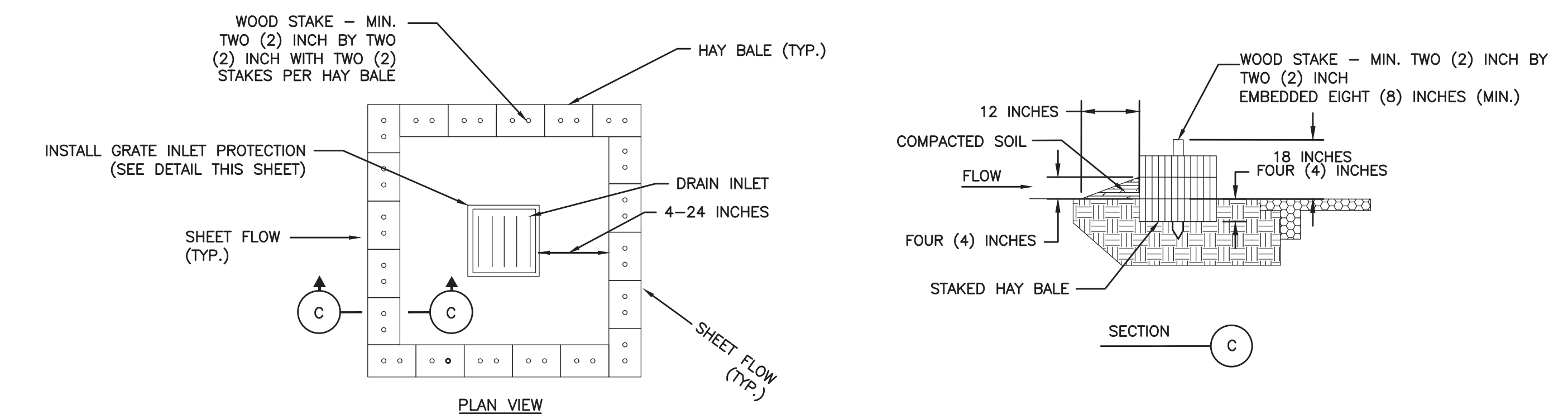
1 **FILTER FABRIC BARRIER**  
 C05.11 SCALE: N.T.S.



5 **STABILIZED CONSTRUCTION EXIT**  
 C05.11 SCALE: N.T.S.



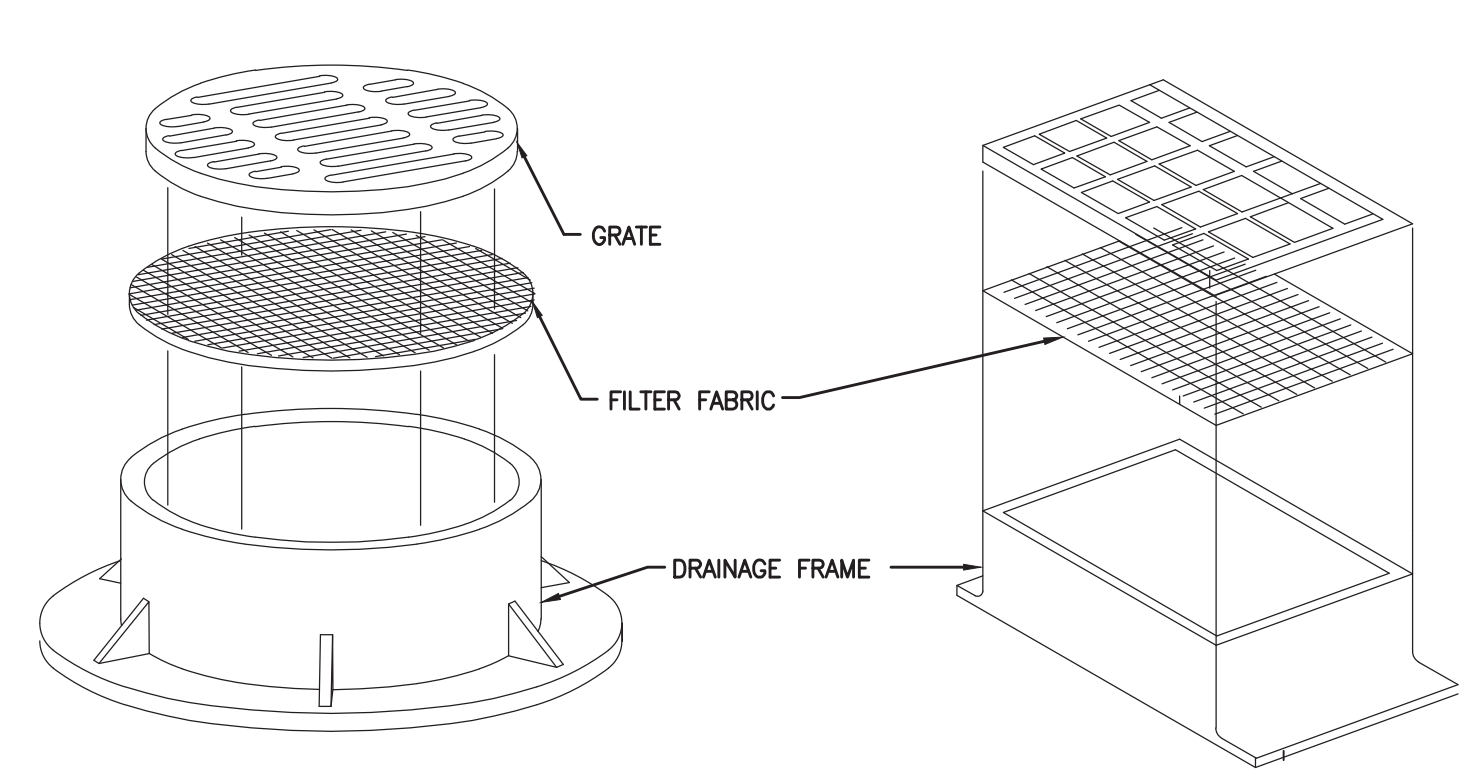
- 2 **INLET PROTECTION BARRIER 1 (OUTSIDE RSA / TOFA)**  
 C05.11 SCALE: N.T.S.
- NOTES:
- REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
  - GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET.
  - SEE FILTER FABRIC BARRIER DETAIL. STAKES SHALL BE SPACED AT A MAXIMUM OF FOUR (4) FEET.
  - SEE FAA SPECIFICATION P-156, TEMPORARY AIR AND WATER POLLUTION CONTROL, SOIL EROSION, AND SILTATION CONTROL, FOR IMPLEMENTATION OF INLET PROTECTION BARRIERS.



- 3 **INLET PROTECTION BARRIER 2 (INSIDE RSA / TOFA)**  
 C05.11 SCALE: N.T.S.
- NOTES:
- REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
  - SEE FAA SPECIFICATION P-156, TEMPORARY AIR AND WATER POLLUTION CONTROL, SOIL EROSION, AND SILTATION CONTROL, FOR IMPLEMENTATION OF INLET PROTECTION BARRIERS.

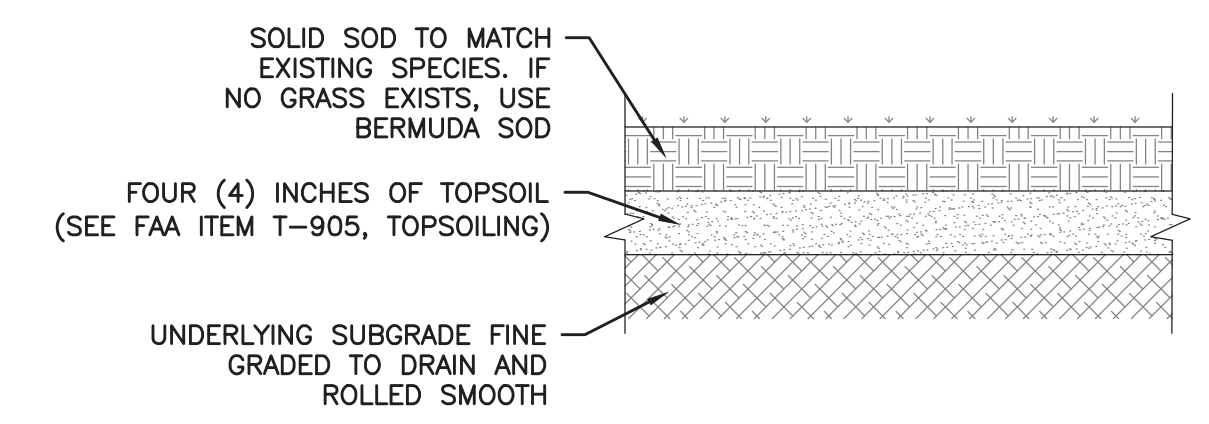
3 **INLET PROTECTION BARRIER 2 (INSIDE RSA / TOFA)**  
 C05.11 SCALE: N.T.S.

- NOTES:
- LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
  - THICKNESS SHALL BE NOT LESS THAN EIGHT (8) INCHES.
  - WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
  - CONSTRUCTION EXITS SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
  - PERIODICALLY TURN AGGREGATE AND / OR PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO EXPOSE CLEAN DRIVING SURFACE WHEN SURFACE BECOMES PACKED WITH MUD.
  - 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.
  - STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
  - SEE SECTION 01575, STABILIZED CONSTRUCTION EXIT, FOR IMPLEMENTATION OF STABILIZED CONSTRUCTION EXITS
  - STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.
  - STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AT ALL LOCATIONS WHERE MOVING FROM UNPAVED TO PAVED SURFACE.



- 4 **GRATE INLET PROTECTION**  
 C05.11 SCALE: N.T.S.
- NOTES:
- FILTER FABRIC TO BE PLACED IN ALL INLETS, MANHOLES, TRENCH DRAINS AND CATCH BASINS.
  - FABRIC SHALL AS SPECIFIED IN FAA SPECIFICATION P-156, TEMPORARY AIR AND WATER POLLUTION CONTROL, SOIL EROSION, AND SILTATION CONTROL.
  - FABRIC SHALL OVERLAY FRAME BY TWO (2) INCHES (MIN.).
  - CONTRACTOR SHALL CLEAR DEBRIS AND SILT AS REQUIRED FROM FABRIC TO MAINTAIN DRAINAGE THROUGH THE STRUCTURE.

4 **GRATE INLET PROTECTION**  
 C05.11 SCALE: N.T.S.



- 6 **SODDING**  
 C05.11 SCALE: N.T.S.
- NOTES:
- SOD SHALL BE PLACED WITH NO GAPS BETWEEN ADJACENT SOD BLOCKS.
  - AREA TO BE SODDED SHALL BE FINE GRADED TO DRAIN AND ROLLED SMOOTH. ALL FOREIGN OBJECTS SHALL BE REMOVED PRIOR TO SODDING.
  - ALL SODDED AREA SHALL BE ROLLED WITH HEAVY LAWN ROLLERS TO SET THE SOD. THE ROLLED SOD SHALL DRAIN FREELY AND CONTAIN NO RUTS, DEPRESSIONS, OR RIDGES.
  - CONTRACTOR SHALL WATER SOD AS NECESSARY TO ESTABLISH GROWTH AND REPLACE ANY SOD WHICH DIES WITHIN A ONE (1) YEAR PERIOD.
  - SOD SHALL BE PLACED SUCH THAT A 1-1/2" LIP IS CREATED FROM THE TOP OF THE ADJACENT PAVEMENT TO THE TOP OF THE SOD.

6 **SODDING**  
 C05.11 SCALE: N.T.S.



## SITE DESCRIPTION

### PROJECT LIMITS:

TAXIWAY NA FROM TAXIWAY NE TO TAXIWAY NP. CONNECTOR TAXIWAYS NE, NR, NF, NH, NK, NN, AND NP FROM TAXIWAY NA TO RUNWAY 8R-26L. PORTIONS OF CONNECTOR TAXIWAYS NE, NR, NF, NG, NJ, NK, NN, AND NP BETWEEN TAXIWAY NA AND TAXIWAY NB.

### PROJECT DESCRIPTION:

THE TAXIWAYS AS NOTED IN THE PROJECT LIMITS ABOVE WERE CONSTRUCTED IN THE MID-1960S. TAXIWAY NA WAS REHABILITATED IN 1998 AND 1999. SINCE THE REHABILITATION, STRUCTURAL DISTRESSES HAVE RECOMMENCED AT AN INCREASED RATE, INDICATING THE PAVEMENT'S STRUCTURAL LIFE HAS BEEN EXCEEDED. THIS PROJECT WILL COMPLETELY RECONSTRUCT THE PAVEMENTS NOTED IN THE PROJECT LIMITS ABOVE. THE PROJECT HAS TWO (2) PRINCIPLE OBJECTIVES: 1) RECONSTRUCT THE PAVEMENT SECTIONS FOR A THIRTY YEAR STRUCTURAL LIFE; AND 2) WIDEN PAVEMENT GEOMETRY TO COMPLY WITH FEDERAL AVIATION ADMINISTRATION (FAA) CRITERIA OUTLINED IN FAA ADVISORY CIRCULAR (AC) 150/5300-13A CHANGE 1, AIRPORT DESIGN.

### MAJOR SOIL DISTURBING ACTIVITIES:

PAVEMENT REMOVAL AND DEMOLITION, GRADING, AND STORM DRAINS.

### TOTAL PROJECT AREA AND THE DISTURBED AREAS:

PHASE	TOTAL AREA	DISTURBED AREA
	(Ac)	(Ac)
1	9.6	9.6
2	9.0	9.0
3	5.5	5.0
4	13.1	11.6
5	9.9	6.3
6	10.4	4.1
7	13.1	7.3
8	107.4	5.8
9	20.5	8.4
10	12.2	6.8
11	26.1	15.2
12	24.6	16.1
13	7.2	3.4
14	22.7	0.0

### WEIGHTED RUNOFF COEFFICIENT: (AFTER CONSTRUCTION):

REFER TO STORM WATER SECTION OF THE ENGINEER'S REPORT.

### EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER:

REFER TO STORM WATER SECTION OF THE ENGINEER'S REPORT.

### NAME OF RECEIVING WATERS:

THE AIRPORT, LOCATED ON APPROXIMATELY 9,105 ACRES, DRAINS INTO TWO (2) MAJOR WATERSHEDS: GREENS BAYOU AND TURKEY CREEK. THE AREA DRAINING TO GREENS BAYOU IS FURTHER DIVIDED INTO THREE (3) SUB WATERSHEDS: GARNERS BAYOU, REINHARDT BAYOU, AND HOOD BAYOU.

THE INFIELD AREA IN GARNERS BAYOU IS SERVED BY EXISTING STORM SEWER SYSTEMS THAT EMPTY INTO FOUR (4) 10' X 5' BOXES IN THE APRON AREA AND DITCH G, SOUTH OF TW NA. LIKEWISE, THE AREA IN TURKEY CREEK IS SERVED BY STORM SEWER SYSTEMS THAT DRAIN TO THE WEST TO DITCH C AND NORTH TO DITCHES FW1 AND FW2.

## EROSION AND SEDIMENT CONTROLS

### SOIL STABILIZATION PRACTICES:

- TEMPORARY SEEDING
- MULCHING (HAY OR STRAW)
- BUFFER ZONES
- PLANTING
- SEEDING & MATTING
- SODDING
- PRESERVATION OF NATURAL RESOURCES
- FLEXIBLE CHANNEL LINER
- RIGID CHANNEL LINER
- SOIL RETENTION BLANKET
- COMPOST MANUFACTURED TOPSOIL
- OTHER: (SPECIFY PRACTICE)  
FIBER MULCH

### STRUCTURAL PRACTICES:

- SILT FENCES
- HAY BALES
- ROCK FILTER DAMS
- PIPE SLOPE DRAINS
- PAVED FUMES
- CHANNEL LINERS
- SEDIMENT TRAPS
- SEDIMENT BASINS
- STORM SEWERS
- DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- DIVERSION DIKE AND SWALE COMBINATIONS
- ROCK BEDDING AT CONSTRUCTION EXIT
- TIMBER MATTING AT CONSTRUCTION EXIT
- STONE OUTLET STRUCTURES
- VELOCITY CONTROL DEVICES
- CURBS AND GUTTERS
- STORM INLET SEDIMENT TRAP
- ROCK BERM
- OTHER: BIODEGRADABLE EROSION CONTROL LOGS

### NARRATIVE – SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

THE ORDER OF STORMWATER MANAGEMENT ACTIVITIES WILL BE IN ACCORDANCE WITH THE PHASING PLAN AND CONSISTENT WITH SWPPP LAYOUT.

### STORM WATER MANAGEMENT:

STORM WATER FROM THE PAVEMENT WILL DISCHARGE INTO THE STORM SYSTEM.

### NON-STORMWATER DISCHARGES

NON-STORMWATER DISCHARGES SHOULD BE FILTERED OR HELD IN RETENTION BASINS BEFORE BEING ALLOWED TO MIX WITH STORMWATER. THESE DISCHARGES MAY CONSIST OF CONCRETE, HYDRATED LIME, MOTOR FUEL, MOTOR OIL AND OTHER LUBRICANTS, FERTILIZERS, DETERGENTS, ADHESIVES, WATERPROOFING MATERIAL, WOOD, STEEL, PAINT, SOLVENTS, PLASTIC PIPE, SAND, CLEAN OR PORTLAND CEMENT STABILIZED, CRUSHED AGGREGATES, LIMESTONE, ROCK. SPILL PREVENTION AND GOOD HOUSEKEEPING WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORMWATER RUNOFF.

## OTHER REQUIREMENTS & PRACTICES

### OTHER EROSION AND SEDIMENT CONTROLS:

### MAINTENANCE:

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY IT WILL BE DONE AT THE EARLIEST DATE POSSIBLE, BUT NO LATER THAN 7 CALENDAR DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE FROM HEAVY EQUIPMENT. THE AREA ADJACENT TO CREEKS AND DRAINAGEWAYS SHALL HAVE PRIORITY FOLLOWED BY DEVICES PROTECTING STORM SEWER INLETS.

### INSPECTION:

CONTRACTOR TO INSPECT AND MAINTAIN THE AREAS LISTED BELOW AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF ONE-HALF (0.5) INCHES OR GREATER.

- DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
- AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
- STRUCTURAL CONTROL MEASURES.
- LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.

AN INSPECTION AND MAINTENANCE REPORT SHOULD BE MADE FOR EACH INSPECTION. BASED ON THE INSPECTION RESULTS, THE CONTROLS SHALL BE REVISED ACCORDING TO THE INSPECTION REPORT.

### WASTE MATERIALS:

THE DUMPSTER USED TO STORE ALL WASTE MATERIAL WILL MEET ALL STATE AND LOCAL CITY SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION AND THE TRASH WILL BE HAULED TO A LOCAL DUMP. NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON SITE.

### HAZARDOUS WASTE (INCLUDING SPILL REPORTING):

IN THE EVENT OF A SPILL WHICH MAY BE CONSIDERED HAZARDOUS, THE HOUSTON DISTRICT SAFETY OFFICE SHALL BE CONTACTED IMMEDIATELY AT 713-802-5962.

### SANITARY WASTE:

N/A

### OFFSITE VEHICLE TRACKING:

THE CONTRACTOR SHALL BE REQUIRED, ON A REGULAR BASIS OR AS MAY BE DIRECTED BY THE ENGINEER, TO DAMPEN HAUL ROADS FOR DUST CONTROL, STABILIZE CONSTRUCTION ENTRANCES AND TO REMOVE EXCESS DIRT FROM THE ROADWAY.

### REMARKS:

DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE SEDIMENT THAT MAY ENTER RECEIVING WATERWAYS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WATERWAY, WATERBODY OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER WHICH MINIMIZES THE RUNOFF OF ALL POLLUTANTS. ALL WATERWAYS SHALL BE CLEARED AS SOON AS PRACTICAL OF TEMPORARY EMBANKMENTS, TEMPORARY BRIDGES, MATTING, FALSEWORK, PILING, DEBRIS, AND OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT PART OF THE FINISHED WORK.



HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL  
AIRPORT HOUSTON, TEXAS

**RS&H**

RS&H, Inc.  
11011 Richmond Ave., Suite 900  
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713-914-4455 FAX 713-914-0155  
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TBPE Registration No. F-3401

REVISIONS

NO. DESCRIPTION DATE BY





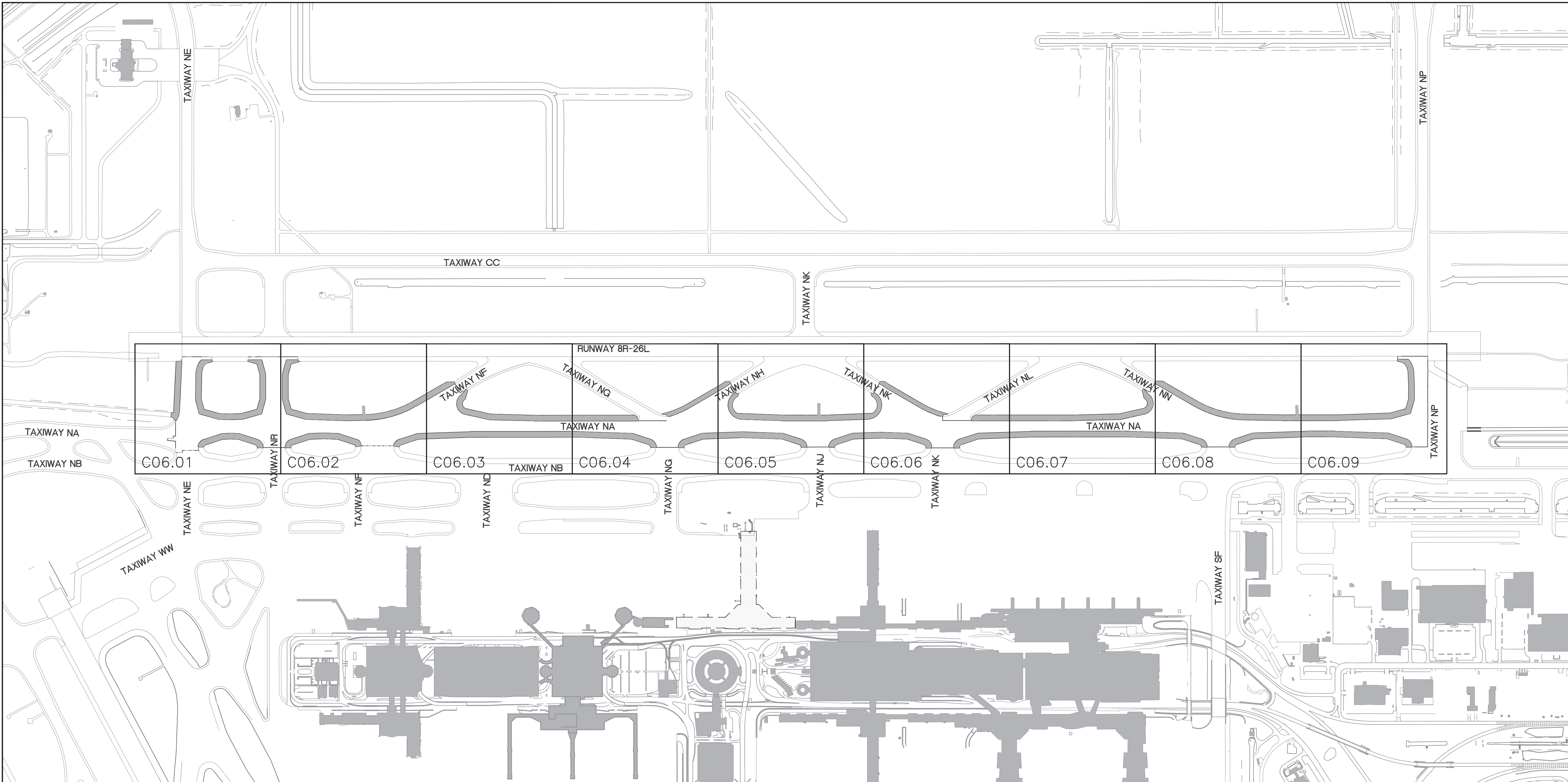
HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



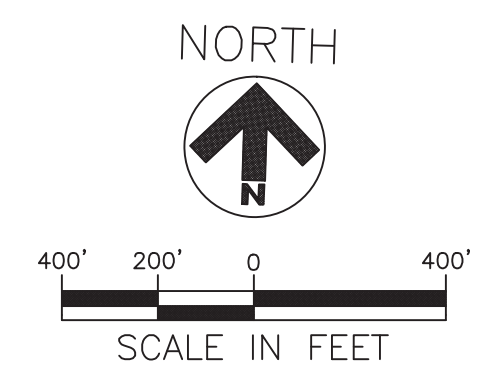
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 Suite 320  
 Houston, Texas 77008  
 (832) 494-3800  
 Firm Registration No.  
 F-10161

REVISIONS  
 NO. DESCRIPTION DATE BY

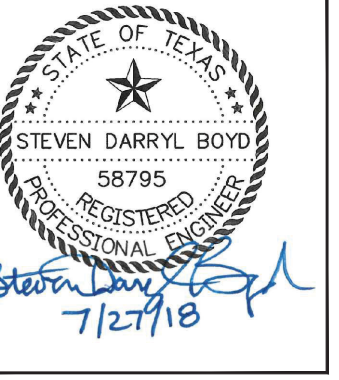
RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**JOINT LAYOUT KEY PLAN**



NOTE: PHASES 2, 3, 4, AND 7  
 CONSTRUCTED UNDER PN 675



ISSUED FOR BID  
 PROJECT MGR: DB  
 DESIGNER: KE  
 DRAWN BY: KE  
 CHECKED BY: DB  
 SCALE: 1"=400'  
 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Denaj Pehel* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**C06.00**





HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



1225 North Loop West  
 Suite 320  
 Houston, Texas 77008  
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**LEGEND**

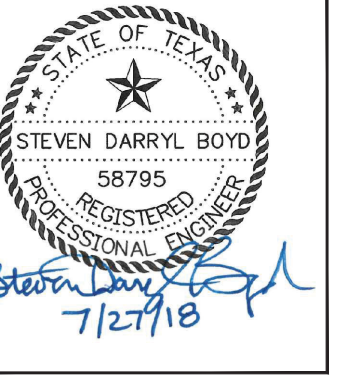
- NEW TAXIWAY SHOULDER PAVEMENT
- EXISTING JOINT OR PAVEMENT EDGE
- REINFORCED ISOLATION JOINT
- DOWELED JOINT OR PAVEMENT EDGE
- DOWELED EXPANSION JOINT

**NOTES:**

1. ALL PROPOSED CONCRETE PAVEMENT SHALL BE REINFORCED.
2. REFER TO SHEETS C03.15 AND C03.16 FOR CONCRETE JOINT DETAILS.
3. DIMENSIONS OF IRREGULAR PANELS WILL VARY. SEE PROPOSED GEOMETRY PLANS FOR EDGE OF PAVEMENT LAYOUT.
4. PROPOSED JOINT AT EXISTING PAVEMENT TO REMAIN AND NEXT PROPOSED JOINT ARE NOT PARALLEL. DIMENSION WILL VARY.

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**JOINT LAYOUT PLAN**  
 (1 OF 9)

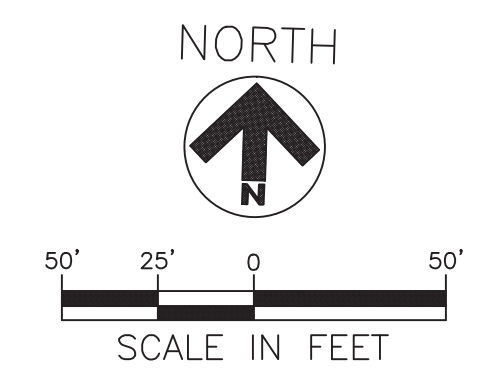
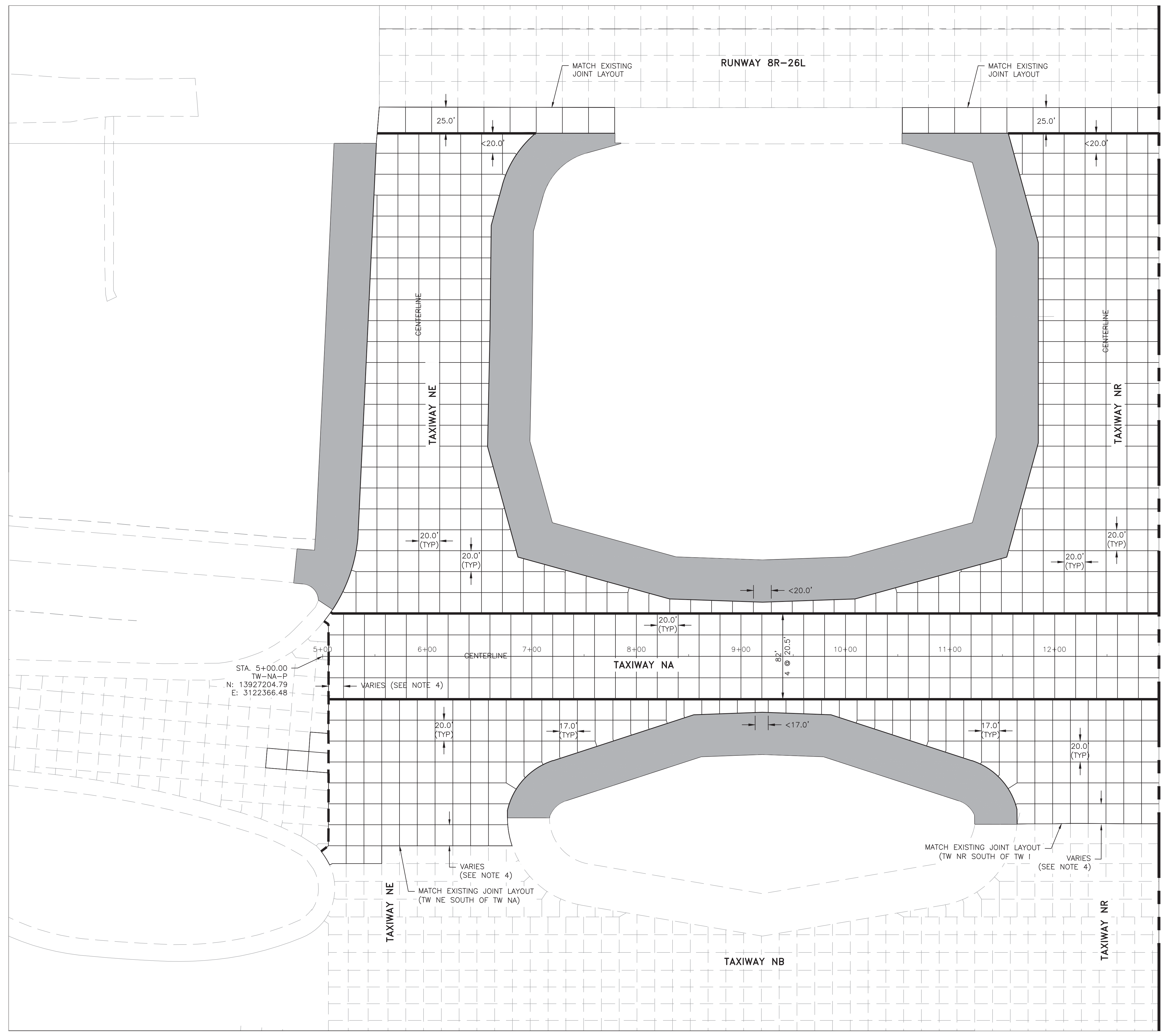
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PROJECT MGR:	DB
DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Denaj Rahmal* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
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PROJECT NO.	0907
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C06.01







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 F-10161

REVISIONS

NO.	DESCRIPTION	DATE	BY

LEGEND

- NEW TAXIWAY SHOULDER PAVEMENT
- EXISTING JOINT
- REINFORCED ISOLATION JOINT
- DOWELED JOINT OR PAVEMENT EDGE
- DOWELED EXPANSION JOINT

NOTES:

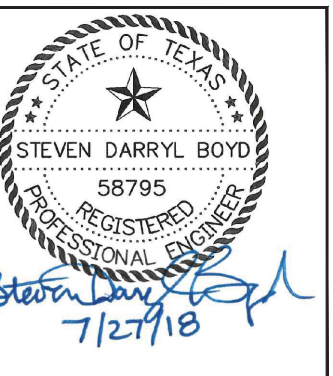
- ALL PROPOSED CONCRETE PAVEMENT SHALL BE REINFORCED.
- REFER TO SHEETS C03.15 AND C03.16 FOR CONCRETE JOINT DETAILS.
- DIMENSIONS OF IRREGULAR PANELS WILL VARY. SEE PROPOSED GEOMETRY PLANS FOR EDGE OF PAVEMENT LAYOUT.
- PROPOSED JOINT AT EXISTING PAVEMENT TO REMAIN AND NEXT PROPOSED JOINT ARE NOT PARALLEL. DIMENSION WILL VARY.
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

JOINT LAYOUT PLAN  
 (2 OF 9)

ISSUED FOR BID

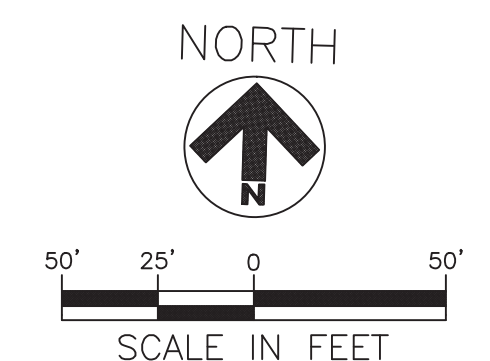
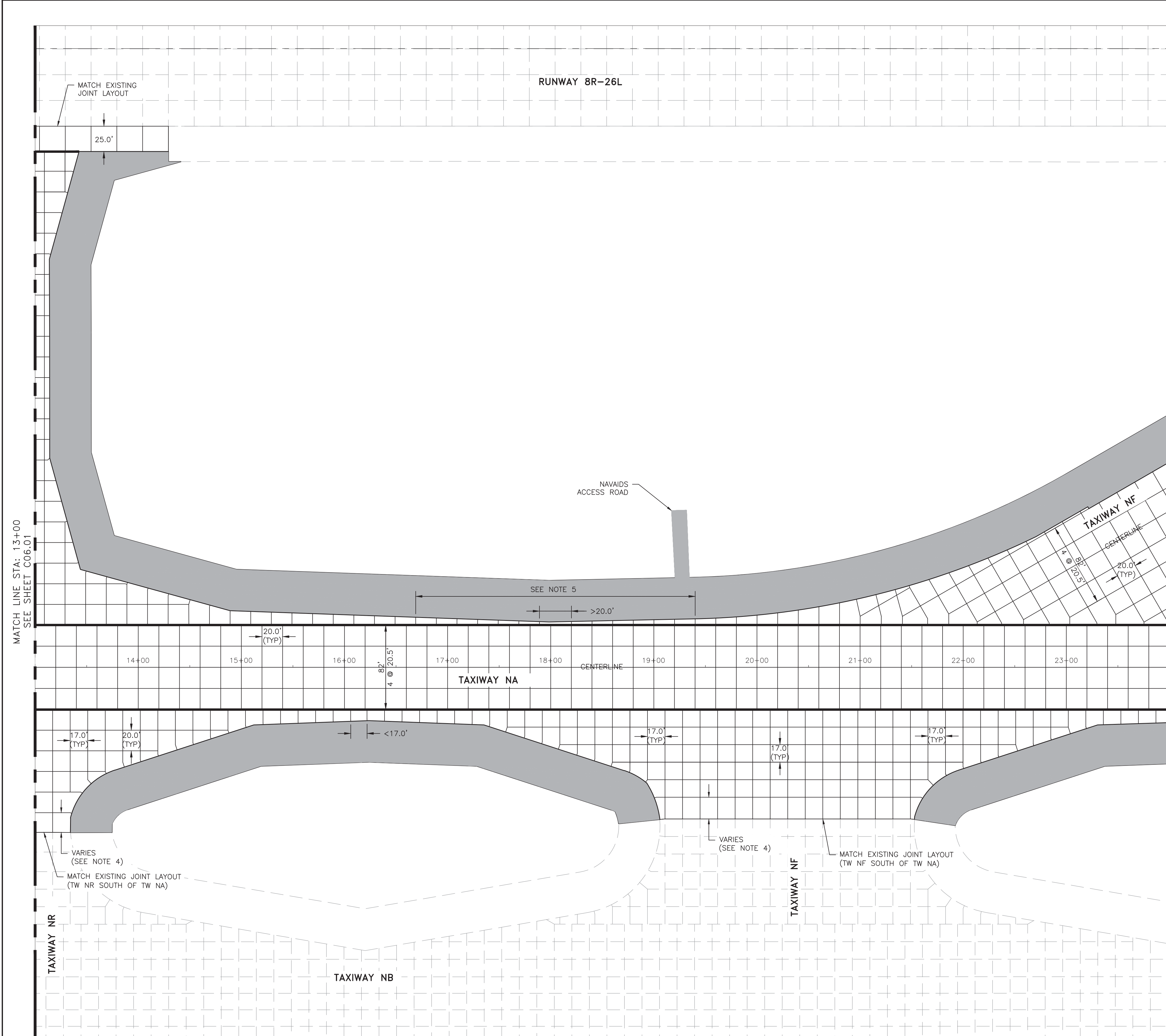
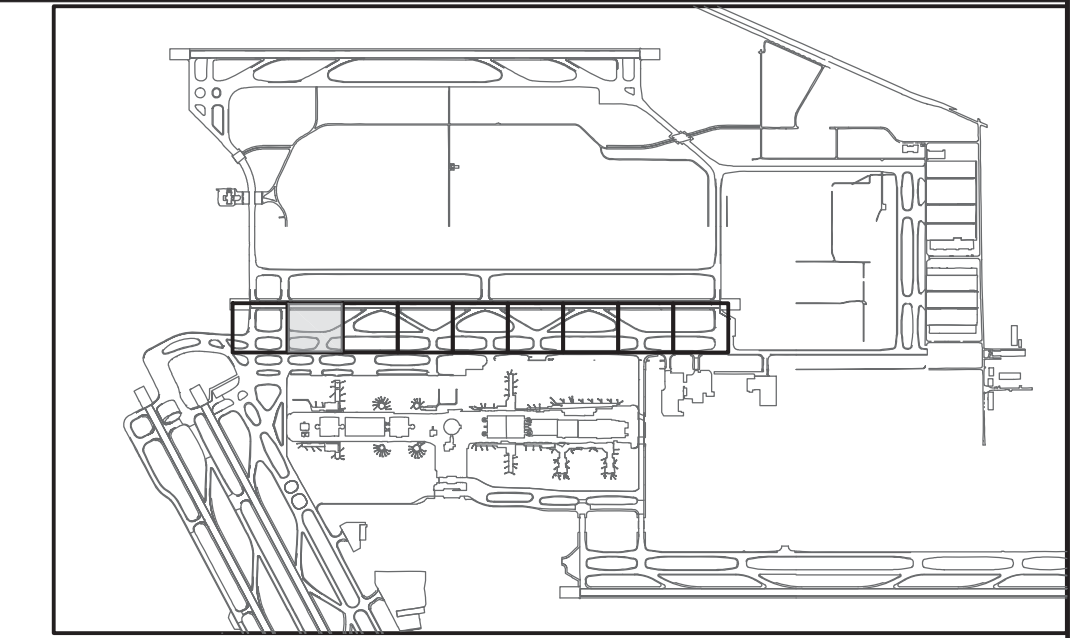
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DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	APPROVED BY:	DATE:
	<i>Danaj Palmer</i>	JULY 27, 2018
	HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C06.02



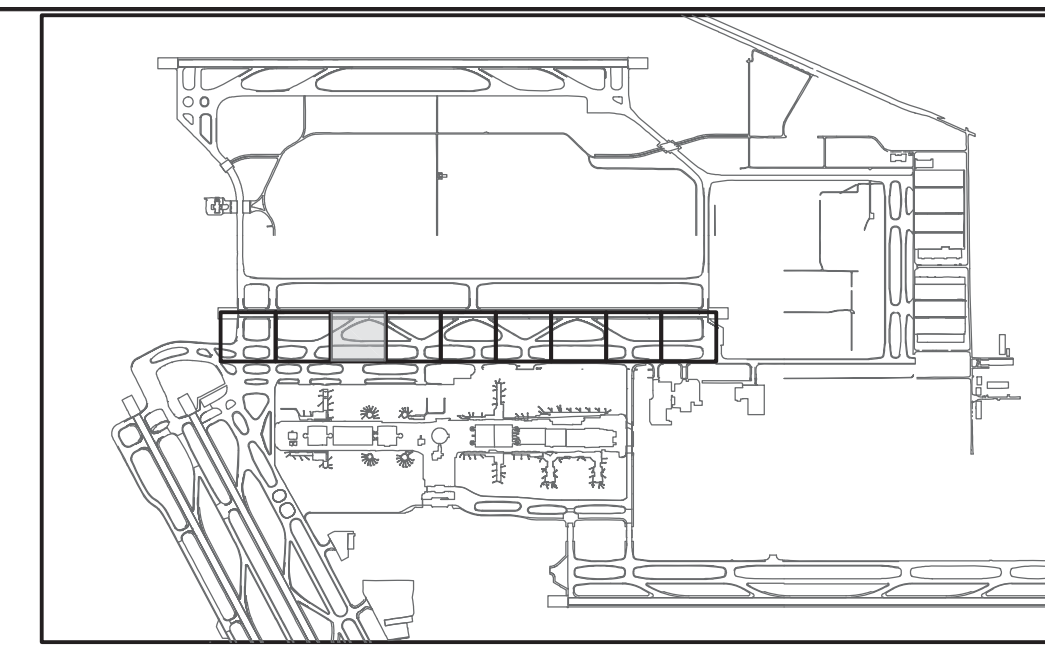




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**LEGEND**

- NEW TAXIWAY SHOULDER PAVEMENT
- EXISTING JOINT
- REINFORCED ISOLATION JOINT
- DOWELED JOINT OR PAVEMENT EDGE
- DOWELED EXPANSION JOINT

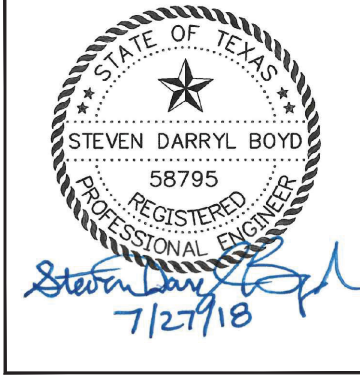
**NOTES:**

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5. CONTINUE PLACING ISOLATION JOINT STEEL NEEDED FOR FUTURE CONNECTING TAXIWAY CONSTRUCTION.

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**JOINT LAYOUT PLAN**  
 (3 OF 9)

ISSUED FOR BID

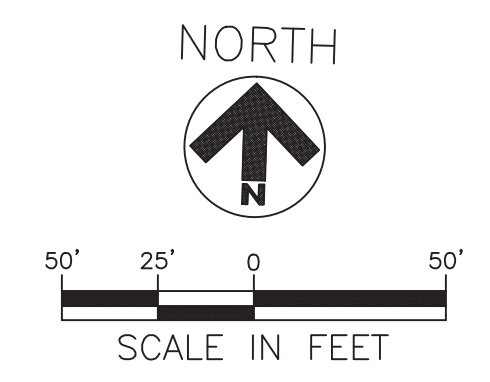
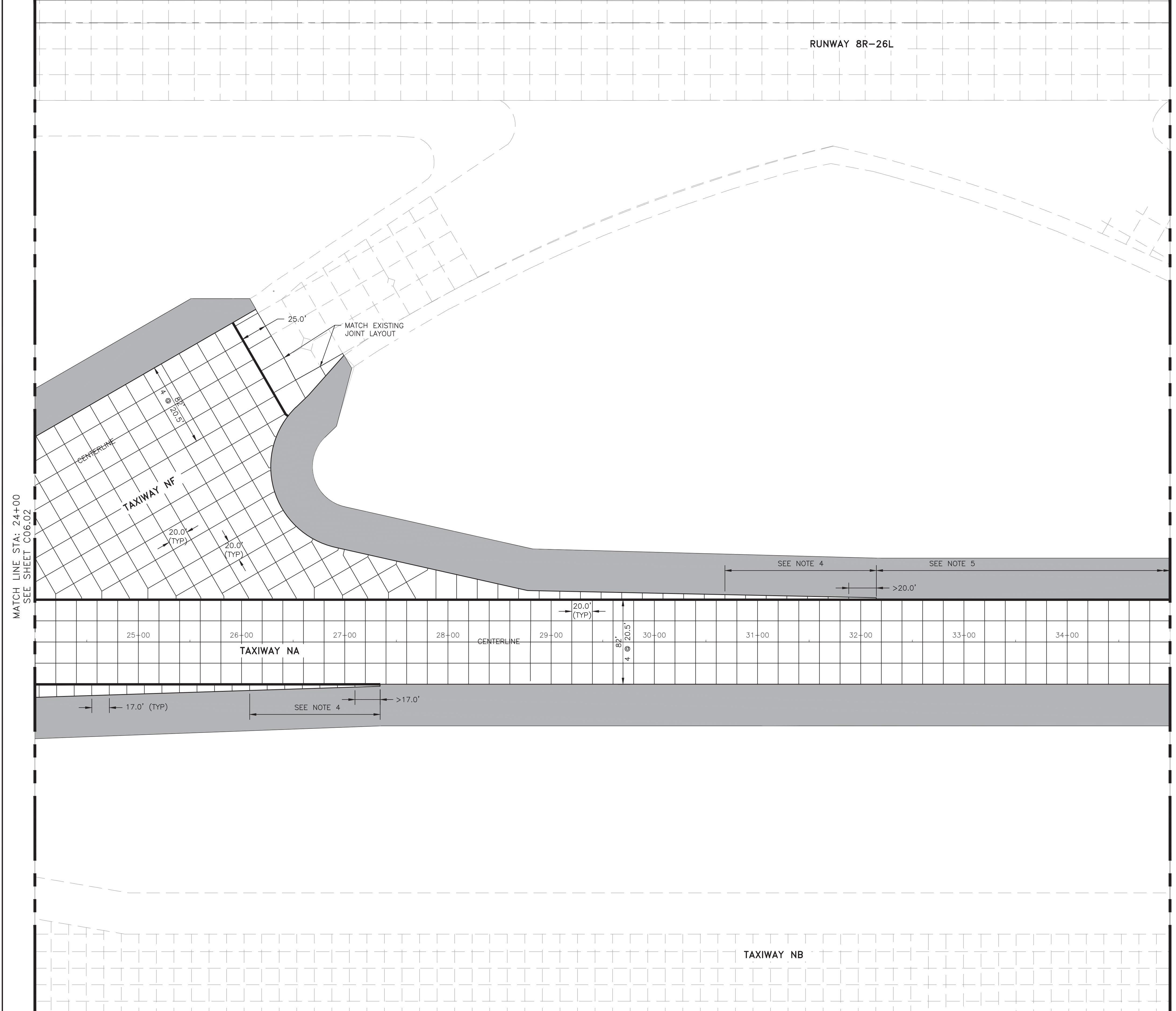
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DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Pehel* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

**C06.03**







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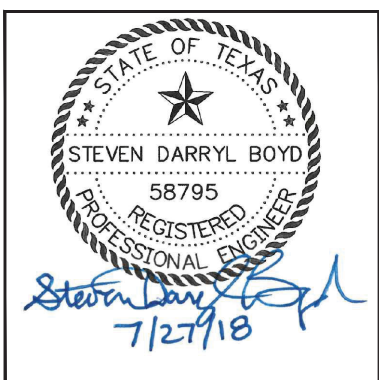
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**JOINT LAYOUT PLAN**  
 (4 OF 9)

ISSUED FOR BID

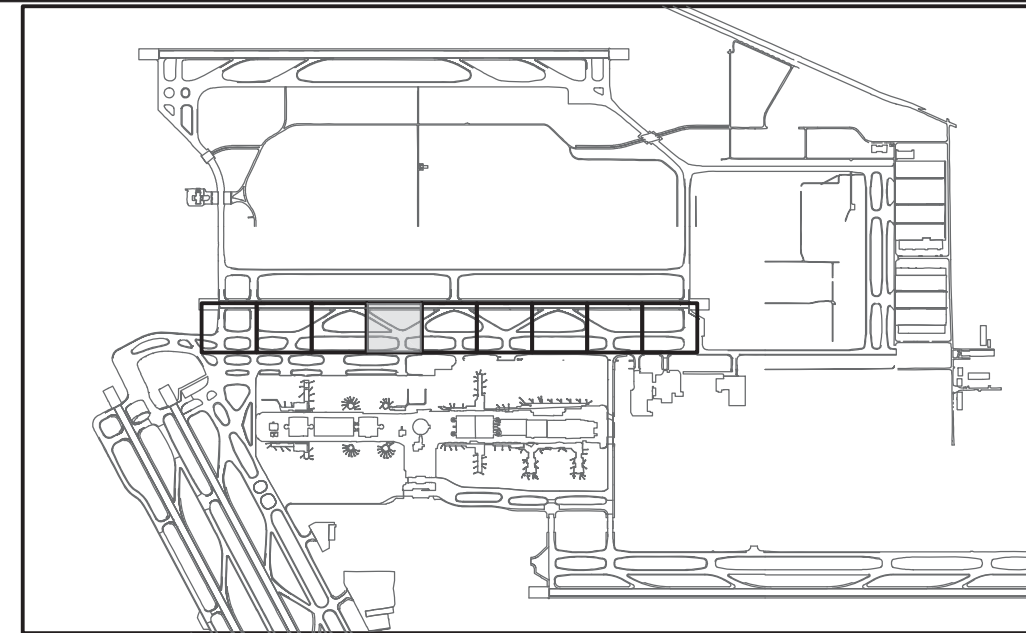
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DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Pehel* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C06.04

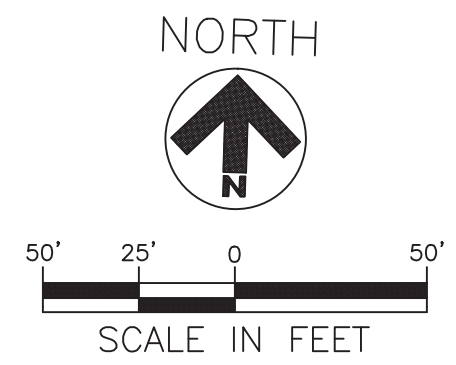
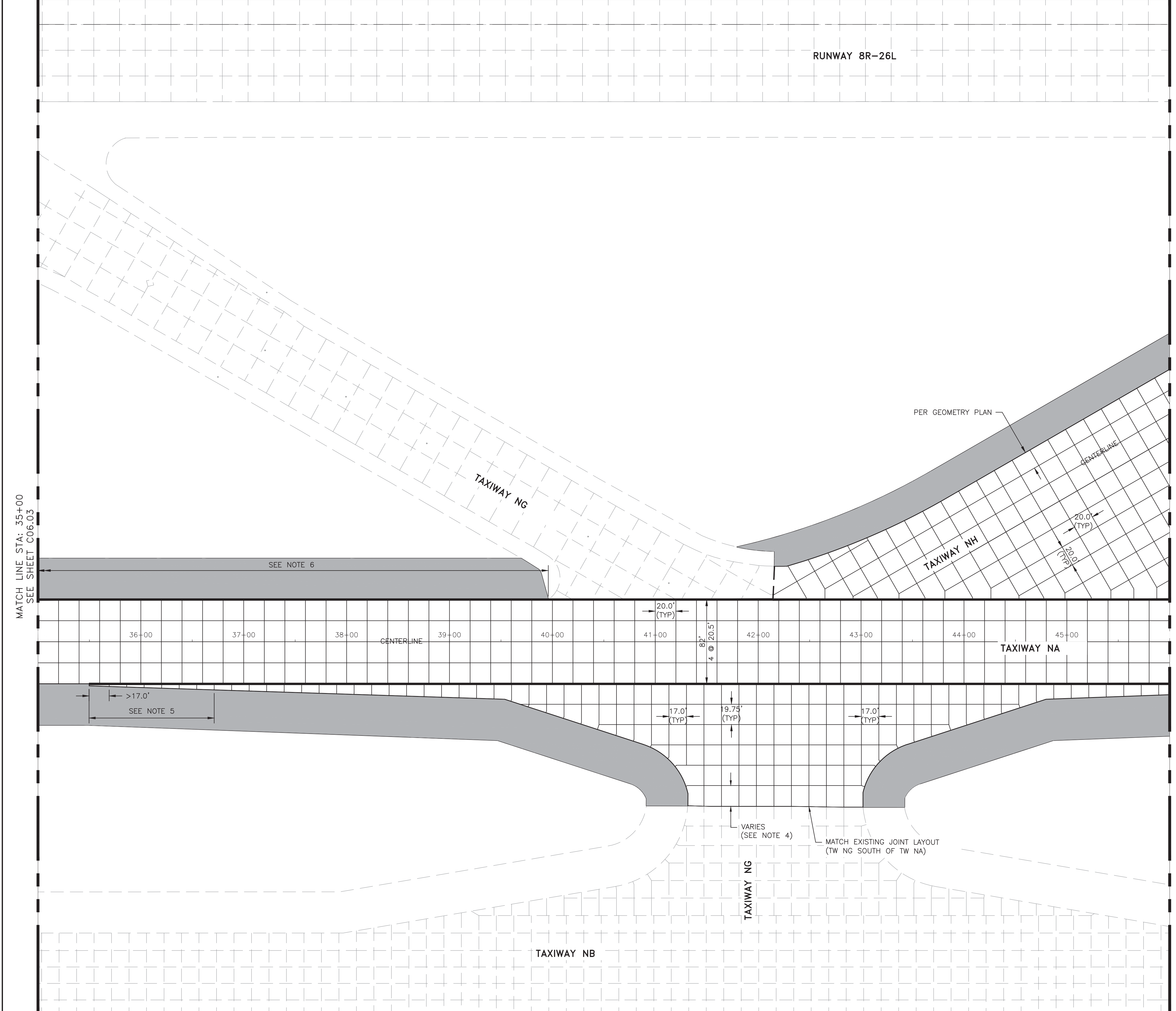


**LEGEND**

- NEW TAXIWAY SHOULDER PAVEMENT
- EXISTING JOINT
- REINFORCED ISOLATION JOINT
- DOWELED JOINT OR PAVEMENT EDGE
- DOWELED EXPANSION JOINT

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6. CONTINUE PLACING ISOLATION JOINT STEEL. NEEDED FOR FUTURE CONNECTING TAXIWAY CONSTRUCTION.







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REVISIONS

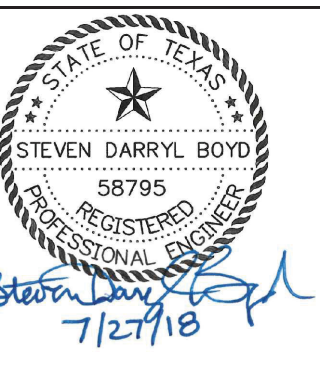
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

JOINT LAYOUT PLAN  
 (5 OF 9)

ISSUED FOR BID

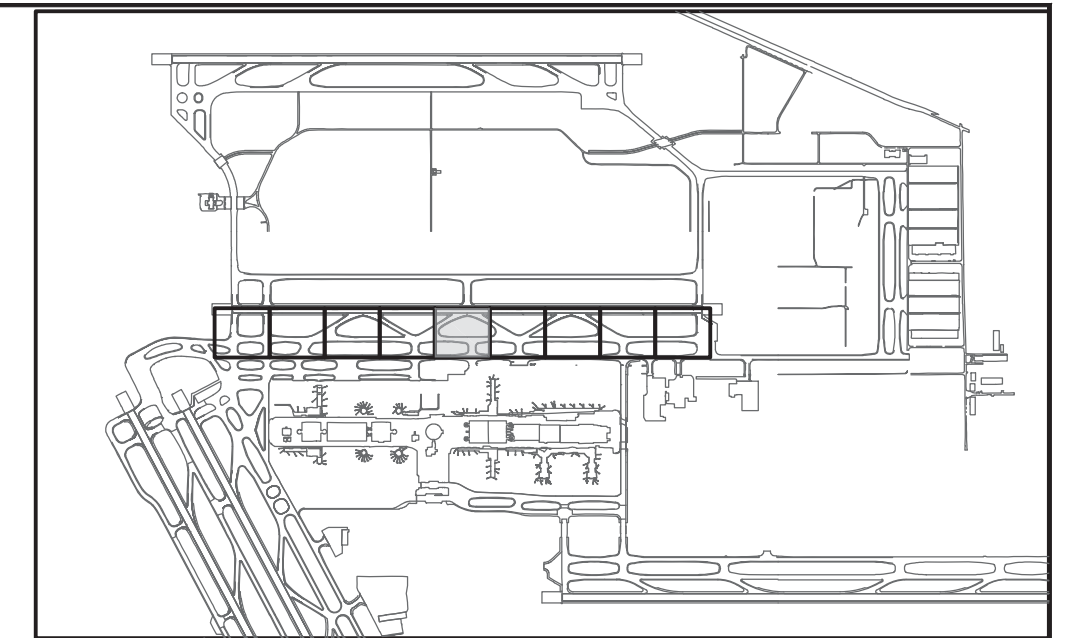
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DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Pehel* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C06.05

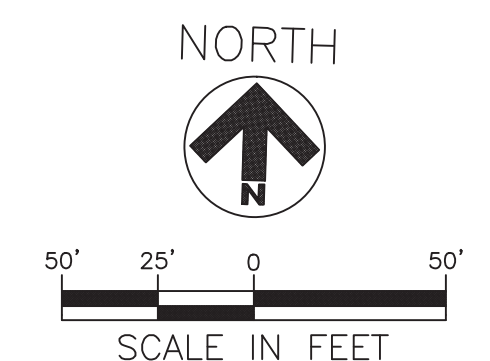
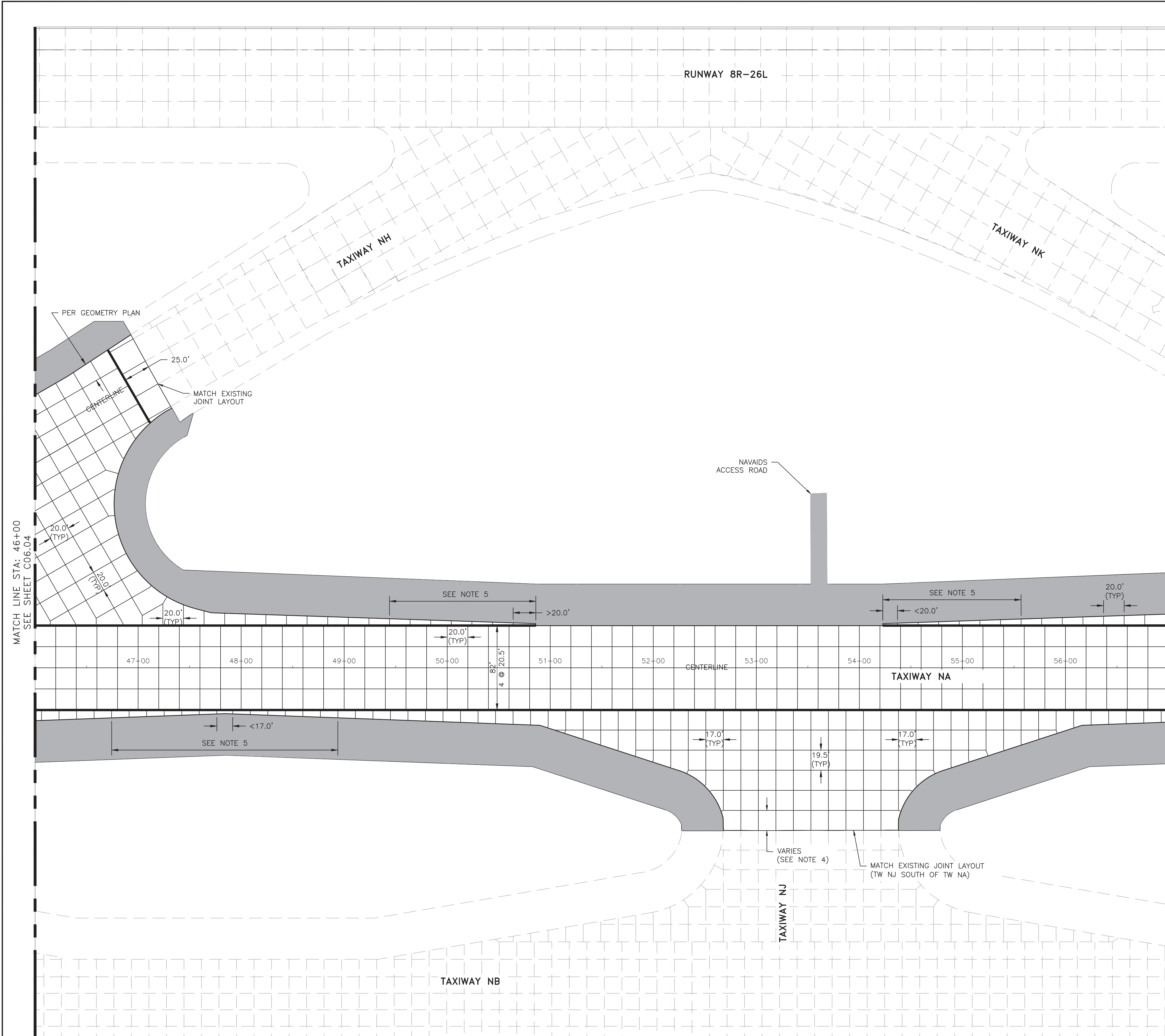


LEGEND

- NEW TAXIWAY SHOULDER PAVEMENT
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- REINFORCED ISOLATION JOINT
- DOWELED JOINT OR PAVEMENT EDGE
- DOWELED EXPANSION JOINT

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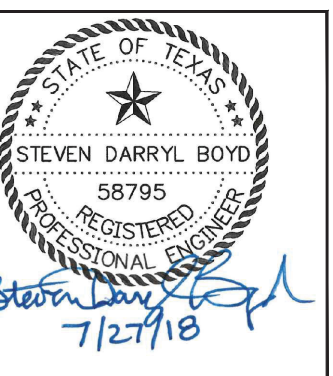


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REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**JOINT LAYOUT PLAN**  
 (6 OF 9)

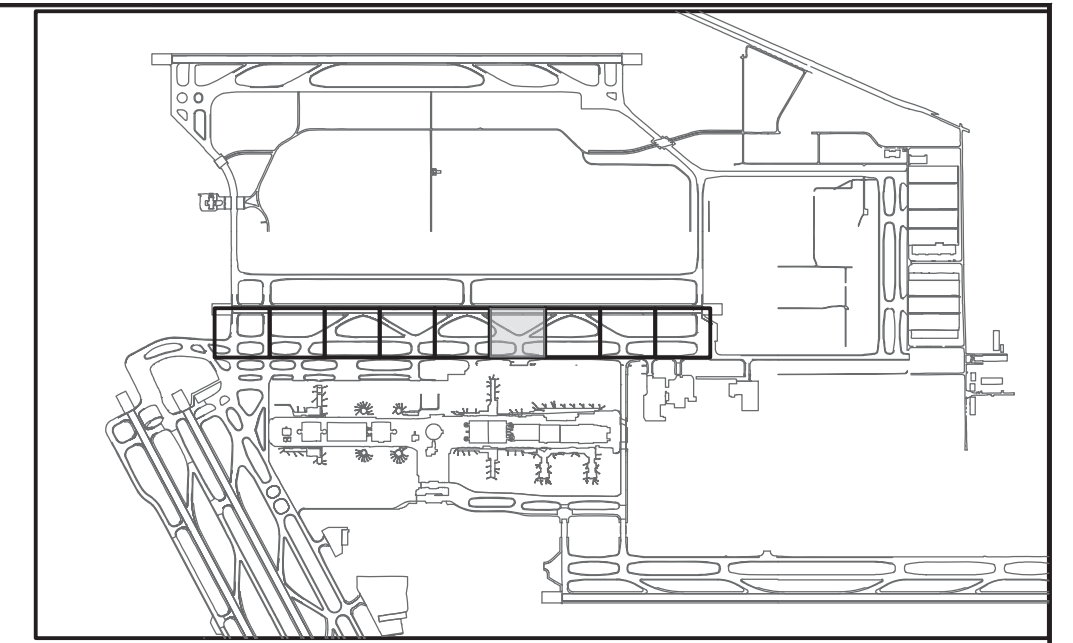
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C06.06

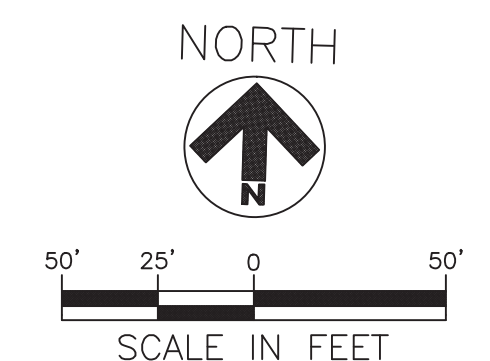
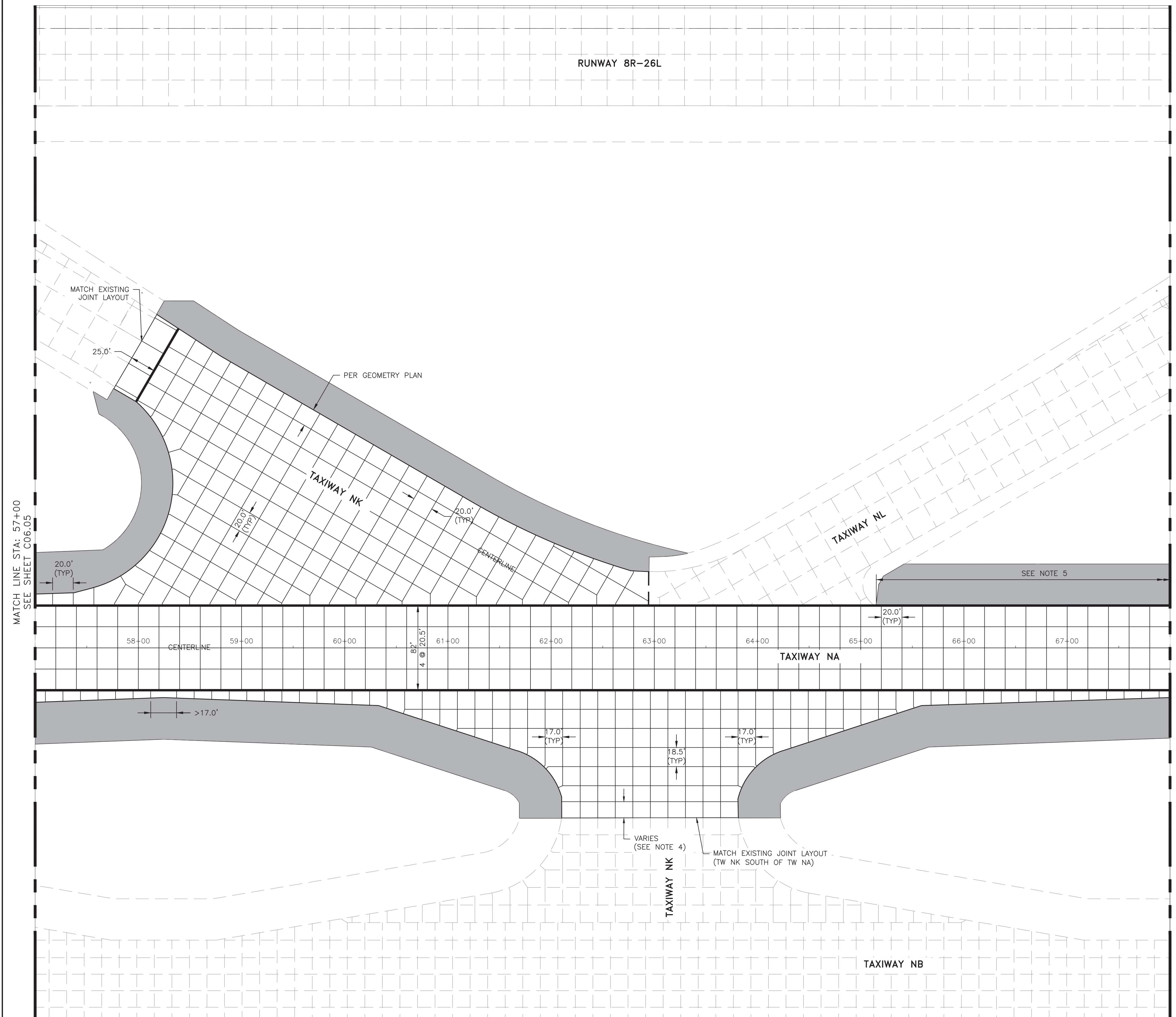


**LEGEND**

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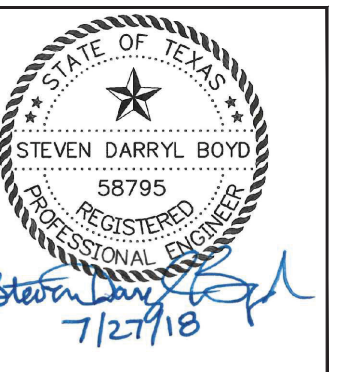
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**JOINT LAYOUT PLAN**  
 (7 OF 9)

ISSUED FOR BID

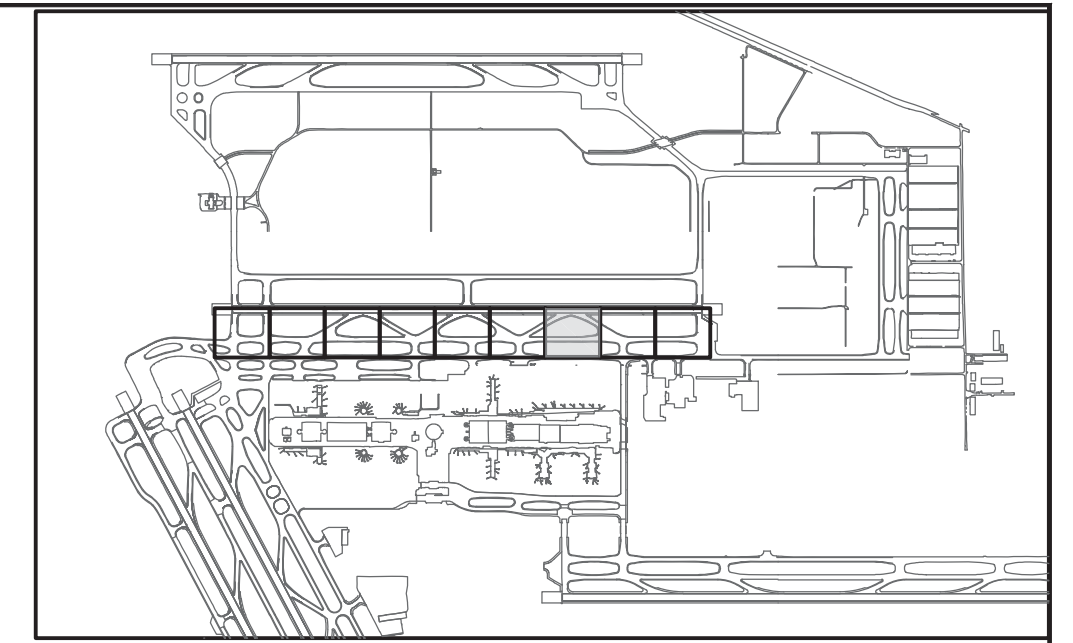
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Denaj Pehuel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C06.07

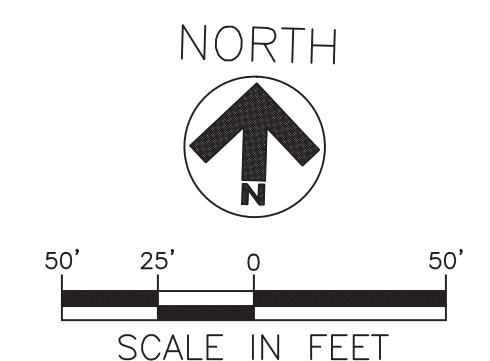
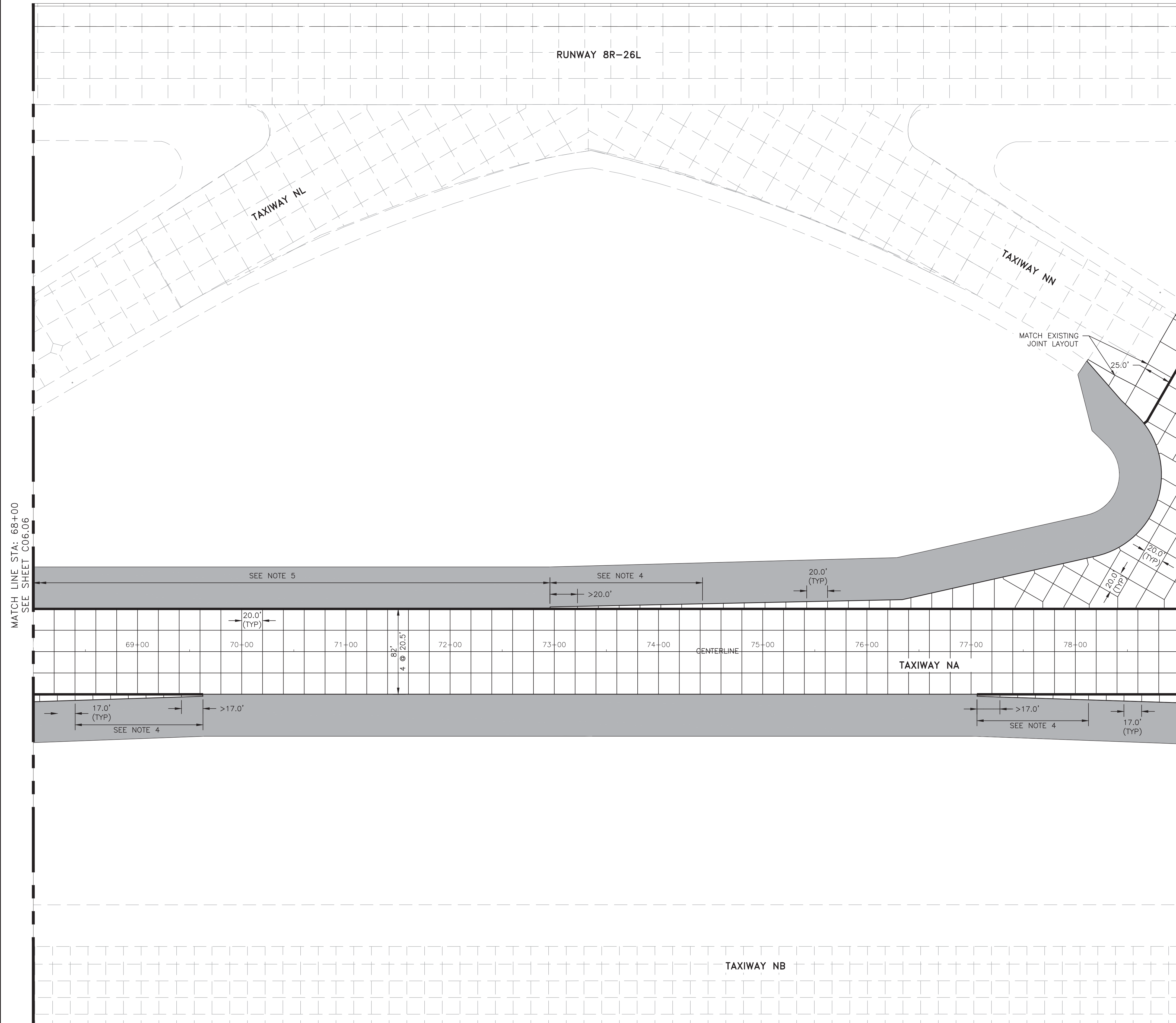


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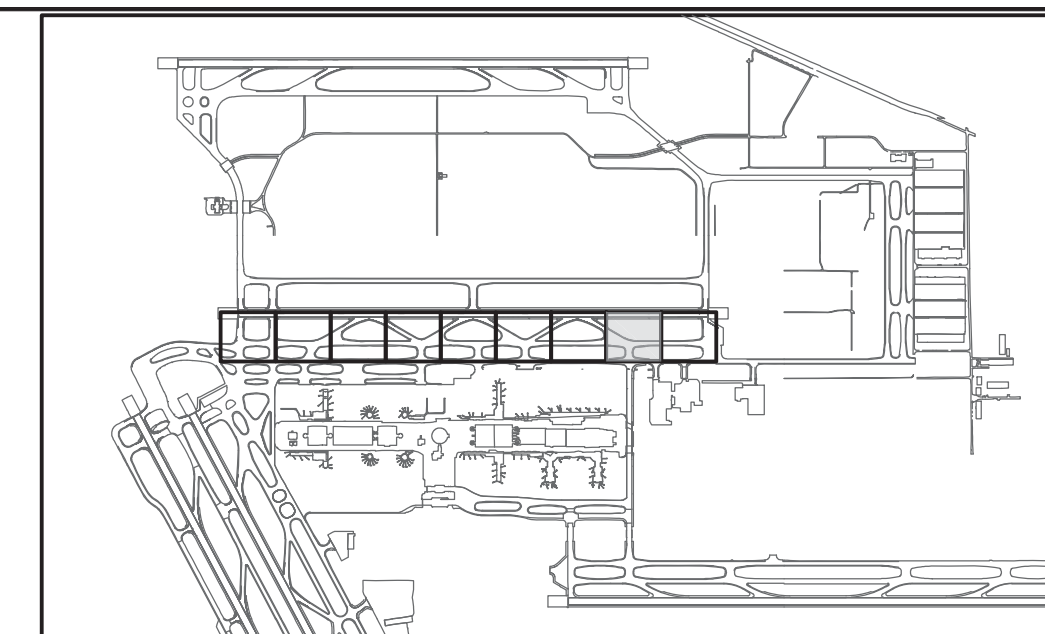




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**LEGEND**

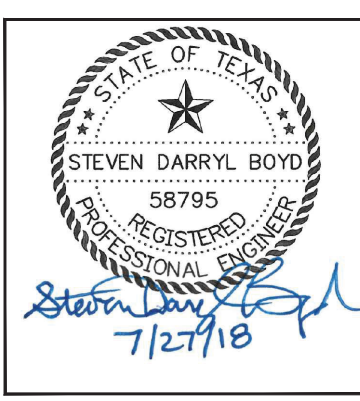
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**JOINT LAYOUT PLAN**  
 (8 OF 9)

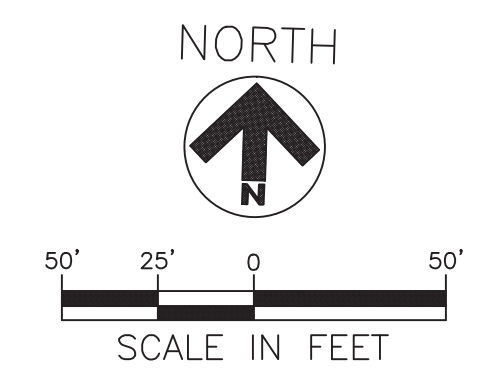
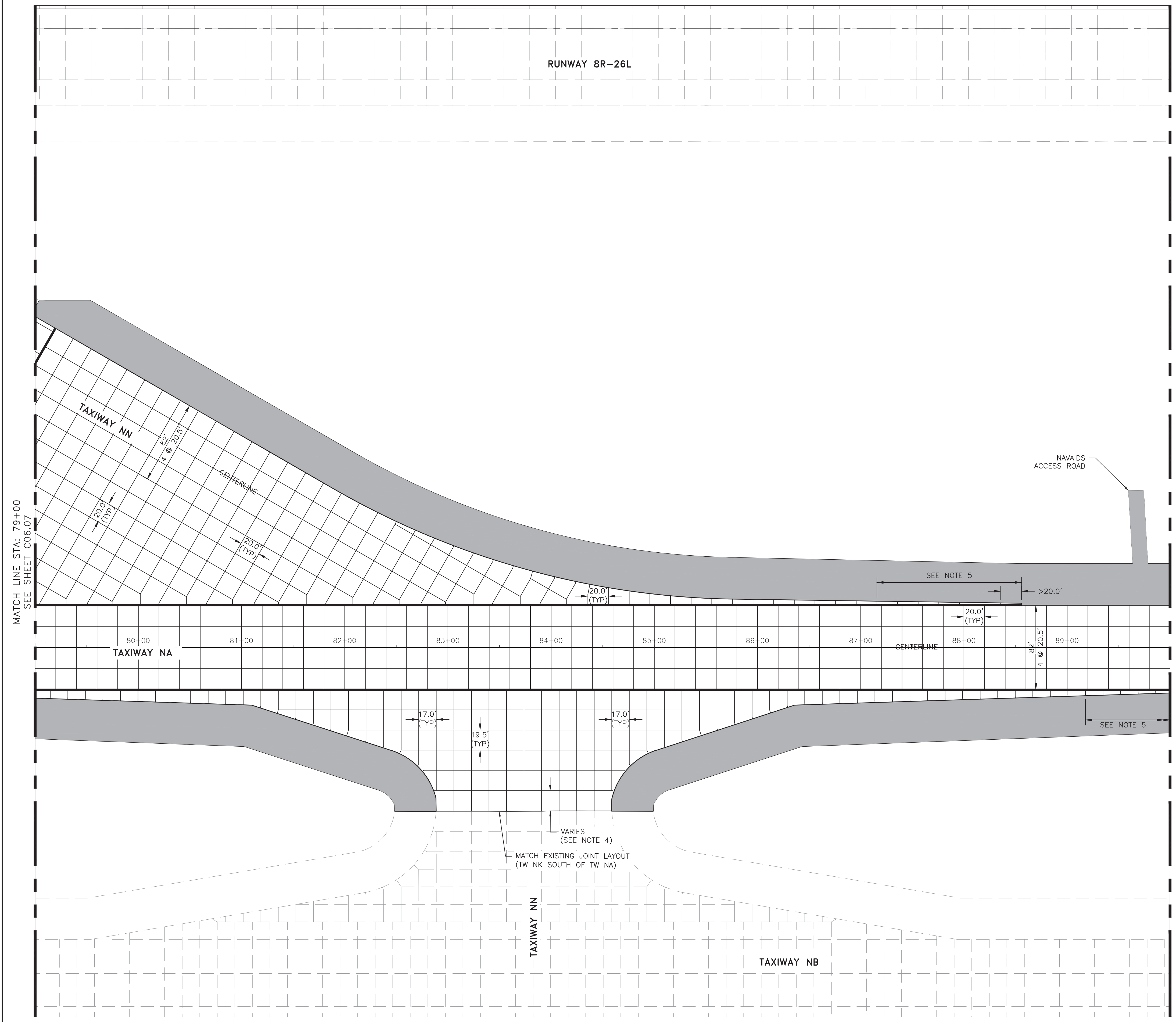
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Denaj Rahal* JULY 27, 2018  
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 H.A.S. NO.  
 SHEET NO.

**C06.08**







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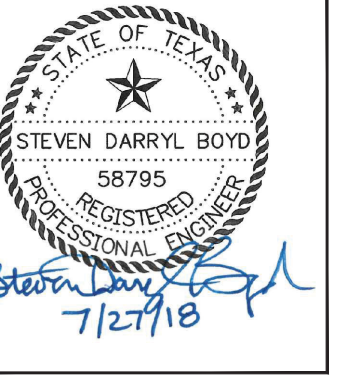
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**JOINT LAYOUT PLAN**  
 (9 OF 9)

ISSUED FOR BID

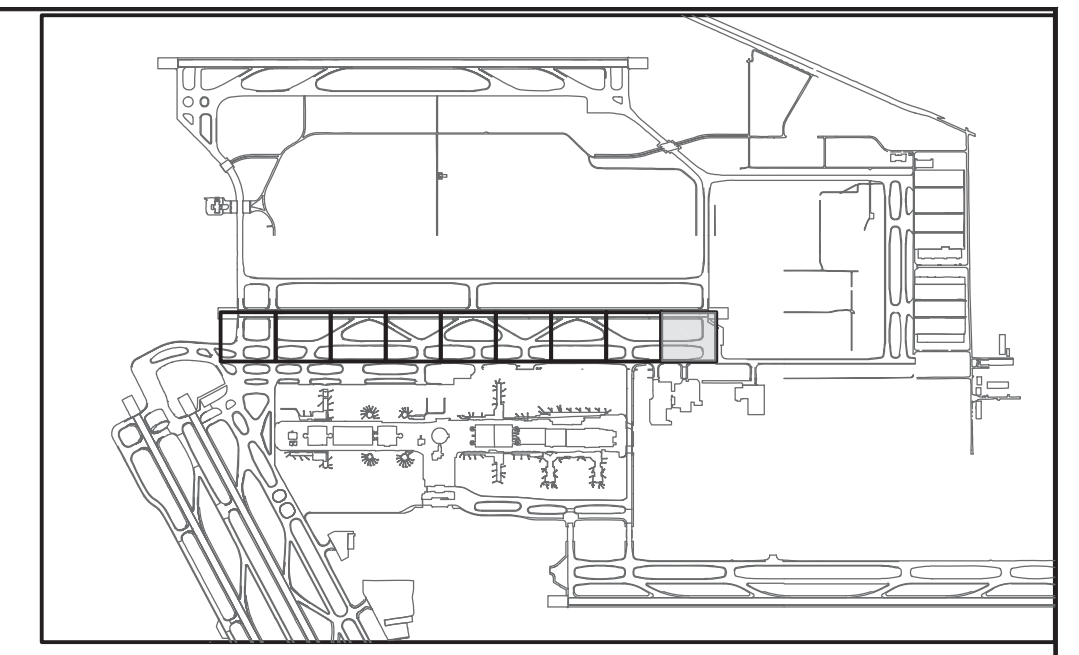
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DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Rahal* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
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PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C06.09

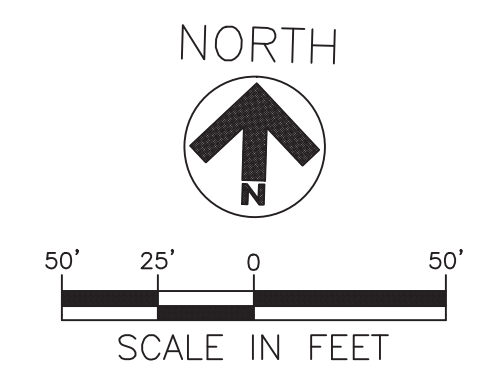
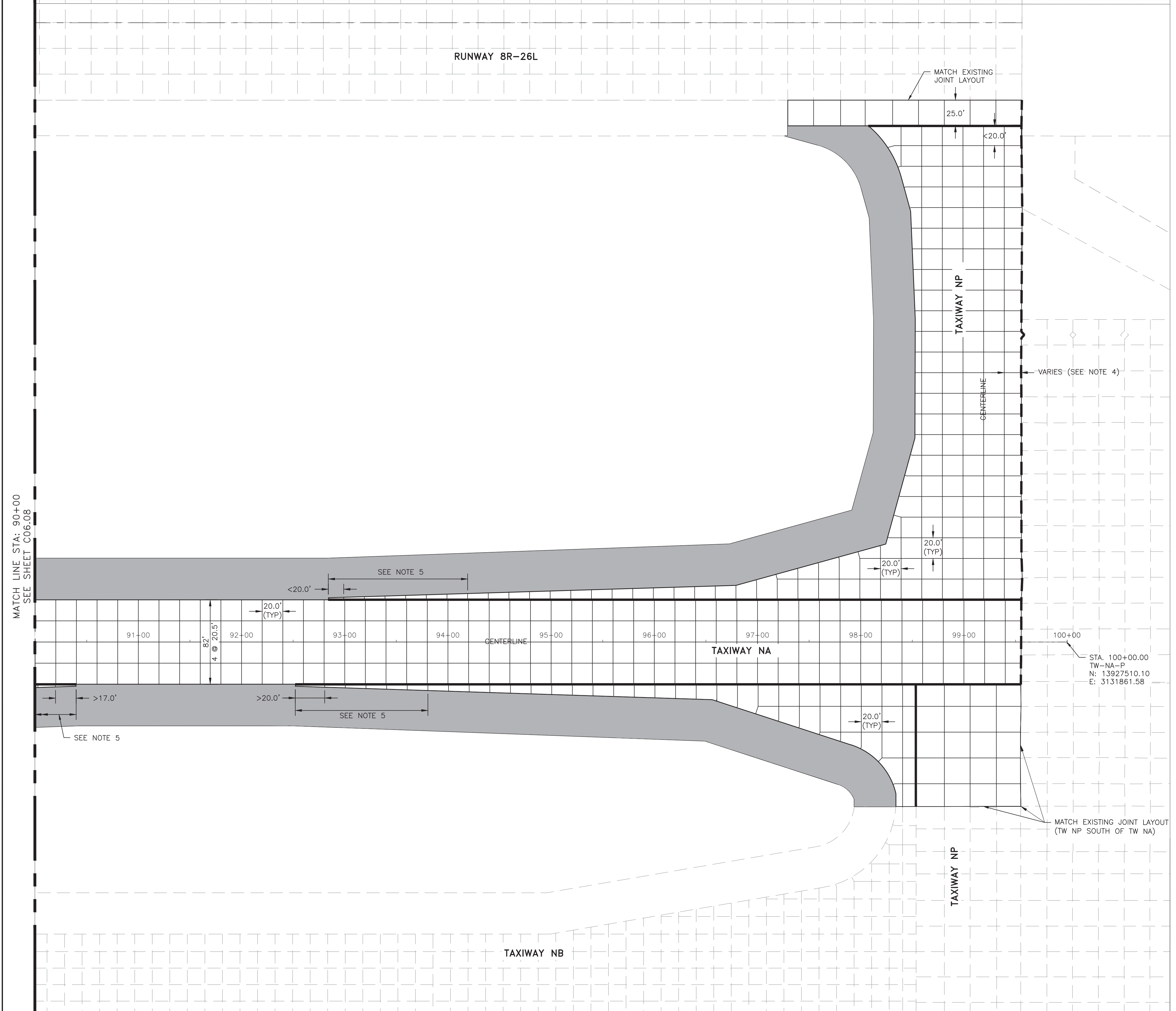


**LEGEND**

- NEW TAXIWAY SHOULDER PAVEMENT
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HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

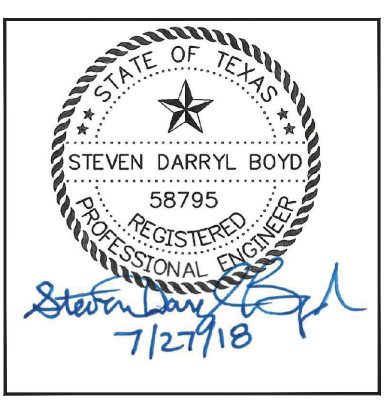


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REVISIONS  
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RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SPOT ELEVATION KEY PLAN**

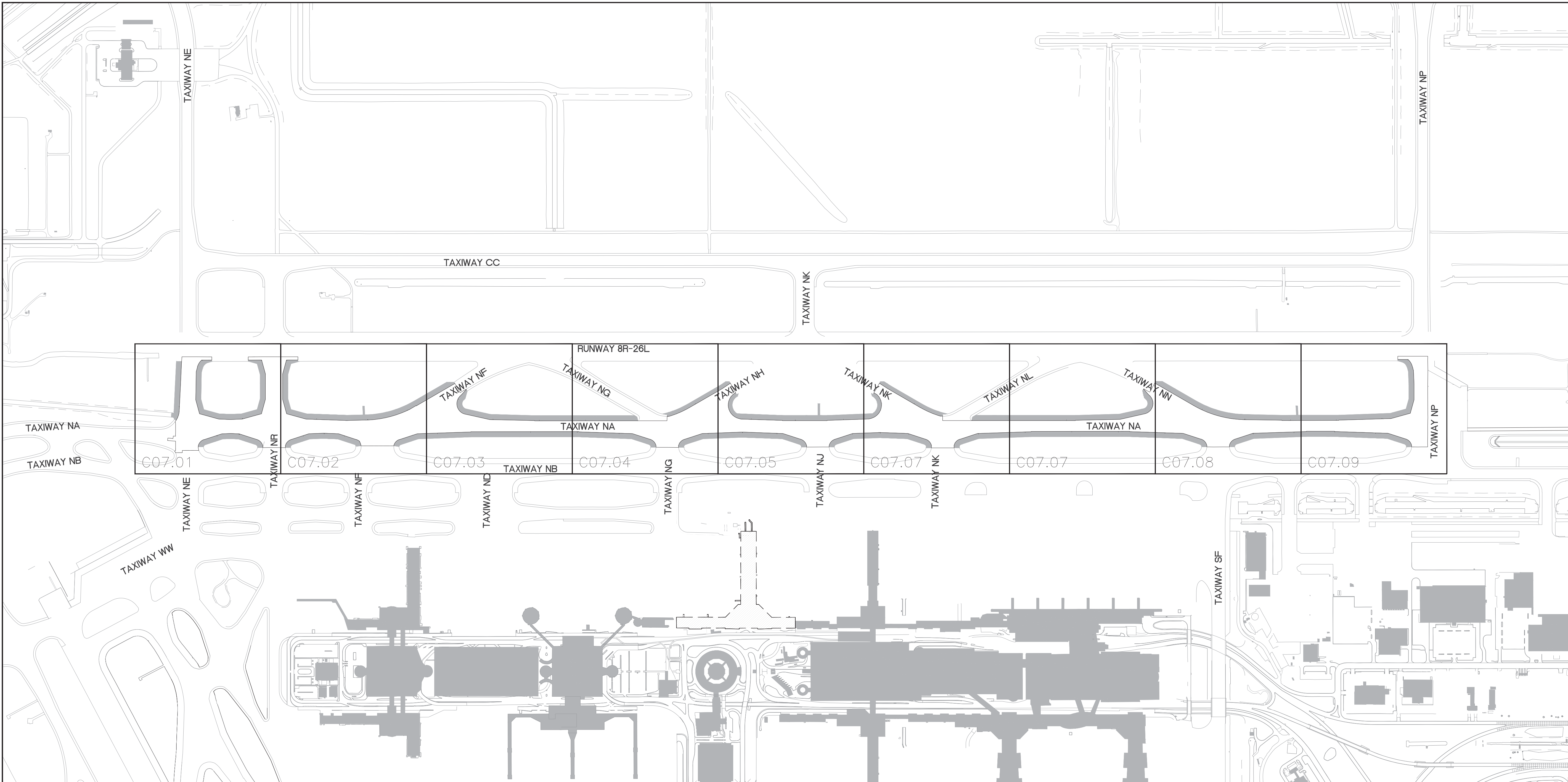
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DATE: JULY 27, 2018



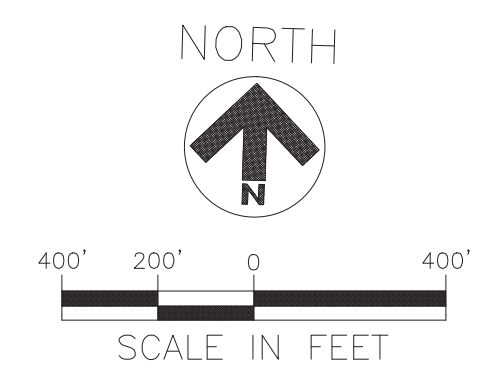
DEPARTMENT OF AVIATION  
APPROVED BY: DATE:  
*Denaj Rahal* JULY 27, 2018  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
C.I.P. NO. A-000570  
H.A.S. NO.  
SHEET NO.

C07.00



NOTE: PHASES 2, 3, 4, AND 7  
CONSTRUCTED UNDER PN 675







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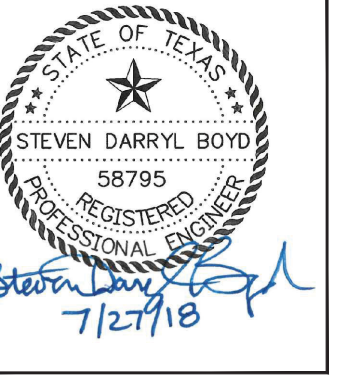
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REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

# SPOT ELEVATION PLAN (1 OF 9)

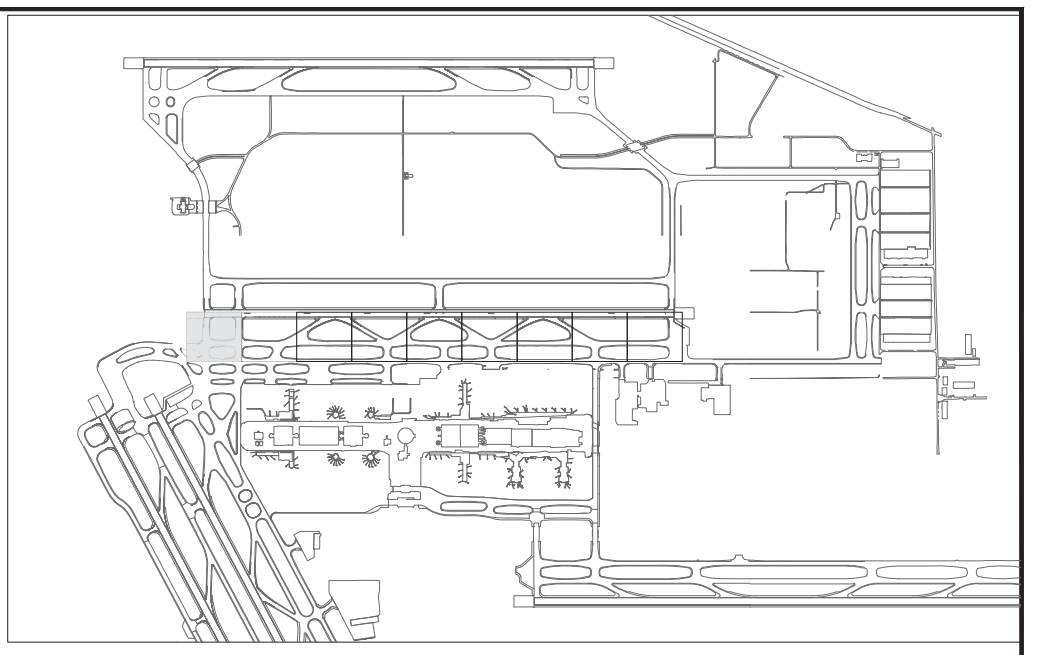
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
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PROJECT NO.	0907
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H.A.S. NO.	
SHEET NO.	

C07.01

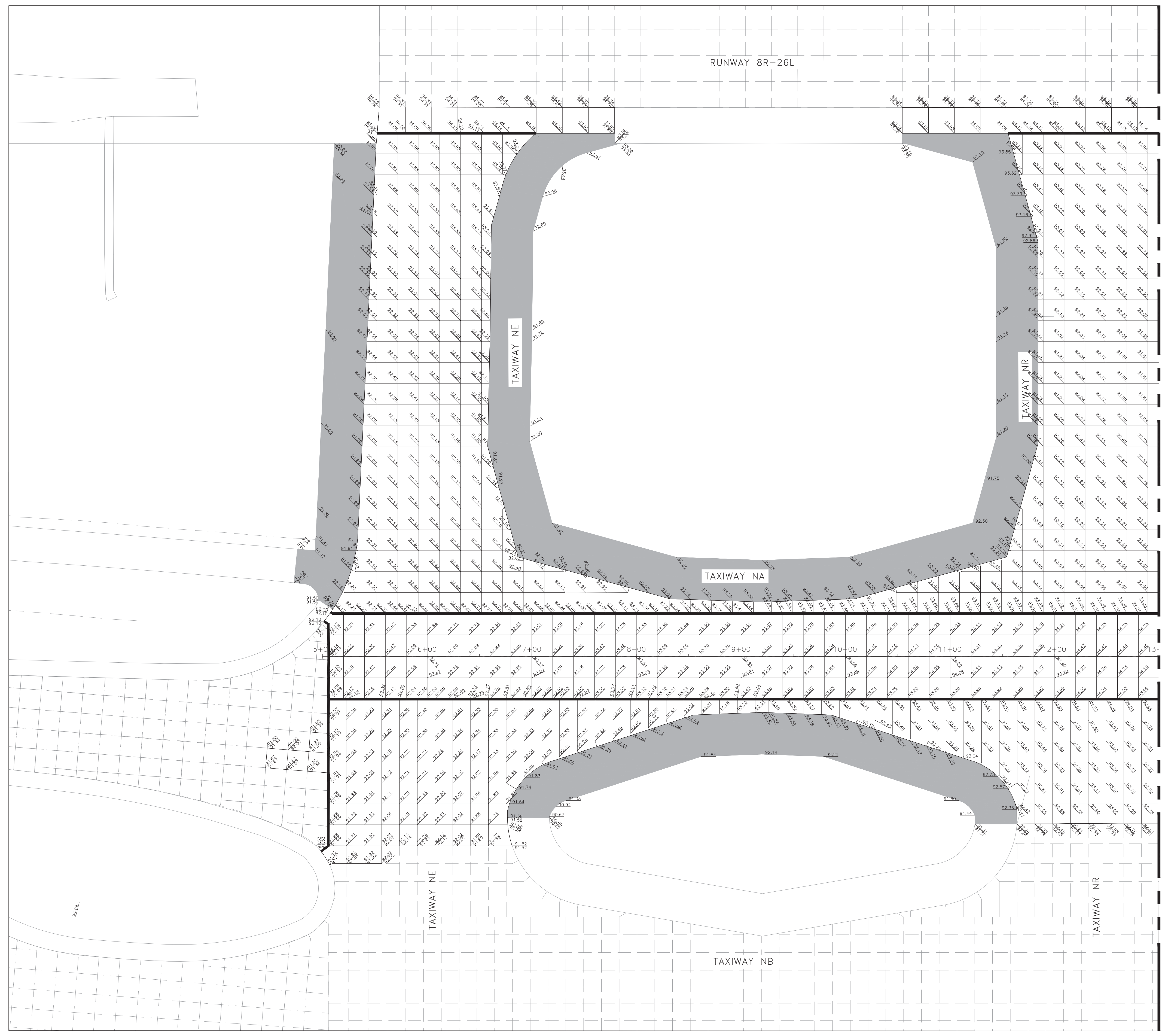


### LEGEND

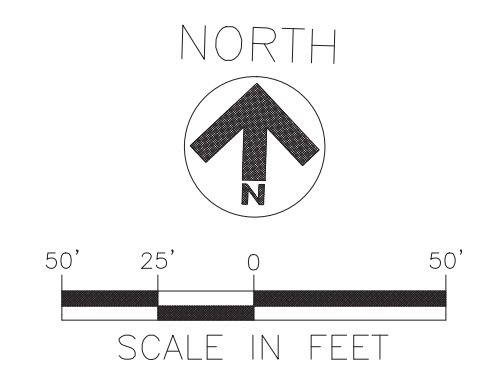
- NEW TAXIWAY SHOULDER PAVEMENT
- PROPOSED GRADE/EXISTING GRADE ELEVATION

### NOTES:

- SEE SHEET C03.14 FOR TYPICAL PAVEMENT SECTIONS.
- REFER TO SHEET C03.16 FOR TYPICAL FILLET JOINTS AND TYPICAL TRANSITION JOINTS DETAILS.
- PRIOR TO DEMOLITION OF EXISTING PAVEMENT, THE CONTRACTOR SHALL SURVEY SURFACE OF EXISTING CONCRETE PAVEMENT TO REMAIN (INCLUDING TEMPORARILY BETWEEN PHASES) ALONG JOINT WITH PROPOSED CONCRETE PAVEMENT AND PROVIDE ELEVATIONS TO THE ENGINEER.



MATCH LINE STA: T3+00  
 SEE SHEET C07.02



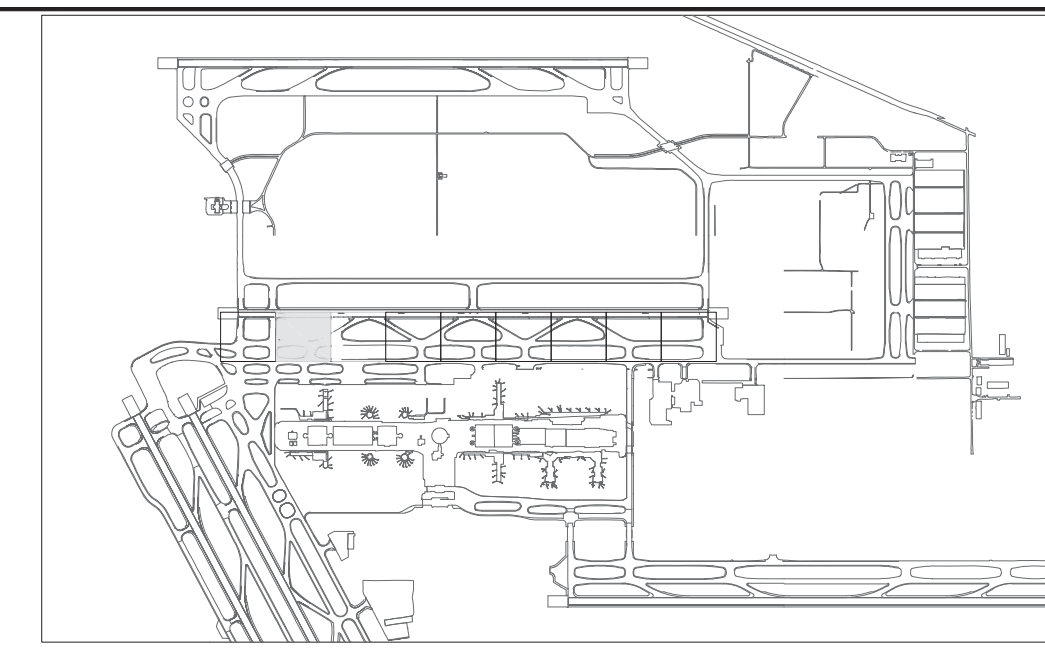





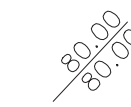
HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



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**LEGEND**

-  NEW TAXIWAY SHOULDER PAVEMENT
-  PROPOSED GRADE/EXISTING GRADE ELEVATION

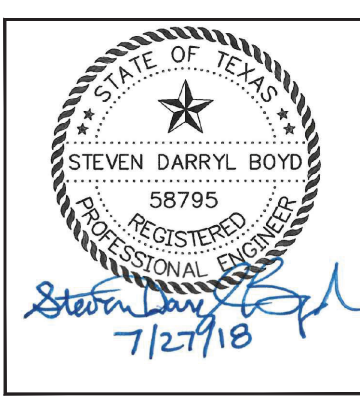
**NOTES:**

1. SEE SHEET C03.14 FOR TYPICAL PAVEMENT SECTIONS.
2. REFER TO SHEET C03.16 FOR TYPICAL FILLET JOINTS AND TYPICAL TRANSITION JOINTS DETAILS.
3. PRIOR TO DEMOLITION OF EXISTING PAVEMENT, THE CONTRACTOR SHALL SURVEY SURFACE OF EXISTING CONCRETE PAVEMENT TO REMAIN (INCLUDING TEMPORARILY BETWEEN PHASES) ALONG JOINT WITH PROPOSED CONCRETE PAVEMENT AND PROVIDE ELEVATIONS TO THE ENGINEER.

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SPOT ELEVATION PLAN**  
 (2 OF 9)

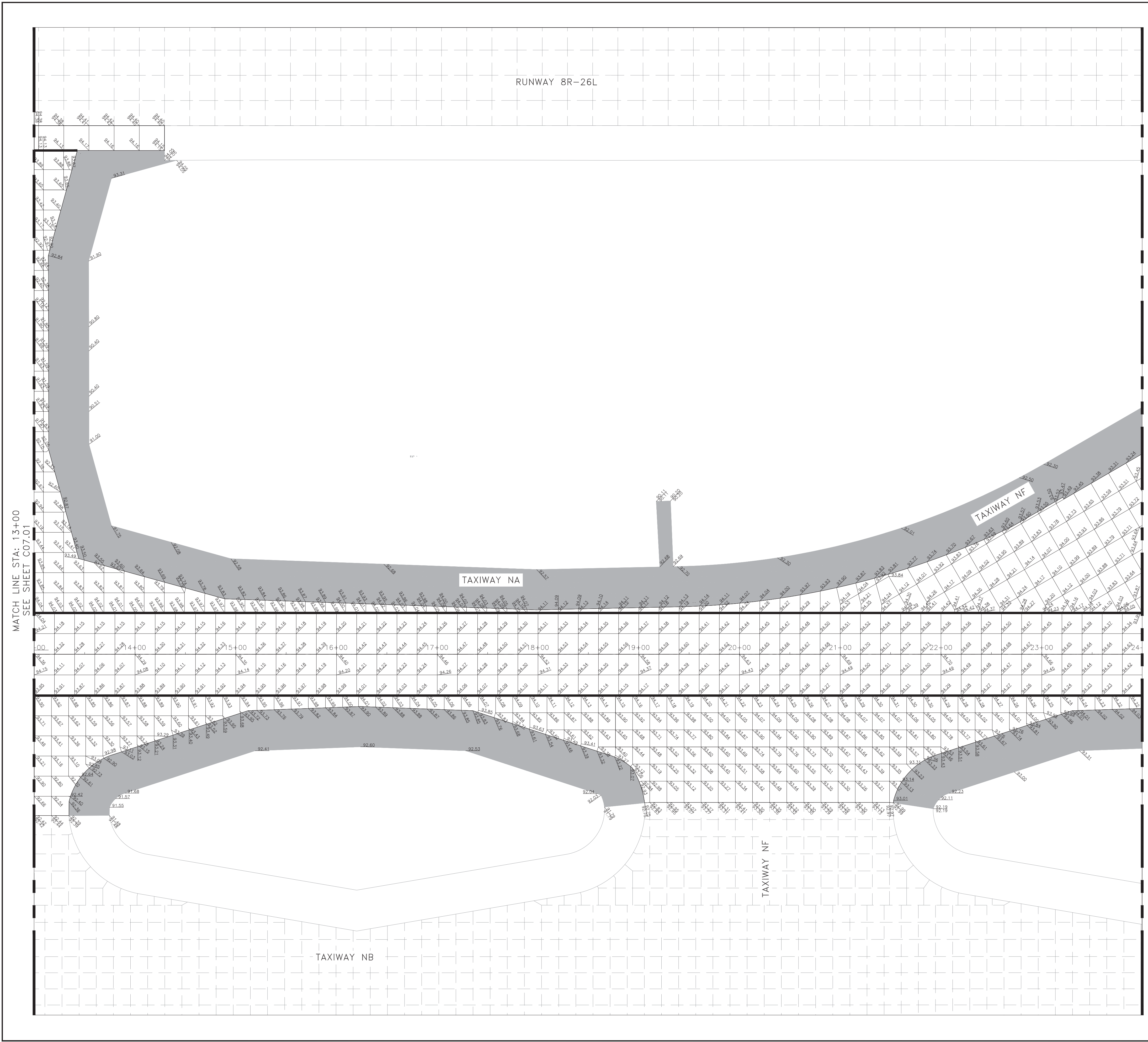
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DRAWN BY:	KE
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Rahal* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**C07.02**







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**LEGEND**

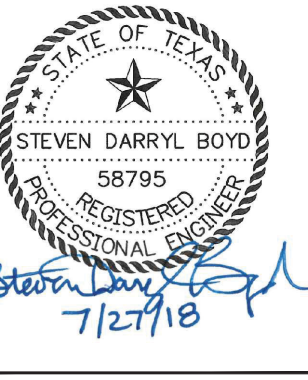
- NEW TAXIWAY SHOULDER PAVEMENT
- PROPOSED GRADE/EXISTING GRADE ELEVATION

**NOTES:**

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SPOT ELEVATION PLAN**  
 (3 OF 9)

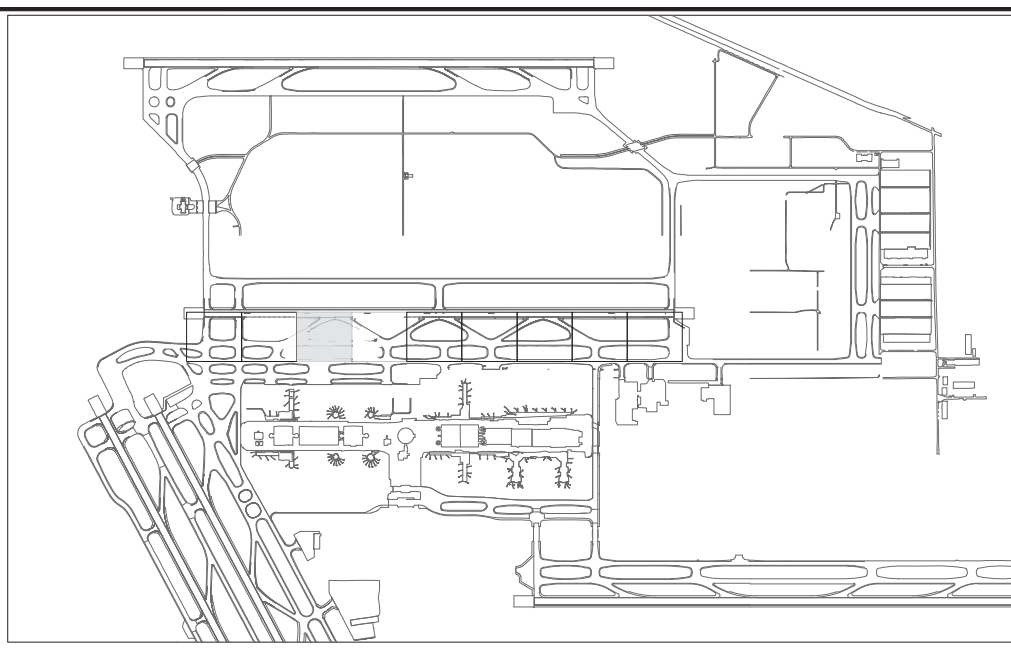
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Denaj Rahmel* DATE: JULY 27, 2018  
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 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C07.03



RUNWAY 8R-26L

TAXIWAY NG

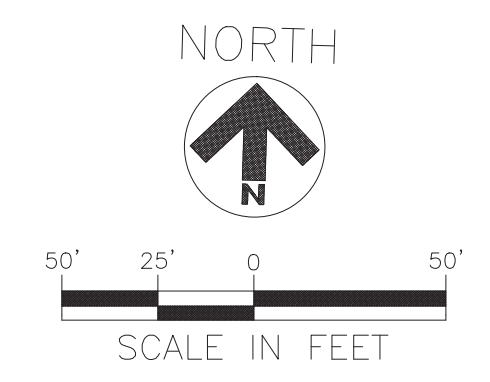
TAXIWAY NF

TAXIWAY NA

TAXIWAY NB

MATCH LINE STA: 24+00  
 SEE SHEET C07.02

MATCH LINE STA: 35+00  
 SEE SHEET C07.04



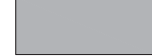
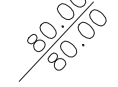




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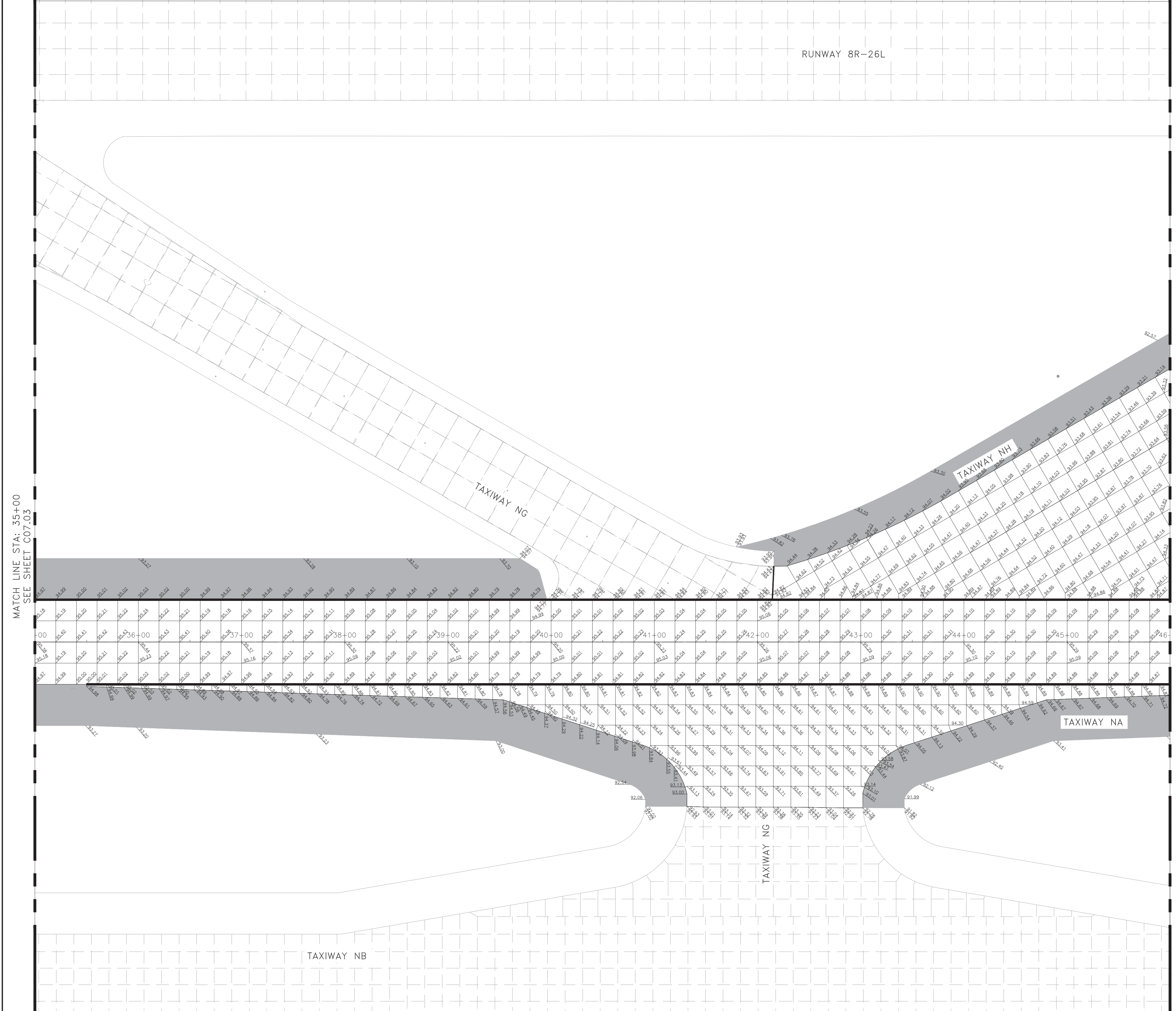
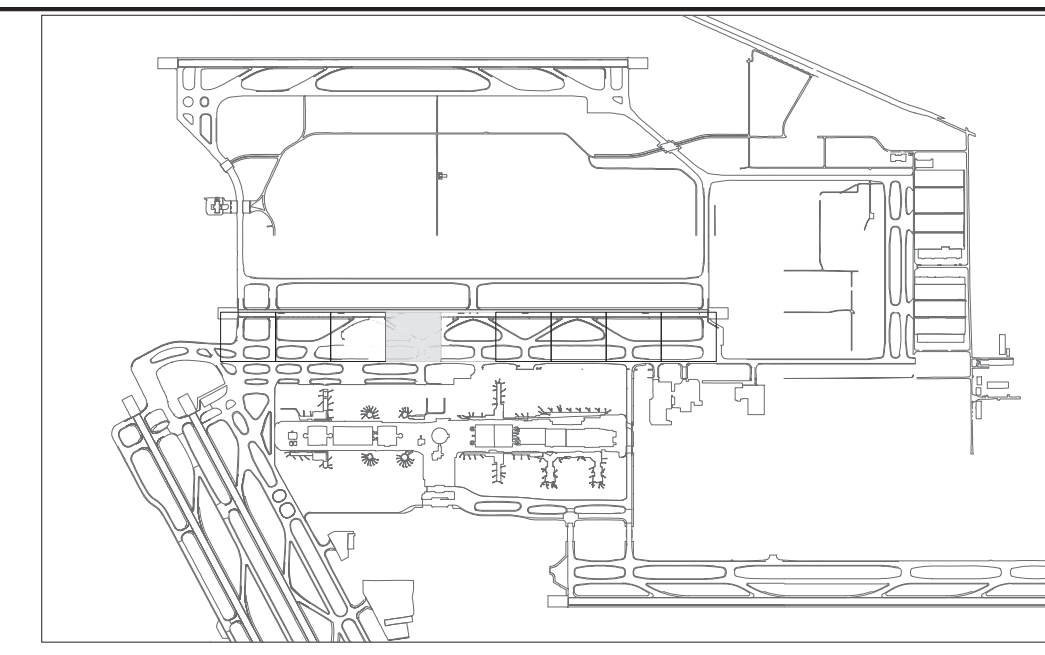
REVISIONS			
NO.	DESCRIPTION	DATE	BY

**LEGEND**

-  NEW TAXIWAY SHOULDER PAVEMENT
-  PROPOSED GRADE/EXISTING GRADE ELEVATION

**NOTES:**

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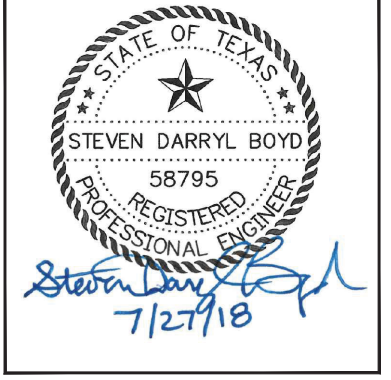


MATCH LINE STA: 35+00  
SEE SHEET C07.03

MATCH LINE STA: 46+00  
SEE SHEET C07.05

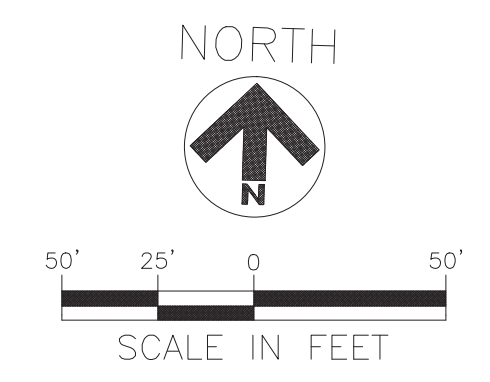
RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SPOT ELEVATION PLAN**  
 (4 OF 9)

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Rahal* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
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PROJECT NO.	0907
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H.A.S. NO.	
SHEET NO.	



**C07.04**





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**LEGEND**

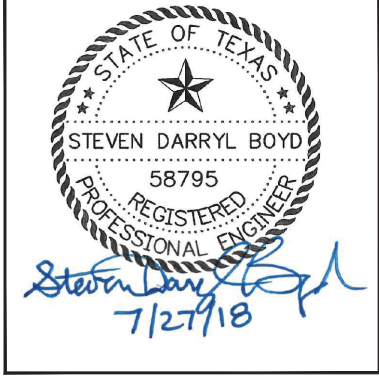
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- PROPOSED GRADE/EXISTING GRADE ELEVATION

**NOTES:**

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SPOT ELEVATION PLAN**  
 (5 OF 9)

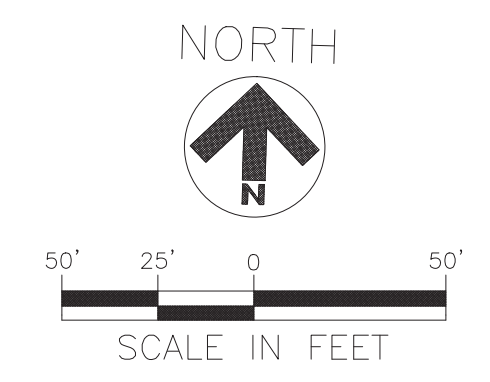
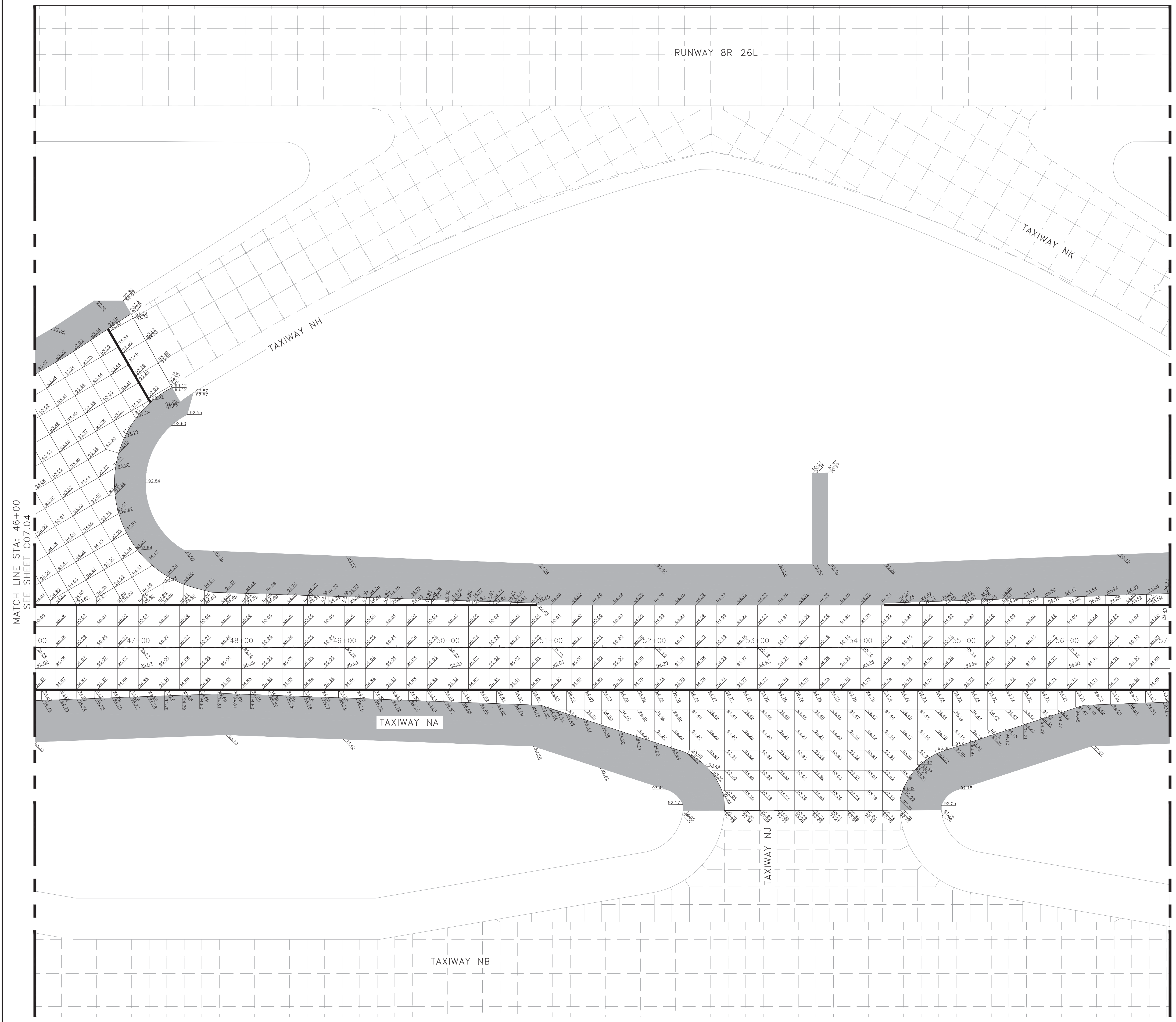
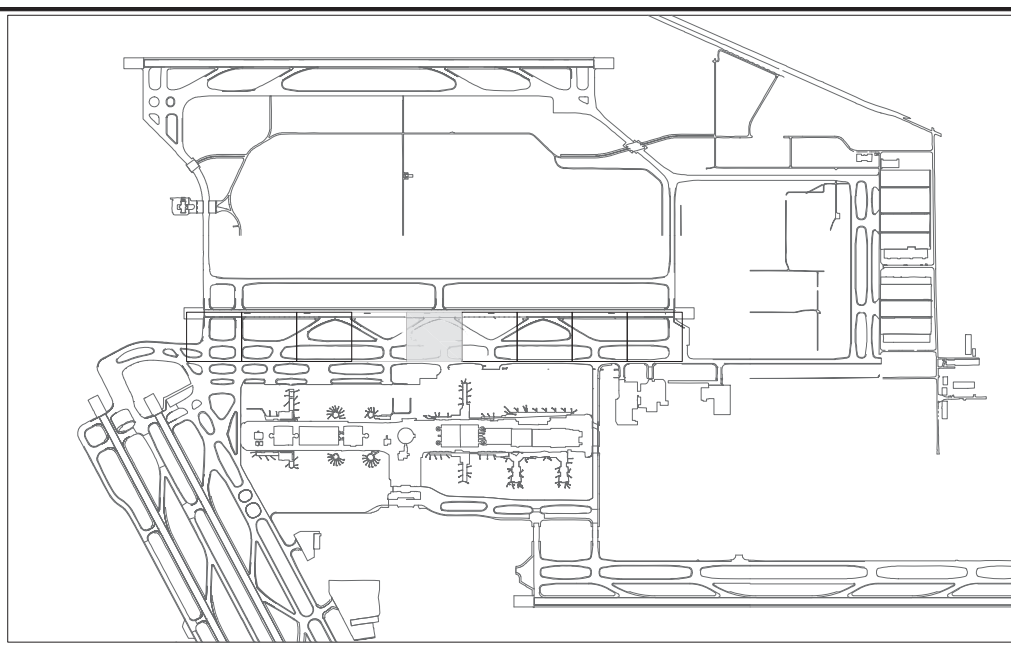
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DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
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 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**C07.05**



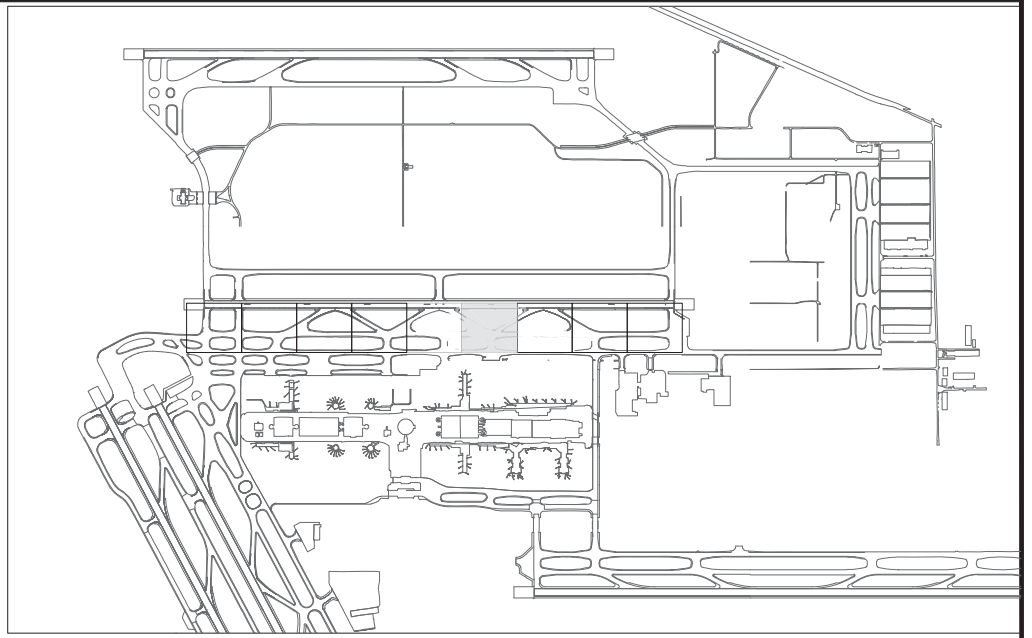





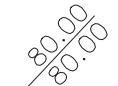
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**LEGEND**

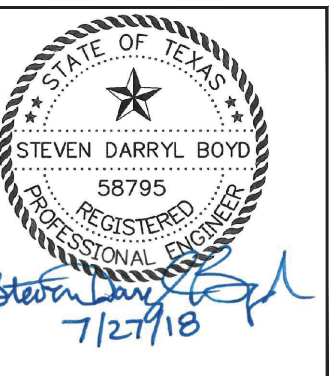
-  NEW TAXIWAY SHOULDER PAVEMENT
-  PROPOSED GRADE/EXISTING GRADE ELEVATION

**NOTES:**

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SPOT ELEVATION PLAN**  
 (6 OF 9)

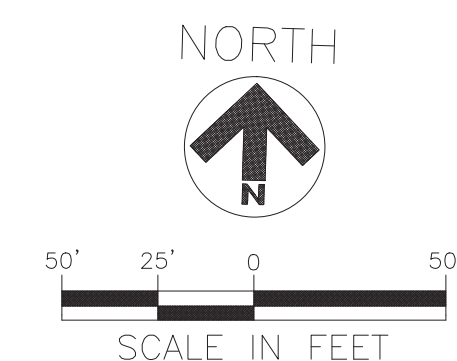
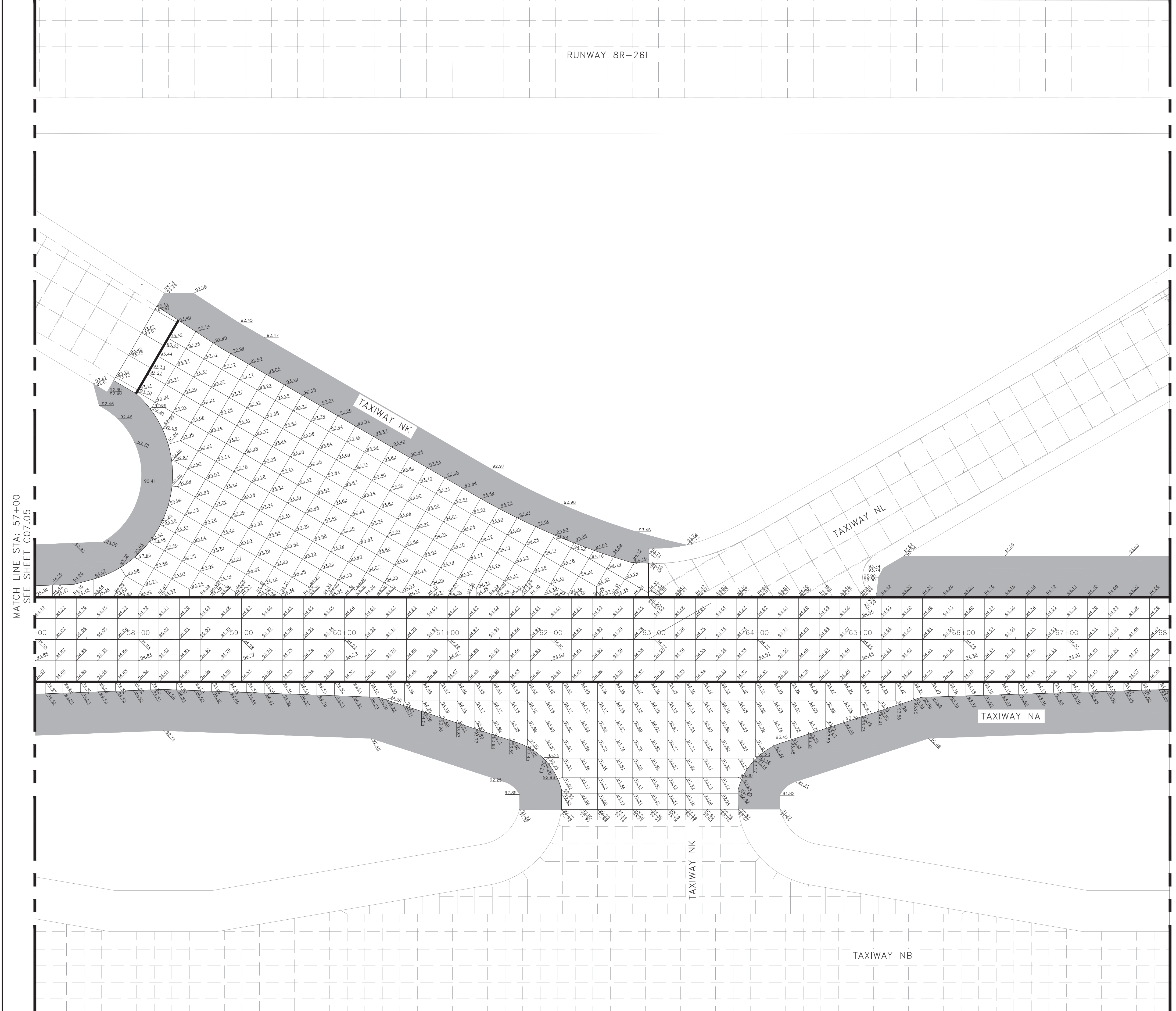
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DRAWN BY:	KE
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

**C07.06**







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**LEGEND**

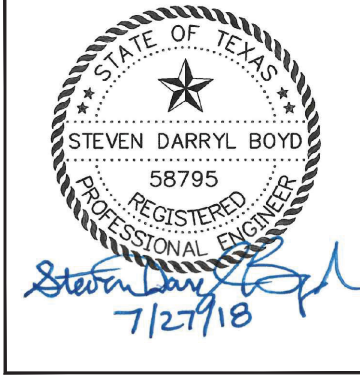
- NEW TAXIWAY SHOULDER PAVEMENT
- PROPOSED GRADE/EXISTING GRADE ELEVATION

**NOTES:**

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SPOT ELEVATION PLAN**  
 (7 OF 9)

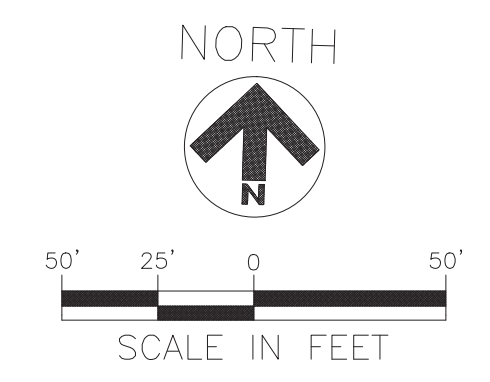
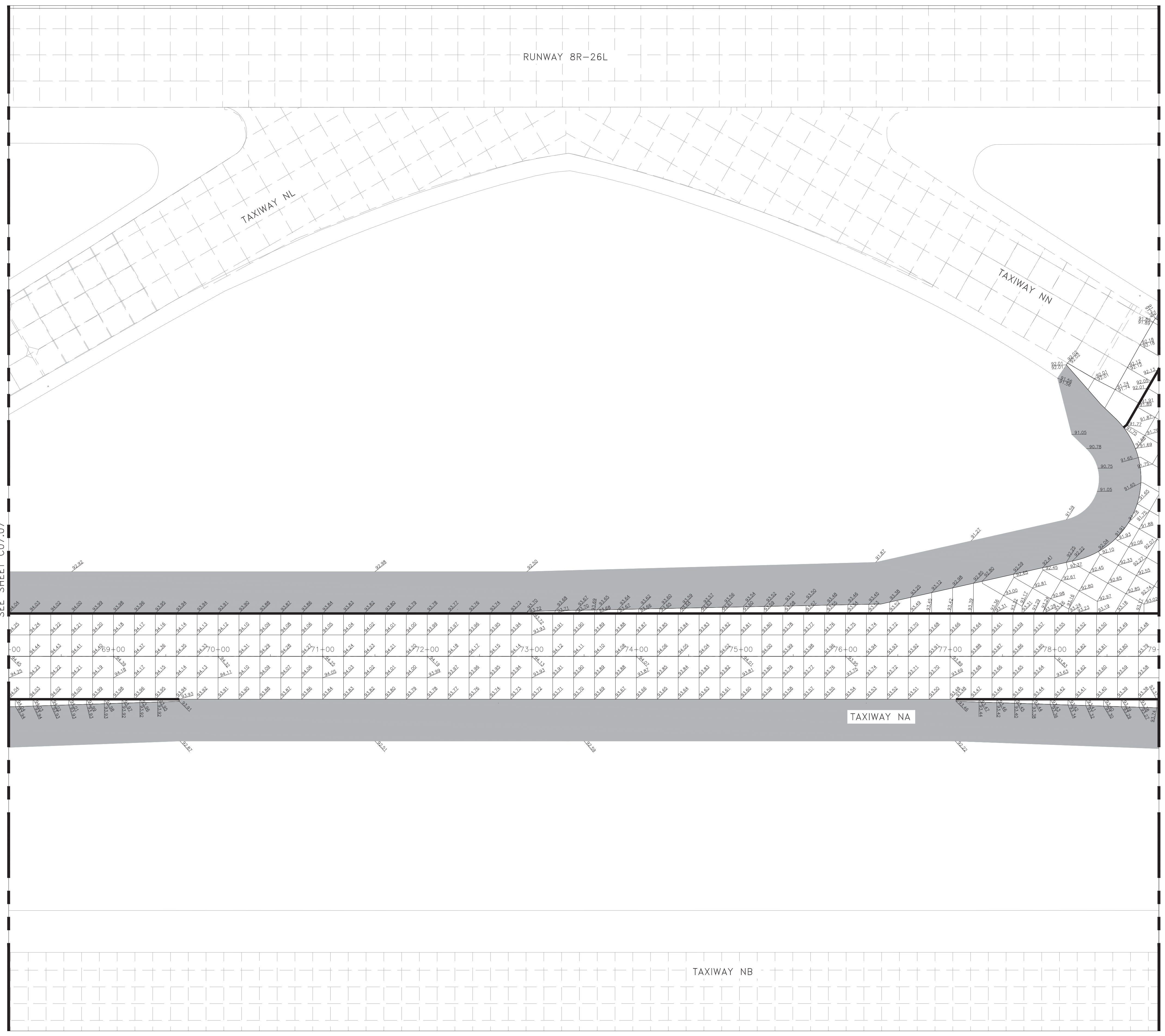
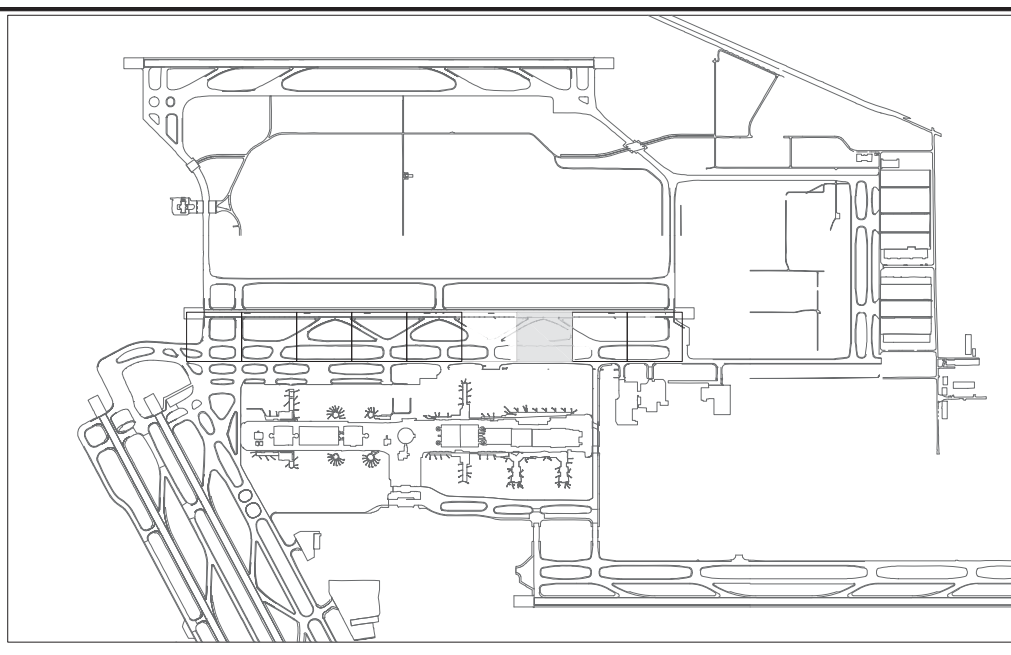
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DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Rahal* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**C07.07**



MATCH LINE STA: 68+00  
 SEE SHEET C07.07

MATCH LINE STA: 79+00  
 SEE SHEET C07.08

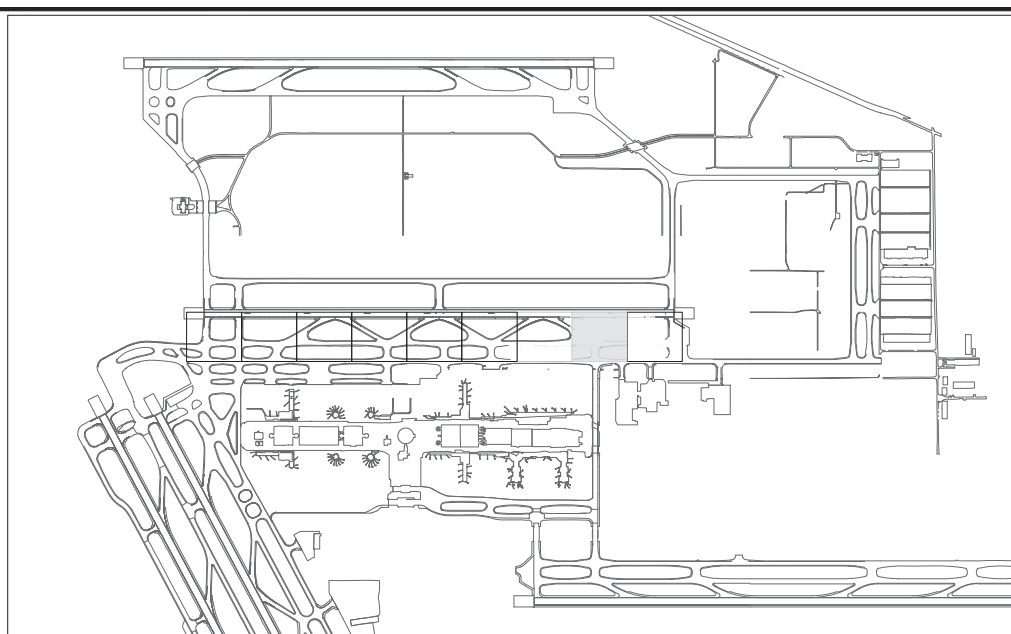





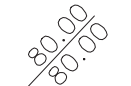
HOUSTON AIRPORT SYSTEM  
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**LEGEND**

-  NEW TAXIWAY SHOULDER PAVEMENT
-  PROPOSED GRADE/EXISTING GRADE ELEVATION

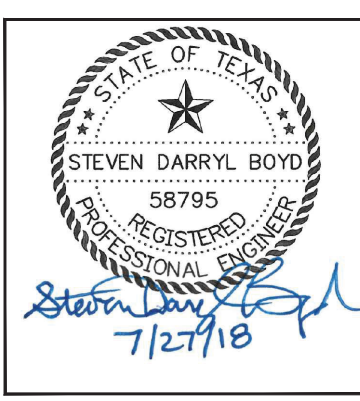
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SPOT ELEVATION PLAN**  
 (8 OF 9)

ISSUED FOR BID

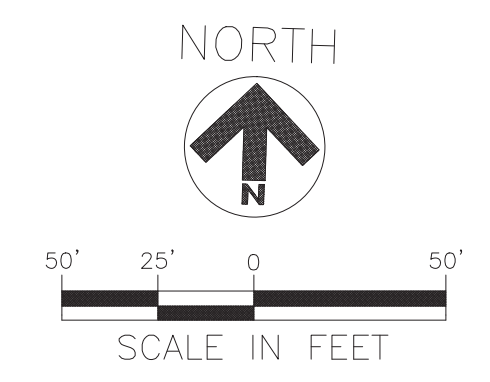
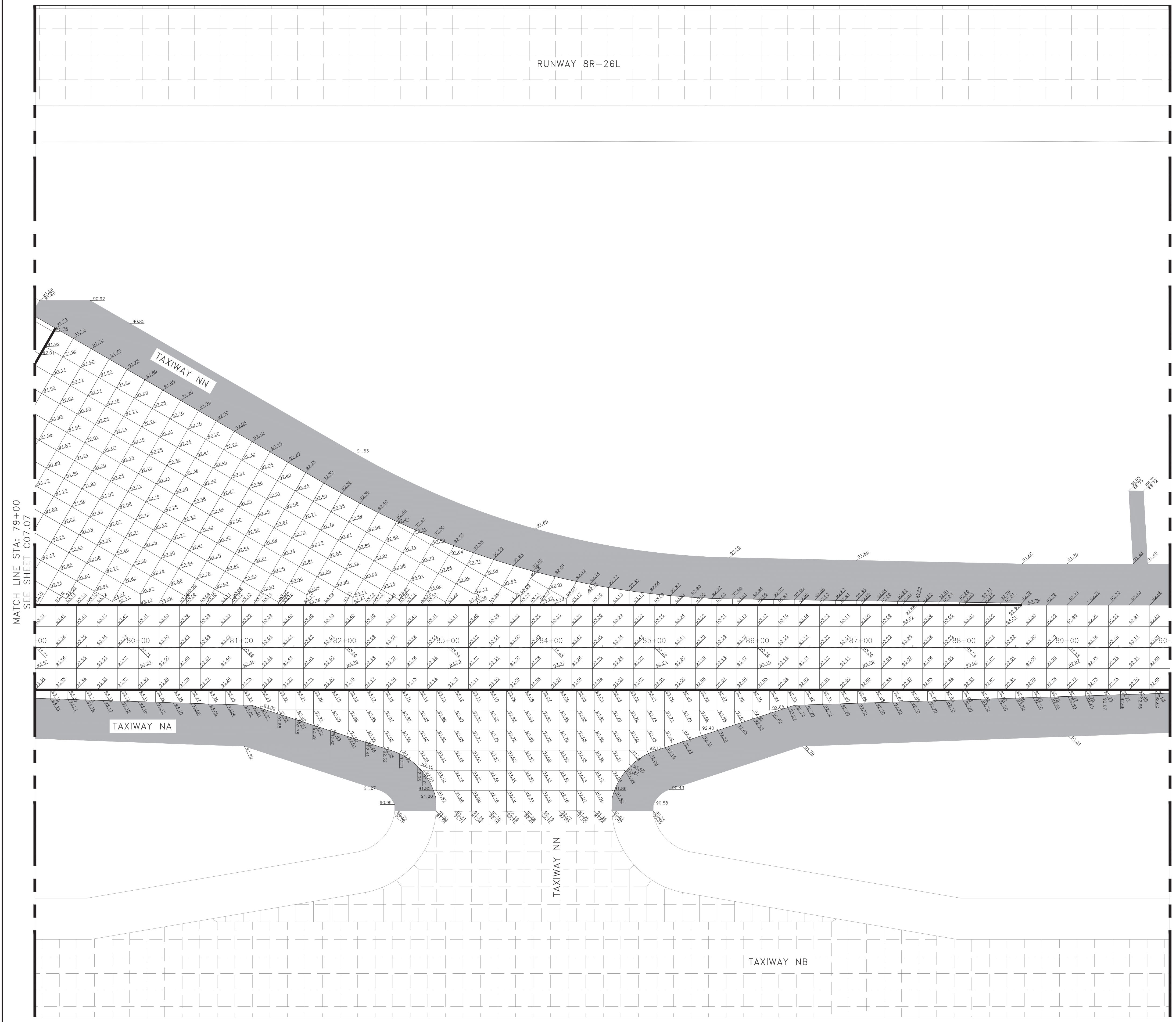
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Rahal* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
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PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**C07.08**







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NO.	DESCRIPTION	DATE	BY

**LEGEND**

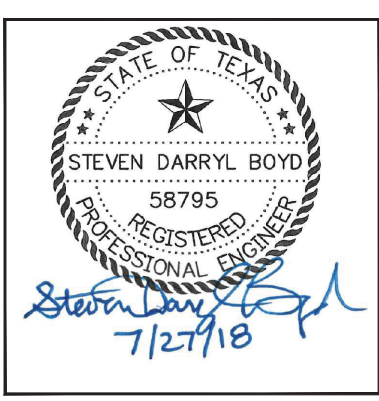
- NEW TAXIWAY SHOULDER PAVEMENT
- PROPOSED GRADE/EXISTING GRADE ELEVATION

**NOTES:**

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**SPOT ELEVATION PLAN**  
 (9 OF 9)

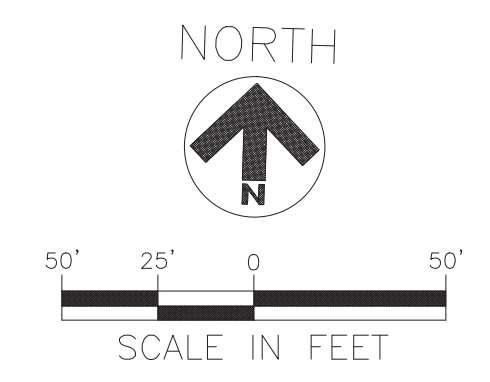
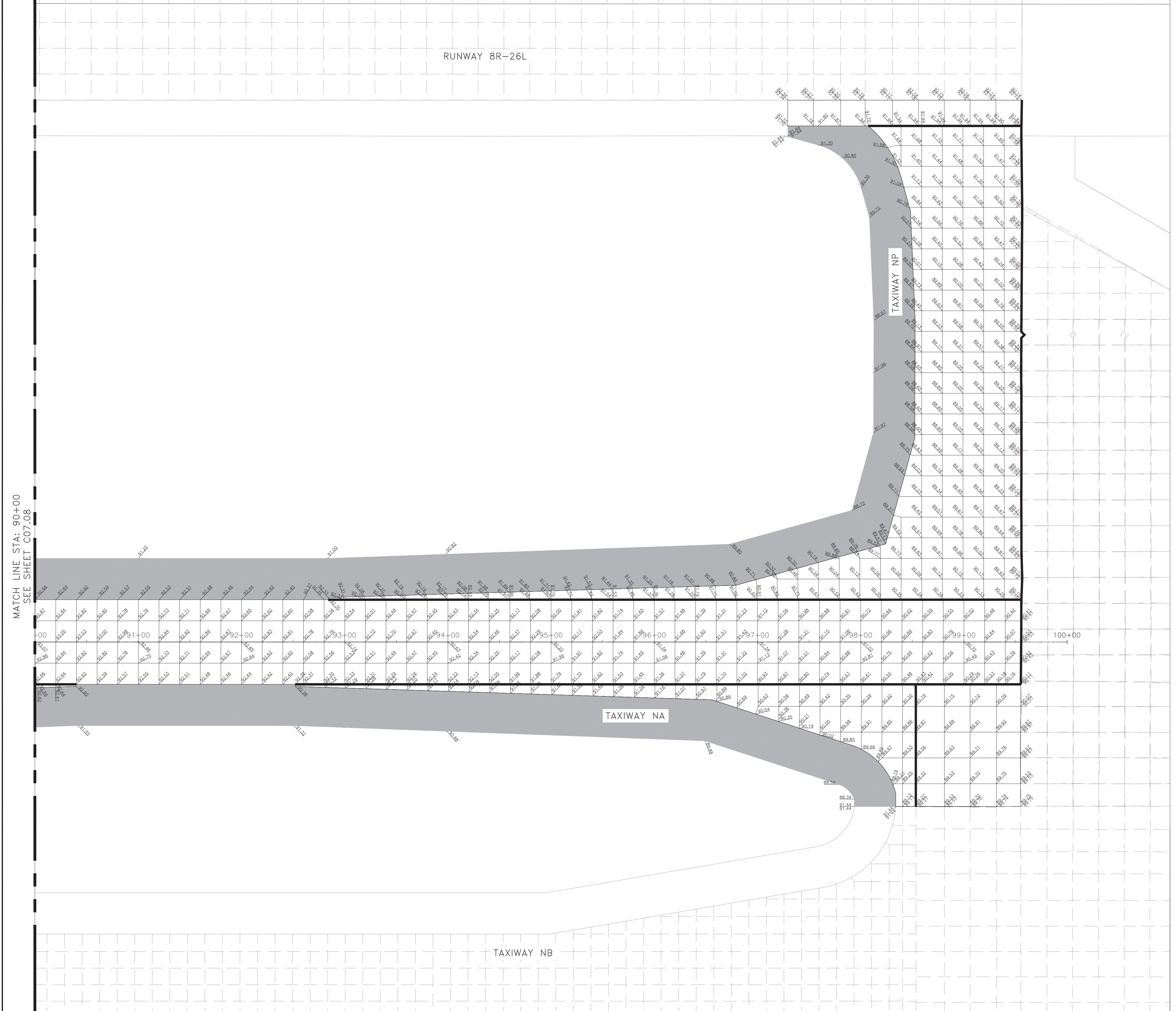
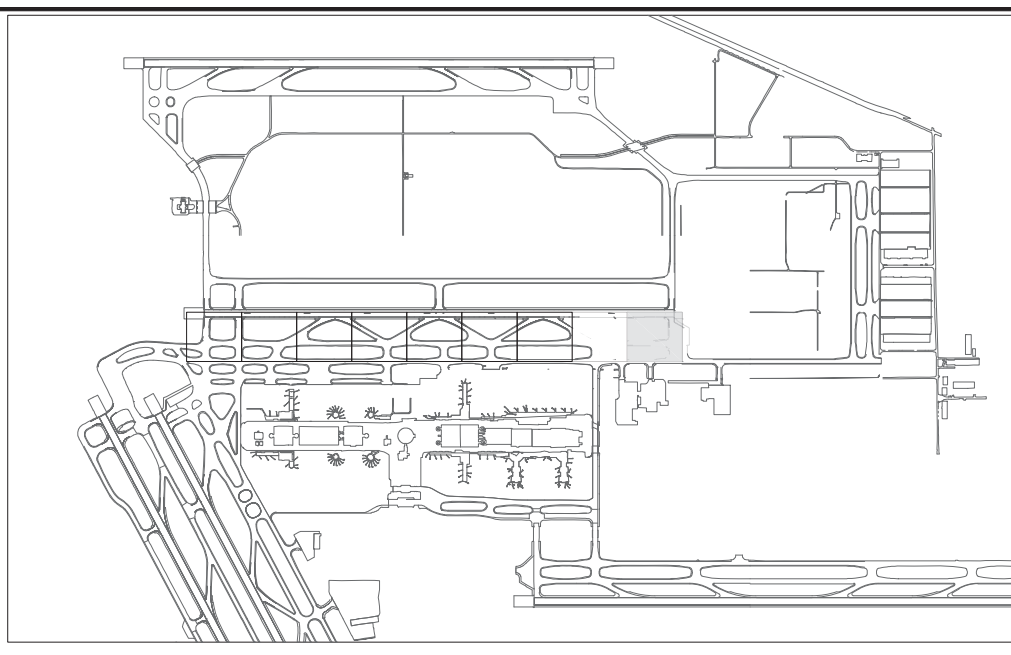
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DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**C07.09**



MATCH LINE STA: 90+00  
 SEE SHEET C07.08





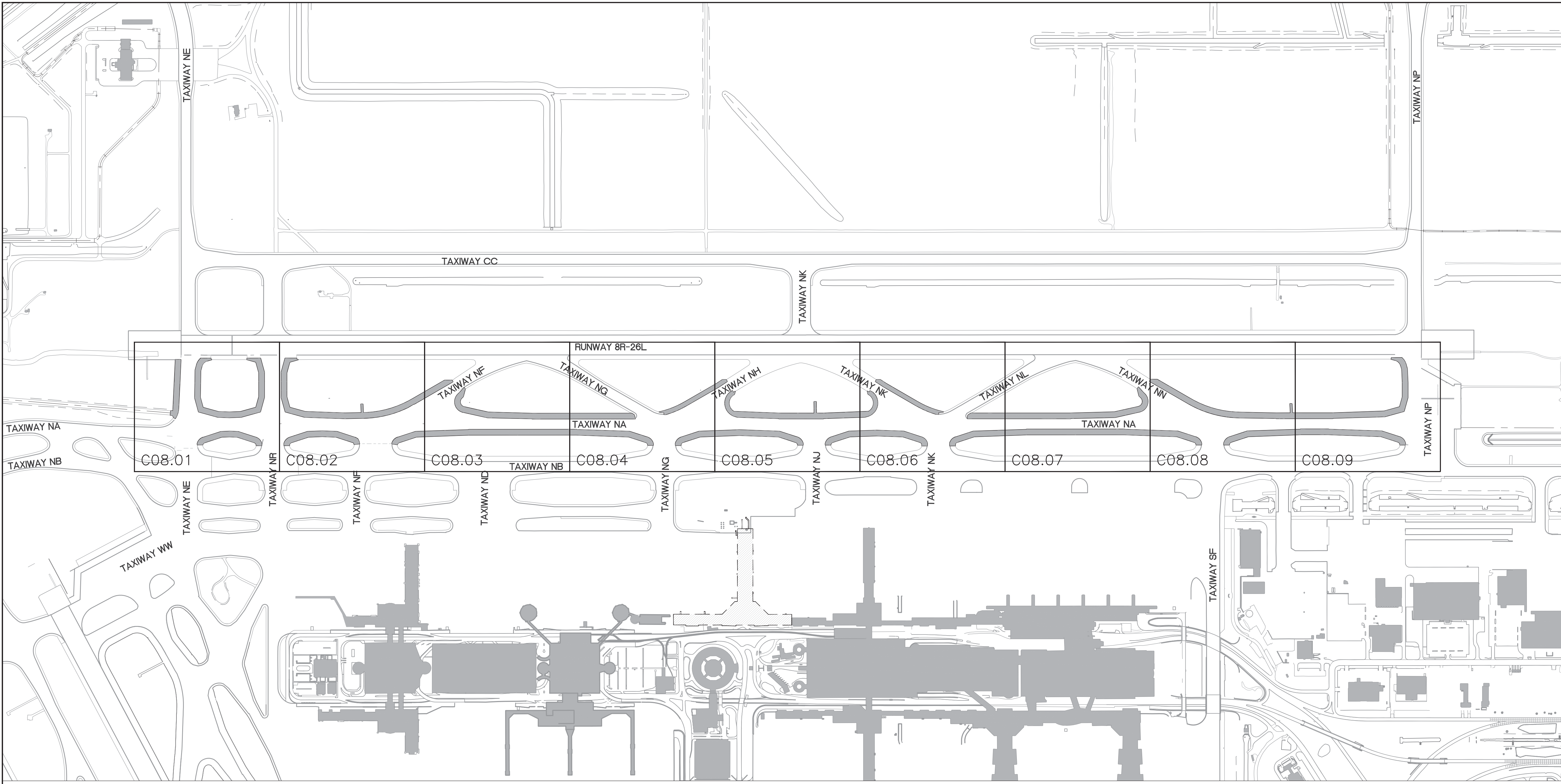
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 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



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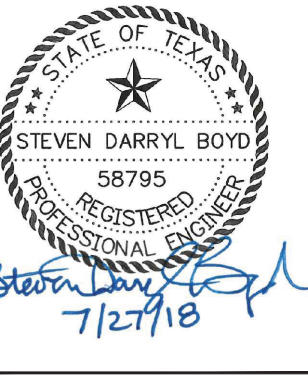
REVISIONS  
 NO. DESCRIPTION DATE BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS KEY PLAN**

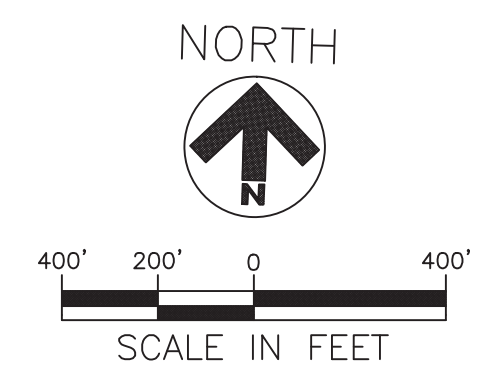


ISSUED FOR BID  
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 DRAWN BY: KE  
 CHECKED BY: DB  
 SCALE: 1"=400'  
 DATE: JULY 27, 2018

NOTE: PHASES 2, 3, 4, AND 7  
 CONSTRUCTED UNDER PN 675



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
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 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

**C08.00**



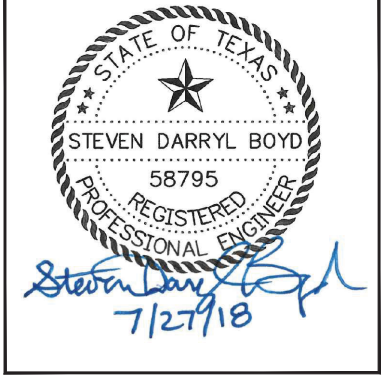


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NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
 (1 OF 9)

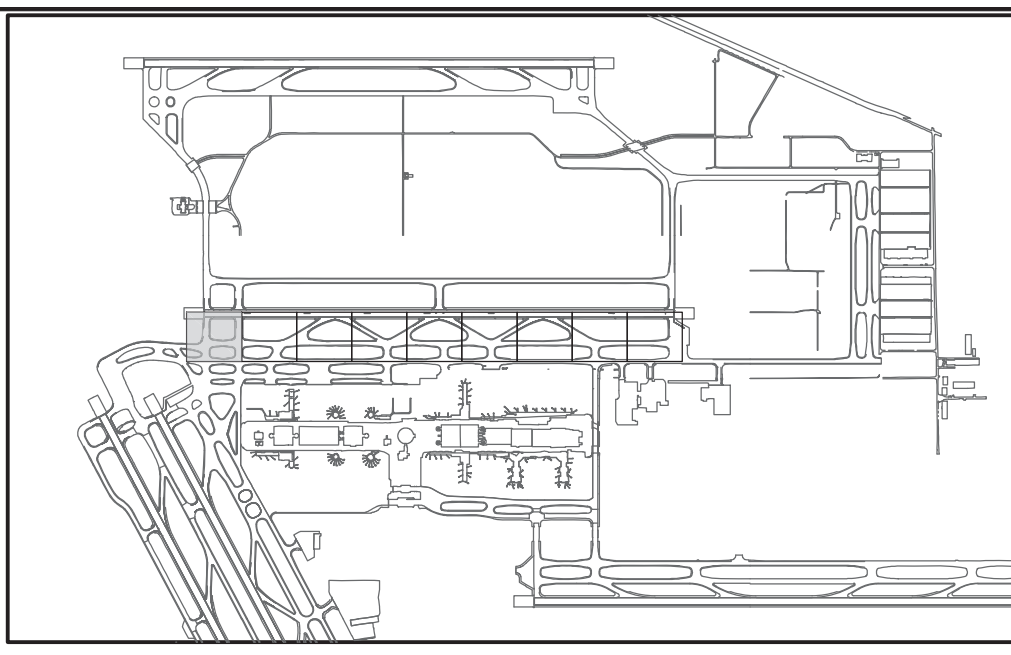
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Rahmel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C08.01

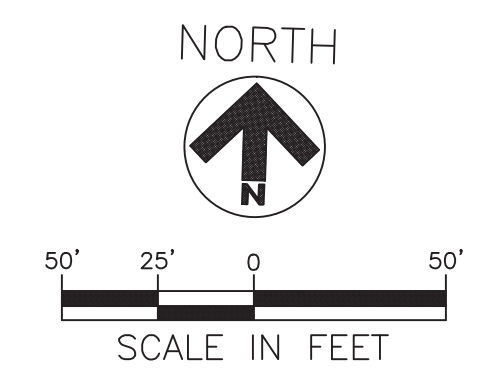
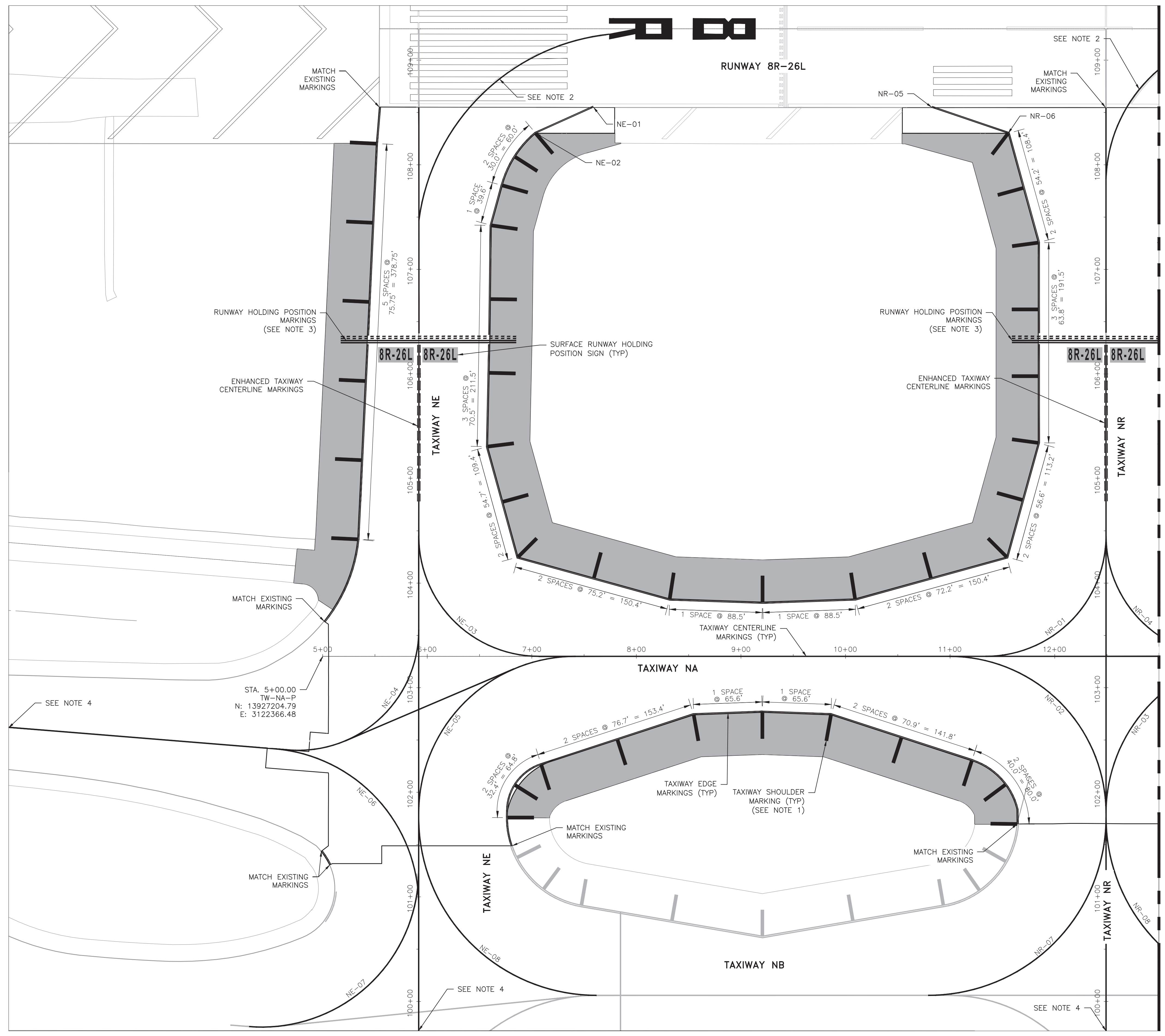


**LEGEND**

- NEW ASPHALT SHOULDER
- NEW MARKINGS
- EXISTING MARKINGS

**NOTES:**

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- SEE SHEET C08.10 FOR POINT, CURVE DATA.







HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



1225 North Loop West  
 Suite 320  
 Houston, Texas 77008  
 (832) 494-3800  
 Firm Registration No.  
 F-10161

REVISIONS			
NO.	DESCRIPTION	DATE	BY

**LEGEND**

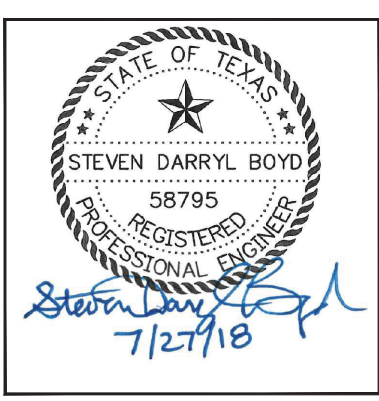
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- NEW MARKINGS
- EXISTING MARKINGS

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
 (2 OF 9)

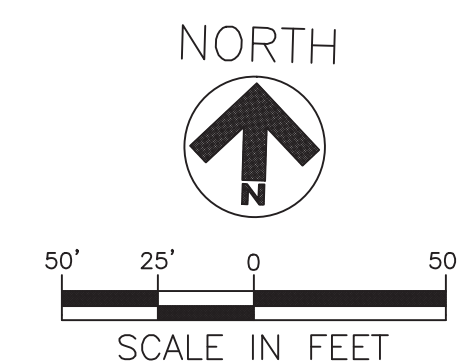
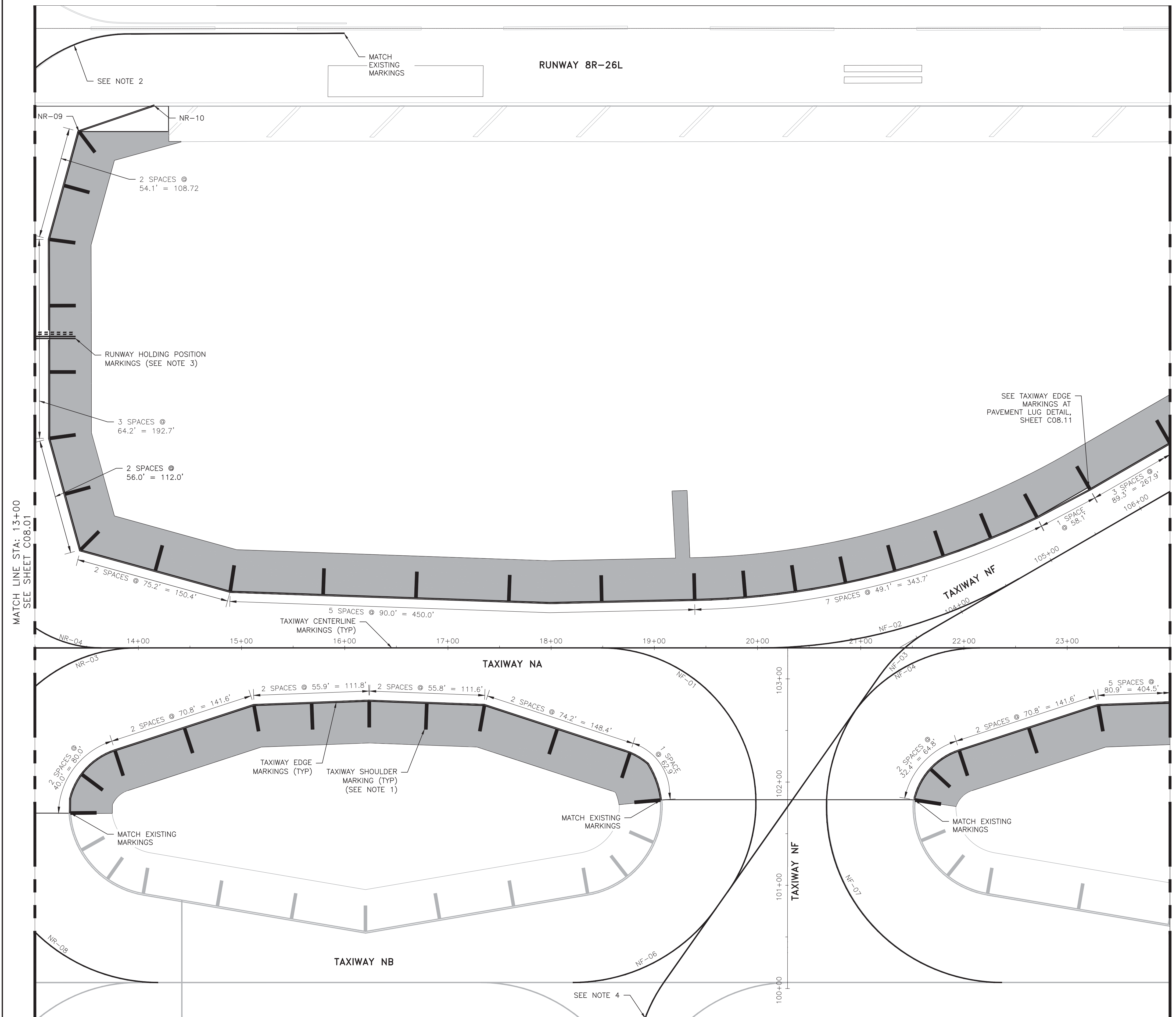
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DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Denaj Rahmal* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**C08.02**







REVISIONS			
NO.	DESCRIPTION	DATE	BY

**LEGEND**

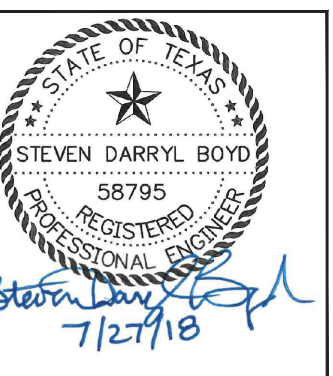
- NEW ASPHALT SHOULDER
- NEW MARKINGS
- EXISTING MARKINGS

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
 (3 OF 9)

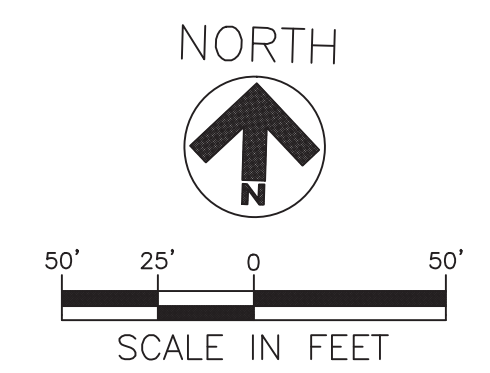
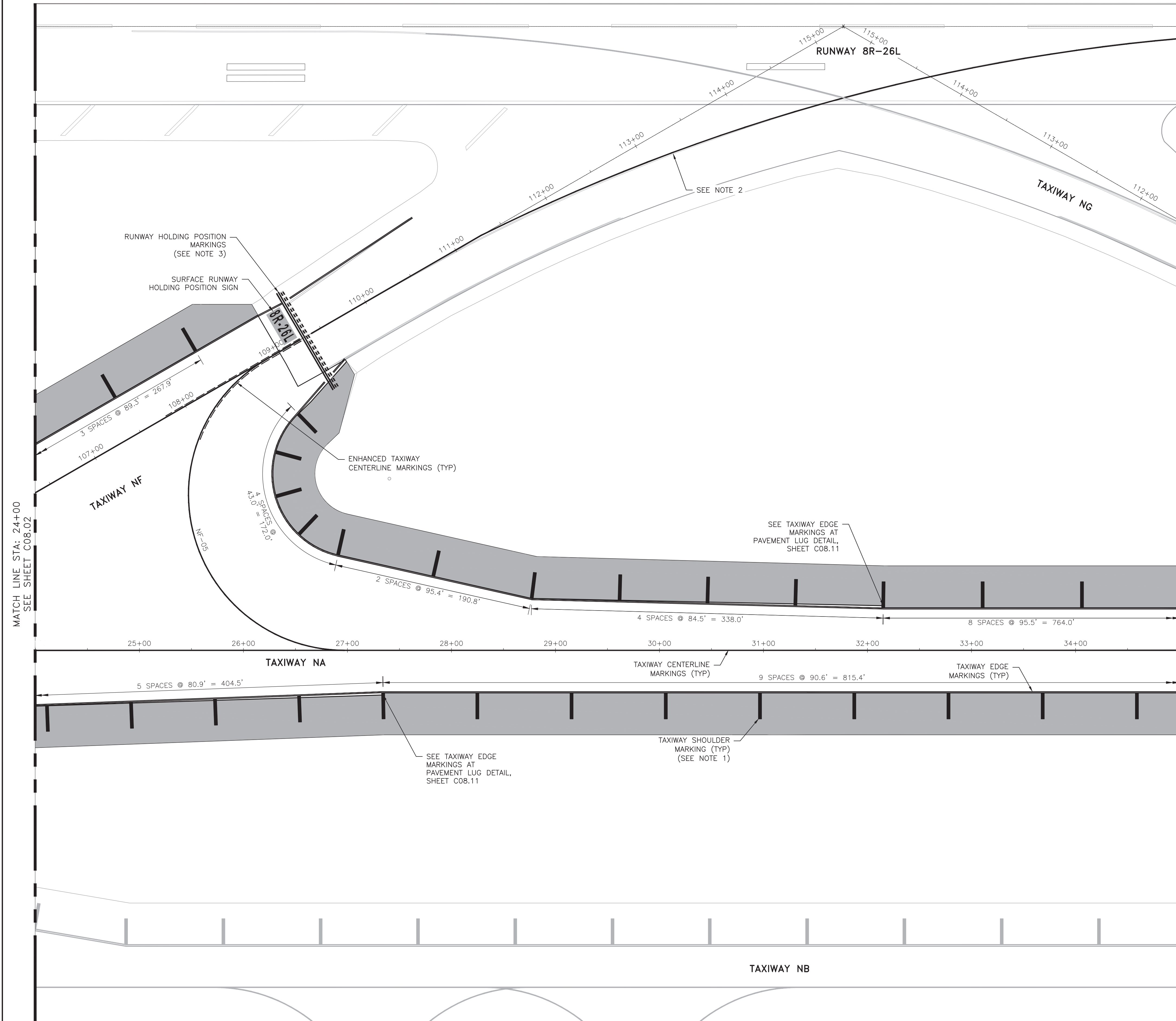
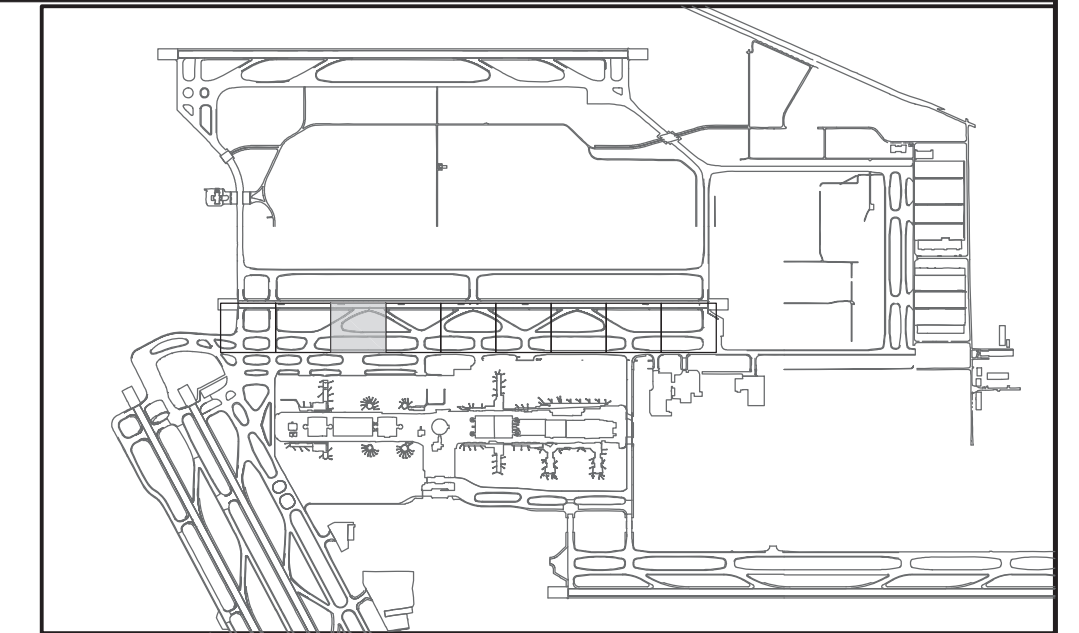
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DRAWN BY:	KE
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Denaj Palmer</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**C08.03**







1225 North Loop West  
 Suite 320  
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 Firm Registration No.  
 F-10161

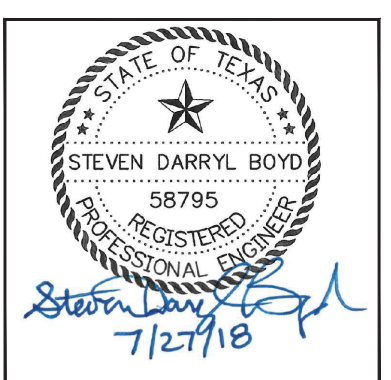
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
 (4 OF 9)

ISSUED FOR BID

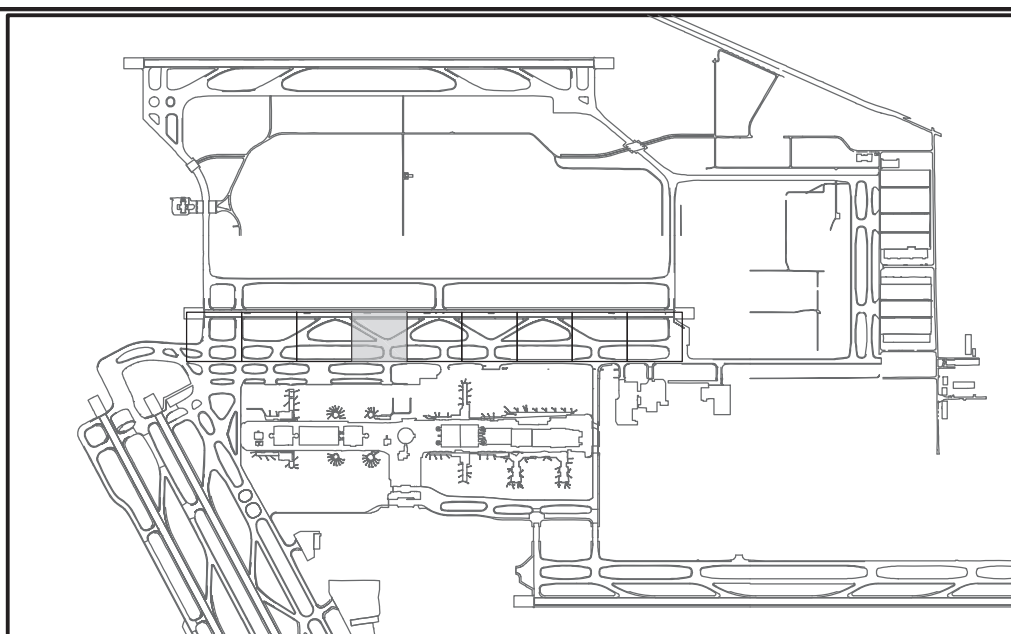
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SCALE:	1"=50'
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DEPARTMENT OF AVIATION  
 APPROVED BY: *Denaj Palmer* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C08.04

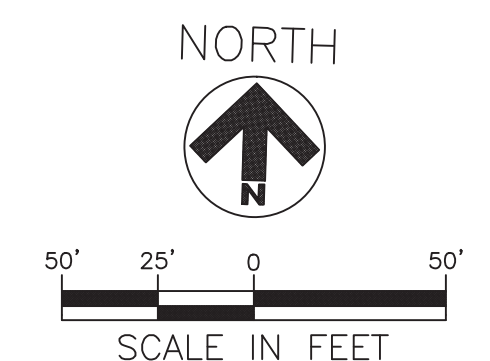
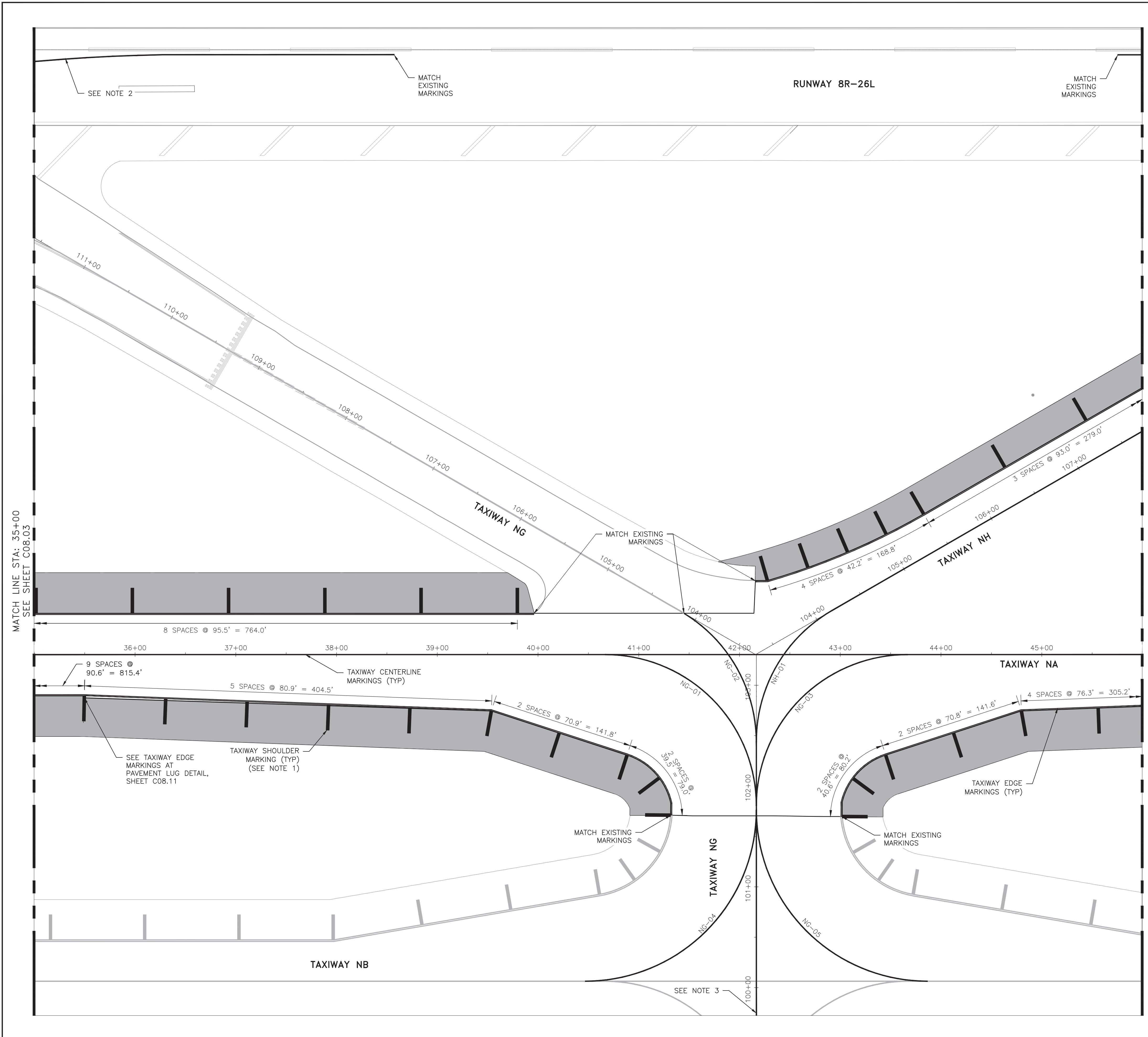


**LEGEND**

- NEW ASPHALT SHOULDER
- NEW MARKINGS
- EXISTING MARKINGS

**NOTES:**

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4. SEE SHEET C08.10 FOR POINT, CURVE DATA.







REVISIONS			
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**LEGEND**

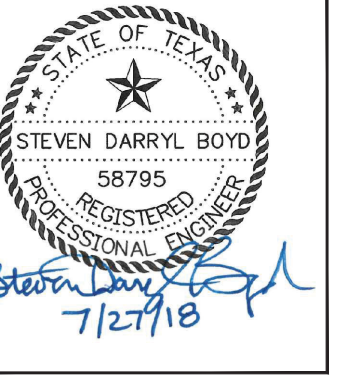
- NEW ASPHALT SHOULDER
- NEW MARKINGS
- EXISTING MARKINGS

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
 (5 OF 9)

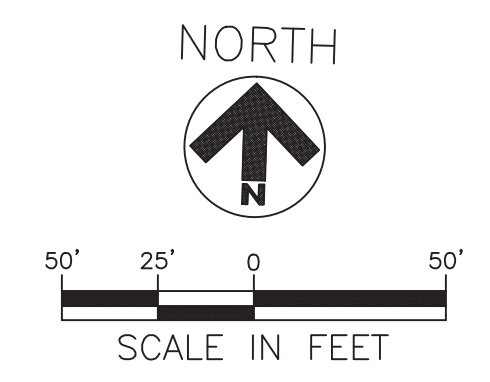
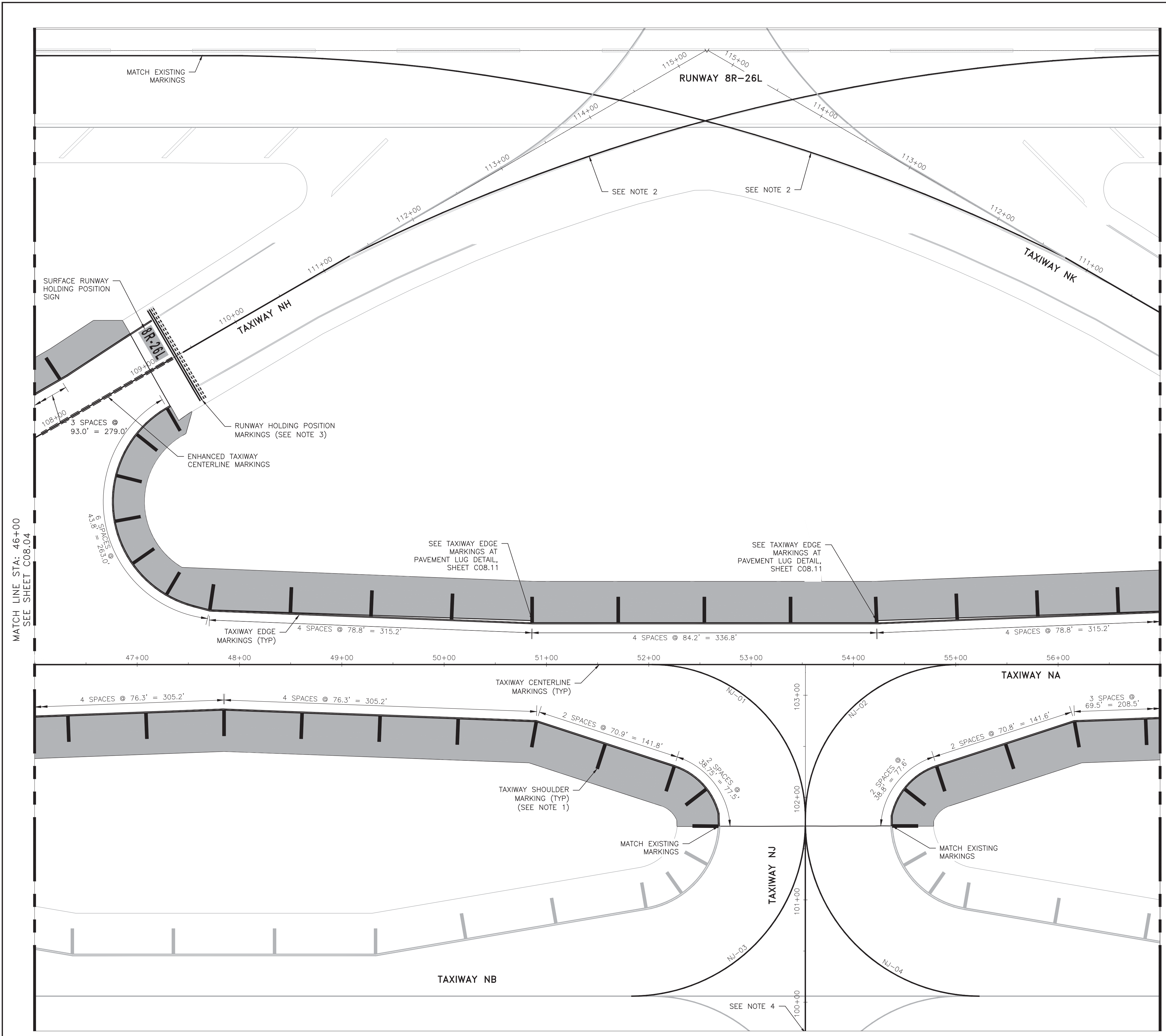
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PROJECT MGR:	DB
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DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Rahal</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C08.05







REVISIONS			
NO.	DESCRIPTION	DATE	BY

### LEGEND

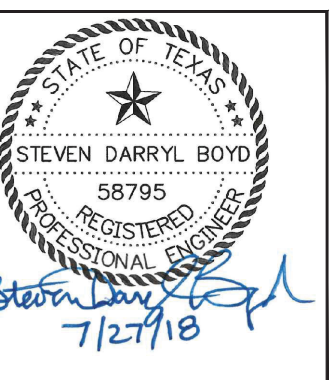
- NEW ASPHALT SHOULDER
- NEW MARKINGS
- EXISTING MARKINGS

### NOTES:

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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
 (6 OF 9)

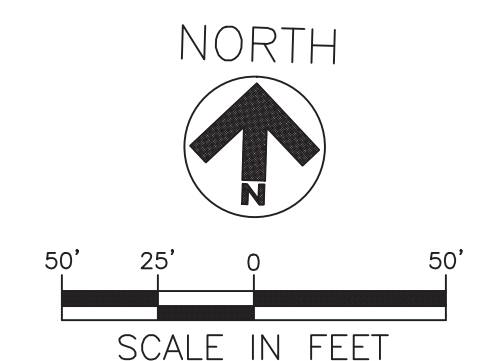
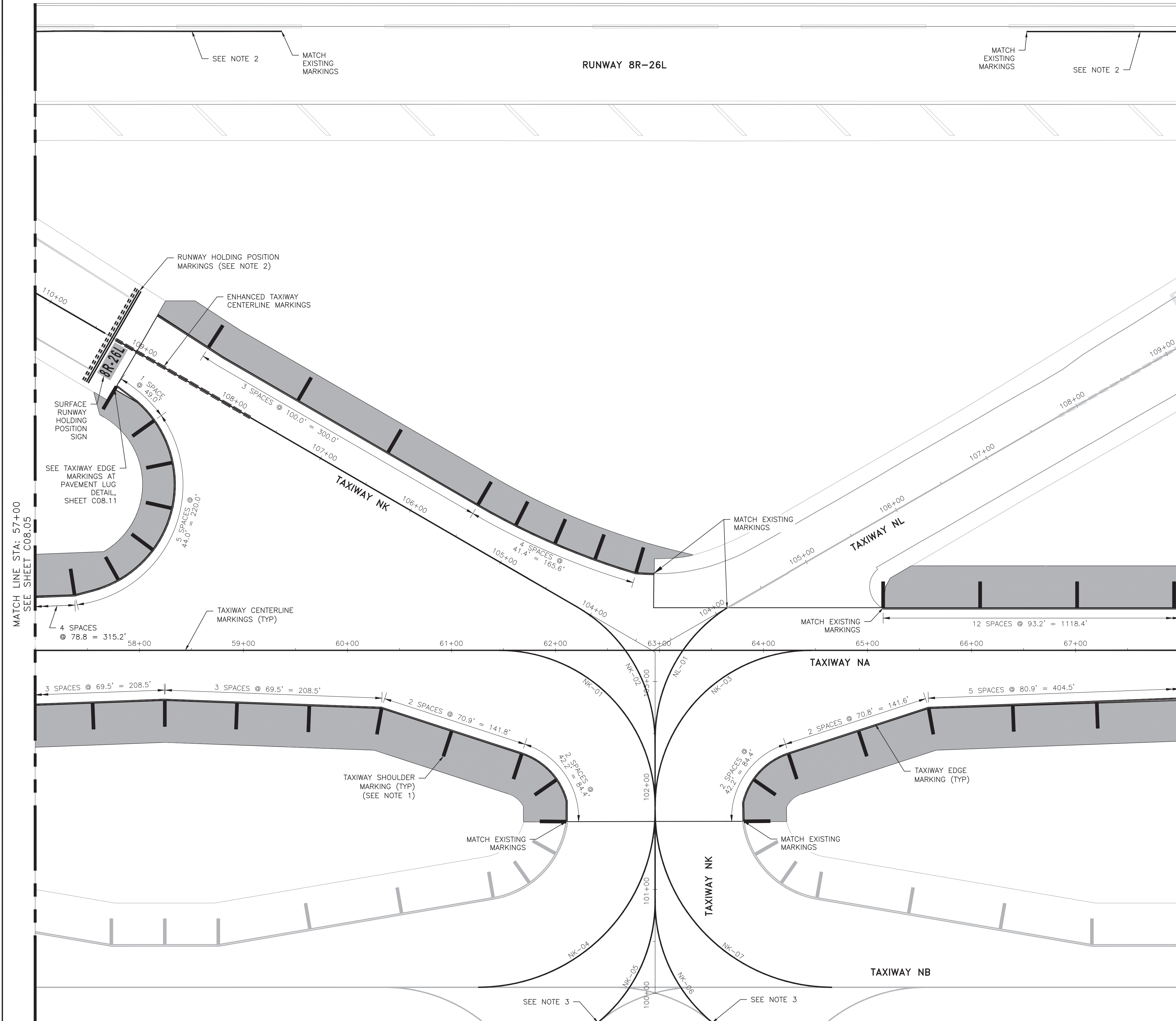
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PROJECT MGR:	DB
DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Palmer</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

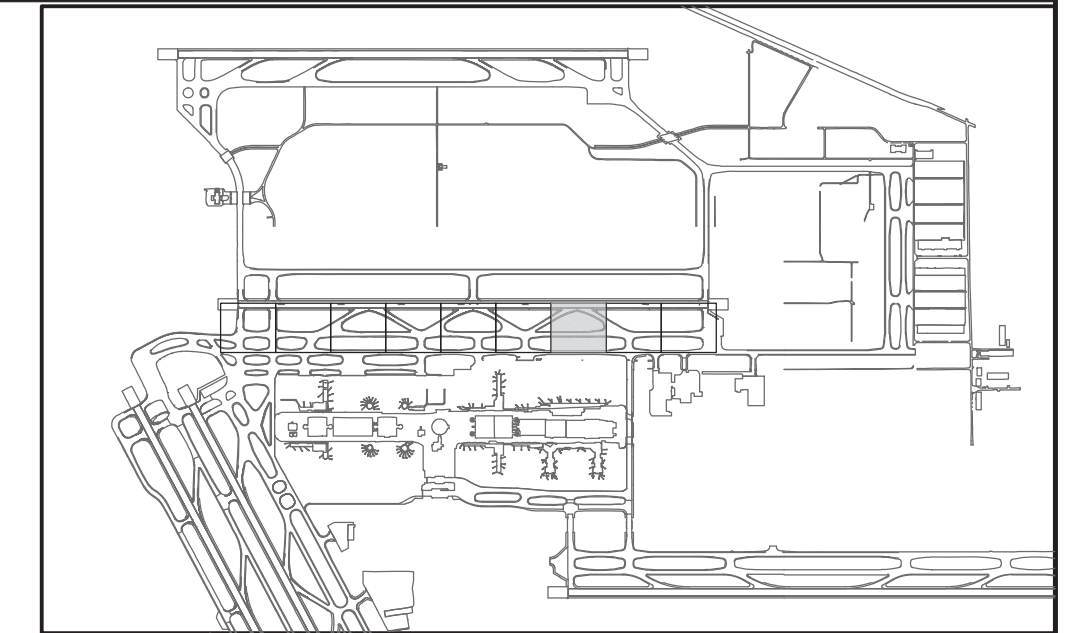
C08.06







REVISIONS			
NO.	DESCRIPTION	DATE	BY



**LEGEND**

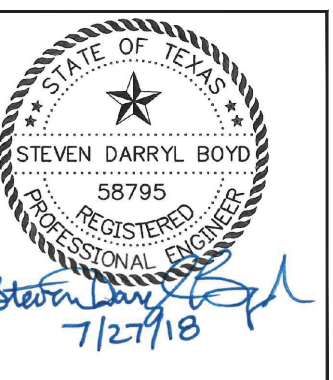
- NEW ASPHALT SHOULDER
- NEW MARKINGS
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
 (7 OF 9)

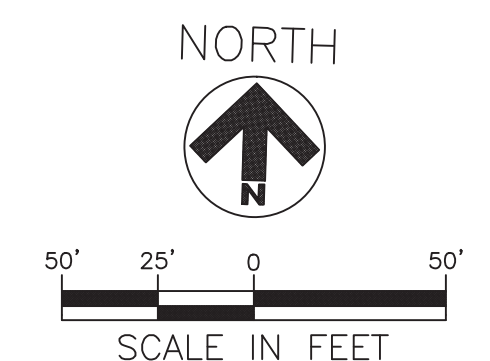
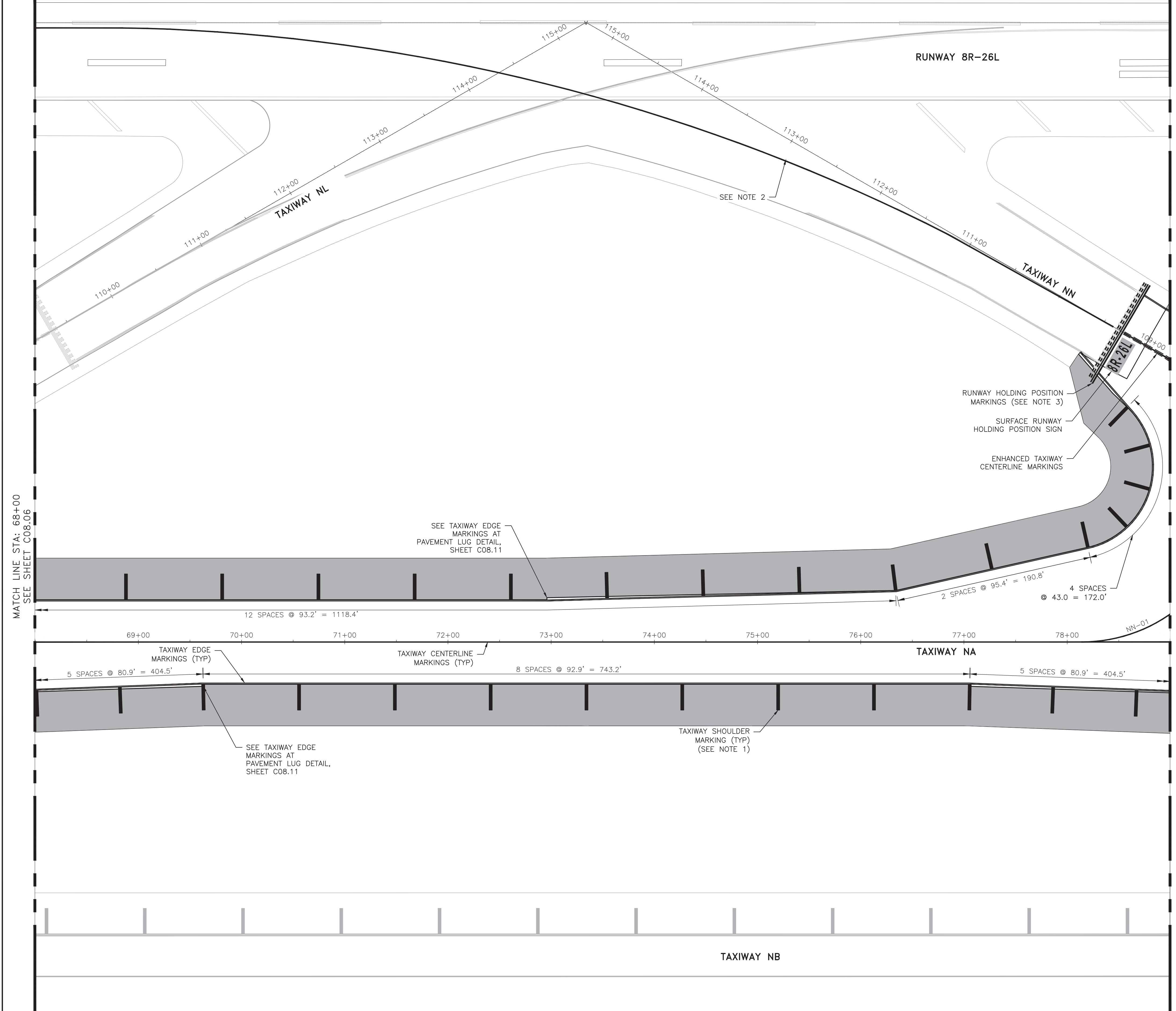
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DATE:	JULY 27, 2018



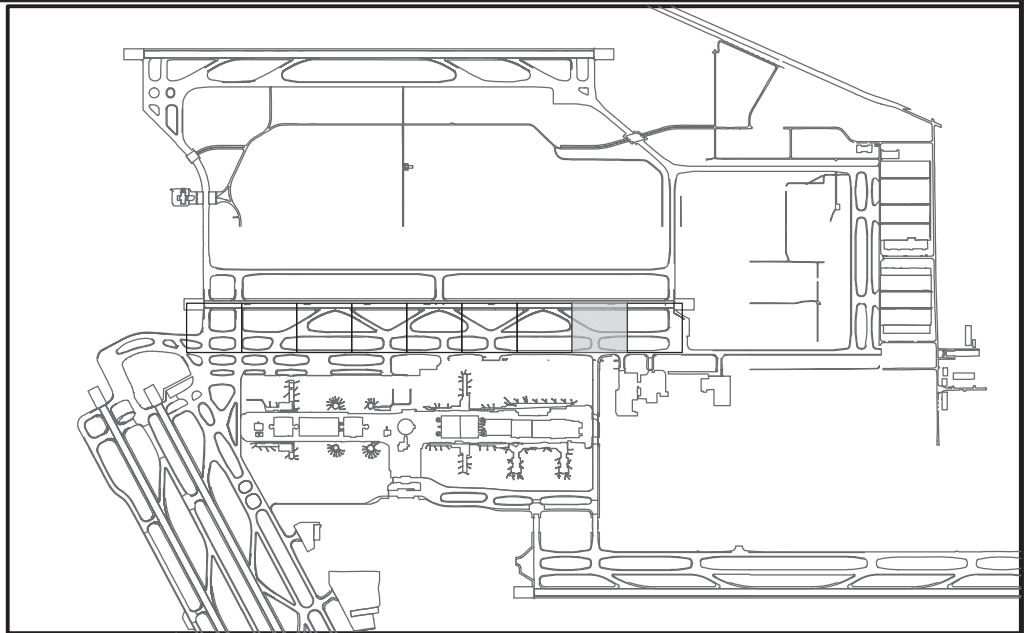
DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Denaj Palmer</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	




C08.07







**LEGEND**

-  NEW ASPHALT SHOULDER
-  NEW MARKINGS
-  EXISTING MARKINGS

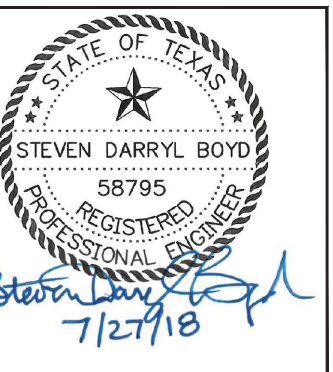
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
 (8 OF 9)

ISSUED FOR BID

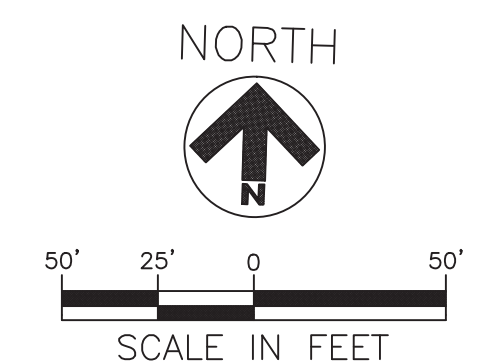
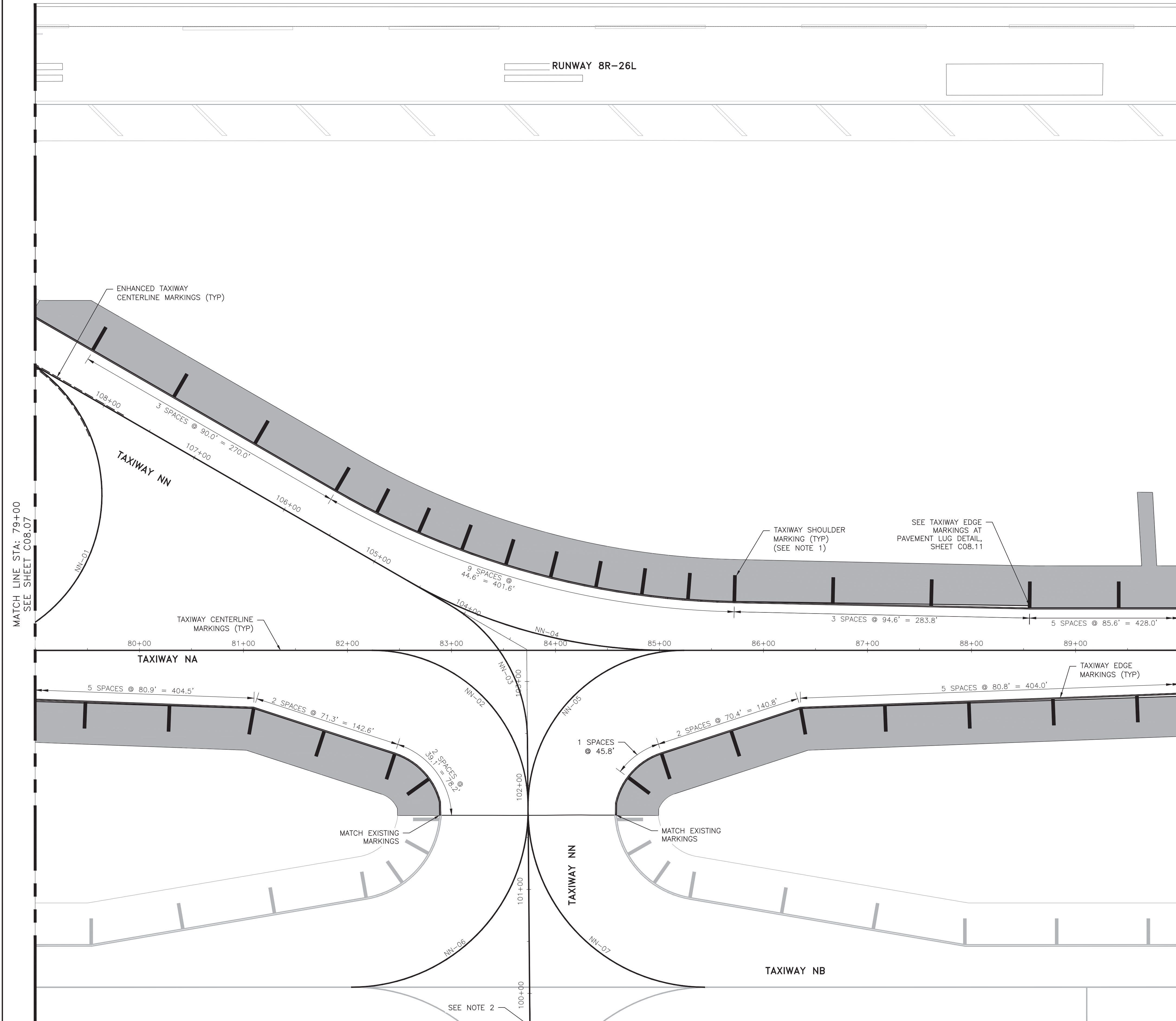
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 DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Danaj Palmer* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

C08.08







HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS

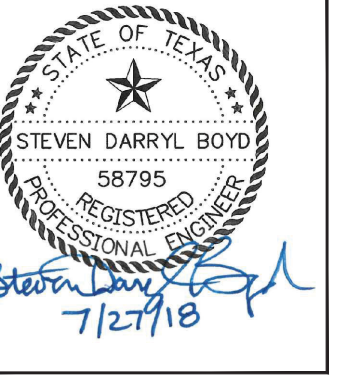


1225 North Loop West  
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REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
 (9 OF 9)

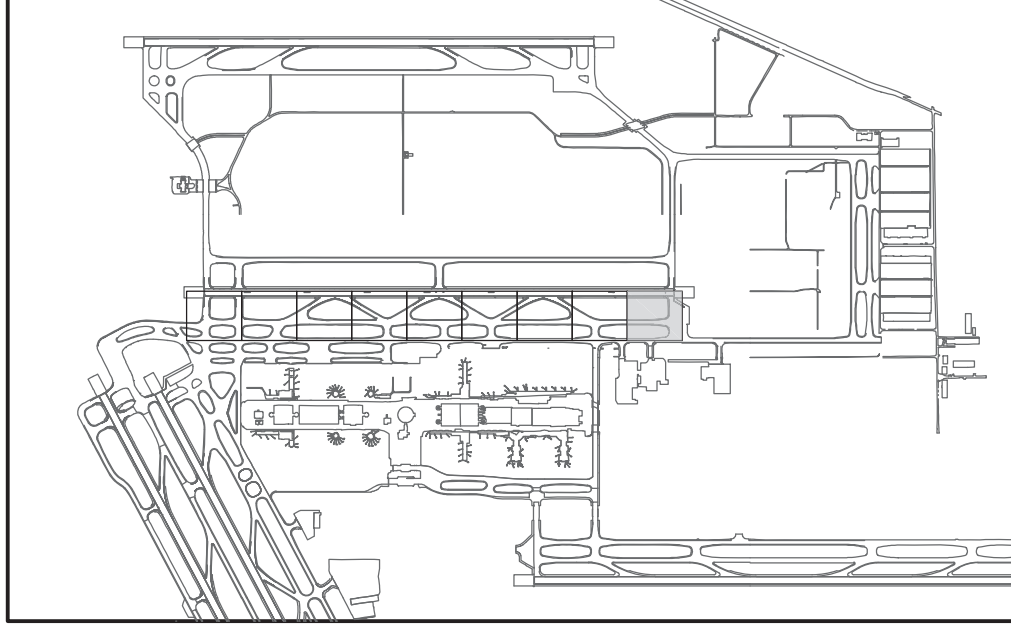
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Pehel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C08.09

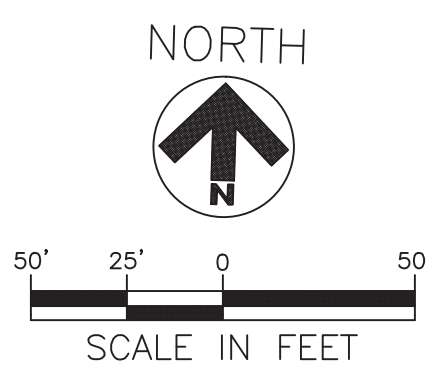
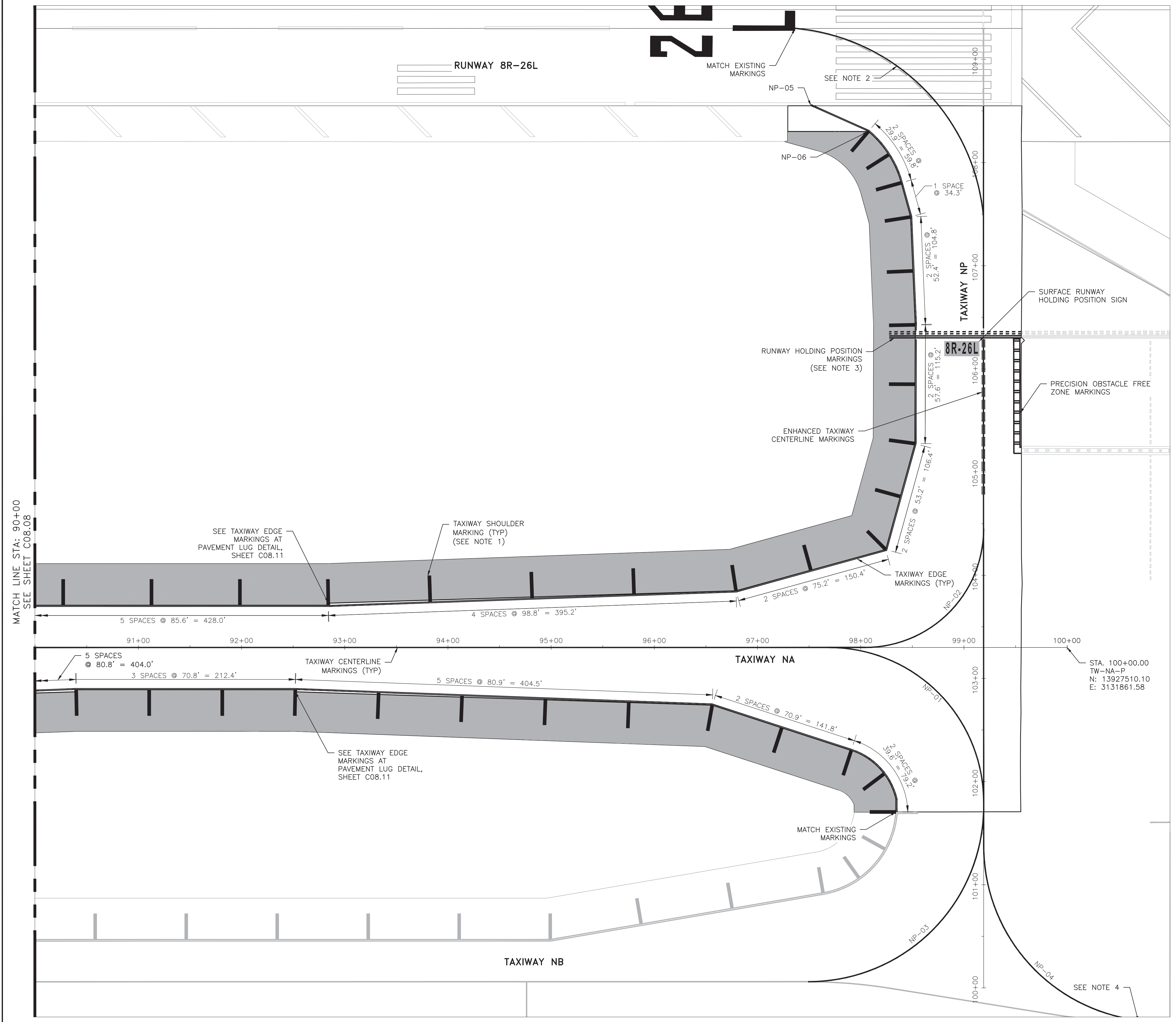


**LEGEND**

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- NEW MARKINGS
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REVISIONS

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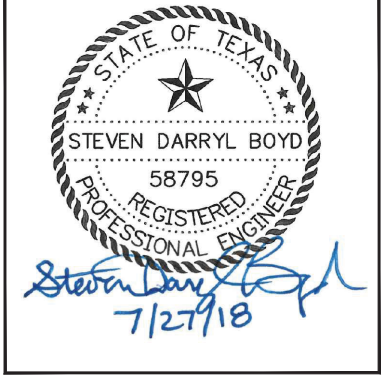
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NE-02	--	PNT	NE	108+30.29	111.67' R	13927711.35	3122554.22
NE-03	115.0	PC	NE	104+44.98	0.21' R	13927322.68	3122455.12
NE-04	115.0	PT	NA	7+23.49	0.00' L	13927211.98	3122590.12
NE-05	150.0	PC	NE	103+56.00	0.25' R	13927233.75	3122458.00
NE-06	150.0	PT	NA	4+67.62	89.57' R	13927114.32	3122337.26
NE-07	150.0	PC	NE	101+79.97	0.33' R	13927057.81	3122463.69
NE-08	170.0	PT	NA	6+70.28	18.34' R	13927191.93	3122537.54
NE-09	150.0	PC	NA	4+53.89	88.38' R	13927114.98	3122323.50
NE-10	150.0	PT	NE	100+93.61	0.00' L	13926969.99	3122466.18
NE-11	150.0	PC	NE	101+25.49	0.00' L	13927003.34	3122465.10
NE-12	150.0	PT	NE	99+76.00	162.00' L	13926848.70	3122307.95
NE-13	170.0	PC	NE	101+73.90	0.00' L	13927051.72	3122463.54
NE-14	170.0	PT	NE	100+05.90	170.03' R	13926889.24	3122638.86
NR-01	115.0	PC	NA	11+34.07	0.00' L	13927225.18	3123000.49
NR-02	150.0	PT	NA	12+49.07	115.00' L	13927343.81	3123111.74
NR-03	150.0	PC	NA	10+99.11	0.00' L	13927224.05	3122965.55
NR-04	150.0	PT	NA	12+49.08	145.44' R	13927083.50	3123120.11
NR-05	150.0	PC	NA	12+49.08	145.44' R	13927083.50	3123120.11
NR-06	150.0	PT	NA	13+99.12	0.00' L	13927233.70	3123265.40
NR-07	115.0	PC	NA	12+49.07	115.00' L	13927343.81	3123111.74
NR-08	115.0	PT	NA	13+64.07	0.00' L	13927232.57	3123230.38
NR-09	--	PNT	NR	108+54.90	166.60' L	13927748.21	3122932.04
NR-10	--	---	---	---	---	---	---
NR-11	--	PNT	NR	108+30.04	93.65' R	13927725.64	3123005.76
NR-12	--	---	---	---	---	---	---
NR-13	170.0	PC	NR	101+75.87	0.00' L	13927074.82	3123120.39
NR-14	170.0	PT	NR	100+05.87	170.00' L	13926899.44	3122955.95
NR-15	170.0	PC	NR	101+75.87	0.00' L	13927074.82	3123120.39
NR-16	170.0	PT	NR	100+05.87	170.00' L	13926910.37	3123295.77
NR-17	--	PNT	NR	108+30.04	93.38' R	13927731.65	3123192.70
NR-18	--	---	---	---	---	---	---
NR-19	--	PNT	NR	108+54.90	166.60' R	13927758.94	3123265.14
NR-20	--	---	---	---	---	---	---
NF-01	150.0	PC	NA	18+48.44	0.00' L	13927248.13	3123714.49
NF-02	500.0	PT	NF	100+93.48	44.10' L	13927164.50	3123853.87
NF-03	150.0	PC	NA	20+03.21	0.00' L	13927253.11	3123869.18
NF-04	150.0	PT	NF	104+63.94	0.00' L	13927328.06	3124116.85
NF-05	150.0	PC	NA	21+18.49	26.82' R	13927230.01	3123985.26
NF-06	150.0	PT	NF	103+57.87	0.11' R	13927272.02	3124026.78
NF-07	150.0	PC	NA	20+96.95	57.40' R	13927198.75	3123964.72
NF-08	150.0	PT	NA	22+15.20	0.00' L	13927259.92	3124081.07
NF-09	150.0	PC	NF	108+89.99	0.03' R	13927552.76	3124478.83
NF-10	150.0	PT	NA	26+97.17	0.00' L	13927275.41	3124562.79
NF-11	170.0	PC	NF	100+77.82	69.14' L	13926999.70	3123834.04
NF-12	170.0	PT	NF	100+05.78	207.99' L	13926923.30	3123697.53
NF-13	170.0	PC	NF	102+73.79	68.59' R	13927199.93	3123965.50
NF-14	170.0	PT	NF	100+05.98	207.72' R	13926936.66	3124113.03
NG-01	150.0	PC	NA	40+66.70	0.00' L	13927319.43	3125931.61
NG-02	150.0	PT	NG	101+80.45	0.00' L	13927174.32	3126086.35
NG-03	150.0	PC	NG	104+12.97	0.04' L	13927362.91	3126008.38
NG-04	150.0	PT	NG	102+43.41	0.00' L	13927237.25	3126084.33
NG-05	150.0	PC	NG	101+80.45	0.00' L	13927174.32	3126086.35
NG-06	170.0	PT	NA	43+66.70	0.00' L	13927329.07	3126231.46
NG-07	170.0	PC	NG	101+76.36	0.00' L	13927170.24	3126086.49
NG-08	170.0	PT	NG	100+06.36	170.0' L	13926994.86	3125922.04
NG-09	170.0	PC	NG	101+76.36	0.00' L	13927170.24	3126086.49
NG-10	170.0	PT	NG	100+06.36	170.0' L	13927005.79	3126261.86
NH-01	150.0	PC	NG	102+43.41	0.00' L	13927237.25	3126084.33
NH-02	150.0	PT	NH	104+17.44	0.00' L	13927370.34	3126155.11
NJ-01	150.0	PC	NA	52+03.04	0.00' L	13927355.94	3127067.36
NJ-02	150.0	PT	NJ	101+80.02	0.00' L	13927210.86	3127222.11
NJ-03	150.0	PC	NJ	101+80.02	0.00' L	13927210.86	3127222.11
NJ-04	150.0	PT	NA	55+03.04	0.00' L	13927365.59	3127367.21
NJ-05	170.0	PC	NJ	101+72.07	0.00' L	13927202.92	3127222.36
NJ-06	170.0	PT	NJ	100+05.91	170.02' L	13927031.40	3127057.75
NJ-07	170.0	PC	NJ	101+72.07	0.00' L	13927202.92	3127222.36
NJ-08	170.0	PT	NJ	100+05.95	169.98' R	13927042.33	3127397.57

MARKING LAYOUT DATA							
CURVE NO.	RADIUS (FT)	TYPE	ALIGN	STATION	OFFSET	N	E
NK-01	150.0	PC	NA	61+45.80	0.00' L	13927386.24	3128009.64
NK-02	150.0	PT	NK	101+80.00	0.00' L	13927241.14	3128164.38
NK-03	150.0	PC	NK	104+14.61	0.00' L	13927430.19	3128083.51
NK-04	150.0	PT	NA	62+95.80	88.21' R	13927302.90	3128162.39
NK-05	150.0	PC	NK	101+80.00	0.00' L	13927241.14	3128164.38
NK-06	150.0	PT	NA	64+45.80	0.00' L	13927395.89	3128309.48
NK-07	150.0	PC	NK	101+75.94	0.00' L	13927237.09	3128164.51
NK-08	150.0	PT	NK	100+05.94	170.00' L	13927061.71	3128000.07
NK-09	150.0	PC	NK	100+88.11	0.00' L	13927149.30	3128167.34
NK-10	150.0	PT	NK	99+72.00	55.00' L	13927031.51	3128116.10
NK-11	150.0	PC	NK	100+88.11	0.00' L	13927149.30	3128167.34
NK-12	150.0	PT	NK	99+72.00	55.00' R	13927035.04	3128226.04
NK-13	150.0	PC	NK	101+75.94	0.00' L	13927237.09	3128164.51
NK-14	150.0	PT	NK	100+05.94	170.00' L	13927072.64	3128339.89
NL-01	150.0	PC	NA	62+95.80	85.52' R	13927305.59	3128162.31
NL-02	150.0	PT	NL	104+12.18	0.11' R	13927434.27	3128227.62
NN-01	150.0	PC	NA	78+13.96	0.00' L	13927439.86	3129676.93
NN-02	150.0	PT	NN	108+89.03	0.00' L	13927722.03	3129742.89
NN-03	150.0	PC	NA	82+23.64	0.00' L	13927453.02	3130086.40
NN-04	150.0	PT	NA	83+73.63	148.72' R	13927309.20	3130241.09
NN-05	150.0	PC	NA	82+98.08	43.74' L	13927499.13	3130159.40
NN-06	150.0	PT	NA	83+73.09	84.89' R	13927372.98	3130238.50
NN-07	500.0	PC	NN	104+63.09	0.00' L	13927521.06	3130118.43
NN-08	500.0	PT	NA	85+07.80	0.00' L	13927462.16	3130370.41
NN-09	150.0	PC	NN	101+78.72	0.00' L	13927306.64	3130241.20
NN-10	150.0	PT	NA	85+23.65	0.00' L	13927462.66	3130386.25
NN-11	150.0	PC	NN	101+77.42	0.00' L	13927305.34	3130241.25
NN-12	150.0	PT	NN	100+07.42	171.45' L	13927128.52	3130076.86
NN-13	150.0	PC	NN	101+74.53	0.00' L	13927302.46	3130241.37
NN-14	150.0	PT	NN	100+04.53	168.55' R	13927139.45	3130416.69
NP-01	150.0	PC	NA	97+69.13	0.00' L	13927502.69	3131631.09
NP-02	115.0	PT	NP	101+80.03	0.00' L	13927357.62	3131785.84
NP-03	115.0	PC	NA	98+04.09	0.00' L	13927503.81	3131666.03
NP-04	200.0	PT	NP	104+45.02	0.00' L	13927622.47	3131777.27
NP-05	200.0	PC	NP	101+70.71	0.00' L	13927348.30	3131786.06
NP-06	200.0	PT	NP	100+06.03	170.03' L	13927178.21	3131621.52
NP-07	200.0	PC	NP	101+37.52	0.00' L	13927315.13	3131787.21
NP-08	200.0	PT	NP	99+67.50	170.0' R	13927150.67	3131962.58
NP-09	--	PNT	NP	108+55.32	167.37' L	13928027.14	3131596.69
NP-10	--	---	---	---	---	---	---
NP-11	--	PNT	NP	108+30.07	111.67' L	13928003.71	3131653.22
NP-12	--	---	---	---	---	---	---

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PAVEMENT MARKINGS PLAN**  
**POINT, CURVE DATA**

ISSUED FOR BID

PROJECT MGR:	DB
DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION

APPROVED BY:	DATE:
<i>Danaj Pehel</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

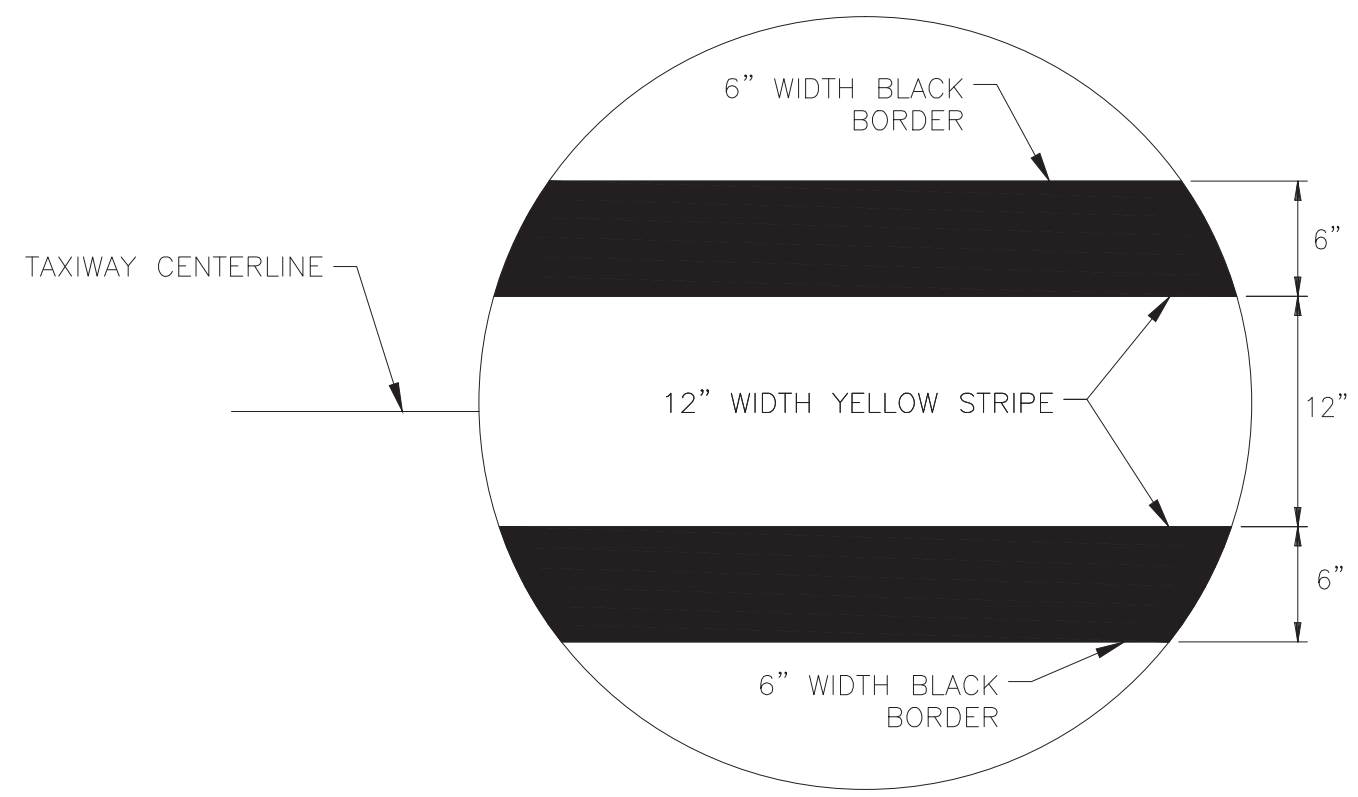
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

C08.10

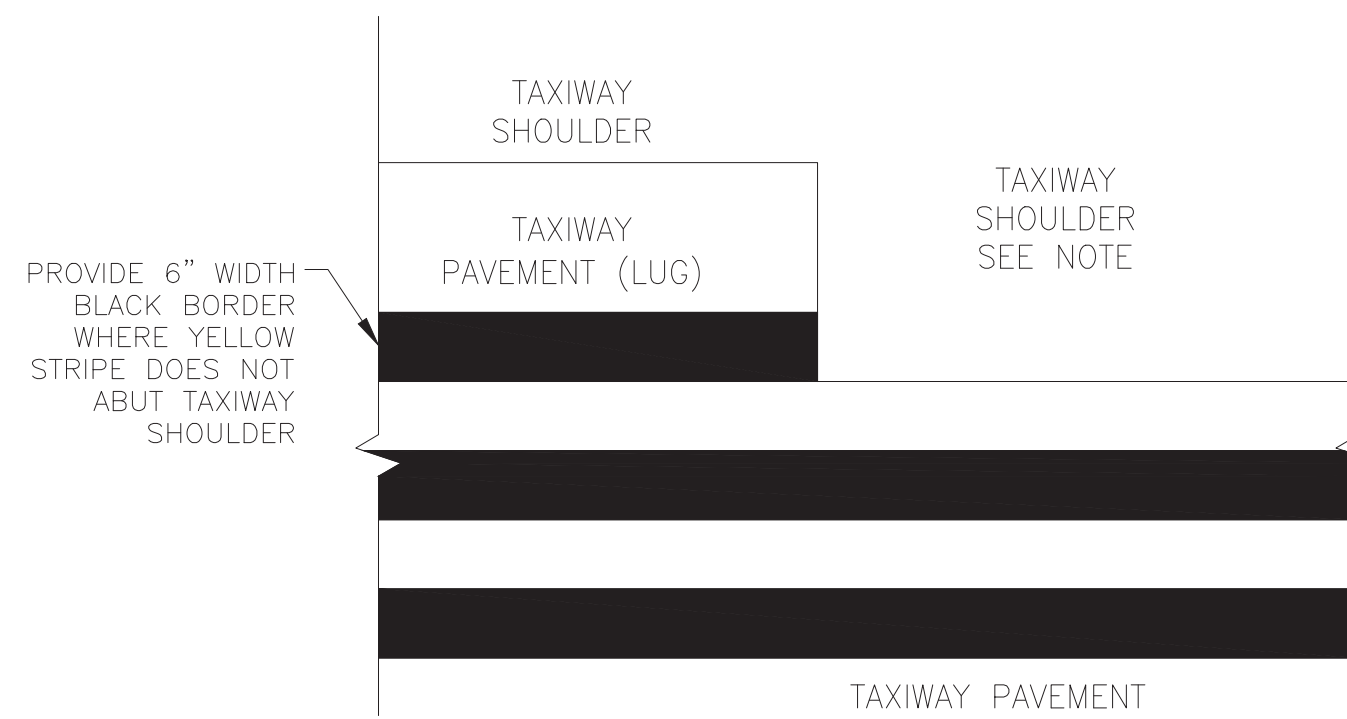




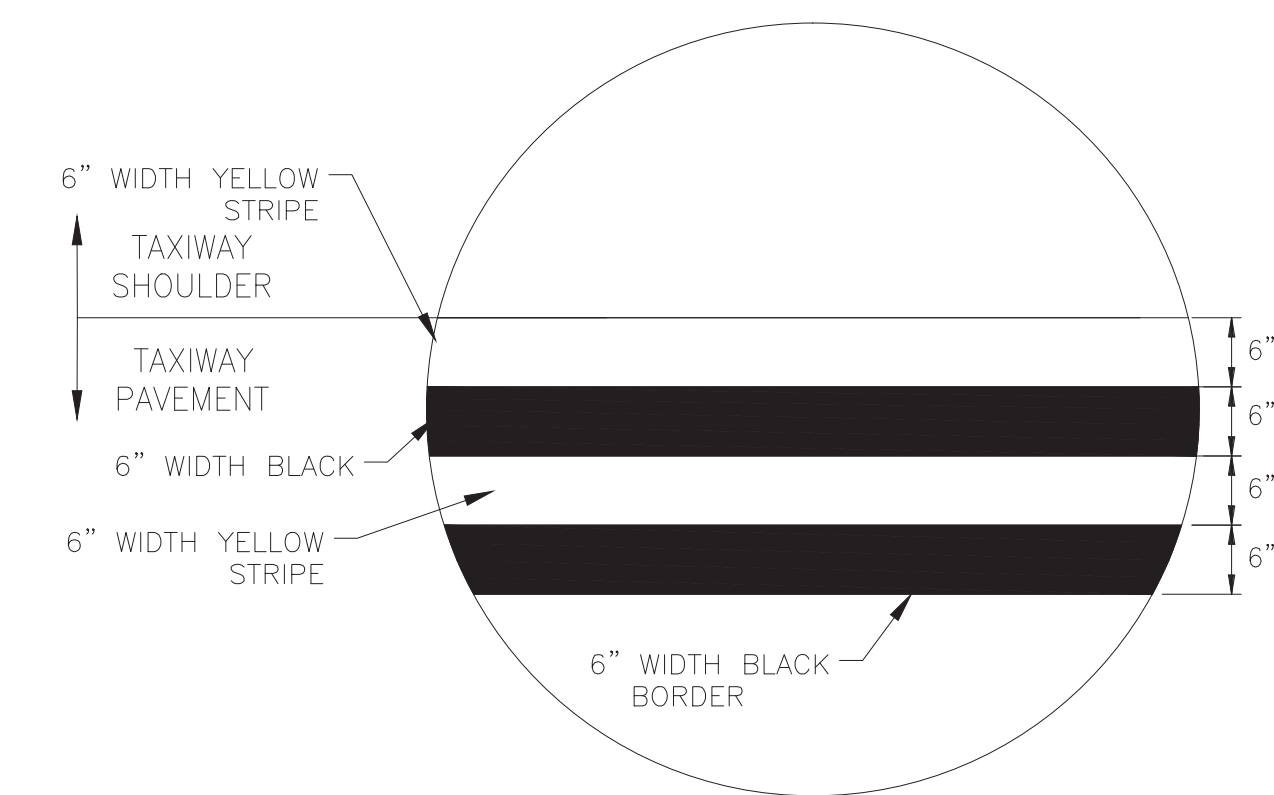
REVISIONS			
NO.	DESCRIPTION	DATE	BY



1 TAXIWAY CENTERLINE MARKINGS SCALE: N.T.S.

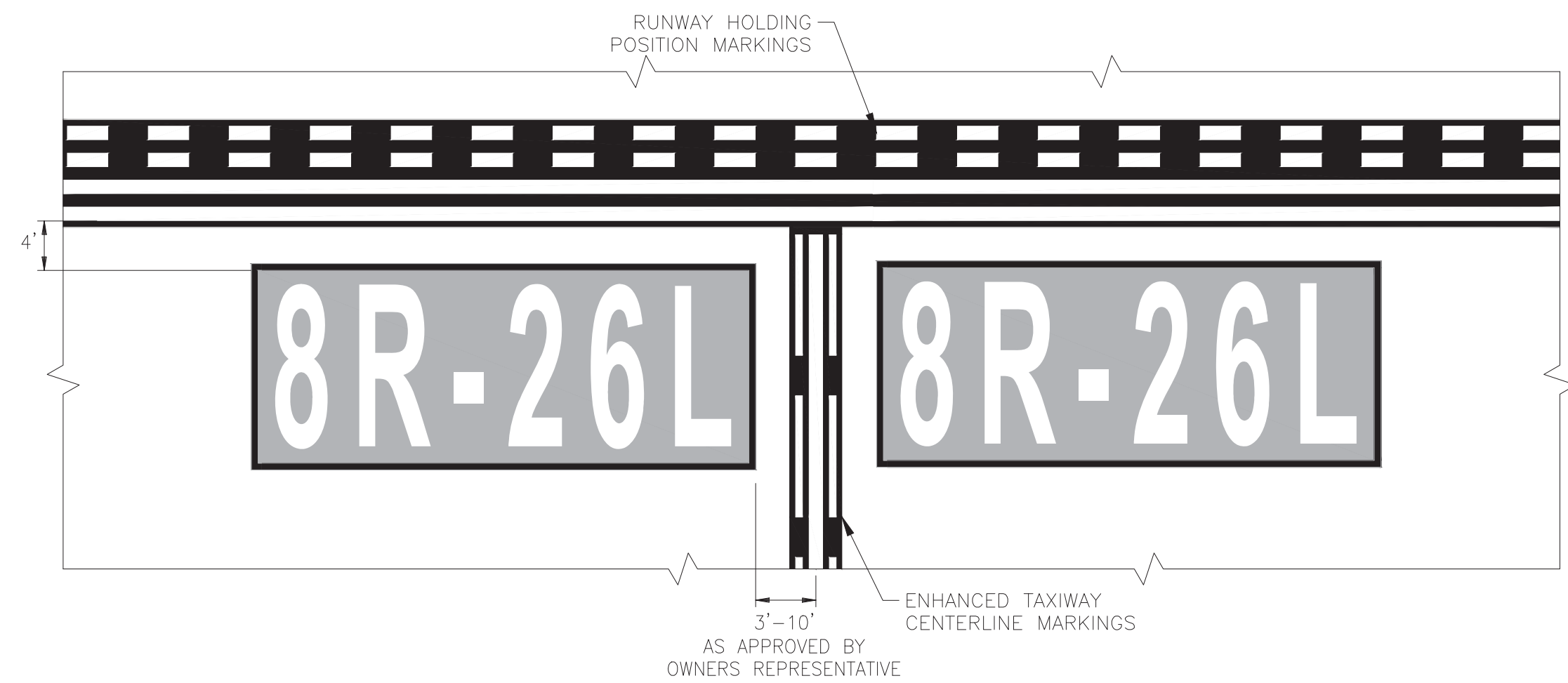


4 TAXIWAY EDGE MARKINGS AT PAVEMENT LUG SCALE: N.T.S.

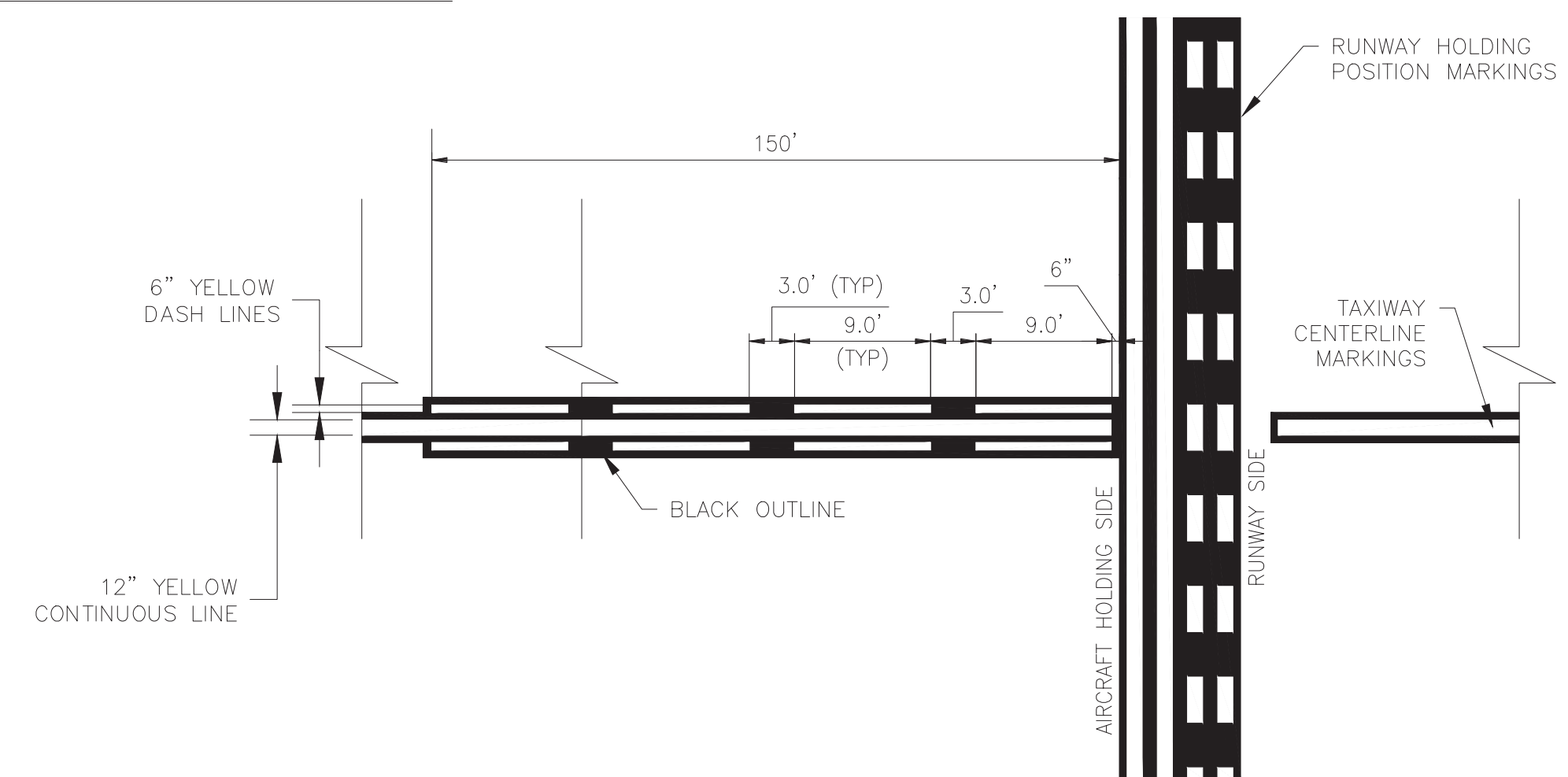


5 TAXIWAY EDGE MARKINGS SCALE: N.T.S.

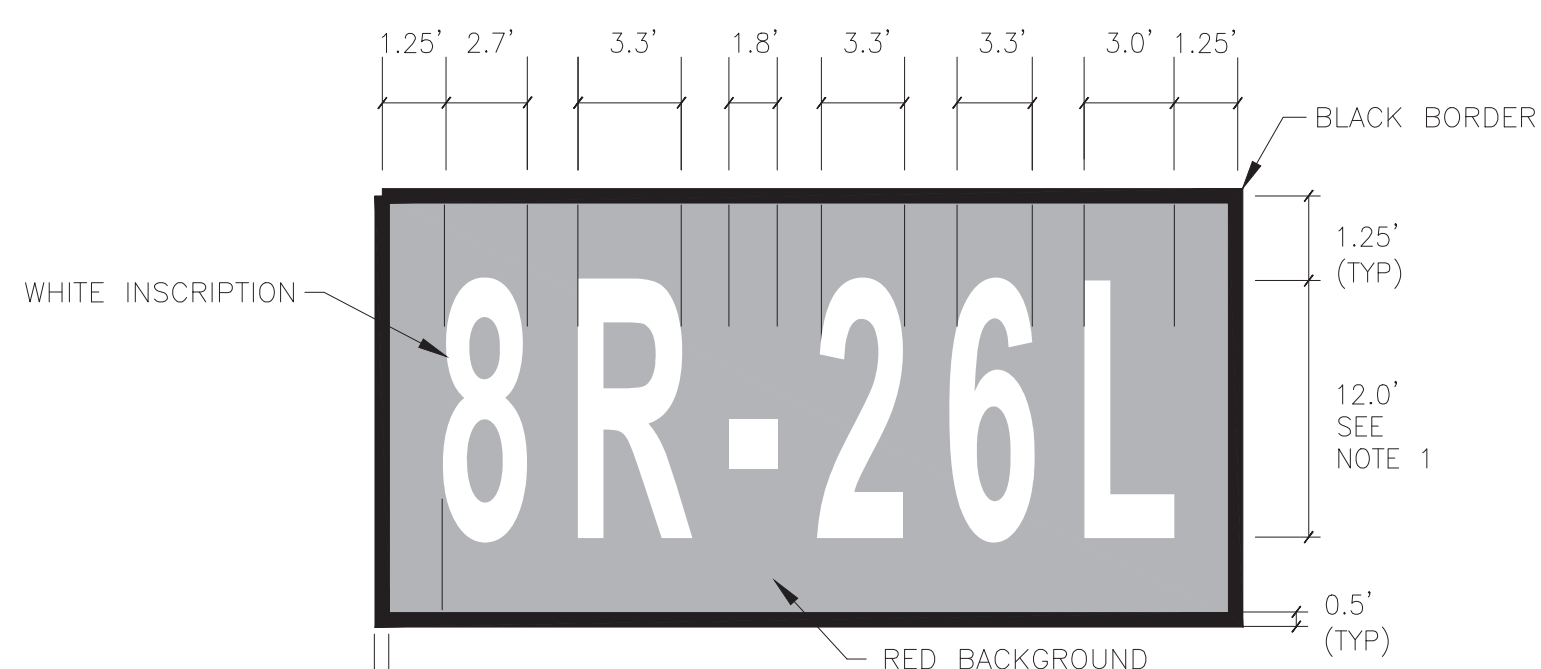
NOTE:  
TRANSITION TAXIWAY EDGE MARKINGS TO TAXIWAY PAVEMENT EDGE AT NEXT PI ON STRAIGHT SECTION OR TO POINT AS APPROVED BY THE OWNER'S REPRESENTATIVE ON CURVED SECTION.



2 SURFACE RUNWAY HOLDING POSITION SIGN SCALE: N.T.S.

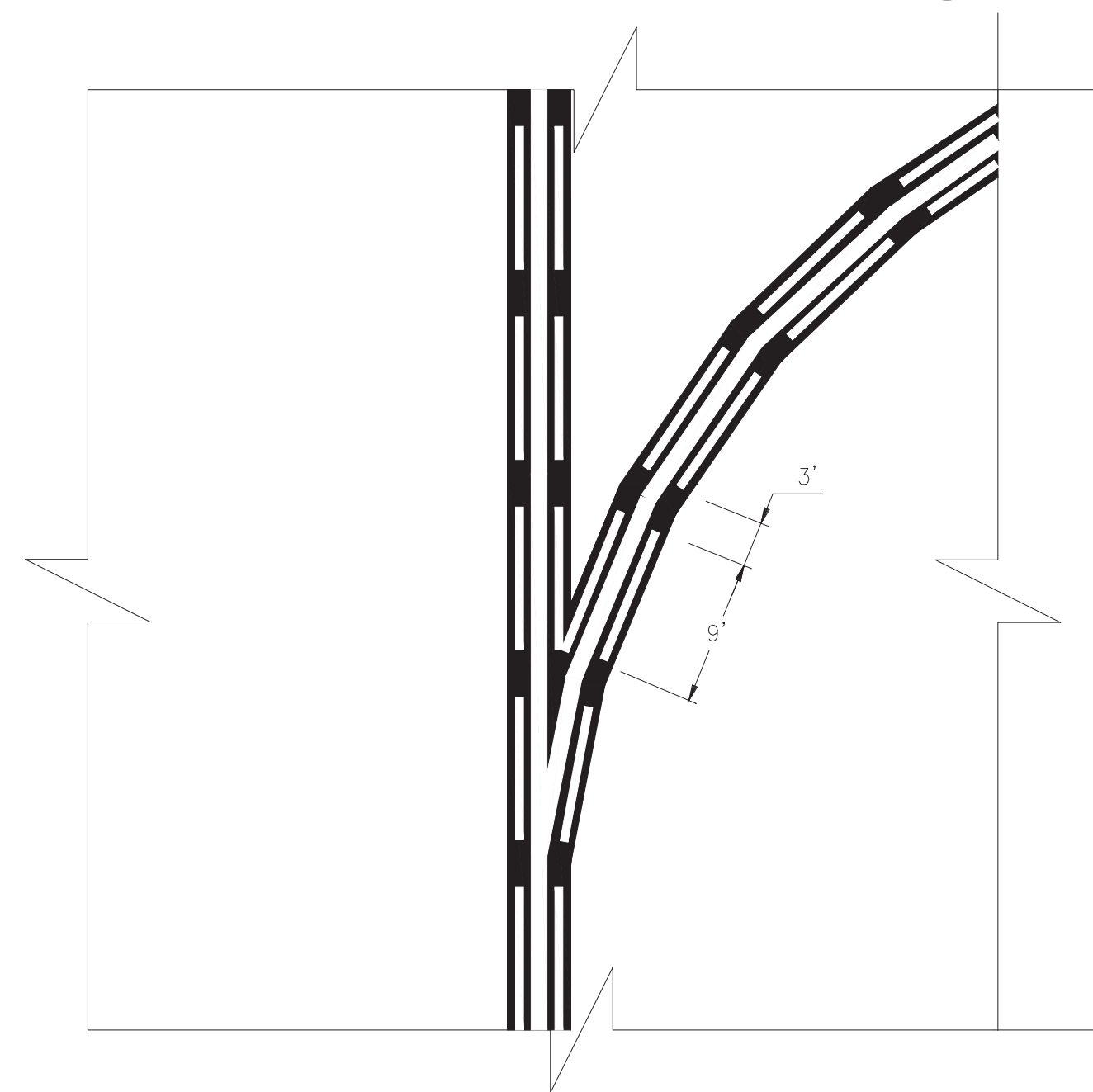


6 ENHANCED TAXIWAY CENTERLINE MARKINGS SCALE: N.T.S.



3 SURFACE PAINTED HOLDING POSITION SIGN SCALE: N.T.S.

NOTES:  
1. INSCRIPTIONS ARE WHITE AND MUST HAVE A HEIGHT OF 12 FEET. THE APPEARANCE OF THE LETTERS, NUMBERS AND SYMBOLS MUST BE PER AC 150/5340-TL, "STANDARDS FOR AIRPORT MARKINGS", APPENDIX A.  
2. SPACING OF INSCRIPTIONS SHALL BE 2.0'.



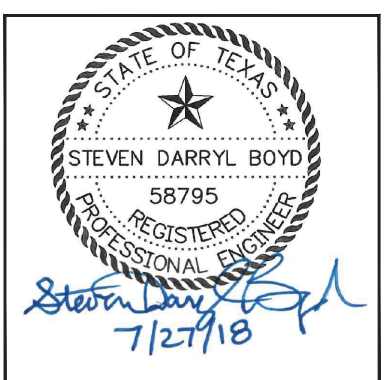
7 ENHANCED TAXIWAY CENTERLINE MARKINGS CONVERGING SCALE: N.T.S.

NOTES:

- PERMANENT AND TEMPORARY PAVEMENT MARKINGS, EXCEPT FOR BLACK BACKGROUND/BORDER, SHALL BE REFLECTIVE (TYPE III GLASS BEADS). SEE PAVEMENT MARKING PLANS FOR HORIZONTAL CONTROL.
- ALL MARKINGS SHALL BE OUTLINED WITH A 6" BLACK BORDER UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING WHEN BLACK OUTLINE IS PLACED AROUND PAINTED MARKINGS (FIRST OR LAST).
- IF CONTRACTOR CHOOSES TO PAINT BLACK MARKINGS AFTER YELLOW HAS BEEN INSTALLED, CONTRACTOR SHALL NOT ALLOW BLACK PAINT OVERSPRAY ONTO THE YELLOW MARKINGS AND THERE WILL BE CLEAN STRAIGHT YELLOW LINES FOR ALL MARKINGS.

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
PAVEMENT MARKING DETAILS  
(1 OF 2)

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	NTS
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Pehel</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS	
AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	





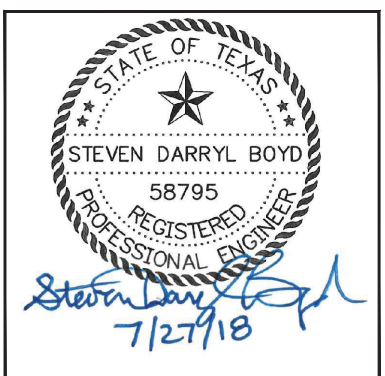
1225 North Loop West  
Suite 320  
Houston, Texas 77008  
(832) 494-3800  
Firm Registration No.  
F-10161

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

PAVEMENT MARKING DETAILS  
(2 OF 2)

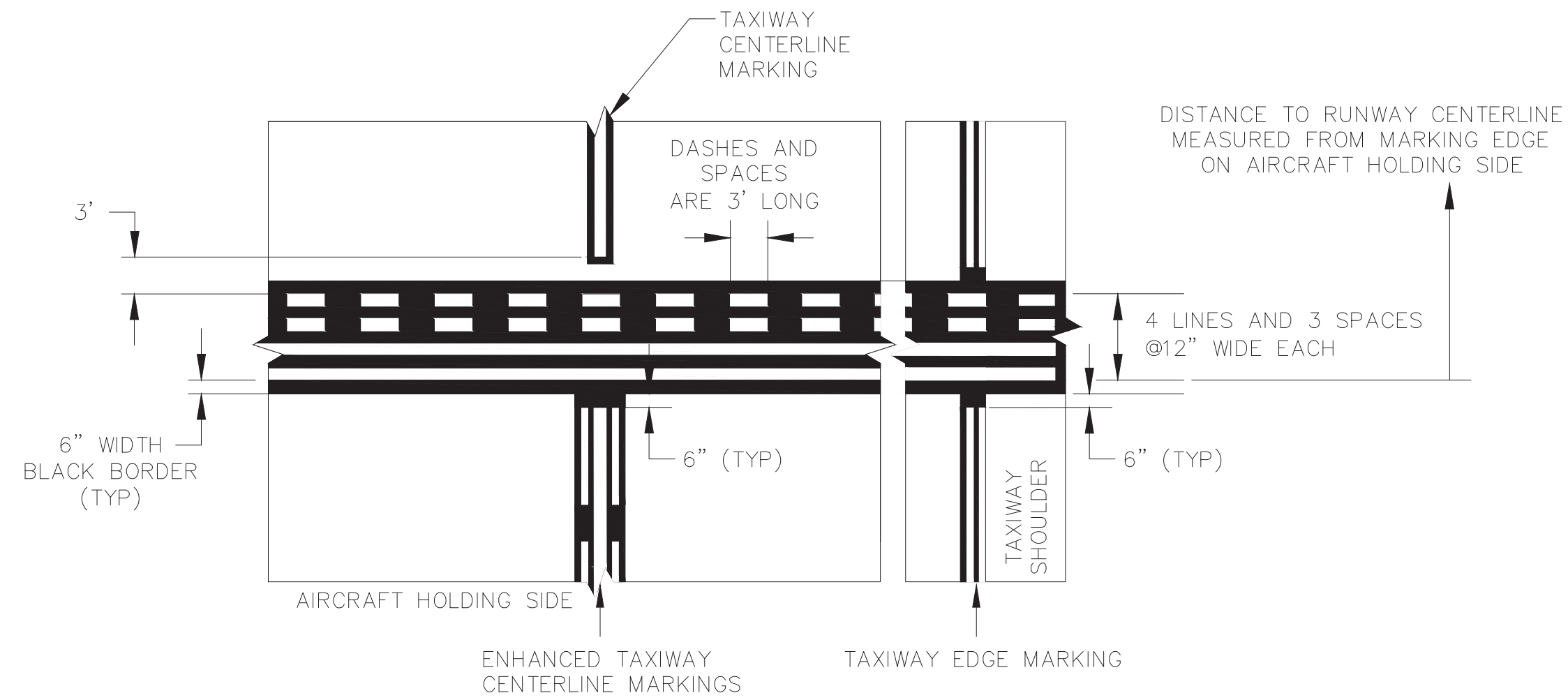
ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	NTS
DATE:	JULY 27, 2018



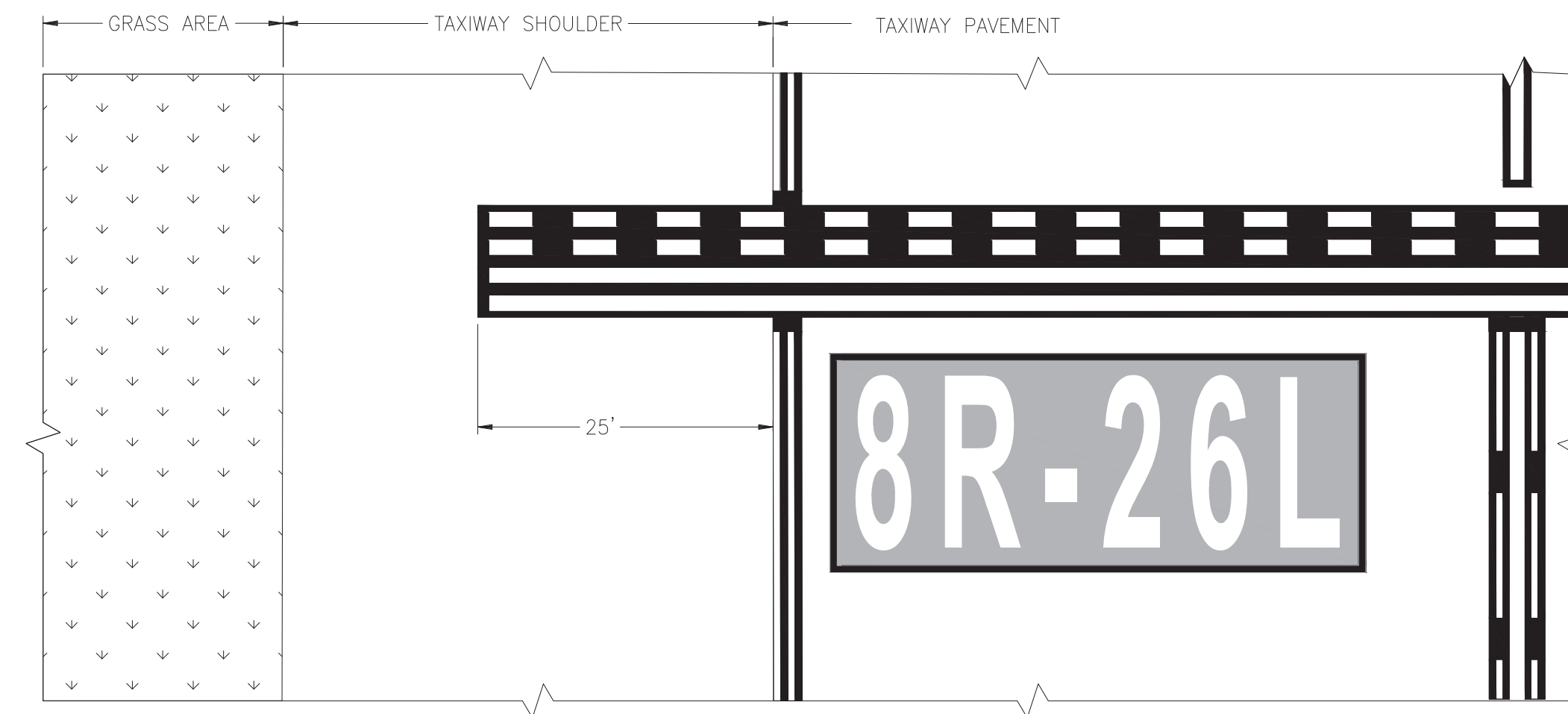
DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Pehel</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS	
AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

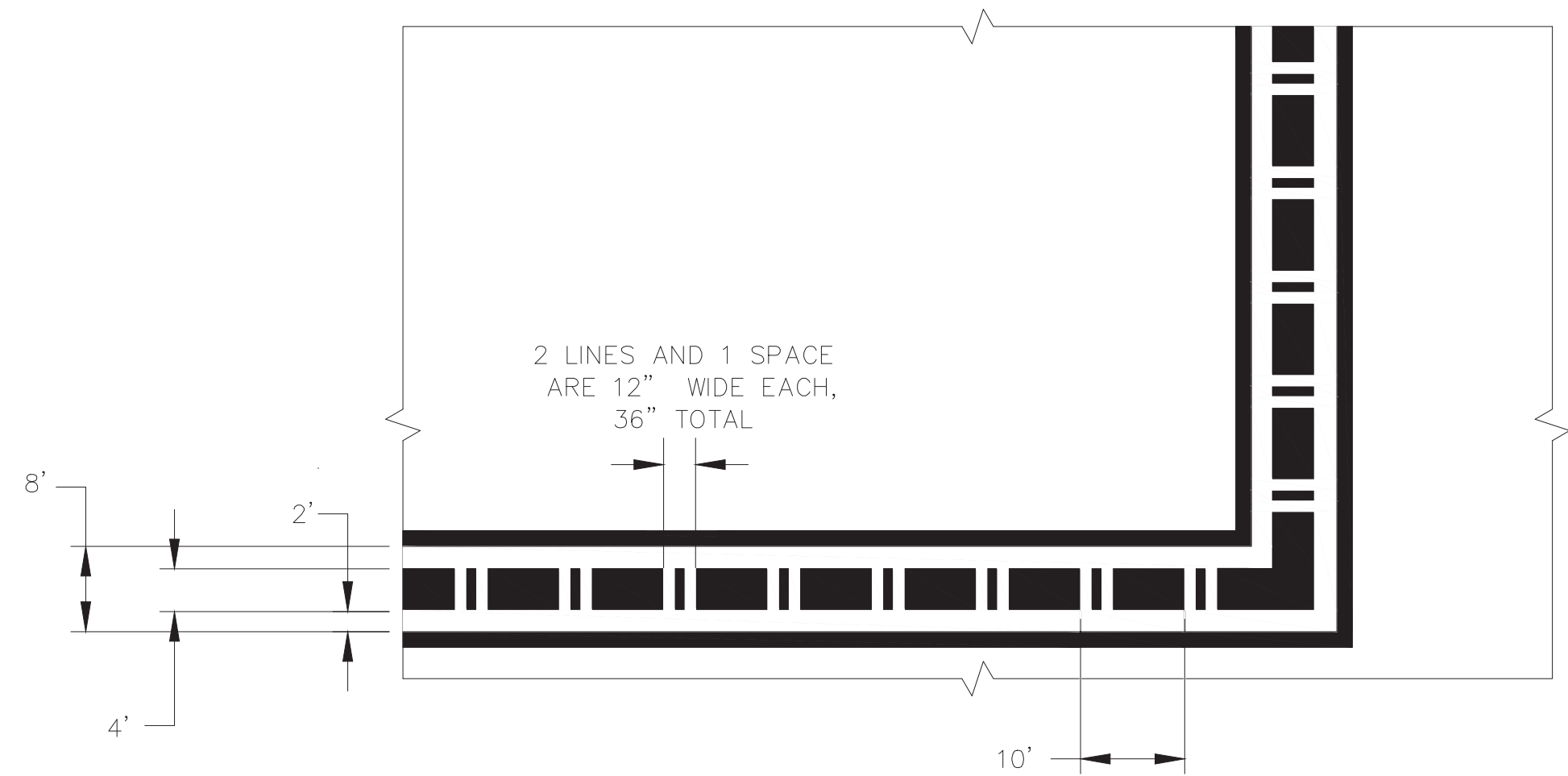
C08.12



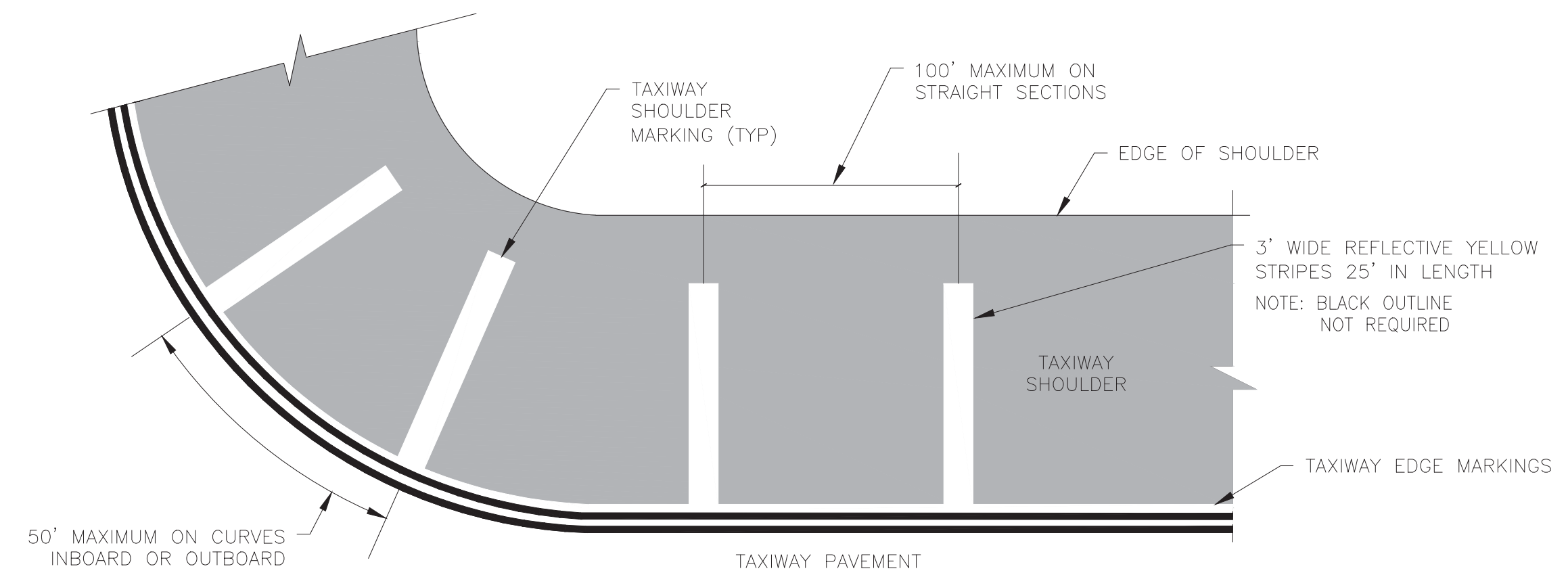
8 RUNWAY HOLDING POSITION MARKING  
C08.12 SCALE: N.T.S.



10 ENHANCED RUNWAY HOLDING POSITION MARKINGS ON TAXIWAYS  
C08.12 SCALE: N.T.S.



9 POFZ MARKING  
C08.12 SCALE: N.T.S.



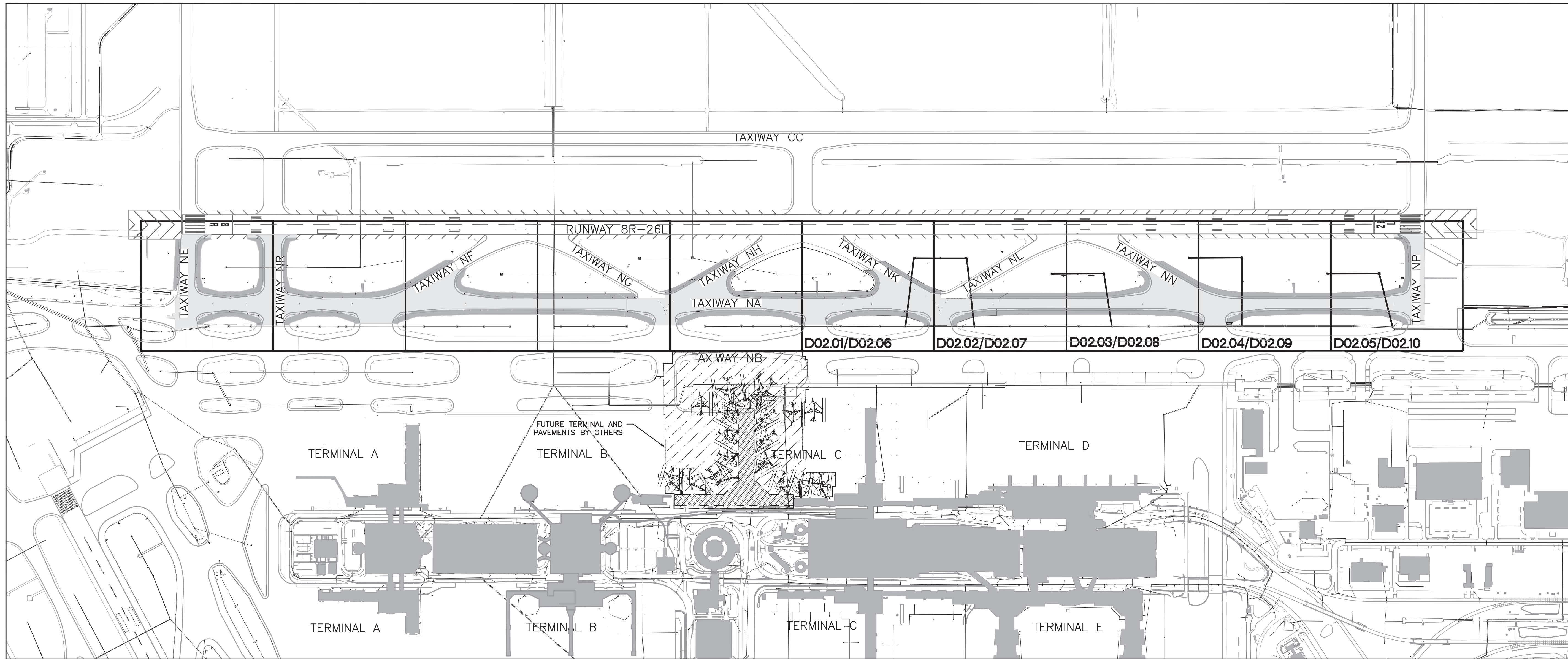
11 TAXIWAY SHOULDER MARKINGS  
C08.12 SCALE: N.T.S.

NOTES:

- PERMANENT AND TEMPORARY PAVEMENT MARKINGS, EXCEPT FOR BLACK BACKGROUND/BORDER, SHALL BE REFLECTIVE (TYPE III GLASS BEADS).
- SEE PAVEMENT MARKING PLANS FOR HORIZONTAL CONTROL.
- ALL MARKINGS SHALL BE OUTLINED WITH A 6" BLACK BORDER UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING WHEN BLACK OUTLINE IS PLACED AROUND PAINTED MARKINGS (FIRST OR LAST).
- IF CONTRACTOR CHOOSES TO PAINT BLACK MARKINGS AFTER YELLOW HAS BEEN INSTALLED, CONTRACTOR SHALL NOT ALLOW BLACK PAINT OVERSPRAY ONTO THE YELLOW MARKINGS AND THERE WILL BE CLEAN STRAIGHT YELLOW LINES FOR ALL MARKINGS.



REVISIONS			
NO.	DESCRIPTION	DATE	BY



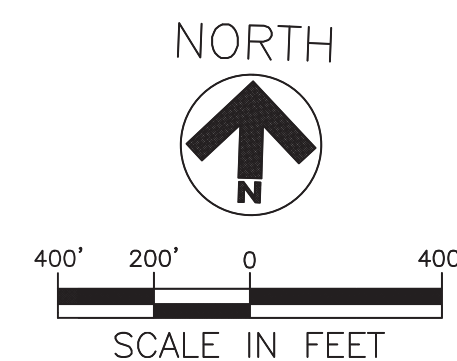
REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED STORM SEWER KEY PLAN**

**STORM SEWER GENERAL NOTES**

- ALL EXISTING ELEVATIONS TO BE FIELD VERIFIED
- ALL ELEVATIONS ARE AT NAVD 1988, 2001 ADJUSTMENT
- REFER TO E01 THROUGH E09 SERIES FOR EXISTING AND PROPOSED ELECTRICAL LAYOUT
- REFER TO E10 SERIES FOR ELECTRICAL DETAILS
- REFER TO C02 & C03 SERIES FOR PROPOSED GEOMETRY, TAXIWAY, PROFILE AND PAVEMENT DETAILS
- REFER TO C04 SERIES FOR GRADING PLAN
- REFER TO D02.16 FOR STORM SEWER DETAILS
- CONTRACTOR SHALL CONNECT ALL THE DRAINAGE TO NEW STORM SEWER SYSTEM. REFER TO STORM SEWER DRAWINGS D02.06-D02.15 AND STORM SEWER DETAILS D02.16
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE EXCAVATING AND/OR BORE AND JACKING, AND SHALL PROVIDE ADEQUATE SUPPORT TO THE EXISTING ELECTRICAL STRUCTURES
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION
- CONTRACTOR TO RE-ESTABLISH EXISTING GRADES WHERE PROPOSED GRADES ARE NOT INDICATED
- TRENCH SAFETY - CONTRACTOR TO PROVIDE TRENCH SAFETY SYSTEM IN ACCORDANCE TO SPECIFICATION 01561 TRENCH SAFETY SYSTEM
- CONTRACTOR SHALL USE AIRCRAFT RATED OLDCASTLE PRECAST INLETS (DETAIL SHEET D02.16) AND AIRCRAFT RATED EJ GROUP GRATE, MODEL NUMBER V5668 ASSEMBLY (DETAIL SHEET D02.16)
- SEE DETAIL 'GRADING BETWEEN INLETS' SHEET D02.16 FOR GRADING BETWEEN INLETS

**STORM ABANDONMENT NOTES**

- ABANDON STORM SEWER LINES BY COMPLETELY FILLING STORM SEWER LINE WITH FLOWABLE FILL. (SEE SPECIFICATIONS 02221-REMOVING EXISTING PAVEMENTS AND STRUCTURES, 02222-ABANDONMENT OF SEWERS AND 02322-FLOWABLE FILL.
- PLACE FLOWABLE FILL TO FILL VOLUME BETWEEN MANHOLES. CONTINUOUSLY PLACE FLOWABLE FILL FROM MANHOLE TO MANHOLE WITH NO INTERMEDIATE POUR POINTS, BUT NOT EXCEEDING 500 FEET IN LENGTH.
- HAVE FILLING OPERATION PERFORMED BY EXPERIENCED CREWS WITH EQUIPMENT TO MONITOR DENSITY OF FLOWABLE FILL AND TO CONTROL PRESSURE.
- TEMPORARILY PLUG STORM SEWER LINES WHICH ARE TO REMAIN IN OPERATION DURING POURING/PUMPING TO KEEP LINES FREE OF FLOWABLE FILL.
- PUMP FLOWABLE FILL THROUGH BULKHEADS CONSTRUCTED FOR PLACEMENT OF TWO 2-INCH PVC PIPES OR USE OTHER SUITABLE CONSTRUCTION METHODS TO CONTAIN FLOWABLE FILL IN LINES TO BE ABANDONED. THESE PIPES WILL ACT AS INJECTION POINTS OR VENTS FOR PLACEMENT OF FLOWABLE FILL.
- PLACE FLOWABLE FILL UNDER PRESSURE FLOW CONDITIONS INTO PROPERLY VENTED OPEN SYSTEM UNTIL FLOWABLE FILL EMERGES FROM VENT PIPES. PUMP FLOWABLE FILL WITH SUFFICIENT PRESSURE TO OVERCOME FRICTION AND TO FILL SEWER FROM DOWNSTREAM END, TO DISCHARGE AT UPSTREAM END.
- REMEDIATE PLACEMENT OF FLOWABLE FILL WHICH DOES NOT FILL VOIDS IN SEWER, IN MANHOLE OR OTHER STRUCTURES, OR WHERE VOIDS DEVELOP DUE TO EXCESSIVE SHRINKAGE OR BLEEDING OF FILL, BY USING PRESSURE GROUTING EITHER FROM INSIDE SEWER OR FROM SURFACE.



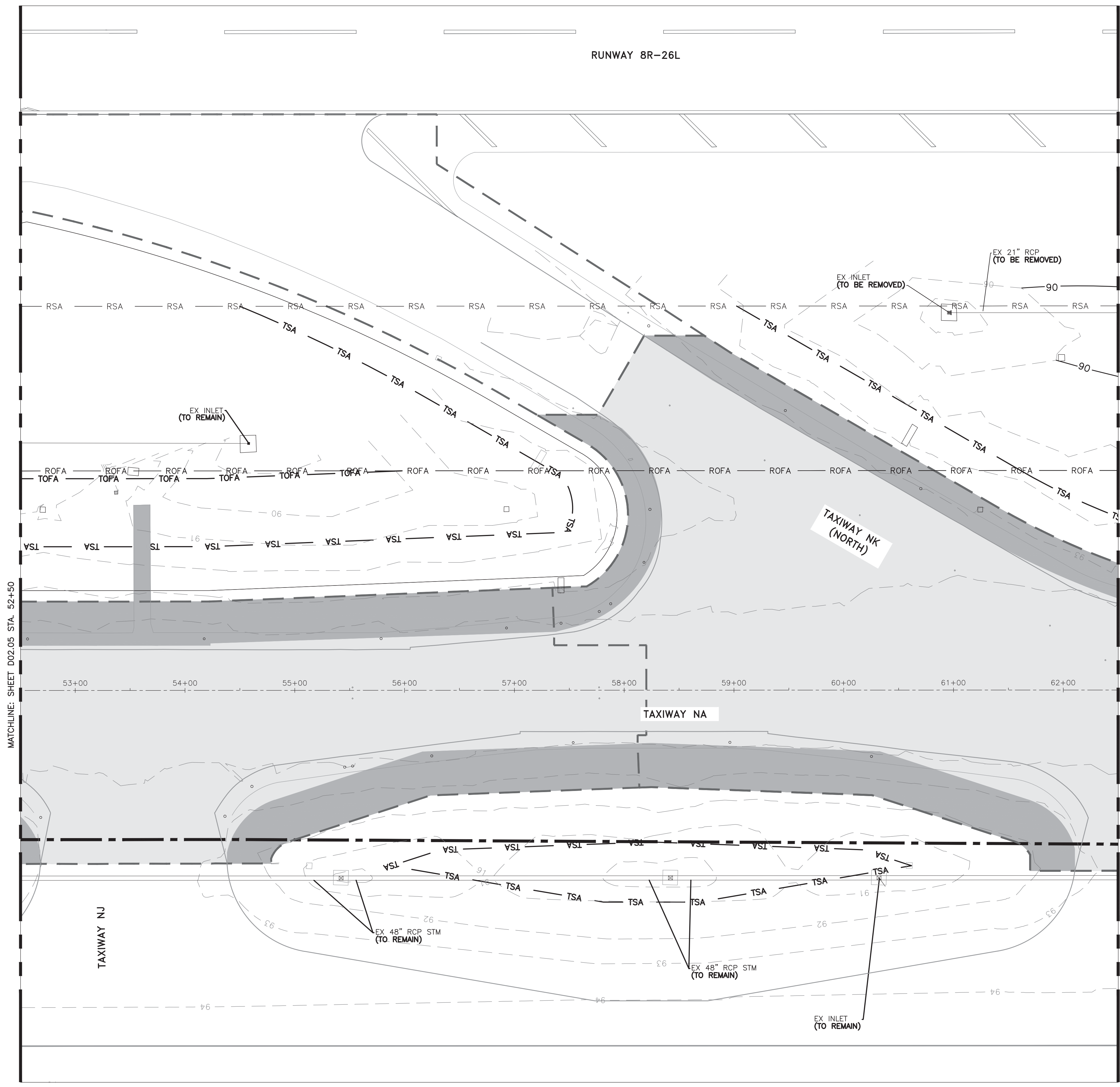
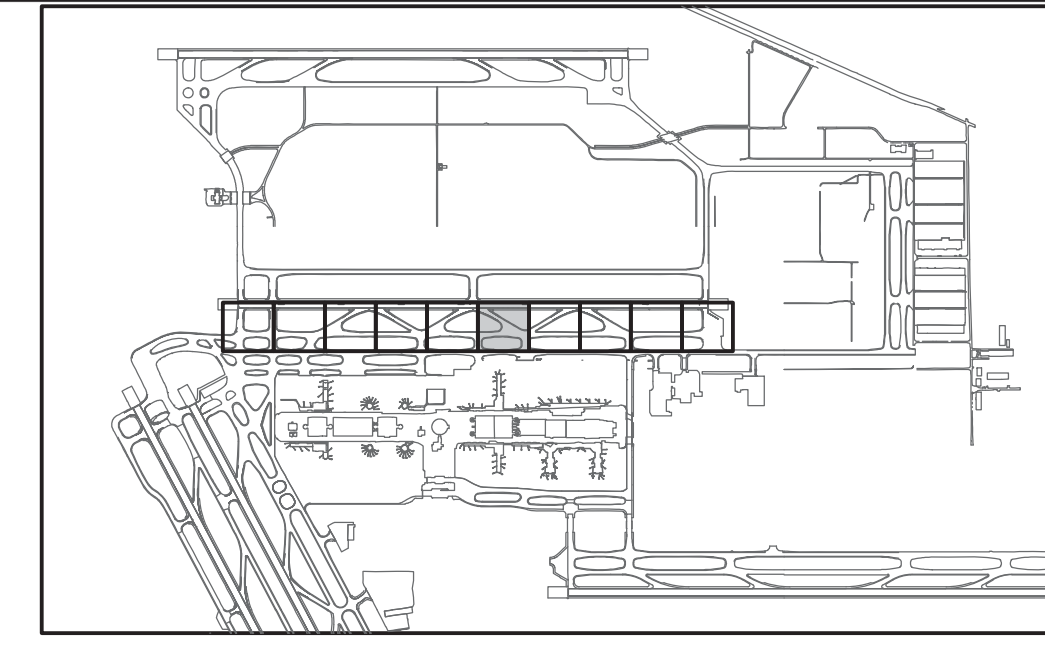
ISSUED FOR BID	
PROJECT MGR:	JG
DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=400'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER  
 JULY 27, 2018  
 DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donaj Pahmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**D02.00**





**LEGEND:**

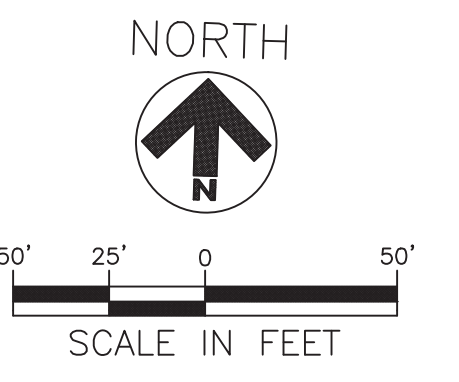
- |  |  |  |                            |
|--|--|--|----------------------------|
|  | EXIST 24" RCP TO BE ABANDONED AND FILLED |  | EXISTING INLET             |
|  | PROPOSED CONCRETE PAVEMENT               |  | PROPOSED INLET             |
|  | PROPOSED ASPHALT SHOULDER                |  | EXISTING STORM SEWER > 30" |
|  | TSA PROPOSED TAXIWAY SAFETY AREA         |  | EXISTING STORM SEWER < 30" |
|  | TOFA PROPOSED TAXIWAY OBJECT FREE AREA   |  | PROPOSED STORM SEWER > 30" |
|  | RSA EXISTING RUNWAY SAFETY AREA          |  | PROPOSED STORM SEWER < 30" |
|  | ROFA EXISTING RUNWAY SAFETY AREA         |  | 90 PROPOSED MAJOR CONTOUR  |
|  | PHASE LIMITS                             |  | 90 PROPOSED MINOR CONTOUR  |
|  | HAUL ROAD                                |  | 90 EXISTING CONTOUR        |

**STORM SEWER GENERAL NOTES**

- ALL EXISTING ELEVATIONS TO BE FIELD VERIFIED
- ALL ELEVATIONS ARE AT NAVD 1988, 2001 ADJUSTMENT
- REFER TO E01 THROUGH E09 SERIES FOR EXISTING AND PROPOSED ELECTRICAL LAYOUT
- REFER TO E10 SERIES FOR ELECTRICAL DETAILS
- REFER TO C02 & C03 SERIES FOR PROPOSED GEOMETRY, TAXIWAY, PROFILE AND PAVEMENT DETAILS
- REFER TO C04 SERIES FOR GRADING PLAN
- REFER TO D02.16 FOR STORM SEWER DETAILS
- CONTRACTOR SHALL CONNECT ALL THE DRAINAGE TO NEW STORM SEWER SYSTEM. \*REFER TO STORM SEWER DRAWINGS D02.06-D02.15 AND STORM SEWER DETAILS D02.16
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE EXCAVATING AND/OR BORE AND JACKING, AND SHALL PROVIDE ADEQUATE SUPPORT TO THE EXISTING ELECTRICAL STRUCTURES
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION
- CONTRACTOR TO RE-ESTABLISH EXISTING GRADES WHERE PROPOSED GRADES ARE NOT INDICATED
- TRENCH SAFETY - CONTRACTOR TO PROVIDE TRENCH SAFETY SYSTEM IN ACCORDANCE TO SPECIFICATION 01561 TRENCH SAFETY SYSTEM
- CONTRACTOR SHALL USE AIRCRAFT RATED OLDCASTLE PRECAST INLETS (DETAIL SHEET D02.16) AND AIRCRAFT RATED EJ GROUP GRATE, MODEL NUMBER V5668 ASSEMBLY (DETAIL SHEET D02.16)
- SEE DETAIL 'GRADING BETWEEN INLETS' SHEET D02.16 FOR GRADING BETWEEN INLETS

**STORM ABANDONMENT NOTES**

- ABANDON STORM SEWER LINES BY COMPLETELY FILLING STORM SEWER LINE WITH FLOWABLE FILL. (SEE SPECIFICATIONS 02221-REMOVING EXISTING PAVEMENTS AND STRUCTURES, 02222-ABANDONMENT OF SEWERS AND 02322-FLOWABLE FILL.
- PLACE FLOWABLE FILL TO FILL VOLUME BETWEEN MANHOLES. CONTINUOUSLY PLACE FLOWABLE FILL FROM MANHOLE TO MANHOLE WITH NO INTERMEDIATE POUR POINTS, BUT NOT EXCEEDING 500 FEET IN LENGTH.
- HAVE FILLING OPERATION PERFORMED BY EXPERIENCED CREWS WITH EQUIPMENT TO MONITOR DENSITY OF FLOWABLE FILL AND TO CONTROL PRESSURE.
- TEMPORARILY PLUG STORM SEWER LINES WHICH ARE TO REMAIN IN OPERATION DURING POURING/PUMPING TO KEEP LINES FREE OF FLOWABLE FILL.
- PUMP FLOWABLE FILL THROUGH BULKHEADS CONSTRUCTED FOR PLACEMENT OF TWO 2-INCH PVC PIPES OR USE OTHER SUITABLE CONSTRUCTION METHODS TO CONTAIN FLOWABLE FILL IN LINES TO BE ABANDONED. THESE PIPES WILL ACT AS INJECTION POINTS OR VENTS FOR PLACEMENT OF FLOWABLE FILL.
- PLACE FLOWABLE FILL UNDER PRESSURE FLOW CONDITIONS INTO PROPERLY VENTED OPEN SYSTEM UNTIL FLOWABLE FILL EMERGES FROM VENT PIPES. PUMP FLOWABLE FILL WITH SUFFICIENT PRESSURE TO OVERCOME FRICTION AND TO FILL SEWER FROM DOWNSTREAM END, TO DISCHARGE AT UPSTREAM END.
- REMEDiate PLACEMENT OF FLOWABLE FILL WHICH DOES NOT FILL VOIDS IN SEWER, IN MANHOLE OR OTHER STRUCTURES, OR WHERE VOIDS DEVELOP DUE TO EXCESSIVE SHRINKAGE OR BLEEDING OF FILL, BY USING PRESSURE GROUTING EITHER FROM INSIDE SEWER OR FROM SURFACE.



REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**STORM SEWER DEMOLITION LAYOUT PLAN (SHEET 1 OF 5)**

ISSUED FOR BID

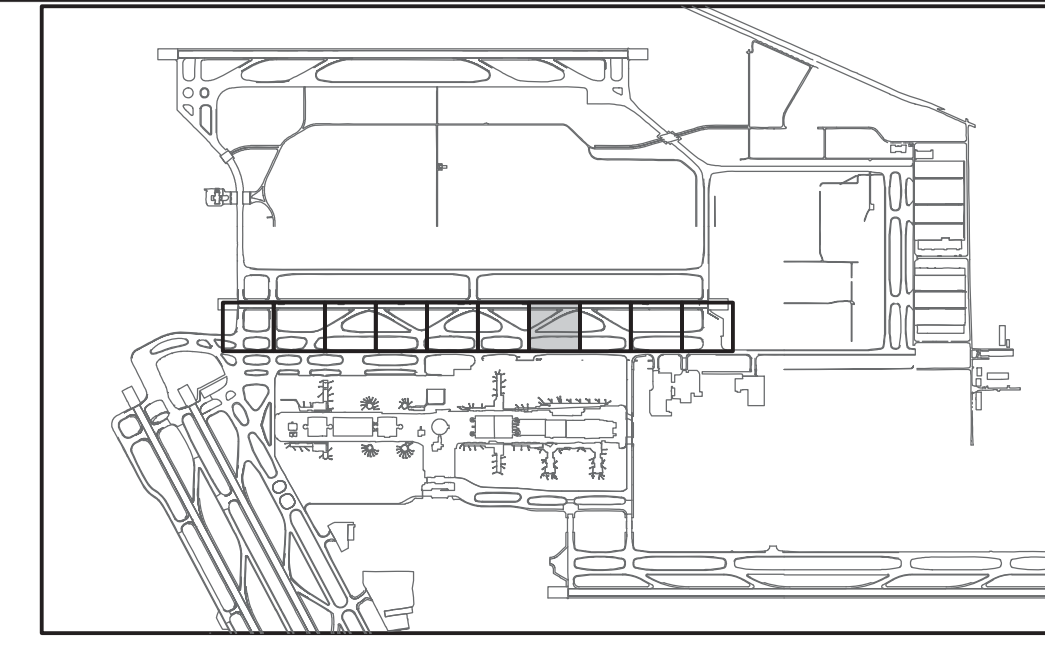
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DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=50'
DATE:	JULY 27, 2018

APPROVED BY: *Donai Pehmel* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	-

**D02.01**





REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**STORM SEWER DEMOLITION LAYOUT PLAN (SHEET 2 OF 5)**

ISSUED FOR BID	
PROJECT MGR:	JG
DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=50'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER

JULY 27, 2018

DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donna Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	D02.02

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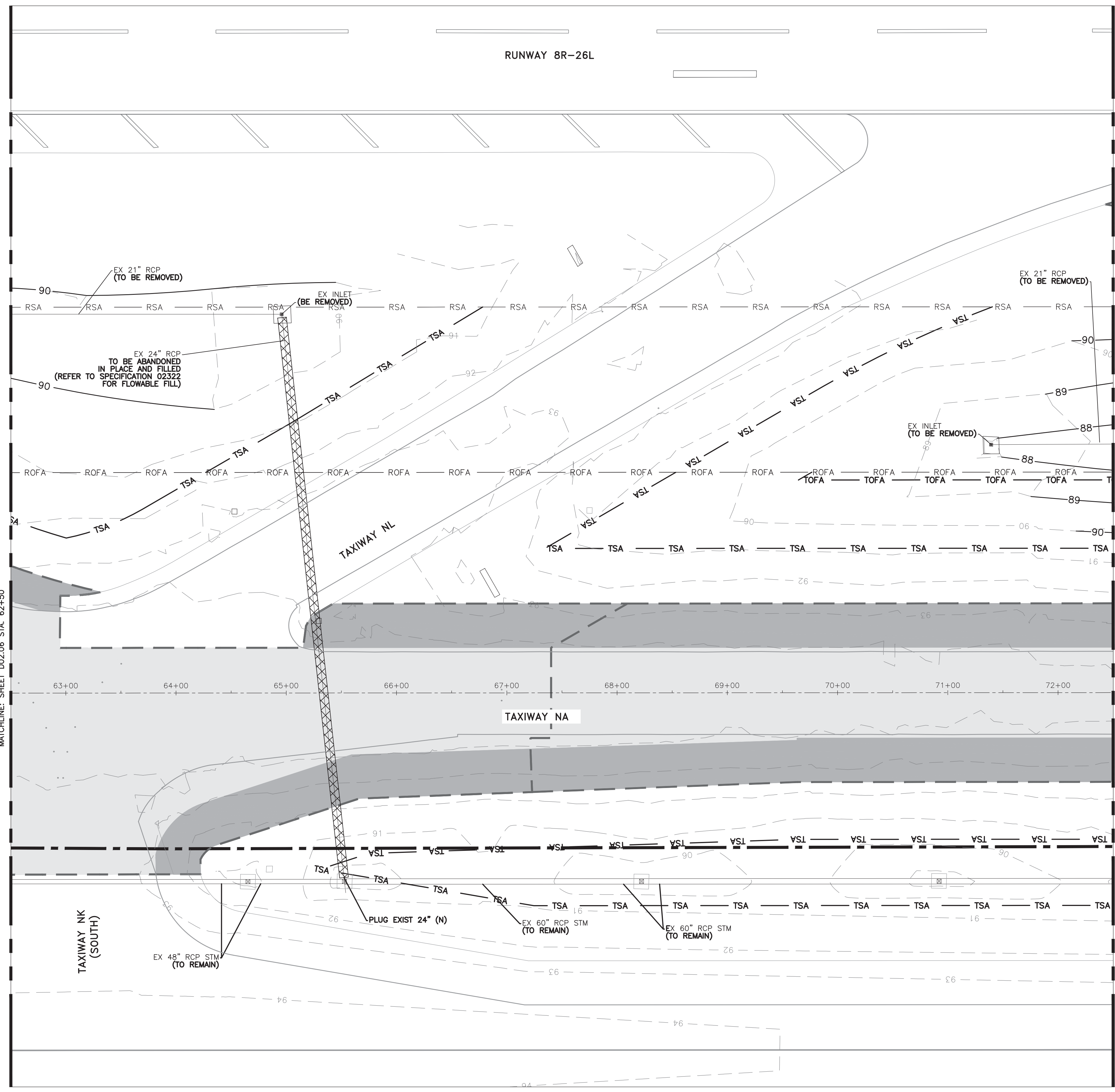
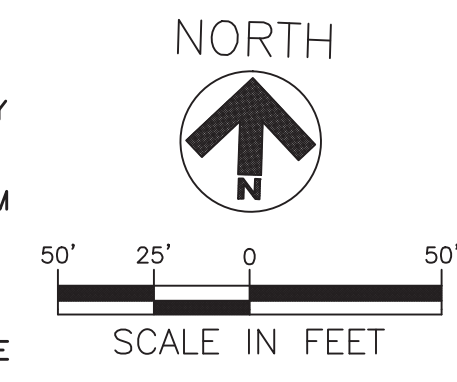
	EXIST 24" RCP TO BE ABANDONED AND FILLED		EXISTING INLET
	PROPOSED CONCRETE PAVEMENT		PROPOSED INLET
	PROPOSED ASPHALT SHOULDER		EXISTING STORM SEWER > 30"
	TSA PROPOSED TAXIWAY SAFETY AREA		EXISTING STORM SEWER < 30"
	TOFA PROPOSED TAXIWAY OBJECT FREE AREA		PROPOSED STORM SEWER > 30"
	RSA EXISTING RUNWAY SAFETY AREA		PROPOSED STORM SEWER < 30"
	ROFA EXISTING RUNWAY SAFETY AREA		90 PROPOSED MAJOR CONTOUR
	PHASE LIMITS		90 PROPOSED MINOR CONTOUR
	HAUL ROAD		90 EXISTING CONTOUR

**STORM SEWER GENERAL NOTES**

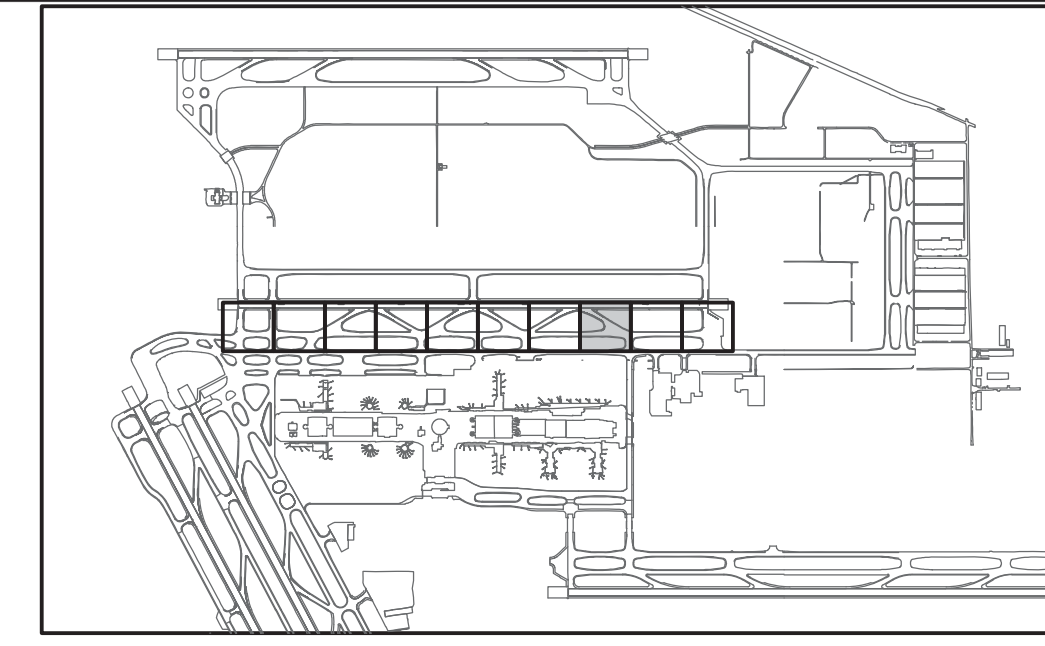
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REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM SEWER DEMOLITION LAYOUT PLAN**  
 (SHEET 3 OF 5)

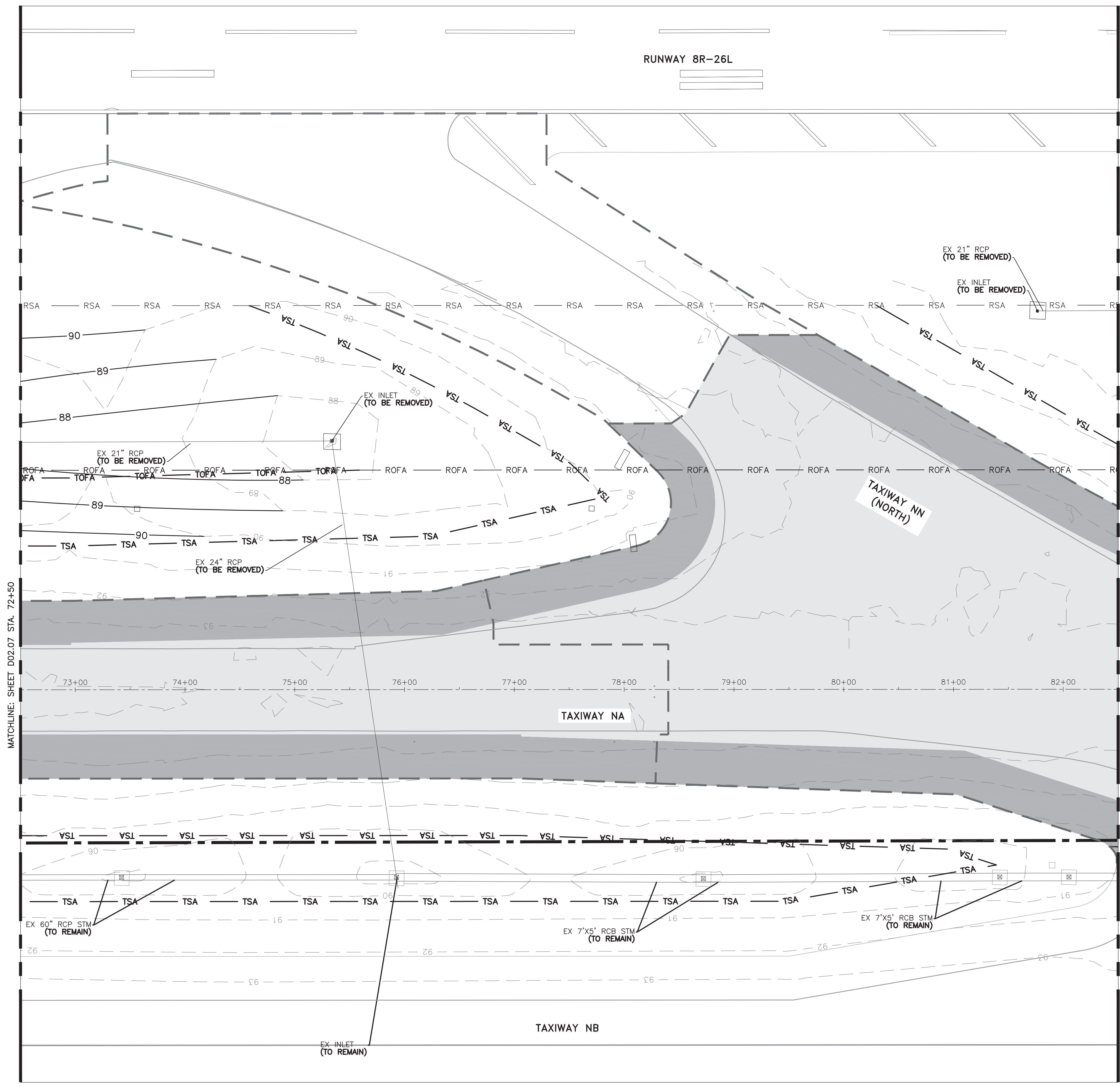
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PROJECT MGR:	JG
DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=50'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER

JULY 27, 2018

DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donai Pehmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	D02.03



**LEGEND:**

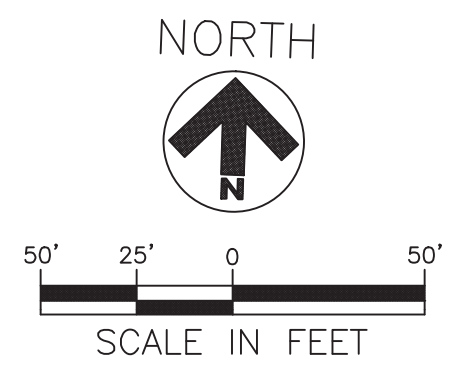
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|--|--|--|----------------------------|
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|  | PROPOSED ASPHALT SHOULDER                |  | EXISTING STORM SEWER > 30" |
|  | TSA PROPOSED TAXIWAY SAFETY AREA         |  | EXISTING STORM SEWER < 30" |
|  | TOFA PROPOSED TAXIWAY OBJECT FREE AREA   |  | PROPOSED STORM SEWER > 30" |
|  | RSA EXISTING RUNWAY SAFETY AREA          |  | PROPOSED STORM SEWER < 30" |
|  | ROFA EXISTING RUNWAY SAFETY AREA         |  | PROPOSED MAJOR CONTOUR     |
|  | PHASE LIMITS                             |  | PROPOSED MINOR CONTOUR     |
|  | HAUL ROAD                                |  | EXISTING CONTOUR           |

**STORM SEWER GENERAL NOTES**

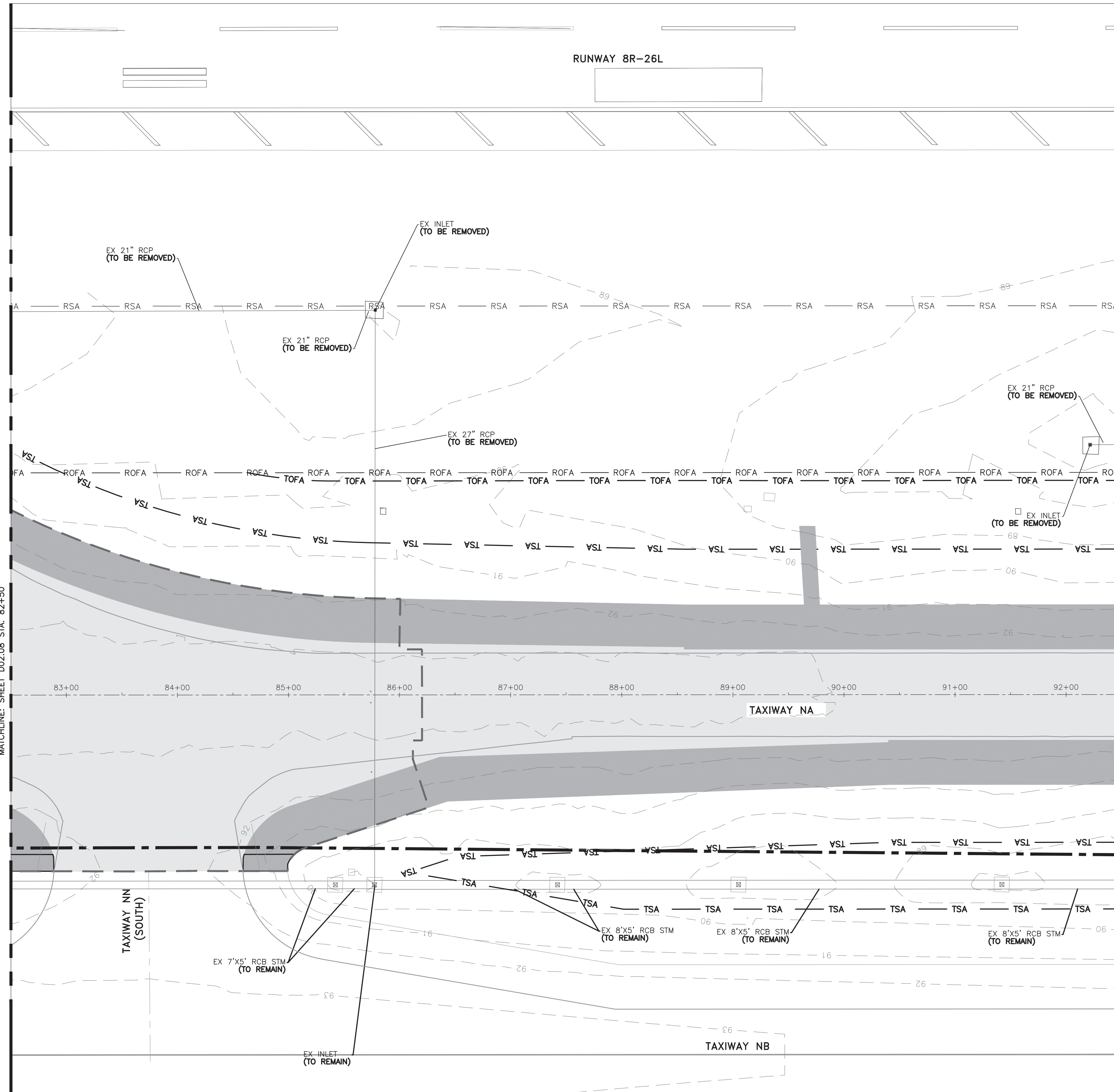
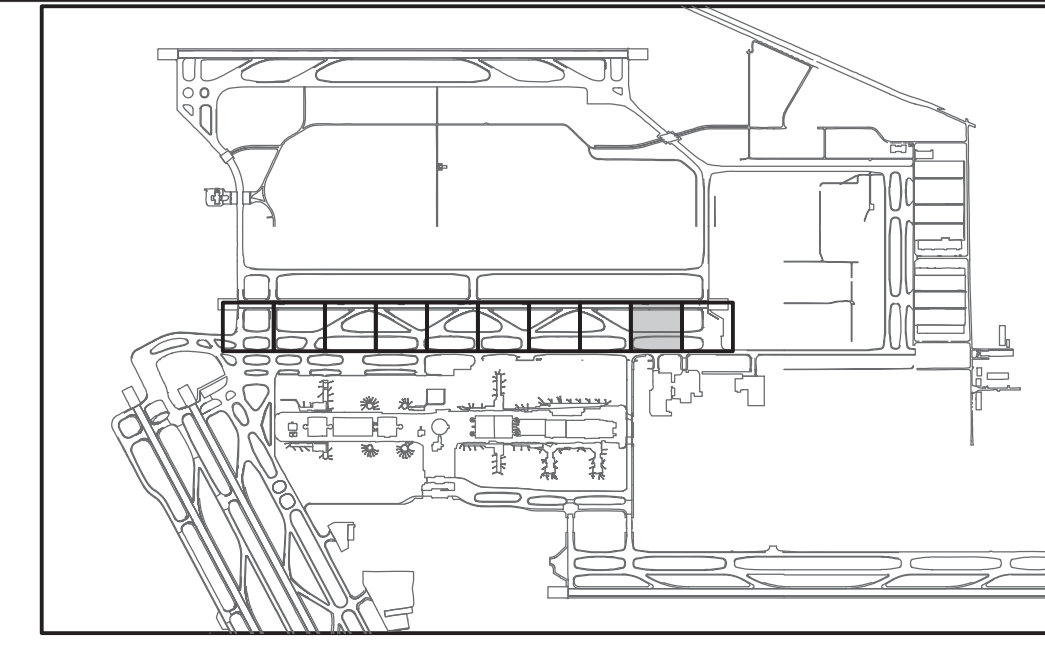
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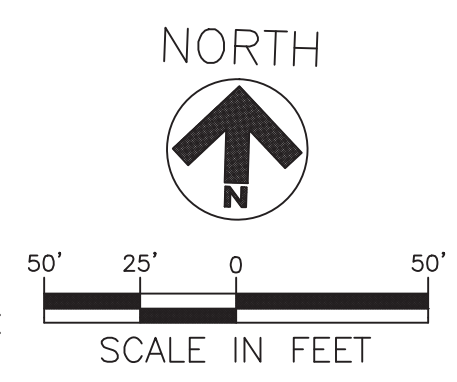
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|--|--|--|----------------------------|
|  | EXIST 24" RCP TO BE ABANDONED AND FILLED |  | EXISTING INLET             |
|  | PROPOSED CONCRETE PAVEMENT               |  | PROPOSED INLET             |
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|  | TSA                                      |  | EXISTING STORM SEWER < 30" |
|  | PROPOSED TAXIWAY SAFETY AREA             |  | PROPOSED STORM SEWER > 30" |
|  | TOFA                                     |  | PROPOSED STORM SEWER < 30" |
|  | ROFA                                     |  | 90                         |
|  | EXISTING RUNWAY SAFETY AREA              |  | PROPOSED MAJOR CONTOUR     |
|  | EXISTING RUNWAY SAFETY AREA              |  | PROPOSED MINOR CONTOUR     |
|  | PHASE LIMITS                             |  | 90                         |
|  | HAUL ROAD                                |  | EXISTING CONTOUR           |

**STORM SEWER GENERAL NOTES**

1. ALL EXISTING ELEVATIONS TO BE FIELD VERIFIED
2. ALL ELEVATIONS ARE AT NAVD 1988, 2001 ADJUSTMENT
3. REFER TO E01 THROUGH E09 SERIES FOR EXISTING AND PROPOSED ELECTRICAL LAYOUT
4. REFER TO E10 SERIES FOR ELECTRICAL DETAILS
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14. SEE DETAIL 'GRADING BETWEEN INLETS' SHEET D02.16 FOR GRADING BETWEEN INLETS

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3. HAVE FILLING OPERATION PERFORMED BY EXPERIENCED CREWS WITH EQUIPMENT TO MONITOR DENSITY OF FLOWABLE FILL AND TO CONTROL PRESSURE.
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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**STORM SEWER DEMOLITION LAYOUT PLAN**  
**(SHEET 4 OF 5)**

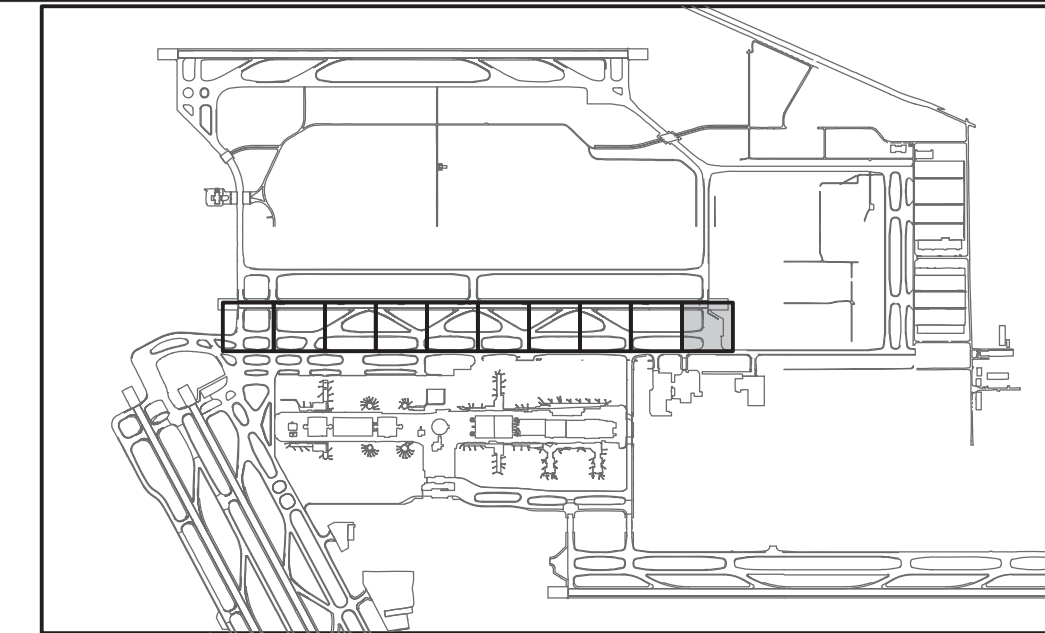
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PROJECT MGR:	JG
DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=50'
DATE:	JULY 27, 2018

APPROVED BY: *Donal Pehmel* DATE: \_\_\_\_\_  
 HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	D02.04





REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**STORM SEWER DEMOLITION LAYOUT PLAN (SHEET 5 OF 5)**

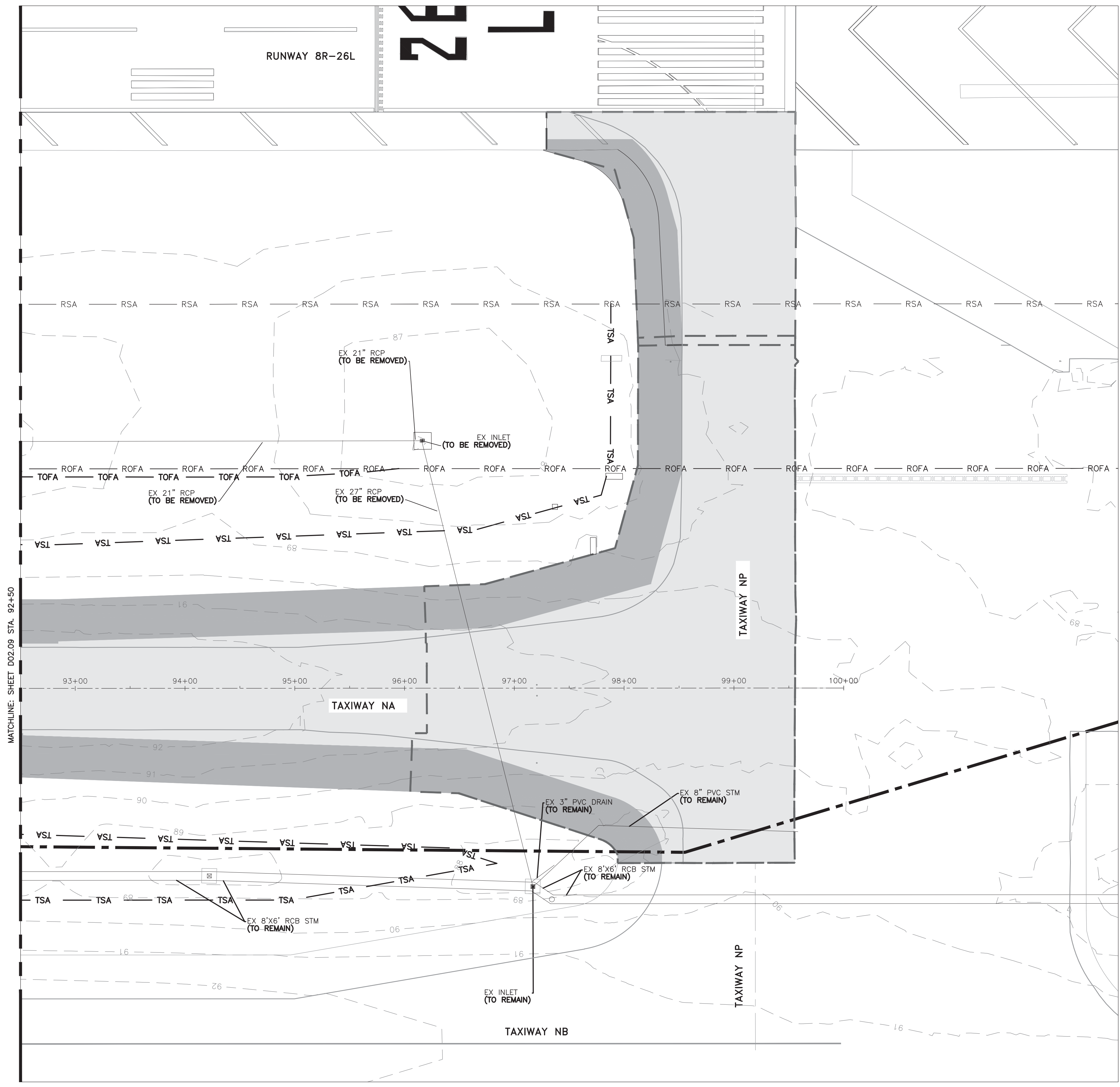
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STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER

JULY 27, 2018

DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donna Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	D02.05



**LEGEND:**

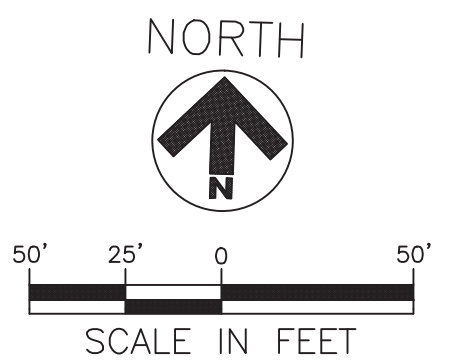
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**STORM SEWER GENERAL NOTES**

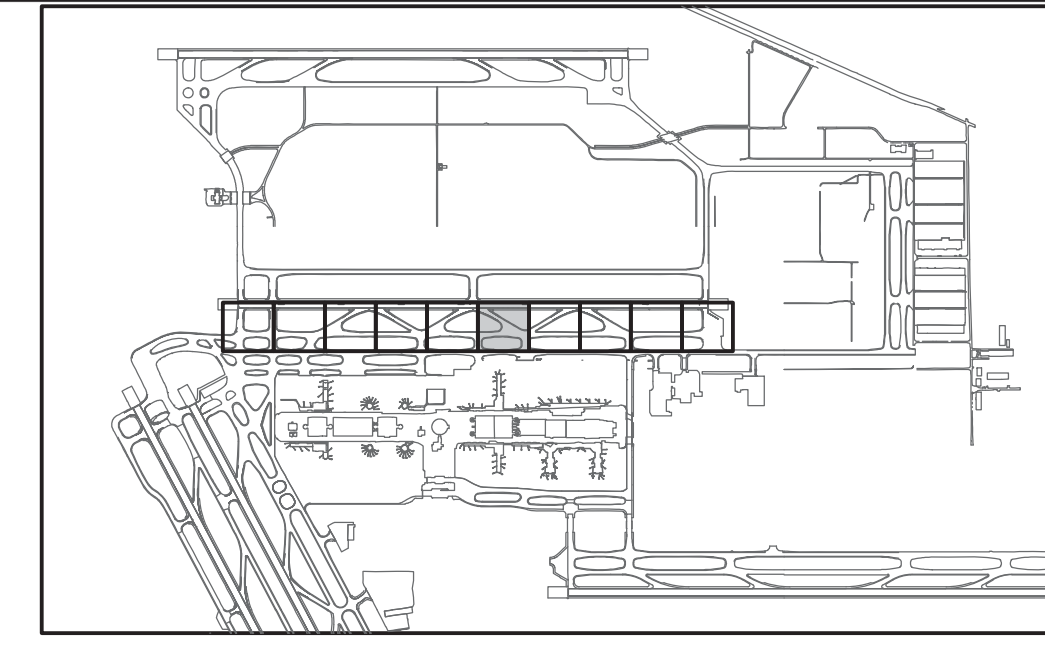
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- TEMPORARILY PLUG STORM SEWER LINES WHICH ARE TO REMAIN IN OPERATION DURING POURING/PUMPING TO KEEP LINES FREE OF FLOWABLE FILL.
- PUMP FLOWABLE FILL THROUGH BULKHEADS CONSTRUCTED FOR PLACEMENT OF TWO 2-INCH PVC PIPES OR USE OTHER SUITABLE CONSTRUCTION METHODS TO CONTAIN FLOWABLE FILL IN LINES TO BE ABANDONED. THESE PIPES WILL ACT AS INJECTION POINTS OR VENTS FOR PLACEMENT OF FLOWABLE FILL.
- PLACE FLOWABLE FILL UNDER PRESSURE FLOW CONDITIONS INTO PROPERLY VENTED OPEN SYSTEM UNTIL FLOWABLE FILL EMERGES FROM VENT PIPES. PUMP FLOWABLE FILL WITH SUFFICIENT PRESSURE TO OVERCOME FRICTION AND TO FILL SEWER FROM DOWNSTREAM END, TO DISCHARGE AT UPSTREAM END.
- REMEDiate PLACEMENT OF FLOWABLE FILL WHICH DOES NOT FILL VOIDS IN SEWER, IN MANHOLE OR OTHER STRUCTURES, OR WHERE VOIDS DEVELOP DUE TO EXCESSIVE SHRINKAGE OR BLEEDING OF FILL, BY USING PRESSURE GROUTING EITHER FROM INSIDE SEWER OR FROM SURFACE.







REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**PROPOSED STORM SEWER LAYOUT PLAN (SHEET 1 OF 5)**

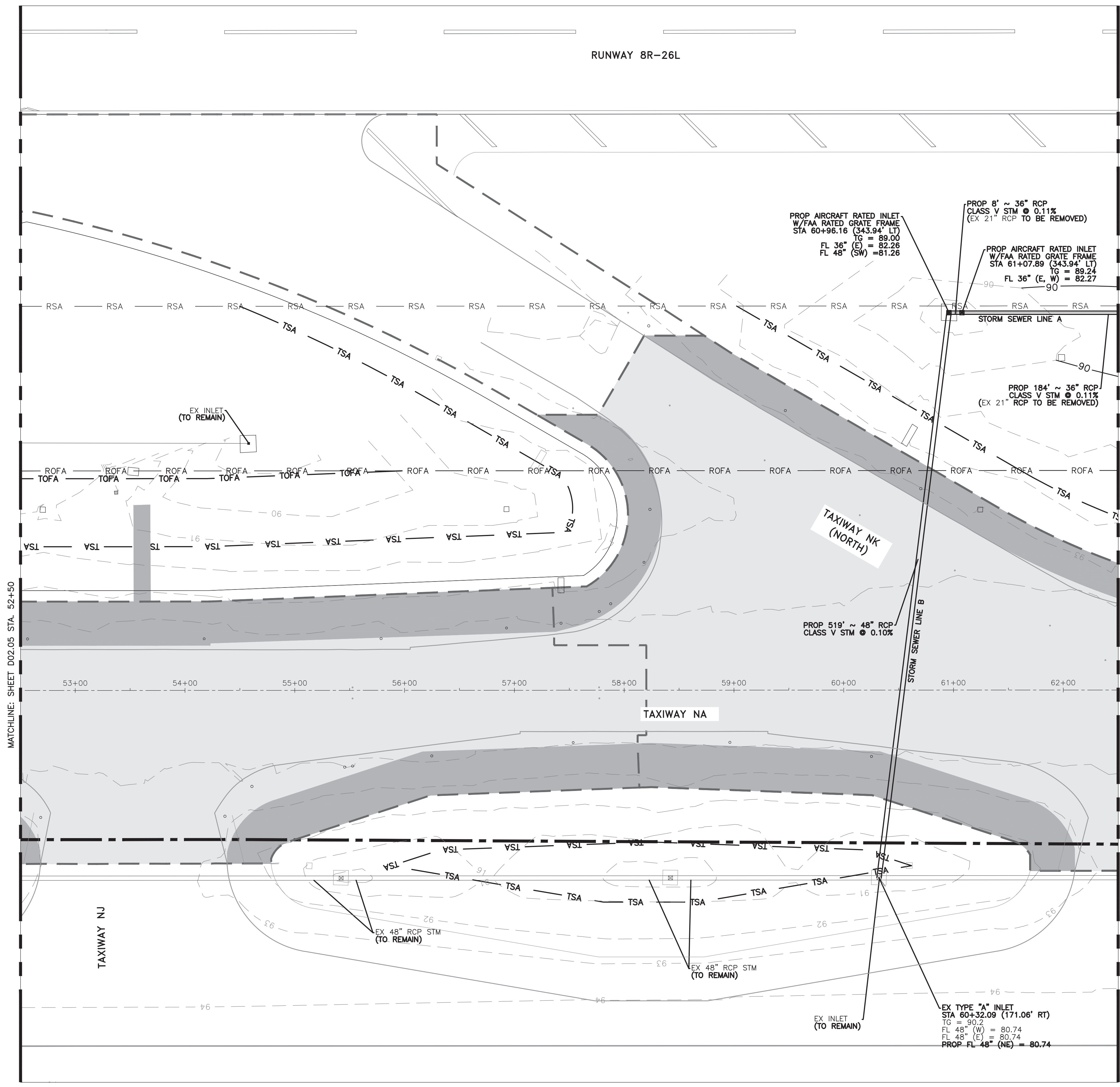
ISSUED FOR BID	
PROJECT MGR:	JG
DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=50'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER

APPROVED BY: *Donal Pehmel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	-

**D02.06**



**LEGEND:**

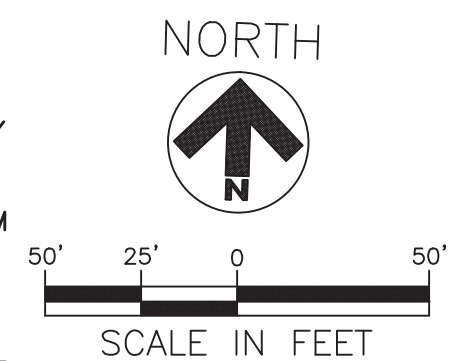
	EXIST 24" RCP TO BE ABANDONED AND FILLED		EXISTING INLET
	PROPOSED CONCRETE PAVEMENT		PROPOSED INLET
	PROPOSED ASPHALT SHOULDER		EXISTING STORM SEWER > 30"
	TSA PROPOSED TAXIWAY SAFETY AREA		EXISTING STORM SEWER < 30"
	TOFA PROPOSED TAXIWAY OBJECT FREE AREA		PROPOSED STORM SEWER > 30"
	RSA EXISTING RUNWAY SAFETY AREA		PROPOSED STORM SEWER < 30"
	ROFA EXISTING RUNWAY SAFETY AREA		90 PROPOSED MAJOR CONTOUR
	PHASE LIMITS		90 PROPOSED MINOR CONTOUR
	HAUL ROAD		90 EXISTING CONTOUR

**STORM SEWER GENERAL NOTES**

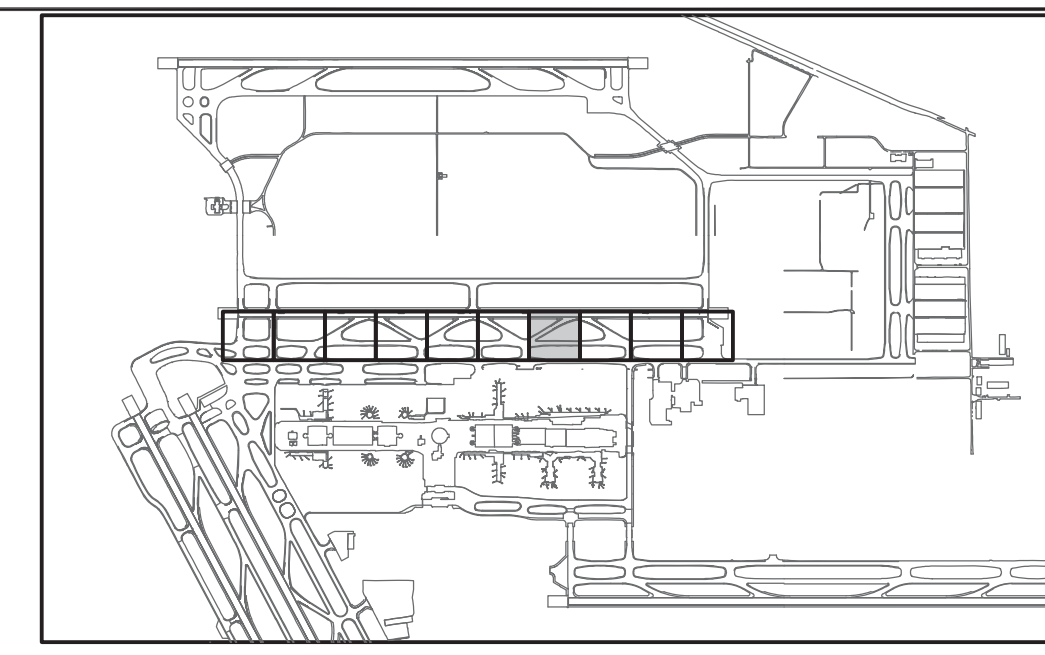
- ALL EXISTING ELEVATIONS TO BE FIELD VERIFIED
- ALL ELEVATIONS ARE AT NAVD 1988, 2001 ADJUSTMENT
- REFER TO E01 THROUGH E09 SERIES FOR EXISTING AND PROPOSED ELECTRICAL LAYOUT
- REFER TO E10 SERIES FOR ELECTRICAL DETAILS
- REFER TO C02 & C03 SERIES FOR PROPOSED GEOMETRY, TAXIWAY, PROFILE AND PAVEMENT DETAILS
- REFER TO C04 SERIES FOR GRADING PLAN
- REFER TO D02.16 FOR STORM SEWER DETAILS
- CONTRACTOR SHALL CONNECT ALL THE DRAINAGE TO NEW STORM SEWER SYSTEM. REFER TO STORM SEWER DRAWINGS D02.06-D02.15 AND STORM SEWER DETAILS D02.16
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE EXCAVATING AND/OR BORE AND JACKING, AND SHALL PROVIDE ADEQUATE SUPPORT TO THE EXISTING ELECTRICAL STRUCTURES
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION
- CONTRACTOR TO RE-ESTABLISH EXISTING GRADES WHERE PROPOSED GRADES ARE NOT INDICATED
- TRENCH SAFETY - CONTRACTOR TO PROVIDE TRENCH SAFETY SYSTEM IN ACCORDANCE TO SPECIFICATION 01561 TRENCH SAFETY SYSTEM
- CONTRACTOR SHALL USE AIRCRAFT RATED OLDCASTLE PRECAST INLETS (DETAIL SHEET D02.16) AND AIRCRAFT RATED EJ GROUP GRATE, MODEL NUMBER V5668 ASSEMBLY (DETAIL SHEET D02.16)
- SEE DETAIL 'GRADING BETWEEN INLETS' SHEET D02.16 FOR GRADING BETWEEN INLETS

**STORM ABANDONMENT NOTES**

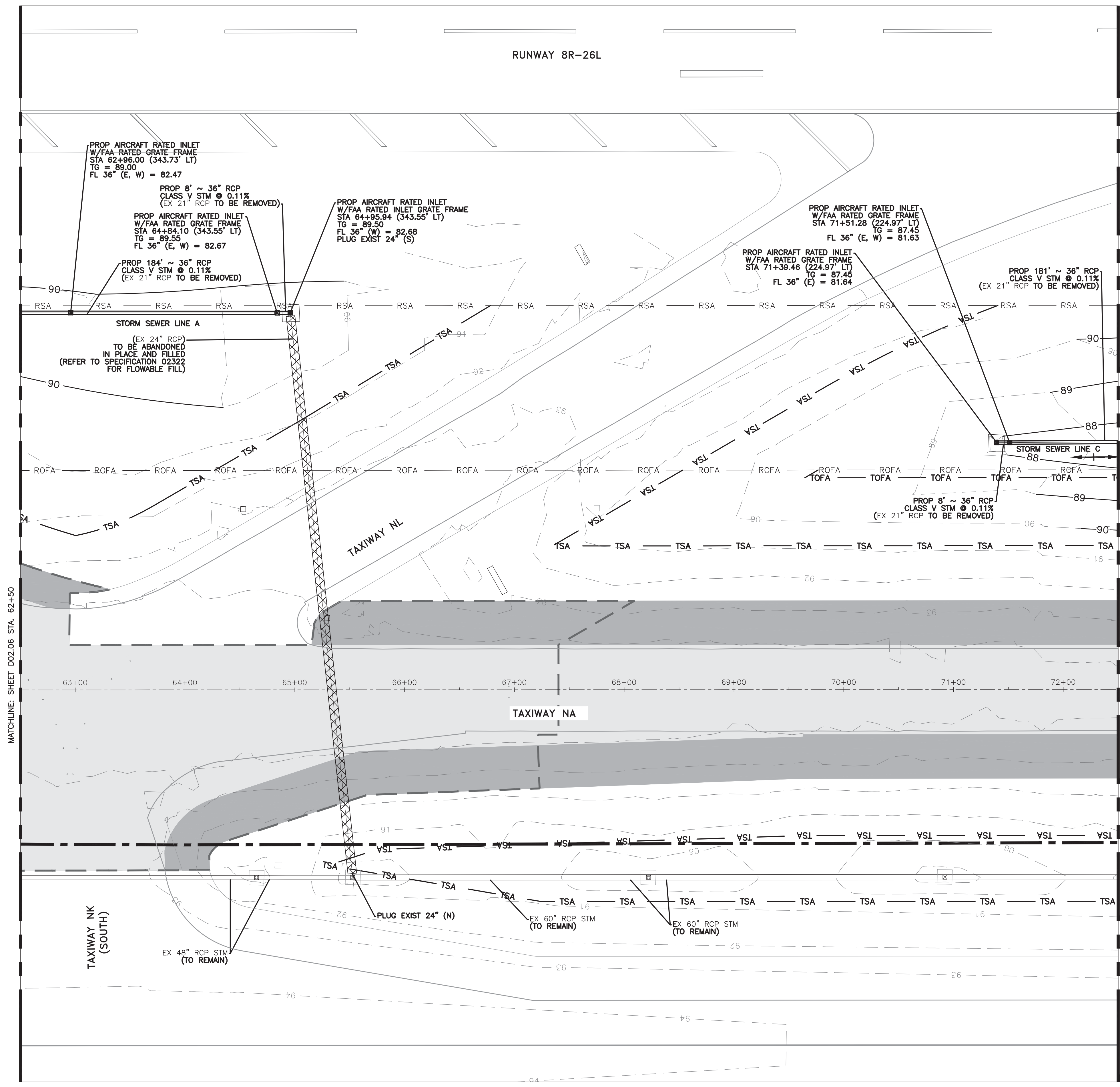
- ABANDON STORM SEWER LINES BY COMPLETELY FILLING STORM SEWER LINE WITH FLOWABLE FILL. (SEE SPECIFICATIONS 02221-REMOVING EXISTING PAVEMENTS AND STRUCTURES, 02222-ABANDONMENT OF SEWERS AND 02322-FLOWABLE FILL.
- PLACE FLOWABLE FILL TO FILL VOLUME BETWEEN MANHOLES. CONTINUOUSLY PLACE FLOWABLE FILL FROM MANHOLE TO MANHOLE WITH NO INTERMEDIATE POUR POINTS, BUT NOT EXCEEDING 500 FEET IN LENGTH.
- HAVE FILLING OPERATION PERFORMED BY EXPERIENCED CREWS WITH EQUIPMENT TO MONITOR DENSITY OF FLOWABLE FILL AND TO CONTROL PRESSURE.
- TEMPORARILY PLUG STORM SEWER LINES WHICH ARE TO REMAIN IN OPERATION DURING POURING/PUMPING TO KEEP LINES FREE OF FLOWABLE FILL.
- PUMP FLOWABLE FILL THROUGH BULKHEADS CONSTRUCTED FOR PLACEMENT OF TWO 2-INCH PVC PIPES OR USE OTHER SUITABLE CONSTRUCTION METHODS TO CONTAIN FLOWABLE FILL IN LINES TO BE ABANDONED. THESE PIPES WILL ACT AS INJECTION POINTS OR VENTS FOR PLACEMENT OF FLOWABLE FILL.
- PLACE FLOWABLE FILL UNDER PRESSURE FLOW CONDITIONS INTO PROPERLY VENTED OPEN SYSTEM UNTIL FLOWABLE FILL EMERGES FROM VENT PIPES. PUMP FLOWABLE FILL WITH SUFFICIENT PRESSURE TO OVERCOME FRICTION AND TO FILL SEWER FROM DOWNSTREAM END, TO DISCHARGE AT UPSTREAM END.
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RUNWAY 8R-26L



**LEGEND:**

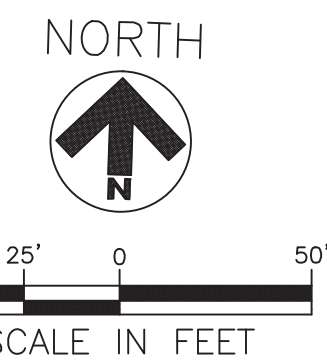
- EXIST 24" RCP TO BE ABANDONED AND FILLED
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT SHOULDER
- PROPOSED TAXIWAY SAFETY AREA
- TOFA
- RSA
- ROFA
- PHASE LIMITS
- HAUL ROAD
- EXISTING INLET
- PROPOSED INLET
- EXISTING STORM SEWER > 30"
- EXISTING STORM SEWER < 30"
- PROPOSED STORM SEWER > 30"
- PROPOSED STORM SEWER < 30"
- EXISTING RUNWAY SAFETY AREA
- 90
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING CONTOUR

**STORM SEWER GENERAL NOTES**

1. ALL EXISTING ELEVATIONS TO BE FIELD VERIFIED
2. ALL ELEVATIONS ARE AT NAVD 1988, 2001 ADJUSTMENT
3. REFER TO E01 THROUGH E09 SERIES FOR EXISTING AND PROPOSED ELECTRICAL LAYOUT
4. REFER TO E10 SERIES FOR ELECTRICAL DETAILS
5. REFER TO C02 & C03 SERIES FOR PROPOSED GEOMETRY, TAXIWAY, PROFILE AND PAVEMENT DETAILS
6. REFER TO C04 SERIES FOR GRADING PLAN
7. REFER TO D02.16 FOR STORM SEWER DETAILS
8. CONTRACTOR SHALL CONNECT ALL THE DRAINAGE TO NEW STORM SEWER SYSTEM. "REFER TO STORM SEWER DRAWINGS D02.06-D02.15 AND STORM SEWER DETAILS D02.16
9. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE EXCAVATING AND/OR BORE AND JACKING, AND SHALL PROVIDE ADEQUATE SUPPORT TO THE EXISTING ELECTRICAL STRUCTURES
10. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION
11. CONTRACTOR TO RE-ESTABLISH EXISTING GRADES WHERE PROPOSED GRADES ARE NOT INDICATED
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13. CONTRACTOR SHALL USE AIRCRAFT RATED OLDCASTLE PRECAST INLETS (DETAIL SHEET D02.16) AND AIRCRAFT RATED EJ GROUP GRATE, MODEL NUMBER V5668 ASSEMBLY (DETAIL SHEET D02.16)
14. SEE DETAIL 'GRADING BETWEEN INLETS' SHEET D02.16 FOR GRADING BETWEEN INLETS

**STORM ABANDONMENT NOTES**

1. ABANDON STORM SEWER LINES BY COMPLETELY FILLING STORM SEWER LINE WITH FLOWABLE FILL. (SEE SPECIFICATIONS 02221-REMOVING EXISTING PAVEMENTS AND STRUCTURES, 02222-ABANDONMENT OF SEWERS AND 02322-FLOWABLE FILL.
2. PLACE FLOWABLE FILL TO FILL VOLUME BETWEEN MANHOLES. CONTINUOUSLY PLACE FLOWABLE FILL FROM MANHOLE TO MANHOLE WITH NO INTERMEDIATE POUR POINTS, BUT NOT EXCEEDING 500 FEET IN LENGTH.
3. HAVE FILLING OPERATION PERFORMED BY EXPERIENCED CREWS WITH EQUIPMENT TO MONITOR DENSITY OF FLOWABLE FILL AND TO CONTROL PRESSURE.
4. TEMPORARILY PLUG STORM SEWER LINES WHICH ARE TO REMAIN IN OPERATION DURING POURING/PUMPING TO KEEP LINES FREE OF FLOWABLE FILL.
5. PUMP FLOWABLE FILL THROUGH BULKHEADS CONSTRUCTED FOR PLACEMENT OF TWO 2-INCH PVC PIPES OR USE OTHER SUITABLE CONSTRUCTION METHODS TO CONTAIN FLOWABLE FILL IN LINES TO BE ABANDONED. THESE PIPES WILL ACT AS INJECTION POINTS OR VENTS FOR PLACEMENT OF FLOWABLE FILL.
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7. REMEDIATE PLACEMENT OF FLOWABLE FILL WHICH DOES NOT FILL VOIDS IN SEWER, IN MANHOLE OR OTHER STRUCTURES, OR WHERE VOIDS DEVELOP DUE TO EXCESSIVE SHRINKAGE OR BLEEDING OF FILL, BY USING PRESSURE GROUTING EITHER FROM INSIDE SEWER OR FROM SURFACE.



REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED STORM SEWER LAYOUT PLAN**  
 (SHEET 2 OF 5)

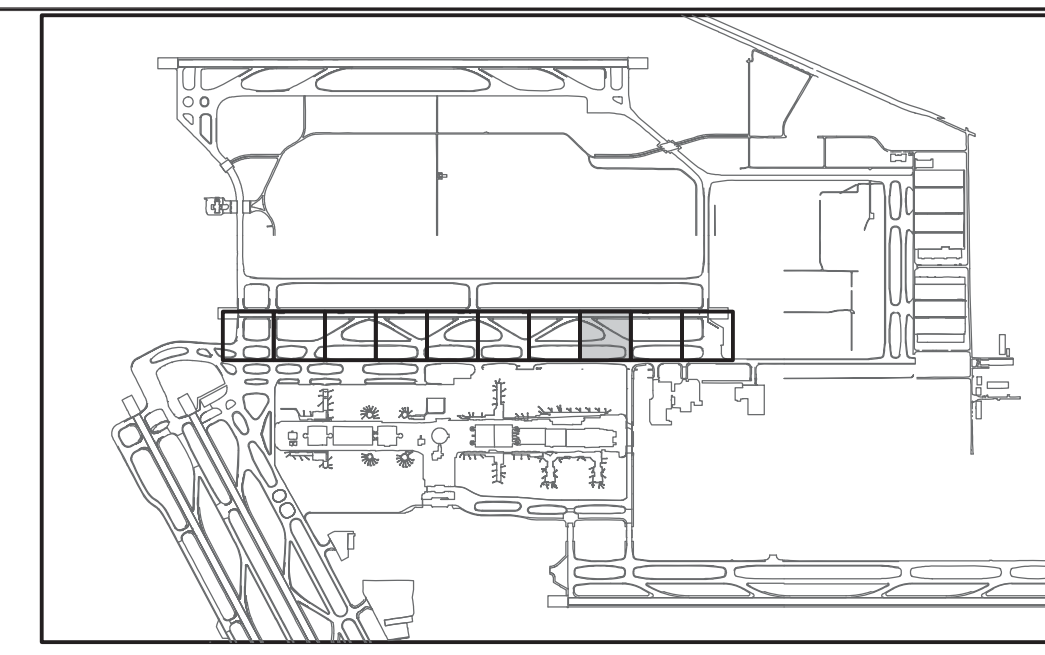
ISSUED FOR BID

PROJECT MGR:	JG
DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=50'
DATE:	JULY 27, 2018

APPROVED BY: *John Samuel Grounds, III* DATE: JULY 27, 2018  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	D02.07





REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED STORM SEWER LAYOUT PLAN (SHEET 3 OF 5)**

ISSUED FOR BID

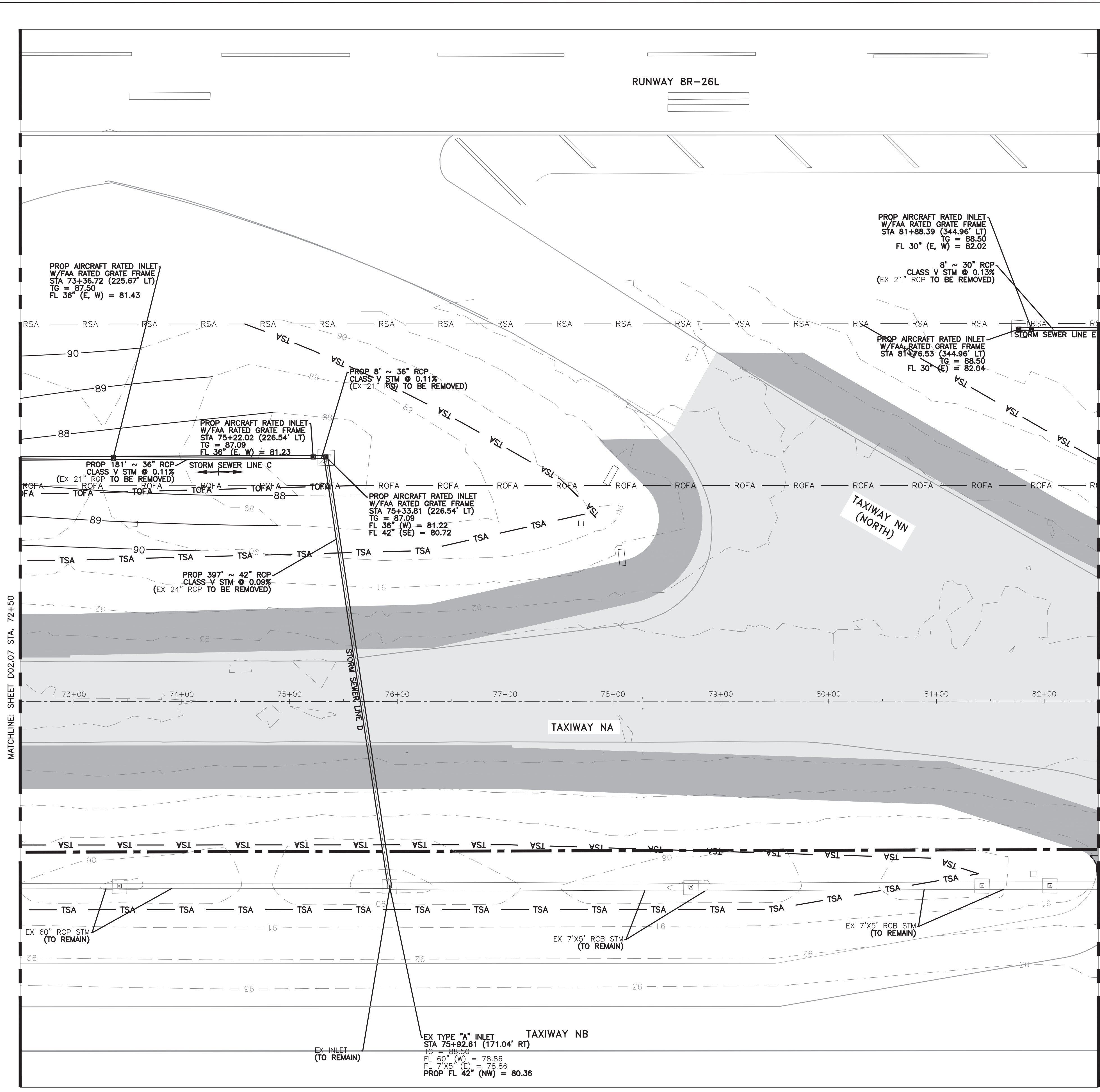
PROJECT MGR:	JG
DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=50'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER

JULY 27, 2018

DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donai Pehmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	D02.08



**LEGEND:**

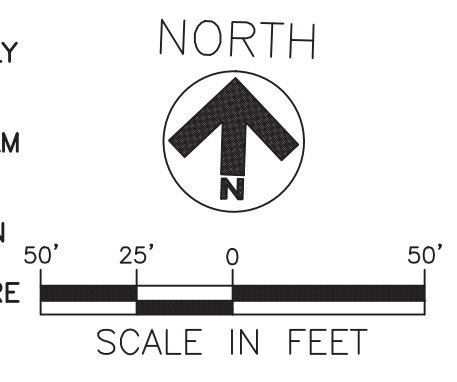
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|--|--|--|----------------------------|
|  | EXIST 24" RCP TO BE ABANDONED AND FILLED |  | EXISTING INLET             |
|  | PROPOSED CONCRETE PAVEMENT               |  | PROPOSED INLET             |
|  | PROPOSED ASPHALT SHOULDER                |  | EXISTING STORM SEWER > 30" |
|  | TSA - PROPOSED TAXIWAY SAFETY AREA       |  | EXISTING STORM SEWER < 30" |
|  | TOFA - PROPOSED TAXIWAY OBJECT FREE AREA |  | PROPOSED STORM SEWER > 30" |
|  | RSA - EXISTING RUNWAY SAFETY AREA        |  | PROPOSED STORM SEWER < 30" |
|  | ROFA - EXISTING RUNWAY SAFETY AREA       |  | PROPOSED MAJOR CONTOUR     |
|  | PHASE LIMITS                             |  | PROPOSED MINOR CONTOUR     |
|  | HAUL ROAD                                |  | EXISTING CONTOUR           |

**STORM SEWER GENERAL NOTES**

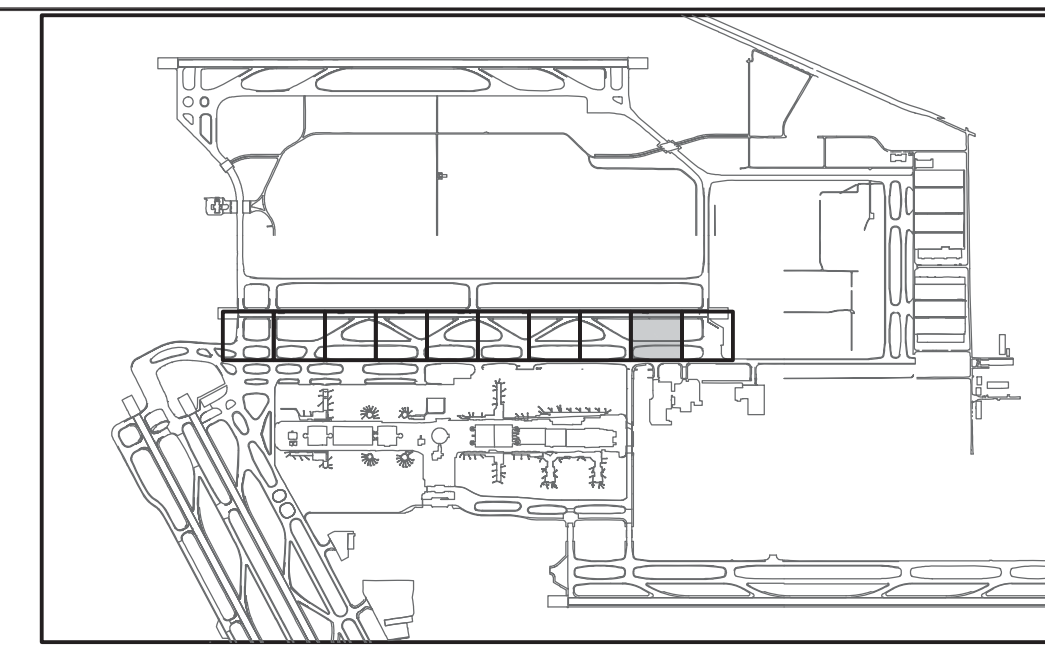
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- REFER TO E01 THROUGH E09 SERIES FOR EXISTING AND PROPOSED ELECTRICAL LAYOUT
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- SEE DETAIL 'GRADING BETWEEN INLETS' SHEET D02.16 FOR GRADING BETWEEN INLETS

**STORM ABANDONMENT NOTES**

- ABANDON STORM SEWER LINES BY COMPLETELY FILLING STORM SEWER LINE WITH FLOWABLE FILL. (SEE SPECIFICATIONS 02221-REMOVING EXISTING PAVEMENTS AND STRUCTURES, 02222-ABANDONMENT OF SEWERS AND 02322-FLOWABLE FILL.
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REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED STORM SEWER LAYOUT PLAN  
 (SHEET 4 OF 5)**

ISSUED FOR BID	
PROJECT MGR:	JG
DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=50'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER  
 JULY 27, 2018  
 DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donal Pehmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**D02.09**

**LEGEND:**

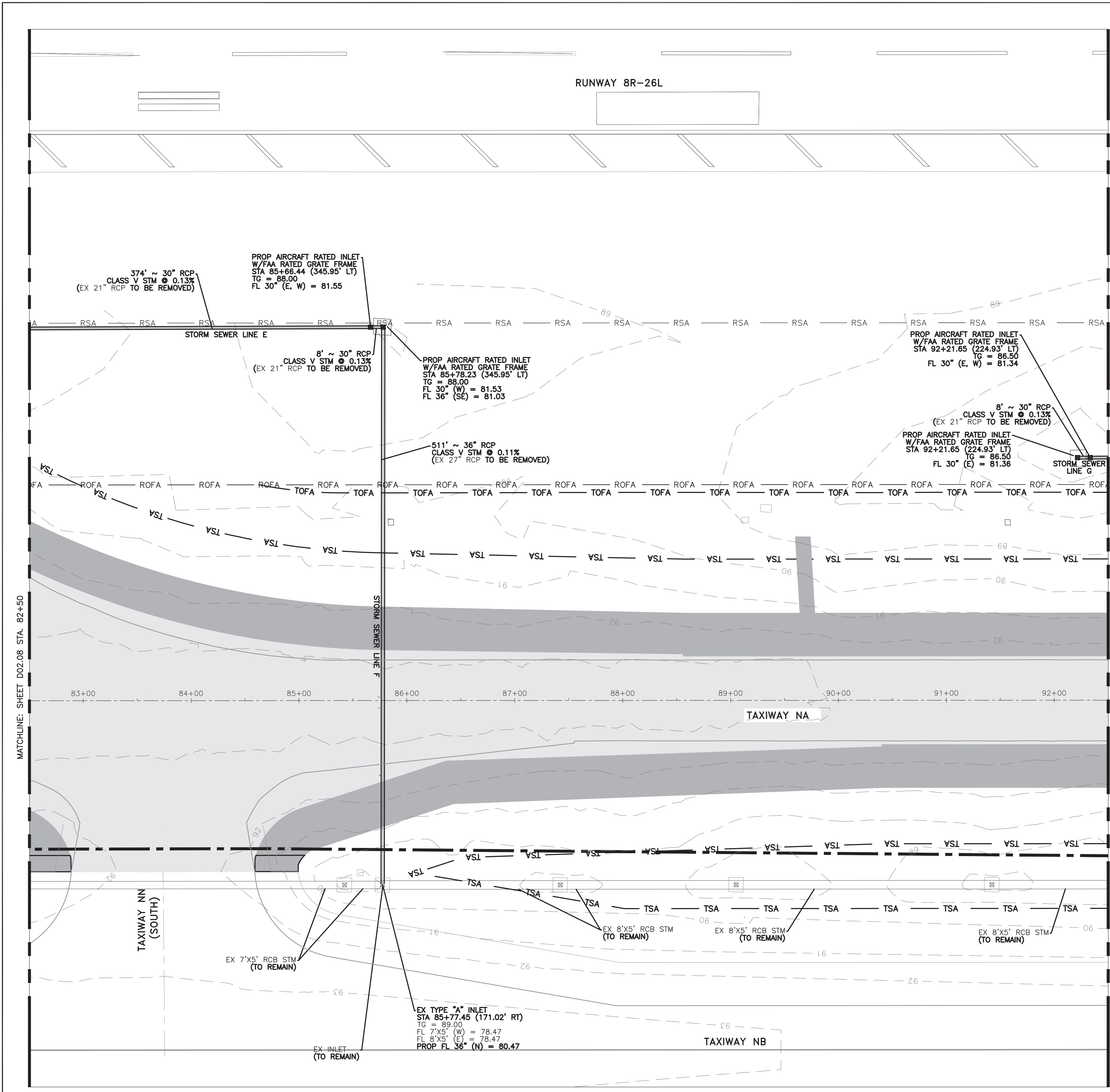
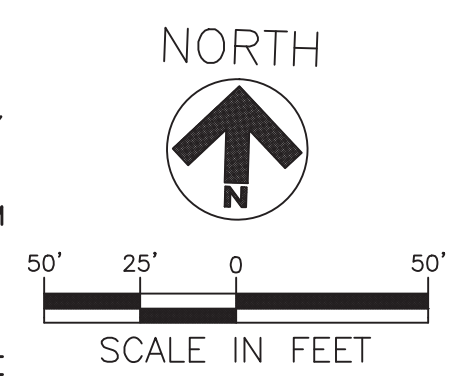
- |  |  |  |                            |
|--|--|--|----------------------------|
|  | EXIST 24" RCP TO BE ABANDONED AND FILLED |  | EXISTING INLET             |
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|  | PROPOSED ASPHALT SHOULDER                |  | EXISTING STORM SEWER > 30" |
|  | PROPOSED TAXIWAY SAFETY AREA             |  | EXISTING STORM SEWER < 30" |
|  | TOFA                                     |  | PROPOSED STORM SEWER > 30" |
|  | RSA                                      |  | PROPOSED STORM SEWER < 30" |
|  | ROFA                                     |  | PROPOSED MAJOR CONTOUR     |
|  | PHASE LIMITS                             |  | PROPOSED MINOR CONTOUR     |
|  | HAUL ROAD                                |  | EXISTING CONTOUR           |

**STORM SEWER GENERAL NOTES**

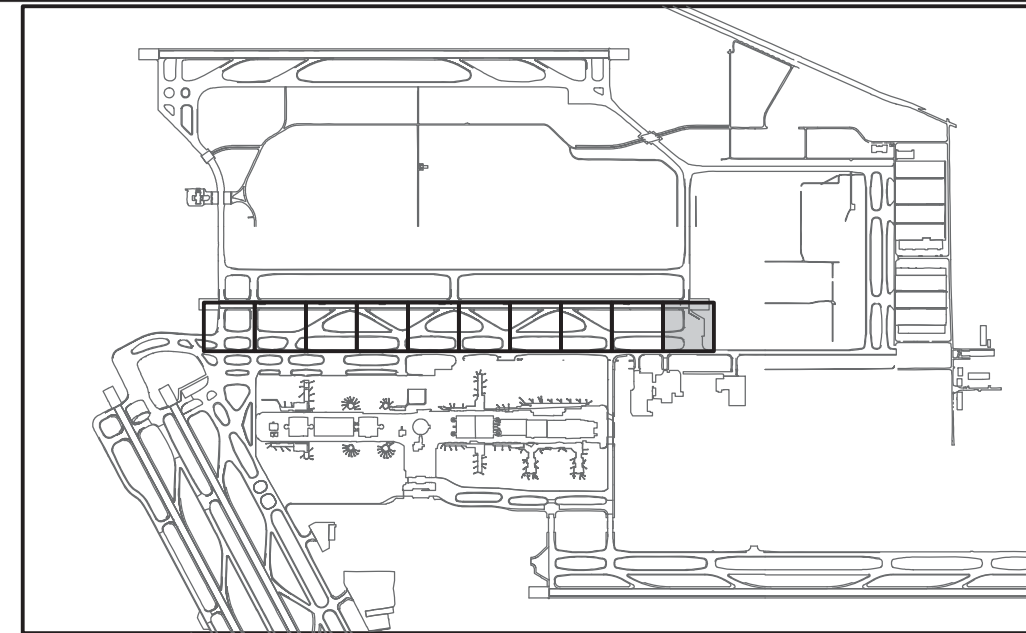
- ALL EXISTING ELEVATIONS TO BE FIELD VERIFIED
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- SEE DETAIL 'GRADING BETWEEN INLETS' SHEET D02.16 FOR GRADING BETWEEN INLETS

**STORM ABANDONMENT NOTES**

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REVISIONS			
NO.	DESCRIPTION	DATE	BY

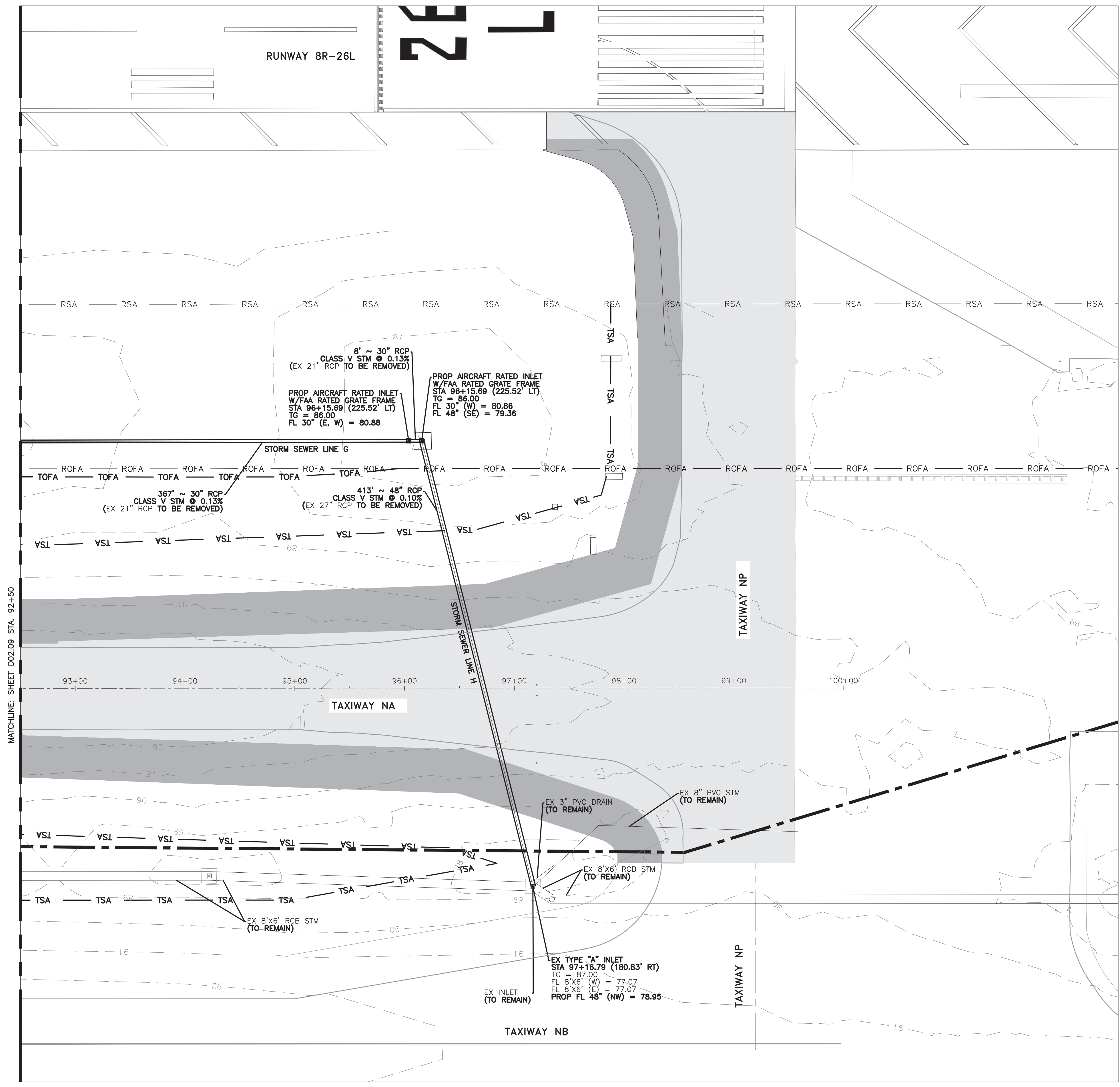
REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED STORM SEWER LAYOUT PLAN**  
 (SHEET 5 OF 5)

ISSUED FOR BID
PROJECT MGR: JG
DESIGNER: JS
DRAWN BY: JS
CHECKED BY: TS
SCALE: 1"=50'
DATE: JULY 27, 2018

STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER  
 JULY 27, 2018  
 DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donal Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	-

D02.10



**LEGEND:**

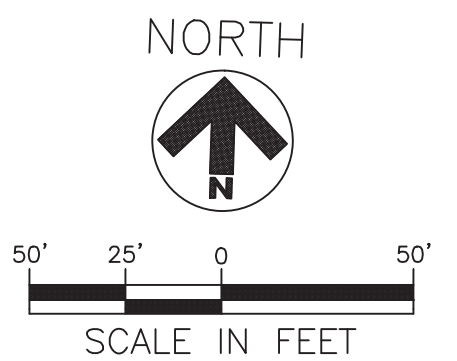
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- 90 --- EXISTING CONTOUR

**STORM SEWER GENERAL NOTES**

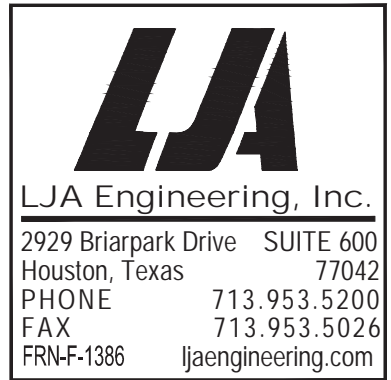
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- REFER TO E10 SERIES FOR ELECTRICAL DETAILS
- REFER TO C02 & C03 SERIES FOR PROPOSED GEOMETRY, TAXIWAY, PROFILE AND PAVEMENT DETAILS
- REFER TO C04 SERIES FOR GRADING PLAN
- REFER TO D02.16 FOR STORM SEWER DETAILS
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- SEE DETAIL 'GRADING BETWEEN INLETS' SHEET D02.16 FOR GRADING BETWEEN INLETS

**STORM ABANDONMENT NOTES**

- ABANDON STORM SEWER LINES BY COMPLETELY FILLING STORM SEWER LINE WITH FLOWABLE FILL. (SEE SPECIFICATIONS 02221-REMOVING EXISTING PAVEMENTS AND STRUCTURES, 02222-ABANDONMENT OF SEWERS AND 02322-FLOWABLE FILL.
- PLACE FLOWABLE FILL TO FILL VOLUME BETWEEN MANHOLES. CONTINUOUSLY PLACE FLOWABLE FILL FROM MANHOLE TO MANHOLE WITH NO INTERMEDIATE POUR POINTS, BUT NOT EXCEEDING 500 FEET IN LENGTH.
- HAVE FILLING OPERATION PERFORMED BY EXPERIENCED CREWS WITH EQUIPMENT TO MONITOR DENSITY OF FLOWABLE FILL AND TO CONTROL PRESSURE.
- TEMPORARILY PLUG STORM SEWER LINES WHICH ARE TO REMAIN IN OPERATION DURING POURING/PUMPING TO KEEP LINES FREE OF FLOWABLE FILL.
- PUMP FLOWABLE FILL THROUGH BULKHEADS CONSTRUCTED FOR PLACEMENT OF TWO 2-INCH PVC PIPES OR USE OTHER SUITABLE CONSTRUCTION METHODS TO CONTAIN FLOWABLE FILL IN LINES TO BE ABANDONED. THESE PIPES WILL ACT AS INJECTION POINTS OR VENTS FOR PLACEMENT OF FLOWABLE FILL.
- PLACE FLOWABLE FILL UNDER PRESSURE FLOW CONDITIONS INTO PROPERLY VENTED OPEN SYSTEM UNTIL FLOWABLE FILL EMERGES FROM VENT PIPES. PUMP FLOWABLE FILL WITH SUFFICIENT PRESSURE TO OVERCOME FRICTION AND TO FILL SEWER FROM DOWNSTREAM END, TO DISCHARGE AT UPSTREAM END.
- REMIEDIATE PLACEMENT OF FLOWABLE FILL WHICH DOES NOT FILL VOIDS IN SEWER, IN MANHOLE OR OTHER STRUCTURES, OR WHERE VOIDS DEVELOP DUE TO EXCESSIVE SHRINKAGE OR BLEEDING OF FILL. BY USING PRESSURE GROUTING EITHER FROM INSIDE SEWER OR FROM SURFACE.





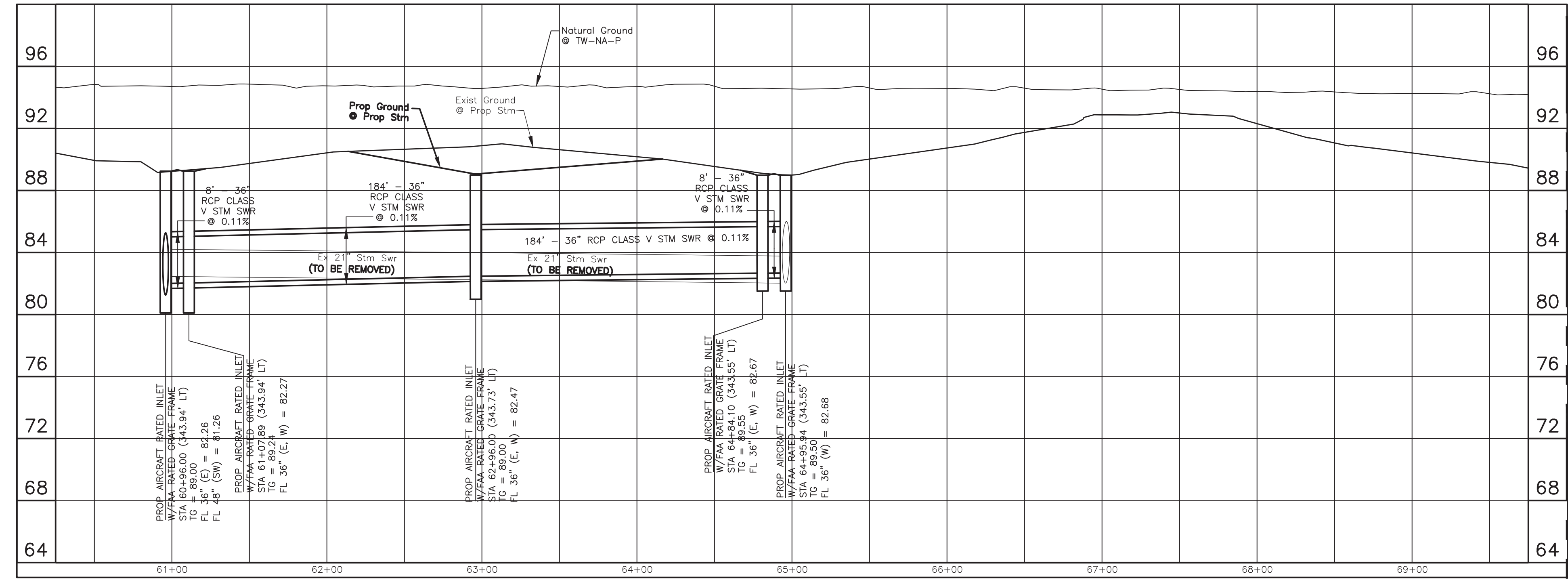


REVISIONS		
NO.	DESCRIPTION	DATE

### STORM SEWER GENERAL NOTES

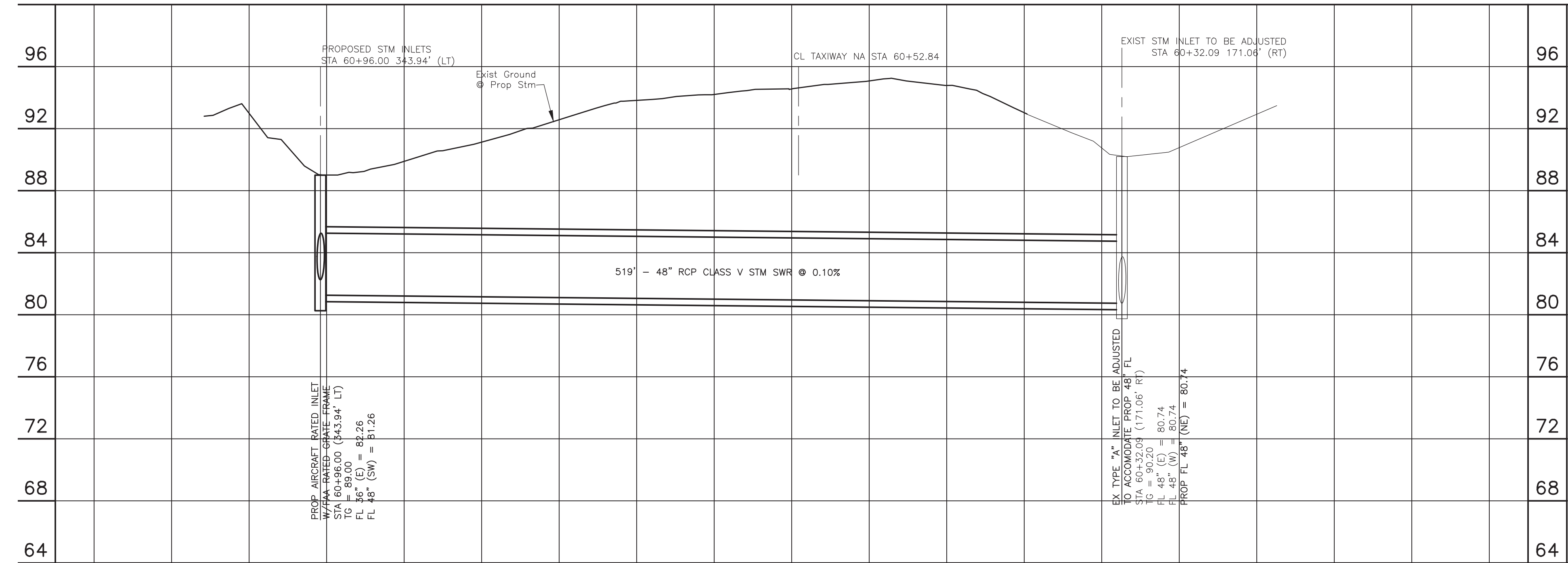
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15. SEE DETAIL 'GRADING BETWEEN INLETS' SHEET D02.16 FOR GRADING BETWEEN INLETS

STORM SEWER LINE A



MATCHLINE: SHEET D02.12 STA. 70+00

STORM SEWER LINE B



REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED STORM SEWER PROFILE**  
 STA. 60+00 TO STA. 70+00  
 (SHEET 1 OF 4)

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TS
DRAWN BY:	JF
CHECKED BY:	JG
SCALE:	1"=50'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER

JULY 27, 2018

DEPARTMENT OF AVIATION  
 APPROVED BY: *Denai Rahmel* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	-

D02.11





**LJA**  
 LJA Engineering, Inc.  
 2929 Briarpark Drive SUITE 600  
 Houston, Texas 77042  
 PHONE 713.953.5200  
 FAX 713.953.5024  
 FRN-F-1386 ljaengineering.com

REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED STORM SEWER PROFILE**  
 STA. 70+00 TO STA. 80+00  
 (SHEET 2 OF 4)

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TS
DRAWN BY:	JF
CHECKED BY:	JG
SCALE:	1"=50'
DATE:	JULY 27, 2018

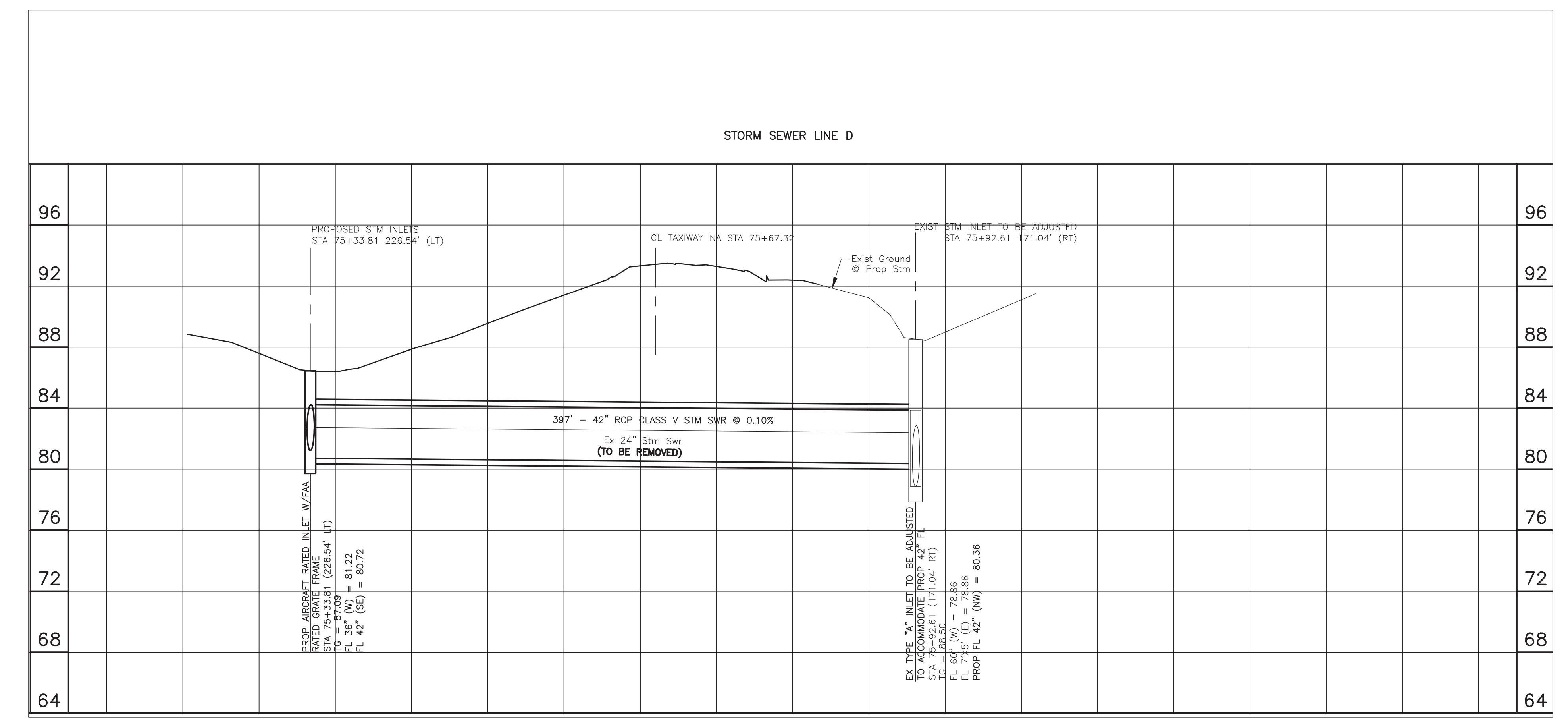
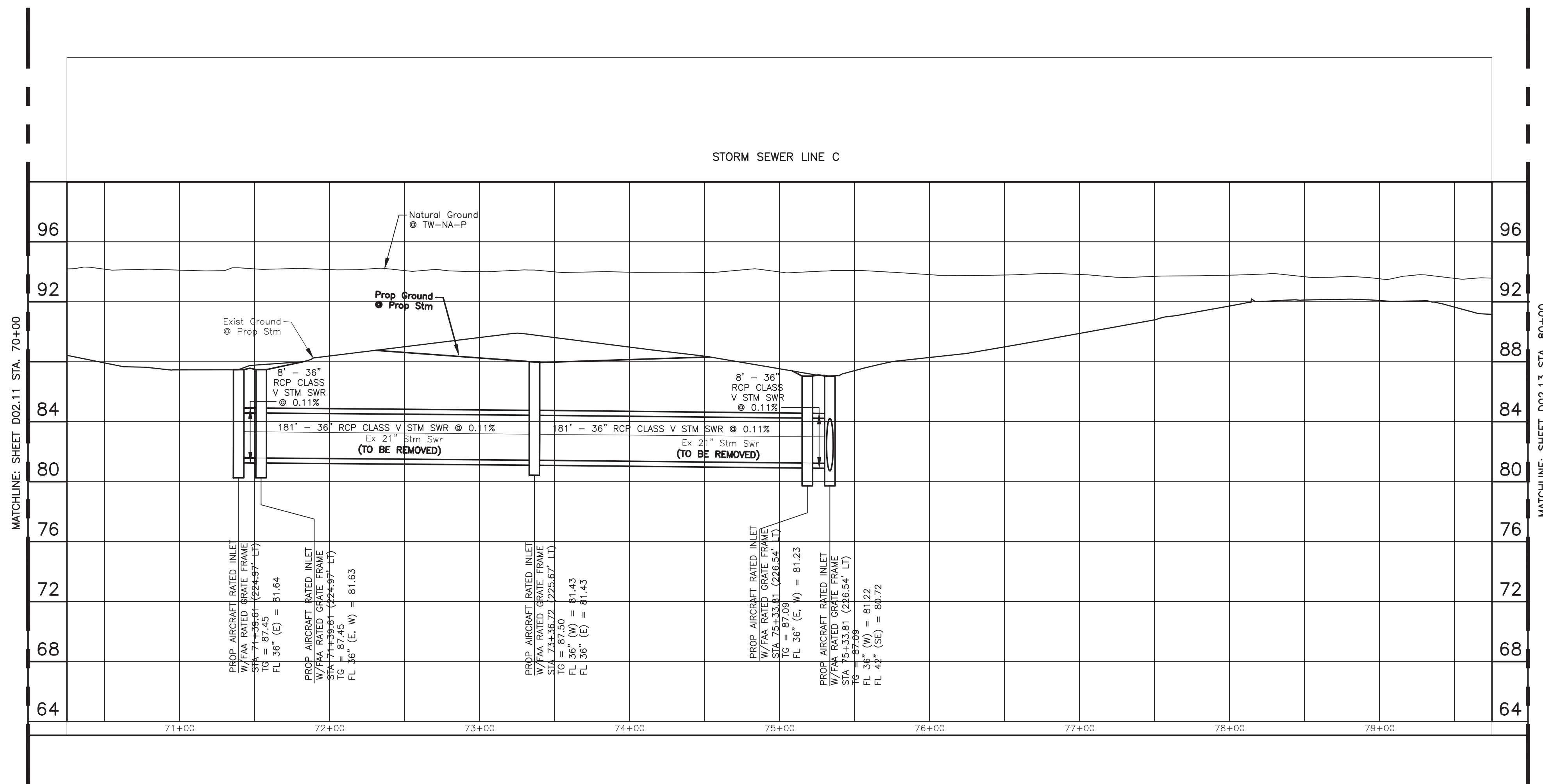
STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER  
 DEPARTMENT OF AVIATION  
 APPROVED BY: *Denai Pehmel* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	-

D02.12

### STORM SEWER GENERAL NOTES

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 FRNF-1386 ljaengineering.com

REVISIONS		
NO.	DESCRIPTION	DATE

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED STORM SEWER PROFILE**  
 STA. 80+00 TO STA. 90+00  
 (SHEET 3 OF 4)

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TS
DRAWN BY:	JF
CHECKED BY:	JG
SCALE:	1"=50'
DATE:	JULY 27, 2018

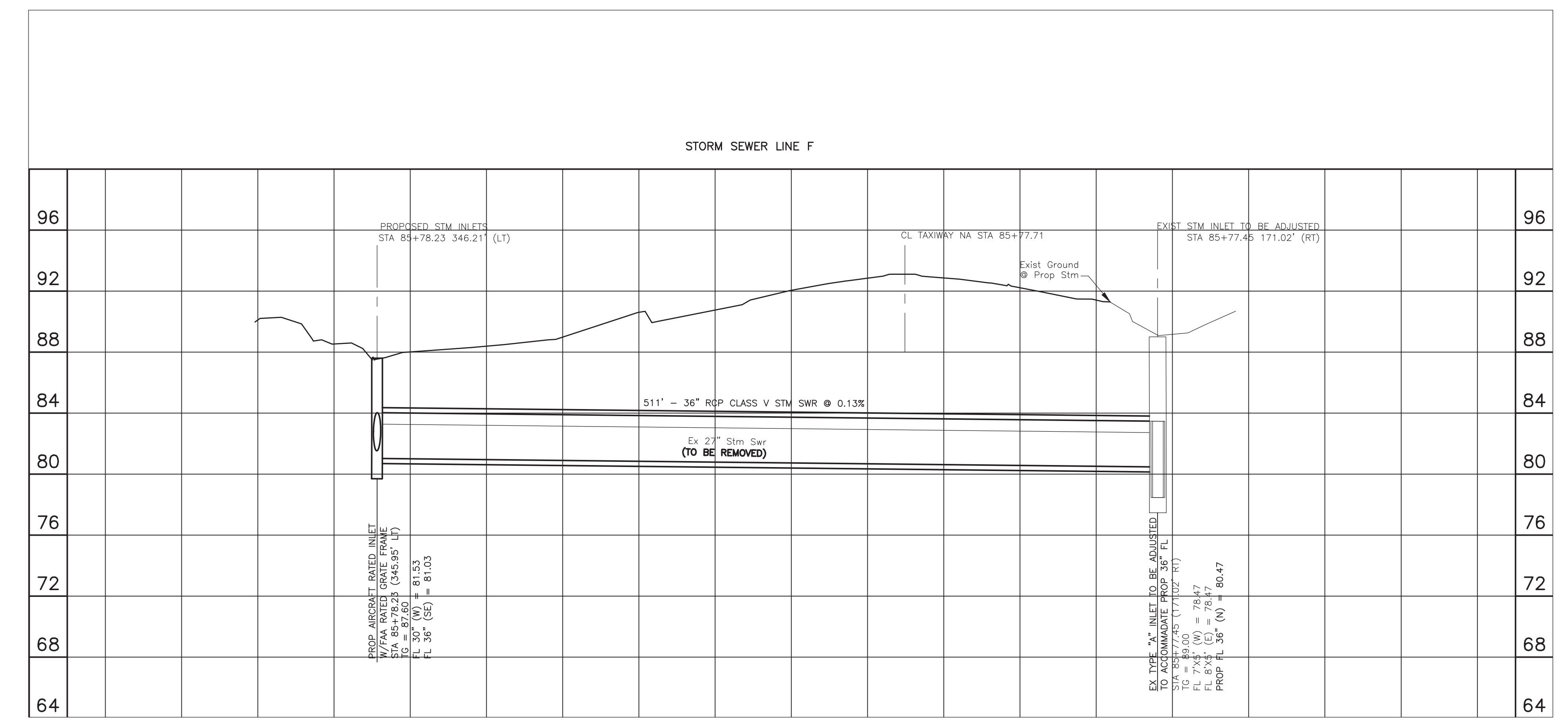
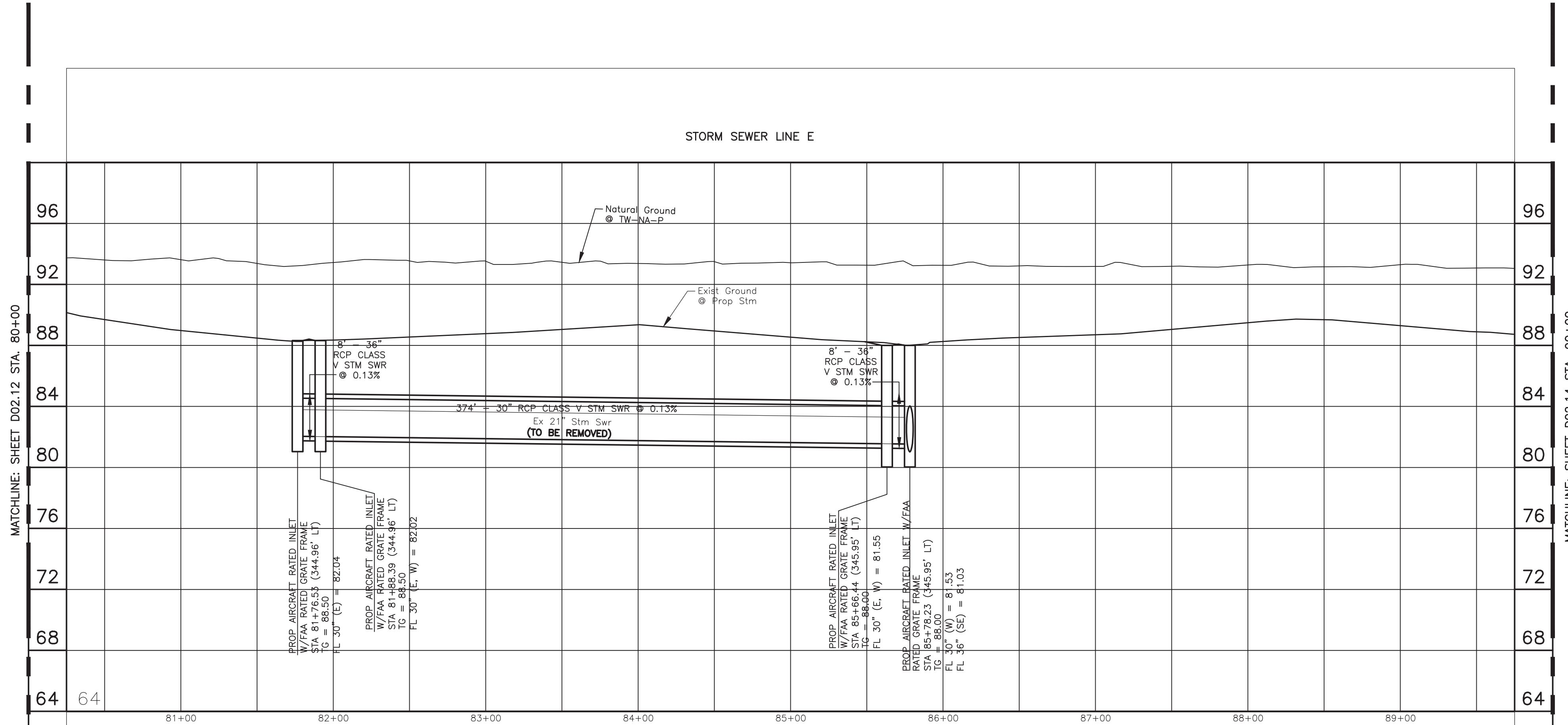
STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER  
 JULY 27, 2018  
 DEPARTMENT OF AVIATION  
 APPROVED BY: *Denai Pehmel* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	-

D02.13

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REVISIONS		
NO.	DESCRIPTION	DATE

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED STORM SEWER PROFILE**  
 STA. 90+00 TO STA. 100+00  
 (SHEET 4 OF 4)

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TS
DRAWN BY:	JF
CHECKED BY:	JG
SCALE:	1"=50'
DATE:	JULY 27, 2018

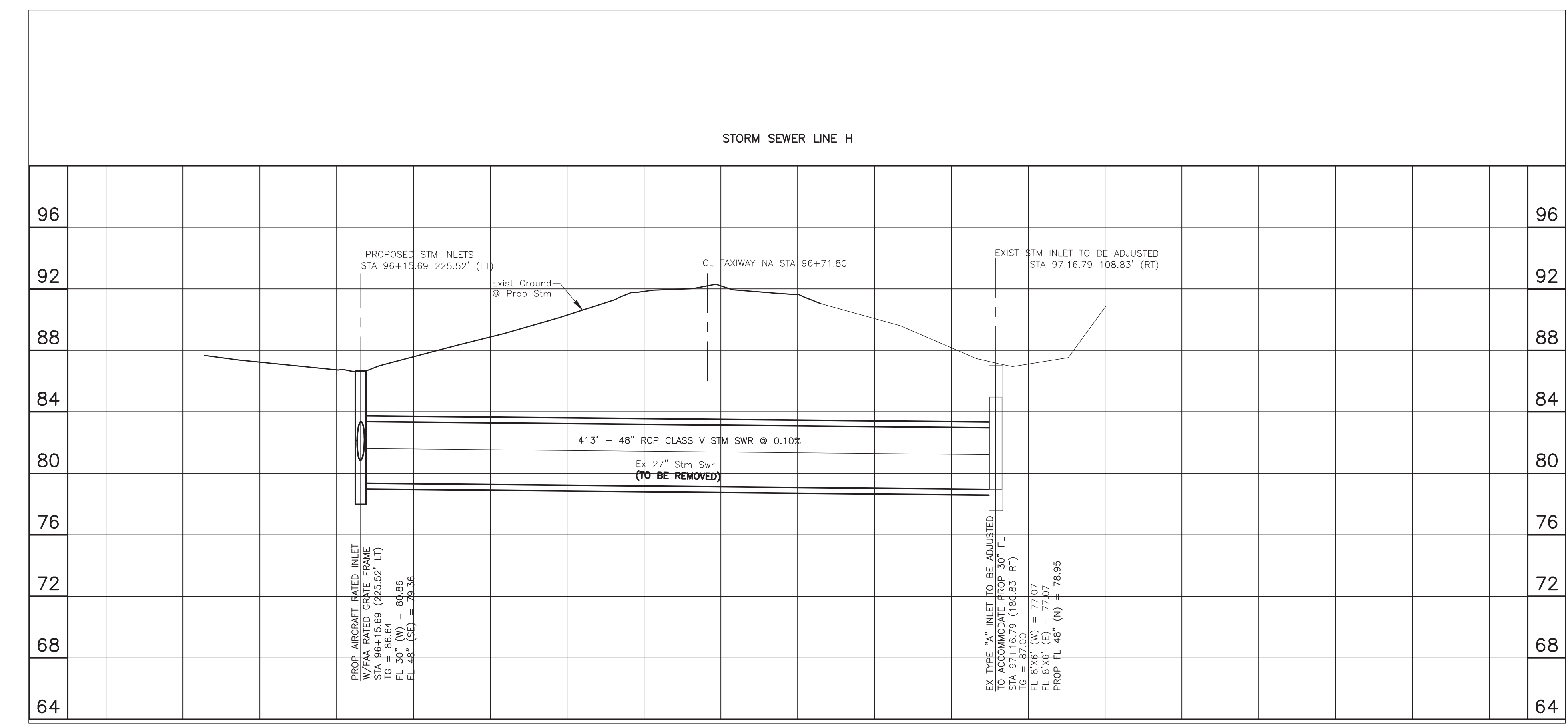
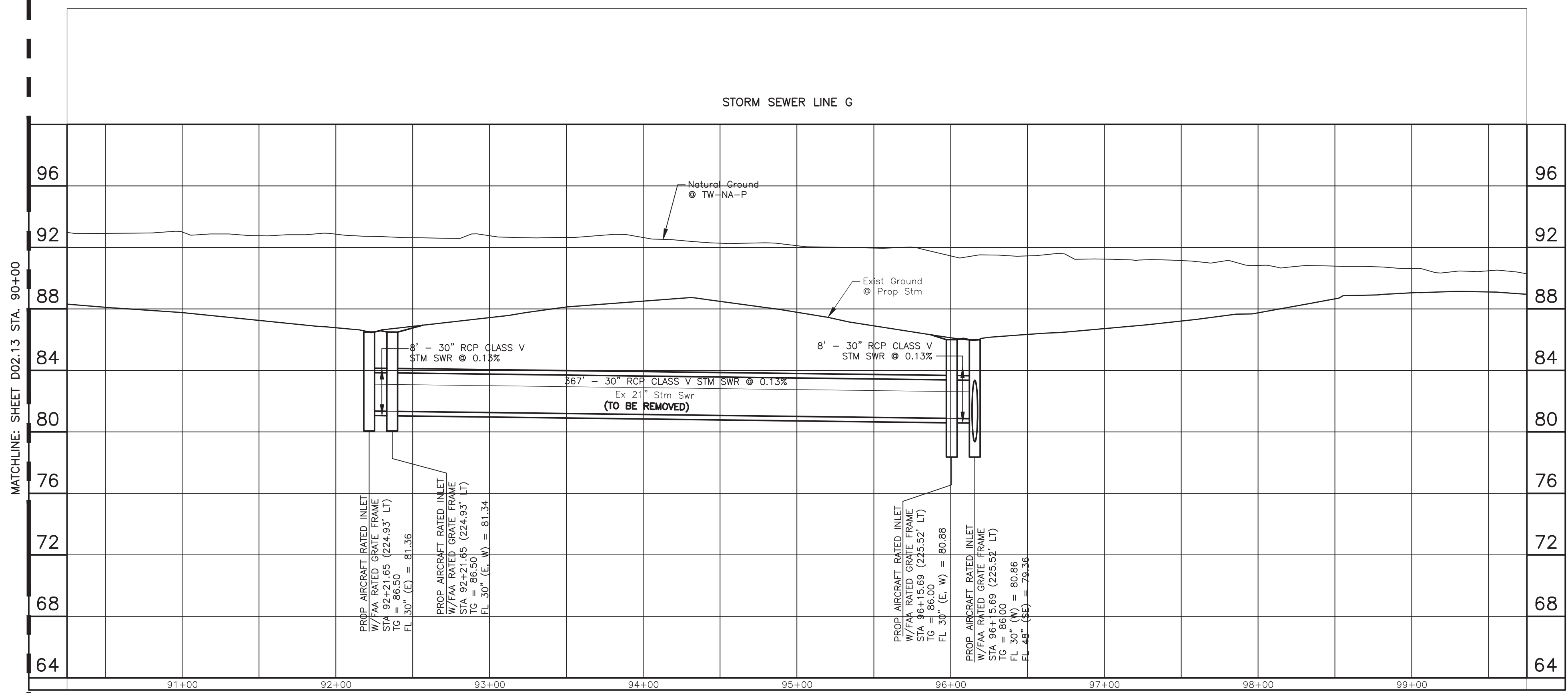
STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
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 LICENSED PROFESSIONAL ENGINEER  
 JULY 27, 2018  
 DEPARTMENT OF AVIATION  
 APPROVED BY: *Denai Pehmel* DATE:  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	-

D02.14

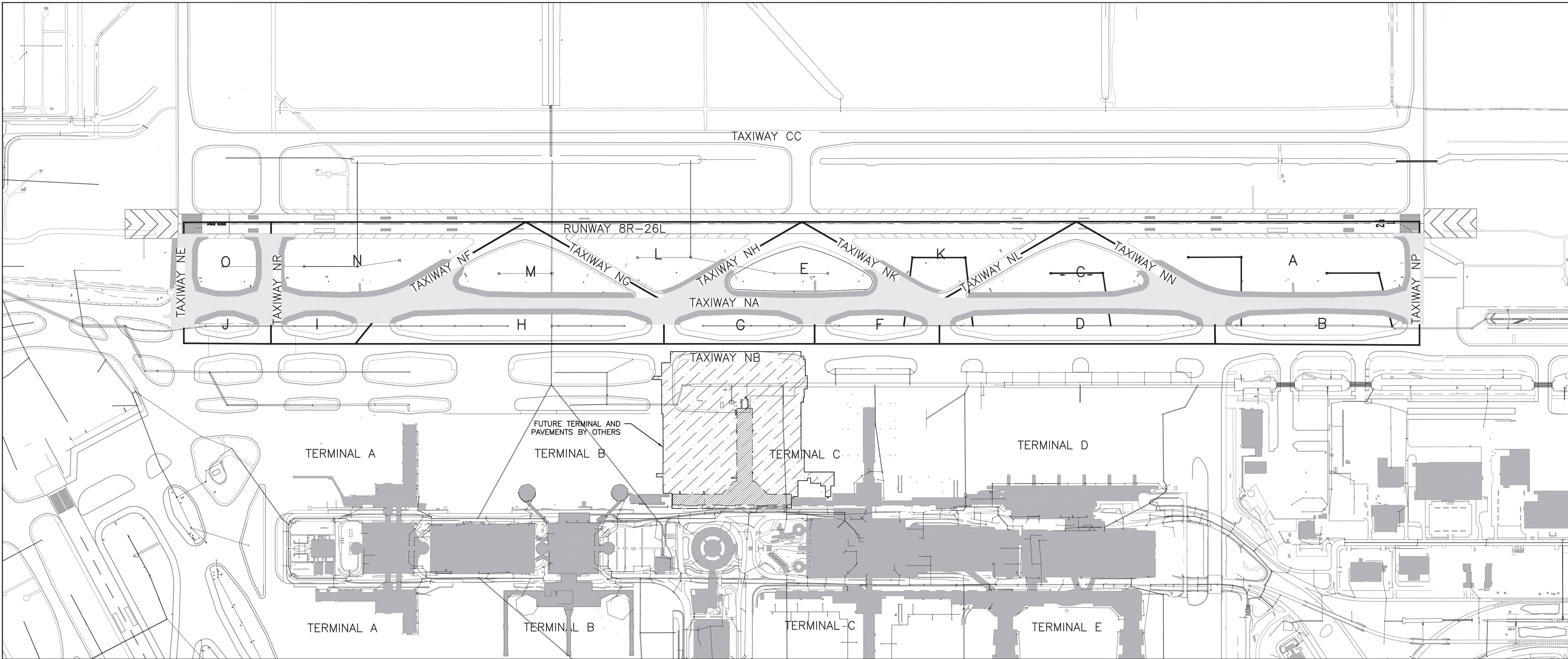
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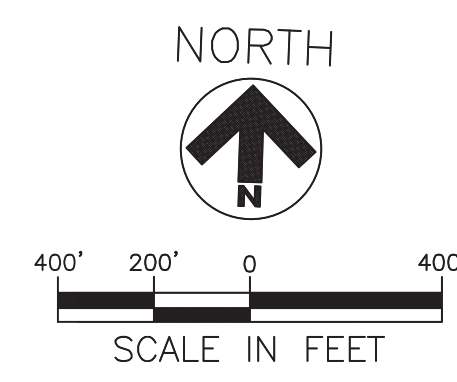


REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED DRAINAGE AREA MAP**

DA ID	Area (Acres)	Q <sub>100</sub> Existing (cfs)	Q <sub>100</sub> Proposed (cfs)
A	28.56	75.21	80.27
B	11.58	29.05	33.67
C	14.34	42.17	46.46
D	15.32	35.72	41.77
E	14.34	44.12	46.00
F	6.93	20.48	23.28
G	8.35	23.32	26.67
H	16.14	38.93	44.43
I	5.59	18.70	20.44
J	4.77	15.99	17.67
K	14.30	46.13	47.09
L	14.38	46.51	47.46
M	14.30	42.18	46.33
N	19.41	56.02	59.56
O	9.08	29.53	31.74

**STORM SEWER GENERAL NOTES**

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ISSUED FOR BID	
PROJECT MGR:	JG
DESIGNER:	JS
DRAWN BY:	JS
CHECKED BY:	TS
SCALE:	1"=400'
DATE:	JULY 27, 2018

STATE OF TEXAS  
 JOHN SAMUEL GROUNDS, III  
 68799  
 LICENSED PROFESSIONAL ENGINEER

JULY 27, 2018

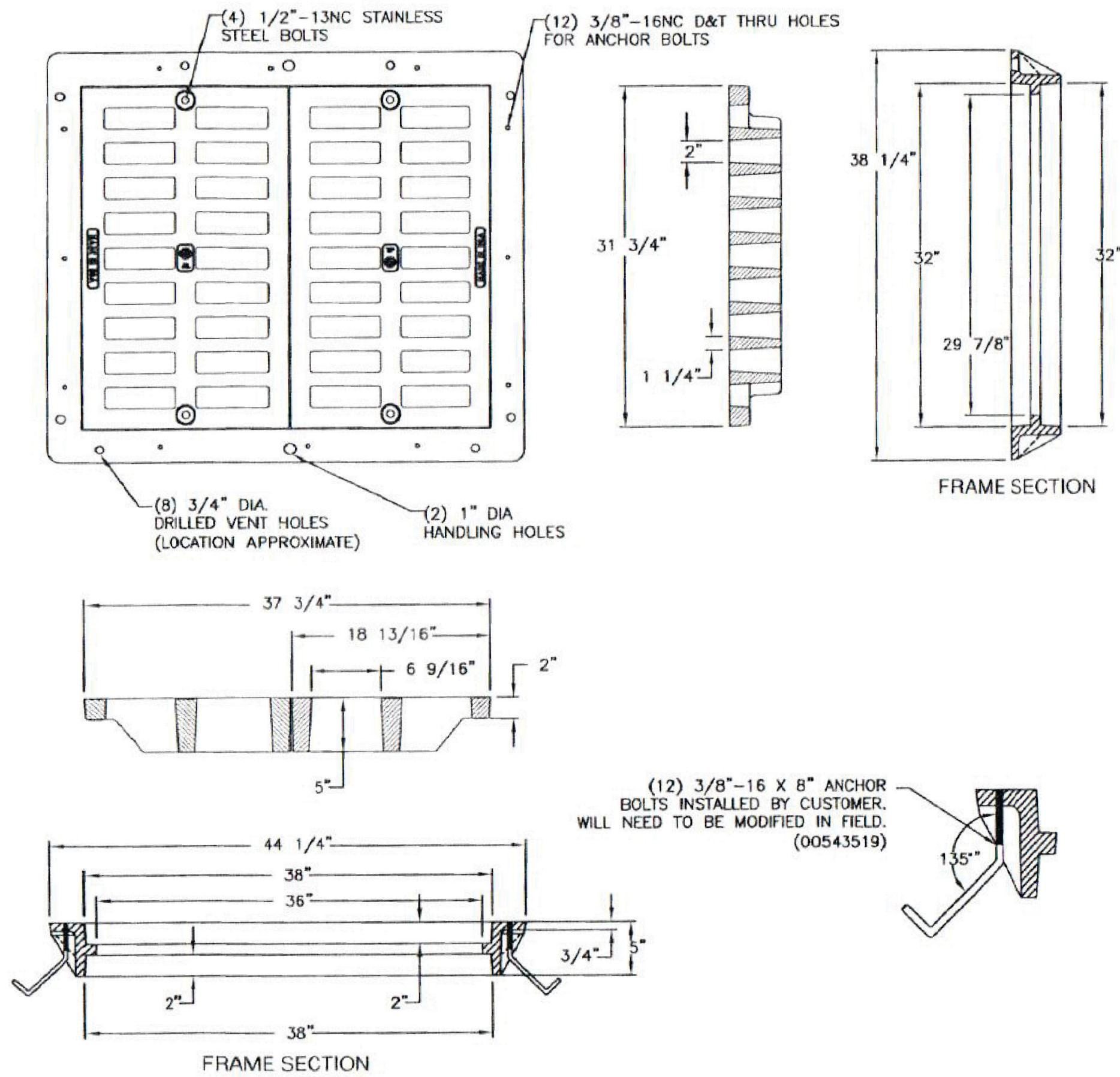
DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donaj Pehmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	-
SHEET NO.	-

**D02.15**



# V5668 Assembly



**Product Number**  
45668040B03

**Design Features**

**Materials**

- Frame: Ductile Iron (80-58-06)
- Grate: Ductile Iron (80-55-06)
- Grate: Ductile Iron (80-55-06)

**Design Load**  
Airport Extra Heavy Duty

**Open Area**  
472 SQ. IN.

**Coating**  
Double Dipped

✓ Designates Machined Surface

**Certification**  
-ASTM A536

**Country of Origin: USA**

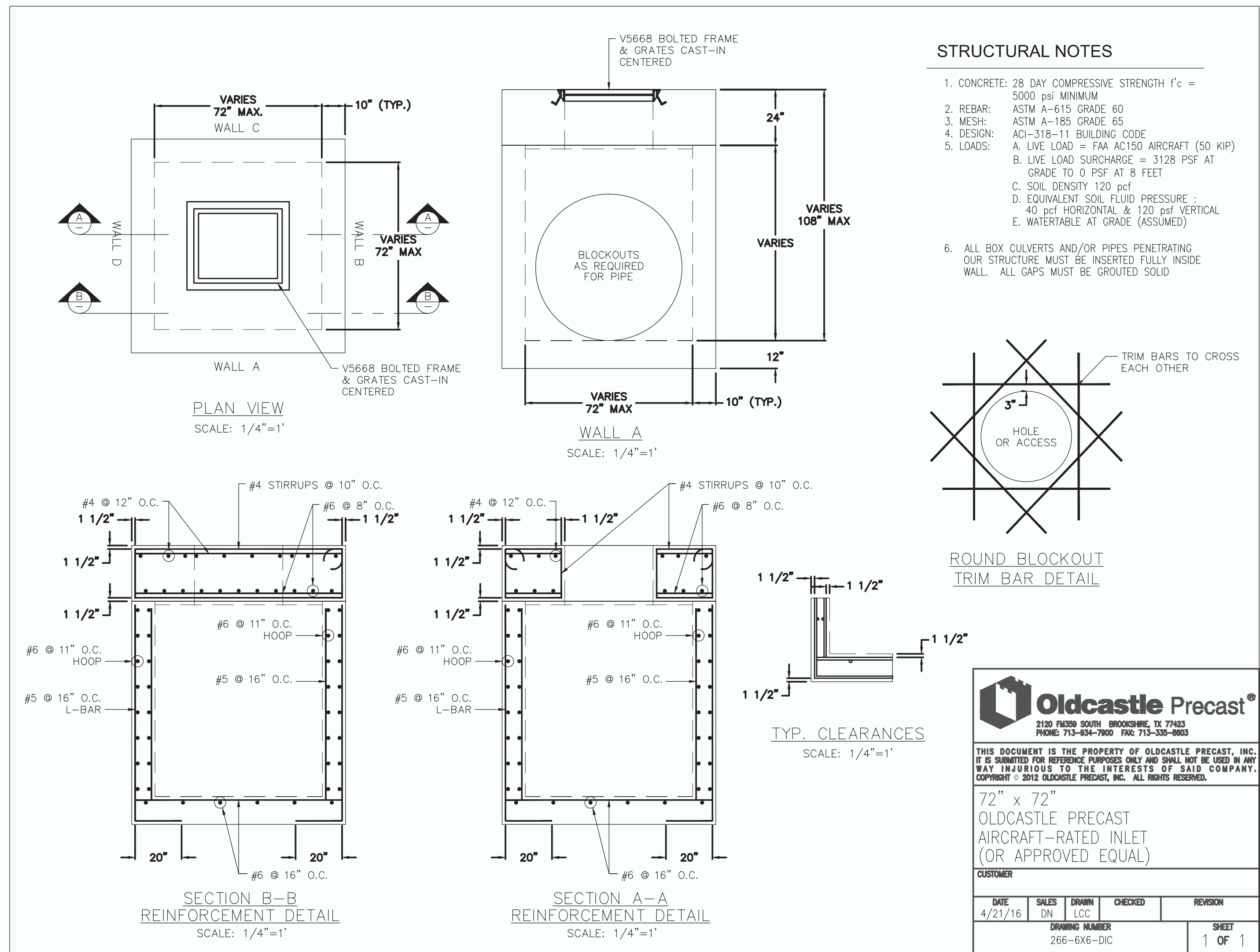
**Major Components**

- 45668015S01
- 45668040S01
- 45668040S01

**Drawing Revision**  
10/3/2012 Designer: DJH  
10/10/2012 Revised By: DJH

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**Contact**  
800 626 4653  
ejco.com



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2929 Briarpark Drive SUITE 600  
Houston, Texas 77042  
PHONE 713.953.5200  
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FRNF-1386 ljaengineering.com

REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**STORM SEWER DETAIL SHEET**

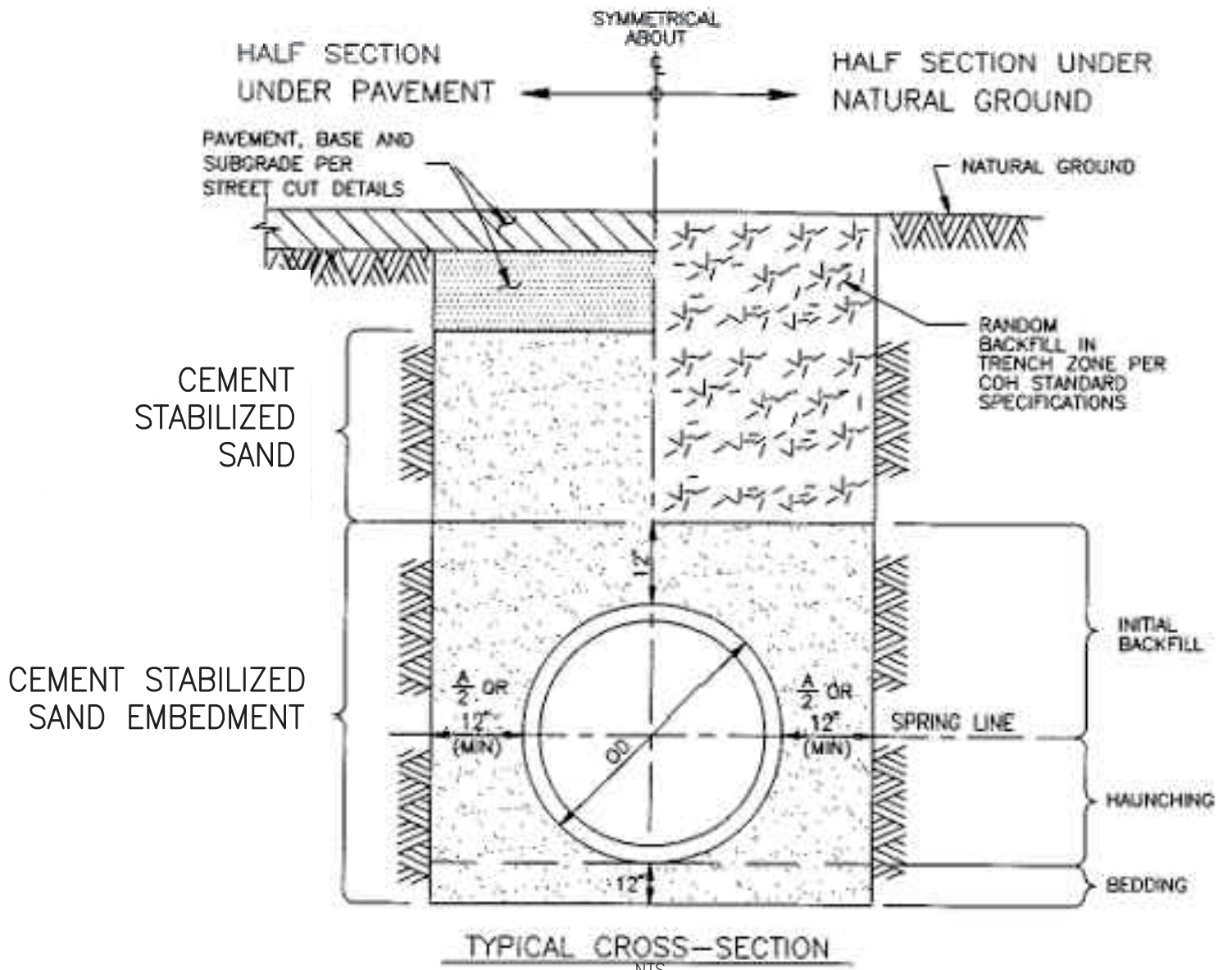
**Oldcastle Precast®**  
2120 FRODO SOUTH BROOKSHIRE, TX 77423  
PHONE: 713-654-7000 FAX: 713-335-0663

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72" x 72" OLDCASTLE PRECAST AIRCRAFT-RATED INLET (OR APPROVED EQUAL)

DATE	SALES	DRAWN	CHECKED	REVISION
DN	LCC	LCC	LCC	
4/21/16				

DRAWING NUMBER: 266-6X6-DIC SHEET: 1 OF 1



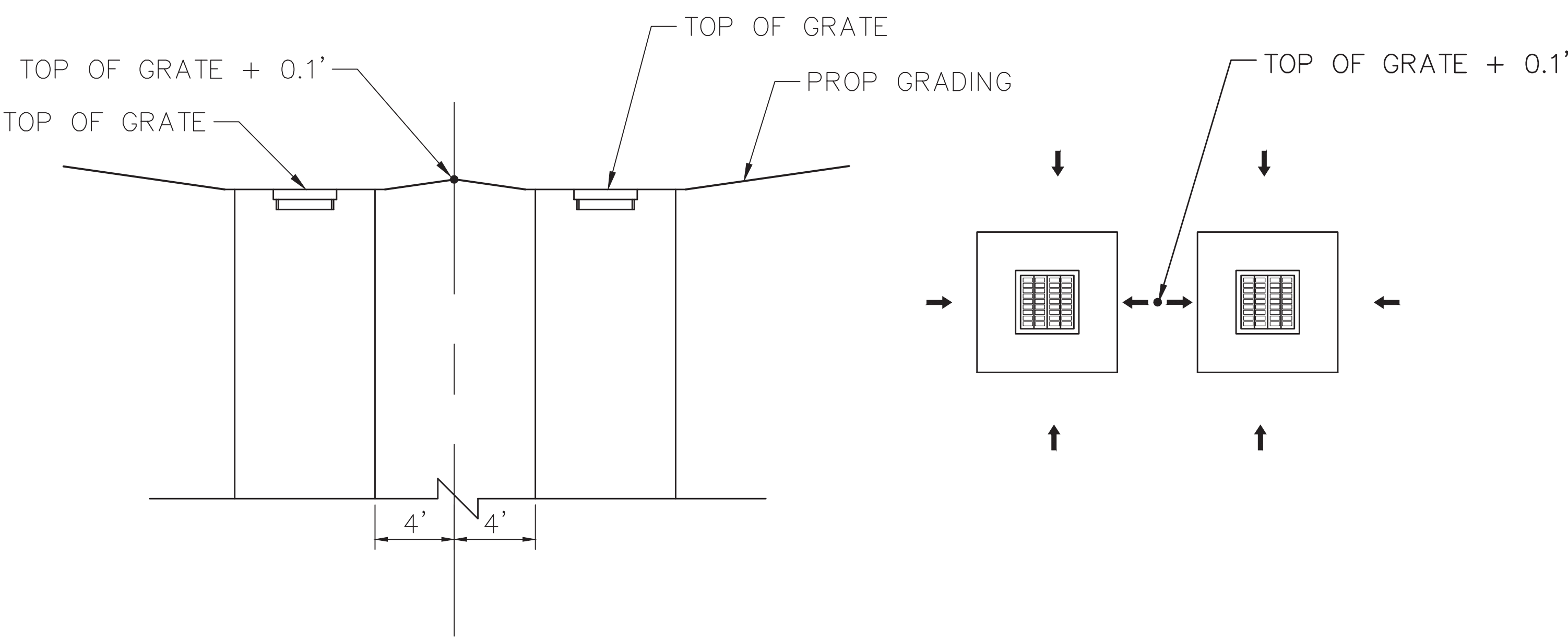
- NOTES:**
- THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER COH STANDARD. SEE COH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
  - MIN TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:
- | NOMINAL PIPE SIZE | "A" |
|-------------------|-----|
| 18" TO 30"        | 24" |
| OVER 30"          | 36" |
- MAX TRENCH WIDTH SHALL BE NOT GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.

**CITY OF HOUSTON**  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING  
ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

**SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH**  
(NOT TO SCALE)

APPROVED BY: *Braudagrin* CITY ENGINEER  
APPROVED BY: *John Samuel Grounds, III* DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: OCT-01-2002 DWG NO: 02317-03



ISSUED FOR BID

PROJECT MGR: JG  
DESIGNER: JS  
DRAWN BY: JS  
CHECKED BY: TS  
SCALE: 1"=50'  
DATE: JULY 27, 2018

STATE OF TEXAS  
JOHN SAMUEL GROUND, III  
68799  
LICENSED PROFESSIONAL ENGINEER

JULY 27, 2018

DEPARTMENT OF AVIATION  
APPROVED BY: *Donai Pehmel* DATE:  
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AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
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H.A.S. NO. -  
SHEET NO. -

D02.16













1225 North Loop West  
 Suite 320  
 Houston, Texas 77008  
 (832) 494-3800  
 Firm Registration No. F-10161

REVISIONS

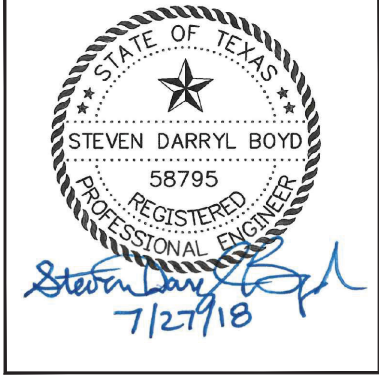
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

## UNDERDRAIN PLAN (2 OF 9)

ISSUED FOR BID

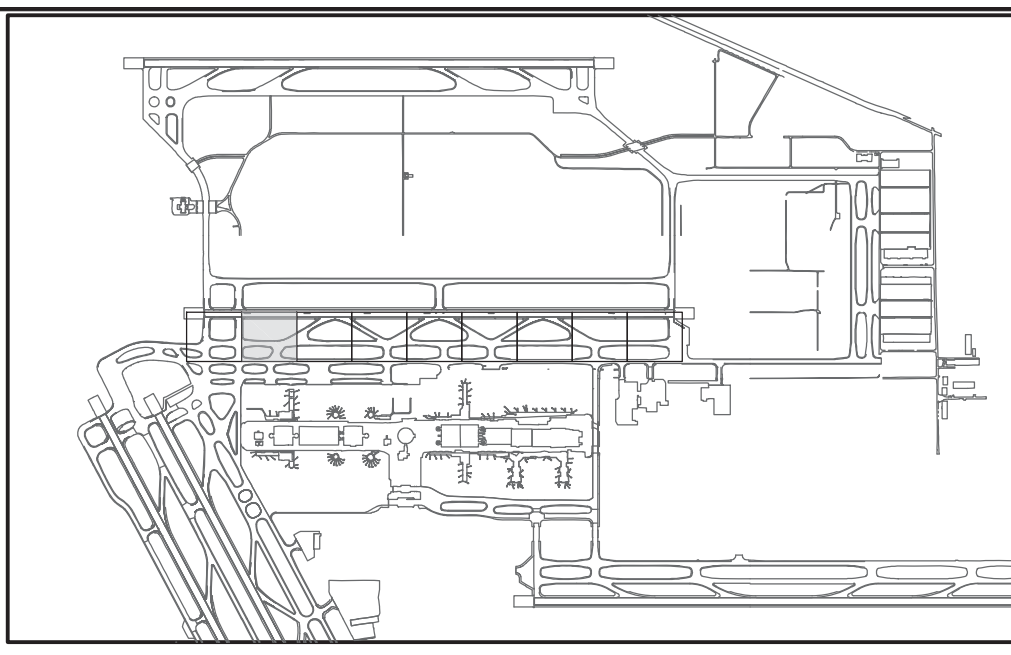
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DESIGNER:	TM
DRAWN BY:	KE
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Pehel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

D03.02

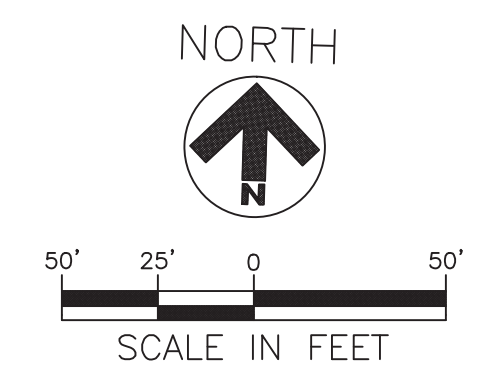
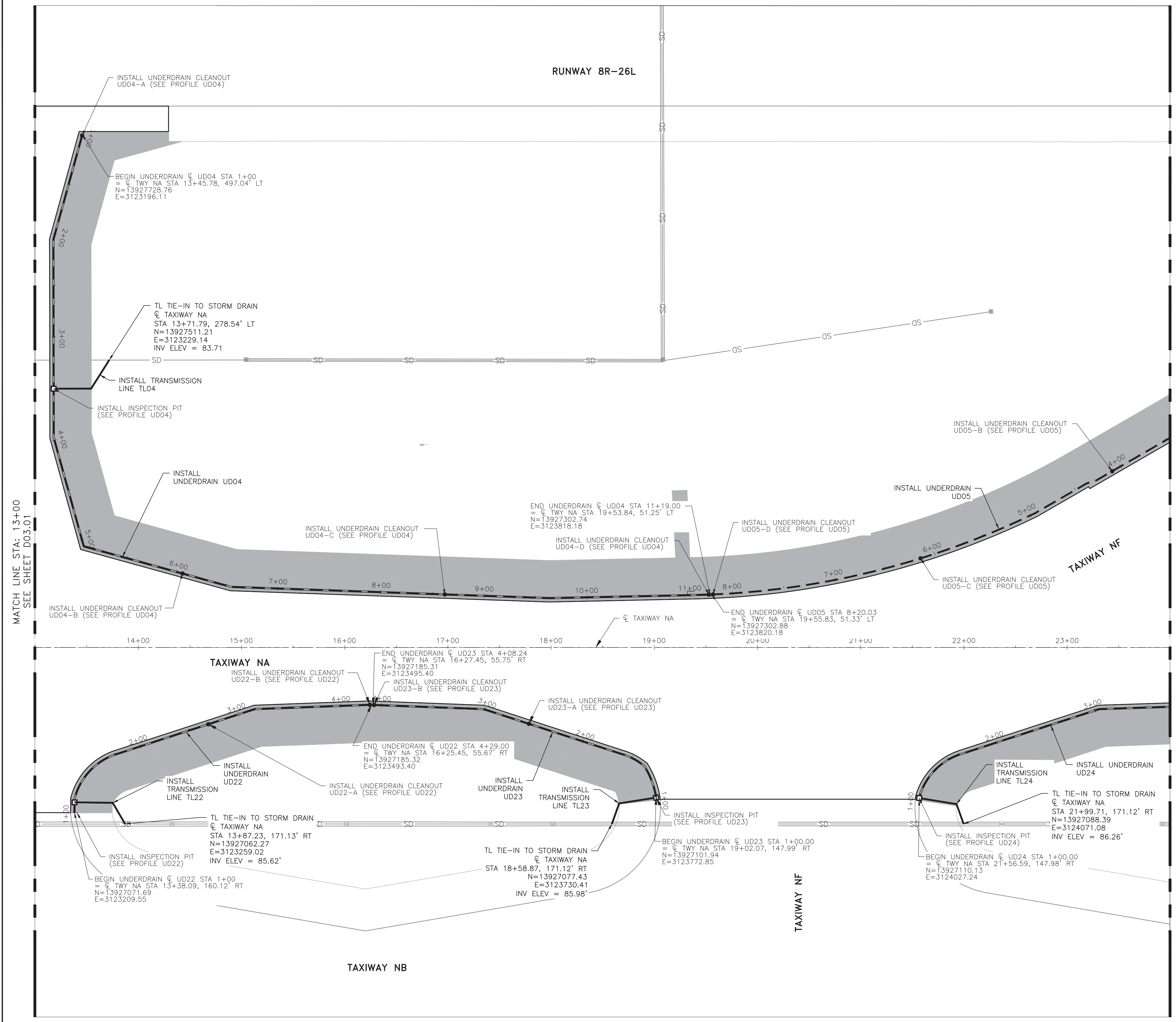


### LEGEND

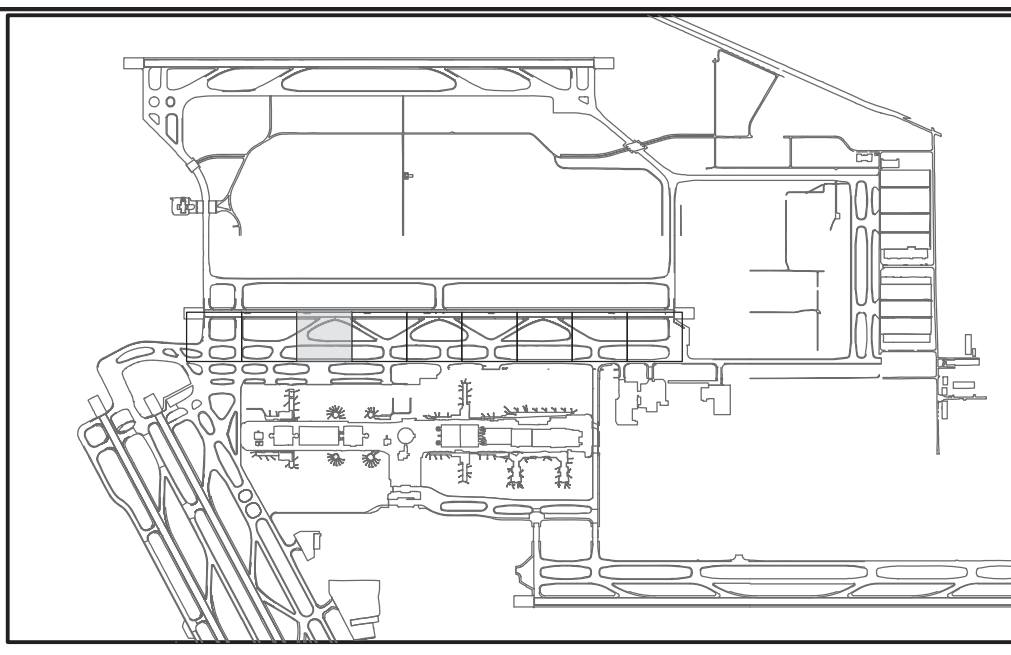
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- NEW 6-INCH UNDERDRAIN (PERFORATED)
- NEW 6-INCH UNDERDRAIN (NON-PERFORATED)
- NEW UNDERDRAIN CLEANOUT
- NEW UNDERDRAIN INSPECTION PIT
- EXISTING STORM SEWER INLET
- EXISTING STORM SEWER INLET TO BE ADJUSTED
- NEW STORM SEWER INLET
- NEW STORM DRAIN
- EXISTING STORM DRAIN

### NOTES:

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- SEE PAVEMENT DETAILS AND UNDERDRAIN DETAIL SHEETS FOR UNDERDRAIN HORIZONTAL AND VERTICAL PLACEMENT RELATIVE TO PAVEMENT.







RUNWAY 8R-26L

**LEGEND**

- NEW TAXIWAY SHOULDER PAVEMENT
- NEW 6-INCH UNDERDRAIN (PERFORATED)
- NEW 6-INCH UNDERDRAIN (NON-PERFORATED)
- NEW UNDERDRAIN CLEANOUT
- NEW UNDERDRAIN INSPECTION PIT
- EXISTING STORM SEWER INLET
- EXISTING STORM SEWER INLET TO BE ADJUSTED
- NEW STORM SEWER INLET
- NEW STORM DRAIN
- EXISTING STORM DRAIN

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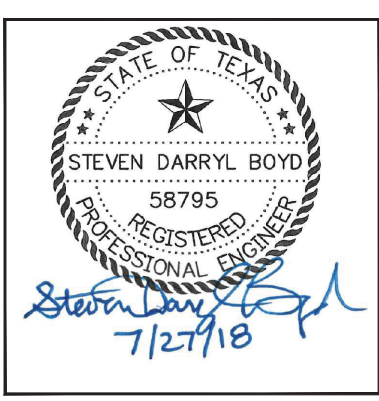
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**UNDERDRAIN PLAN**  
 (3 OF 9)

ISSUED FOR BID

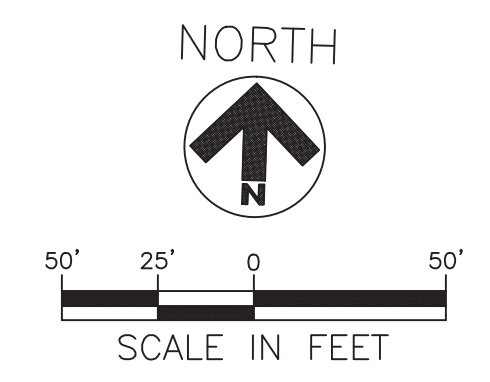
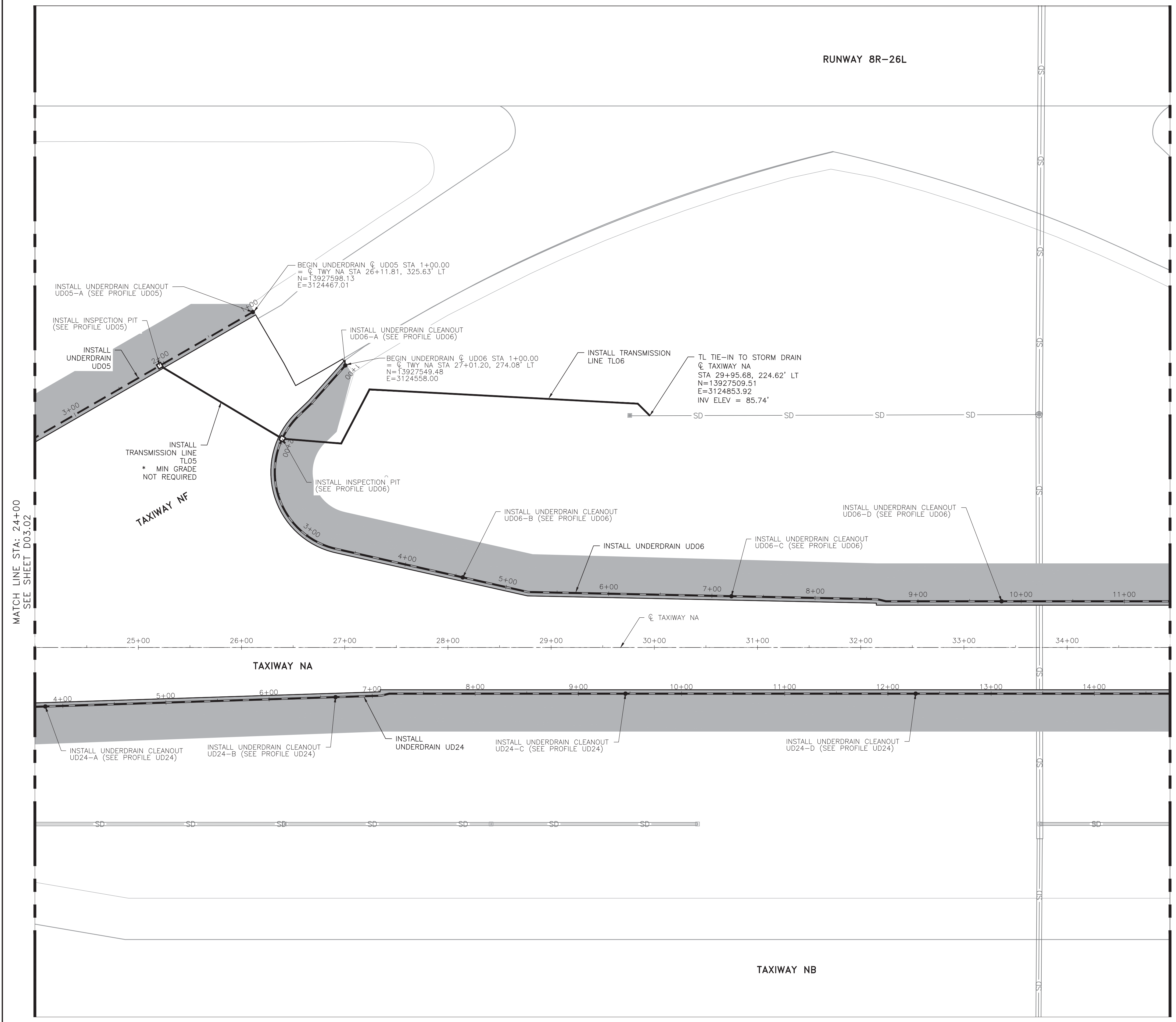
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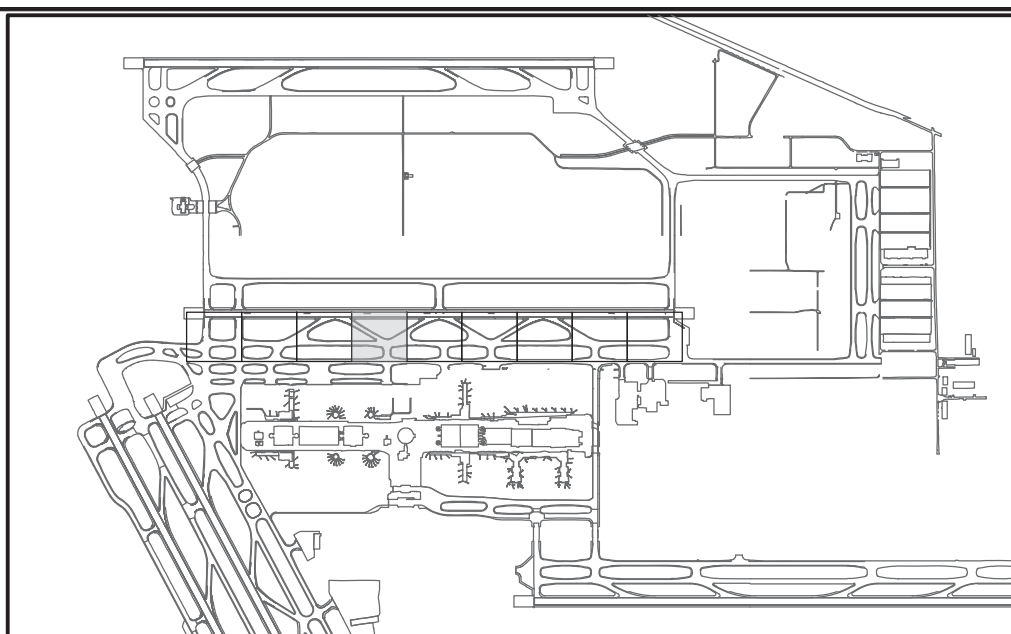
DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donaj Pehel* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**D03.03**







**LEGEND**

- NEW TAXIWAY SHOULDER PAVEMENT
- NEW 6-INCH UNDERDRAIN (PERFORATED)
- NEW 6-INCH UNDERDRAIN (NON-PERFORATED)
- NEW UNDERDRAIN CLEANOUT
- NEW UNDERDRAIN INSPECTION PIT
- EXISTING STORM SEWER INLET
- EXISTING STORM SEWER INLET TO BE ADJUSTED
- NEW STORM SEWER INLET
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REVISIONS

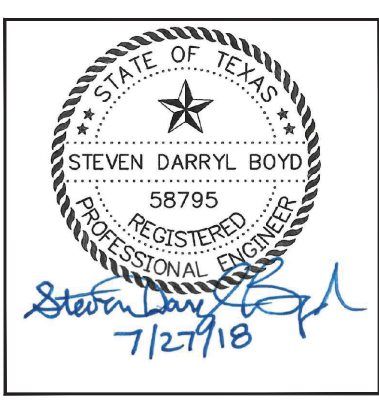
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**UNDERDRAIN PLAN**  
(4 OF 9)

ISSUED FOR BID

PROJECT MGR:	DB
DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018

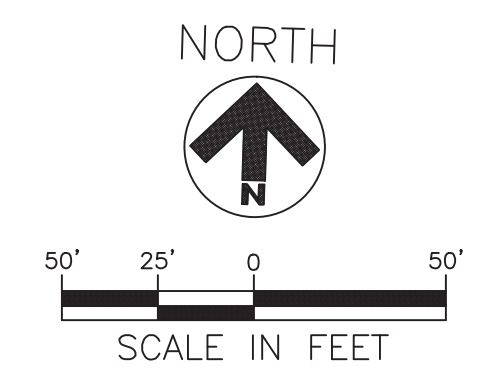
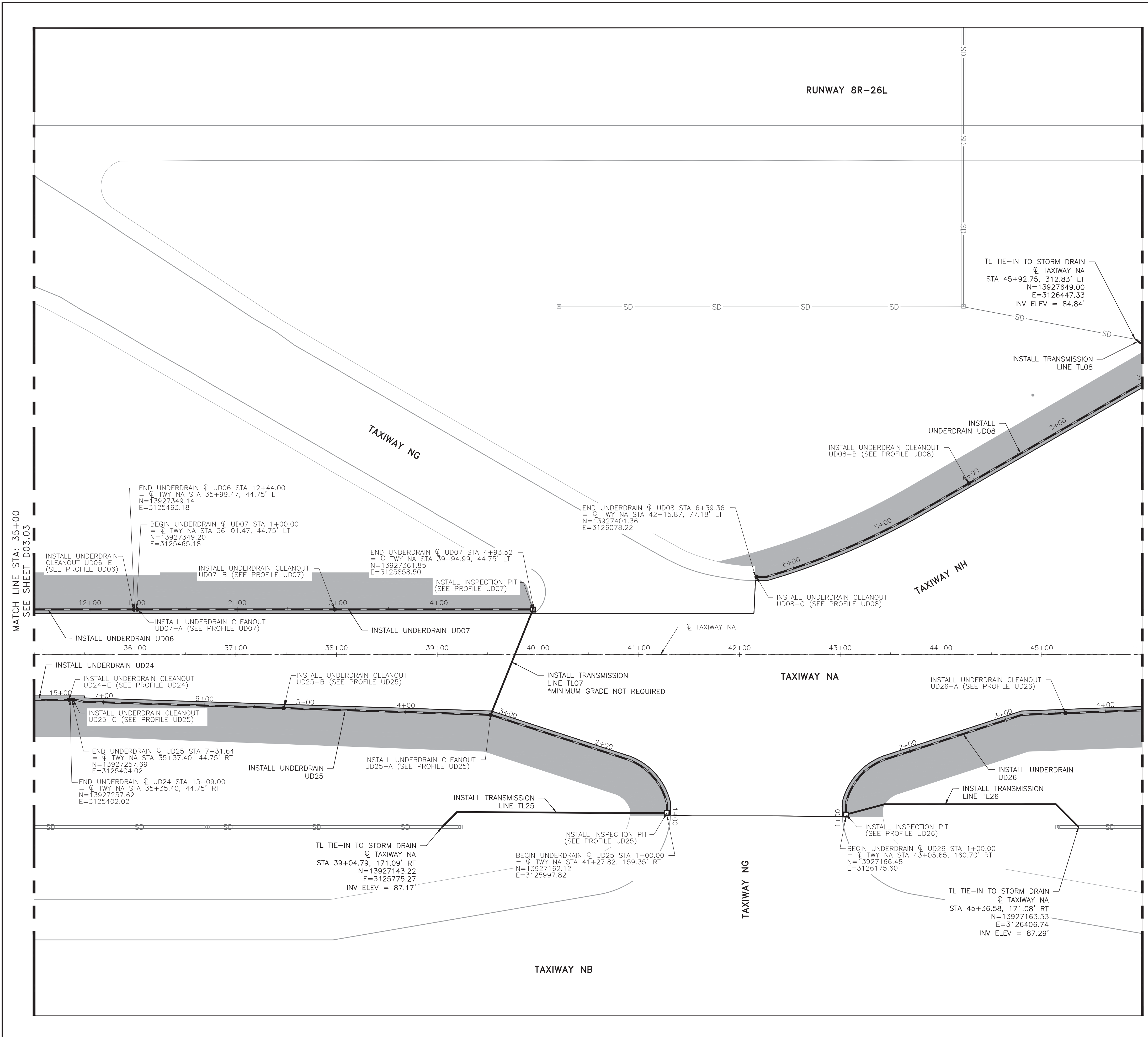


DEPARTMENT OF AVIATION

APPROVED BY:	DATE:
<i>Denaj Rahmal</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

D03.04







HOUSTON AIRPORT SYSTEM  
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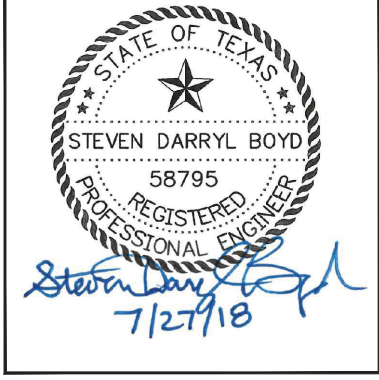
REVISIONS

NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**UNDERDRAIN PLAN**  
 (5 OF 9)

ISSUED FOR BID

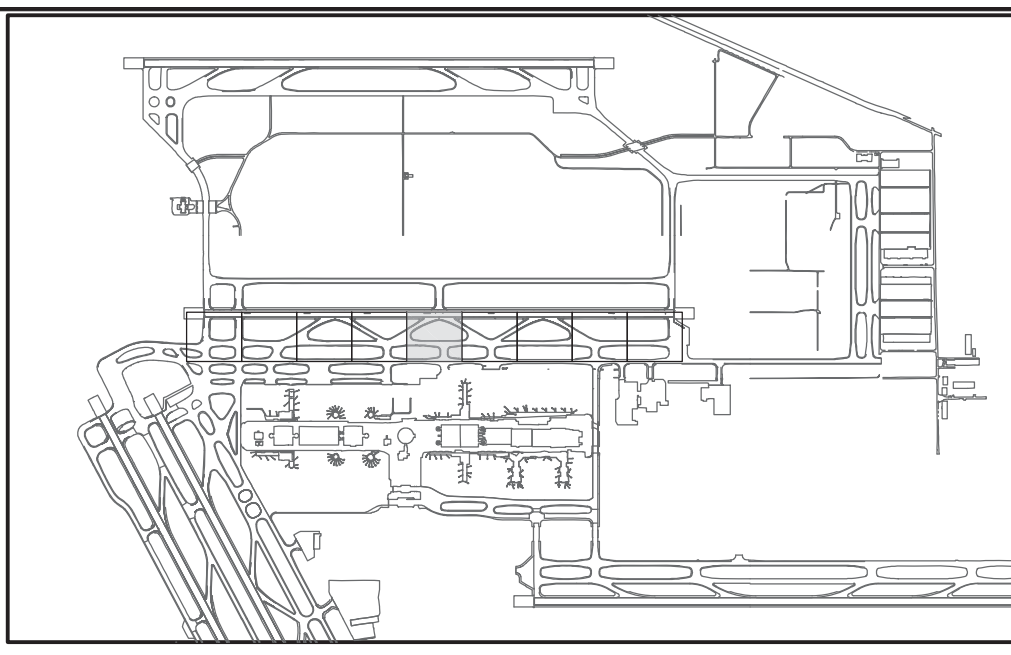
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DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Rahal* DATE: JULY 27, 2018  
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PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

D03.05

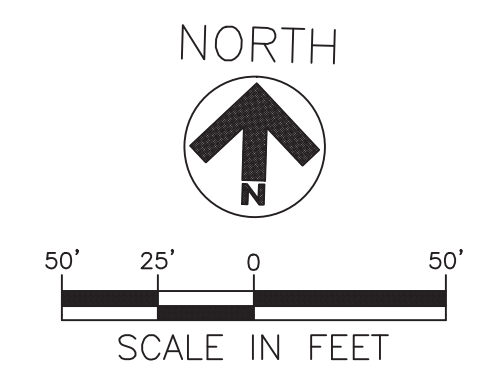
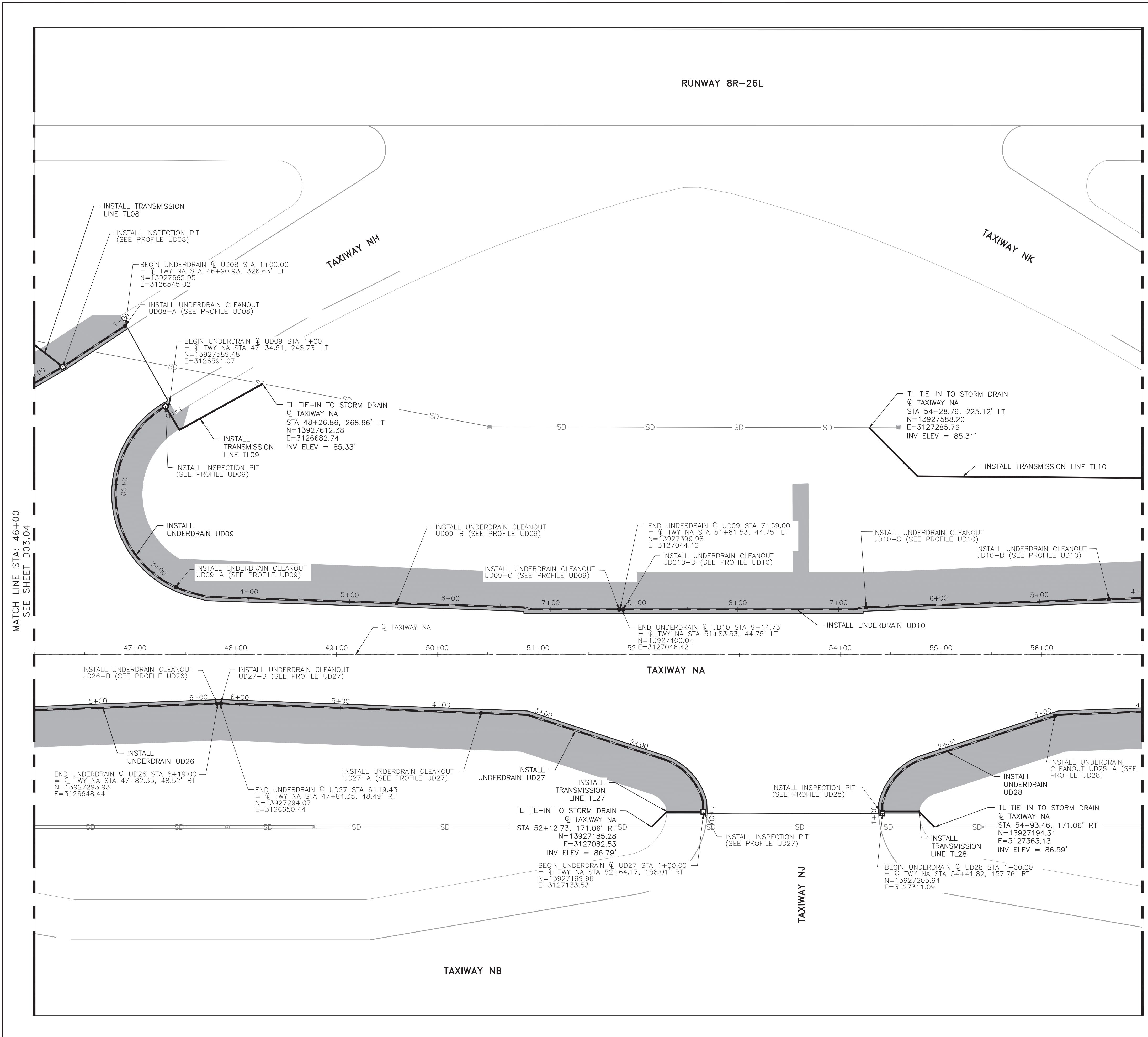


**LEGEND**

- NEW TAXIWAY SHOULDER PAVEMENT
- NEW 6-INCH UNDERDRAIN (PERFORATED)
- NEW 6-INCH UNDERDRAIN (NON-PERFORATED)
- NEW UNDERDRAIN CLEANOUT
- NEW UNDERDRAIN INSPECTION PIT
- EXISTING STORM SEWER INLET
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REVISIONS

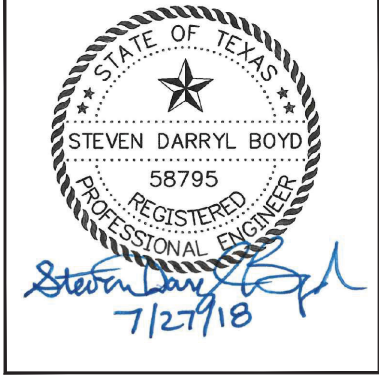
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

## UNDERDRAIN PLAN (6 OF 9)

ISSUED FOR BID

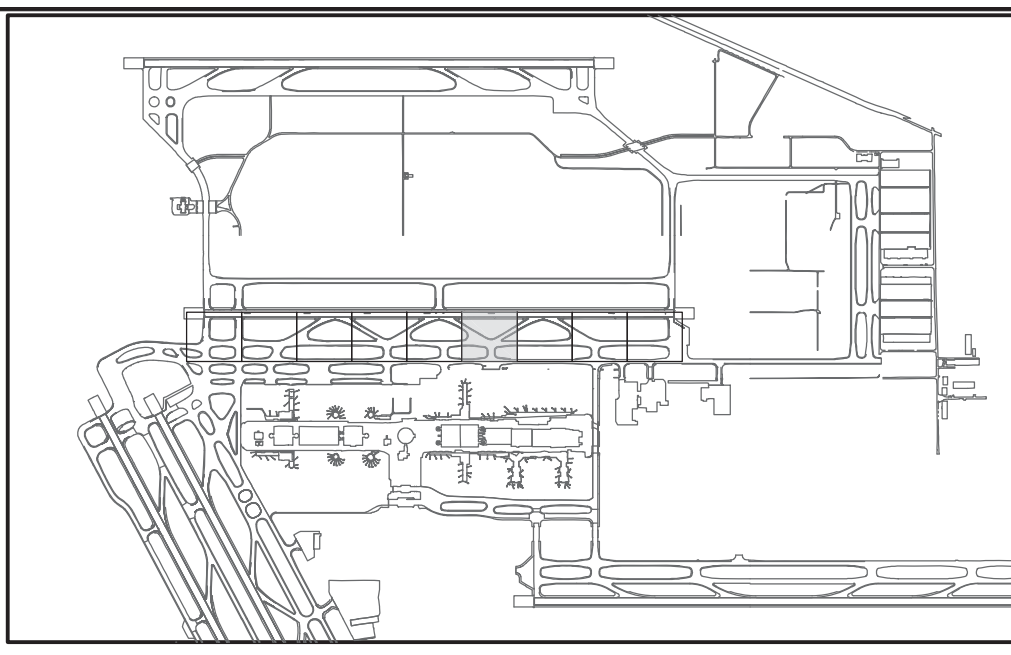
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DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Denaj Patel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**D03.06**

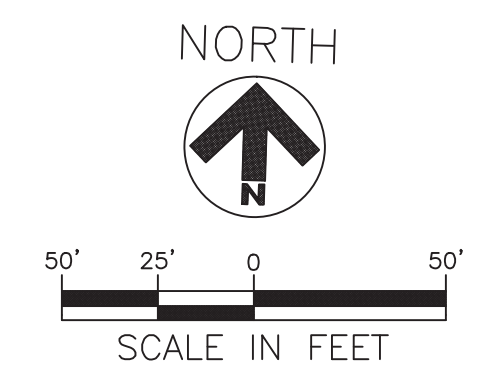
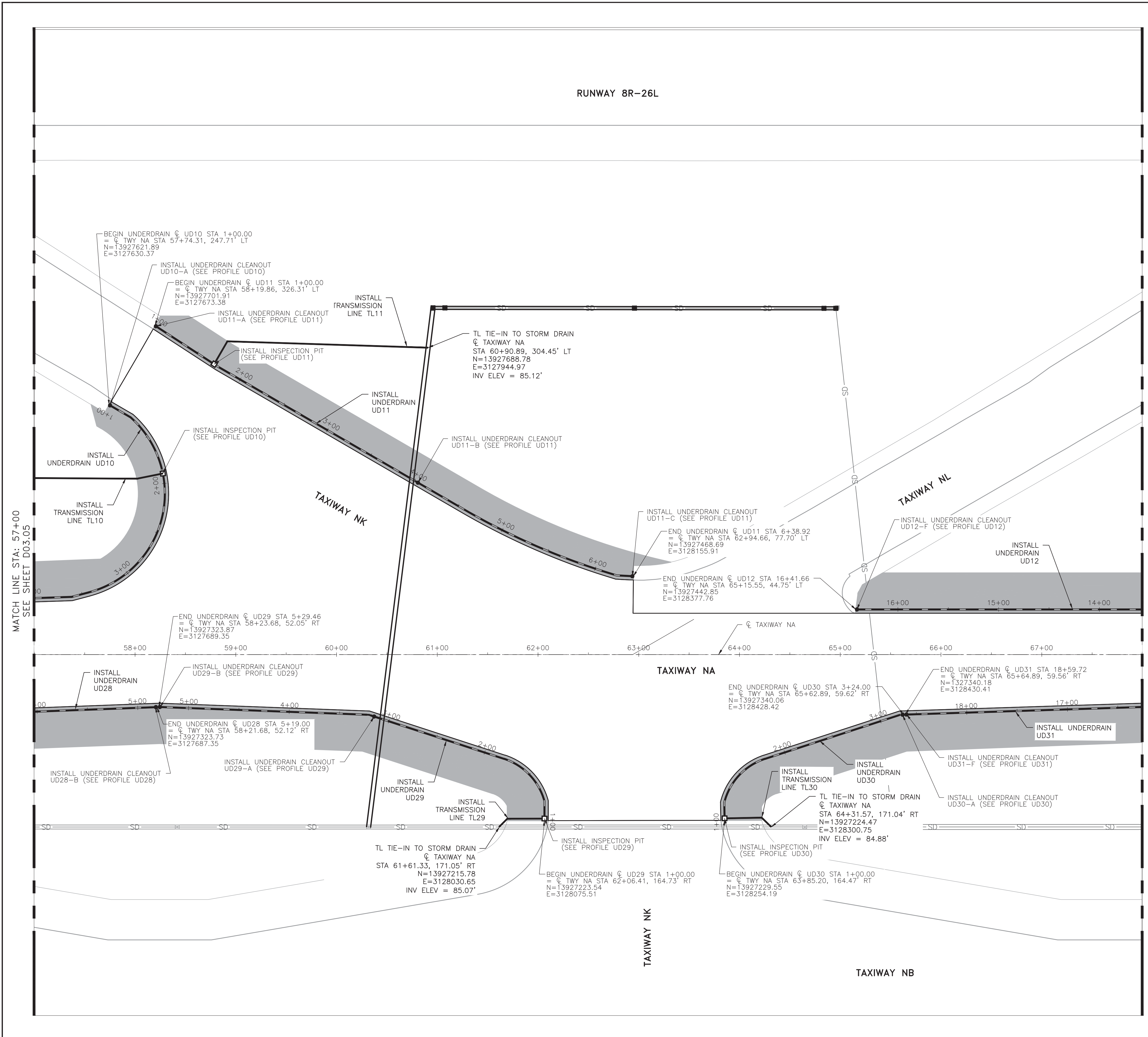


### LEGEND

- NEW TAXIWAY SHOULDER PAVEMENT
- NEW 6-INCH UNDERDRAIN (PERFORATED)
- NEW 6-INCH UNDERDRAIN (NON-PERFORATED)
- NEW UNDERDRAIN CLEANOUT
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 F-10161

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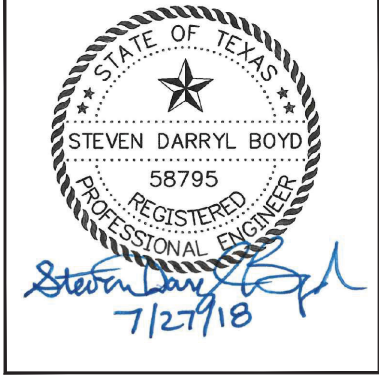
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

## UNDERDRAIN PLAN (7 OF 9)

ISSUED FOR BID

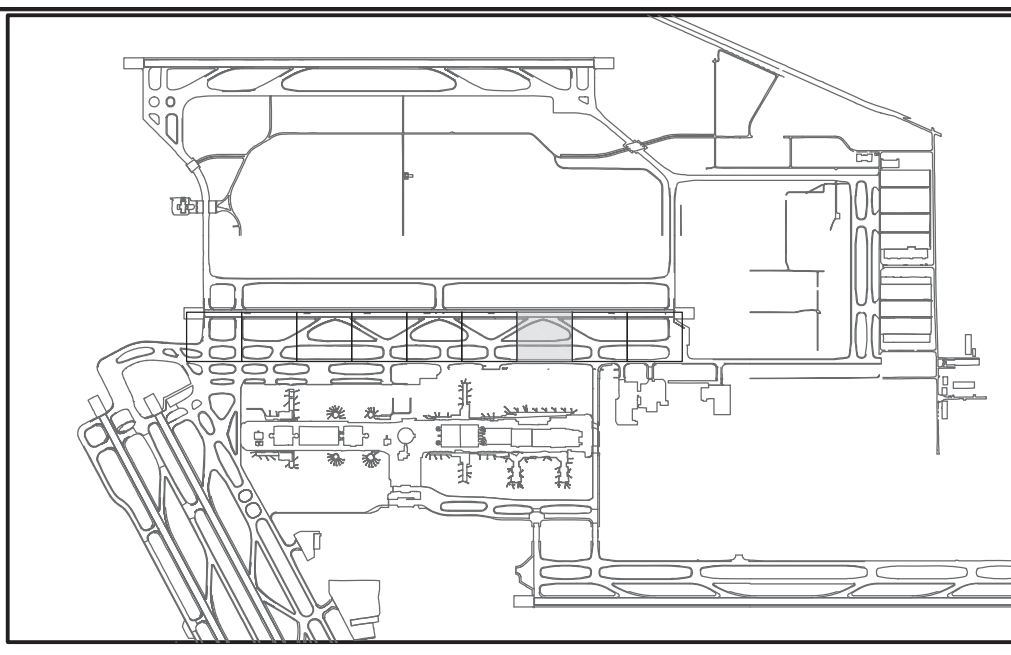
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DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Donaj Pehel* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO.

D03.07

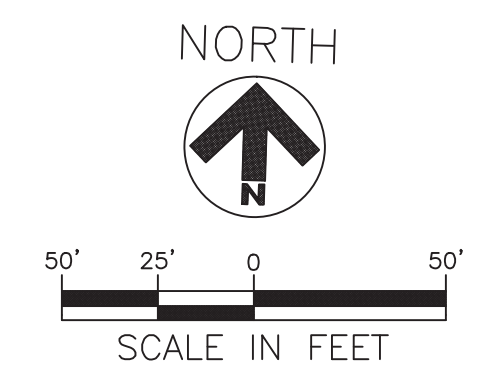
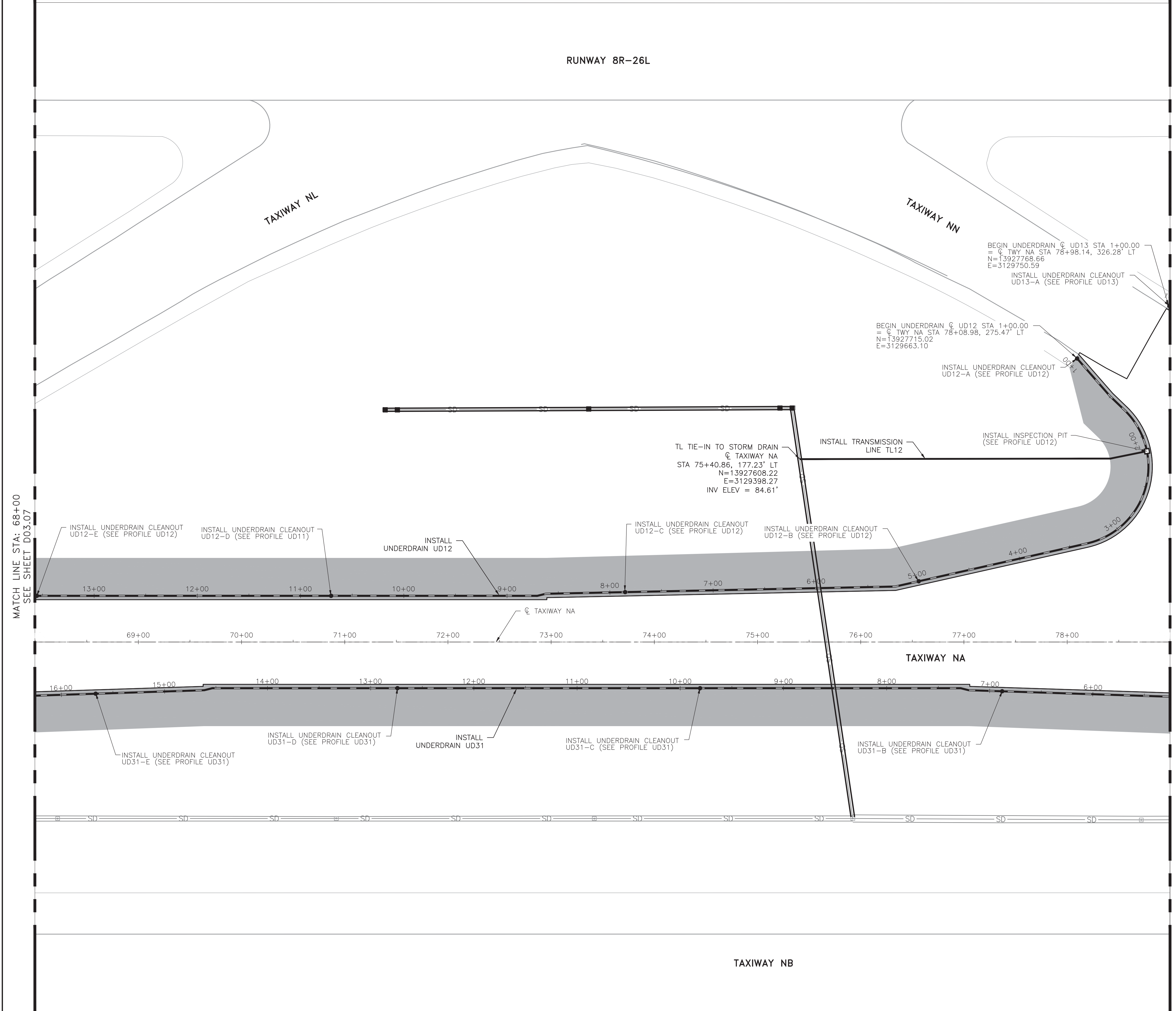


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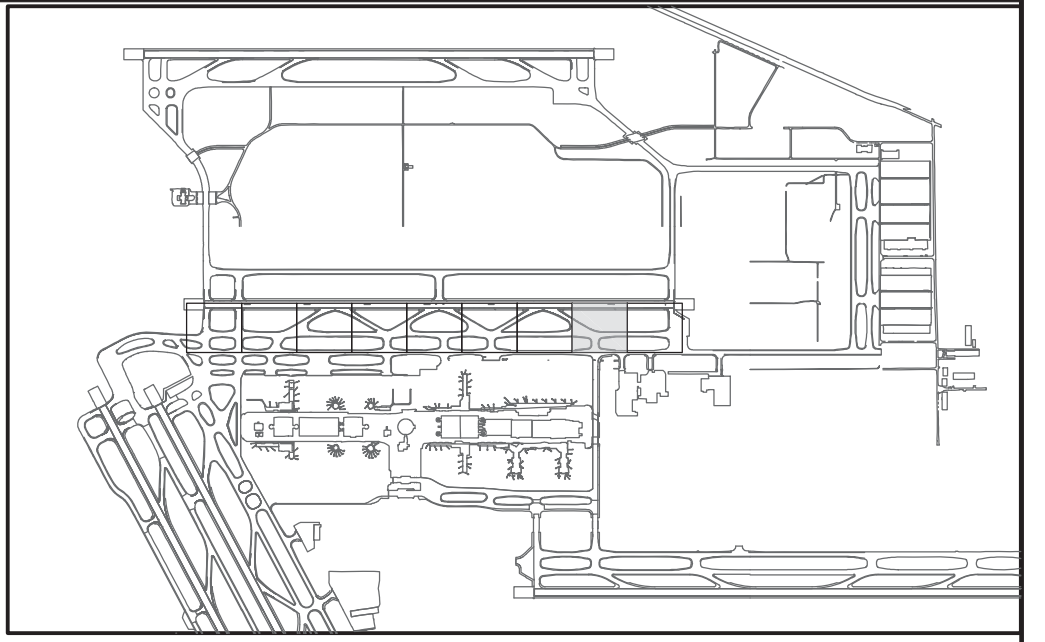
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- NEW 6-INCH UNDERDRAIN (PERFORATED)
- NEW 6-INCH UNDERDRAIN (NON-PERFORATED)
- NEW UNDERDRAIN CLEANOUT
- NEW UNDERDRAIN INSPECTION PIT
- EXISTING STORM SEWER INLET
- EXISTING STORM SEWER INLET TO BE ADJUSTED
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### LEGEND

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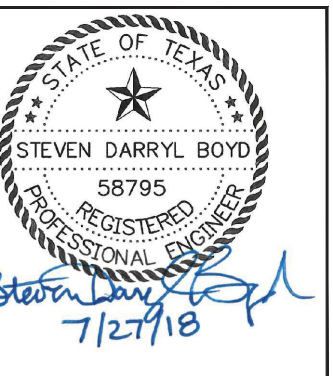
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RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

## UNDERDRAIN PLAN (8 OF 9)

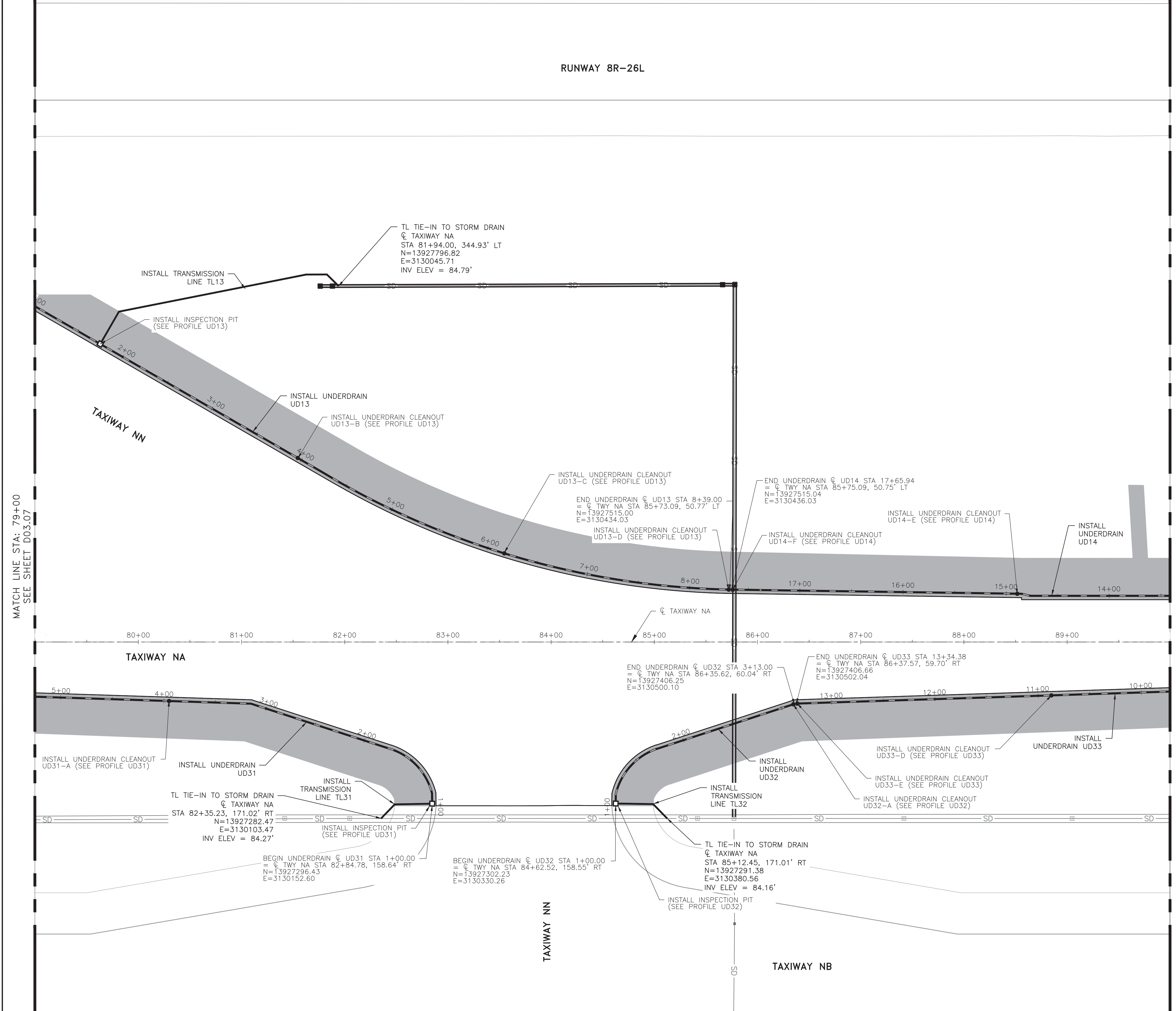
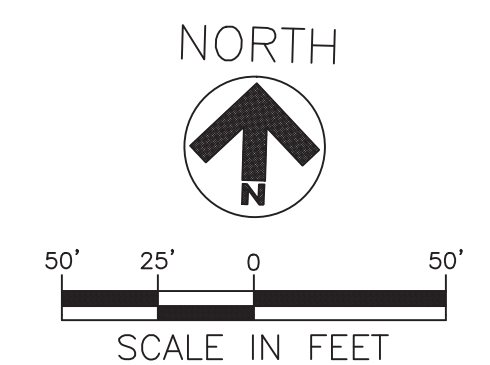
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DESIGNER:	KE
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	APPROVED BY:	DATE:
	<i>Danaj Rahal</i>	JULY 27, 2018
	HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	D03.08







HOUSTON AIRPORT SYSTEM  
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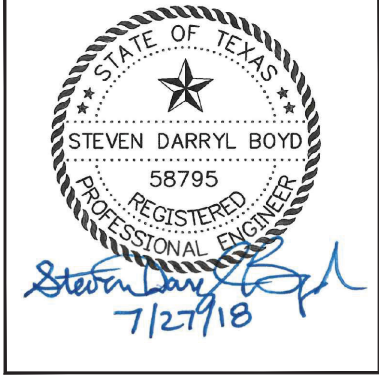
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

## UNDERDRAIN PLAN (9 OF 9)

ISSUED FOR BID

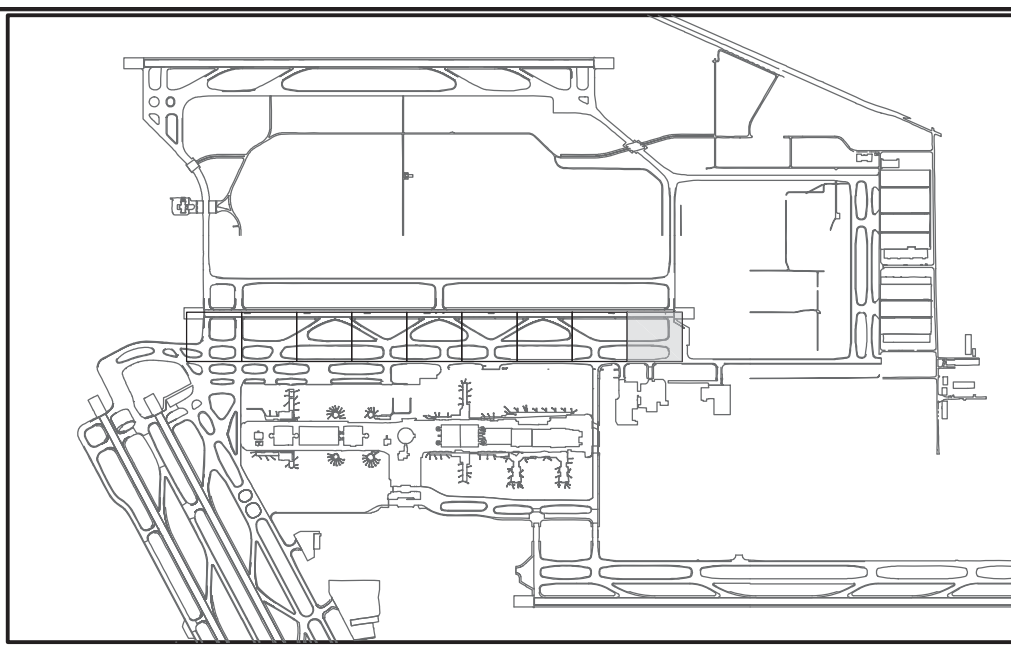
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DRAWN BY:	KE
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SCALE:	1"=50'
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Rahal* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**D03.09**

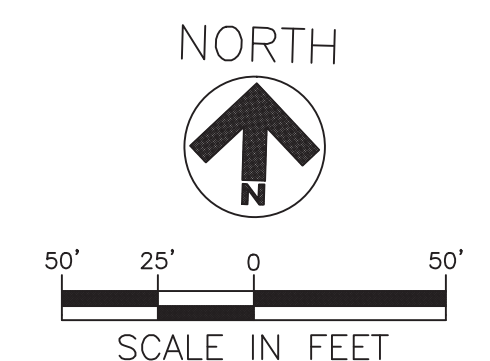
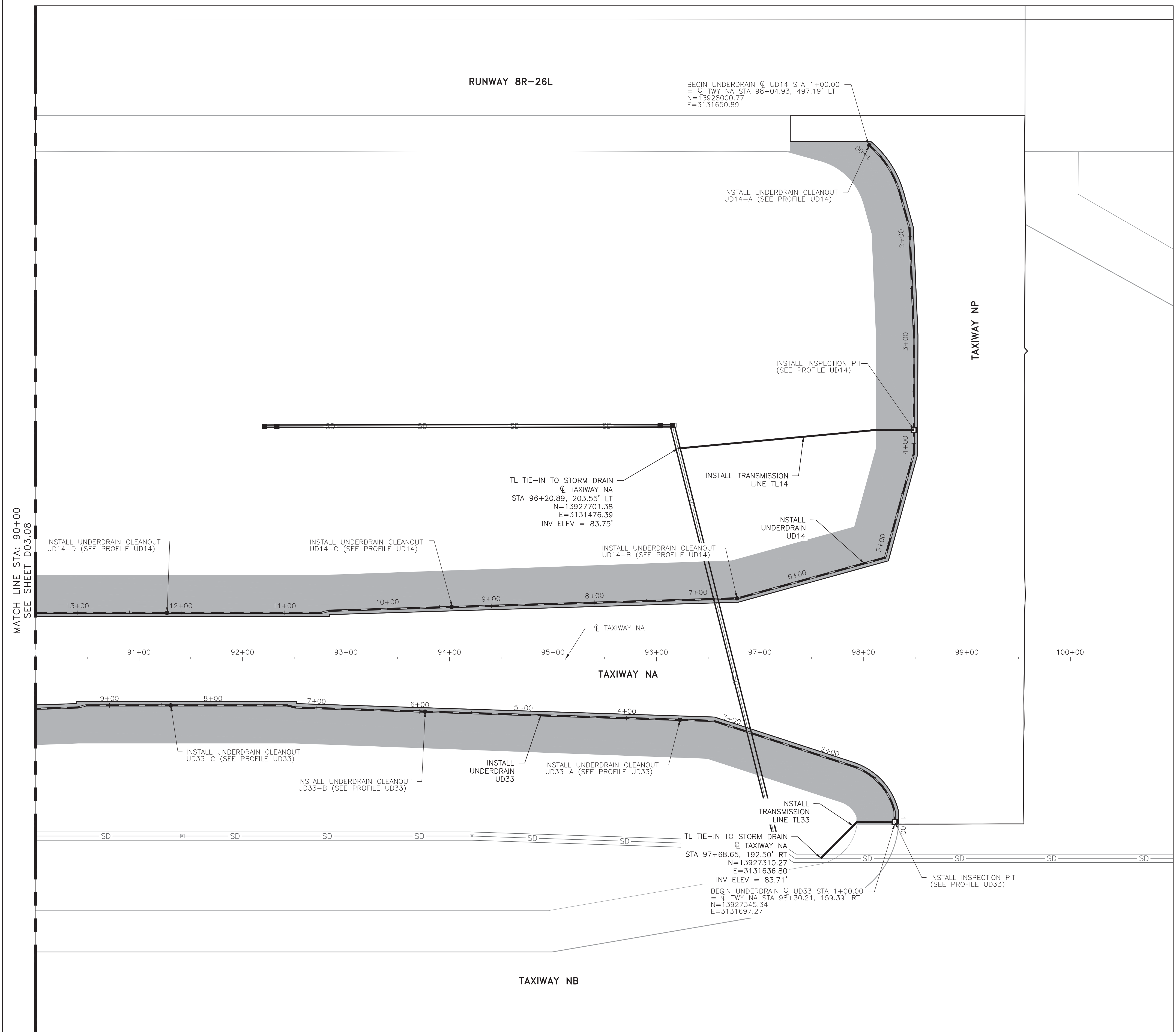


### LEGEND

- NEW TAXIWAY SHOULDER PAVEMENT
- NEW 6-INCH UNDERDRAIN (PERFORATED)
- NEW 6-INCH UNDERDRAIN (NON-PERFORATED)
- NEW UNDERDRAIN CLEANOUT
- NEW UNDERDRAIN INSPECTION PIT
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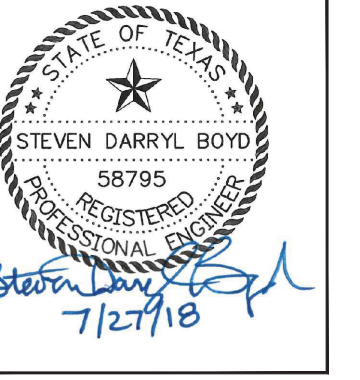


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 Firm Registration No.  
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NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**UNDERDRAIN PROFILES**  
 (1 OF 5)

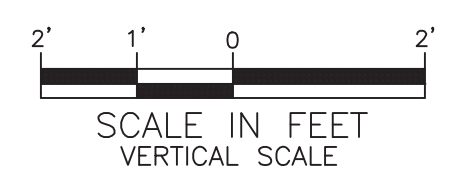
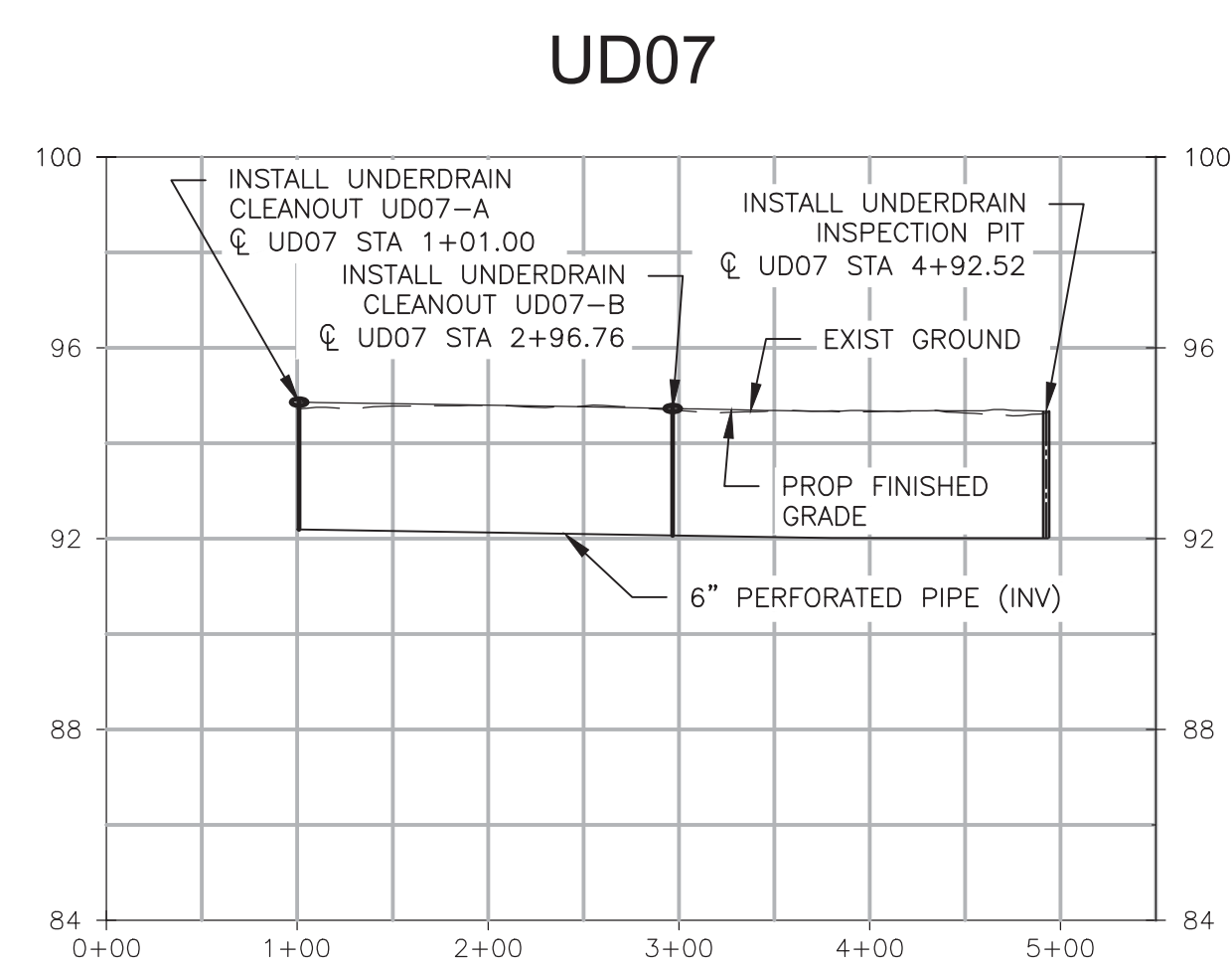
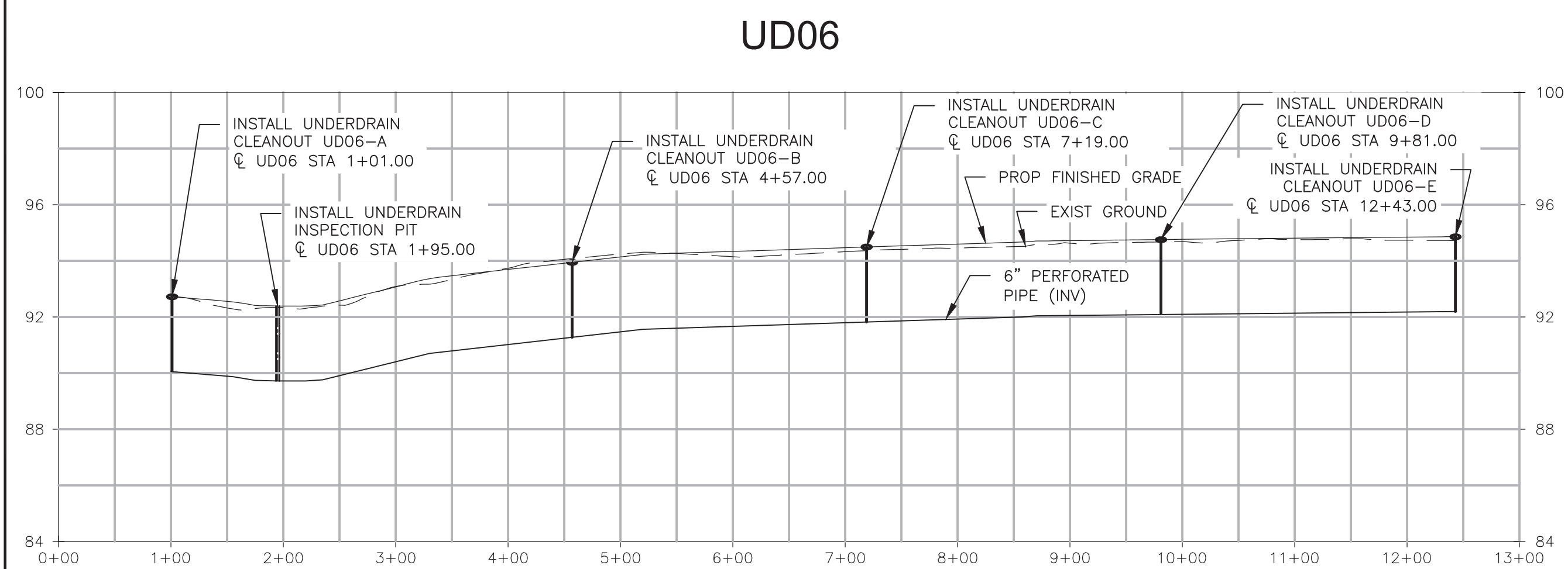
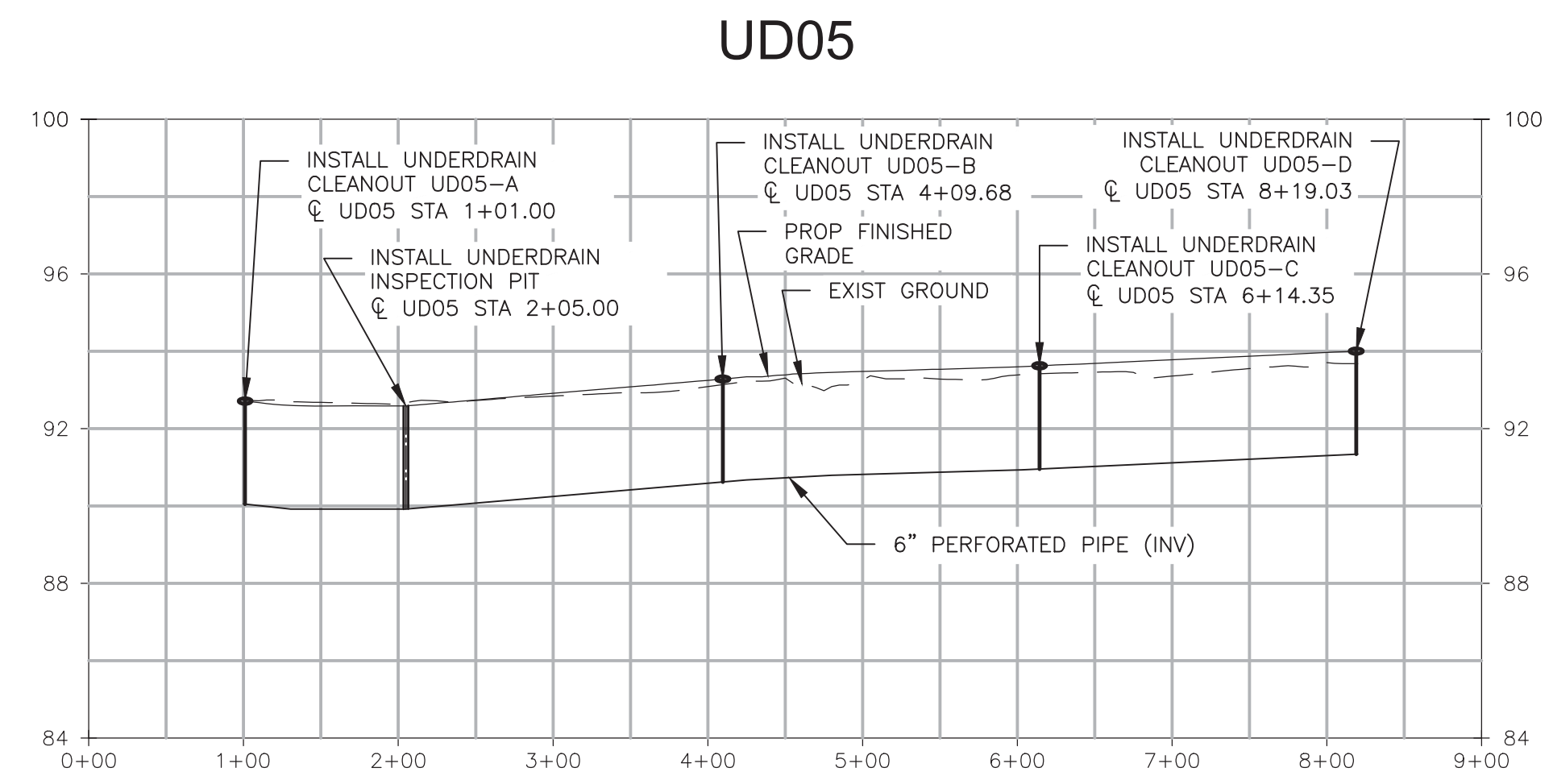
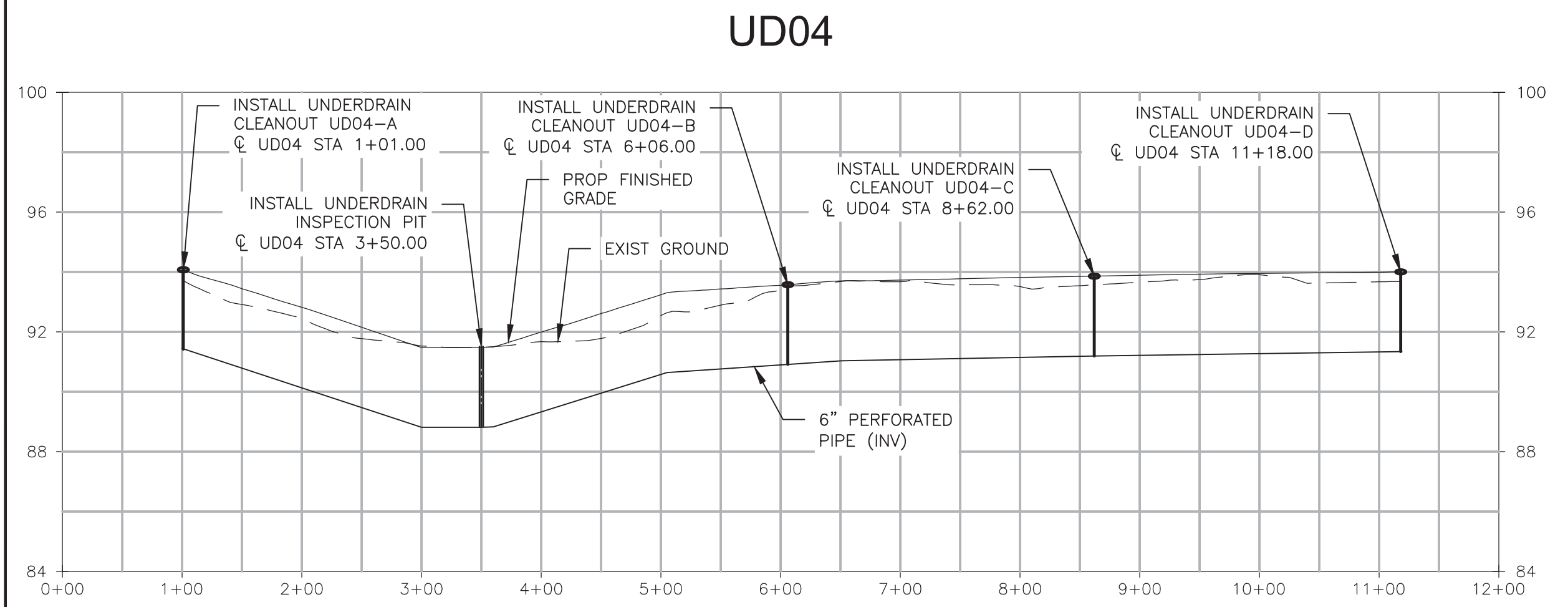
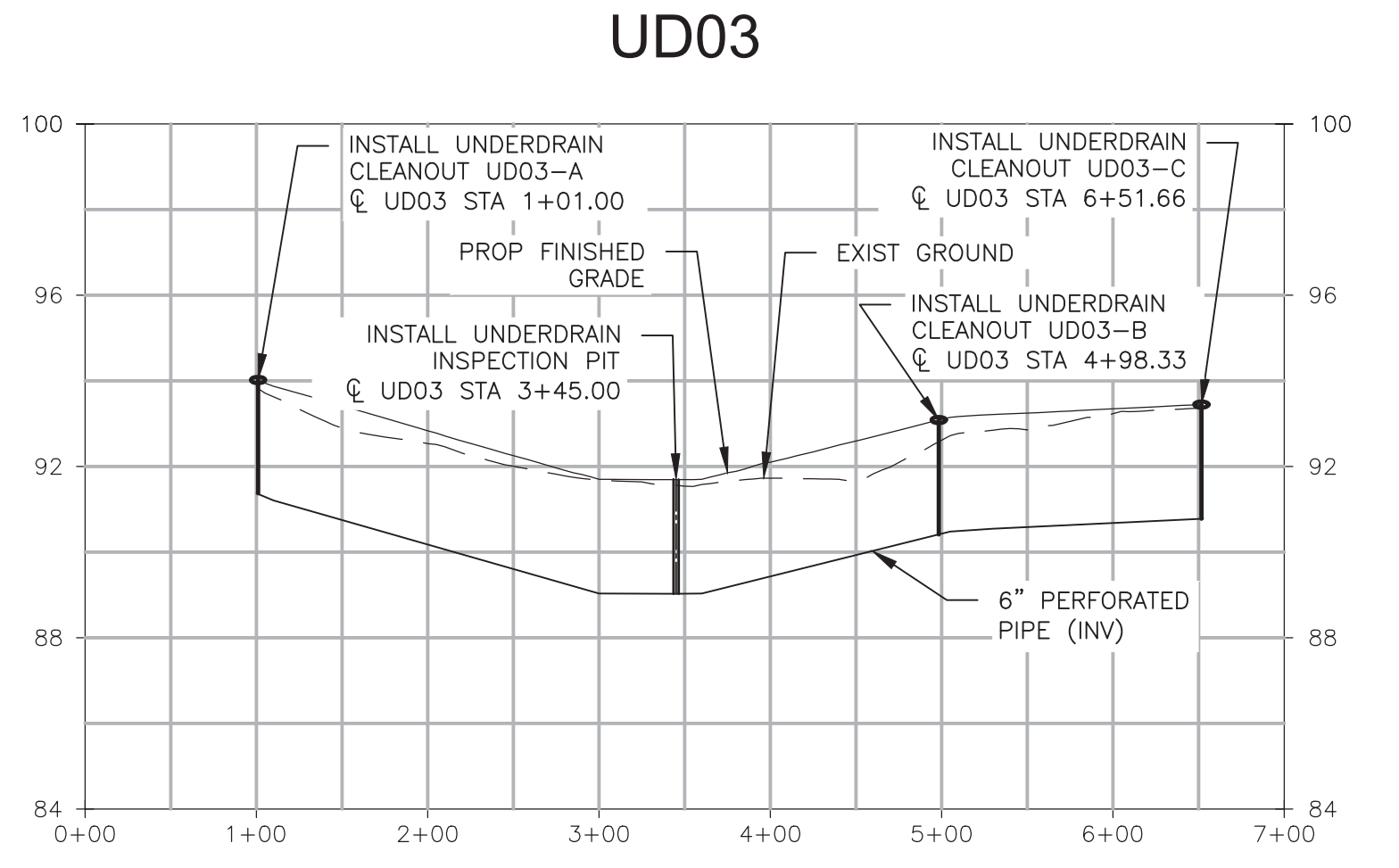
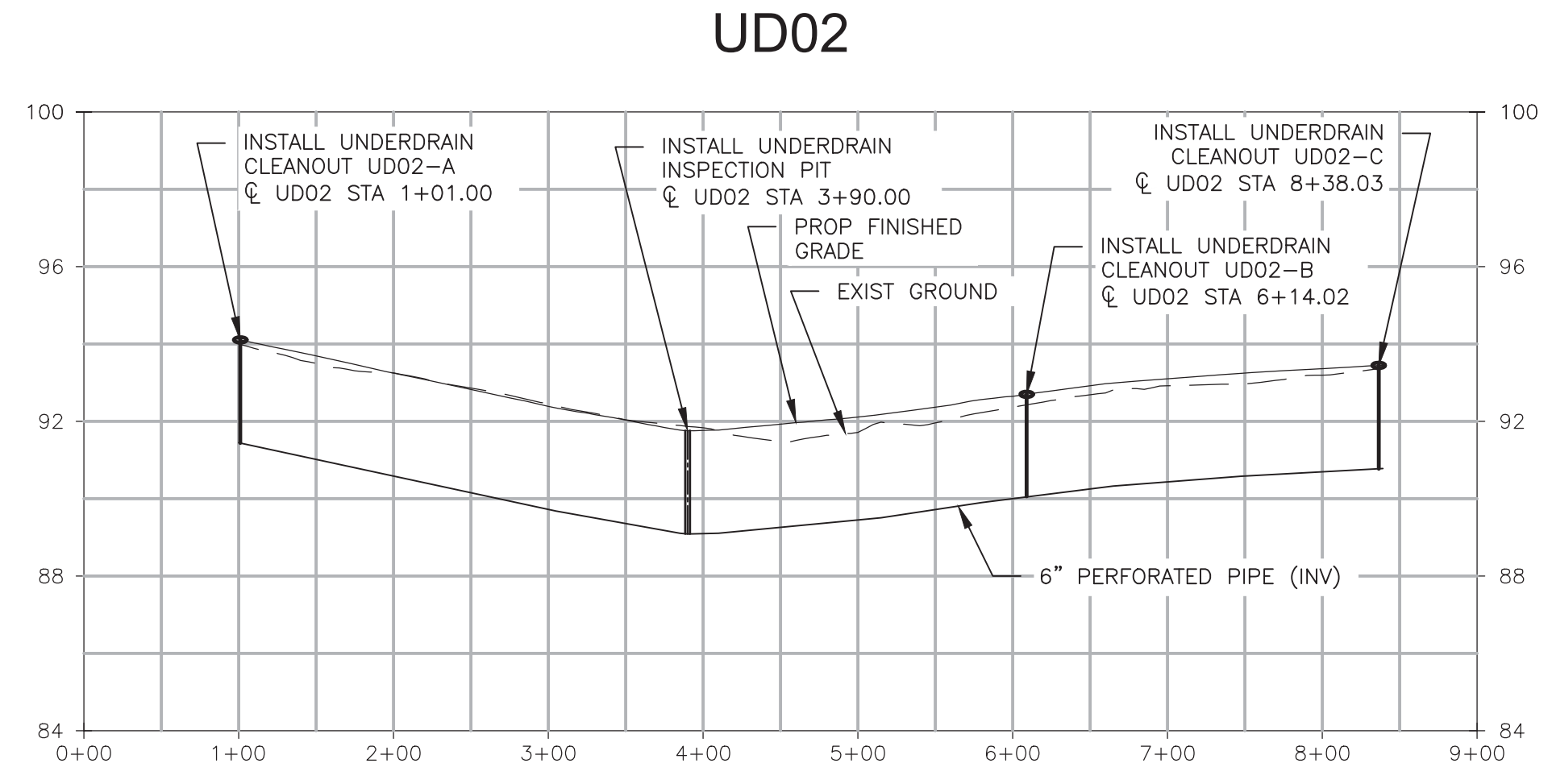
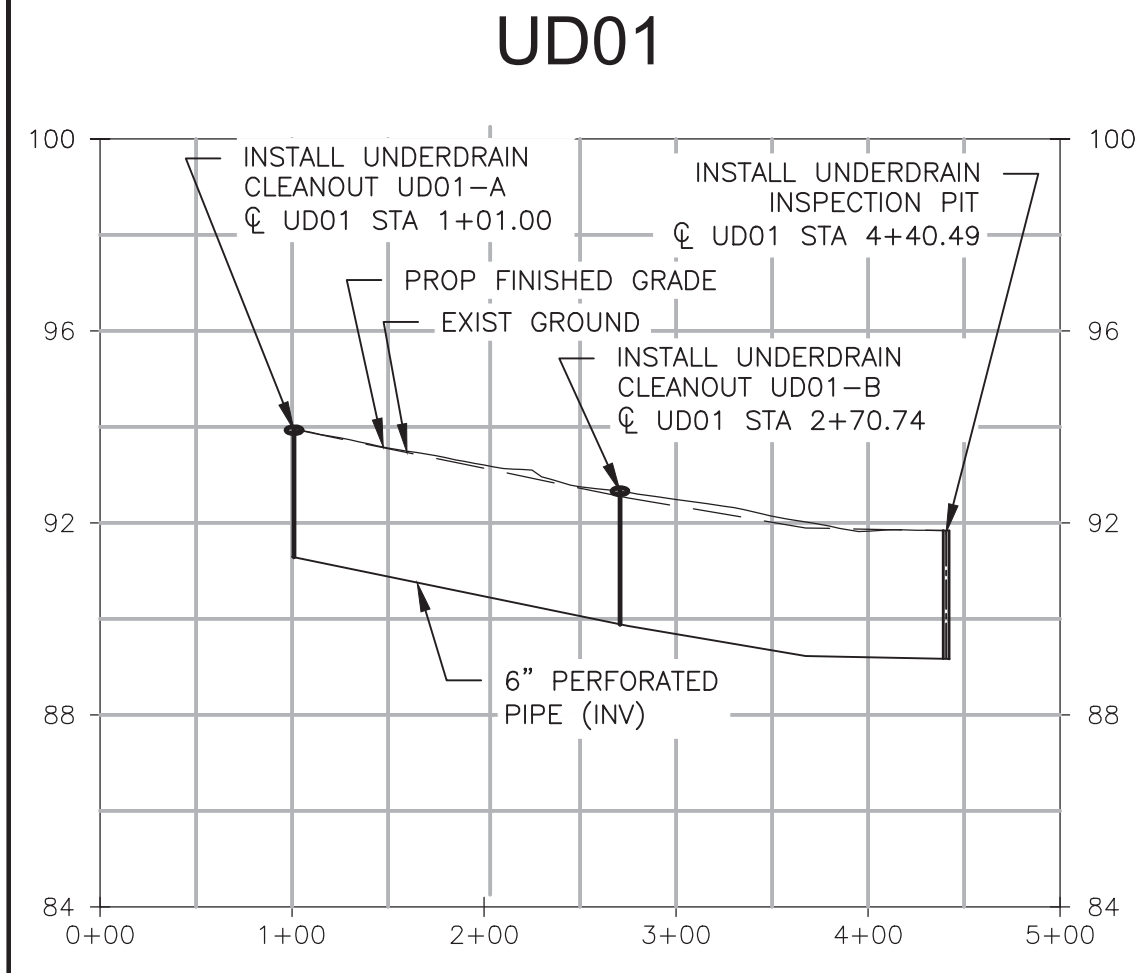
ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DATE:  
*Donaj Rahal* JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

D03.10







HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS

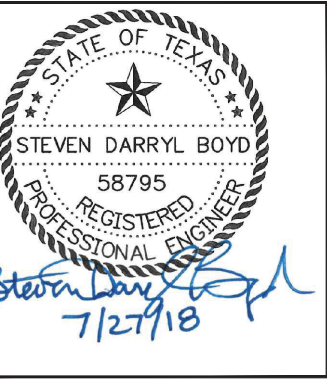


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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**UNDERDRAIN PROFILES**  
 (2 OF 5)

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018

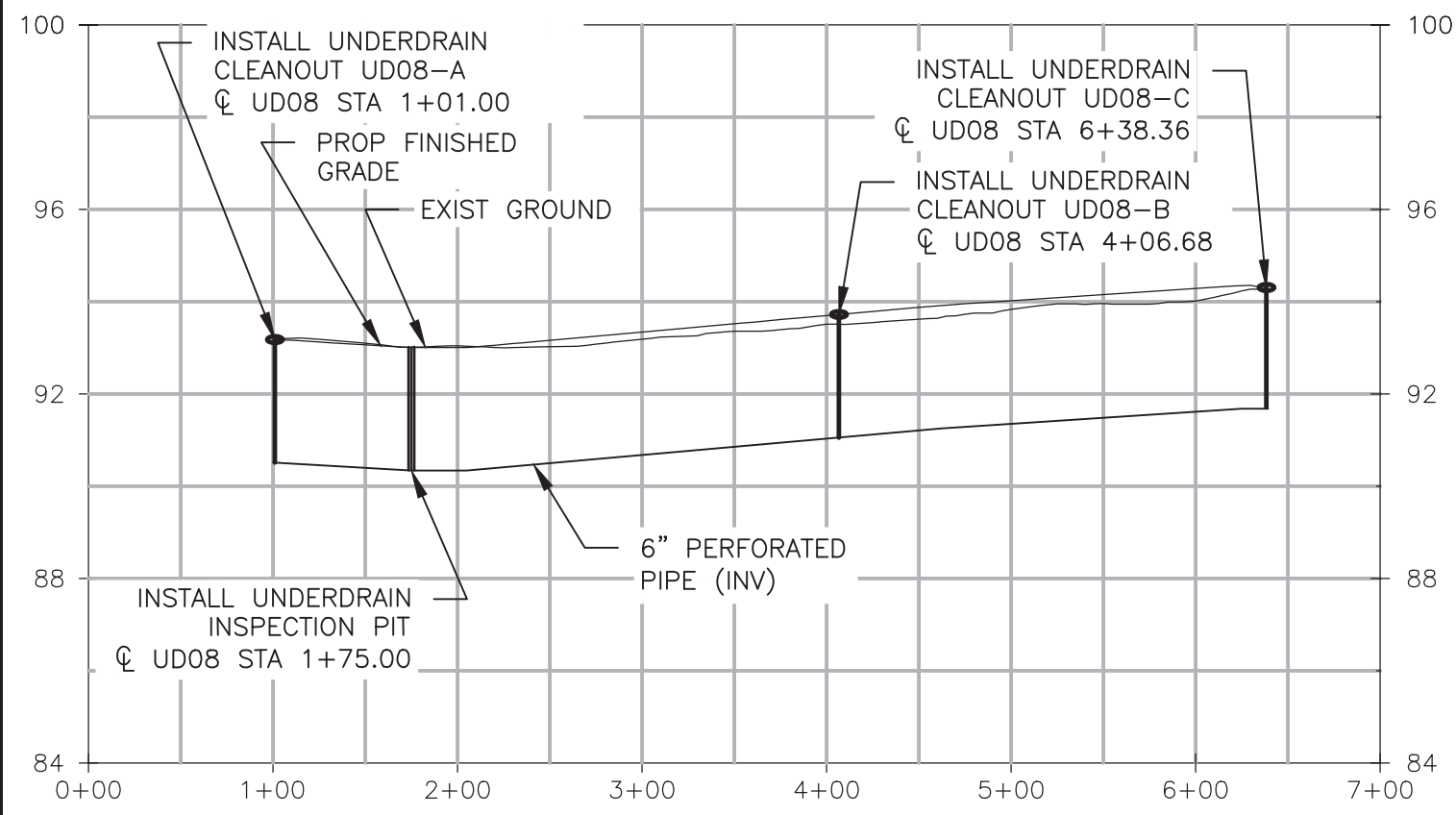


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 APPROVED BY: DATE:  
*Danaj Palmer* JULY 27, 2018  
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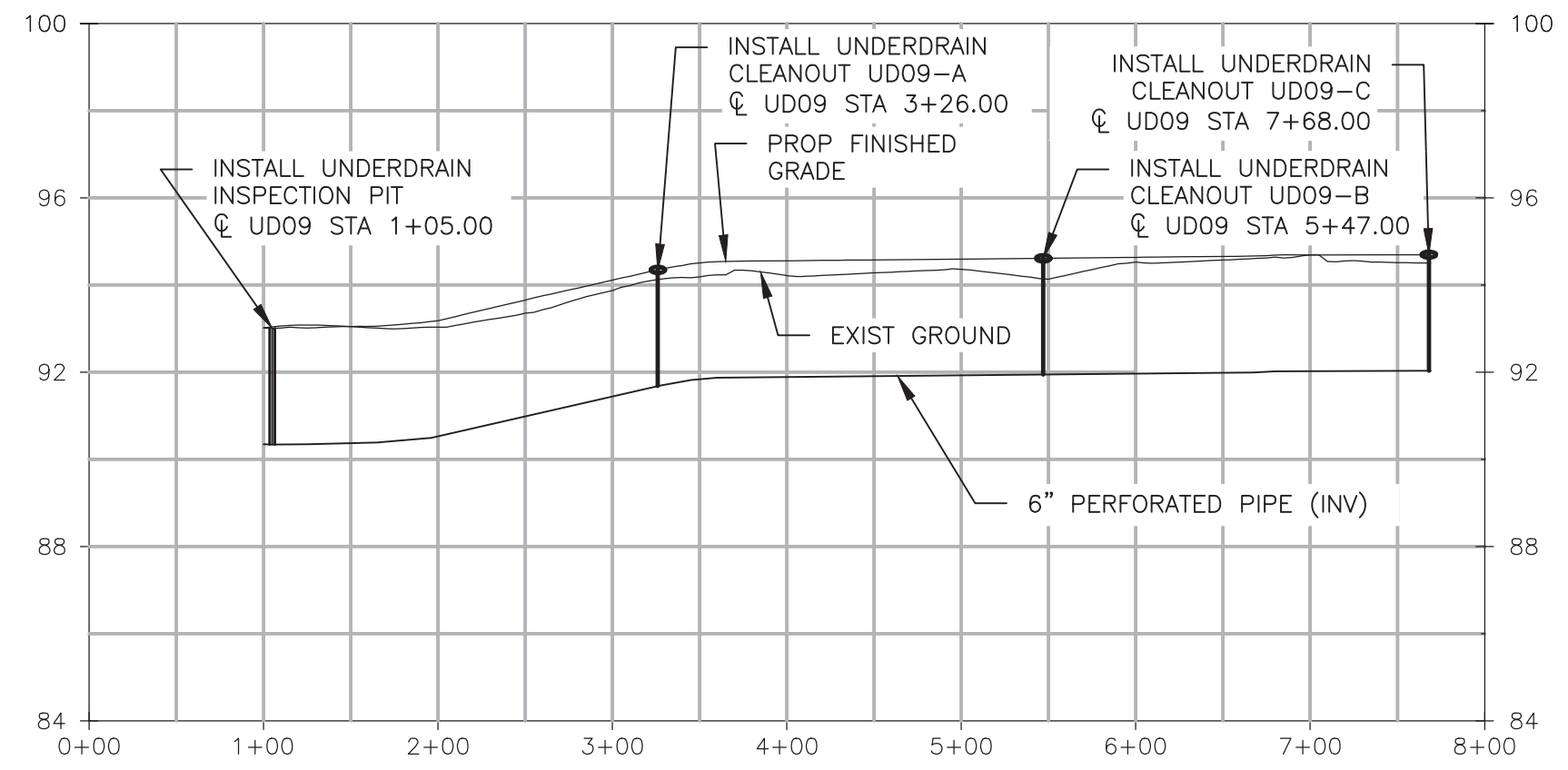
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

D03.11

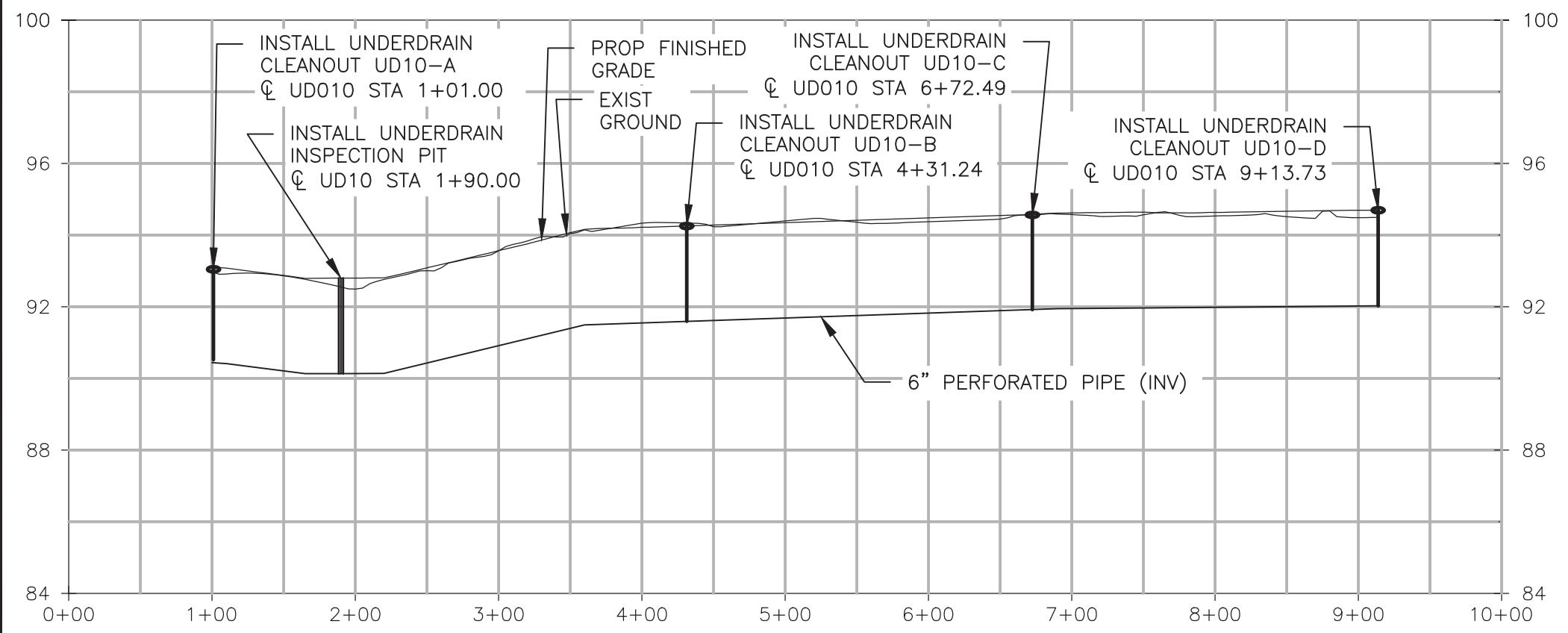
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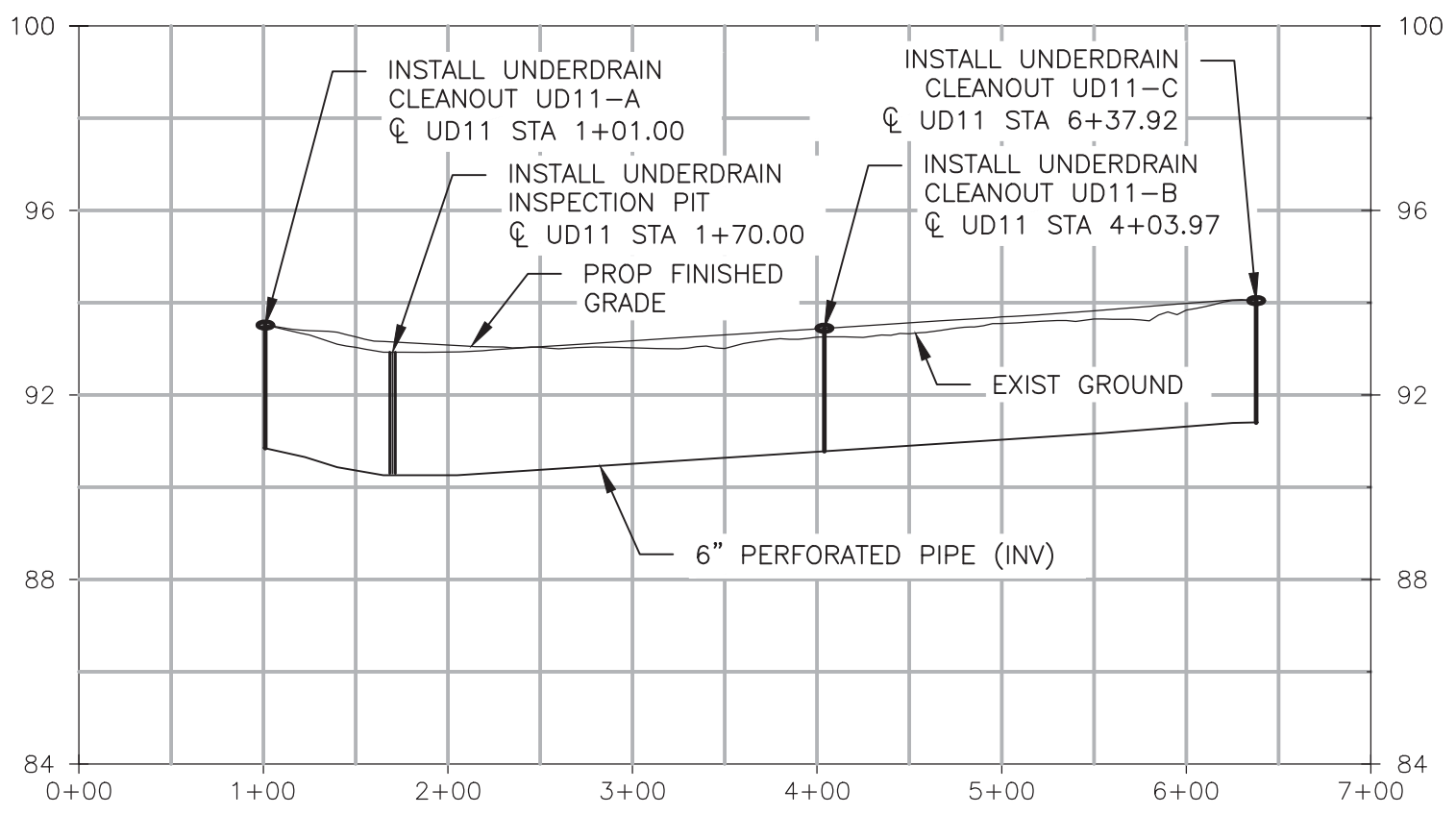
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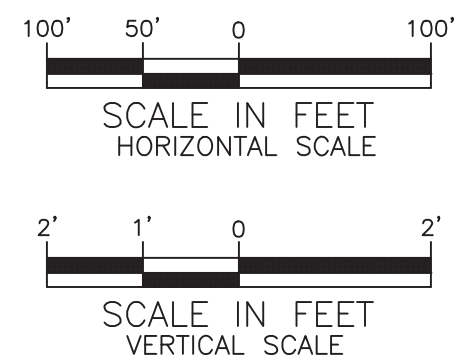
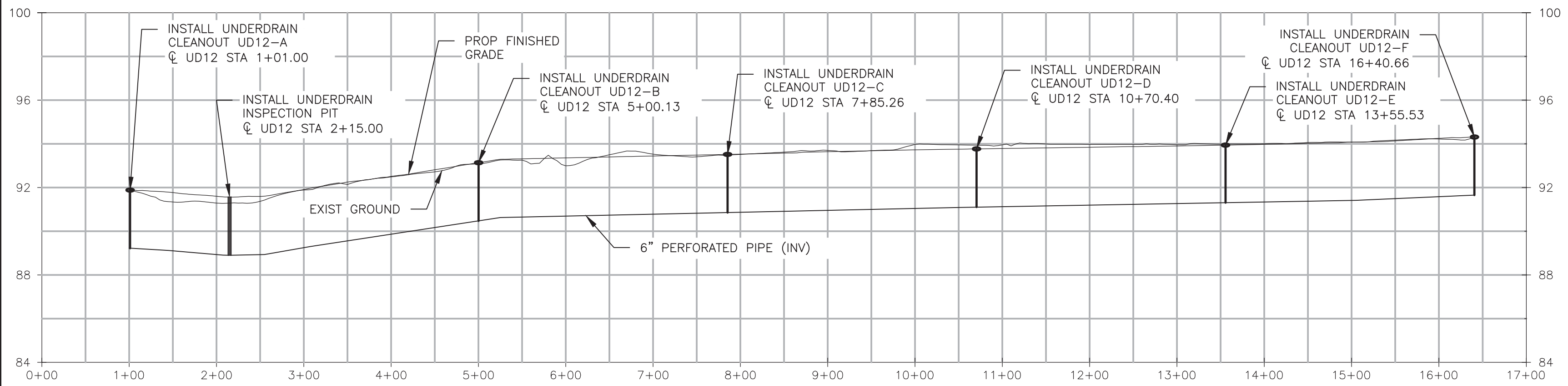
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UD11



UD12







HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

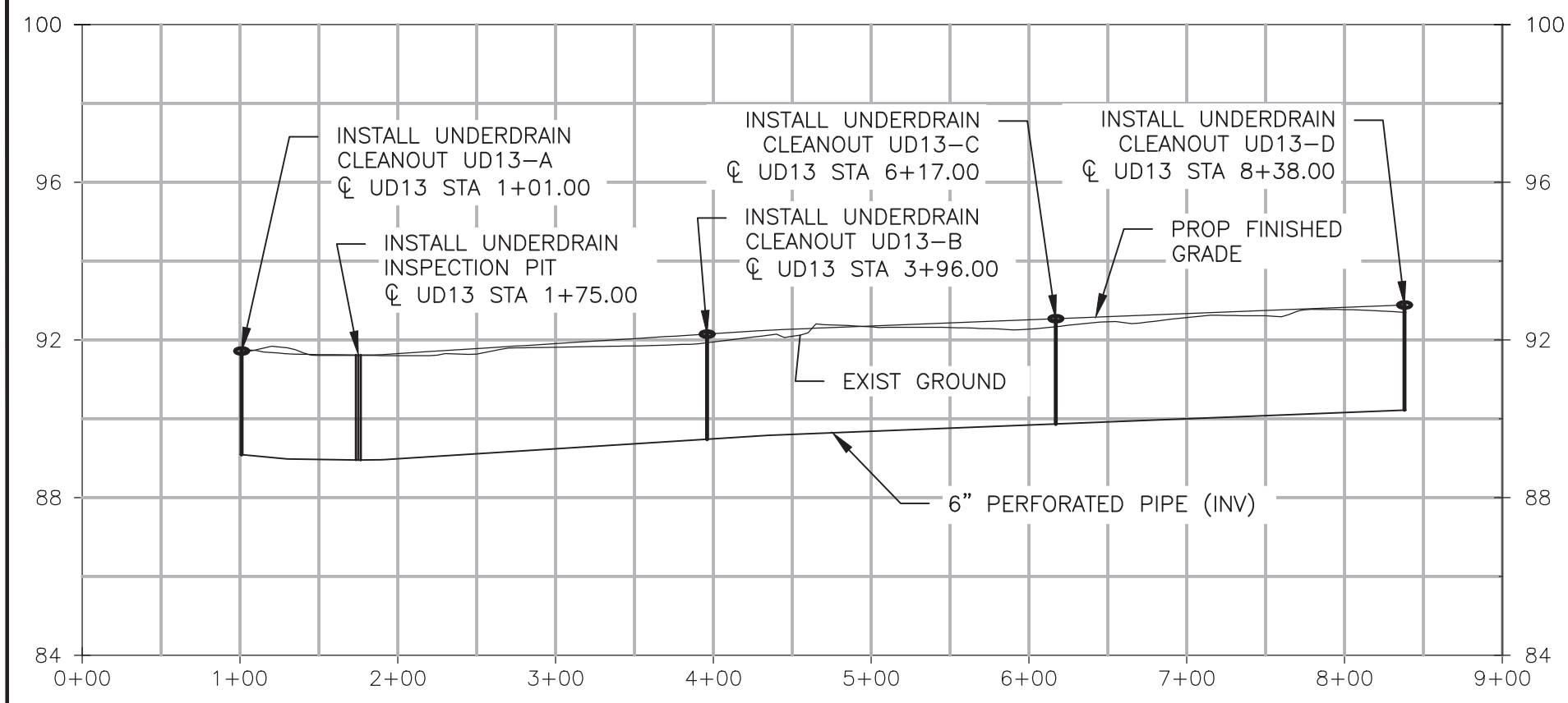


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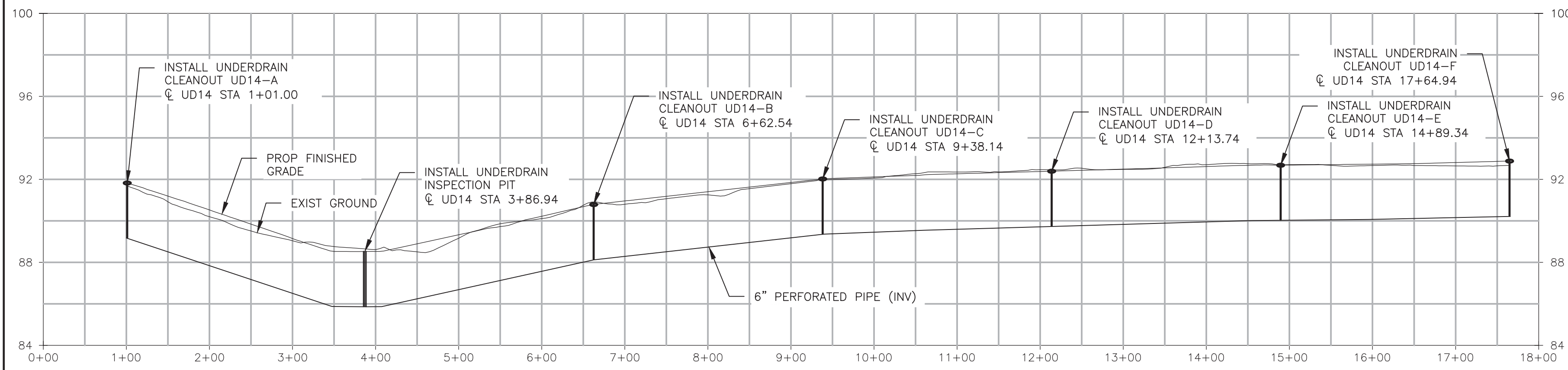
REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT UNDERDRAIN PROFILES (3 OF 5)

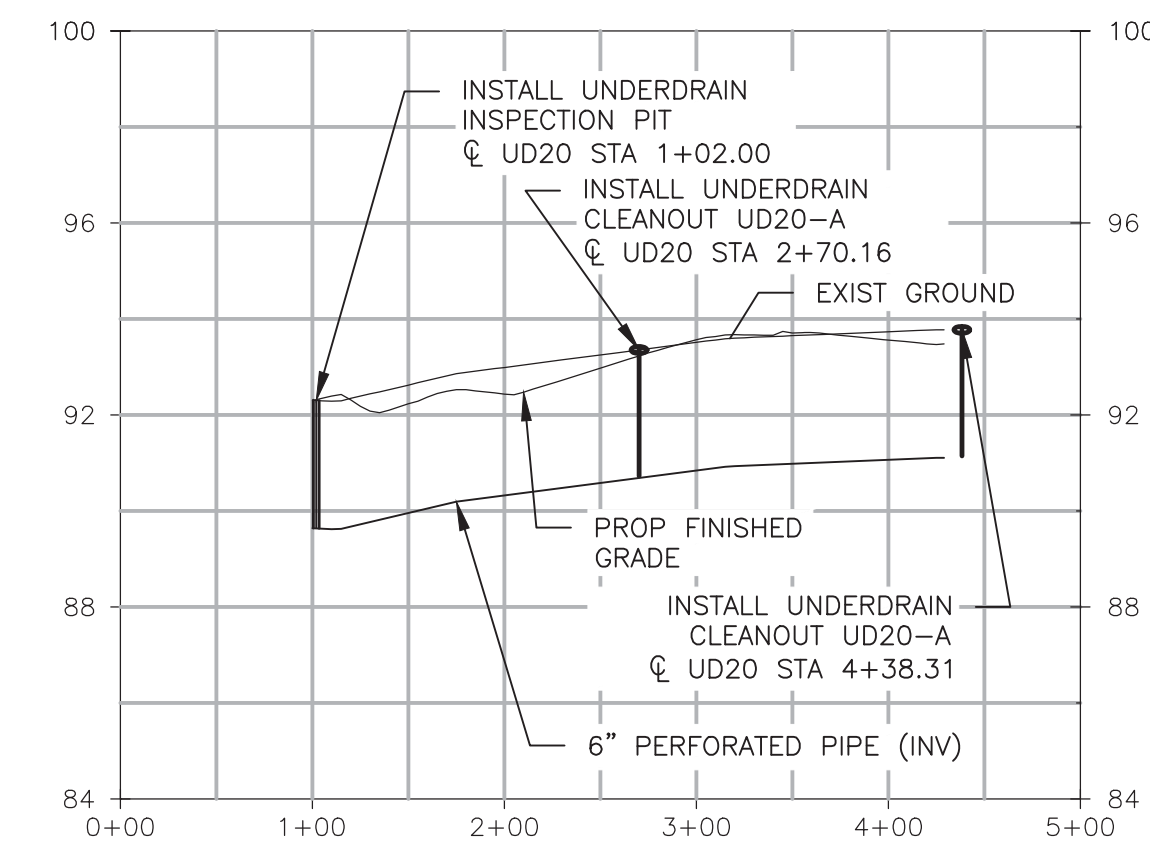
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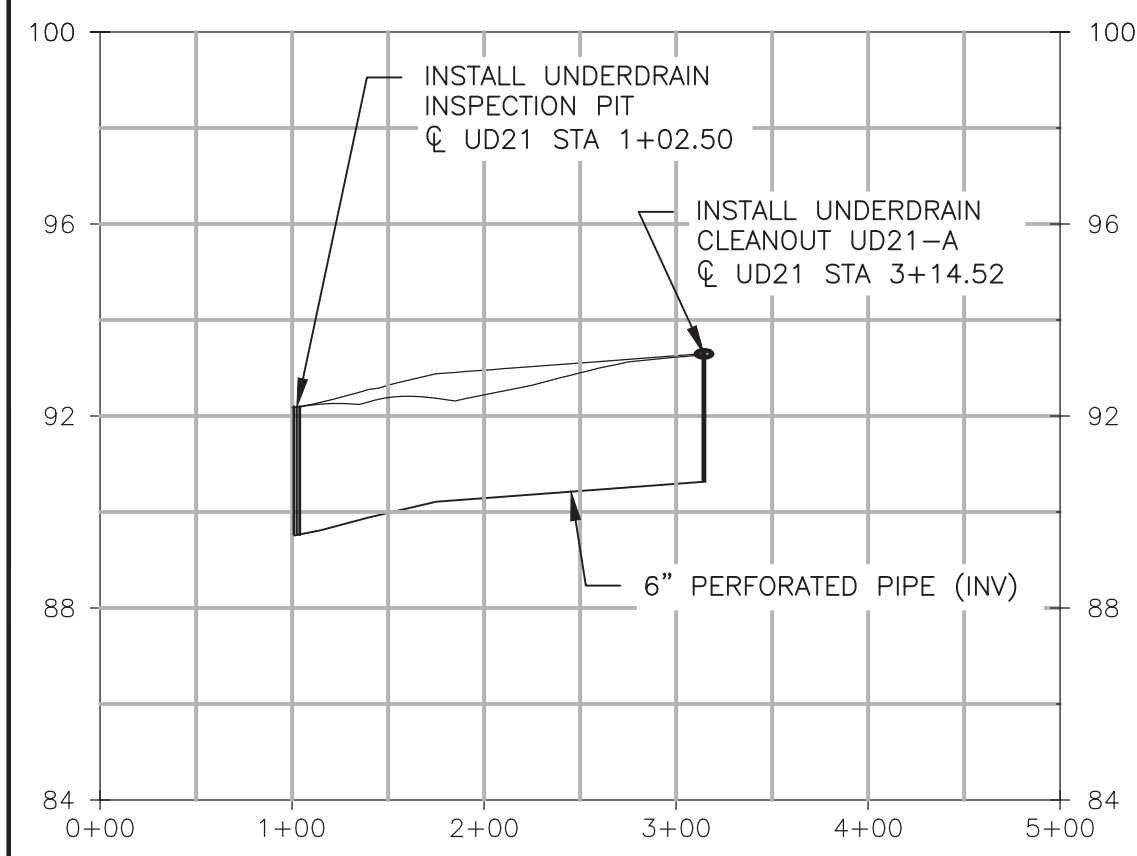
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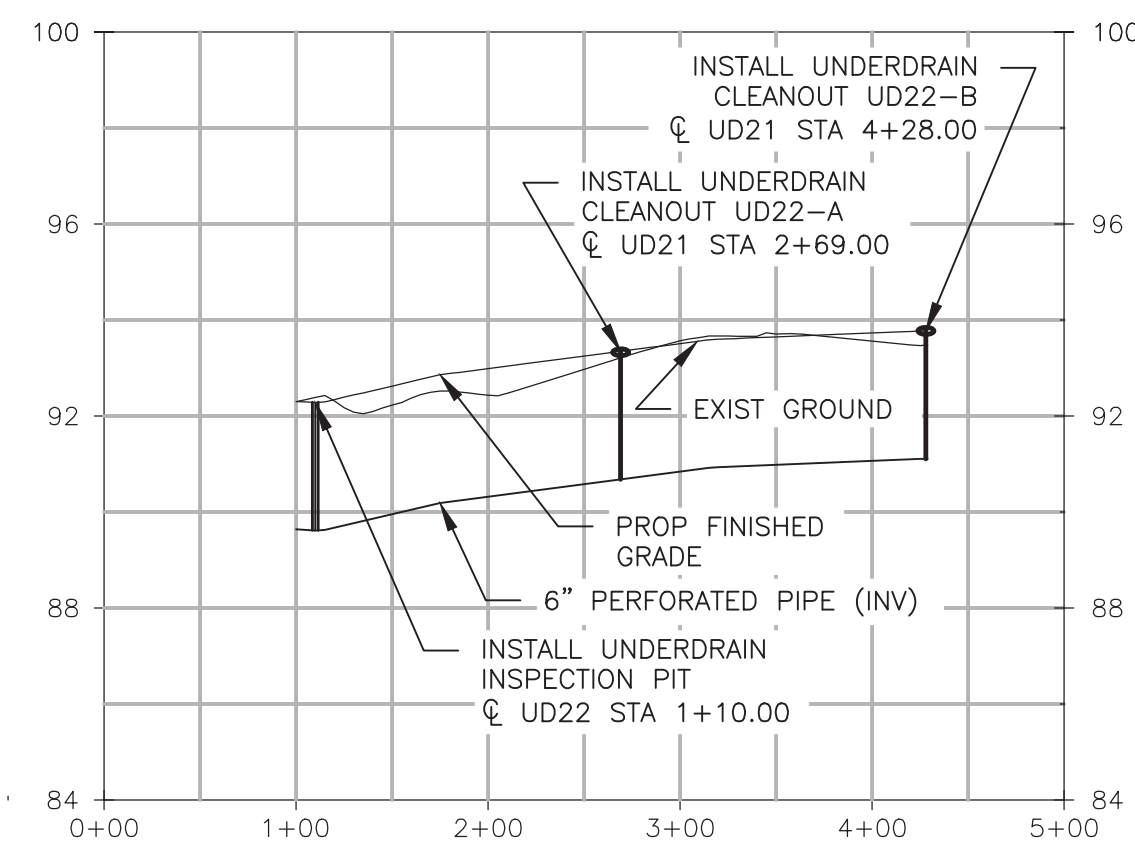
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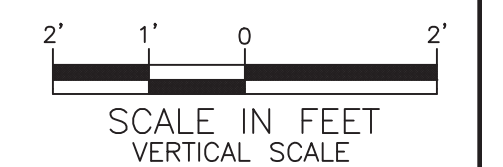
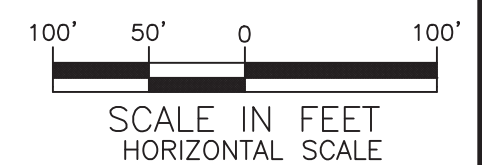
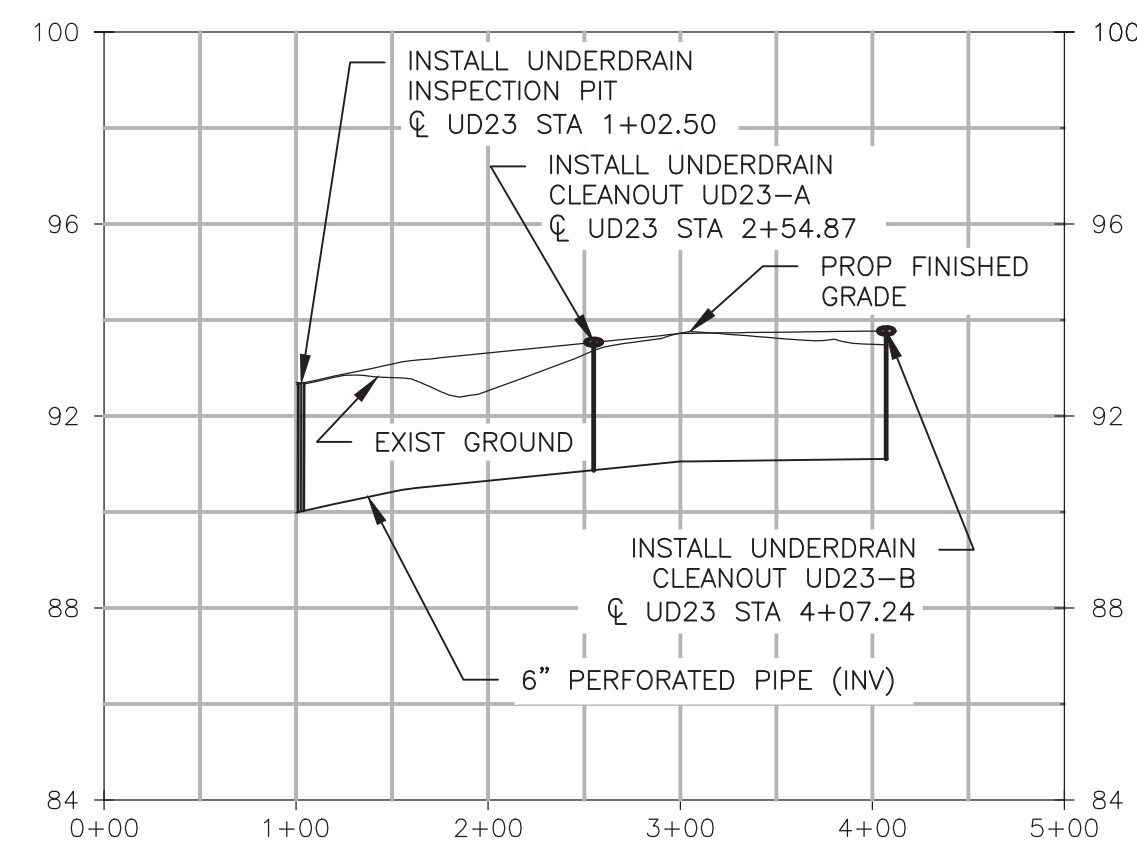
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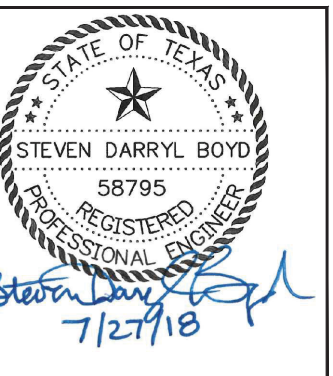
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### UD23



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PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DATE:
<i>Danaj Rahal</i>	JULY 27, 2018
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

D03.12





HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS

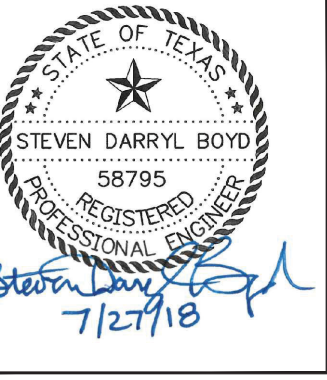


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REVISIONS			
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RECONSTRUCTION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**UNDERDRAIN PROFILES**  
 (4 OF 5)

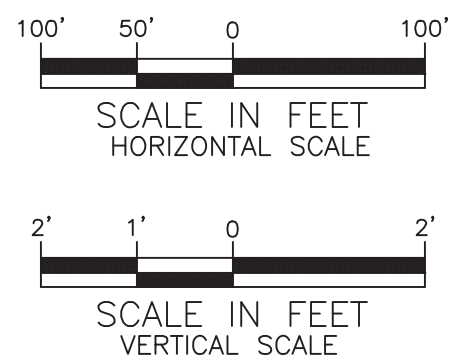
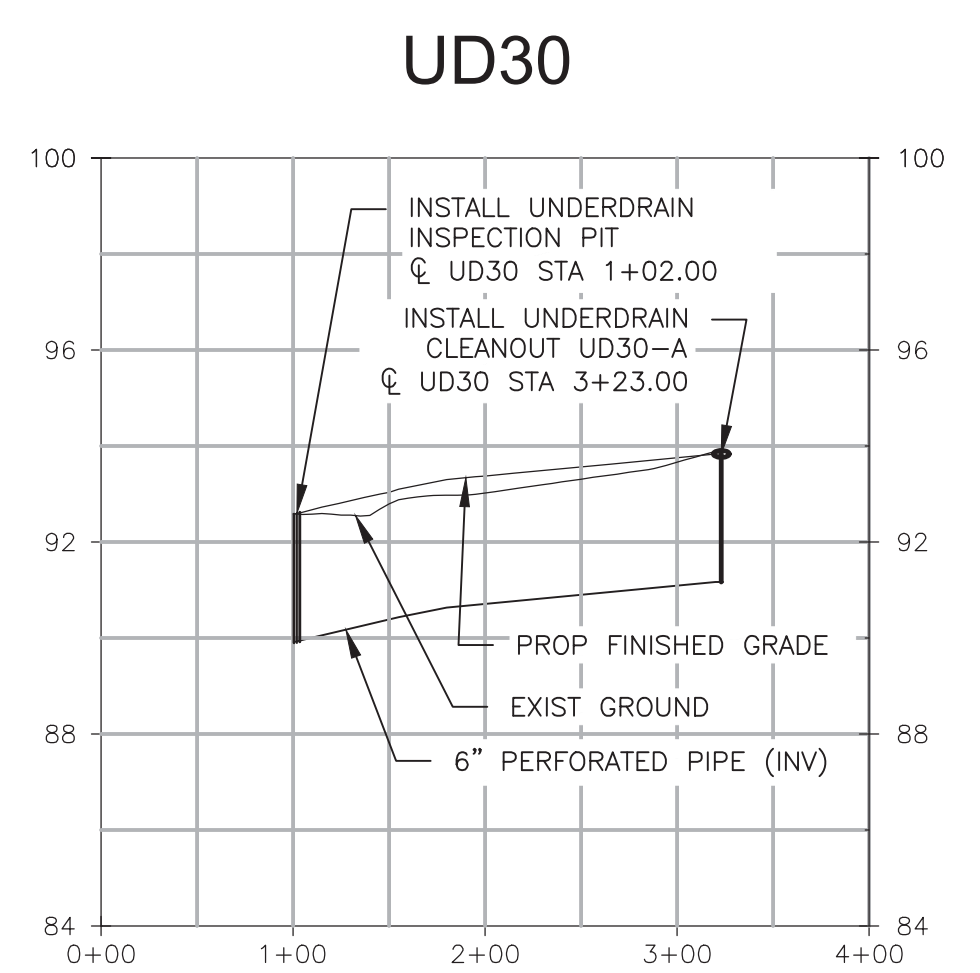
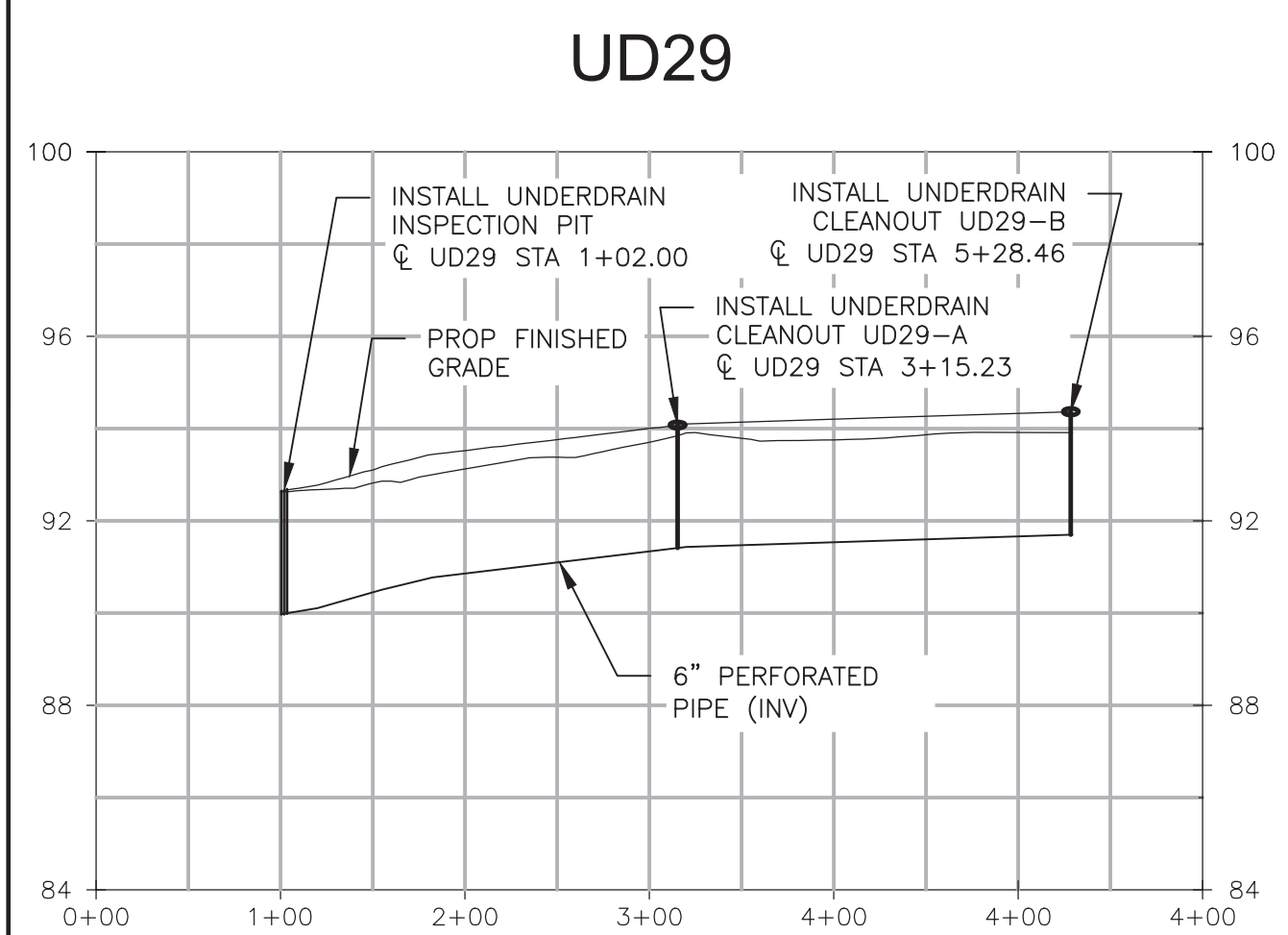
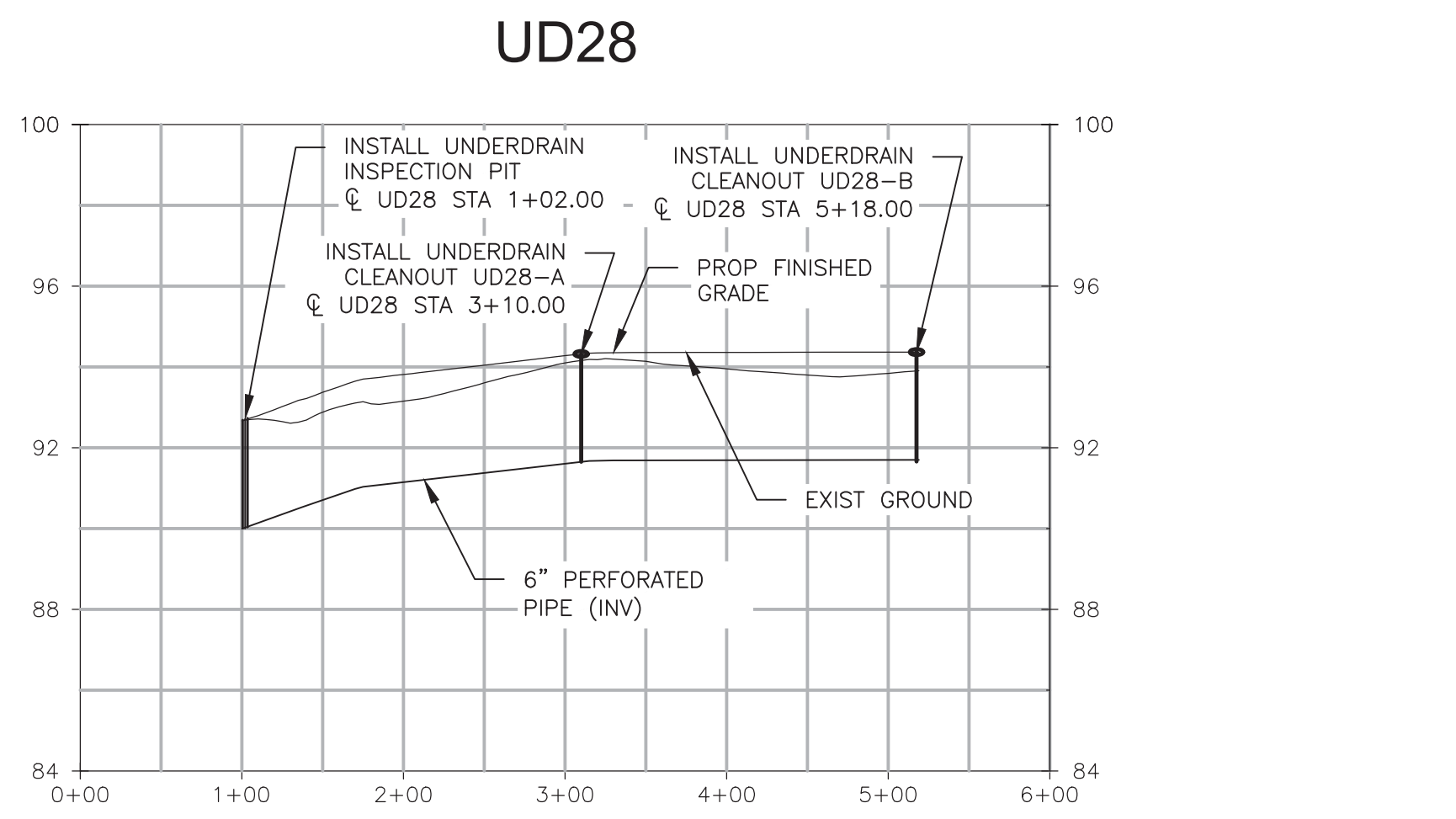
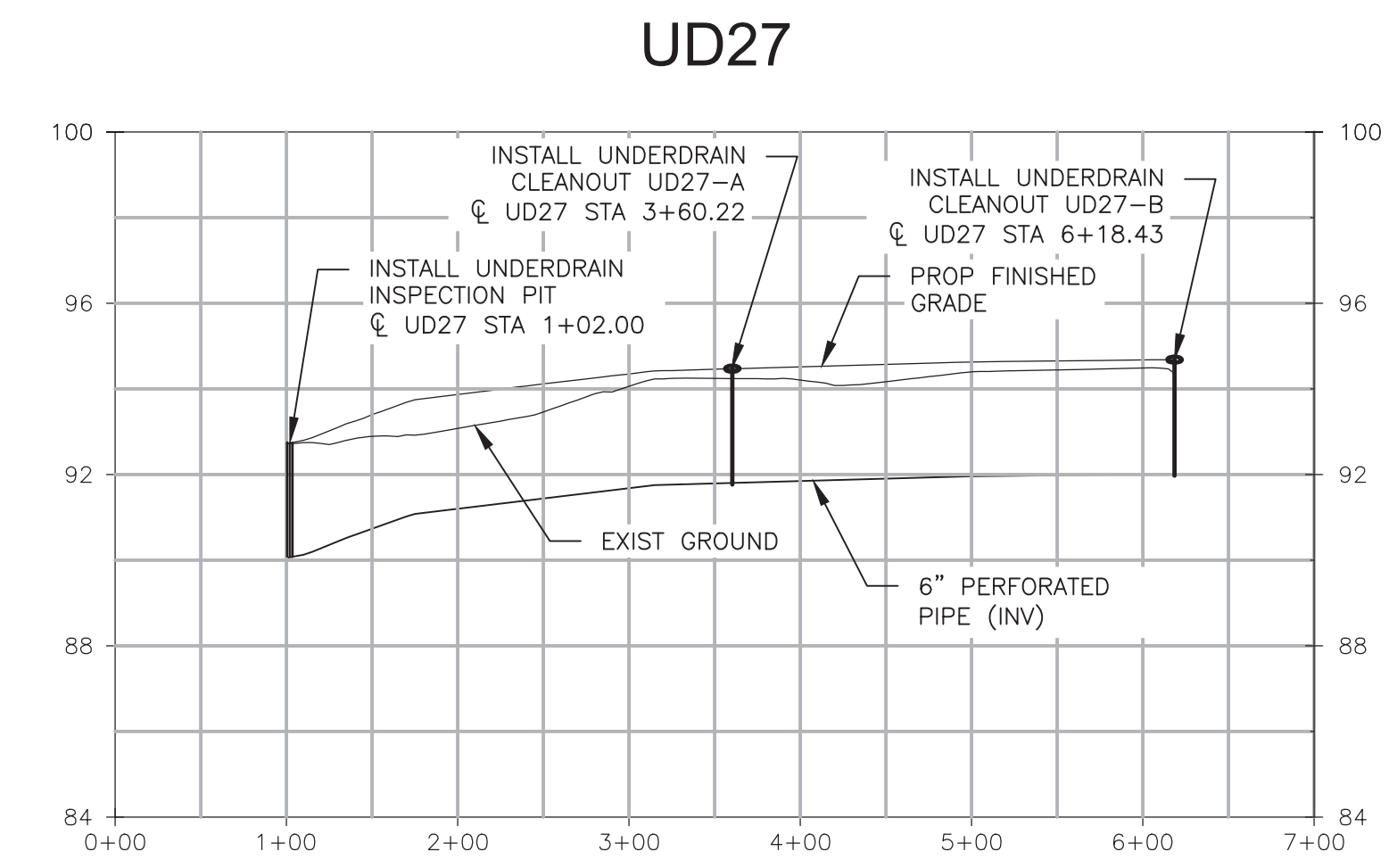
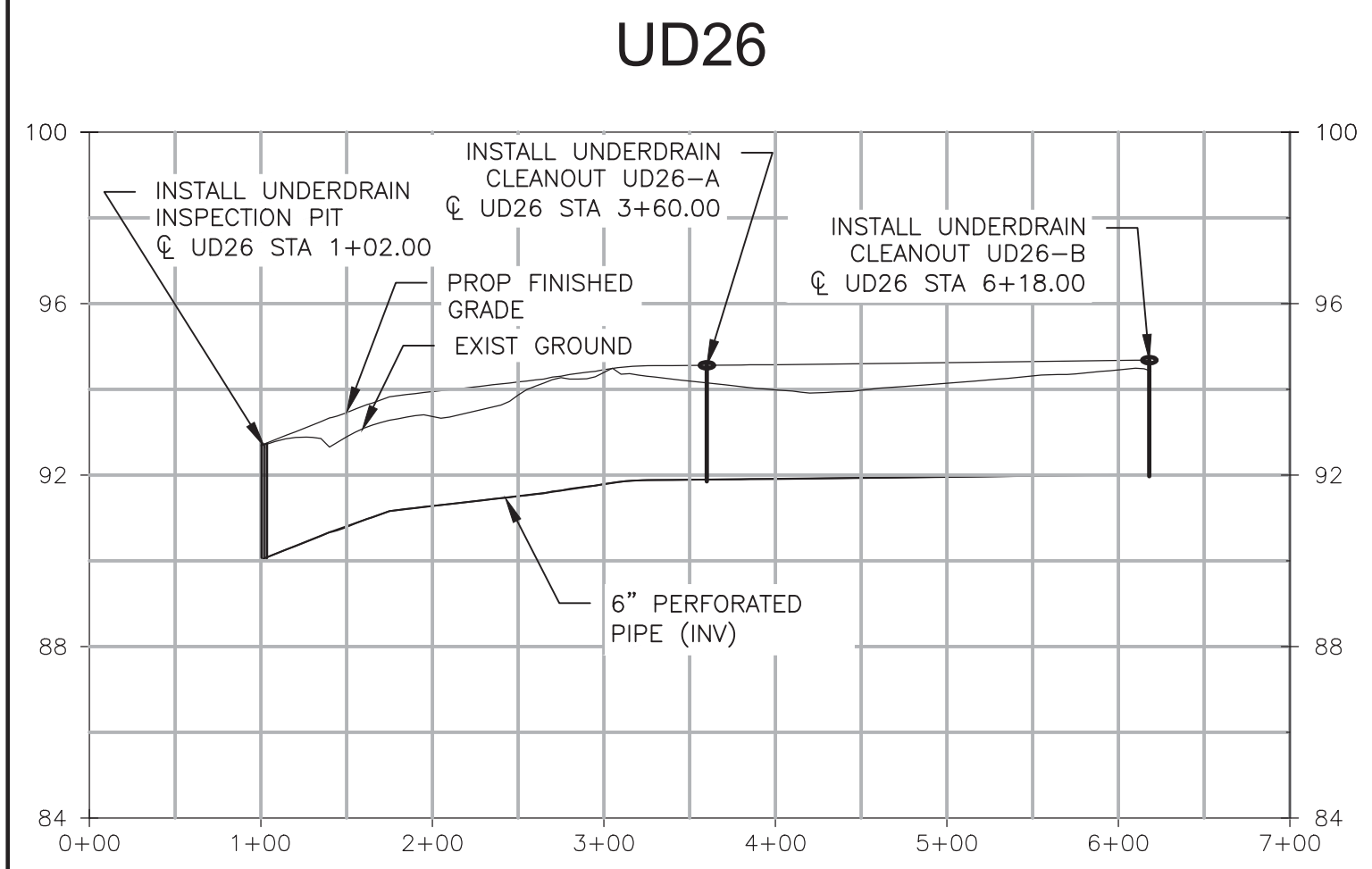
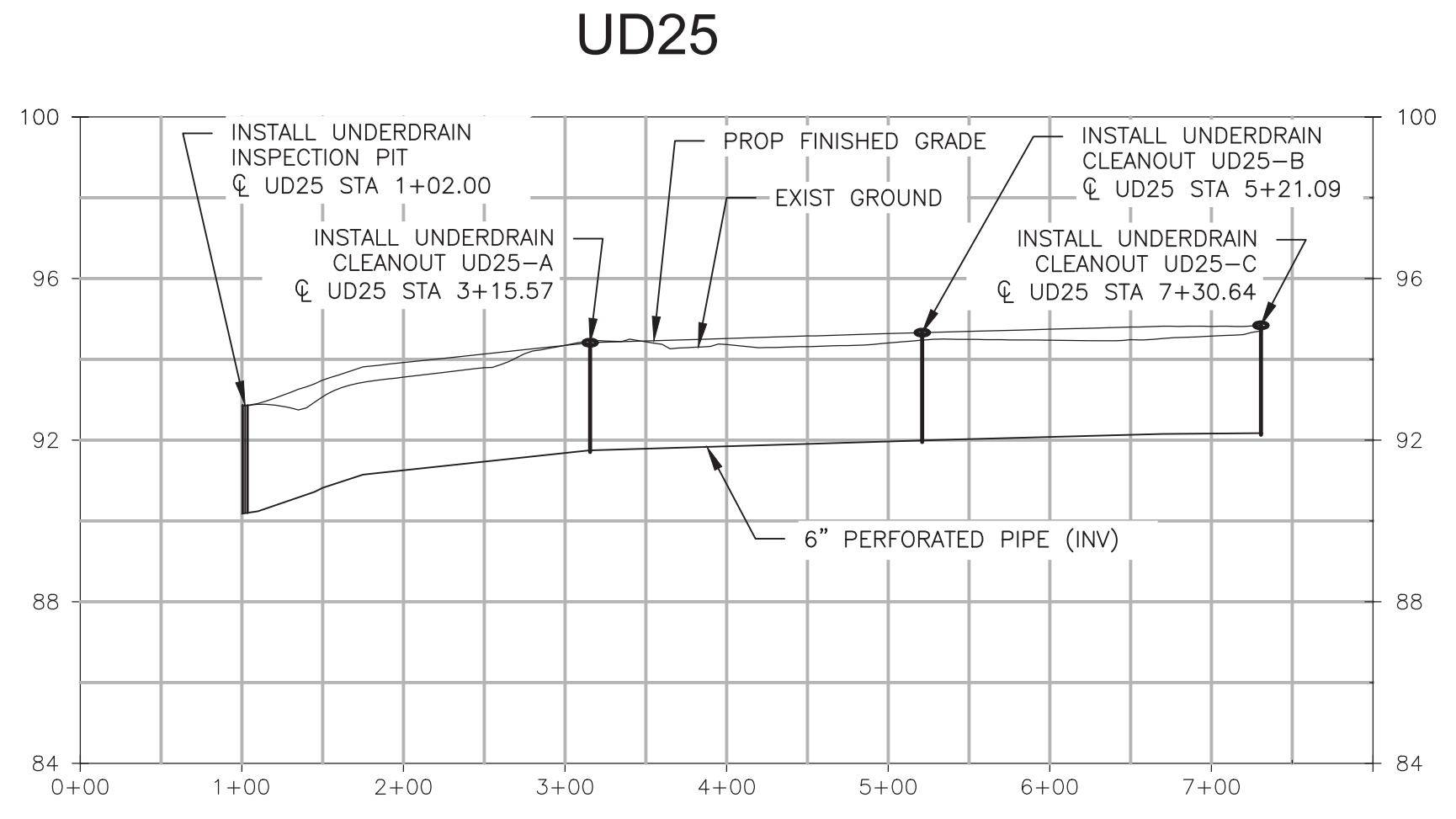
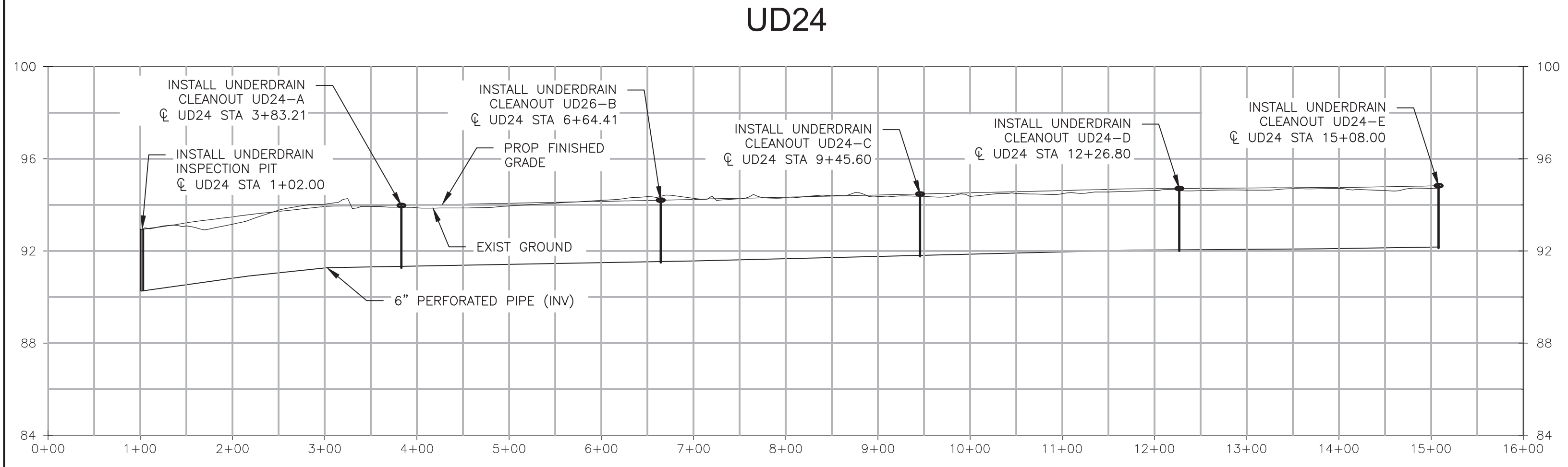
ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018



DEPARTMENT OF AVIATION  
 APPROVED BY: *Danaj Palmer* DATE: JULY 27, 2018  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**D03.13**







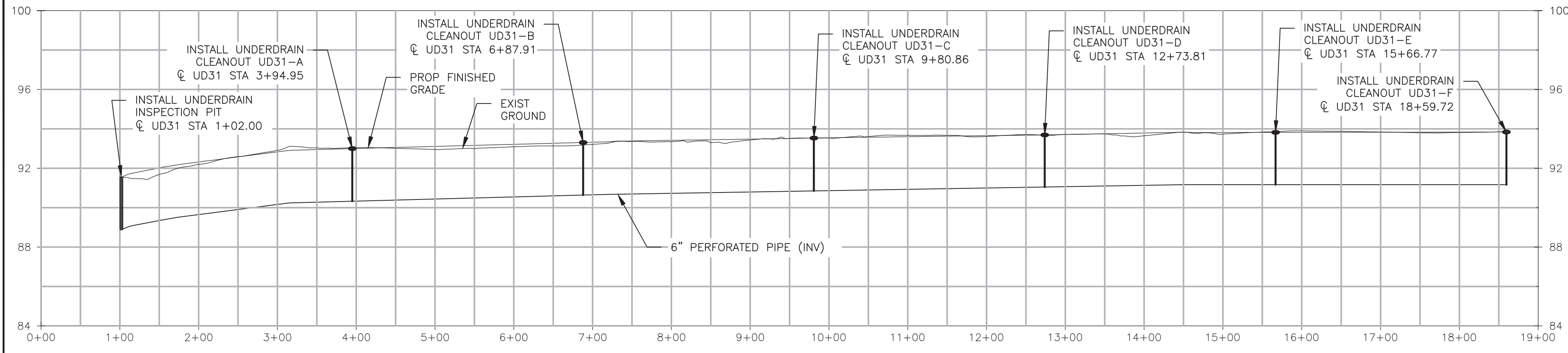
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GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS



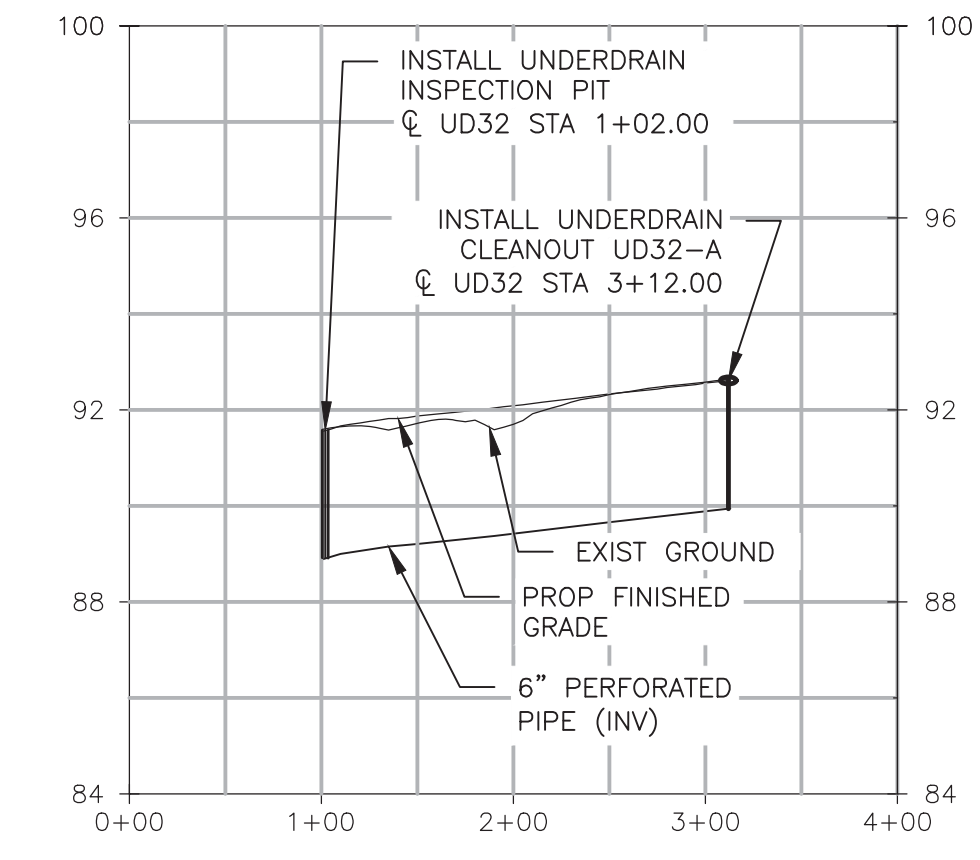
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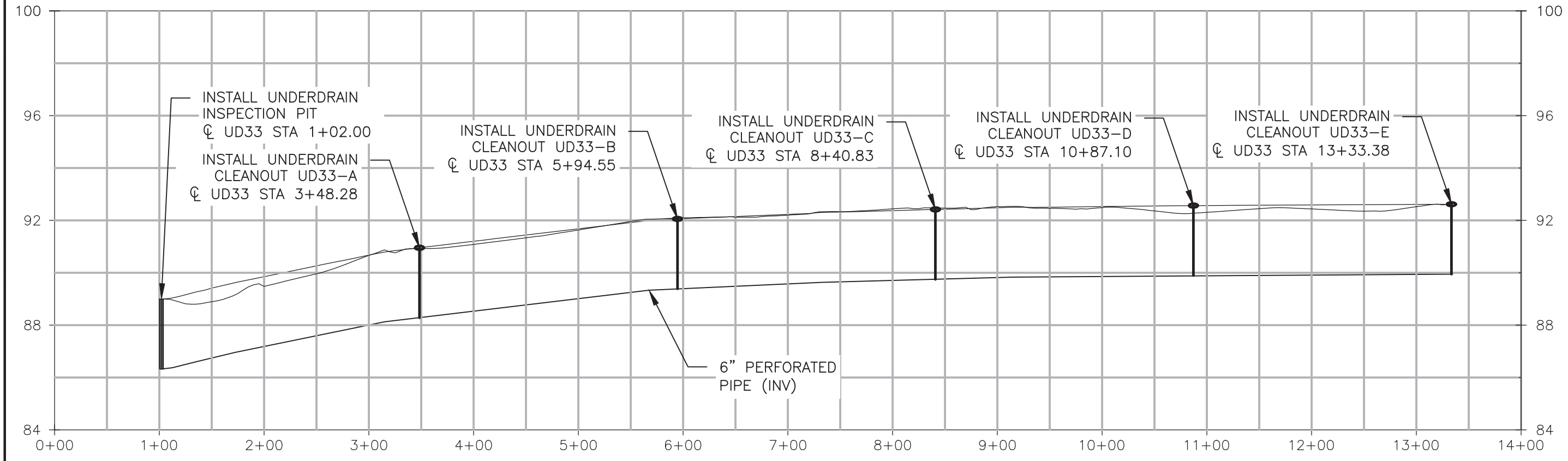
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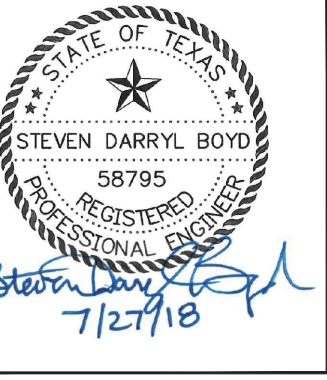


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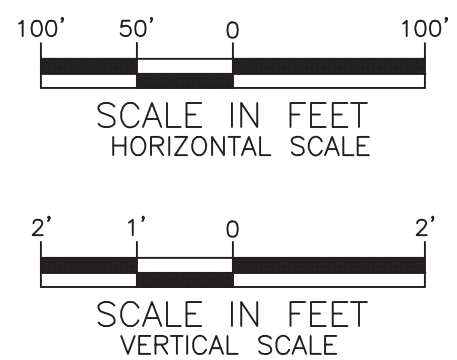


RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**UNDERDRAIN PROFILES**  
(5 OF 5)

ISSUED FOR BID	
PROJECT MGR:	DB
DESIGNER:	TM
DRAWN BY:	KE
CHECKED BY:	DB
SCALE:	AS INDICATED
DATE:	JULY 27, 2018



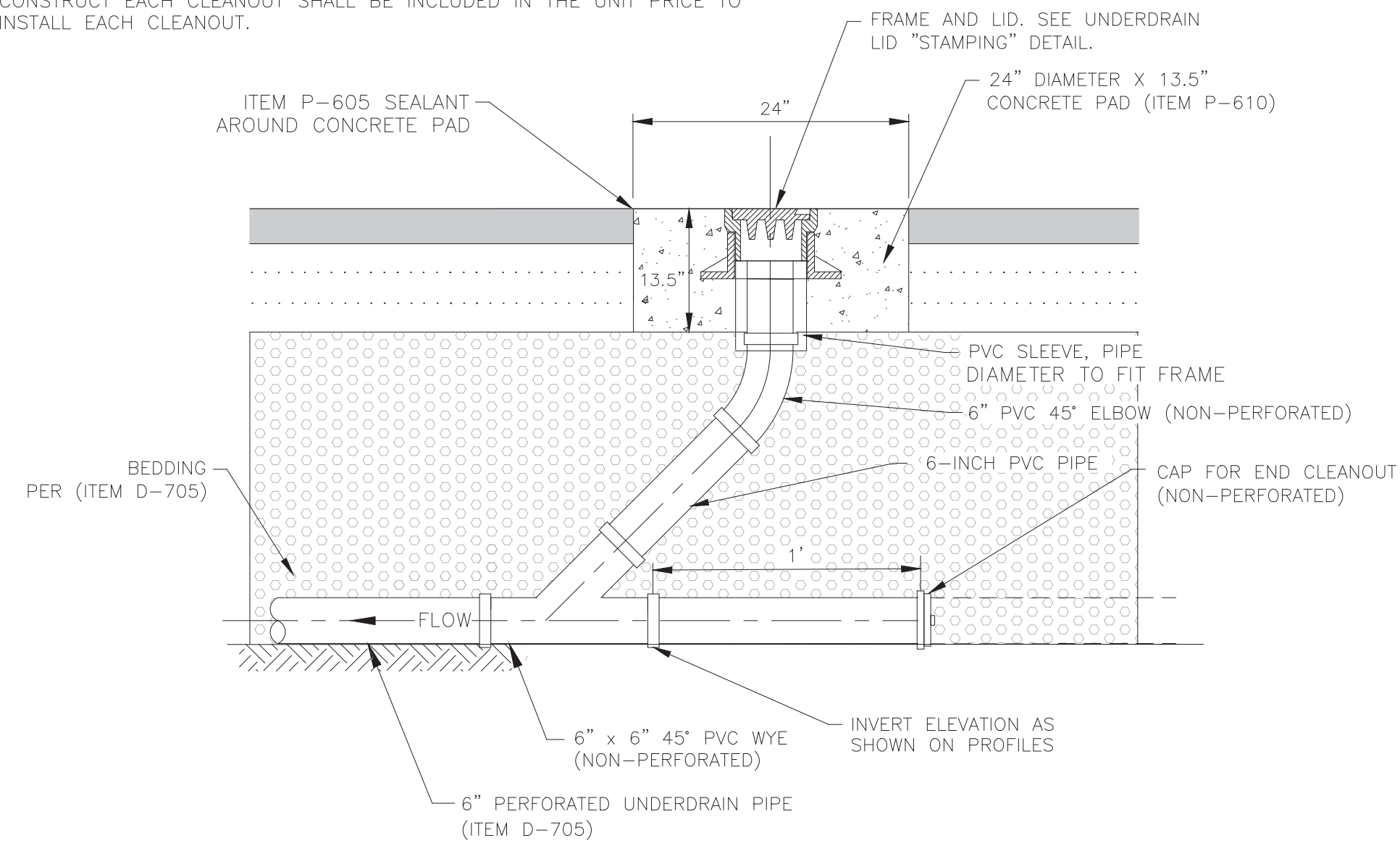
DEPARTMENT OF AVIATION  
APPROVED BY: *Danaj Palmer* DATE: JULY 27, 2018  
HOUSTON AIRPORT SYSTEMS  
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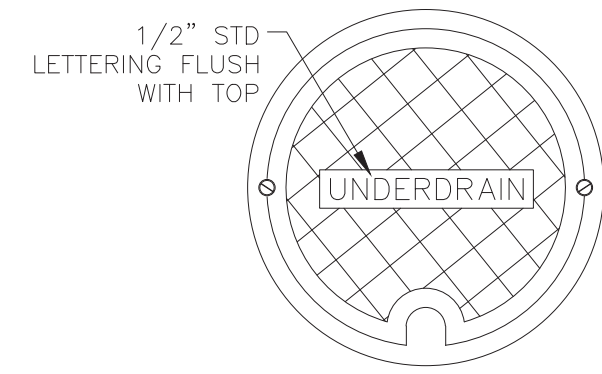
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C.I.P. NO. **A-000570**  
H.A.S. NO. \_\_\_\_\_  
SHEET NO. **D03.14**



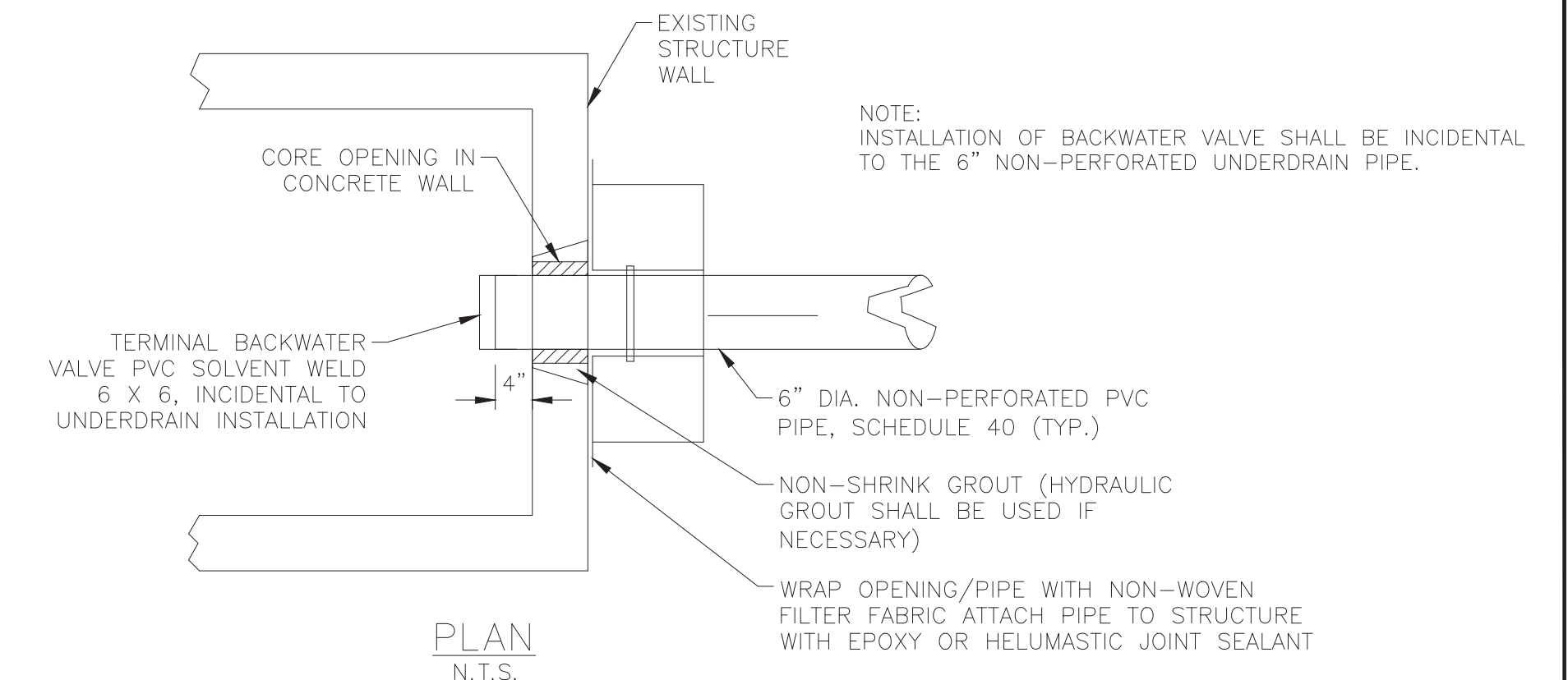
NOTE:  
PVC RISER, CONCRETE, FRAME AND LID AND ALL INCIDENTALS TO  
CONSTRUCT EACH CLEANOUT SHALL BE INCLUDED IN THE UNIT PRICE TO  
INSTALL EACH CLEANOUT.



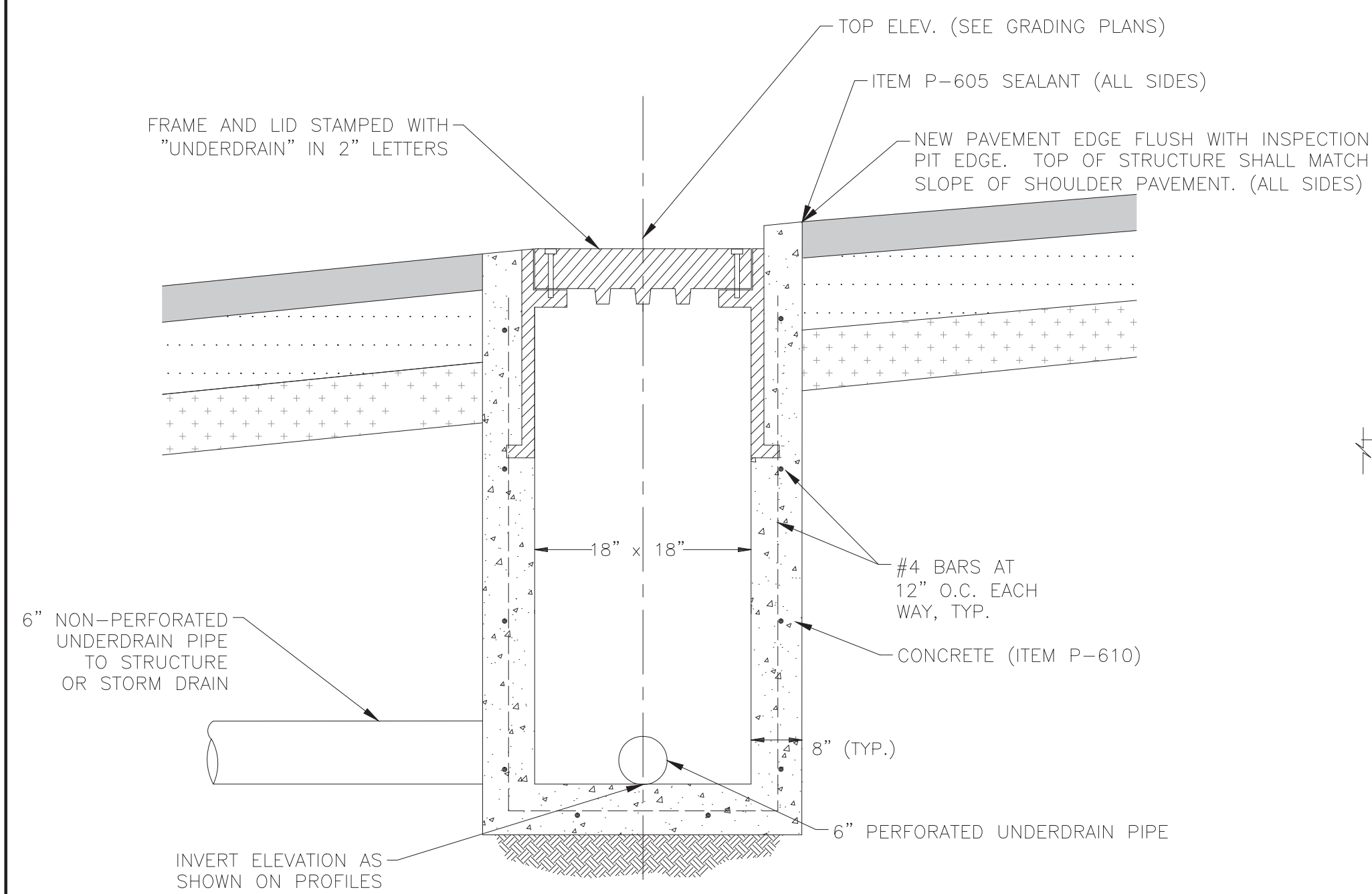
1 TYPICAL CLEANOUT DETAIL  
D03.10 SCALE: N.T.S.



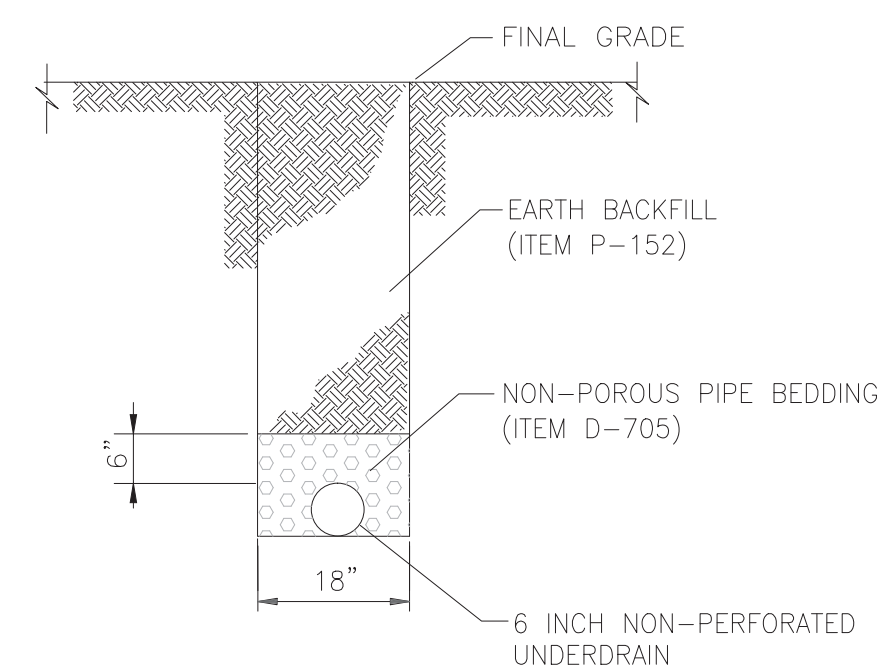
2 PAVEMENT UNDERDRAIN DETAIL  
D03.10 SCALE: N.T.S.



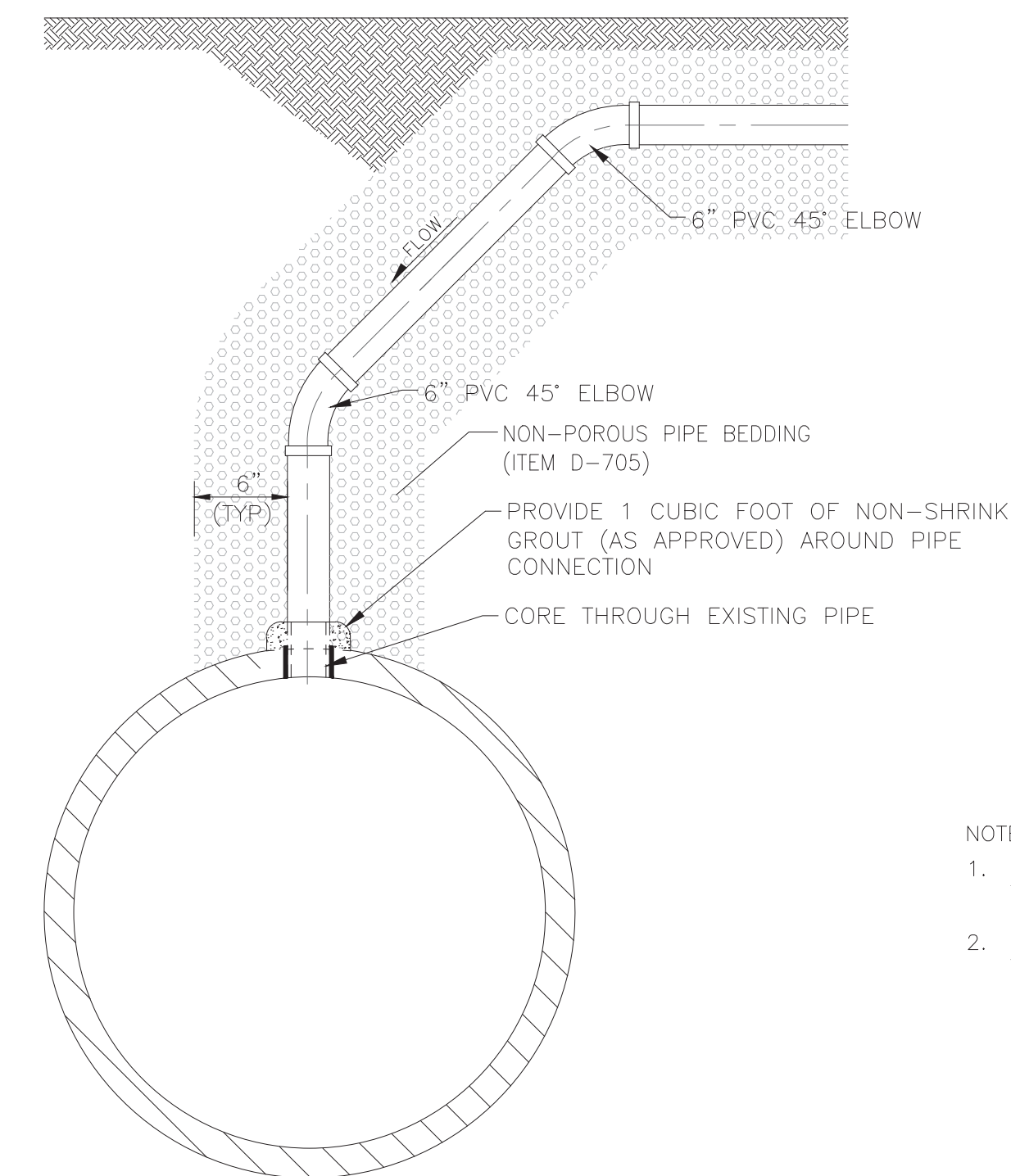
3 UNDERDRAIN CLEANOUT LID "STAMPING" DETAIL  
D03.10 SCALE: N.T.S.



4 UNDERDRAIN INSPECTION PIT DETAIL  
D03.10 SCALE: N.T.S.



5 UNDERDRAIN OUTFALL TRENCH DETAIL  
D03.10 SCALE: N.T.S. (D-751-5.6)



6 UNDERDRAIN CONNECTION TO STRUCTURE - TYPICAL DETAIL  
D03.10 SCALE: N.T.S.

7 UNDERDRAIN TIE-IN WITH STORM DRAIN  
D03.10 SCALE: N.T.S.

- NOTES:
- BACKFILL SHALL MEET REQUIREMENTS OF ITEM P-152, ONE DENSITY TEST PER 8 INCH LIFT PER STRUCTURE.
  - BACKFILL PER ITEM P-152 SHALL NOT CONTAIN ROCKS LARGER THAN 2 INCHES IN ITS GREATEST DIAMETER.



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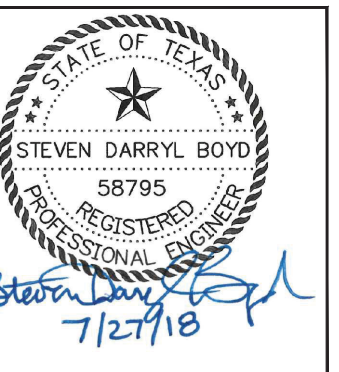
REVISIONS			
NO.	DESCRIPTION	DATE	BY

RECONSTRUCTION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT

UNDERDRAIN DETAILS

ISSUED FOR BID

PROJECT MGR: DB  
DESIGNER: KE  
DRAWN BY: KE  
CHECKED BY: DB  
SCALE: 1"=50'  
DATE: JULY 27, 2018



DEPARTMENT OF AVIATION  
APPROVED BY: DATE:  
Doraj Palwal JULY 27, 2018  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO.  
0907  
C.I.P. NO.  
A-000570  
H.A.S. NO.  
SHEET NO.



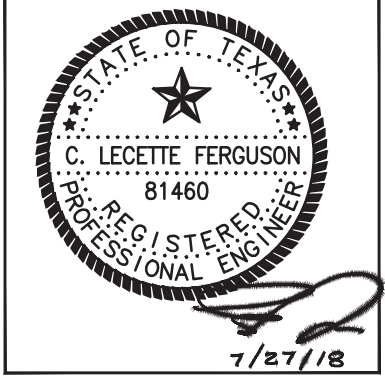
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD LIGHTING  
 ELECTRICAL ABBREVIATIONS  
 AND SYMBOLS LEGEND**

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	AS NOTED
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Rahmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

### ABBREVIATIONS

A	- AMP	JCP	- JUNCTION CAN PLAZA
AF	- AMP FRAME	KV	- KILO VOLTS
ALRCS	- AIRPORT LIGHTING RUNWAY CONTROL SYSTEM	KW	- KILOWATTS
AT	- AMP TRIP	LAHSO	- LAND AND HOLD SHORT
ATS	- AUTOMATIC TRANSFER SWITCH	MH	- MANHOLE
CCR	- CONSTANT CURRENT REGULATOR	NIC	- NOT IN CONTRACT
CKT.	- CIRCUIT	NO	- NUMBER
COMM.	- COMMUNICATION	PVC	- POLYVINYL CHLORIDE CONDUIT
CONC.	- CONCRETE	RGL	- RUNWAY GUARD LIGHT
DM	- DIGITAL POWER METER	R/W	- RUNWAY
ELEC.	- ELECTRIC/ELECTRICAL	SCHD.	- SCHEDULE
EXIST.	- EXISTING	SHT.	- SHEET
FAA	- FEDERAL AVIATION ADMINISTRATION	STA.	- STATION
GND.	- GROUND	TELE.	- TELEPHONE
HAS	- HOUSTON AIRPORT SYSTEM	TDZ	- TOUCH DOWN ZONE
HH	- HAND HOLE	T/W	- TAXI WAY
HSTO	- HIGH SPEED TURN OFF	TYP.	- TYPICAL
		W/	- WITH

### GUIDANCE SIGN LEGEND SHEETS E05 SERIES DRAWINGS

ACTUAL SIGN PLACEMENT ON AIRFIELD

59 → SIGN NUMBER. REFER TO SIGNAGE SCHEDULE

NS → SIGN CIRCUIT

CW → SIGN CIRCUIT

ND ← NR → DIRECTIONAL SIGN - BLACK SYMBOL, LETTER, OR NUMBER WITH YELLOW BACKGROUND

LOCATION SIGN - YELLOW SYMBOL LETTER OR NUMBER WITH BLACK BACKGROUND

8L-26R → HOLD SHORT SIGN - WHITE SYMBOL, LETTER, OR NUMBER WITH RED BACKGROUND

1 → RUNWAY DISTANCE REMAINING SIGN - WHITE NUMBER WITH BLACK BACKGROUND

5 → RUNWAY DISTANCE REMAINING SIGN - WHITE NUMBER WITH BLACK BACKGROUND

### LEGEND OF SYMBOLS: (ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS). ALL SHADED SYMBOLS ARE SHOWN FOR REFERENCE ONLY.

	GUIDANCE SIGN. RE: SIGN SCHEDULE.		E02 SERIES: REMOVE CABLE INCLUDING CONDUIT E03 SERIES: NEW CABLE IN NEW 2" C: (2) INDICATES 2 CABLES; 'TNBC2' INDICATES CIRCUIT ID		E02 SERIES: REMOVE CABLE NOTED, DUCTBANK TO REMAIN. E03 SERIES: INSTALL CABLE NOTED IN EXISTING DUCTBANK DEMO/NEW CABLES DENOTED BY BOLD/DARK CABLE CALLOUTS. CABLES FOR REF ONLY DENOTED BY SHADED/LIGHT CABLE CALLOUTS.
	IN-PAVEMENT RUNWAY CENTERLINE LIGHT		E02 SERIES: REMOVE CABLE NOTED, CONDUIT TO REMAIN. E03 SERIES: INSTALL CABLE NOTED IN EXISTING CONDUIT DEMO/NEW CABLES DENOTED BY BOLD/DARK CABLE CALLOUTS. CABLES FOR REF ONLY DENOTED BY SHADED/LIGHT CABLE CALLOUTS.		DEMO/NEW CABLE(S): (2) INDICATES 2 CABLES 'TNBE' DENOTES CIRCUIT ID
	IN-PAVEMENT RUNWAY TDZ LIGHT		E02 SERIES: ABANDON CABLE NOTED, CONDUIT TO REMAIN. WHERE DEMO CABLES SHARE A SINGLE CONDUIT WITH REF CABLES, THE CABLES SHALL BE ABANDONED IN THE SECTION OF CONDUIT. CUT AT EACH HANDHOLE OR JBOX AND LABEL AS SPARE. DEMO CABLES DENOTED BY BOLD/DARK CABLE CALLOUTS. CABLES FOR REF ONLY DENOTED BY SHADED/LIGHT CABLE CALLOUTS.		REFERENCE CABLE(S): (2) INDICATES 2 CABLES 'SCE' INDICATES CIRCUIT ID
	IN-PAVEMENT BI-DIRECTIONAL TAXIWAY CENTERLINE LIGHT		E02 SERIES: REMOVE CABLE NOTED, CONDUIT TO REMAIN. WHERE DEMO CABLES SHARE A SINGLE CONDUIT WITH REF CABLES, THE CABLES SHALL BE ABANDONED IN THE SECTION OF CONDUIT. CUT AT EACH HANDHOLE OR JBOX AND LABEL AS SPARE. DEMO CABLES DENOTED BY BOLD/DARK CABLE CALLOUTS. CABLES FOR REF ONLY DENOTED BY SHADED/LIGHT CABLE CALLOUTS.		REFERENCE CABLE(S): (2) INDICATES 2 CABLES 'SCE' INDICATES CIRCUIT ID
	SHIFT FIXTURE IN THE DIRECTION OF THE ARROW TO AVOID PAVEMENT JOINT		EXISTING CABLE(S) IN 2" C SHOWN FOR REFERENCE ONLY. CABLE: (2) INDICATES 2 CABLES; 'SCW' INDICATES CIRCUIT ID		NEW CABLE IN PROPOSED DUCT BANK. DUCTBANK: [2] INDICATES NUMBER OF 4" DUCTS. CABLE: (2) INDICATES 2 CABLES; 'TNBC2' INDICATES CIRCUIT ID
	PROVIDE FIXTURE WITH DIAMOND PAVEMENT SECTION. REFER TO E10 SERIES		PROPOSED DUCTBANK BORING.		REMOVE EXISTING DUCTBANK
	IN-PAVEMENT TAXIWAY EDGE LIGHT		EXTEND EXISTING DUCTBANK		EXISTING CABLE(S) IN DUCTBANK SHOWN FOR REFERENCE ONLY. CABLE: (1) INDICATES 1 CABLE; 'TNBE' INDICATES CIRCUIT ID
	IN-PAVEMENT OMNI-DIRECTIONAL TAXIWAY CENTERLINE LIGHT		NEW CABLE IN PROPOSED JCP DUCT BANK. DUCTBANK: [4] INDICATES NUMBER OF 2" DUCTS. CABLE: A: INDICATES DUCT A; (2) INDICATES 2 CABLES; '8RGL' INDICATES CIRCUIT ID		
	IN-PAVEMENT UNI-DIRECTIONAL TAXIWAY CENTERLINE LIGHT				
	IN-PAVEMENT RUNWAY GUARD LIGHT				
	IN-PAVEMENT RUNWAY EDGE LIGHT. SUBSCRIPT DENOTES LENS COLOR. 'C'=CLEAR, 'Y'=AMBER				
	ELEVATED THRESHOLD LIGHT. SUBSCRIPT DENOTES LENS COLOR. 'G'=GREEN, 'R'=RED				
	ELEVATED RUNWAY EDGE LIGHT. SUBSCRIPT DENOTES LENS COLOR. 'C'=CLEAR, 'Y'=AMBER				
	ELEVATED TAXIWAY EDGE LIGHT				
	IN-PAVEMENT BASE CAN WITH STEEL COVER				
	16" DIA. PULL BOX, L-867D				
	HANDHOLE (RE: E08-03) HANDHOLE ID: 'ELE' INDICATES HAS ELECTRICAL 'COM' INDICATES HAS COMMUNICATIONS 'FAA' INDICATES FAA 'N' INDICATES NORTH AIRFIELD '21' INDICATES MANHOLE NUMBER		CONDUIT TRANSITION IN CONCRETE (INDEPENDENT PAY ITEM)		
	4-WAY JUNCTION CAN PLAZA (RE: E08-03) JCP ID: JCP' INDICATES JUNCTION CAN PLAZA 'N' INDICATES NORTH AIRFIELD '21' INDICATES MANHOLE NUMBER		CAP CONDUIT END AND INSTALL DUCT MARKER		
	WINDSOCK		CONDUIT TRANSITION IN EARTH (INCIDENTAL PAY ITEM)		
	GROUND ROD (3/4"x10' COPPER)				

- GENERAL SYMBOLOGY NOTES:
- ON ELECTRICAL DEMOLITION SHEETS (E02 SERIES), ALL DARK SYMBOLS REPRESENT ITEMS TO BE REMOVED IN THEIR ENTIRETY UNLESS OTHERWISE NOTED.
  - ON THE PROPOSED ELECTRICAL SHEETS (E03 SERIES), ALL DARK SYMBOLS REPRESENT NEW ITEMS TO BE INSTALLED.
  - ALL SHADED SYMBOLS ON ANY SERIES DEPICT ITEMS THAT ARE NOT IN THE CONTRACT AND ARE SHOWN FOR REFERENCE ONLY UNLESS OTHERWISE NOTED.
  - ALL DASHED SYMBOLS REPRESENT EXISTING EQUIPMENT.
  - REFER TO THE ELECTRICAL SCHEDULES, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INSTALLATION AND DEMOLITION REQUIREMENTS AND ADDITIONAL SCOPE OF WORK.





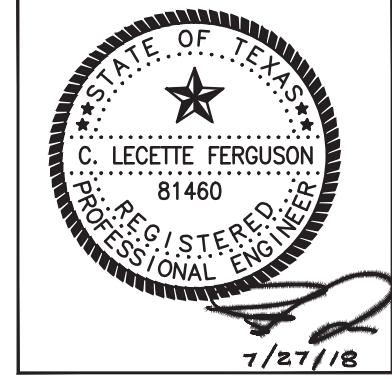
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NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION

APPROVED BY: DP 7/26/18

*Denaj Rahmal*

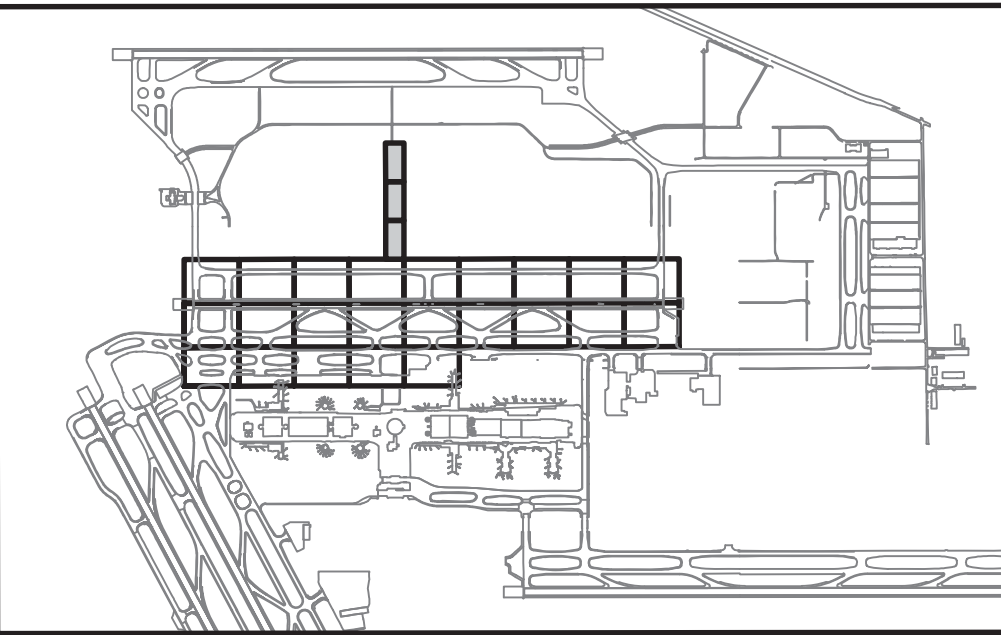
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**

C.I.P. NO. **A-000570**

H.A.S. NO.

SHEET NO. **E02-01**

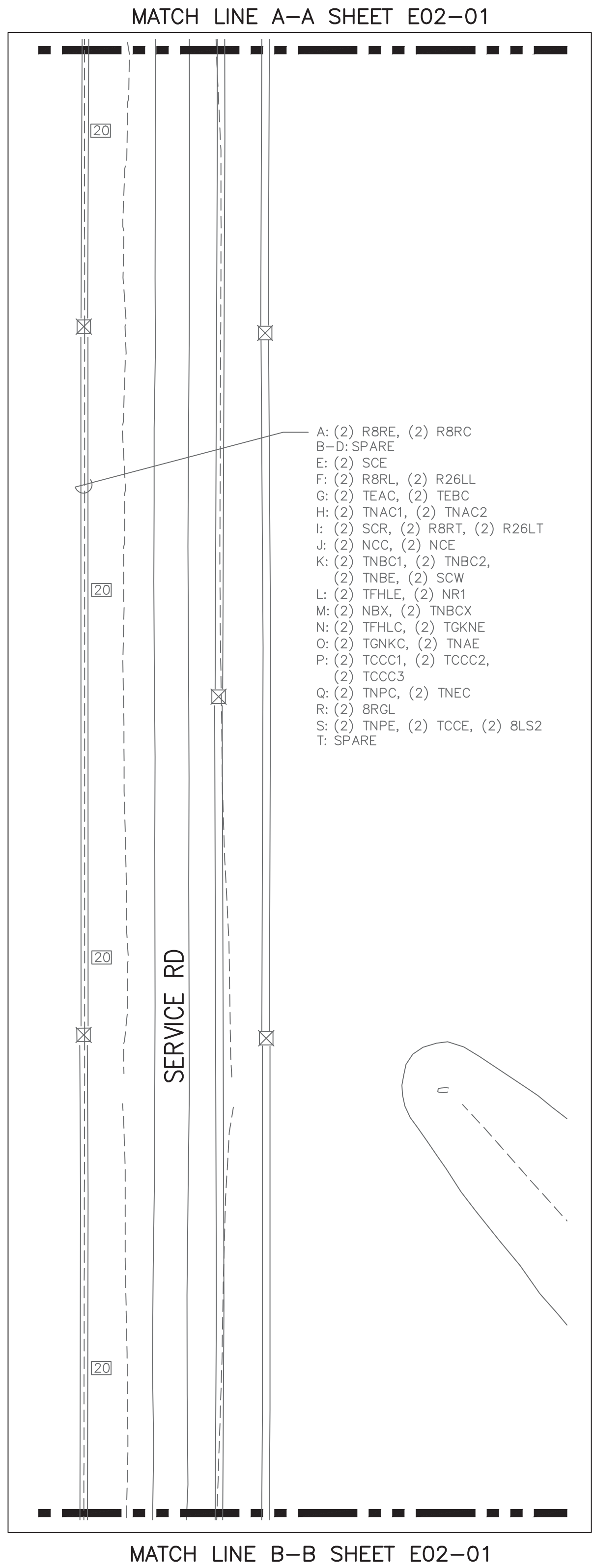
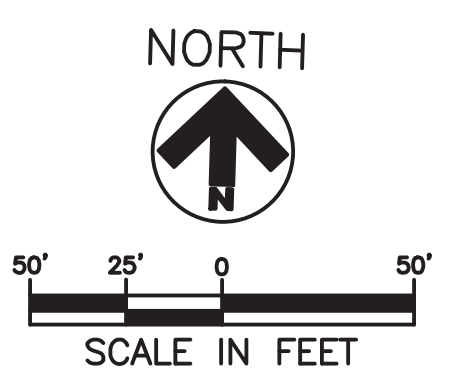


**GENERAL NOTES:**

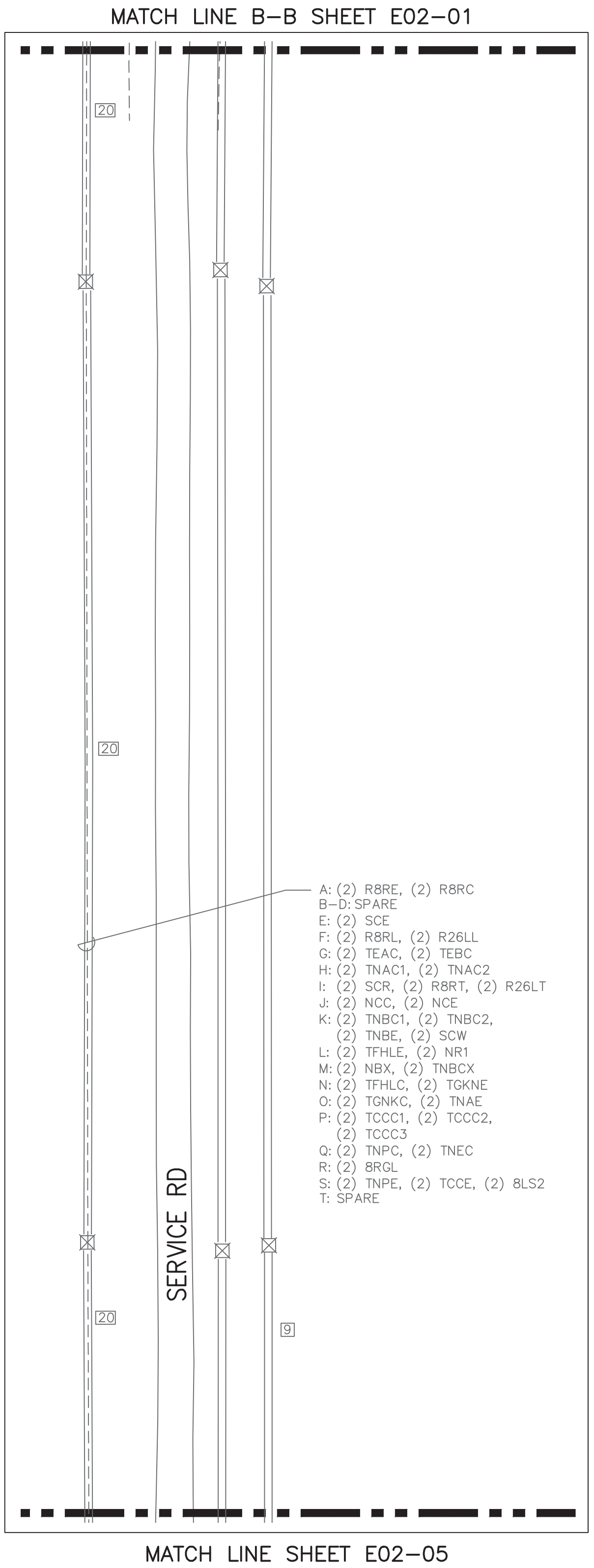
- ALL ITEMS SHOWN WITH HEAVY LINEWEIGHT TO BE DEMOLISHED. ALL ITEMS SHADED TO REMAIN. REFER TO SHEET E01-01 FOR ELECTRICAL SYMBOL LEGEND, C1 SERIES CONSTRUCTION SEQUENCING AND CIVIL DRAWINGS FOR COMPLETE COORDINATION.
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- COORDINATE WORK WITH LOCAL FAA FIELD REPRESENTATIVE, HAS COMM REPRESENTATIVE, ELECTRIC SHOP AND OPERATIONS.
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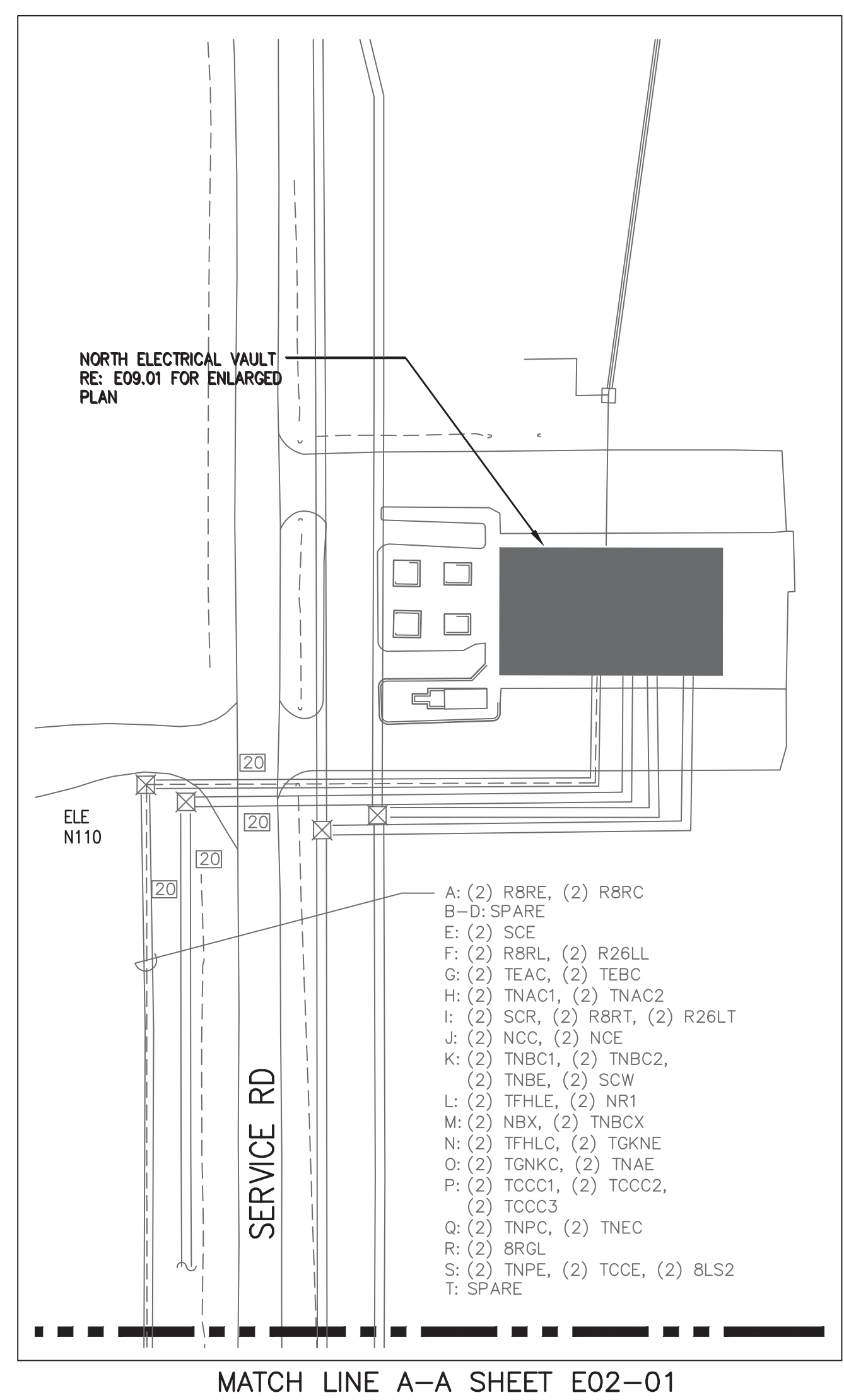
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- REMOVE AND SALVAGE SIGN. REMOVE SIGN FOUNDATION.
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- REMOVE RGL FIXTURES, FLASHERS, TRANSFORMERS, "Y" CONNECTORS AND PRIMARY CABLE. BASE CAN TO REMAIN AND BE REUSED. RETURN FLASHERS AND FIXTURES TO HAS ELECTRICAL MAINTENANCE.
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- REMOVE ABANDONED SIGN FOUNDATION.
- REMOVE AND SALVAGE FIXTURE. BASE CAN TO REMAIN.



- A: (2) R8RE, (2) R8RC
- B-D: SPARE
- E: (2) SCE
- F: (2) R8RL, (2) R26LL
- G: (2) TEAC, (2) TEBC
- H: (2) TNAC1, (2) TNAC2
- I: (2) SCR, (2) RBRT, (2) R26LT
- J: (2) NCC, (2) NCE
- K: (2) TNBC1, (2) TNBC2, (2) TNBE, (2) SCW
- L: (2) TFHLE, (2) NR1
- M: (2) NBX, (2) TNBCX
- N: (2) TFHLC, (2) TGKNE
- O: (2) TGNKC, (2) TNAE
- P: (2) TCCC1, (2) TCCC2, (2) TCCC3
- Q: (2) TNPC, (2) TNEC
- R: (2) BRGL
- S: (2) TNPE, (2) TCCE, (2) 8LS2
- T: SPARE

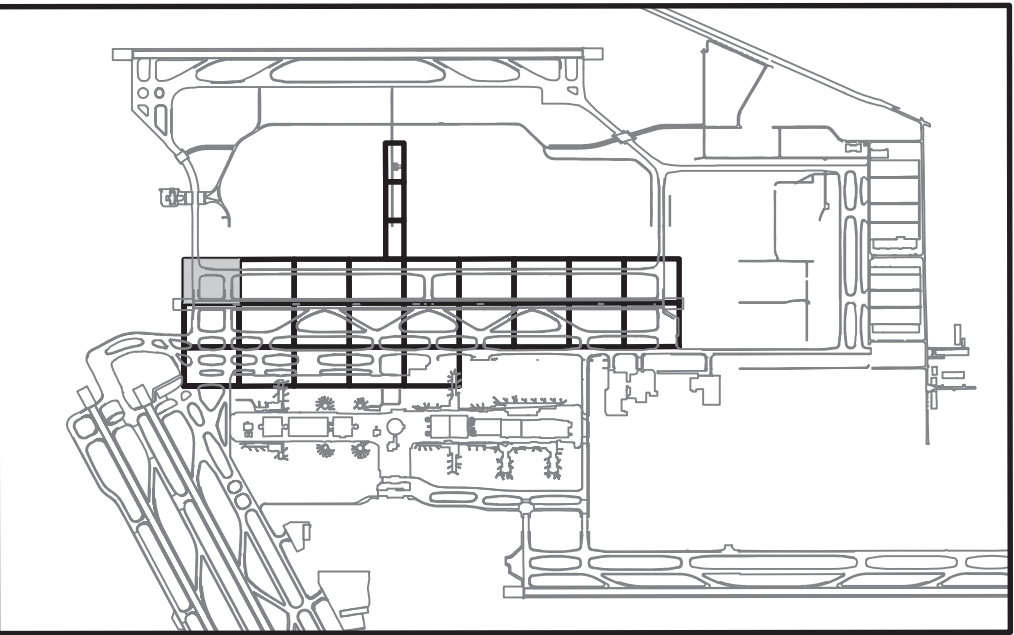
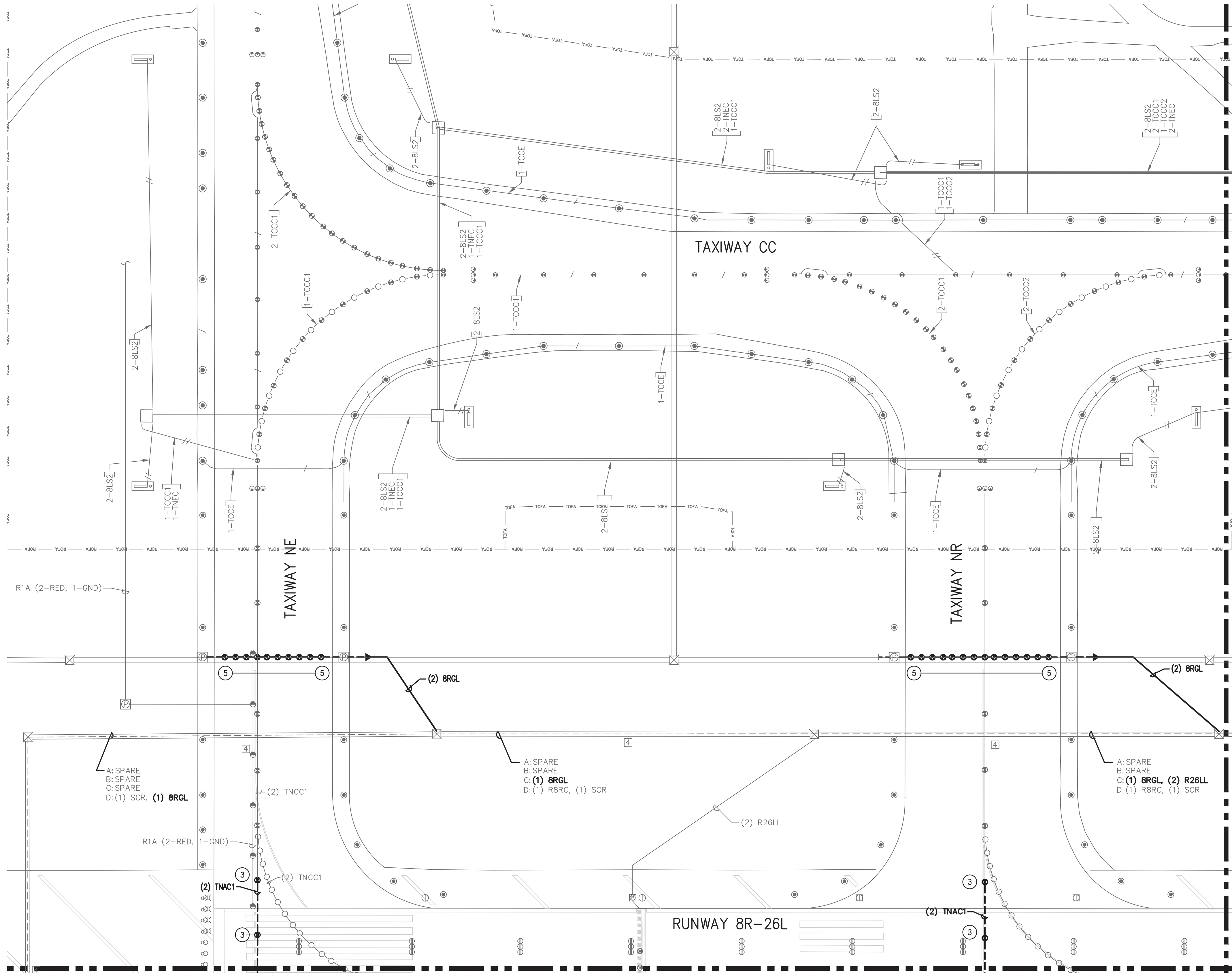


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- I: (2) SCR, (2) RBRT, (2) R26LT
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- N: (2) TFHLC, (2) TGKNE
- O: (2) TGNKC, (2) TNAE
- P: (2) TCCC1, (2) TCCC2, (2) TCCC3
- Q: (2) TNPC, (2) TNEC
- R: (2) BRGL
- S: (2) TNPE, (2) TCCE, (2) 8LS2
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- A: (2) R8RE, (2) R8RC
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- E: (2) SCE
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- M: (2) NBX, (2) TNBCX
- N: (2) TFHLC, (2) TGKNE
- O: (2) TGNKC, (2) TNAE
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- S: (2) TNPE, (2) TCCE, (2) 8LS2
- T: SPARE



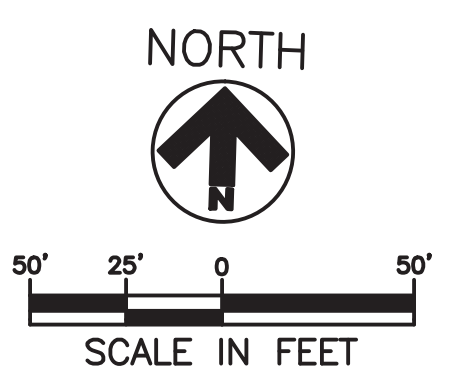


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- 2 REMOVE AND SALVAGE SIGN. REMOVE SIGN FOUNDATION.
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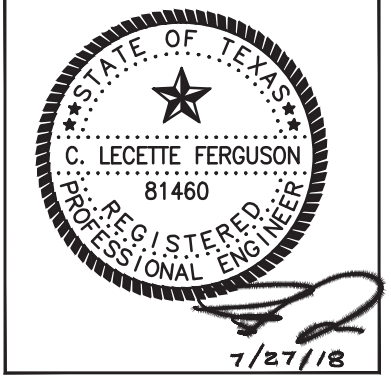
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'  
 TAXIWAY 'NA'

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION

APPROVED BY: DP	7/26/18
<i>Denaj Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

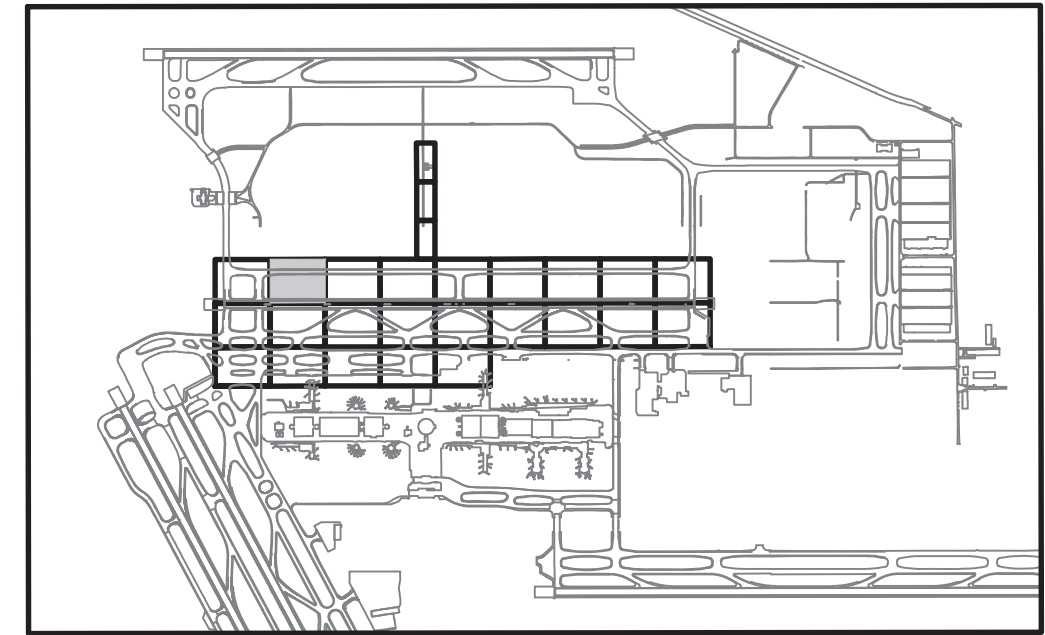
**E02-02**





REVISIONS

NO.	DESCRIPTION	DATE	BY



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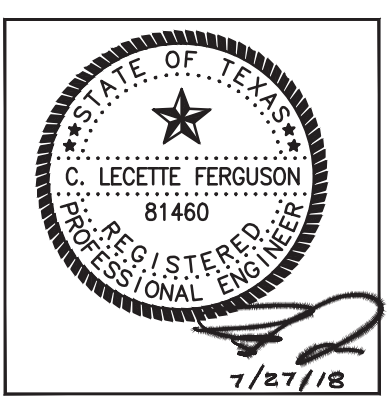
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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018

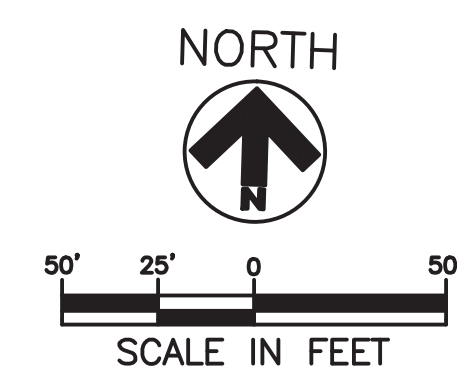
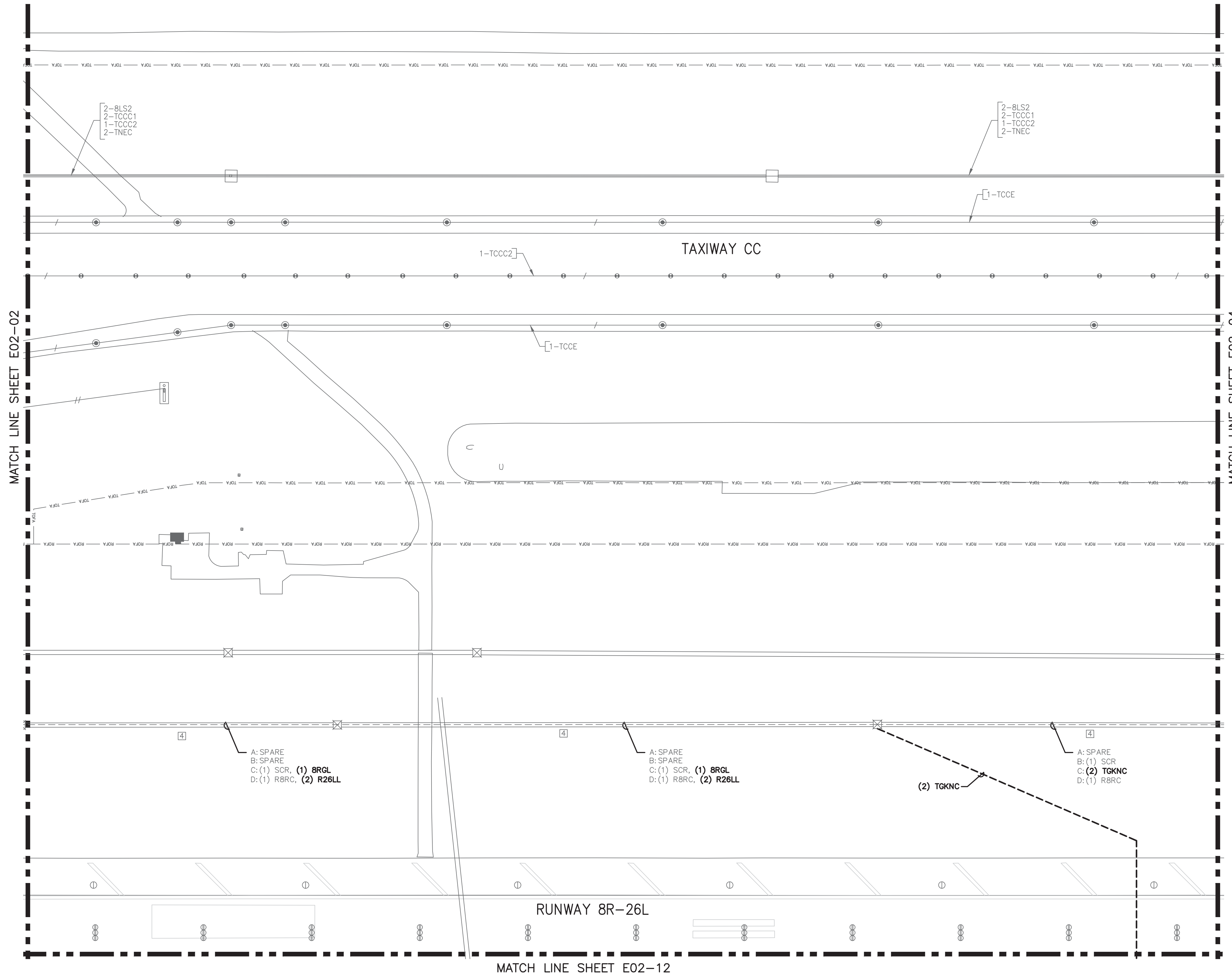


DEPARTMENT OF AVIATION

APPROVED BY: DP	7/26/18
<i>Denej Pahnel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E02-03

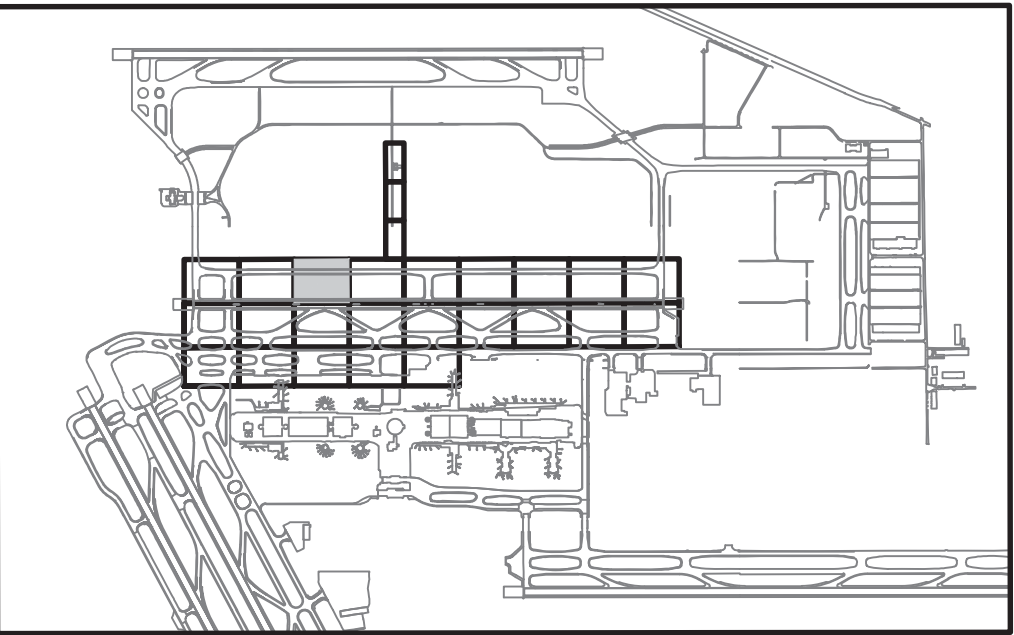






REVISIONS

NO.	DESCRIPTION	DATE	BY



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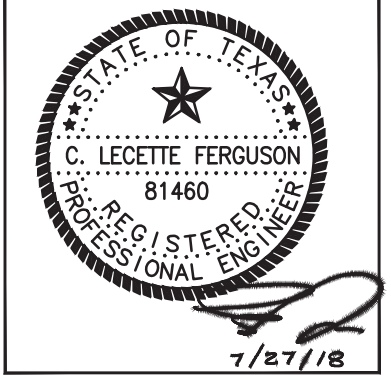
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**REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 ELECTRICAL DEMOLITION PLAN  
 AIRFIELD LIGHTING AND SIGNAGE  
 TAXIWAY 'NA'  
 TAXIWAY 'NA'**

ISSUED FOR BID

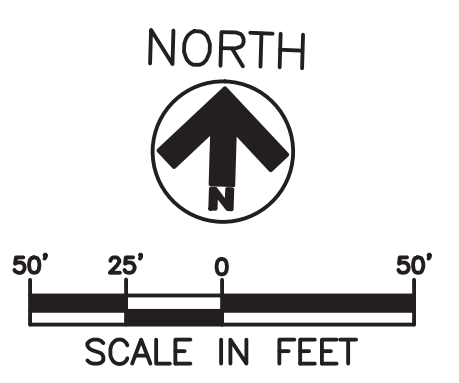
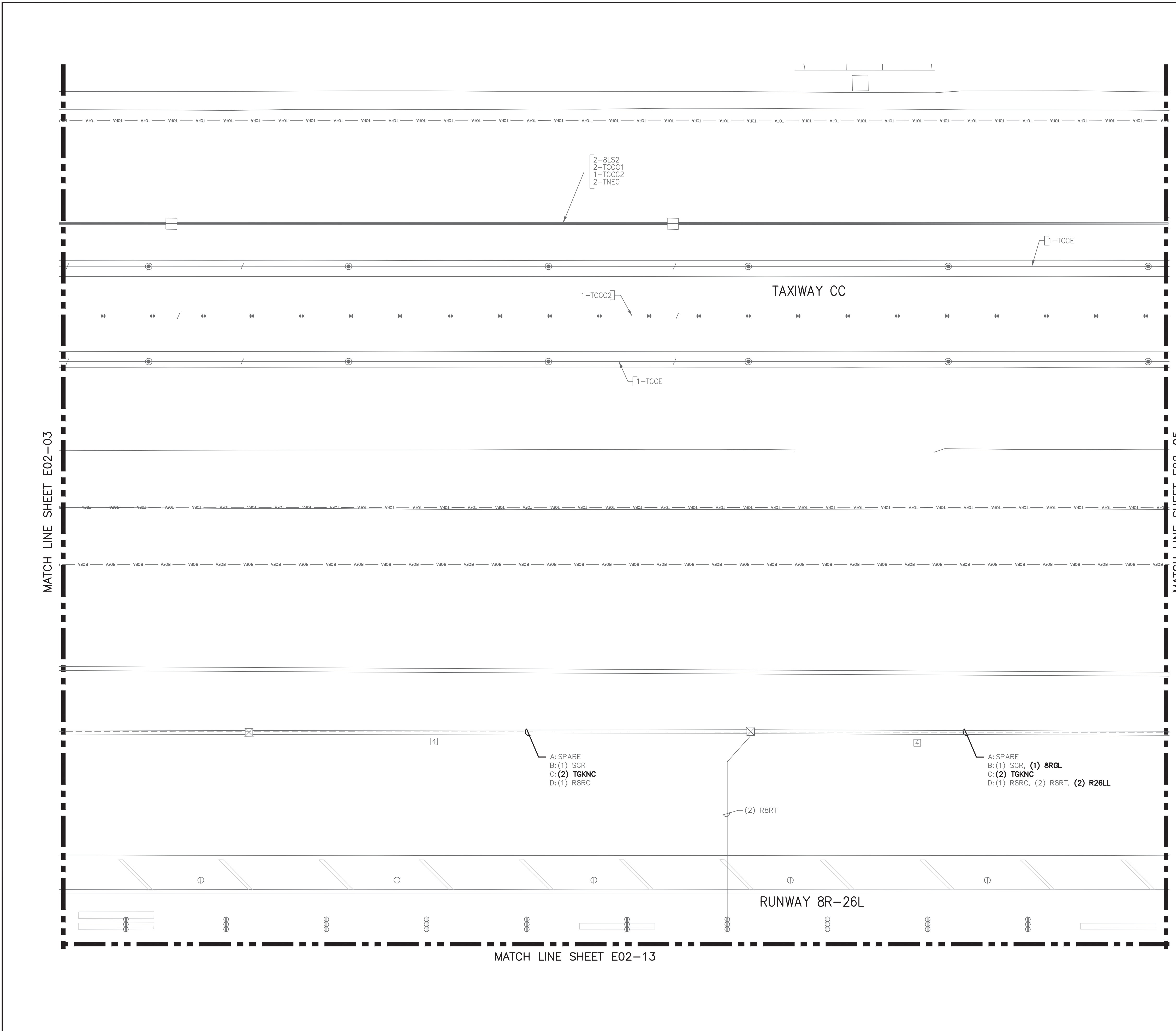
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**E02-04**







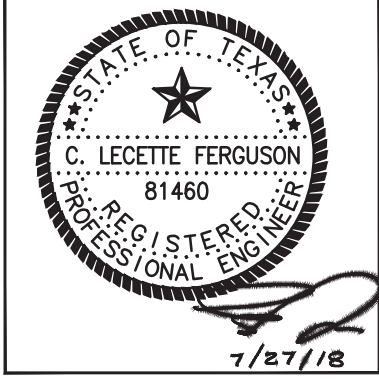
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'  
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ISSUED FOR BID

PROJECT MGR:	CLF
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DEPARTMENT OF AVIATION

APPROVED BY: DP 7/26/18

*Denaj Fahad*

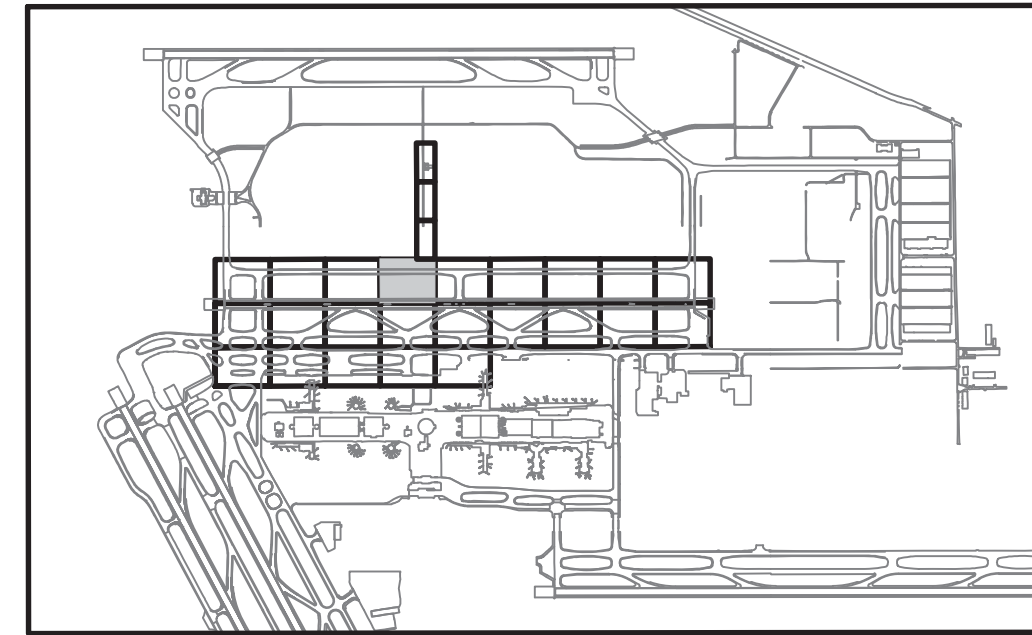
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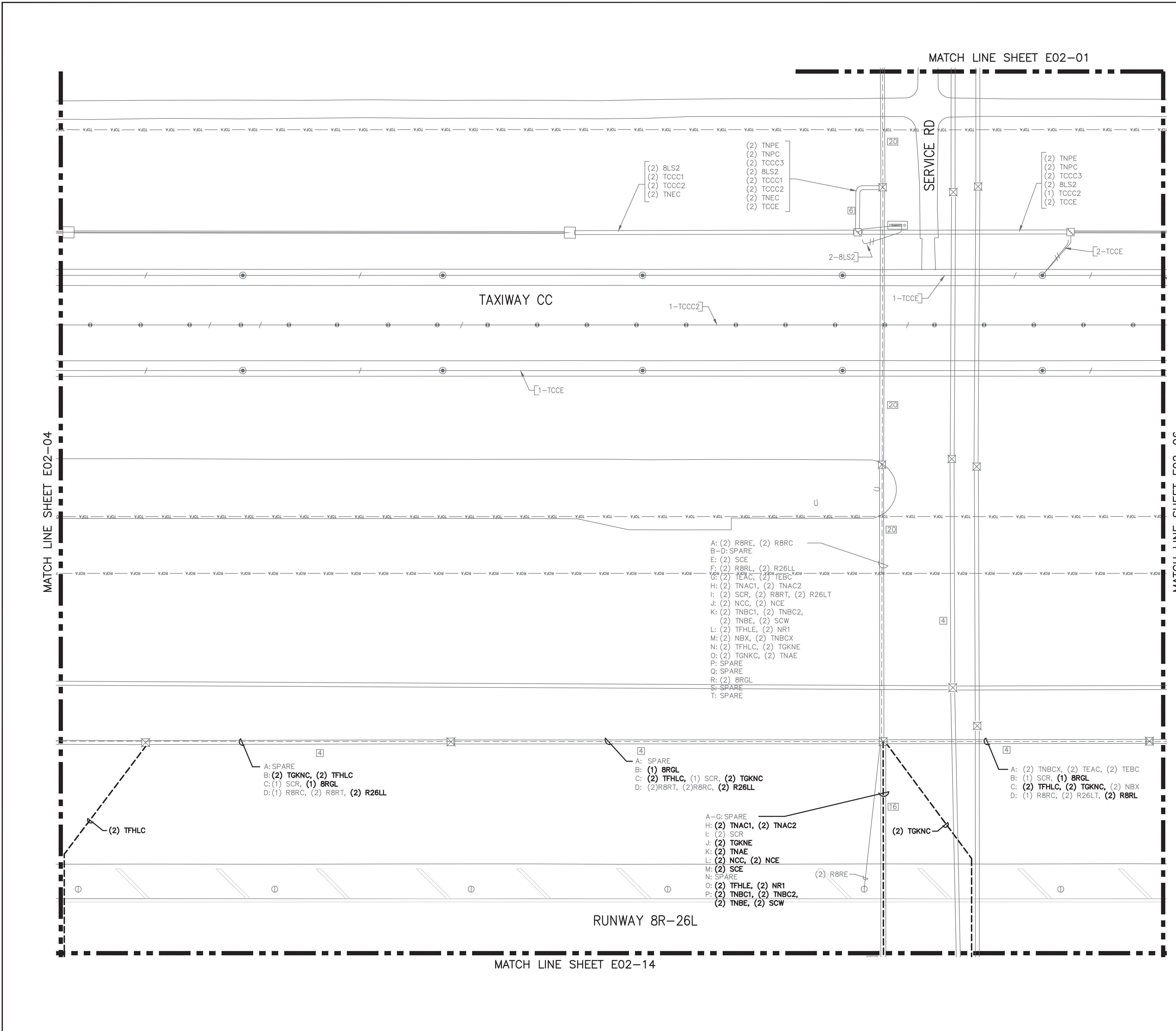
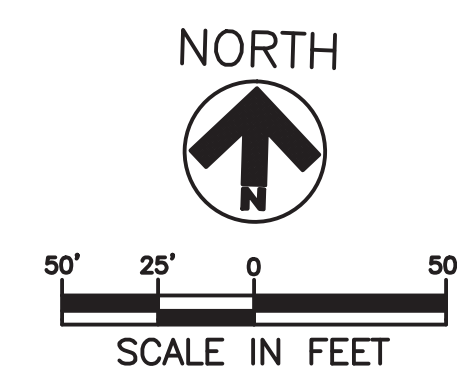


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- (2) TNPE
- (2) TNPC
- (2) TCCC3
- (2) BLS2
- (2) TCCC1
- (2) TCCC2
- (2) TNEC
- (2) TCCE

- (2) TNPE
- (2) TNPC
- (2) TCCC3
- (2) BLS2
- (1) TCCC2
- (2) TCCE

- A: (2) RBRE, (2) RBRC
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- E: (2) SCE
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- M: (2) NBX, (2) TNBCX
- N: (2) TFHLC, (2) TGKNE
- O: (2) TGNKC, (2) TNAE
- P: SPARE
- Q: SPARE
- R: (2) BRGL
- S: SPARE
- T: SPARE

- A: SPARE
- B: (2) TGNKC, (2) TFHLC
- C: (1) SCR, (1) BRGL
- D: (1) RBRC, (2) RBRT, (2) R26LL

- A: SPARE
- B: (1) BRGL
- C: (2) TFHLC, (1) SCR, (2) TGNKC
- D: (2) RBRT, (2) RBRC, (2) R26LL

- A: (2) TNBCX, (2) TEAC, (2) TEBC
- B: (1) SCR, (1) BRGL
- C: (2) TFHLC, (2) TGNKC, (2) NBX
- D: (1) RBRC, (2) R26LT, (2) RBRL

- A-G: SPARE
- H: (2) TNAC1, (2) TNAC2
- I: (2) SCR
- J: (2) TGNKC
- K: (2) TNAE
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- O: (2) TFHLE, (2) NR1
- P: (2) TNBC1, (2) TNBC2, (2) TNBE, (2) SCW





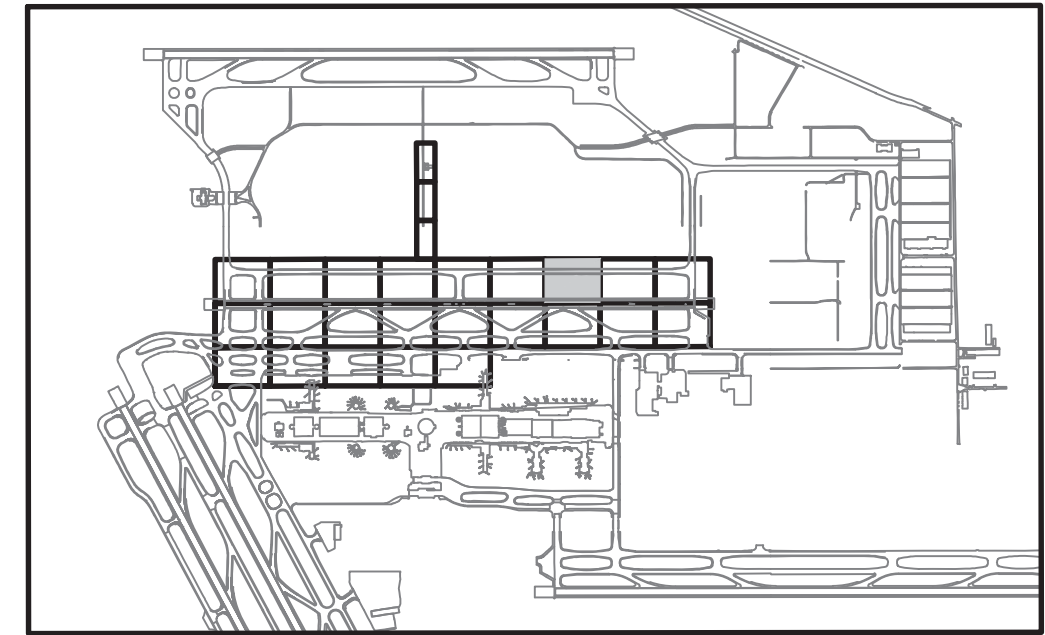








REVISIONS			
NO.	DESCRIPTION	DATE	BY



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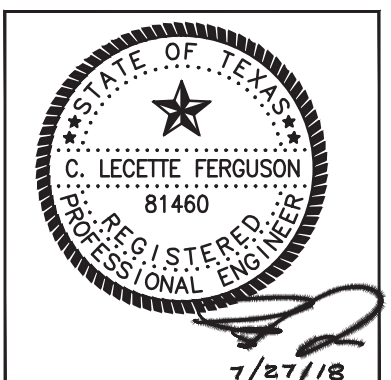
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REHABILITATION OF TAXIWAY 'NA'  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

ISSUED FOR BID

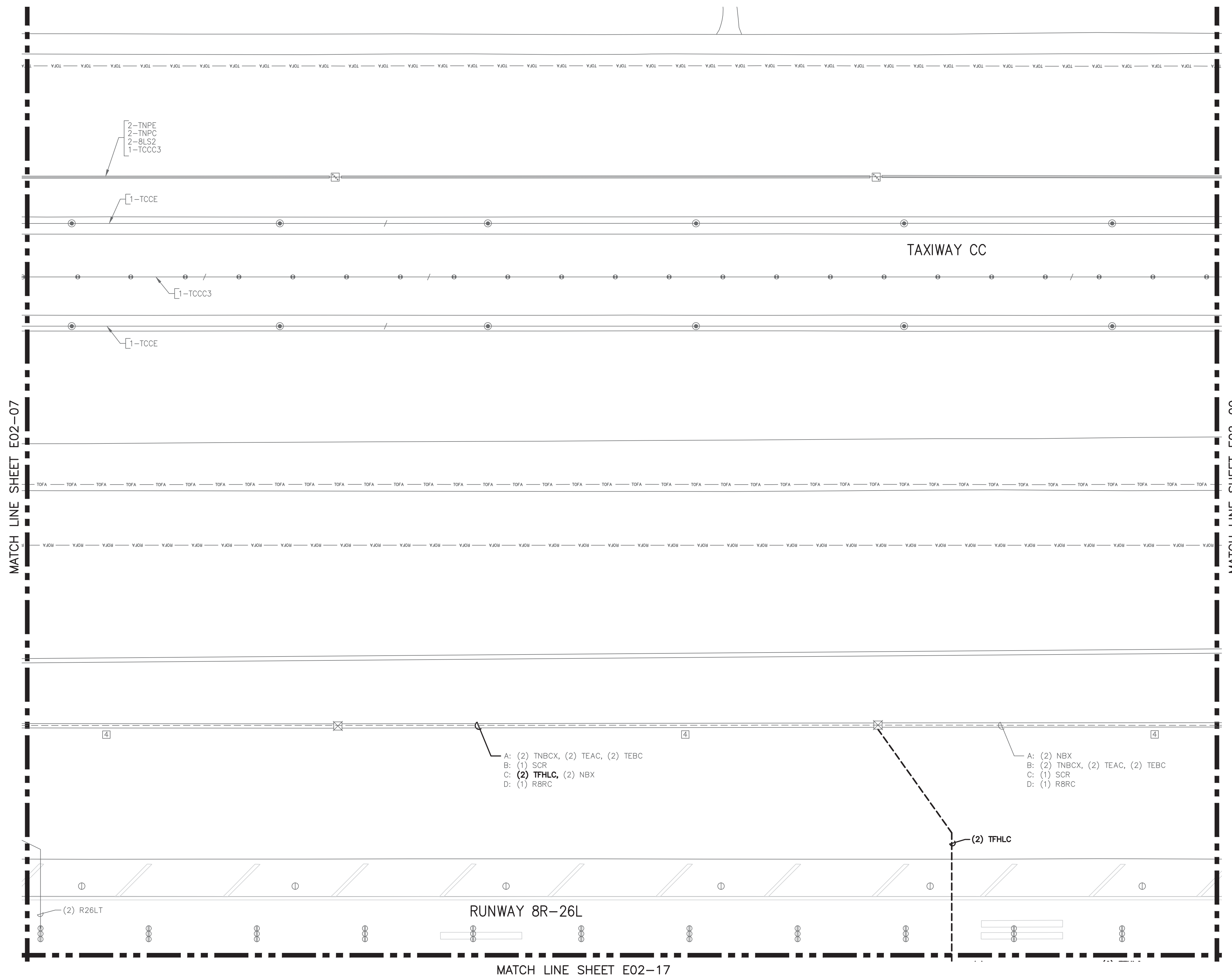
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
<i>Denej Pahnel</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

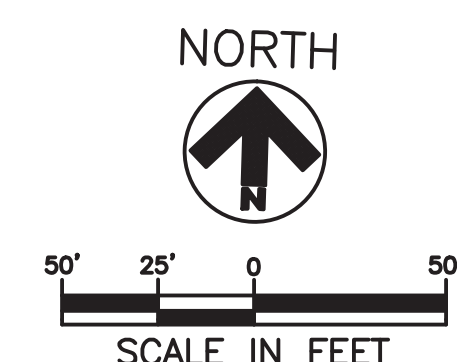
E02-08



MATCH LINE SHEET E02-07

MATCH LINE SHEET E02-09

MATCH LINE SHEET E02-17

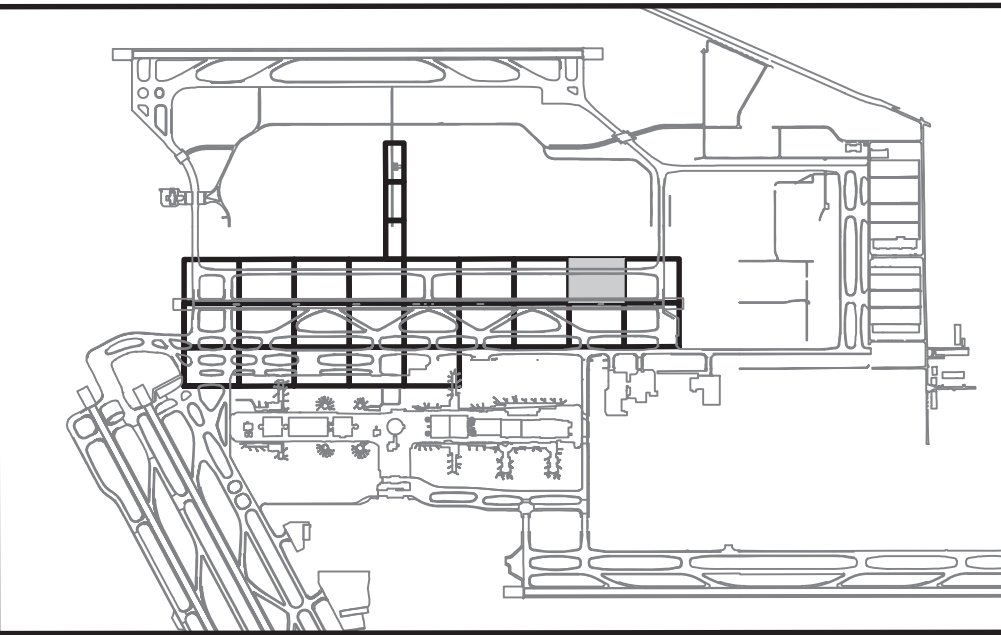






REVISIONS

NO.	DESCRIPTION	DATE	BY



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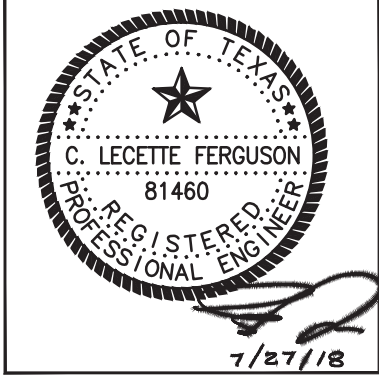
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**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'  
 TAXIWAY 'NA'

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018

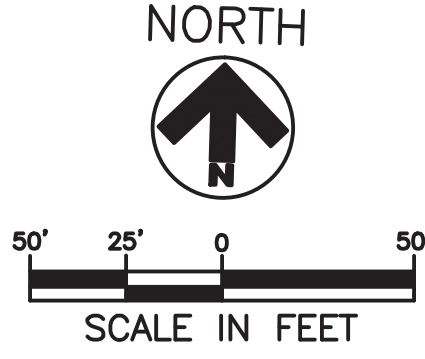
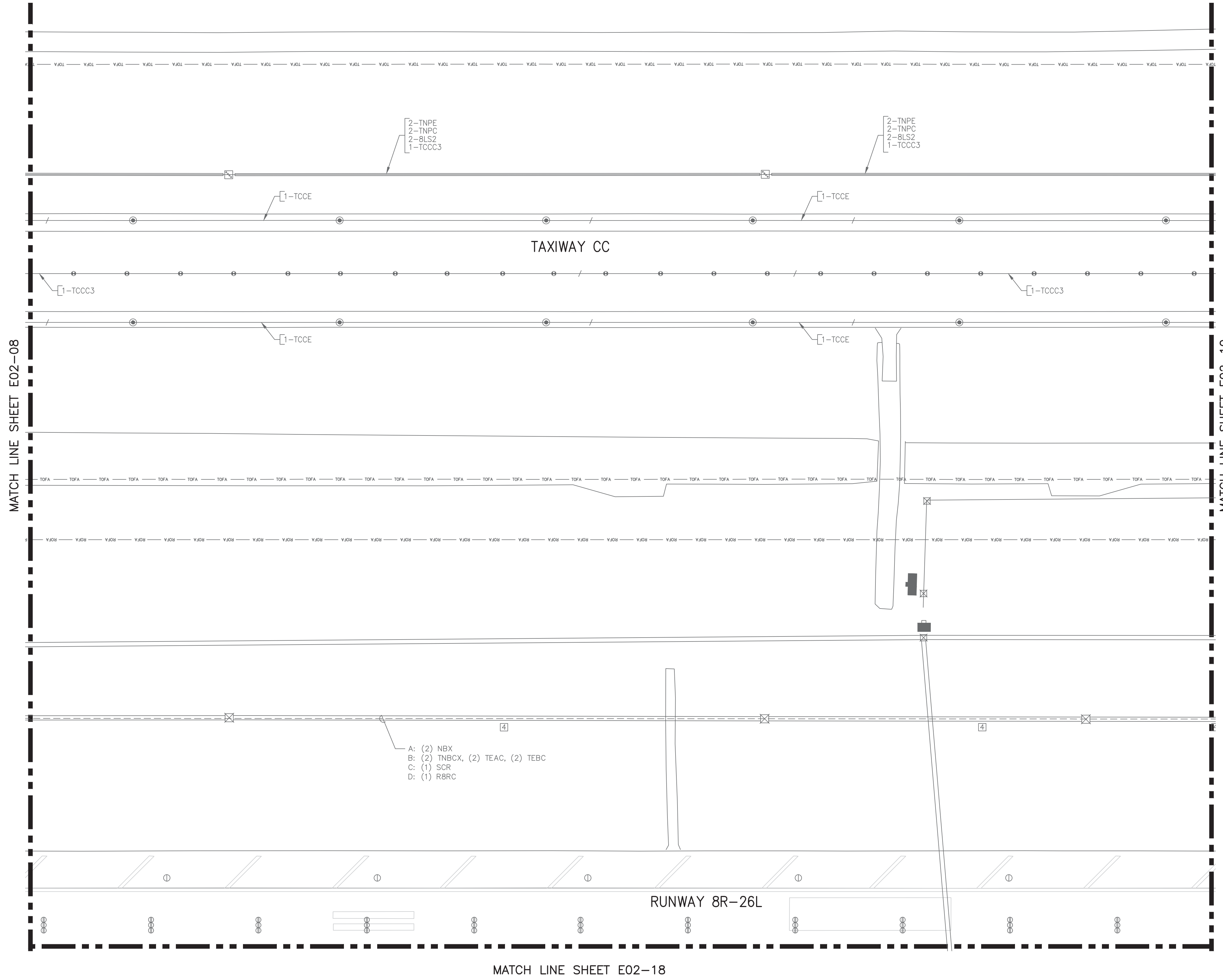


DEPARTMENT OF AVIATION

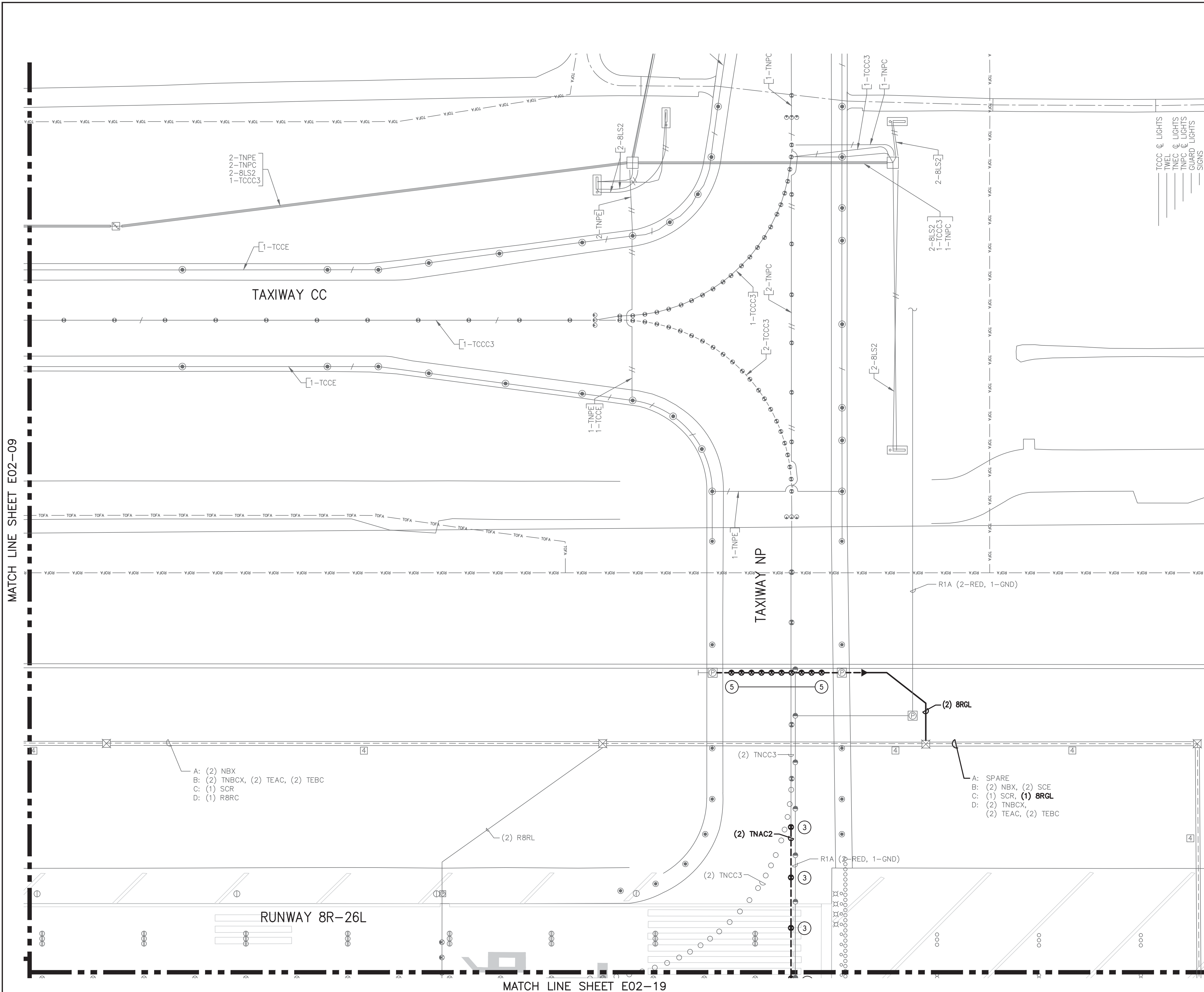
APPROVED BY: DP	7/26/18
<i>Denej Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E02-09

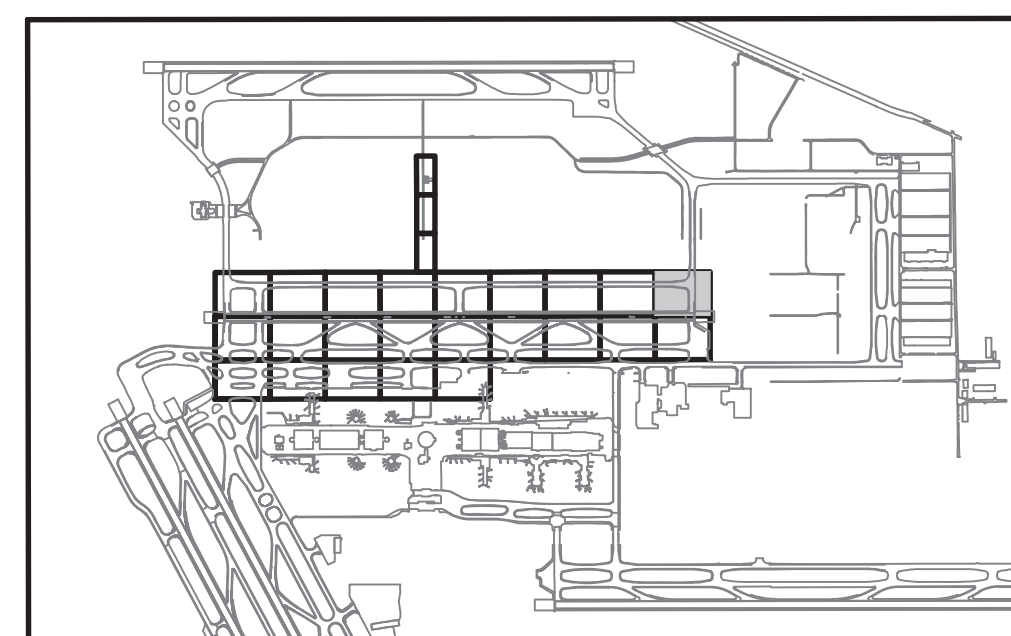






MATCH LINE SHEET E02-09

MATCH LINE SHEET E02-19

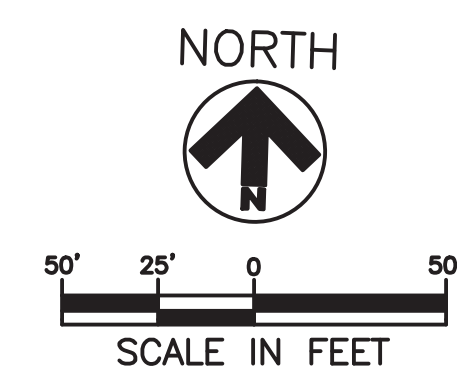


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**HOUSTON AIRPORT SYSTEM**  
 GEORGE BUSH INTERCONTINENTAL AIRPORT  
 HOUSTON, TEXAS

**Ferguson Consulting**  
 Action Specialists for Electrical, Telecommunications and Security Systems  
 FERGUSON CONSULTING, INC.  
 10200 GROGANS MILL RD, SUITE #420  
 THE WOODLANDS, TEXAS 77380  
 (281) 252-9232 FAX No. F-6864

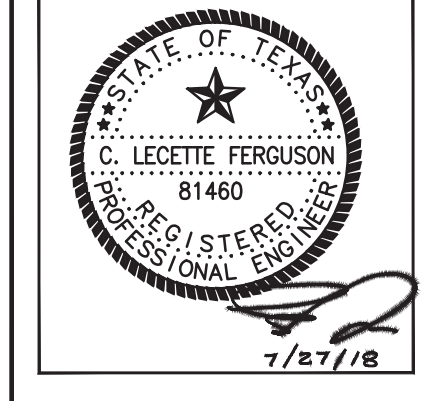
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION

APPROVED BY: DP	7/26/18
<i>Denaj Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

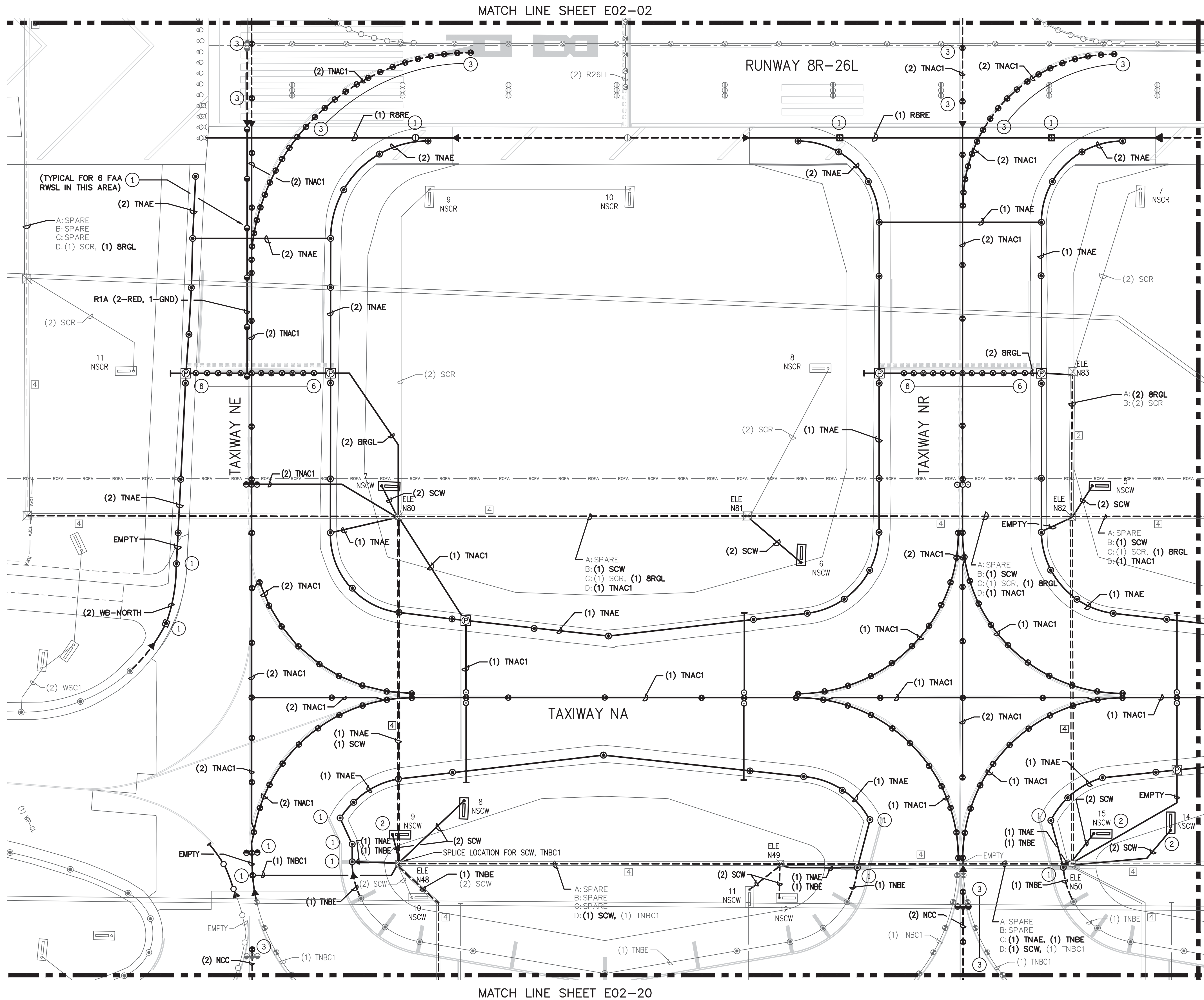
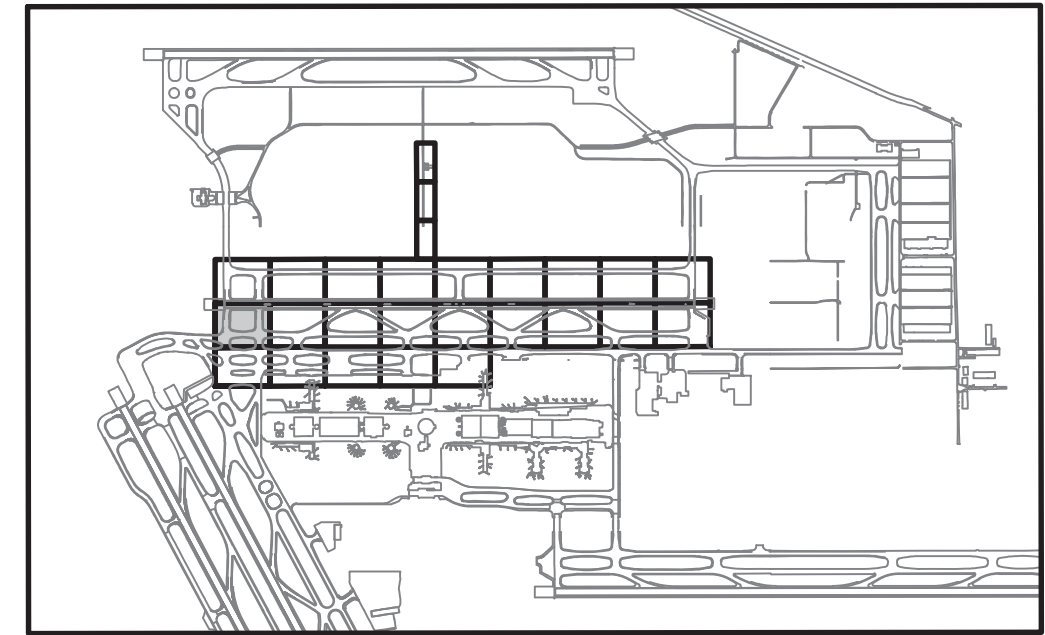
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**E02-10**



REVISIONS

NO.	DESCRIPTION	DATE	BY

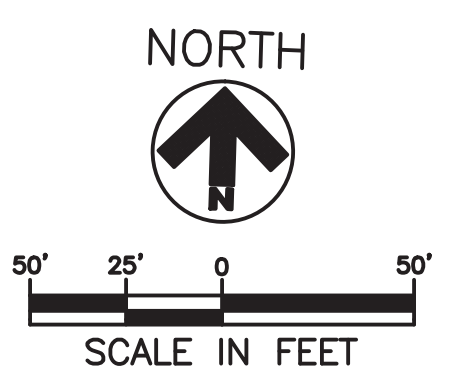


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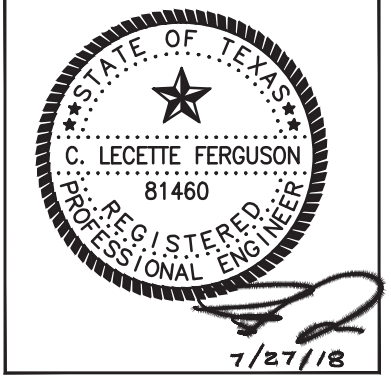
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 ELECTRICAL DEMOLITION PLAN  
 AIRFIELD LIGHTING AND SIGNAGE  
 TAXIWAY 'NA'**

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION

APPROVED BY:	DP	7/26/18
<i>Denaj Pahel</i>		
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE		

PROJECT NO.	0907
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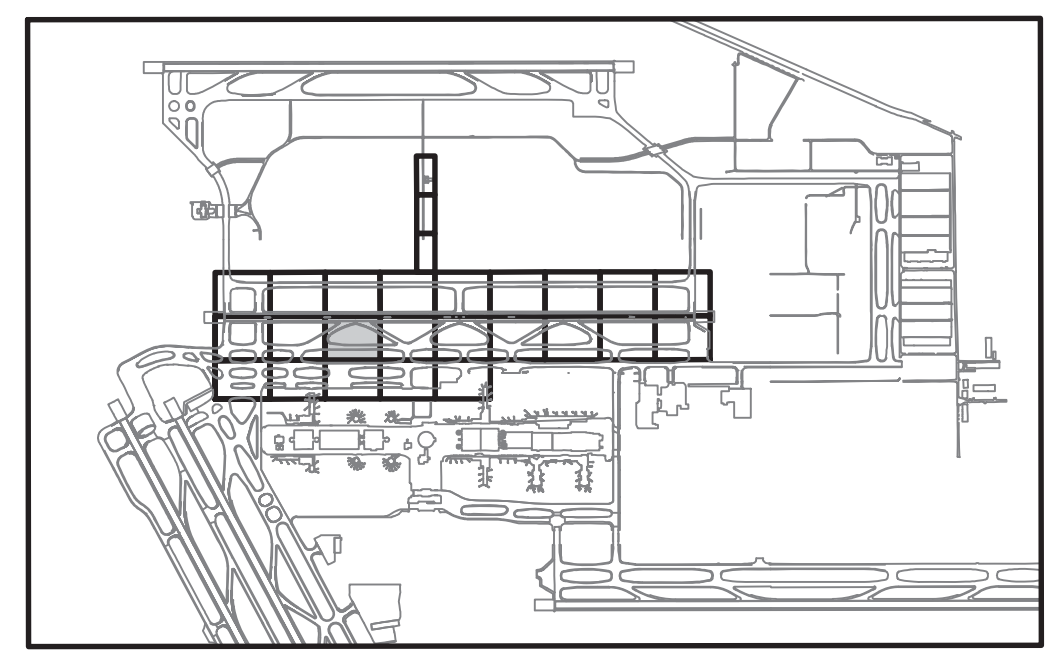








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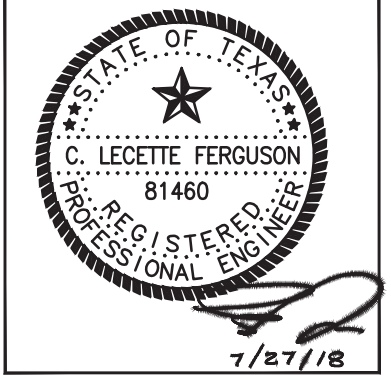
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ELECTRICAL DEMOLITION PLAN  
AIRFIELD LIGHTING AND SIGNAGE  
TAXIWAY 'NA'**

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
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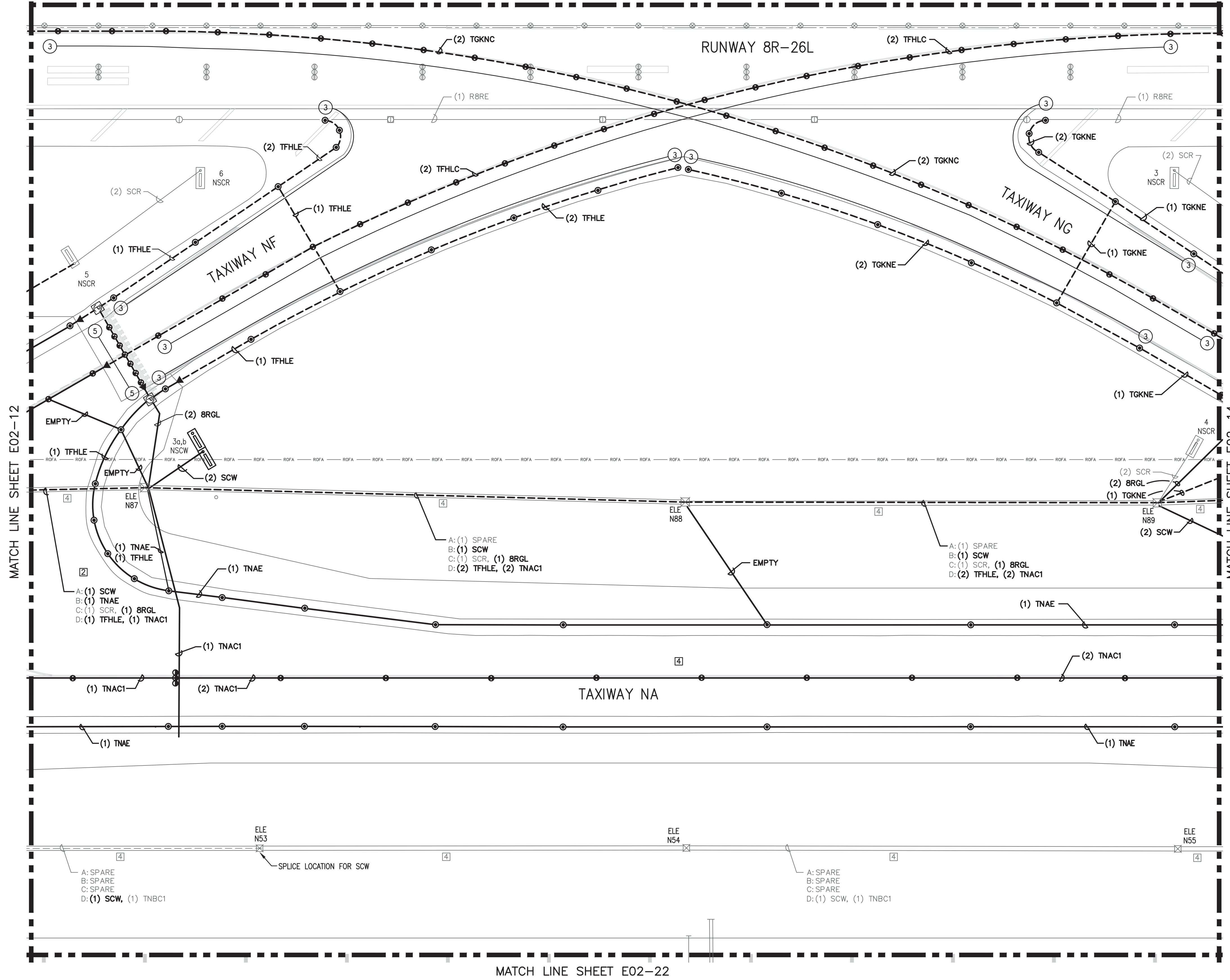


DEPARTMENT OF AVIATION	
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**E02-13**

MATCH LINE SHEET E02-04

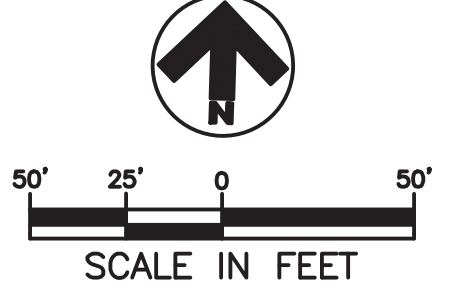


MATCH LINE SHEET E02-22

MATCH LINE SHEET E02-12

MATCH LINE SHEET E02-14

NORTH

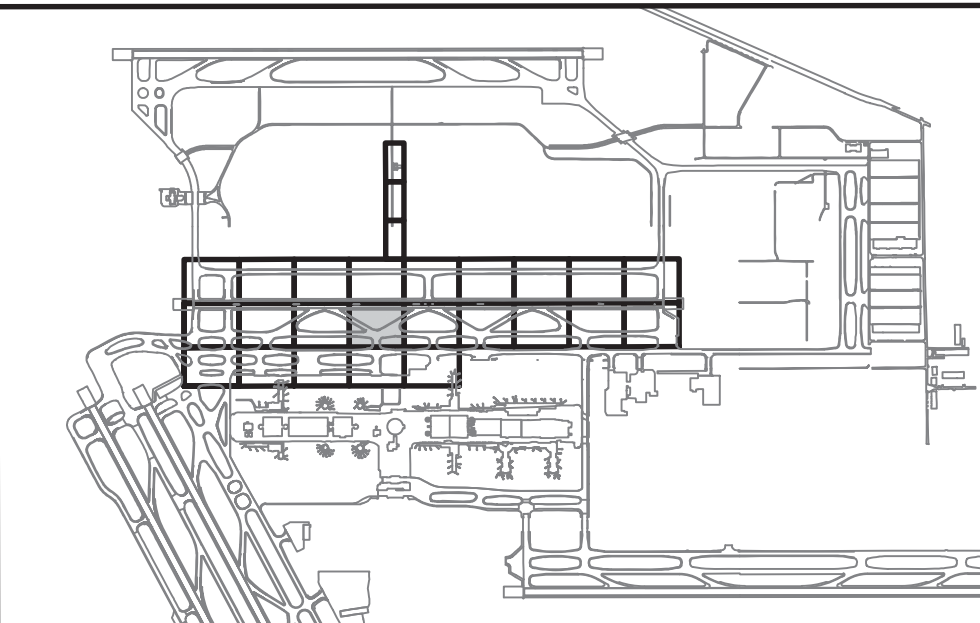






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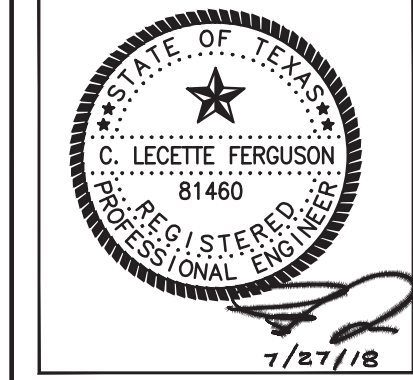
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PROJECT MGR:	CLF
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DRAWN BY:	RSF
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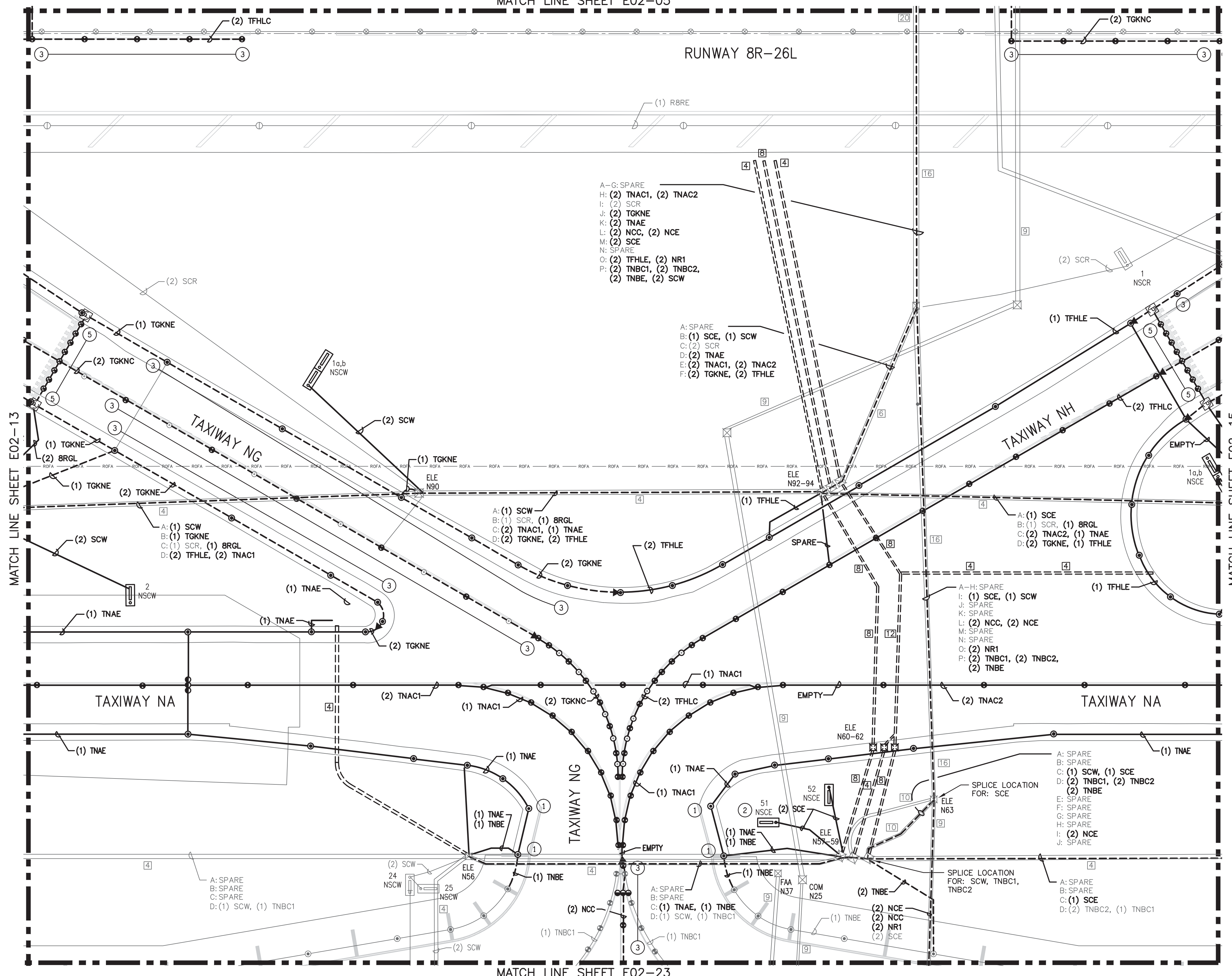
DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
<i>Denaj Rahmal</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

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C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E02-14

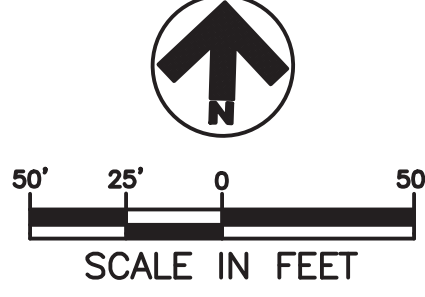
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RUNWAY 8R-26L



MATCH LINE SHEET E02-23

NORTH





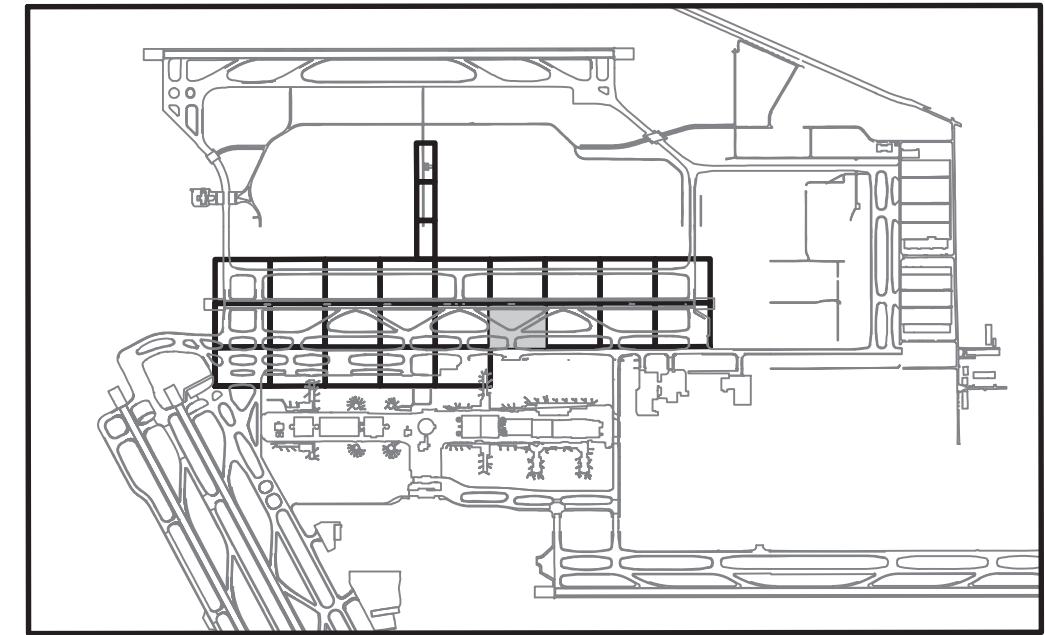






REVISIONS

NO.	DESCRIPTION	DATE	BY



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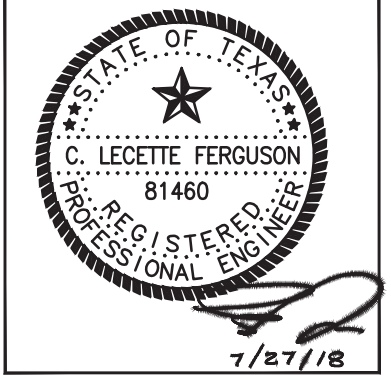
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- REMOVE AND SALVAGE FIXTURE. BASE CAN TO REMAIN.

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018

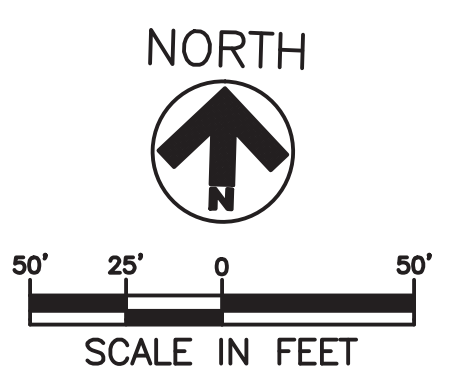
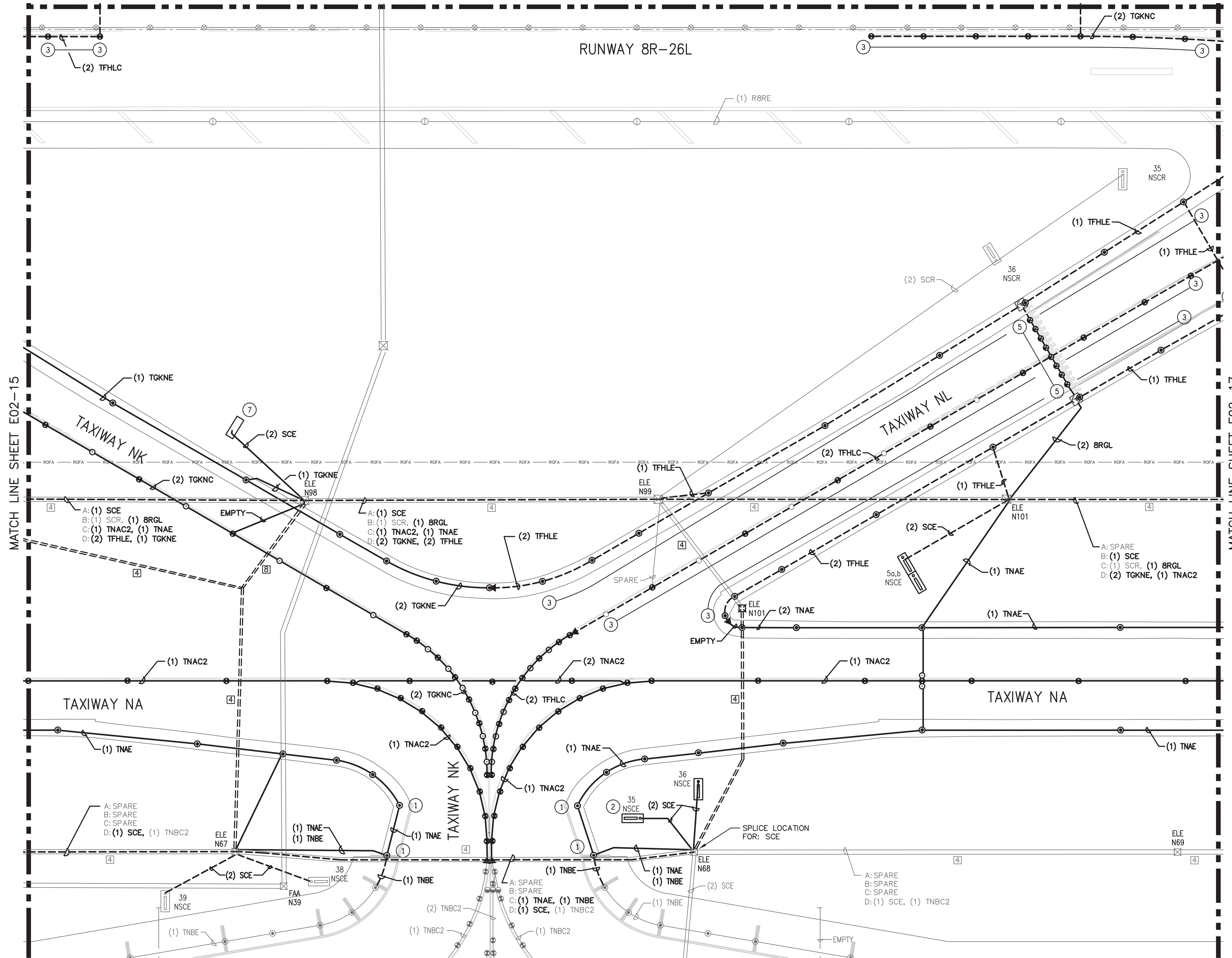


DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
<i>Danaj Pahel</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E02-16

MATCH LINE SHEET E02-07



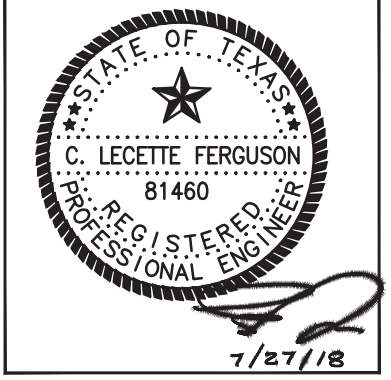




REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

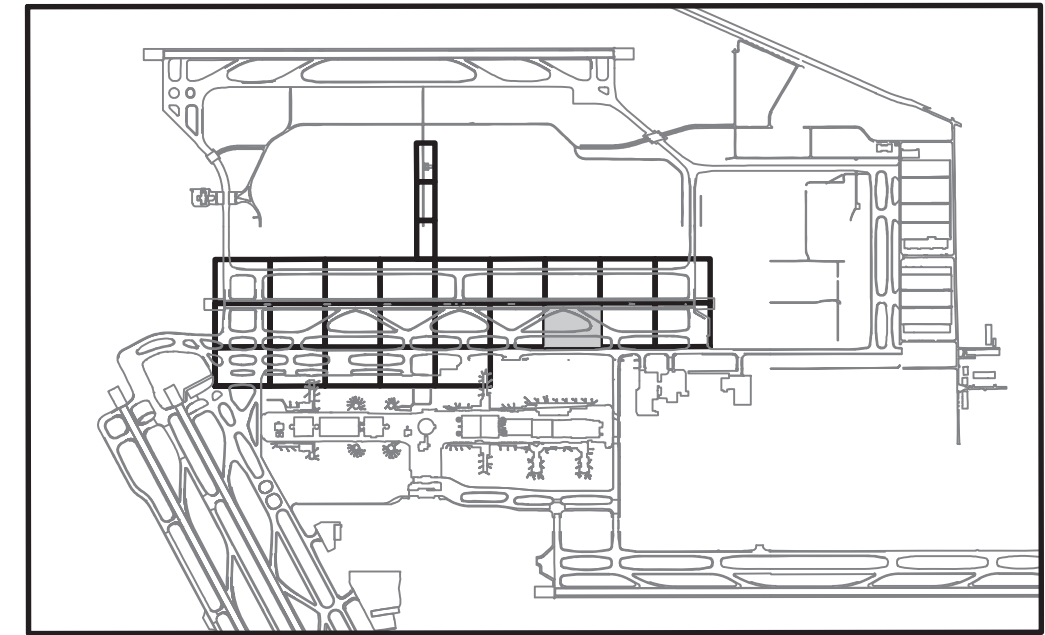
ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
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DEPARTMENT OF AVIATION	
APPROVED BY: DP	7/26/18
<i>Denej Pahnel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E02-17

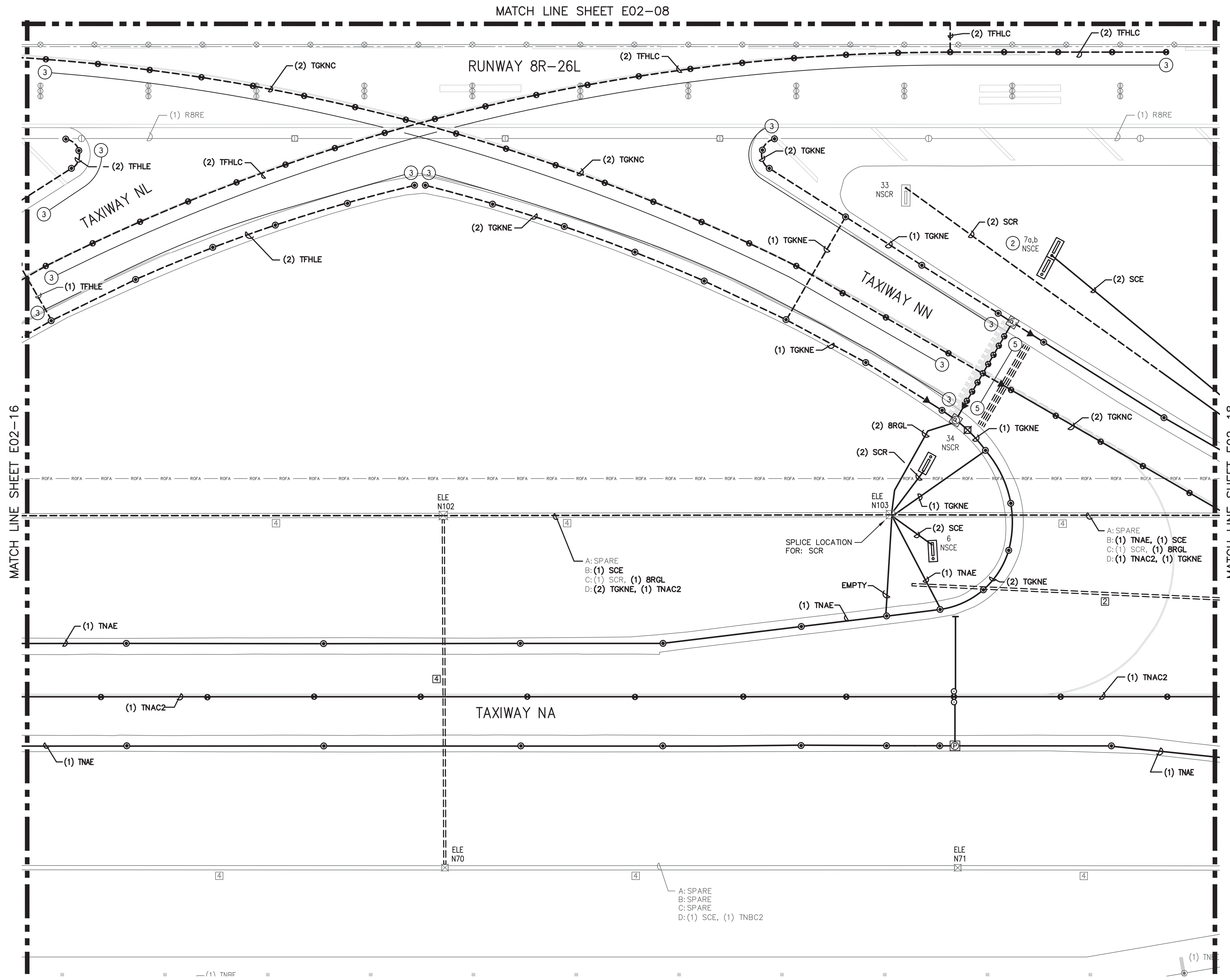
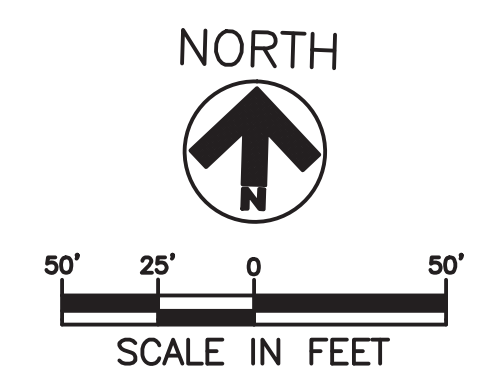


**GENERAL NOTES:**

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A: SPARE  
 B: (1) SCE  
 C: (1) SCR, (1) BRGL  
 D: (2) TGKNE, (1) TNAC2

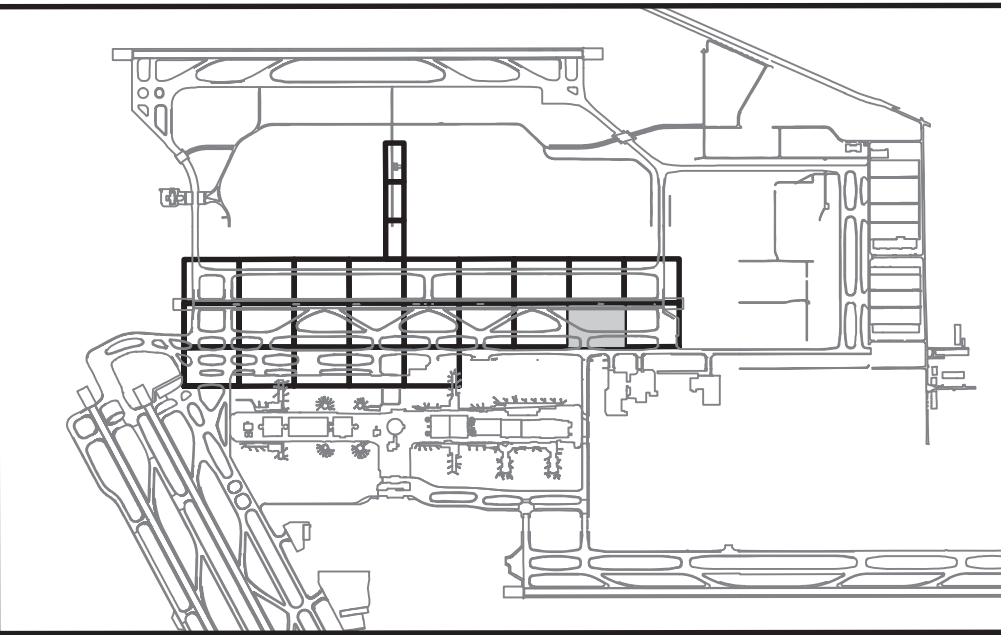
A: SPARE  
 B: (1) TNAE, (1) SCE  
 C: (1) SCR, (1) BRGL  
 D: (1) TNAC2, (1) TGKNE

A: SPARE  
 B: SPARE  
 C: SPARE  
 D: (1) SCE, (1) TNBC2





REVISIONS			
NO.	DESCRIPTION	DATE	BY



**GENERAL NOTES:**

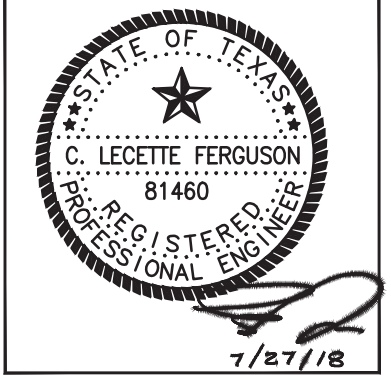
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ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
<i>Denaj Pahel</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

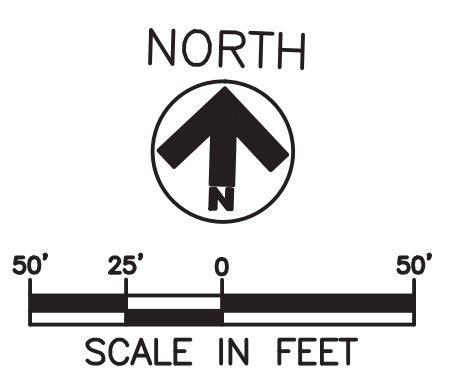
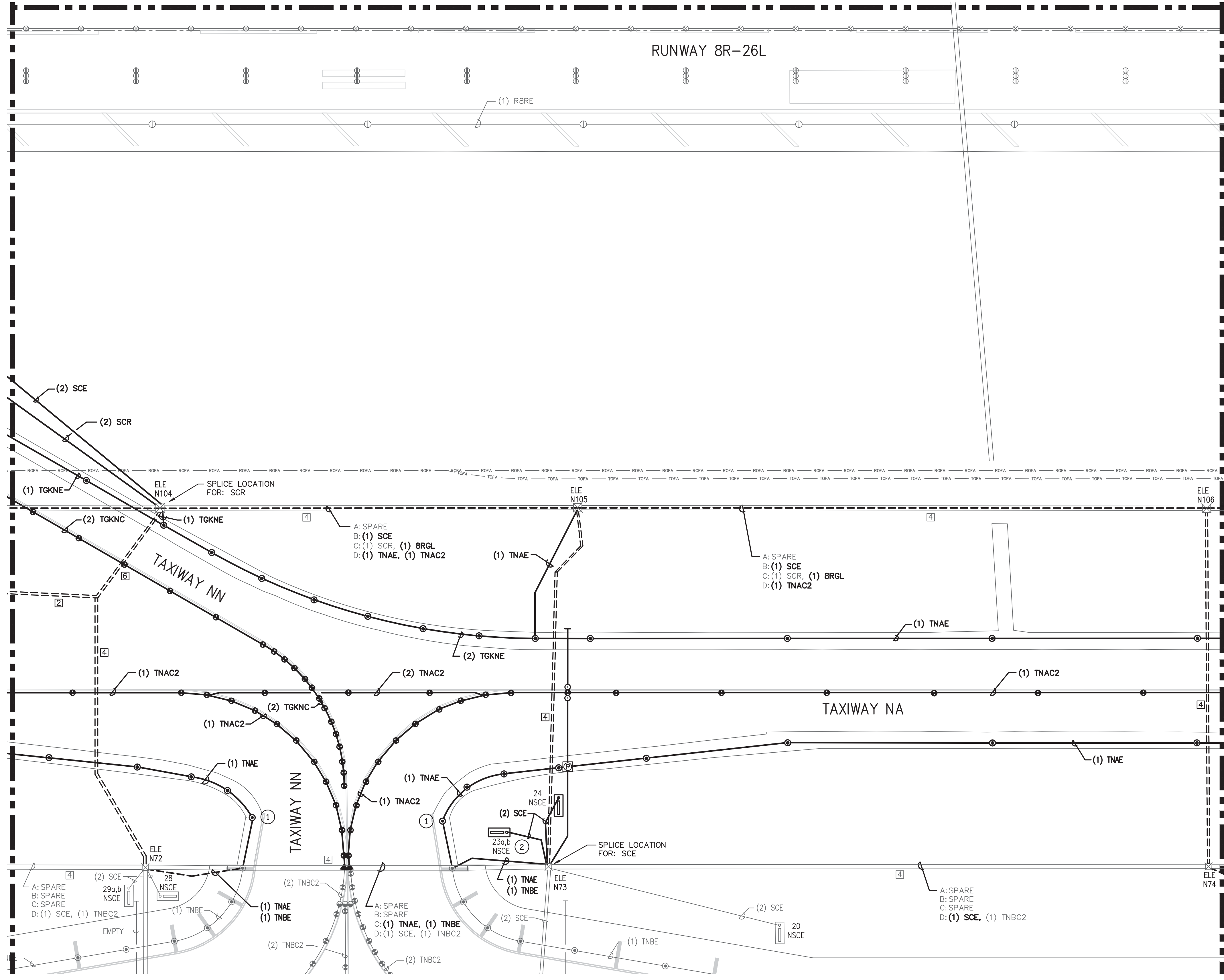
E02-18

MATCH LINE SHEET E02-09

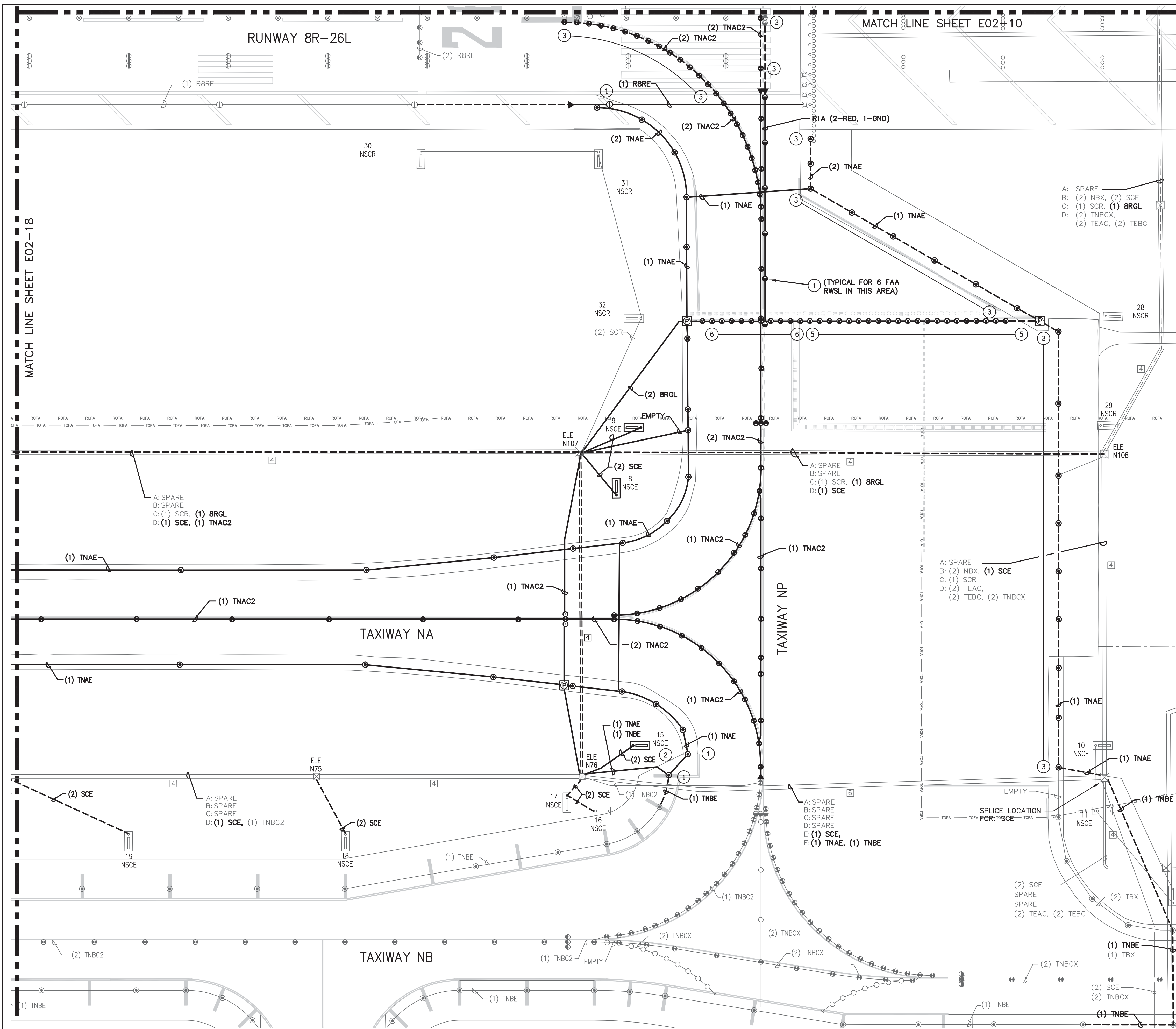
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MATCH LINE SHEET E02-17

MATCH LINE SHEET E02-19

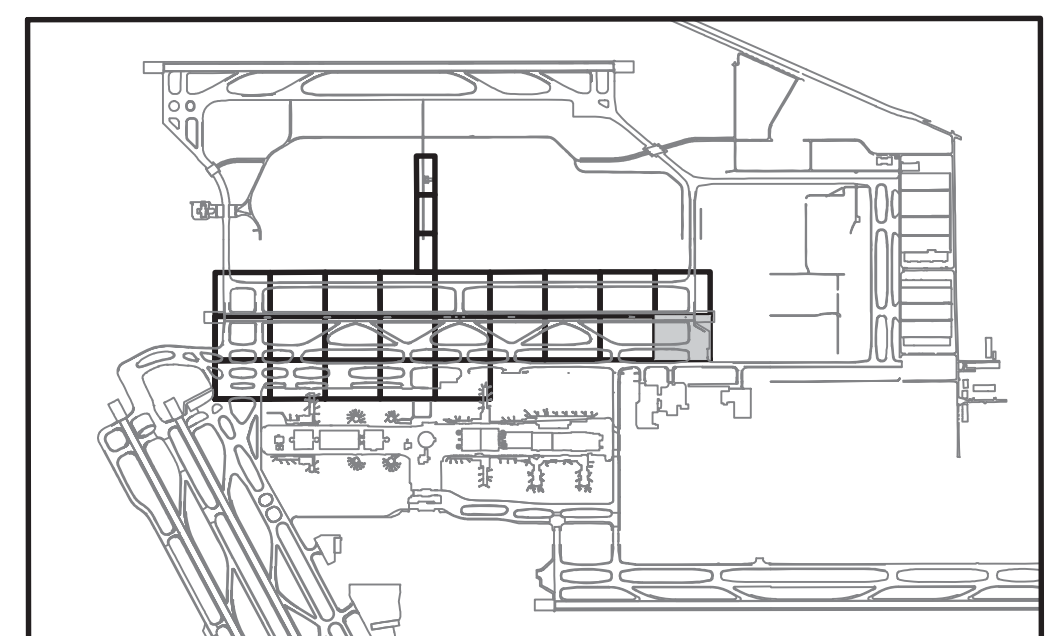






MATCH LINE SHEET E02-18

MATCH LINE SHEET E02-10

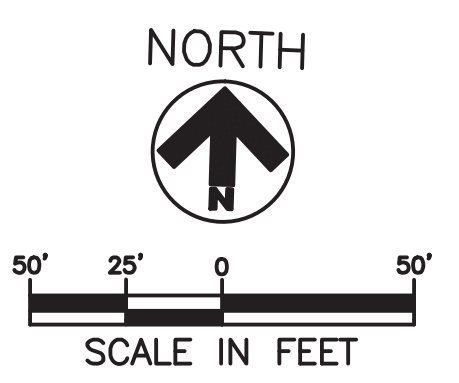


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**HOUSTON AIRPORT SYSTEM**  
 GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

**Ferguson Consulting**  
 Aviation Specialists for Electrical, Telecommunications and Security Systems  
 FERGUSON CONSULTING, INC.  
 10200 GROGANS MILL RD, SUITE #420  
 THE WOODLANDS, TEXAS 77380  
 (281) 252-9232 FAX No. F-4884

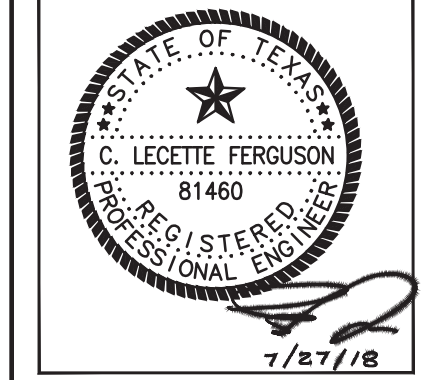
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018

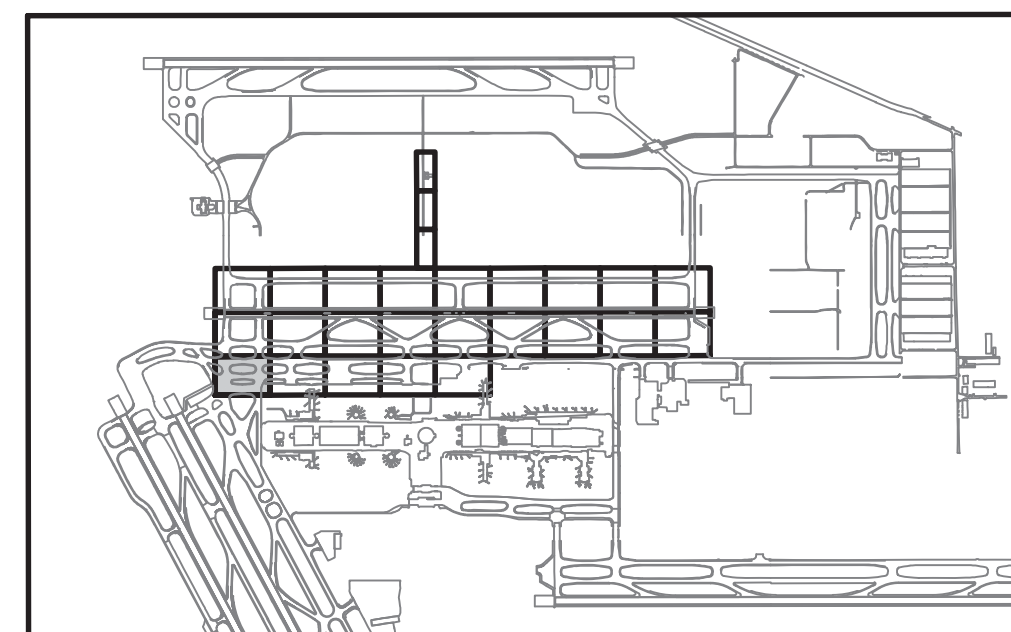
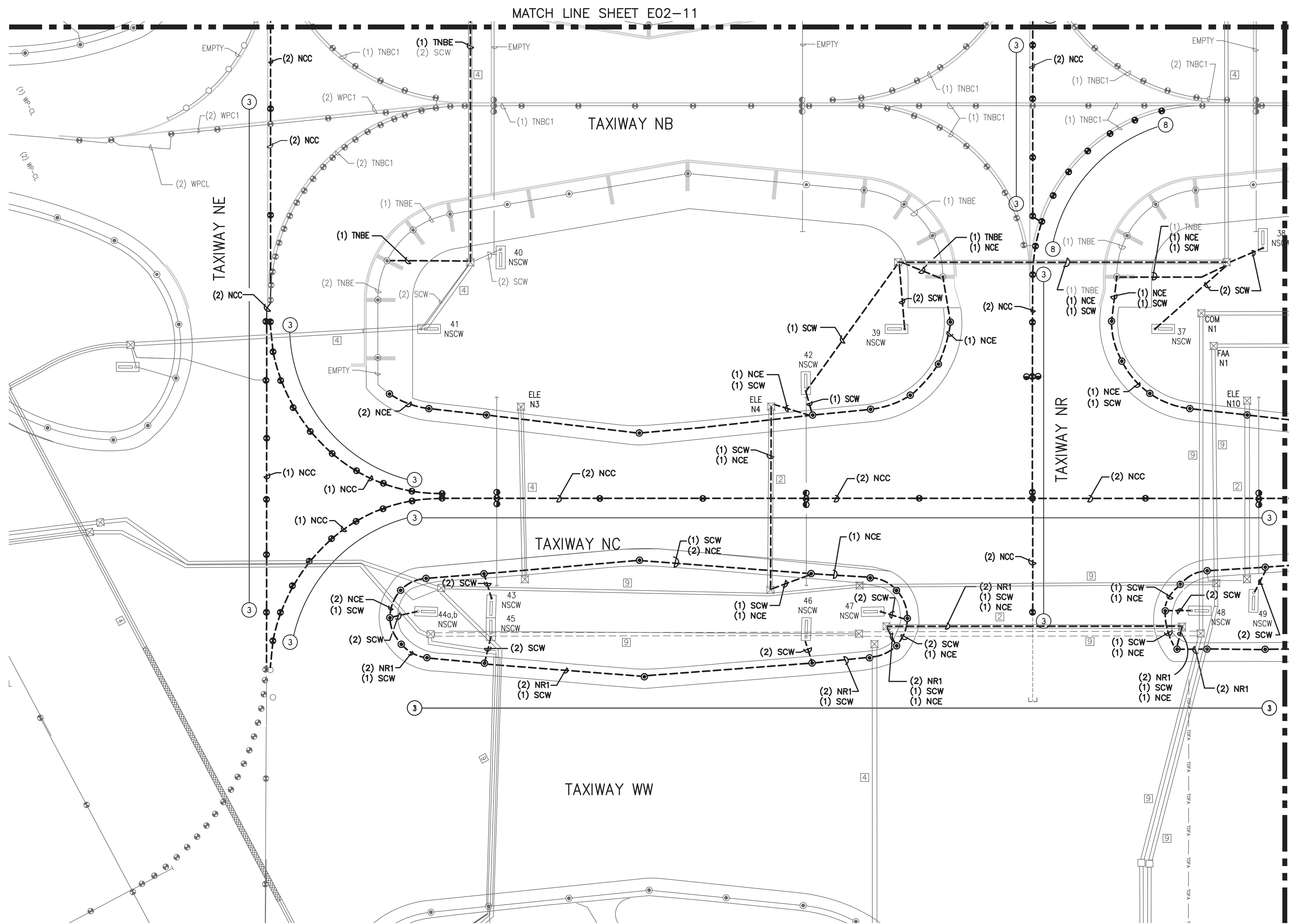


DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E02-19



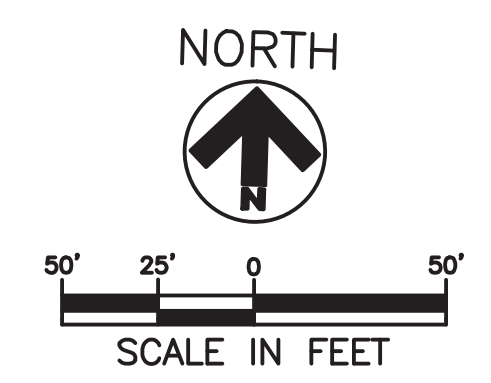


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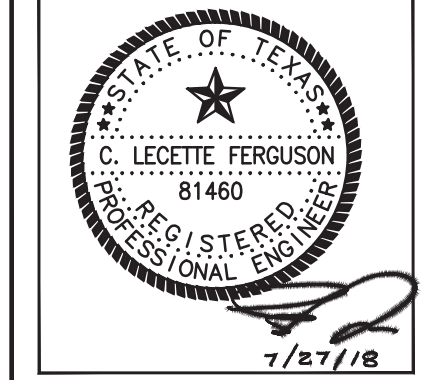


REVISIONS			
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REHABILITATION OF TAXIWAY NA  
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**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
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PROJECT MGR:	CLF
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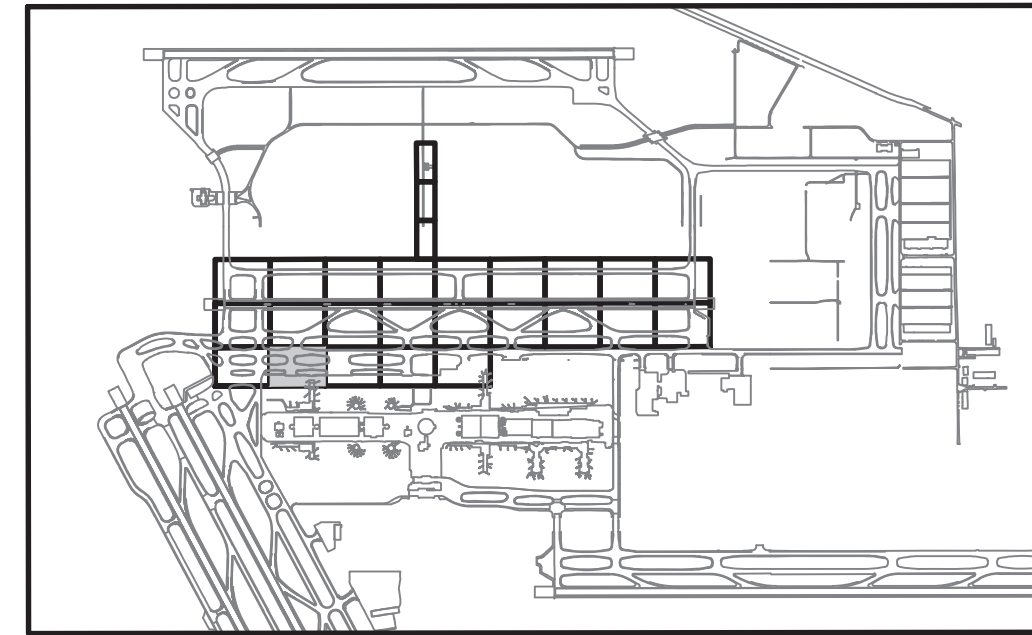
DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
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PROJECT NO.	0907
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REVISIONS			
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**GENERAL NOTES:**

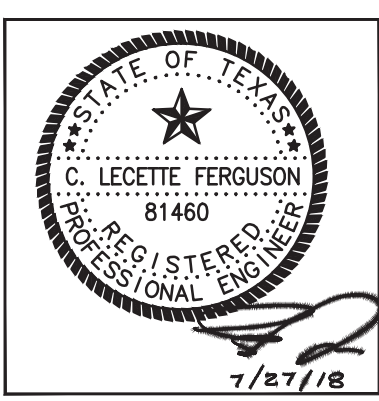
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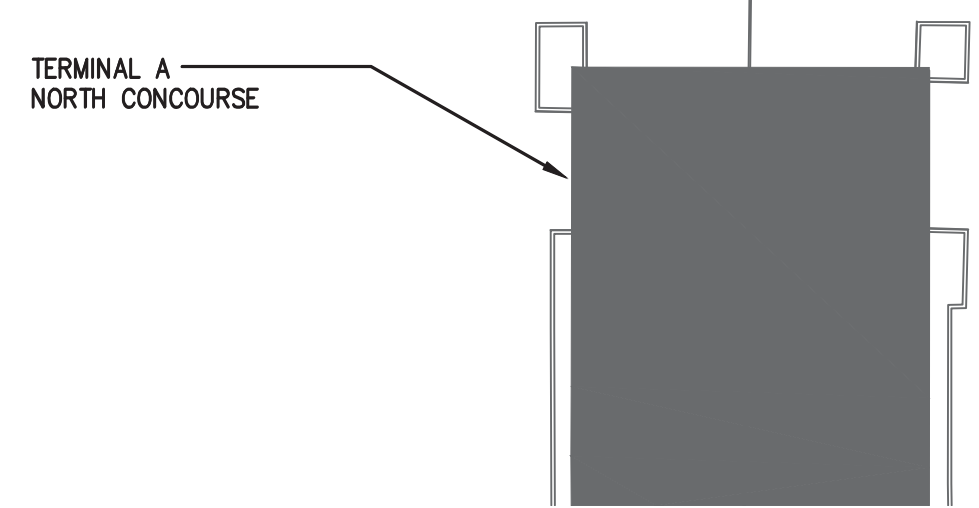
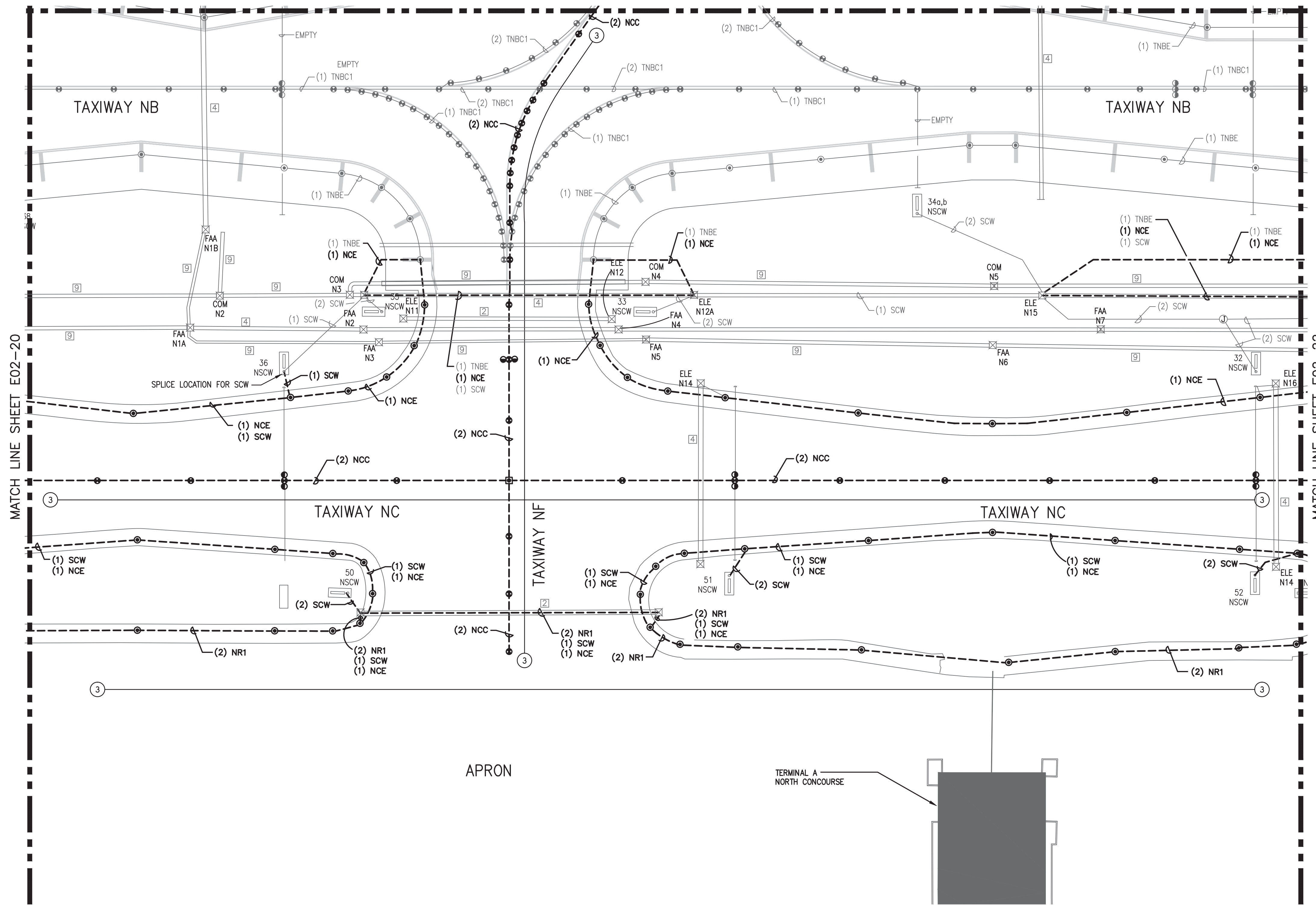
PROJECT MGR:	CLF
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DEPARTMENT OF AVIATION
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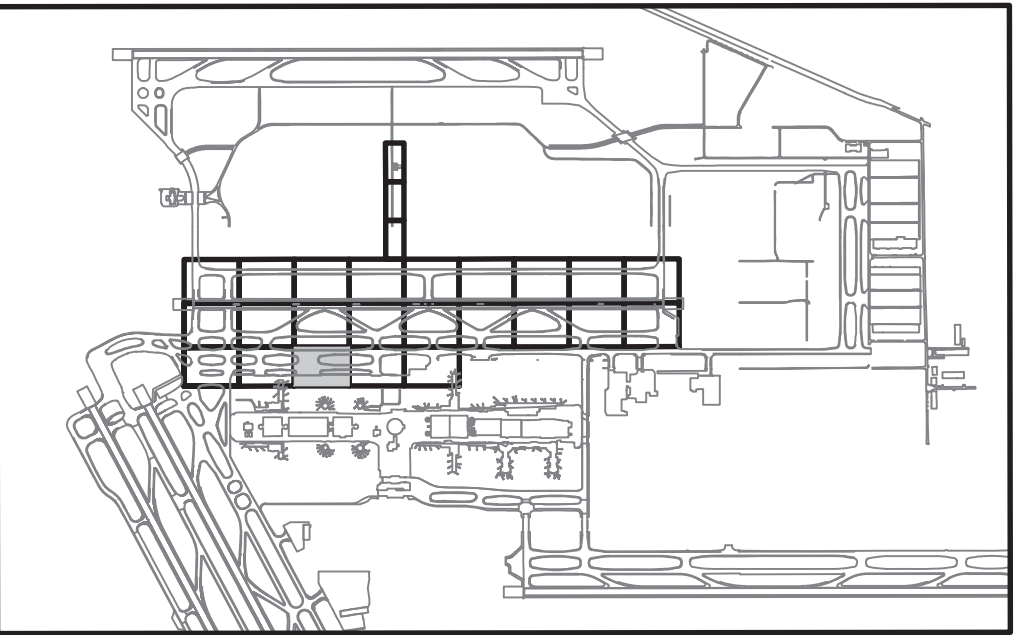
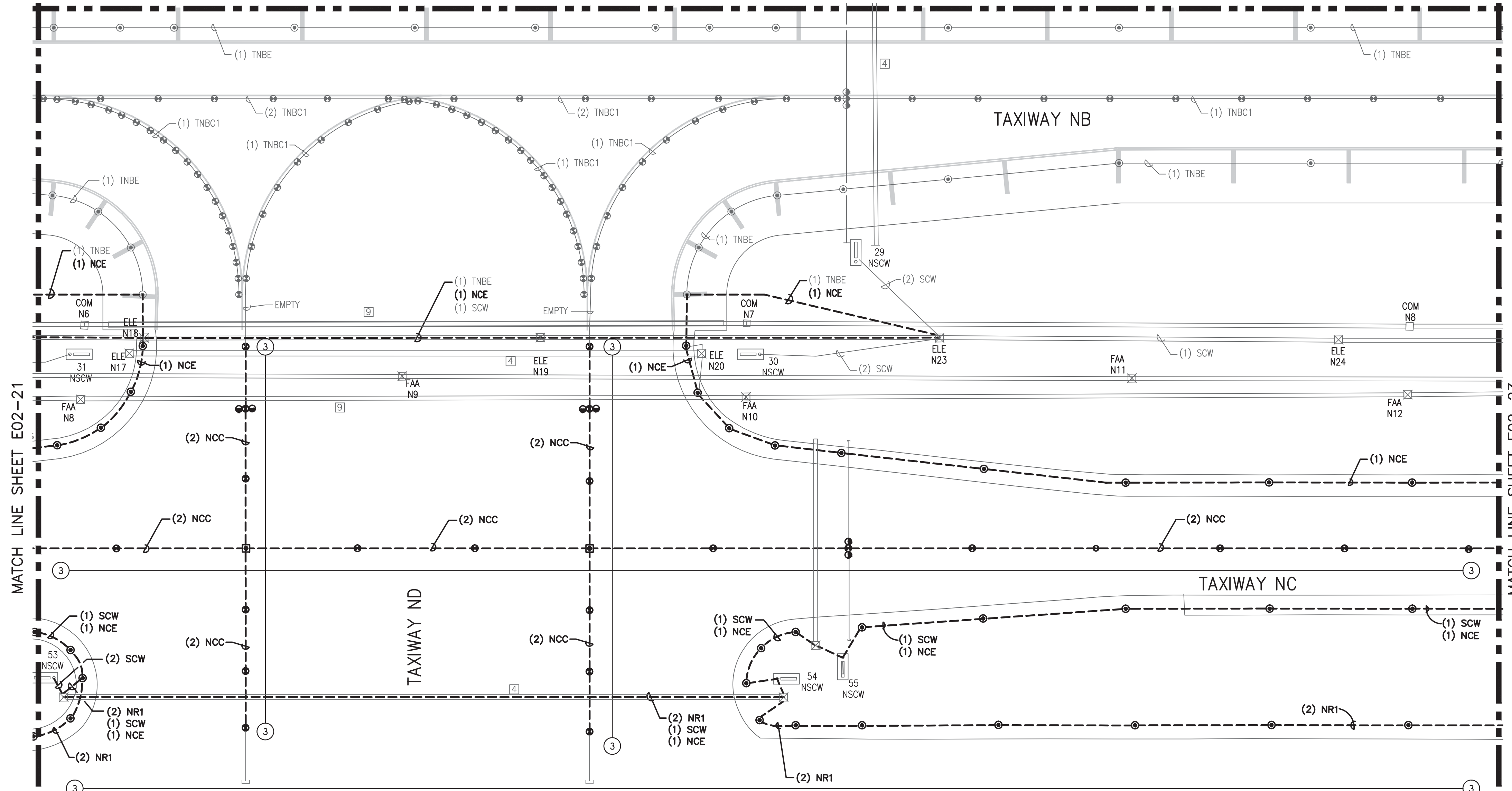
MATCH LINE SHEET E02-12



NORTH







**HOUSTON AIRPORT SYSTEM**  
 GEORGE BUSH INTERCONTINENTAL AIRPORT  
 HOUSTON, TEXAS

**Ferguson Consulting**  
 Aviation Specialists for Electrical, Telecommunications and Security Systems  
 FERGUSON CONSULTING, INC.  
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 (281) 252-9232 FAX No. F-6864

REVISIONS

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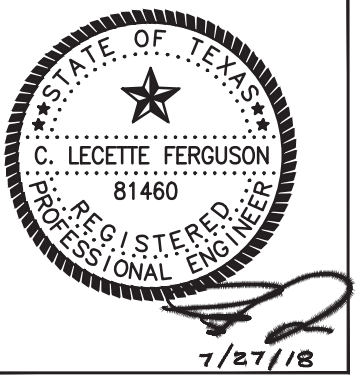
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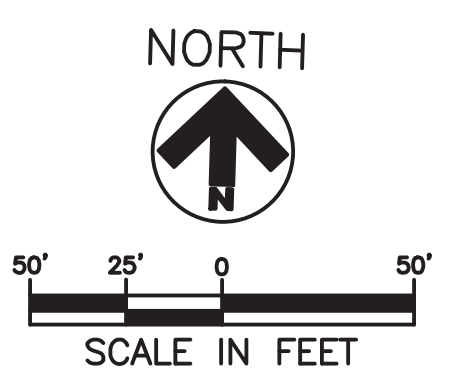
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 APPROVED BY: DP 7/26/18  
*Denej Pahml*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

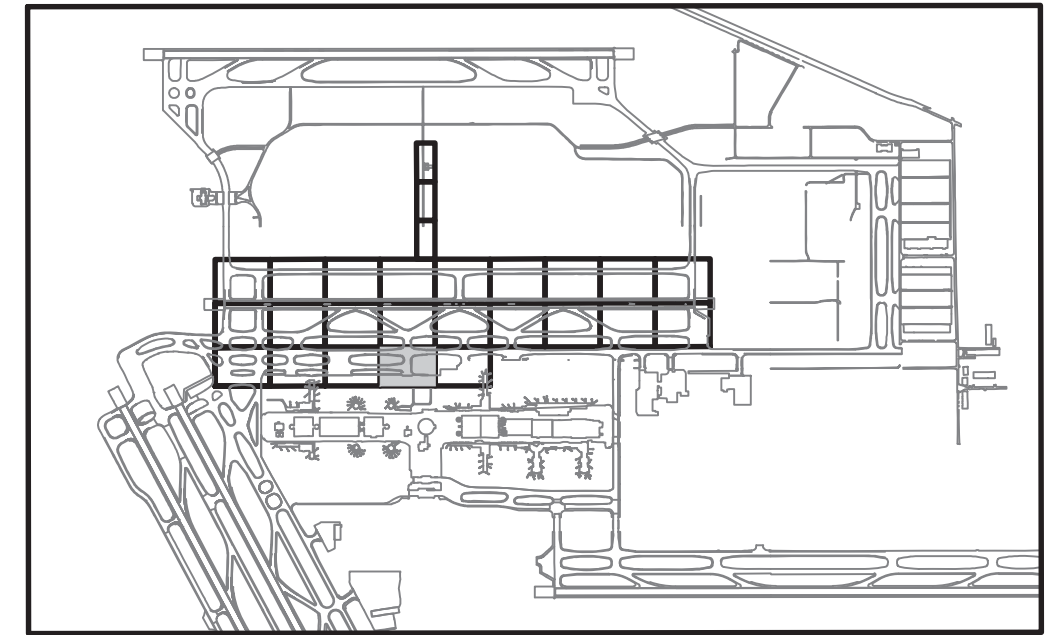






REVISIONS

NO.	DESCRIPTION	DATE	BY

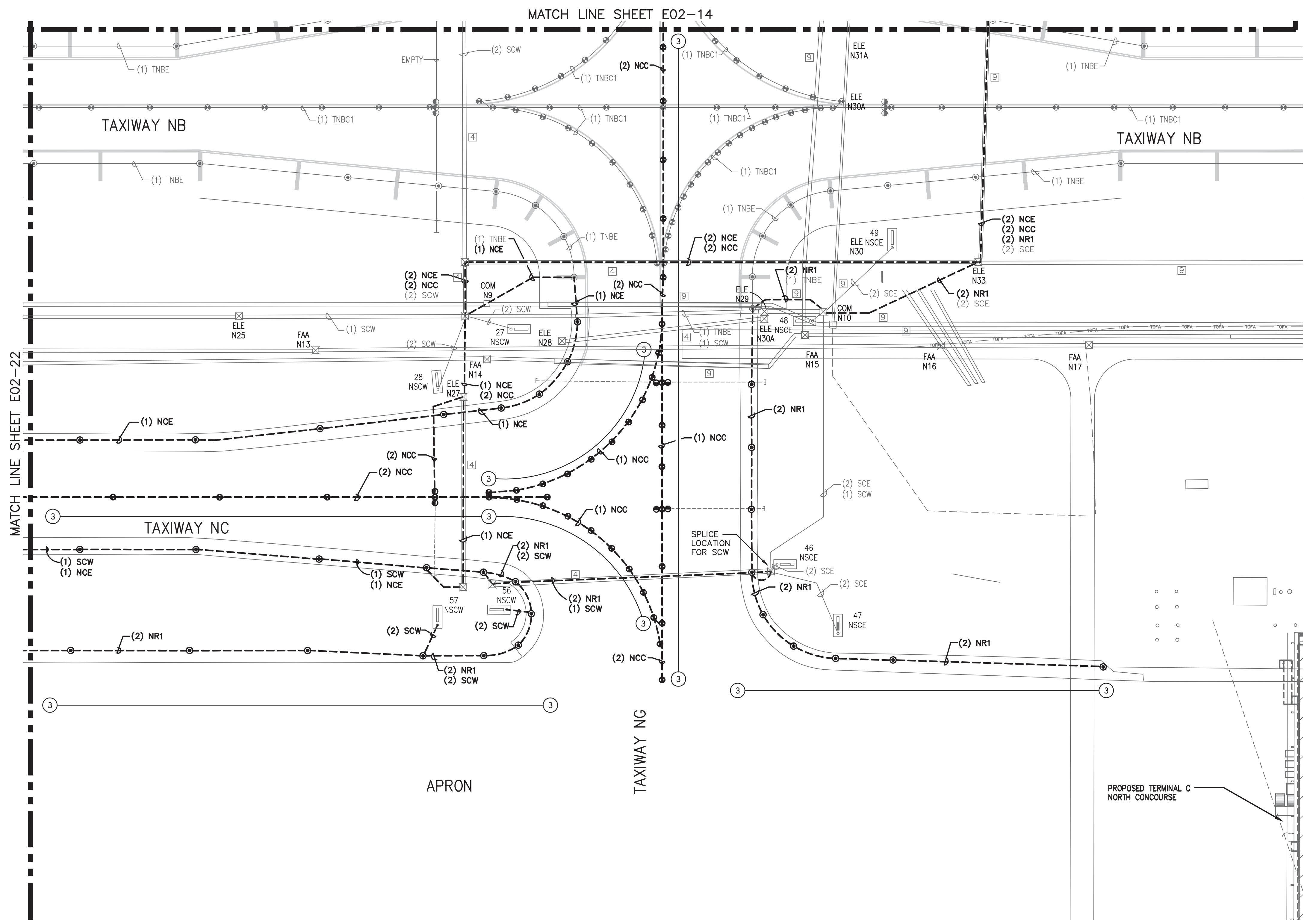


**GENERAL NOTES:**

1. ALL ITEMS SHOWN WITH HEAVY LINEWEIGHT TO BE DEMOLISHED. ALL ITEMS SHADED TO REMAIN. REFER TO SHEET E01-01 FOR ELECTRICAL SYMBOL LEGEND, C1 SERIES CONSTRUCTION SEQUENCING AND CIVIL DRAWINGS FOR COMPLETE COORDINATION.
2. ALL LIGHT FIXTURES, SIGNS AND ELECTRICAL EQUIPMENT SHOWN TO BE DEMOLISHED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED.
3. COORDINATE WORK WITH LOCAL FAA FIELD REPRESENTATIVE, HAS COMM REPRESENTATIVE, ELECTRIC SHOP AND OPERATIONS.
4. ALL EXISTING CIRCUIT INFORMATION HAS BEEN OBTAINED FROM AS-BUILT DOCUMENTATION AND FIELD OBSERVATION. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM EXISTING CIRCUITS PRIOR TO CONSTRUCTION.
5. REFER TO E03 SERIES FOR NEW AIRFIELD LIGHTING PLANS TO COORDINATE DEMOLITION, E08 SERIES FOR SCHEDULES FOR SPECIFIC FIXTURE SCOPE AND E10 SERIES FOR DETAIL SHEETS.
6. KEYED NOTES ARE THE SAME FOR EACH DRAWING IN THIS SERIES (E02), NOT EVERY KEYED NOTE IS USED ON EACH INDIVIDUAL DRAWING. REFER TO SPECIFICATIONS AND LINE ITEMS PAY DETAILS FOR CLARIFICATIONS.

**KEYED NOTES:**

- 1 REMOVE AND SALVAGE FIXTURE. REMOVE BASE CAN.
- 2 REMOVE AND SALVAGE SIGN. REMOVE SIGN FOUNDATION.
- 3 REMOVE FIXTURE. BASE CAN TO REMAIN. TYPICAL FOR ALL EDGE AND CENTER FIXTURES SHOWN TO BE REMOVED IN THIS AREA.
- 4 EXISTING FIXTURE AND BASE CAN TO REMAIN. REMOVE AND REPLACE EXISTING CIRCUIT. PROVIDE NEW CONNECTOR KIT AND ISOLATION TRANSFORMER.
- 5 REMOVE RGL FIXTURES, FLASHERS, TRANSFORMERS, "Y" CONNECTORS AND PRIMARY CABLE. BASE CAN TO REMAIN AND BE REUSED. RETURN FLASHERS AND FIXTURES TO HAS ELECTRICAL MAINTENANCE.
- 6 REMOVE RGL FIXTURES, FLASHERS, TRANSFORMERS, "Y" CONNECTORS, PRIMARY CABLE, PULL BOXES, BASE CAN AND CONDUITS. RETURN FLASHERS AND FIXTURES TO HAS ELECTRICAL MAINTENANCE.
- 7 REMOVE ABANDONED SIGN FOUNDATION.
- 8 REMOVE AND SALVAGE FIXTURE. BASE CAN TO REMAIN.



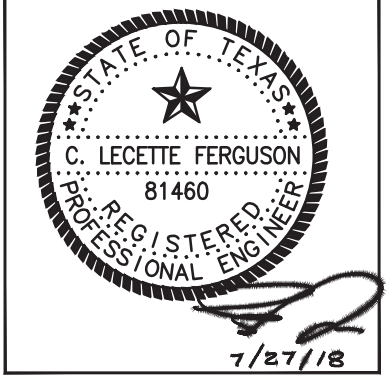
MATCH LINE SHEET E02-22

MATCH LINE SHEET E02-14

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DEMOLITION PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

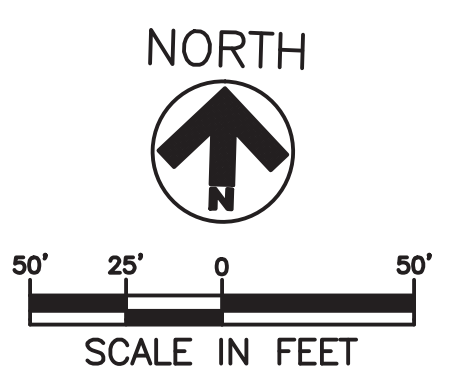
ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
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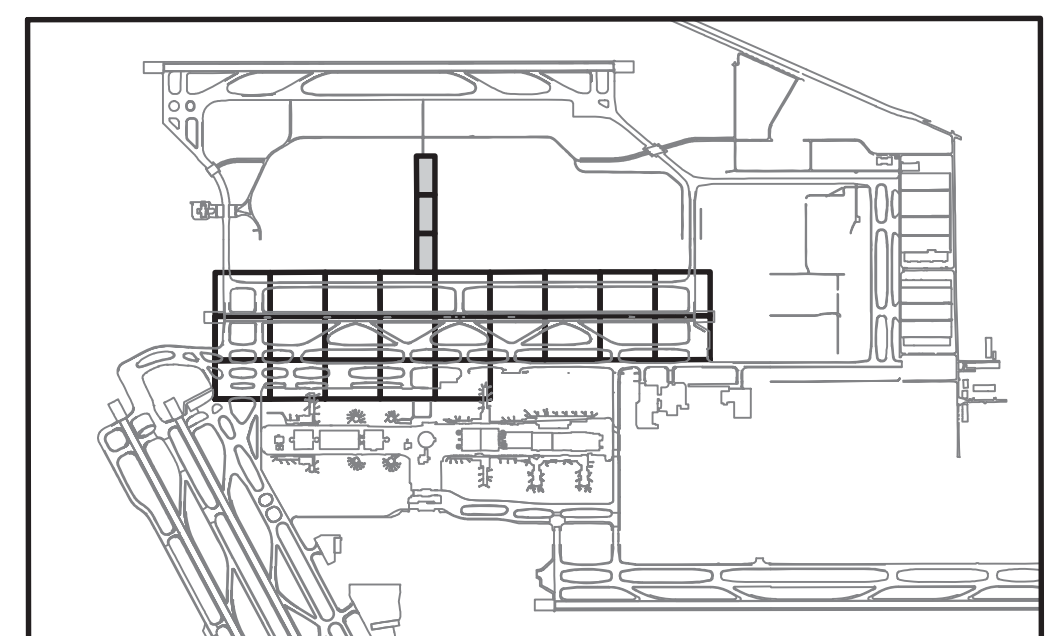






REVISIONS

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**GENERAL NOTES:**

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- REFER TO E2 SERIES FOR OLD AIRFIELD LIGHTING PLANS TO COORDINATE DEMOLITION, E8 SERIES FOR SCHEDULES AND E10 DETAIL SHEETS.
- KEYED NOTES ARE THE SAME FOR EACH DRAWING IN THIS SERIES (E03), NOT EVERY KEYED NOTE IS USED ON EACH INDIVIDUAL DRAWING. REFER TO SPECIFICATIONS, LINE ITEMS AND DETAILS FOR CLARIFICATIONS.
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- ALL RUNWAY GUARD LIGHTS SHALL BE SUPPLIED AND INSTALLED WITH NEW LOW INDUCTANCE ISOLATION TRANSFORMERS PER SPECIFICATIONS 26 55 92 AND 26 55 90.

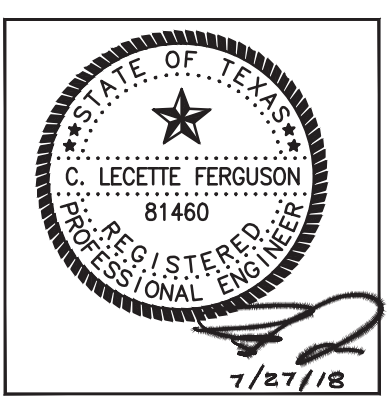
**KEYED NOTES:**

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- INSTALL SALVAGED SIGN ON NEW SIGN FOUNDATION.
- NOT USED.
- NOT USED.
- INSTALL BLANK COVER ON EXISTING BASE CAN.
- INSTALL EXISTING SALVAGED FIXTURE ON NEW BASE CAN. REFER TO THE FIXTURE SCHEDULE IF APPLICABLE.
- INSTALL NEW CONNECTOR KIT AND ISOLATION TRANSFORMER.

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'  
 TAXIWAY 'NA'

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018

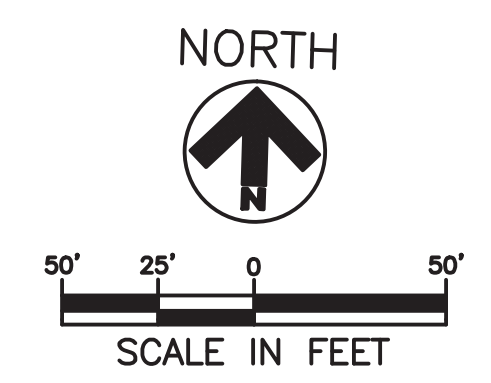
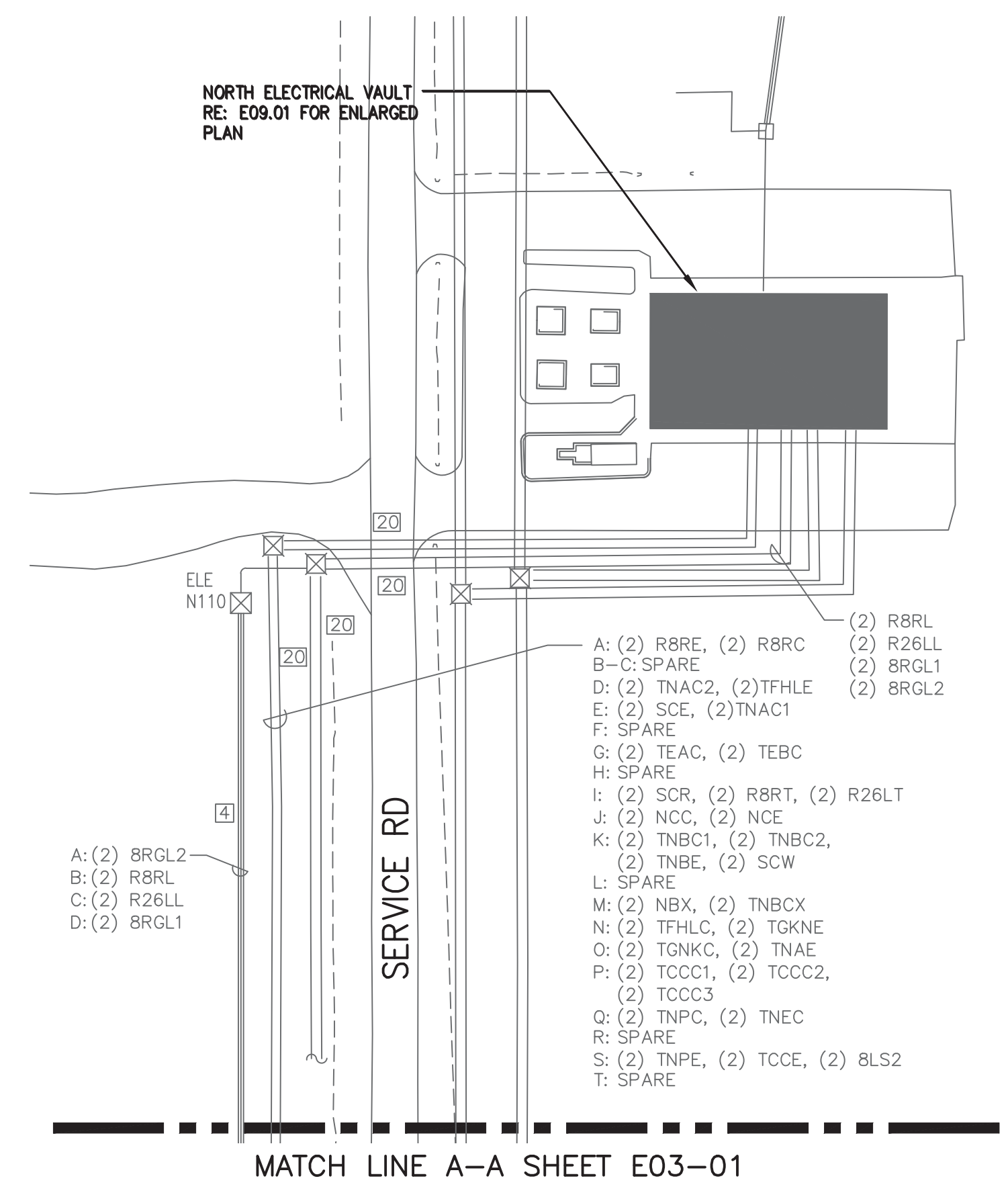
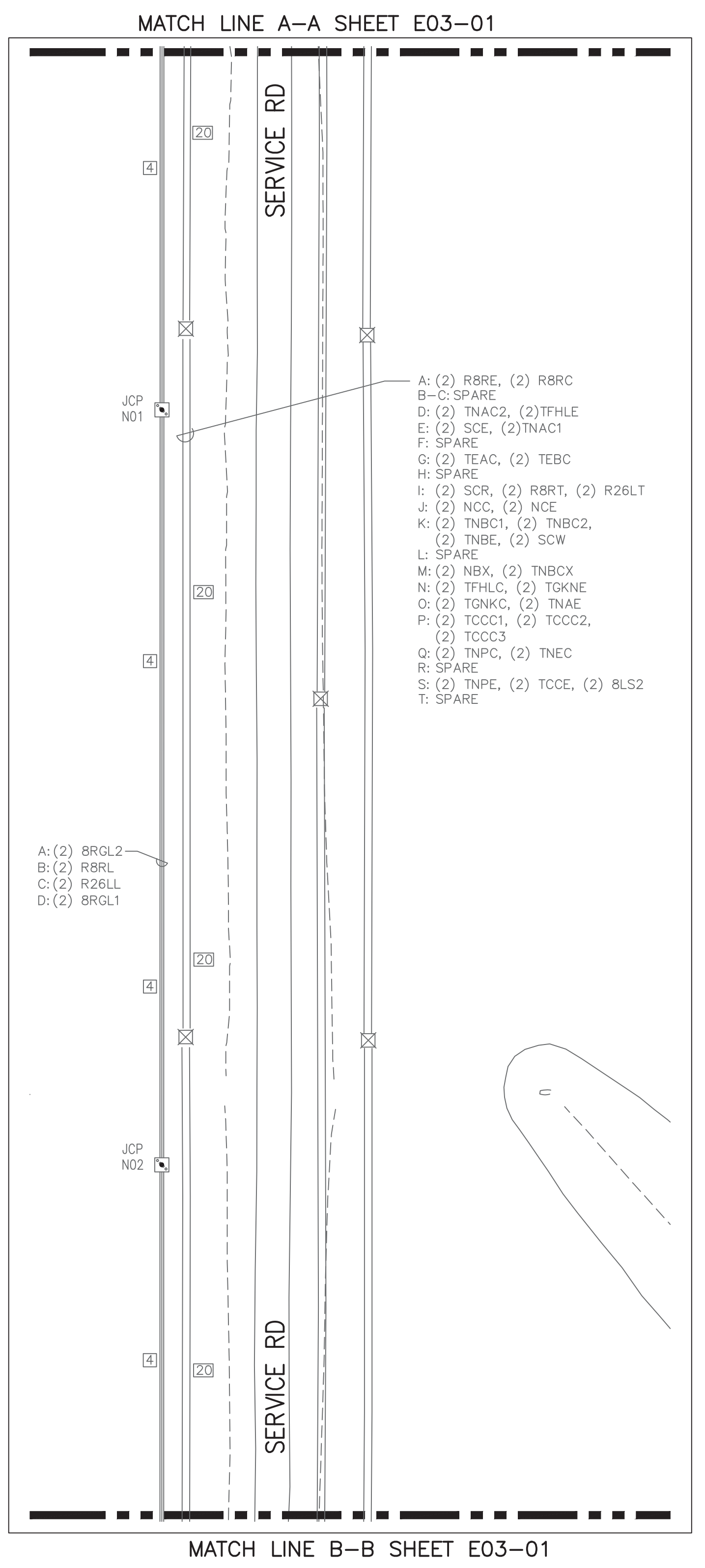
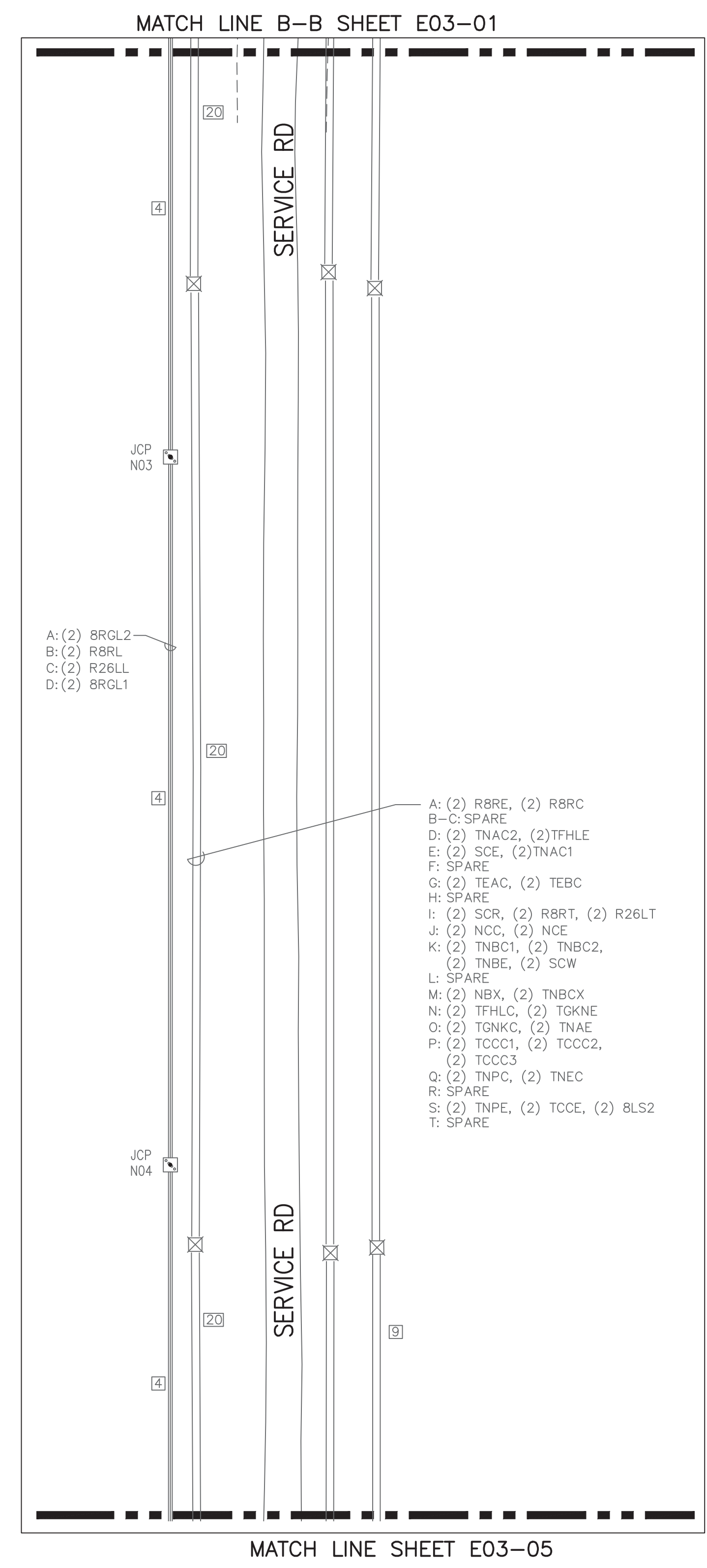


DEPARTMENT OF AVIATION

APPROVED BY: DP	7/26/18
<i>Denaj Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

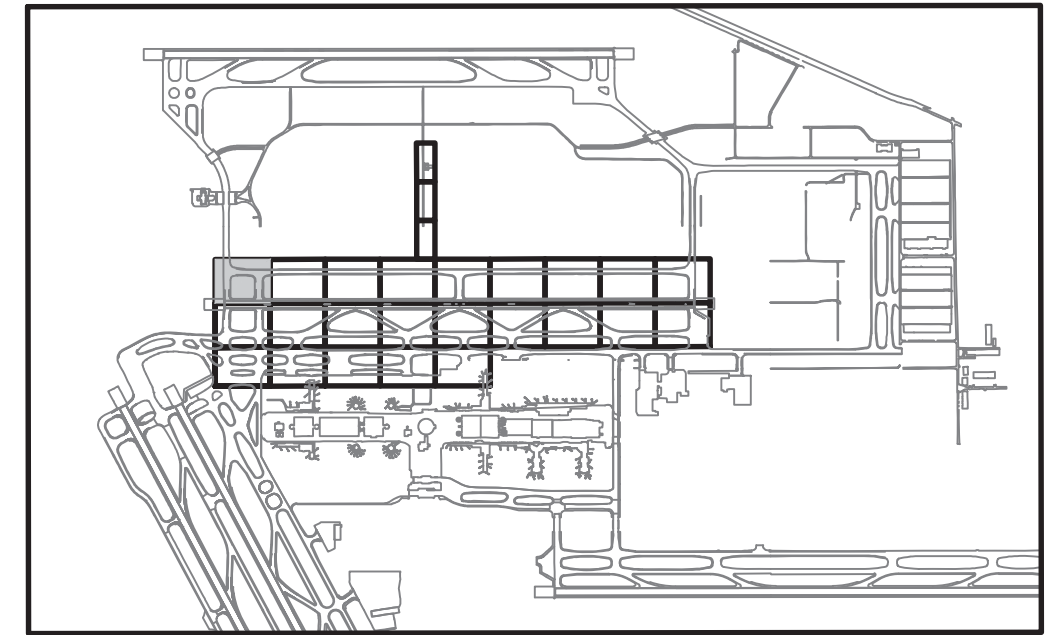
E03-01







REVISIONS			
NO.	DESCRIPTION	DATE	BY



**GENERAL NOTES:**

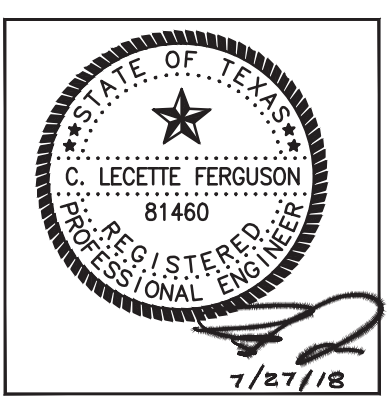
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**KEYED NOTES:**

- INSTALL NEW FIXTURE ON EXISTING BASE CAN. REFER TO THE FIXTURE SCHEDULES. TYPICAL FOR ALL EDGE AND CENTER FIXTURES SHOWN TO BE INSTALLED IN THIS AREA.
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- NOT USED.
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**REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT**  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
**TAXIWAY 'NA'**

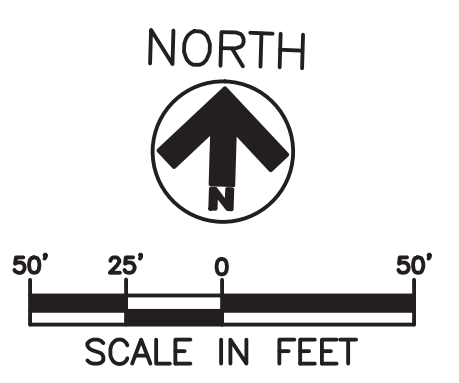
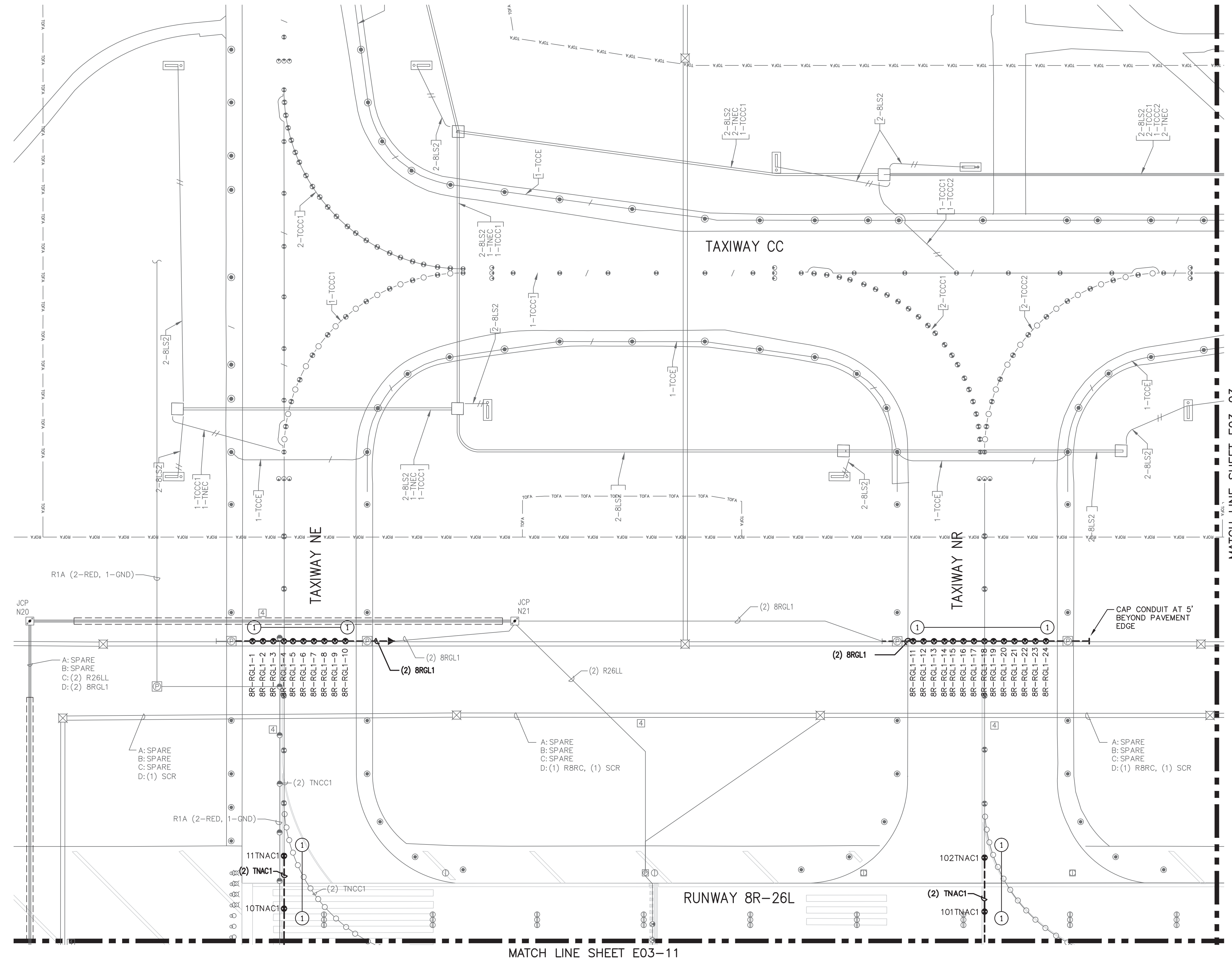
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PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/18



DEPARTMENT OF AVIATION	
APPROVED BY: DP	7/26/18
<i>Denaj Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
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H.A.S. NO.	
SHEET NO.	

**E03-02**

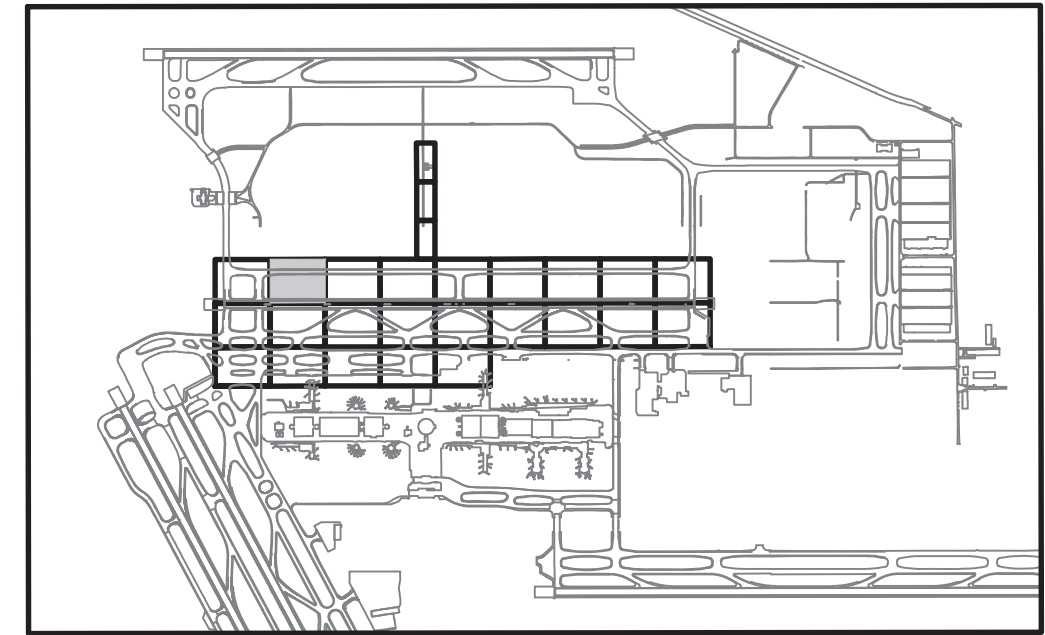






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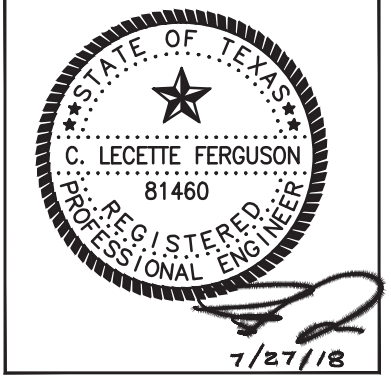
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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'  
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ISSUED FOR BID

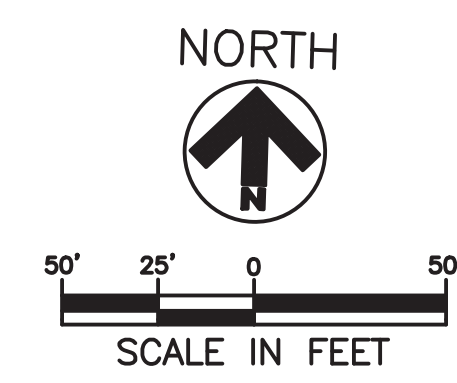
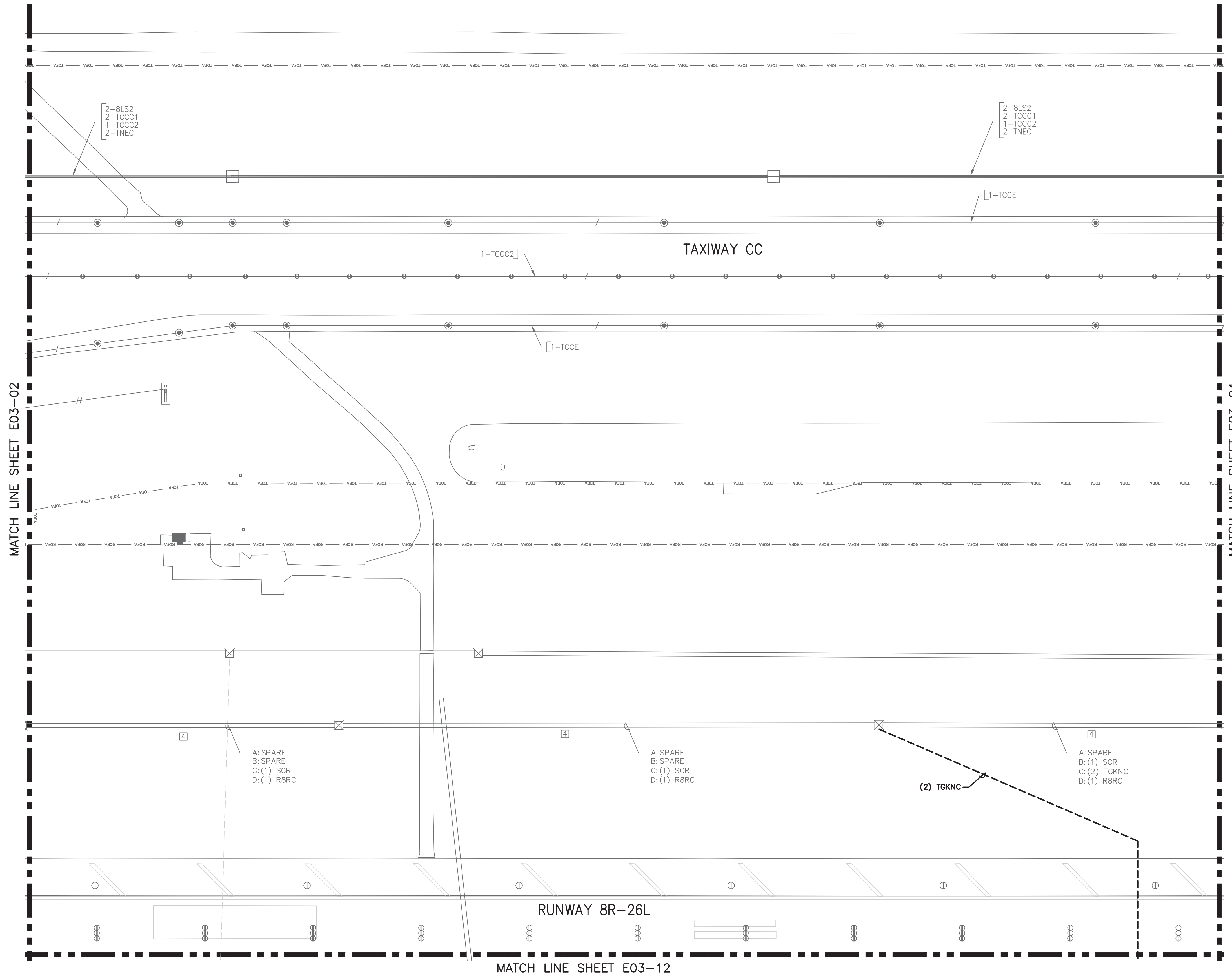
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DESIGNER:	RSF
DRAWN BY:	RSF
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DEPARTMENT OF AVIATION  
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*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
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**E03-03**





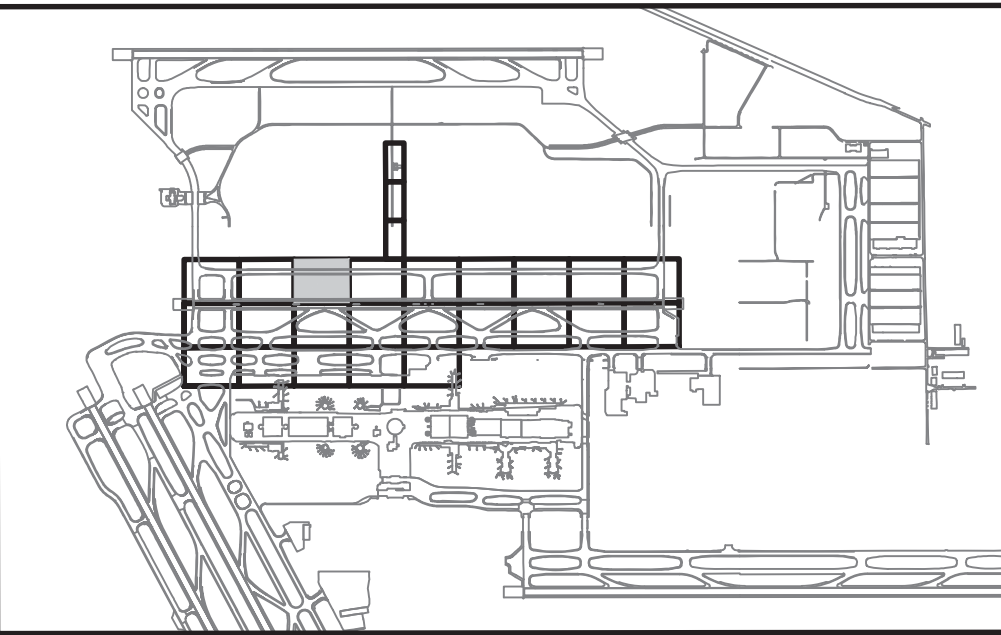


HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



REVISIONS

NO.	DESCRIPTION	DATE	BY



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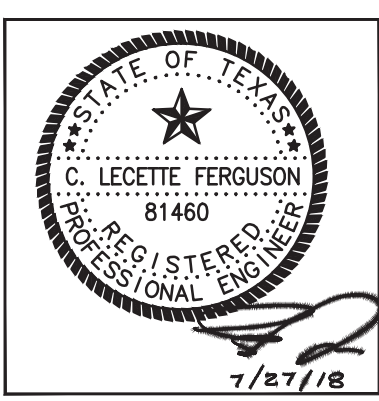
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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'  
 TAXIWAY 'NA'

ISSUED FOR BID

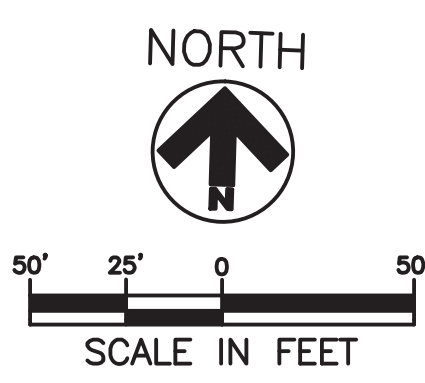
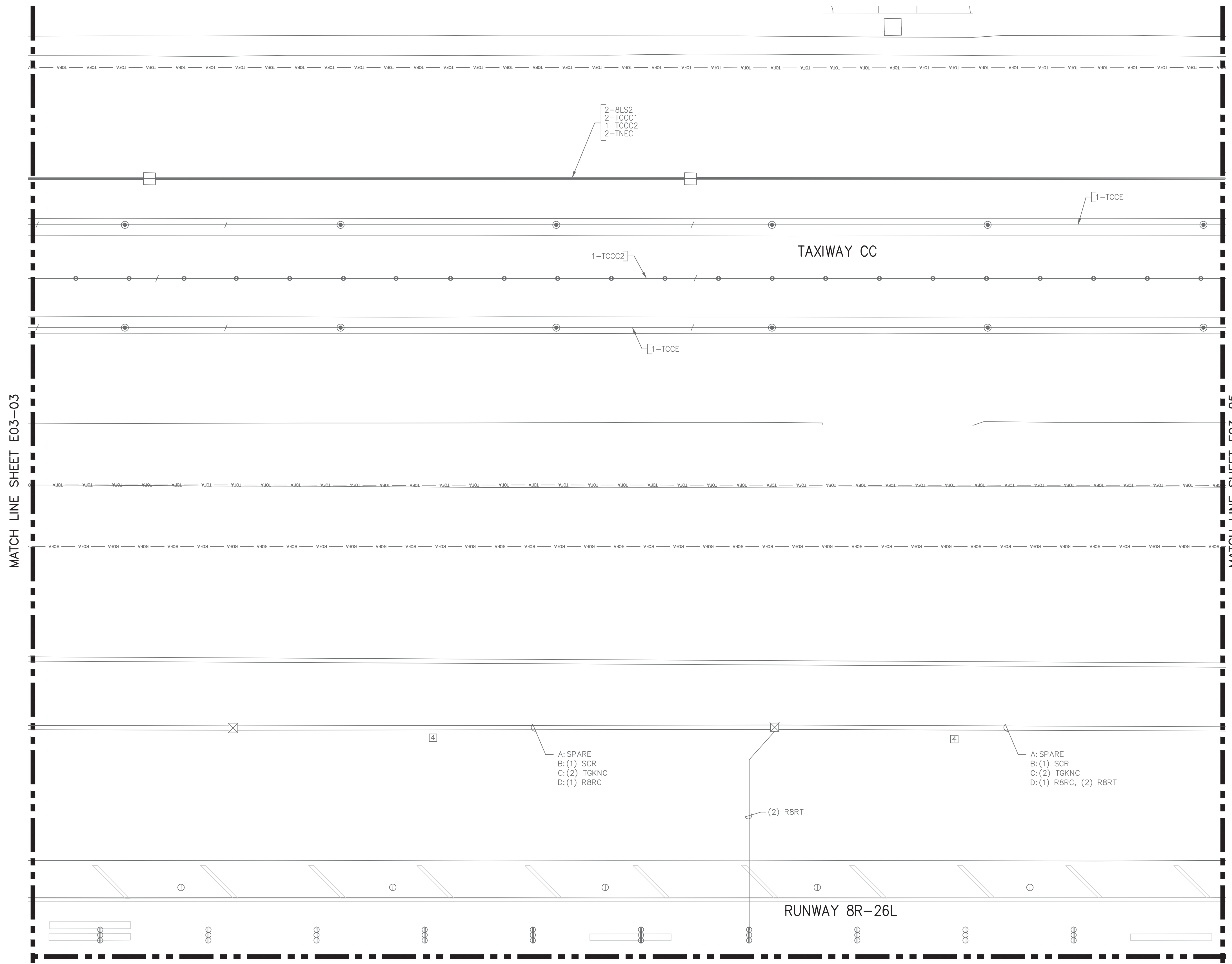
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DESIGNER:	RSF
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SCALE:	1" = 50'
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DEPARTMENT OF AVIATION  
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*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
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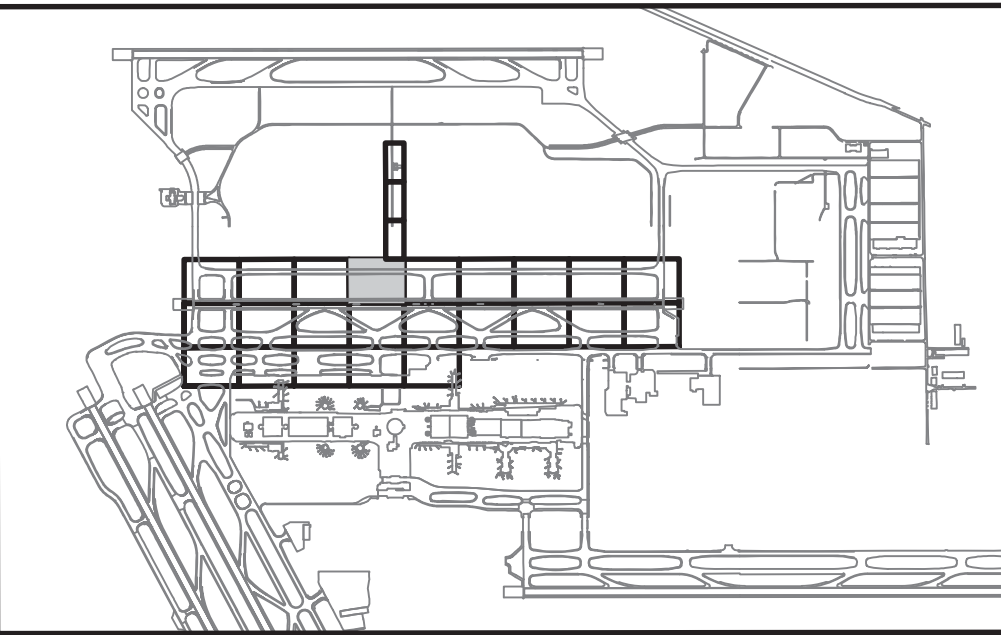
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**E03-04**





REVISIONS			
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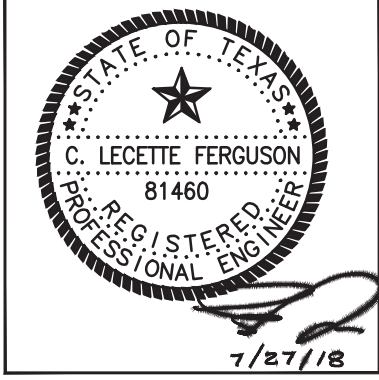
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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'  
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**ISSUED FOR BID**

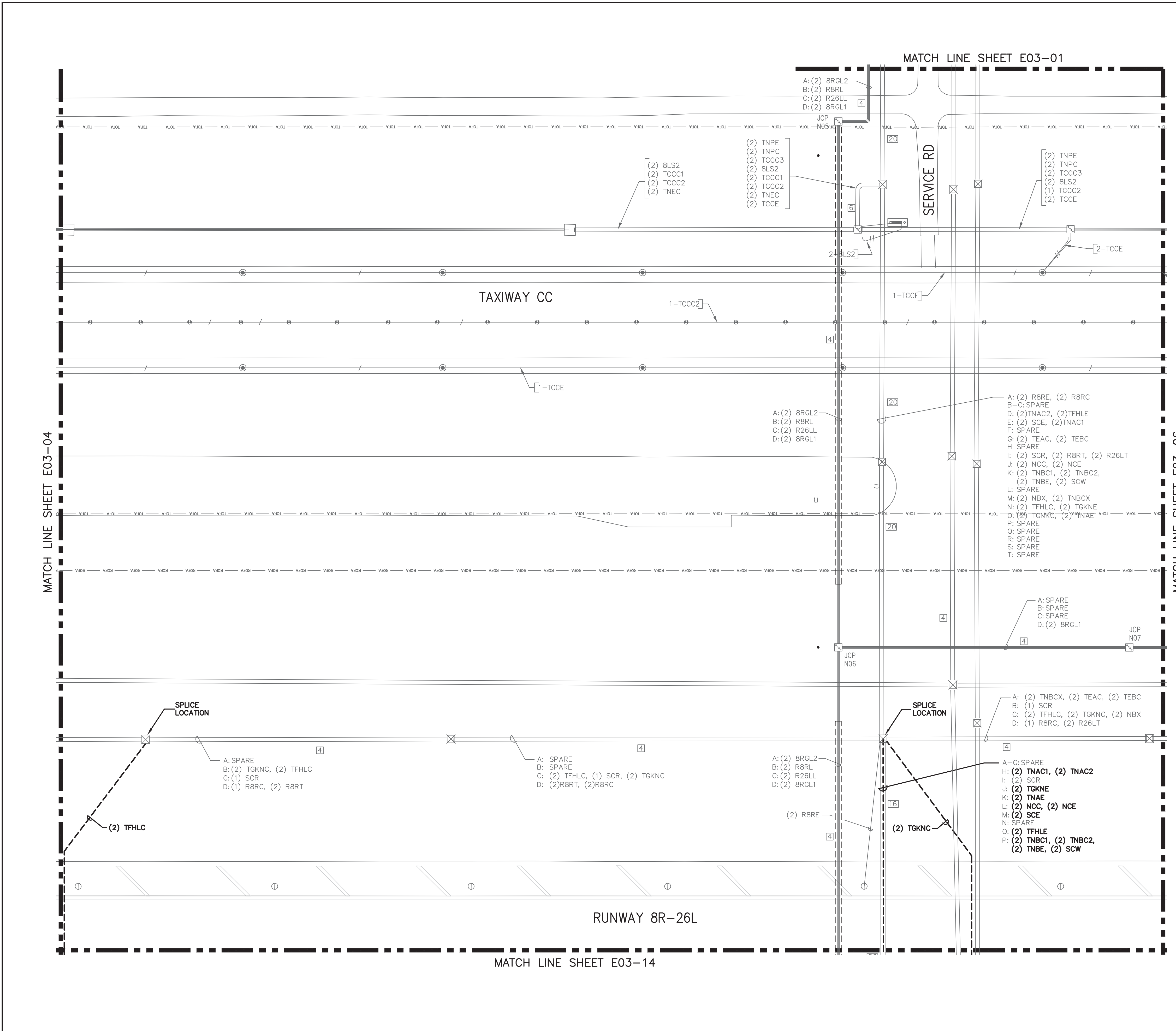
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DESIGNER:	RSF
DRAWN BY:	RSF
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SCALE:	1" = 50'
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DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
<i>Denej Pahel</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

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**E03-05**

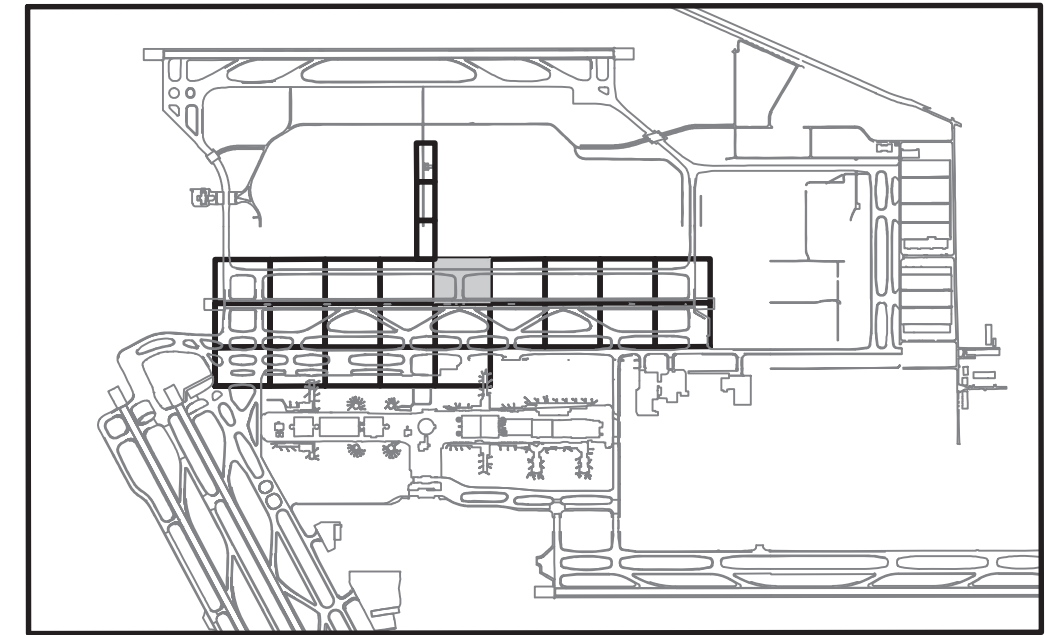






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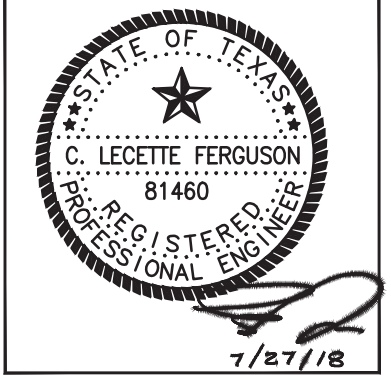
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**REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT**  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
**TAXIWAY 'NA'**

ISSUED FOR BID

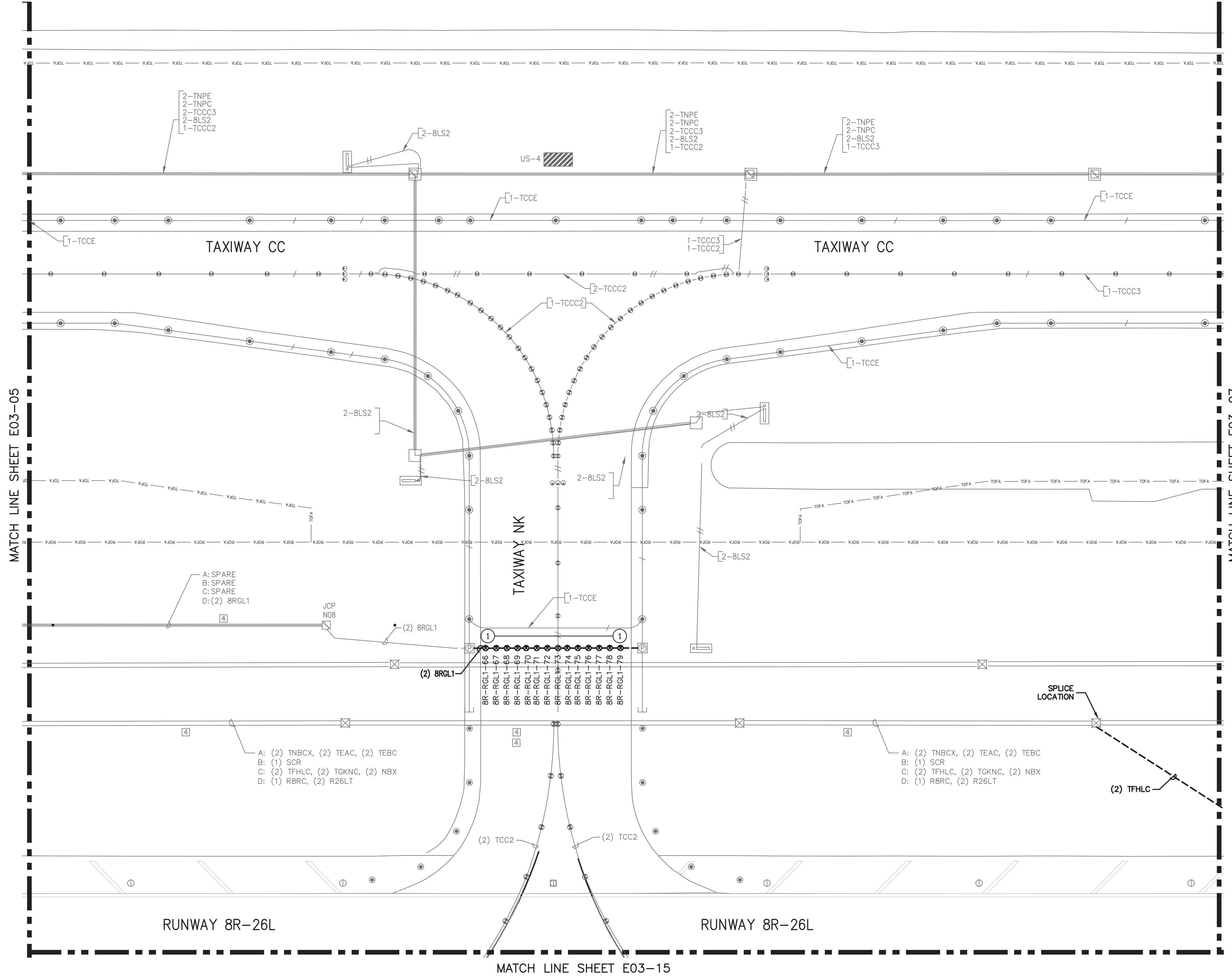
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SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Rahal*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

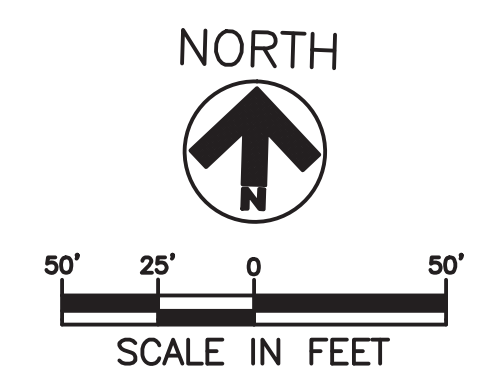
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MATCH LINE SHEET E03-05

MATCH LINE SHEET E03-07

MATCH LINE SHEET E03-15





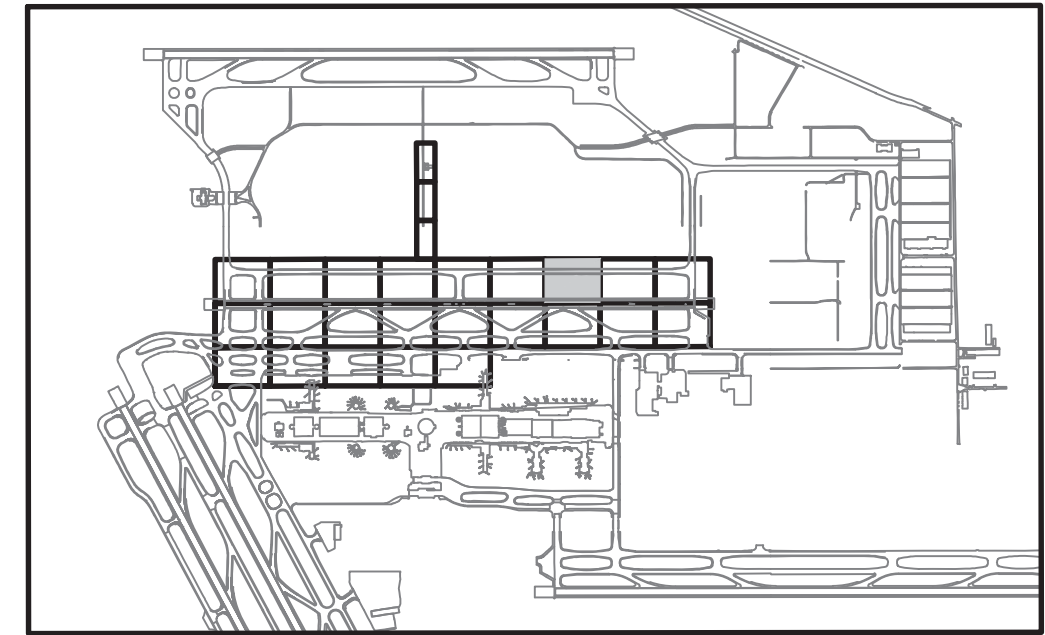






REVISIONS

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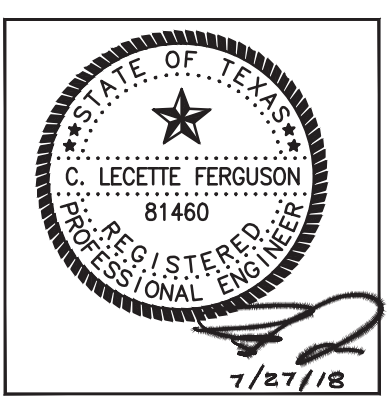
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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

ISSUED FOR BID

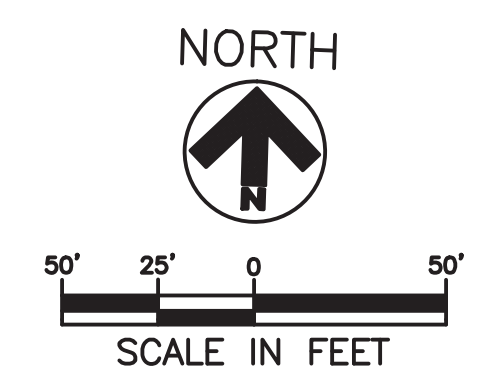
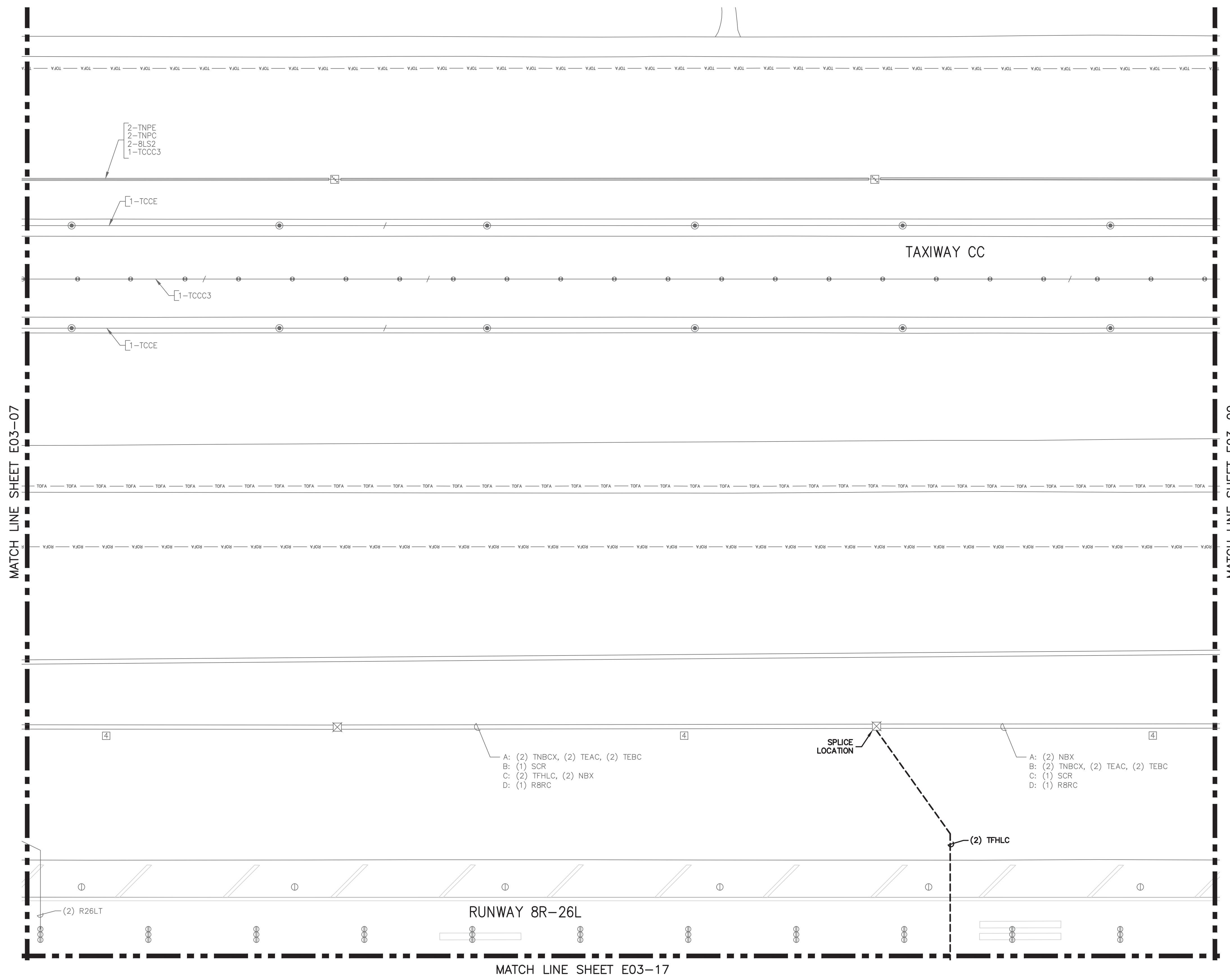
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DESIGNER:	RSF
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DEPARTMENT OF AVIATION  
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*Denej Rahmel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
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**E03-08**



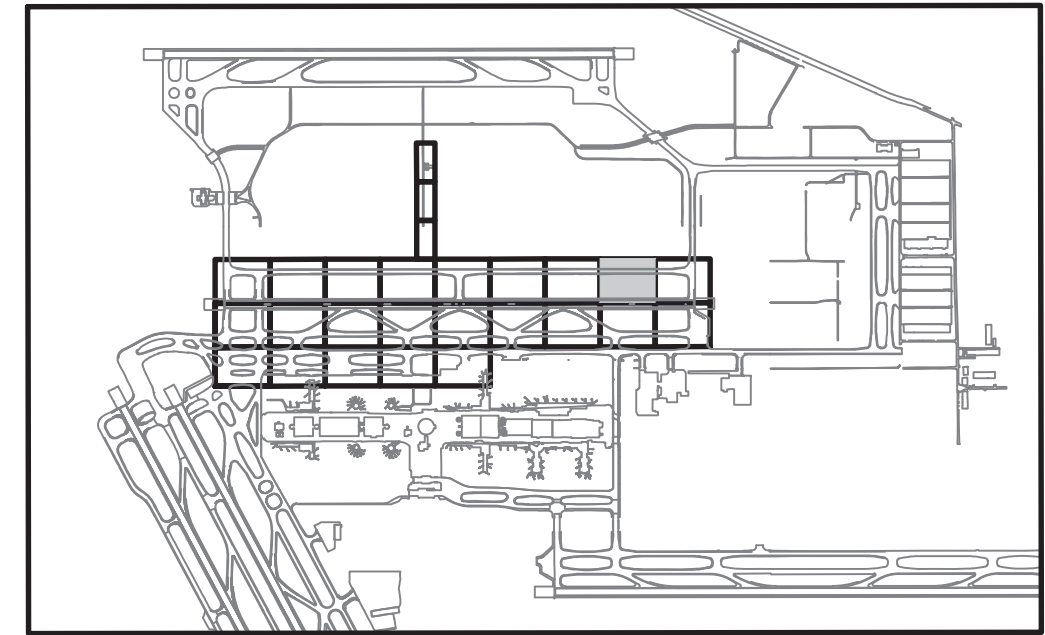




HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



REVISIONS  
 NO. DESCRIPTION DATE BY



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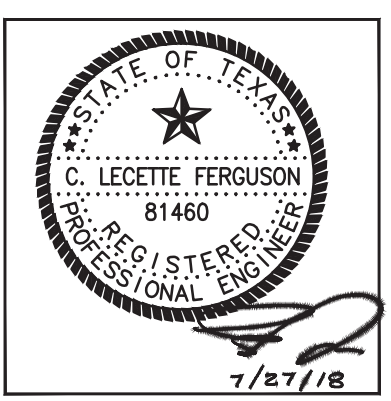
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**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'  
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ISSUED FOR BID

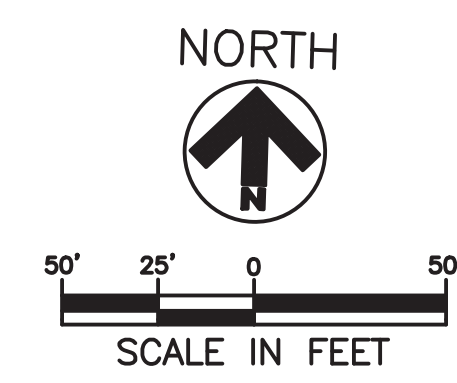
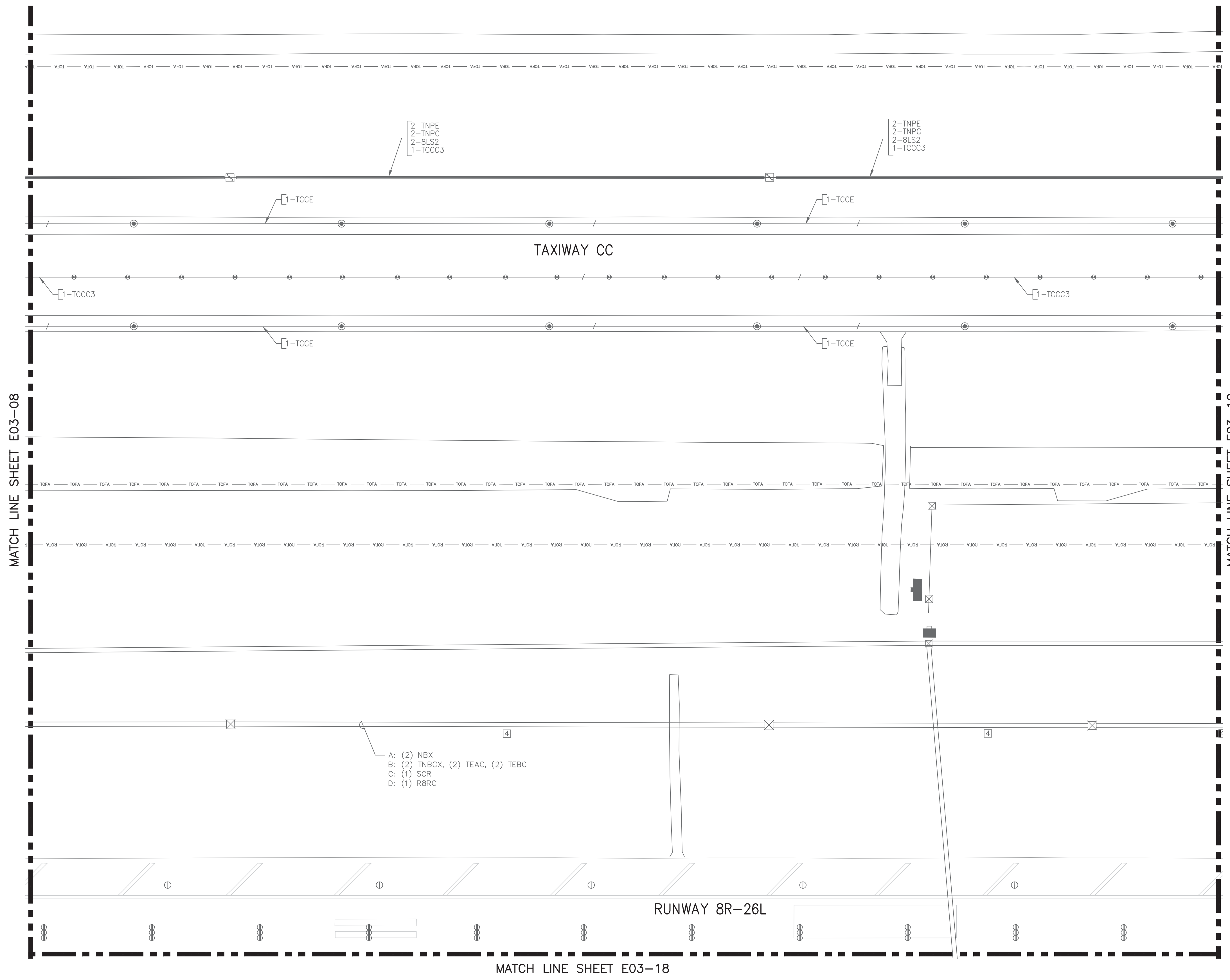
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 SCALE: 1" = 50'  
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DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
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**E03-09**











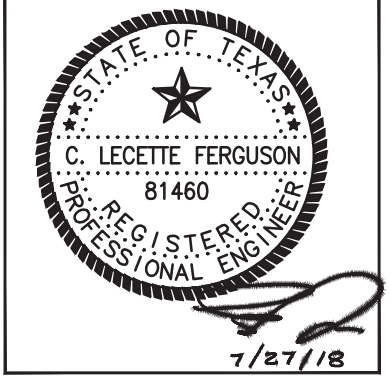
REVISIONS

NO.	DESCRIPTION	DATE	BY

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 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018

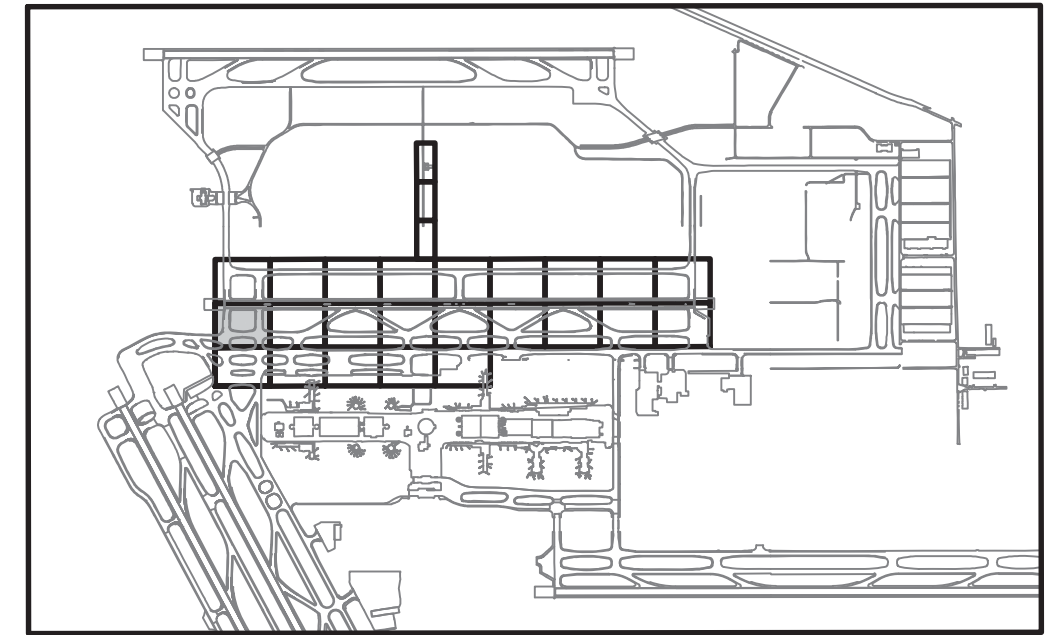


DEPARTMENT OF AVIATION

APPROVED BY:	DP	7/26/18
<i>Danaj Pahel</i>		
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE		

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E03-11

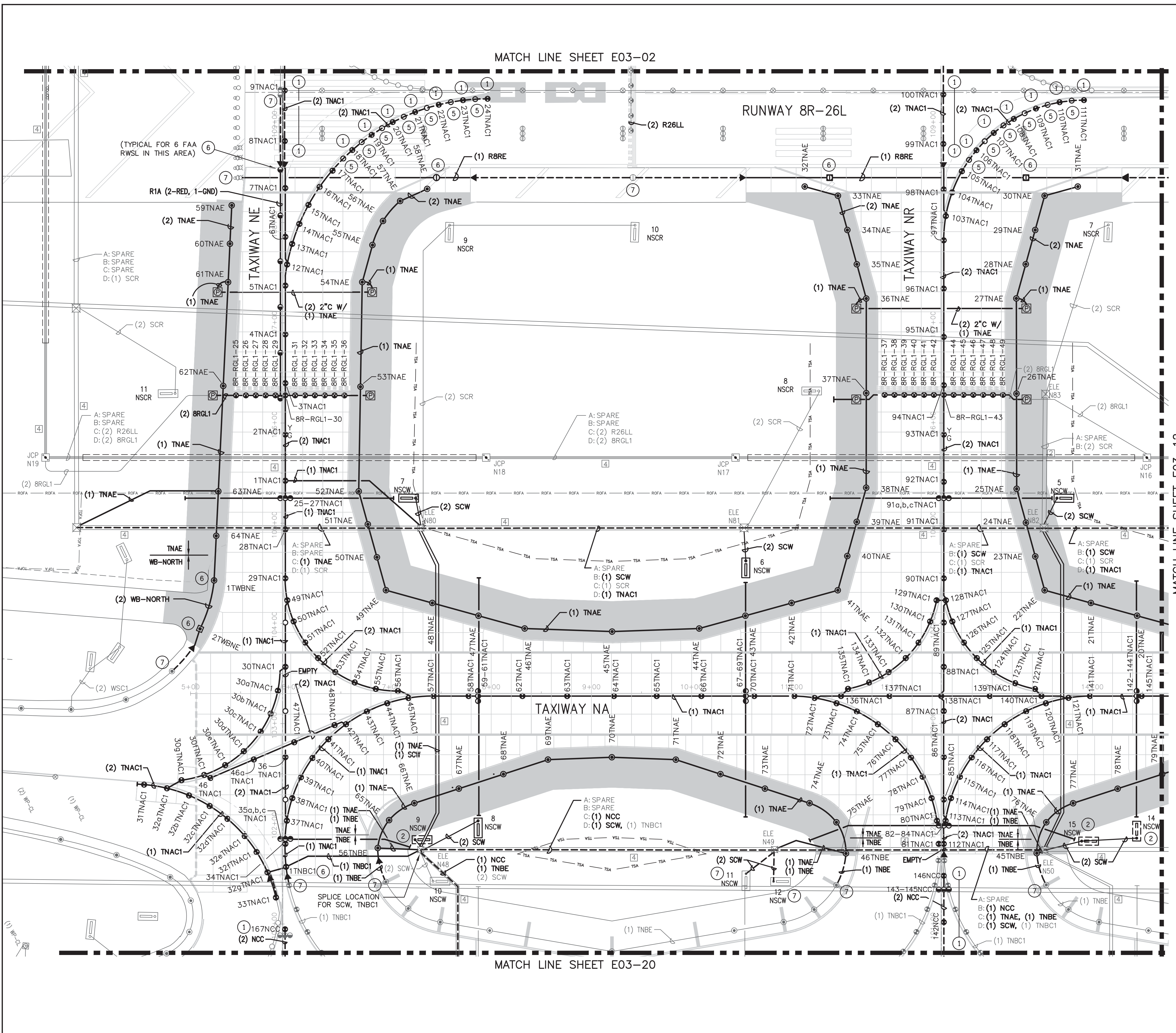


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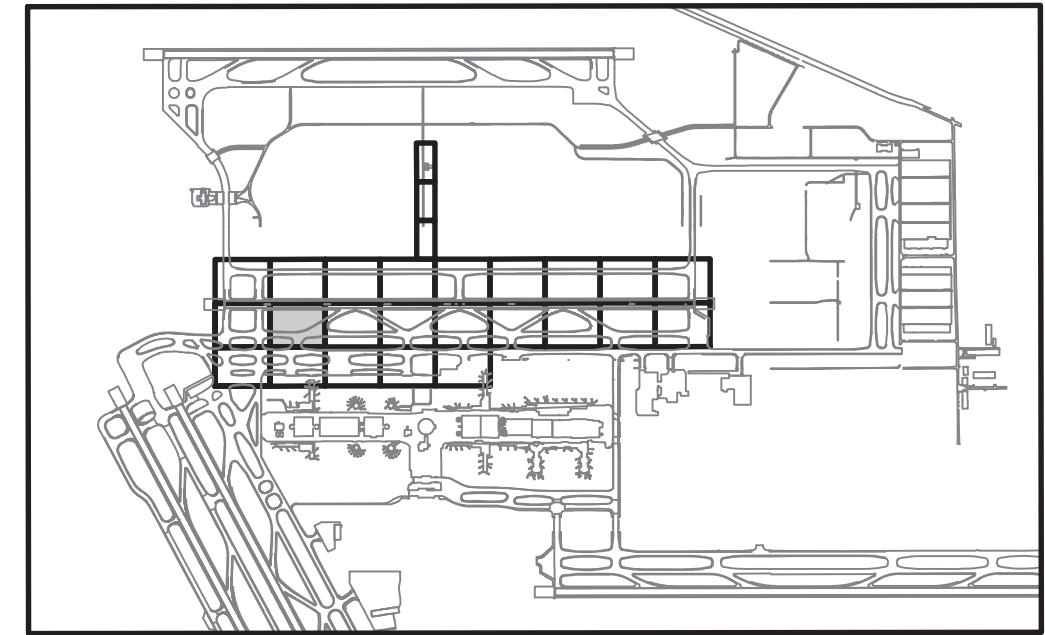






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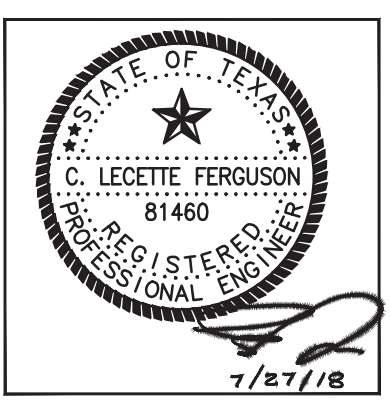
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**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

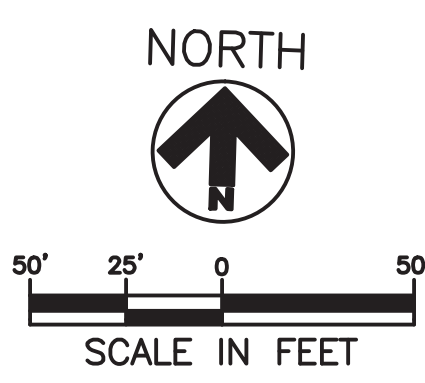
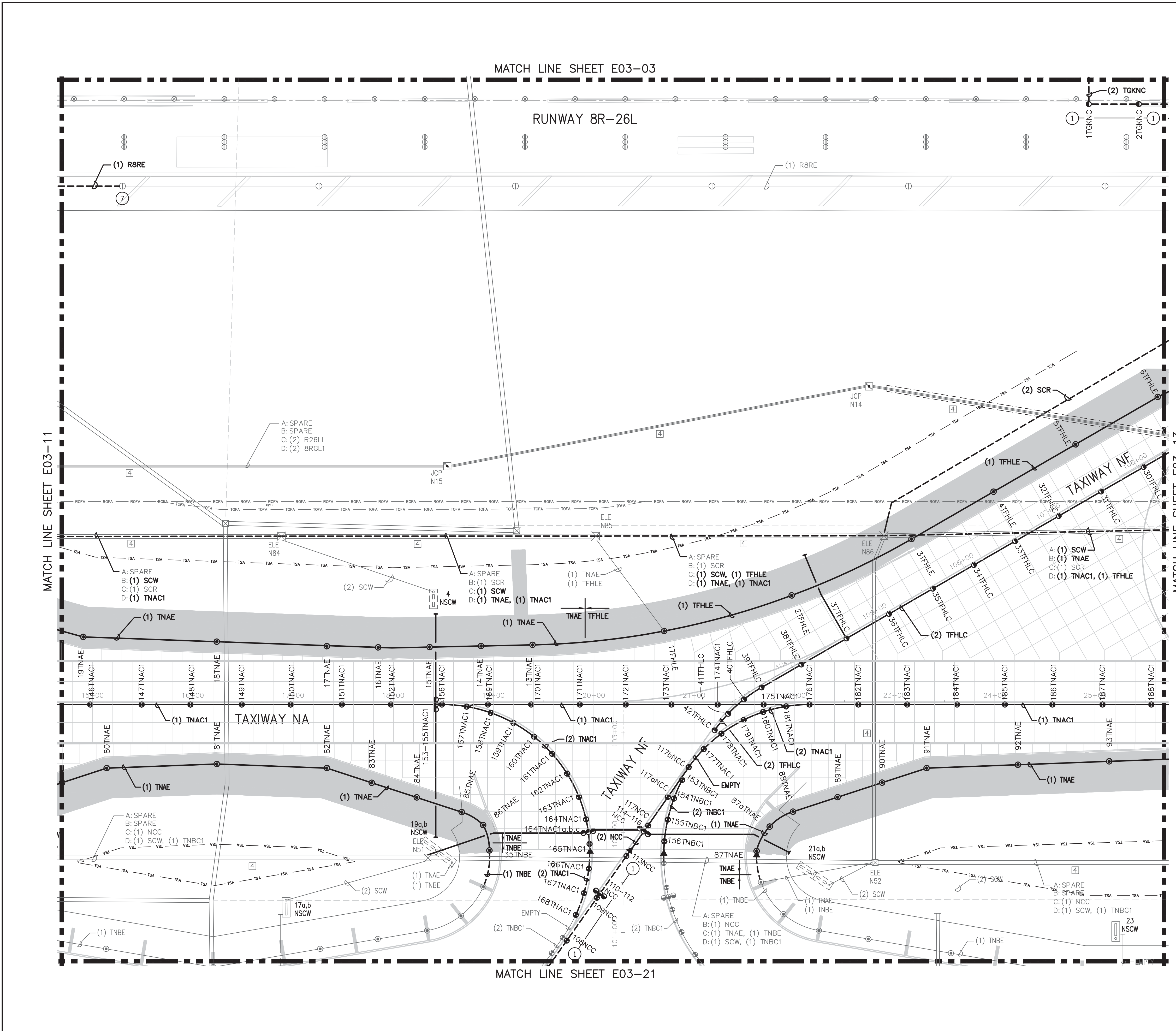
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DESIGNER:	RSF
DRAWN BY:	RSF
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SCALE:	1" = 50'
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DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahol*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
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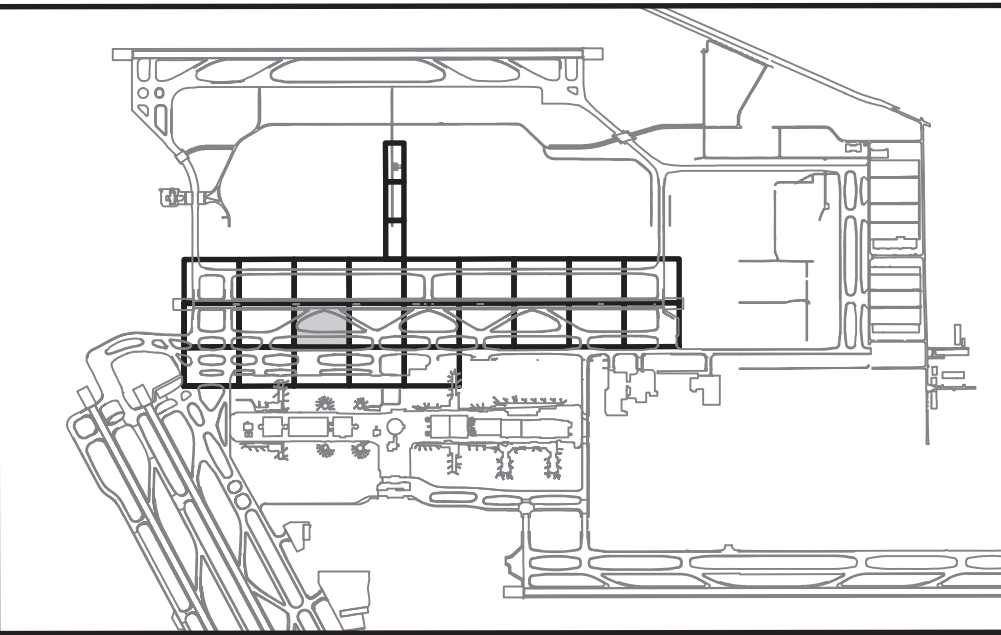






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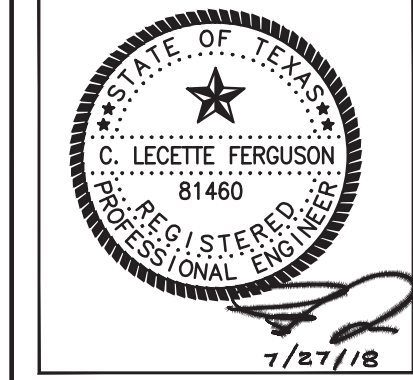
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**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'  
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ISSUED FOR BID

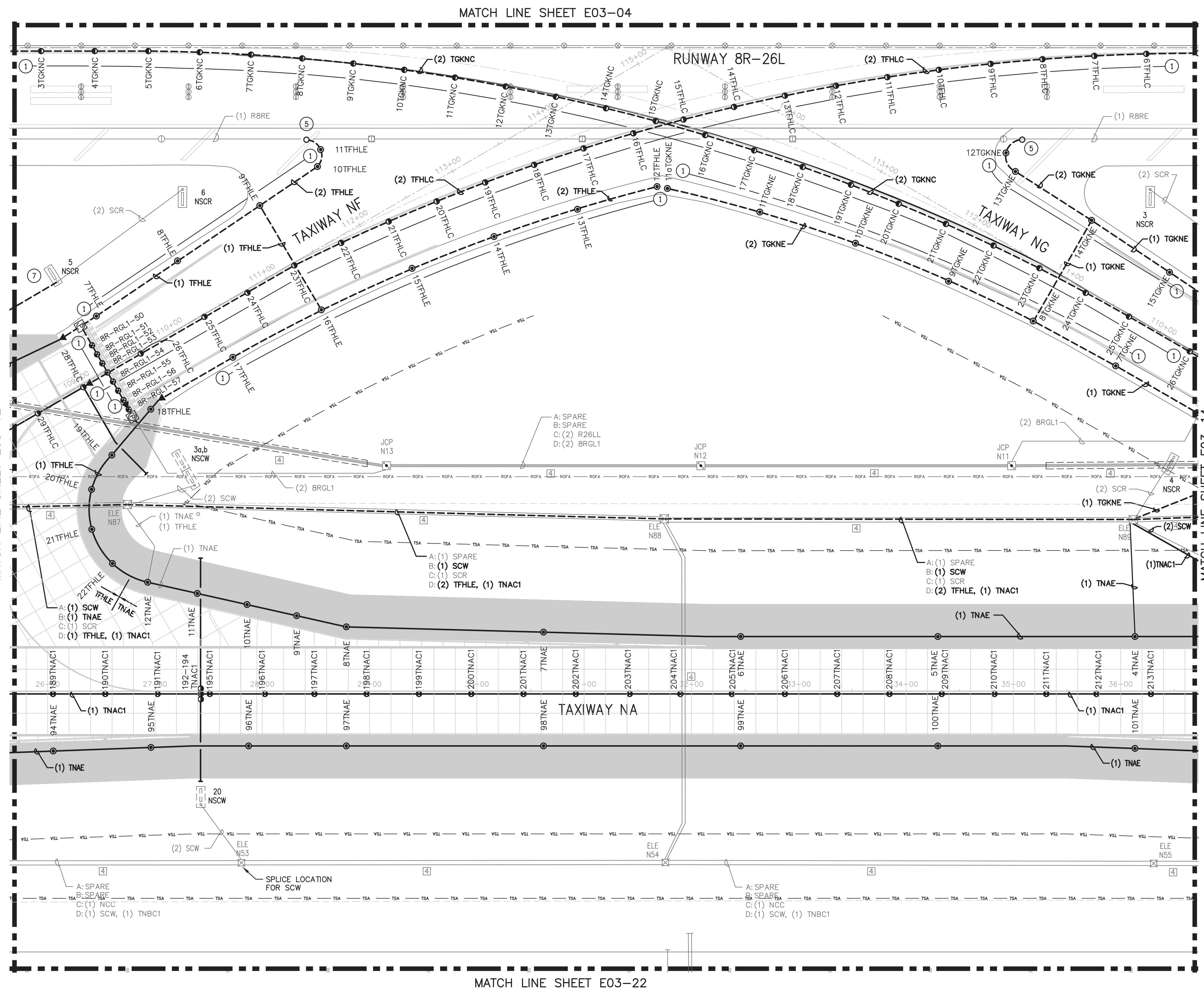
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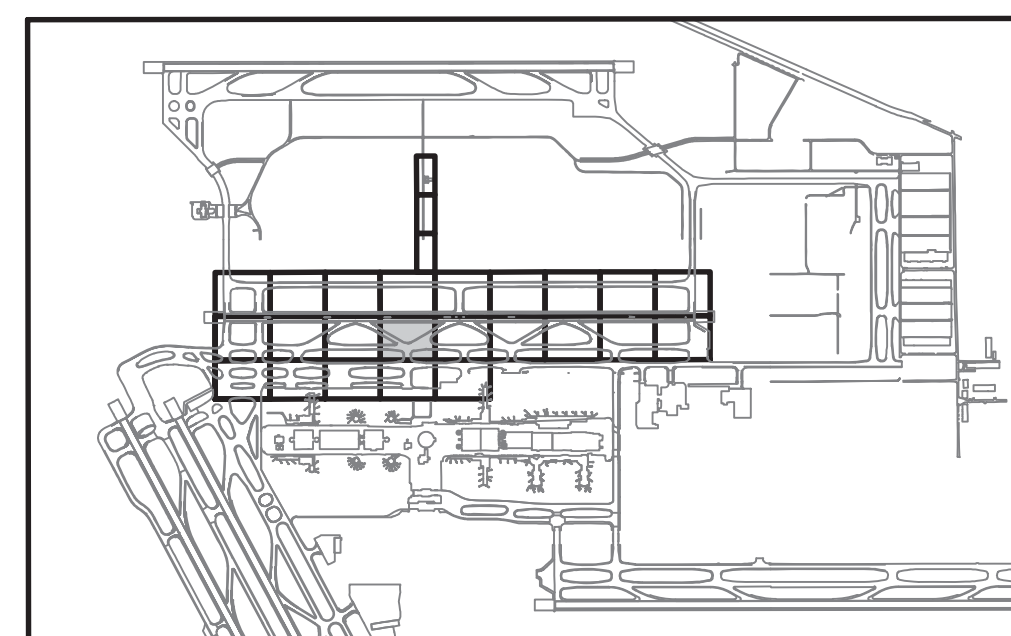
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REVISIONS

NO.	DESCRIPTION	DATE	BY



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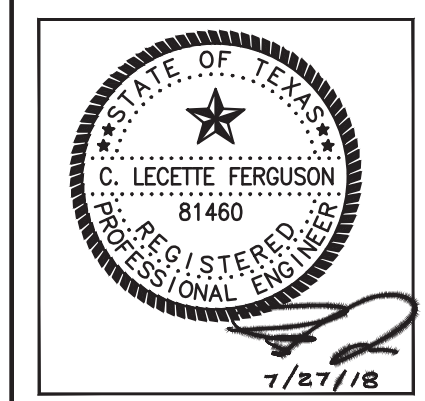
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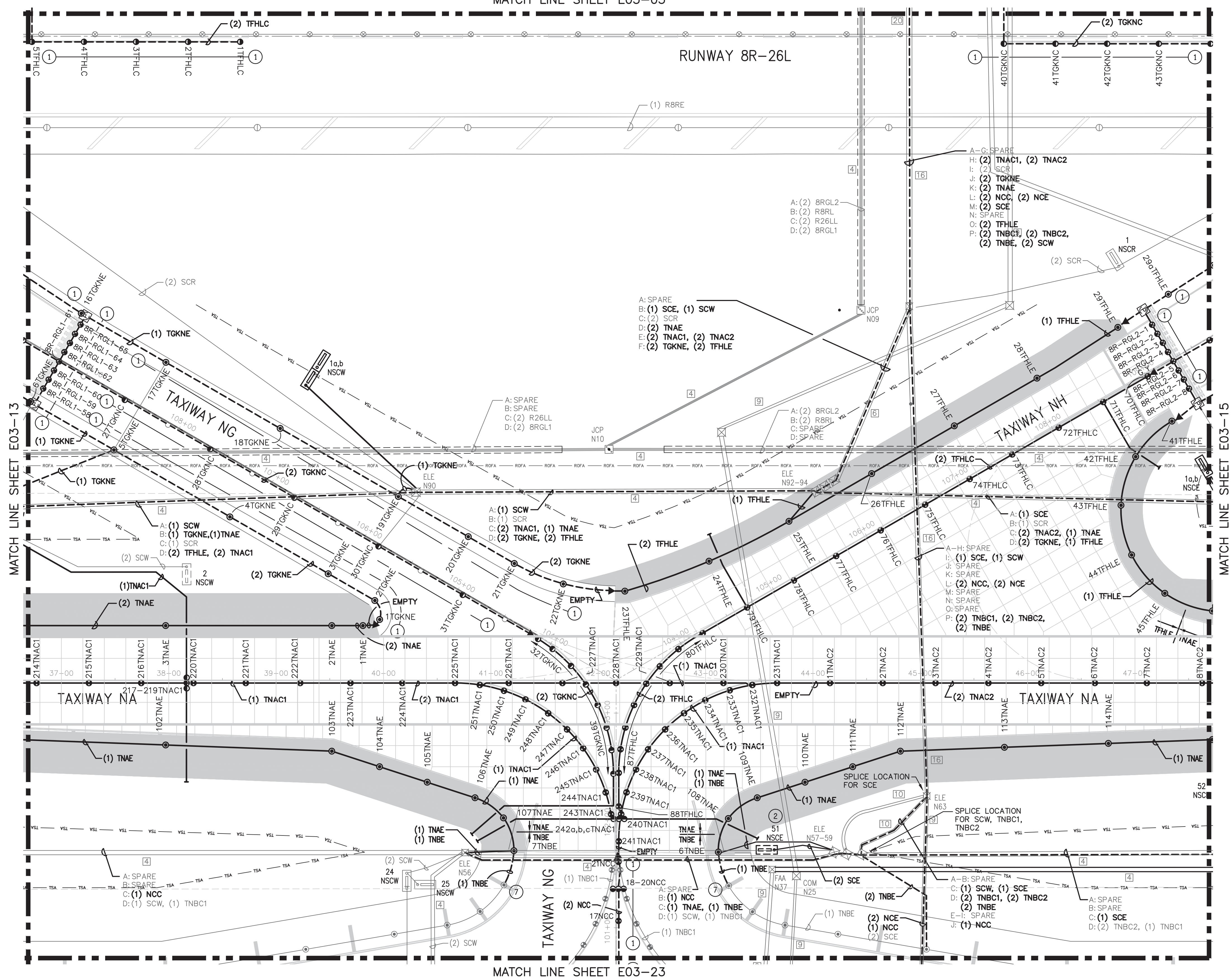
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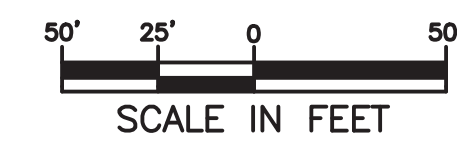
DEPARTMENT OF AVIATION  
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*Denej Pahnel*  
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PROJECT NO. **0907**  
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 H.A.S. NO.  
 SHEET NO.

MATCH LINE SHEET E03-05



MATCH LINE SHEET E03-23



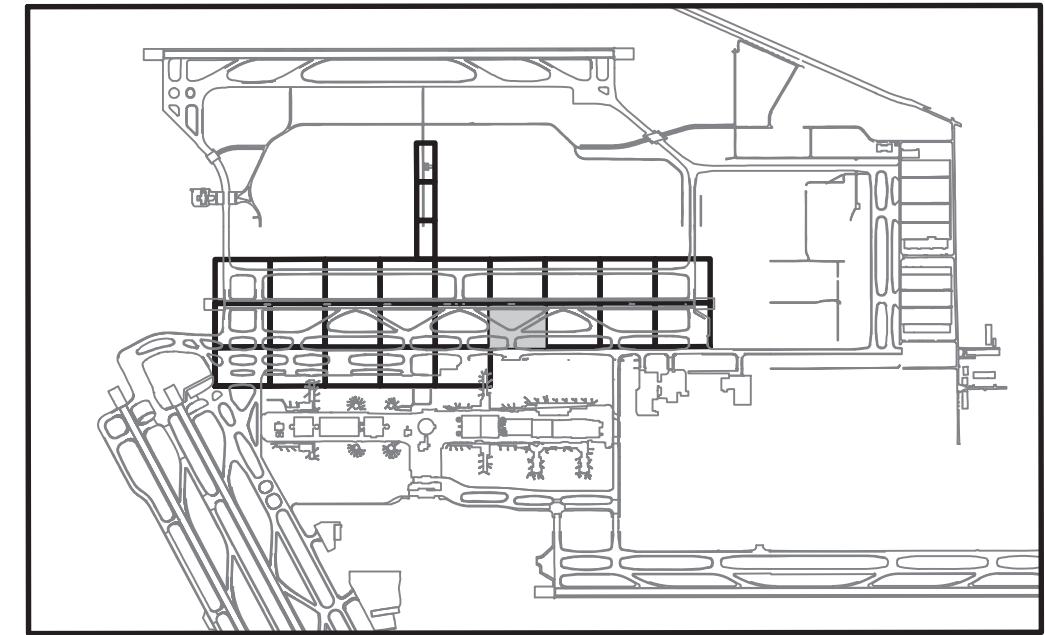








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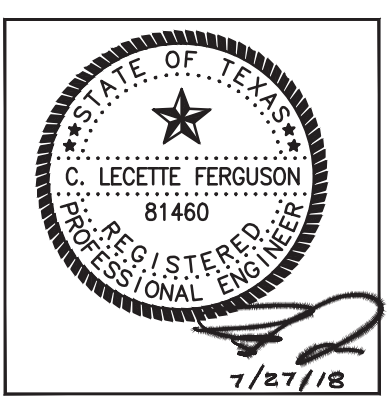
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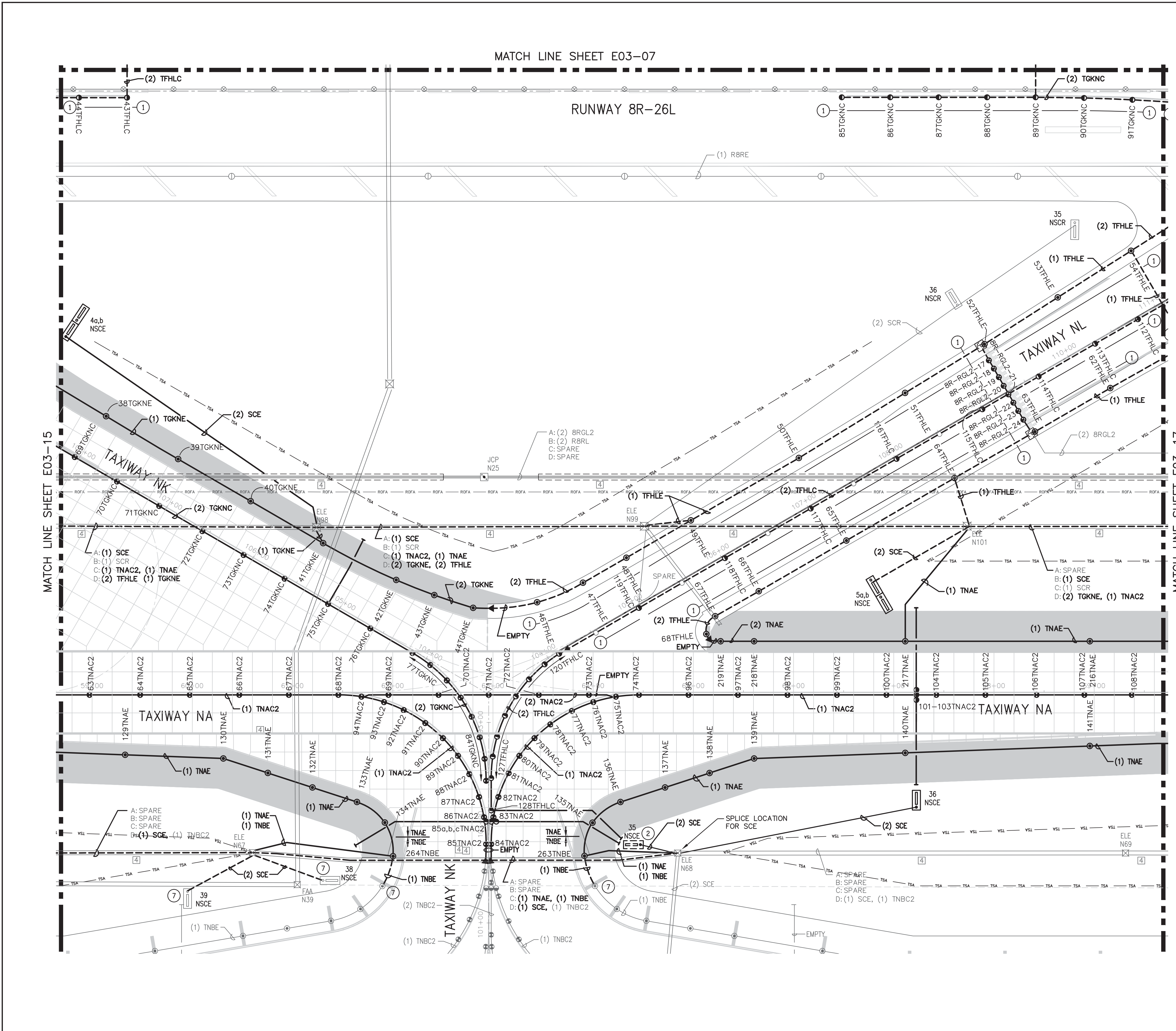
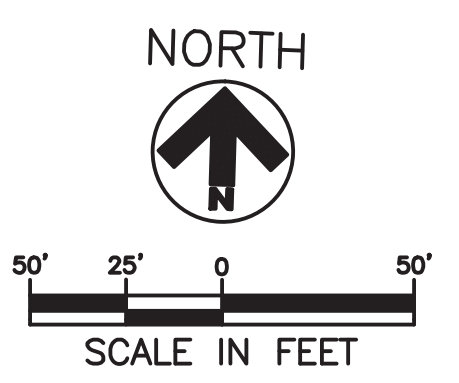
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PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
<i>Danaj Pahel</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	







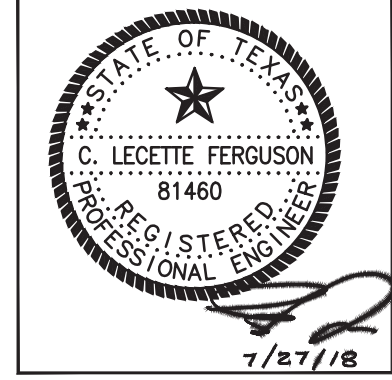
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

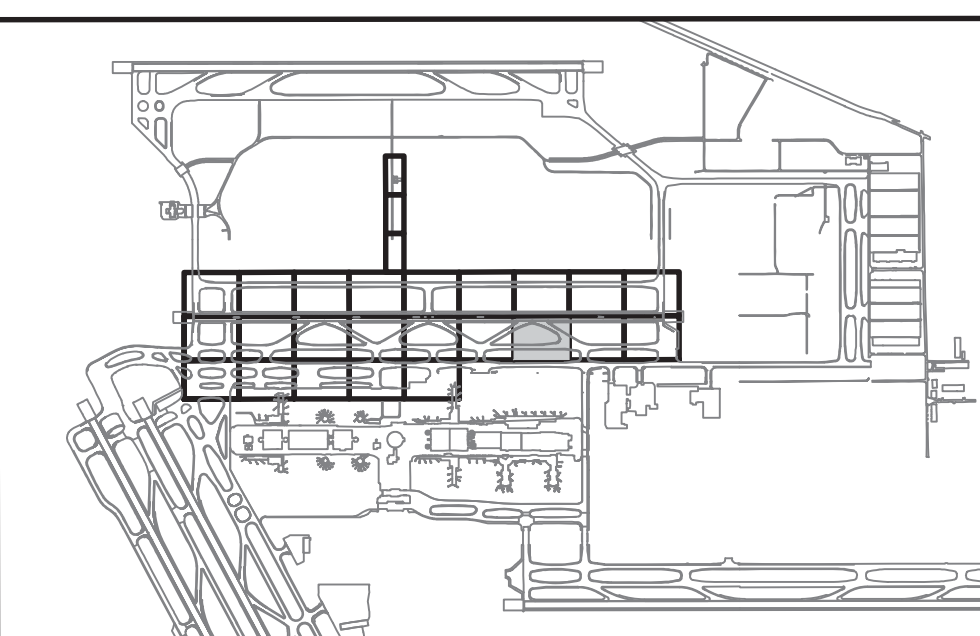
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PROJECT MGR:	CLF
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DEPARTMENT OF AVIATION  
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*Danaj Rahal*  
 HOUSTON AIRPORT SYSTEMS  
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PROJECT NO. **0907**  
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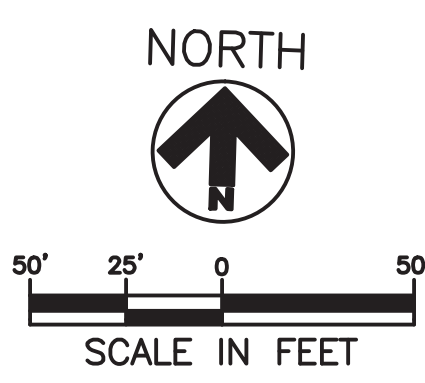
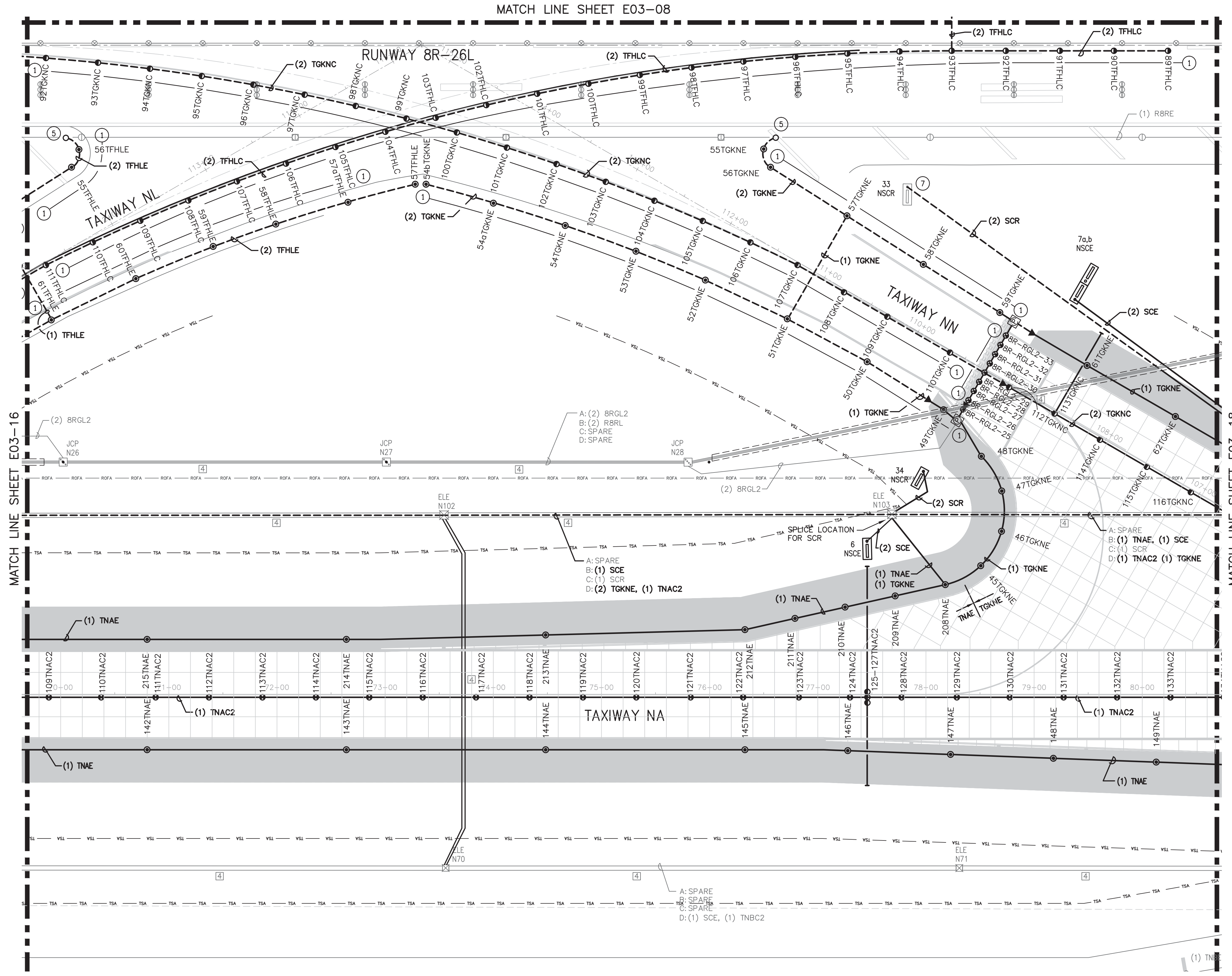


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**KEYED NOTES:**

- INSTALL NEW FIXTURE ON EXISTING BASE CAN. REFER TO THE FIXTURE SCHEDULES. TYPICAL FOR ALL EDGE AND CENTER FIXTURES SHOWN TO BE INSTALLED IN THIS AREA.
- INSTALL SALVAGED SIGN ON NEW SIGN FOUNDATION.
- NOT USED.
- NOT USED.
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- INSTALL NEW CONNECTOR KIT AND ISOLATION TRANSFORMER.

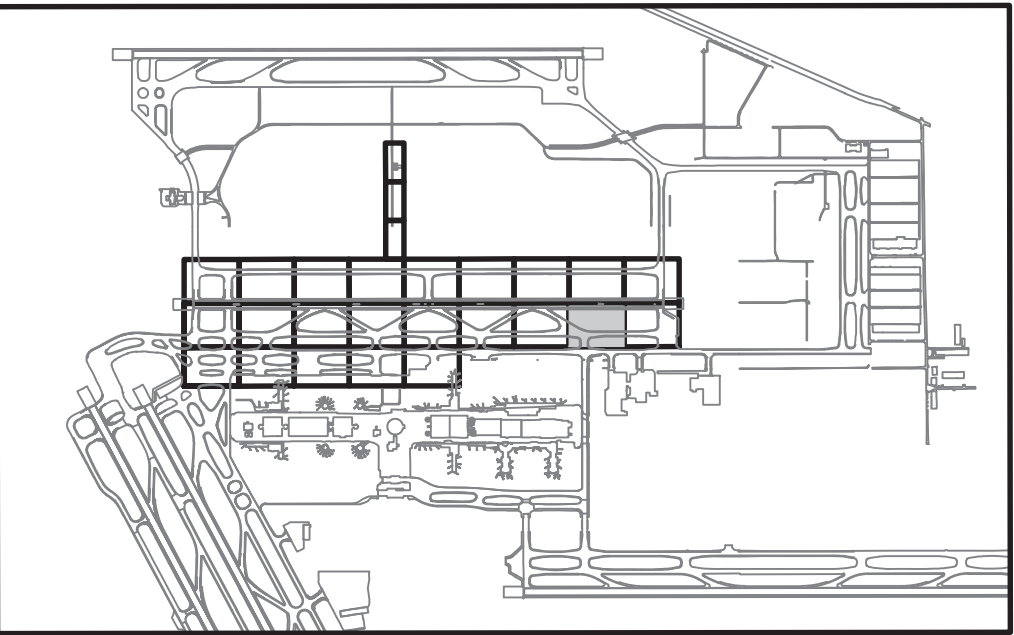






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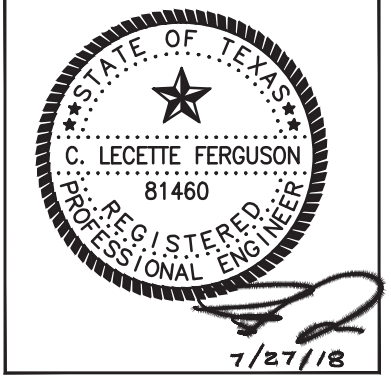
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**REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT**  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
**TAXIWAY 'NA'**

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



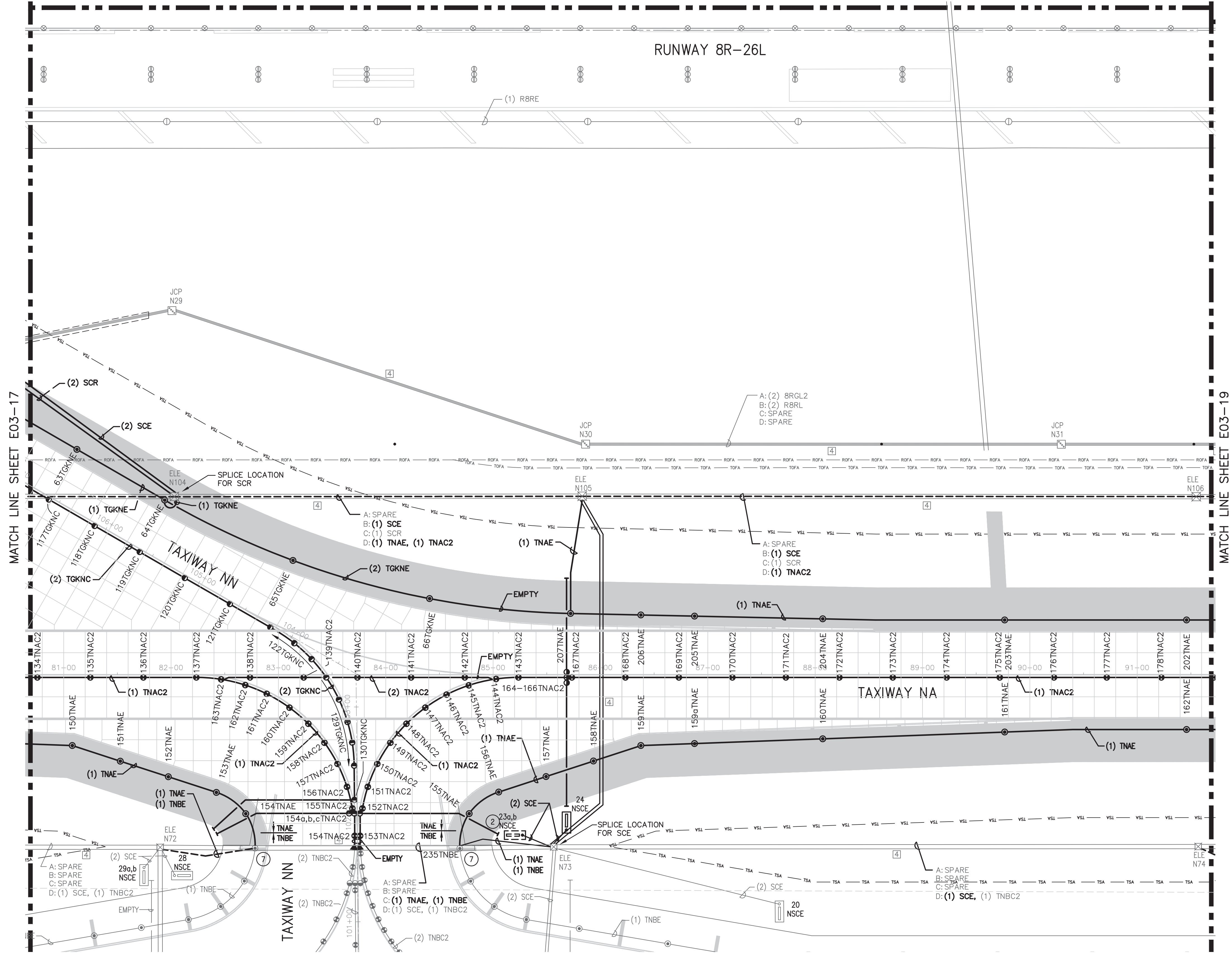
DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Danaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
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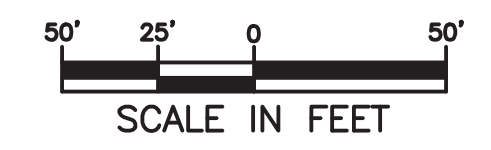
**E03-18**

MATCH LINE SHEET E03-09

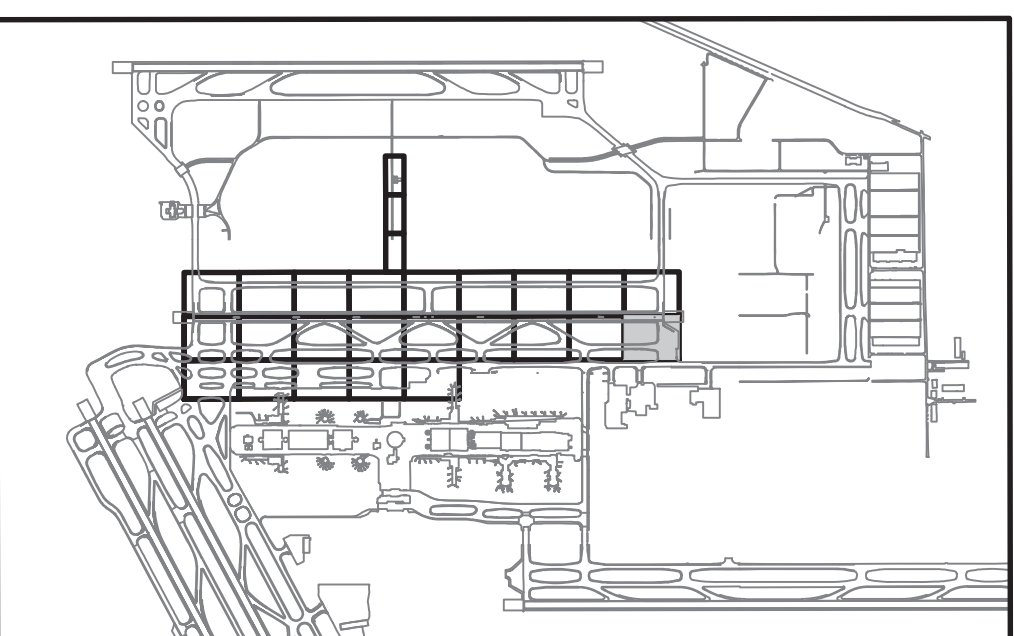
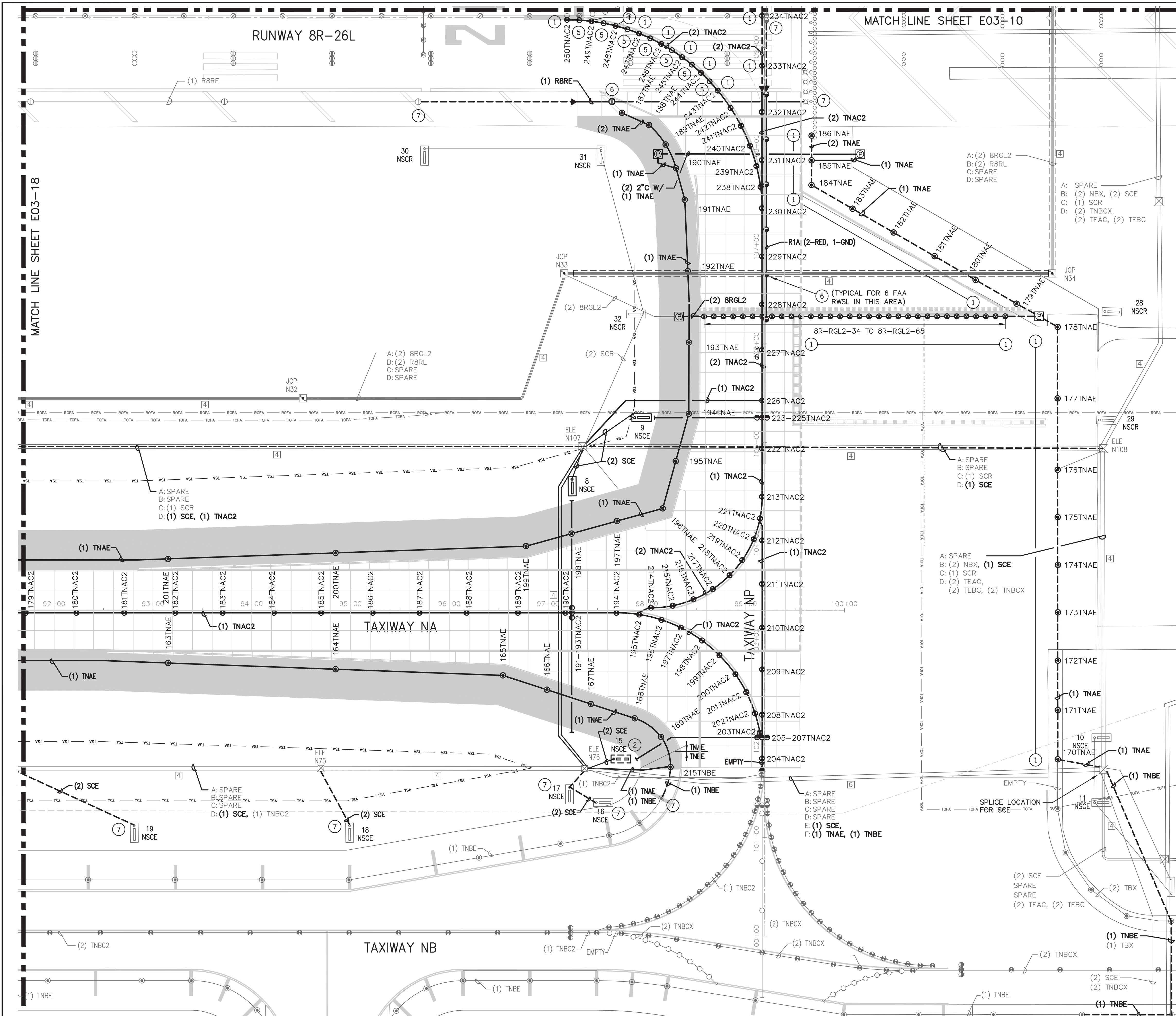
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NORTH





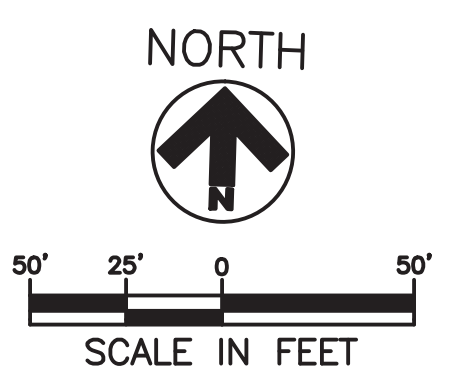


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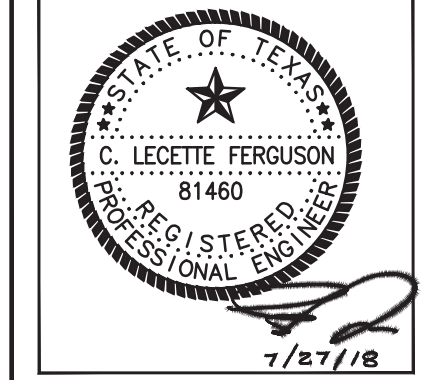
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
TAXIWAY 'NA'  
TAXIWAY 'NA'

ISSUED FOR BID

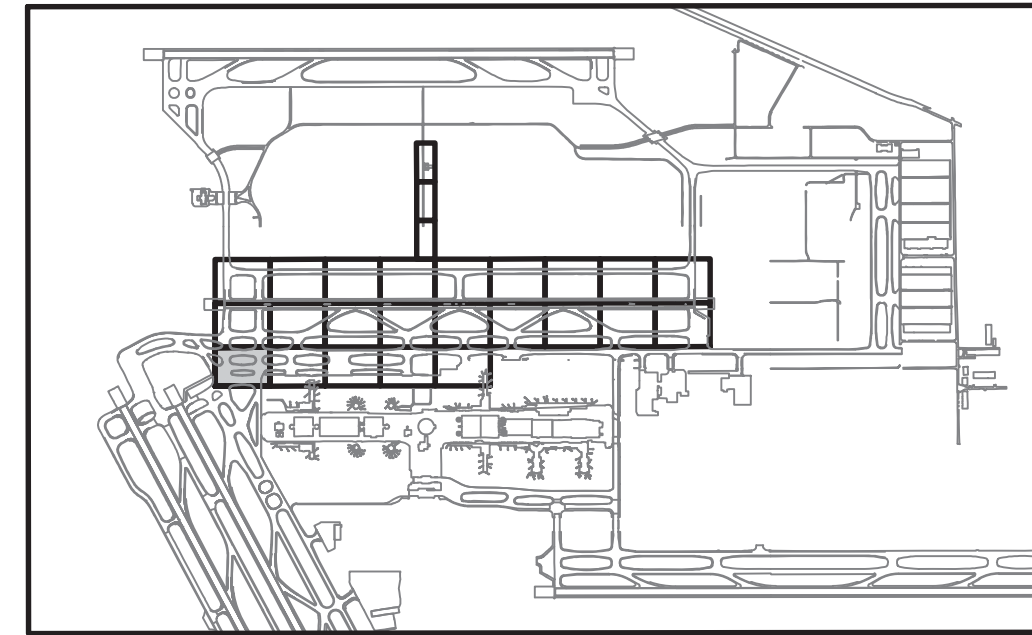
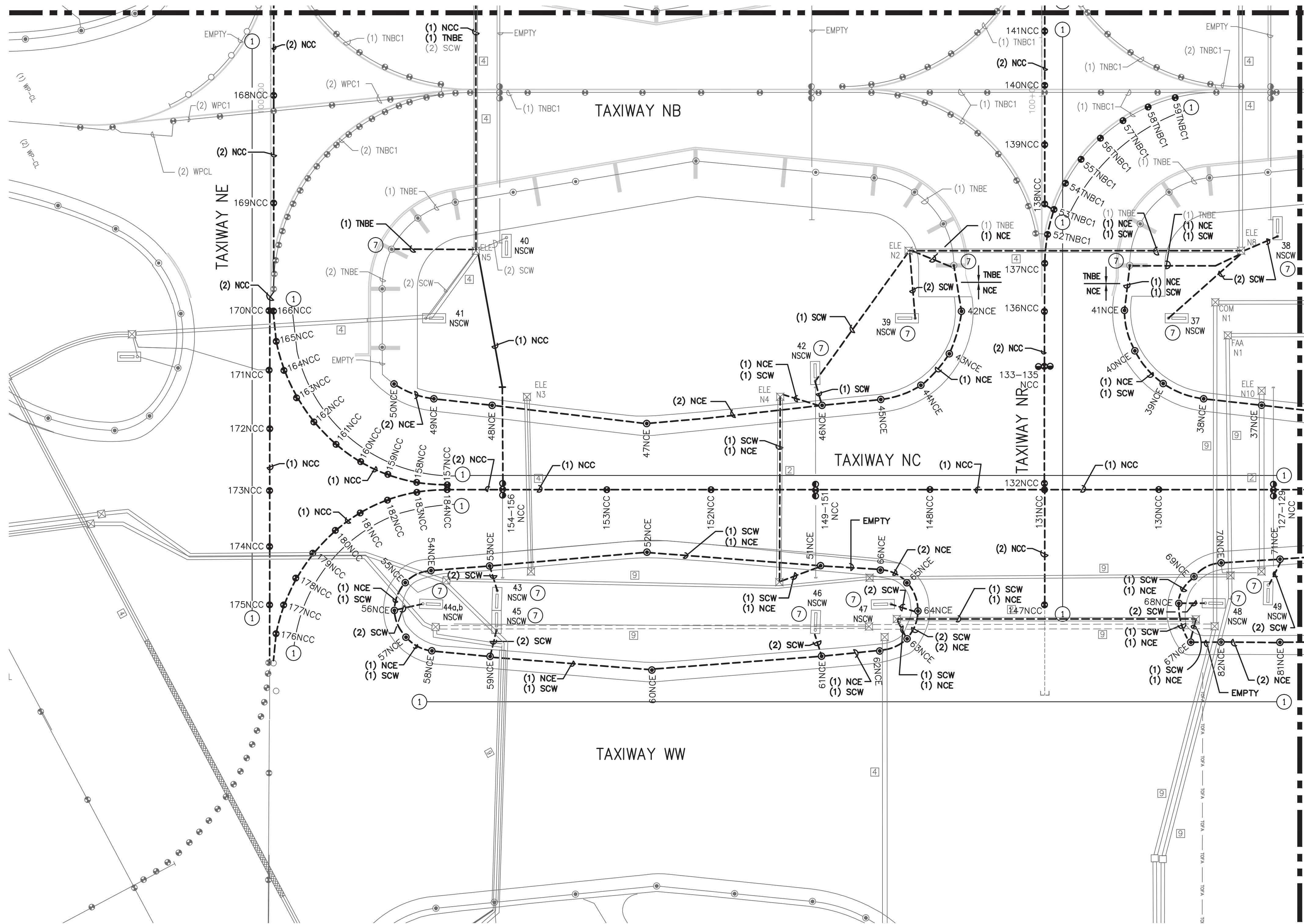
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
APPROVED BY: DP 7/26/18  
*Denaj Rahmal*  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	





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- 4 NOT USED.
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**HOUSTON AIRPORT SYSTEM**  
 GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

**Ferguson Consulting**  
 Aviation Specialists for Electrical, Telecommunications and Security Systems  
 FERGUSON CONSULTING, INC.  
 10200 GROGANS MILL RD, SUITE #420  
 THE WOODLANDS, TEXAS 77380  
 (281) 252-9232 FAX No. F-4884

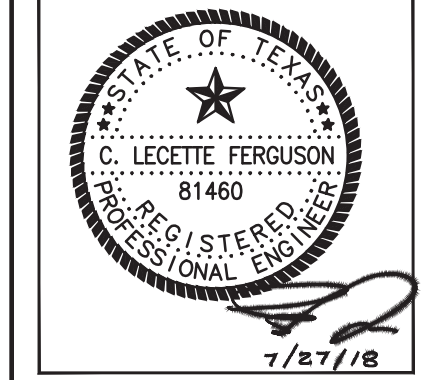
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REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

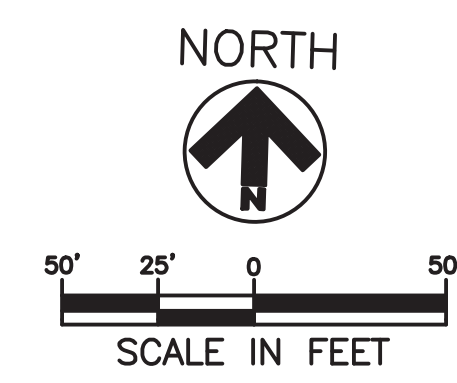
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PROJECT MGR:	CLF
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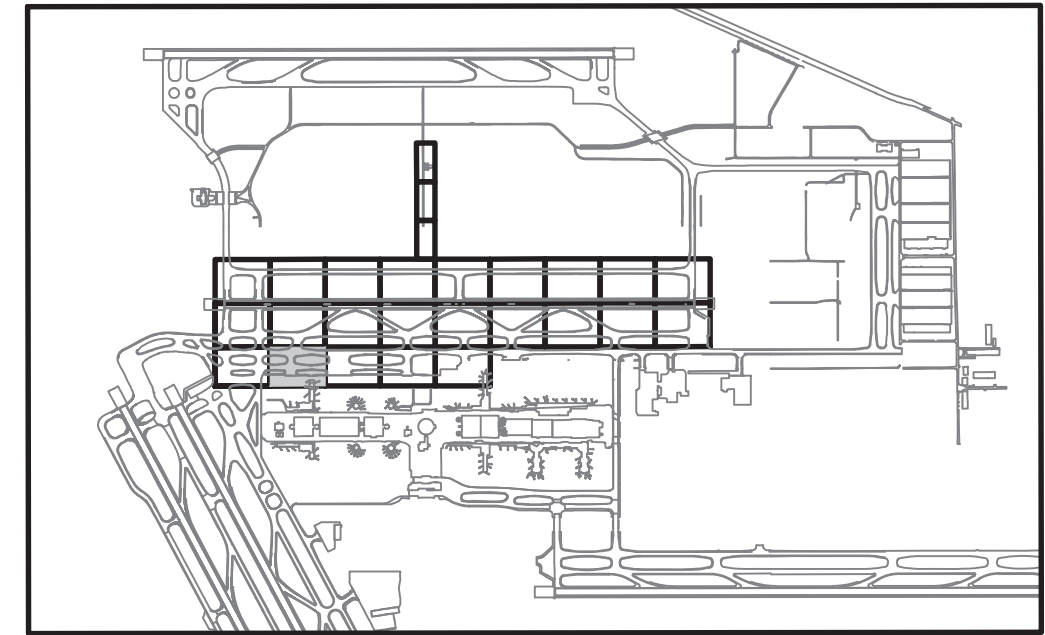






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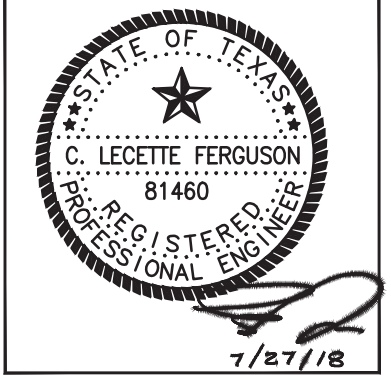
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REHABILITATION OF TAXIWAY NA  
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**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

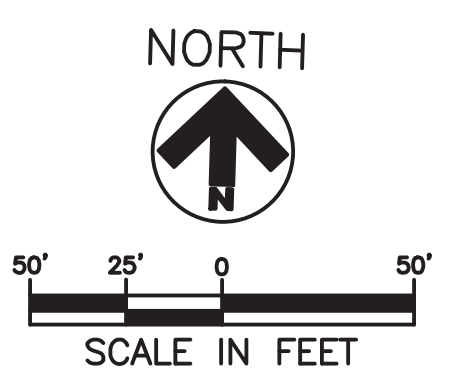
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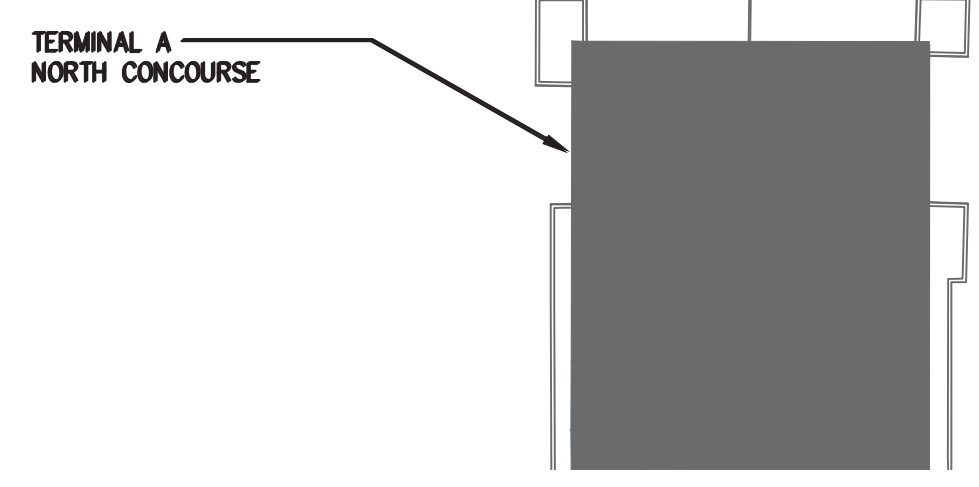
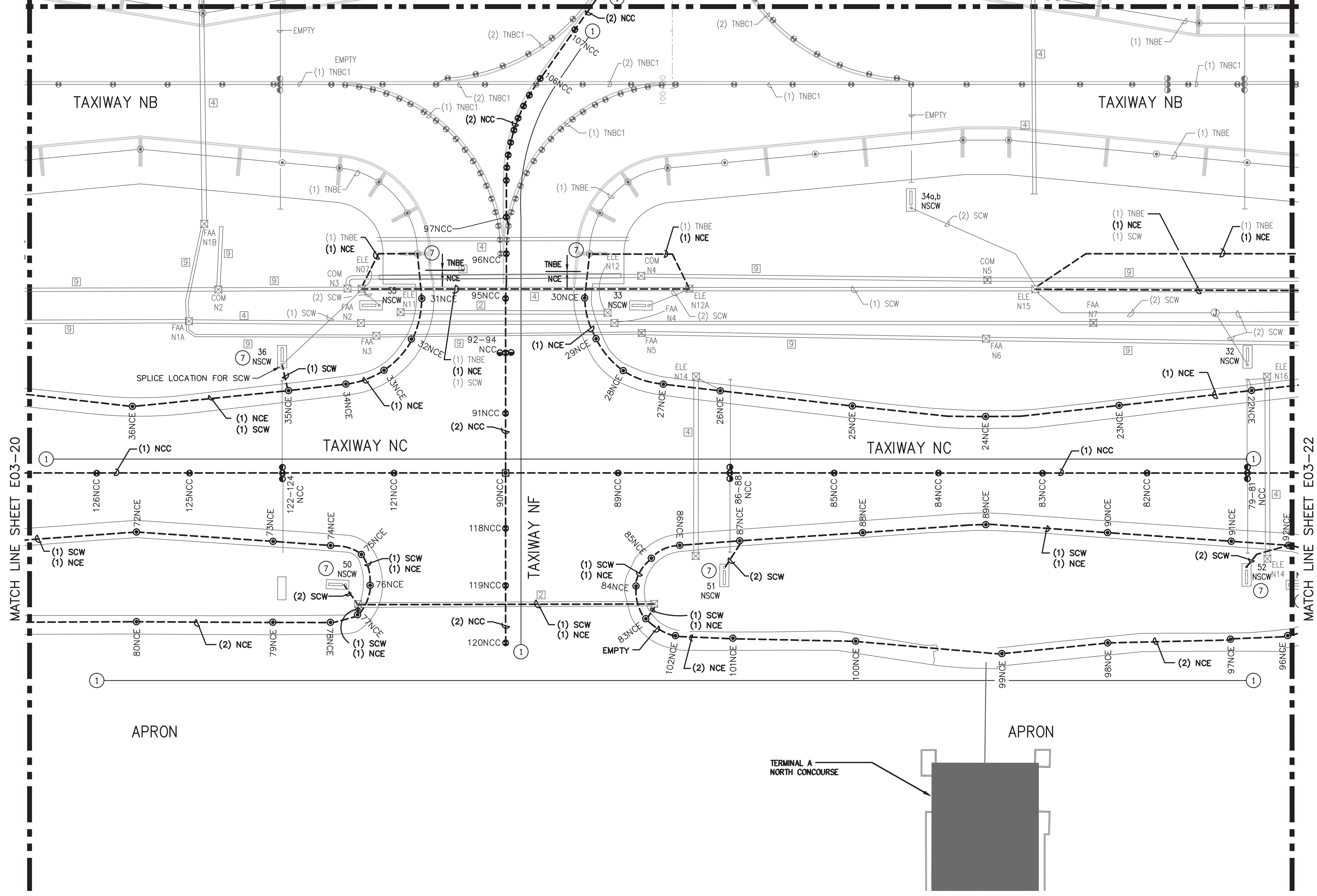


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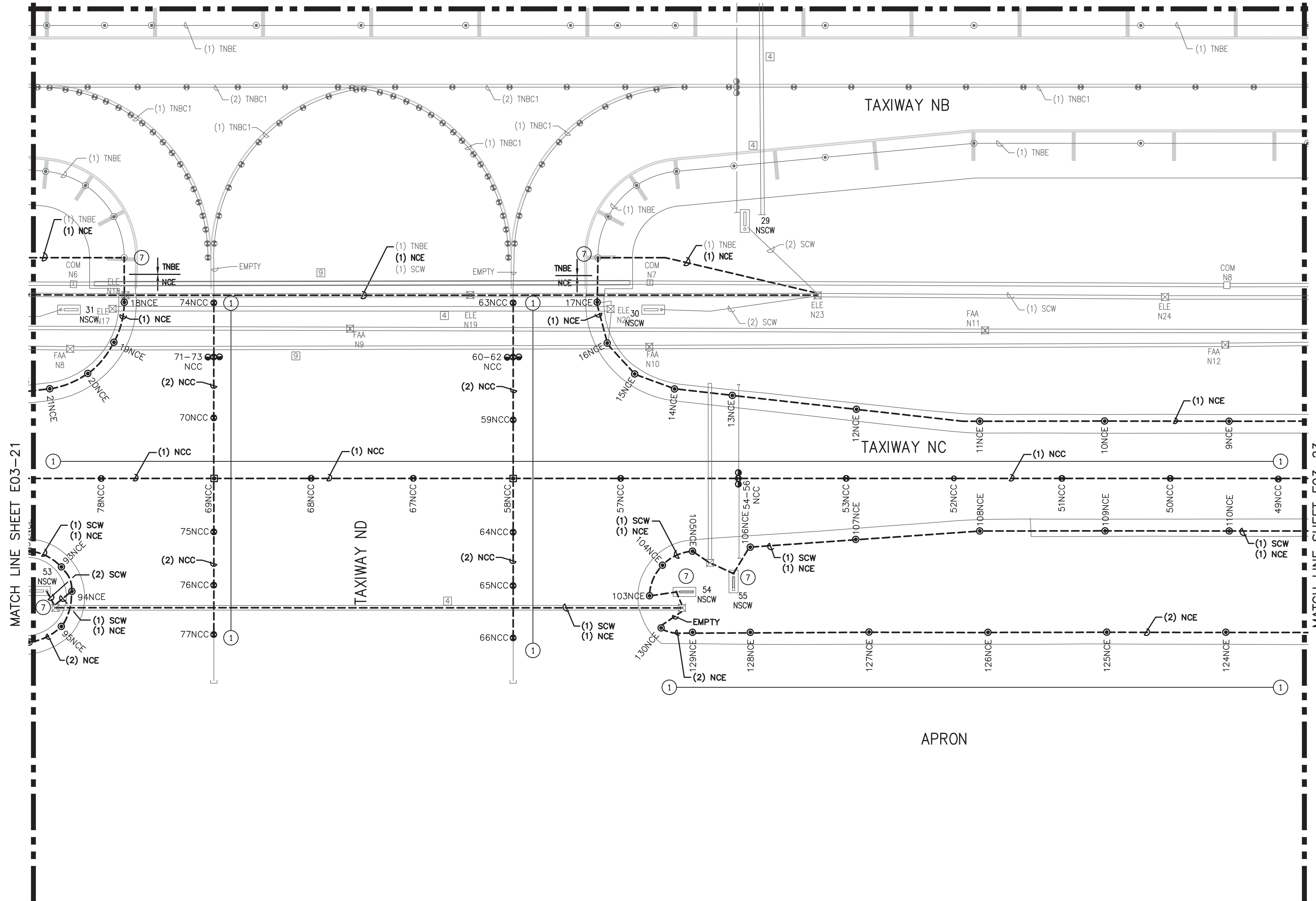
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MATCH LINE SHEET E03-12

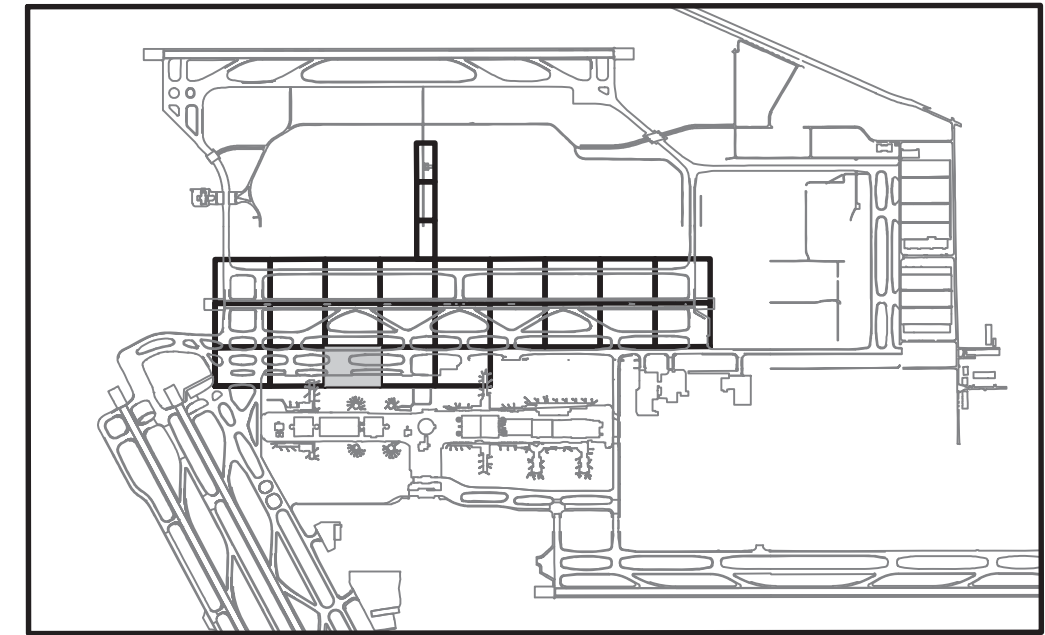






MATCH LINE SHEET E03-21

MATCH LINE SHEET E03-23



**HOUSTON AIRPORT SYSTEM**  
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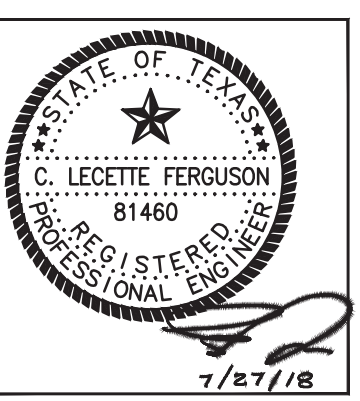
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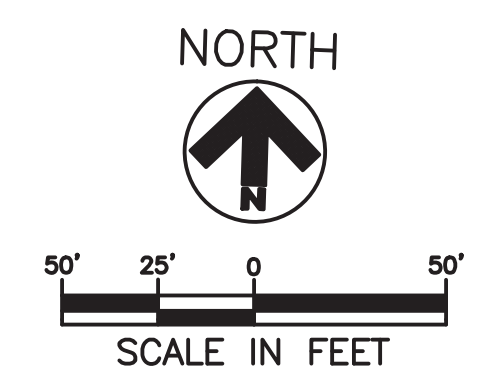
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 APPROVED BY: DP 7/26/18  
*Denzel Palmer*  
 HOUSTON AIRPORT SYSTEMS  
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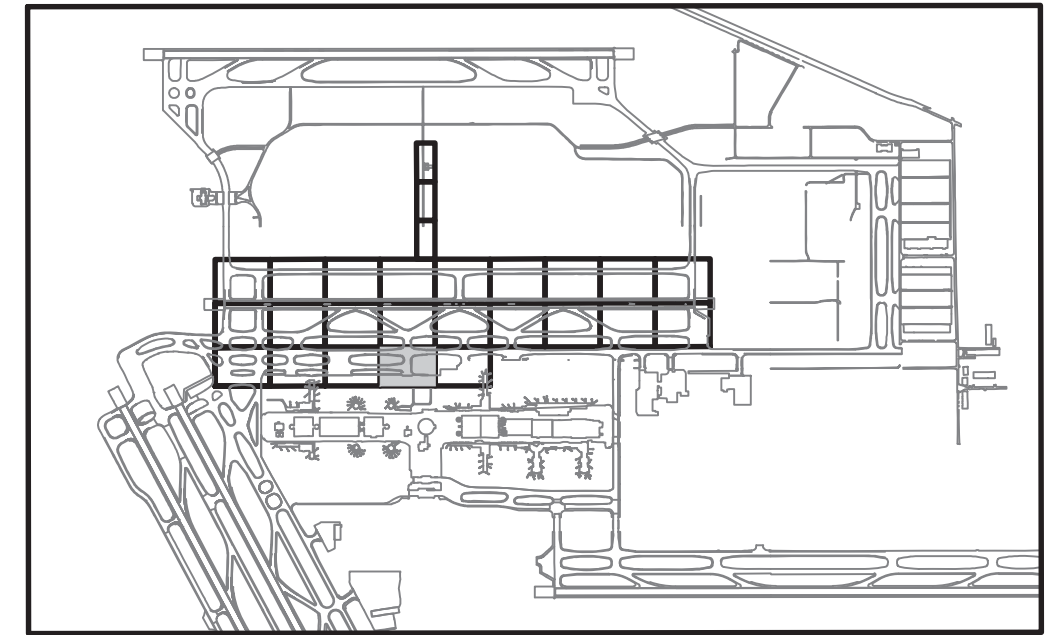




HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL  
 AIRPORT HOUSTON, TEXAS



REVISIONS			
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**GENERAL NOTES:**

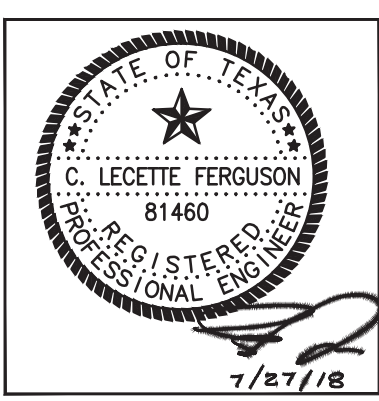
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- INSTALL EXISTING SALVAGED FIXTURE ON NEW BASE CAN. REFER TO THE FIXTURE SCHEDULE IF APPLICABLE.
- INSTALL NEW CONNECTOR KIT AND ISOLATION TRANSFORMER.

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**PROPOSED ELECTRICAL PLAN**  
**AIRFIELD LIGHTING AND SIGNAGE**  
 TAXIWAY 'NA'

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018

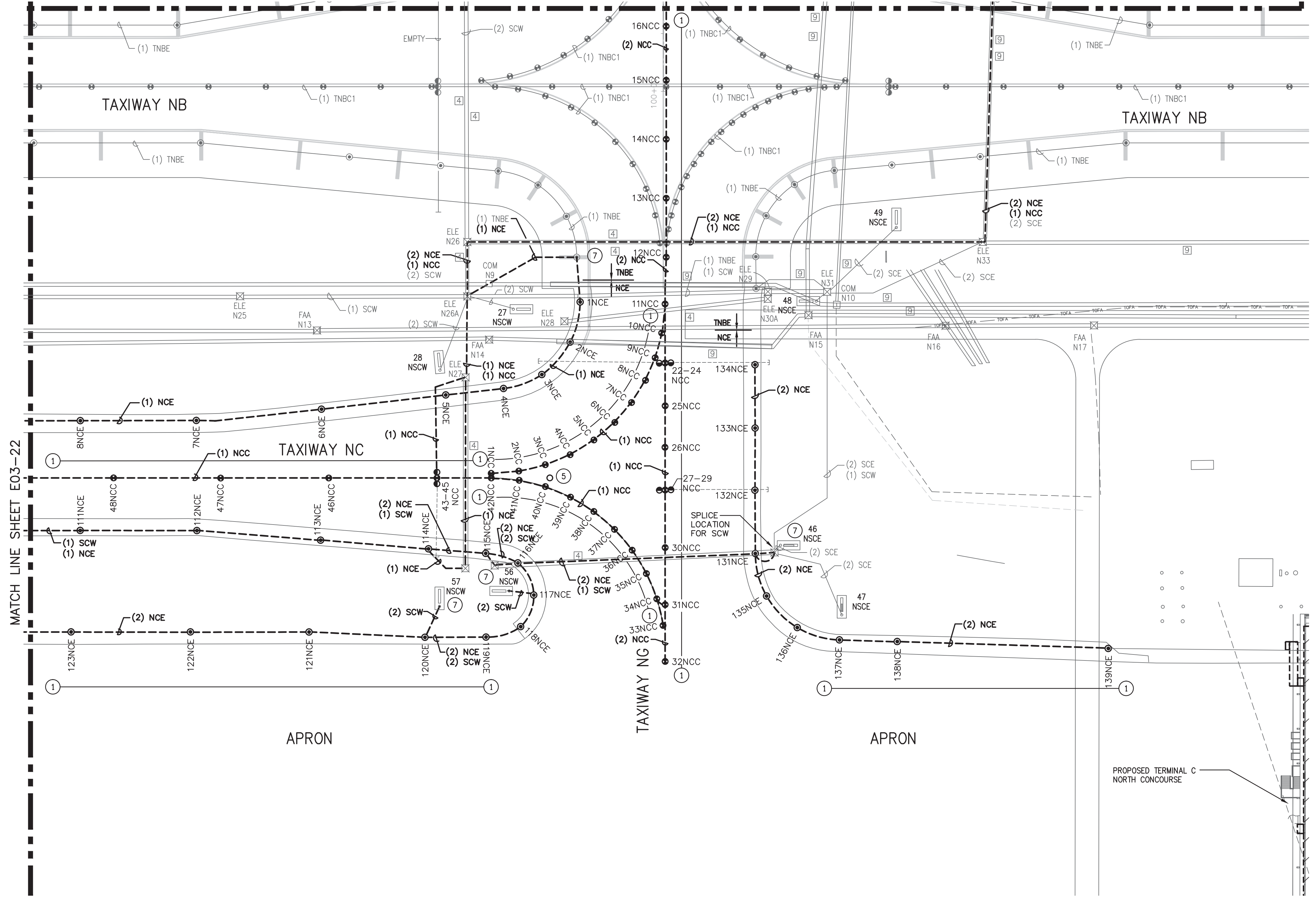


DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahol*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

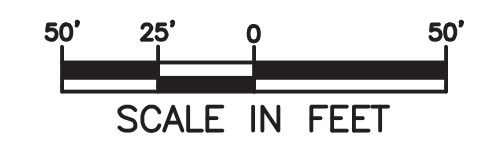
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 H.A.S. NO.  
 SHEET NO.

**E03-23**

MATCH LINE SHEET E03-14



NORTH

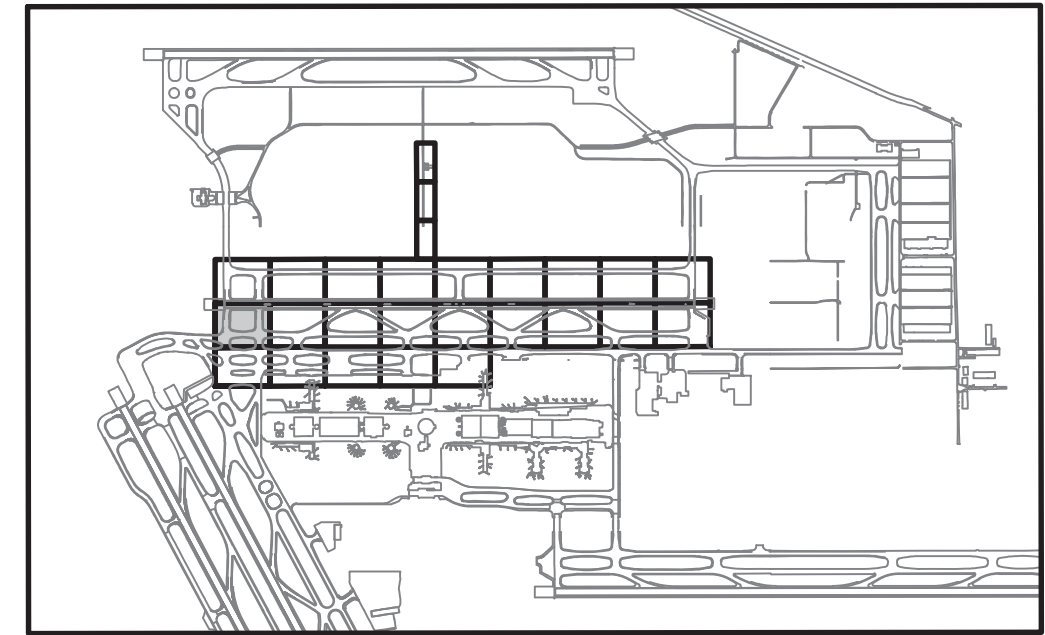






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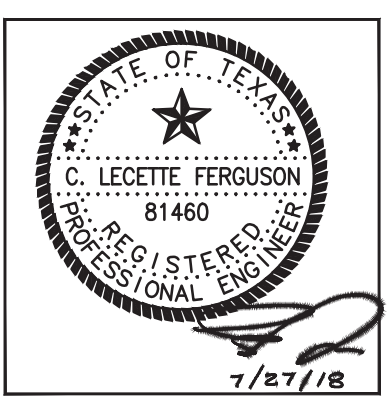
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 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD LIGHTING  
 DIMENSIONS PLAN**  
 TAXIWAY 'NA'

ISSUED FOR BID

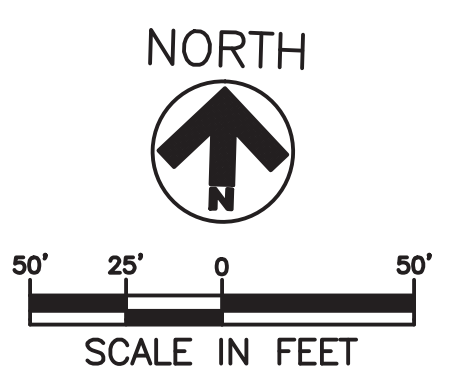
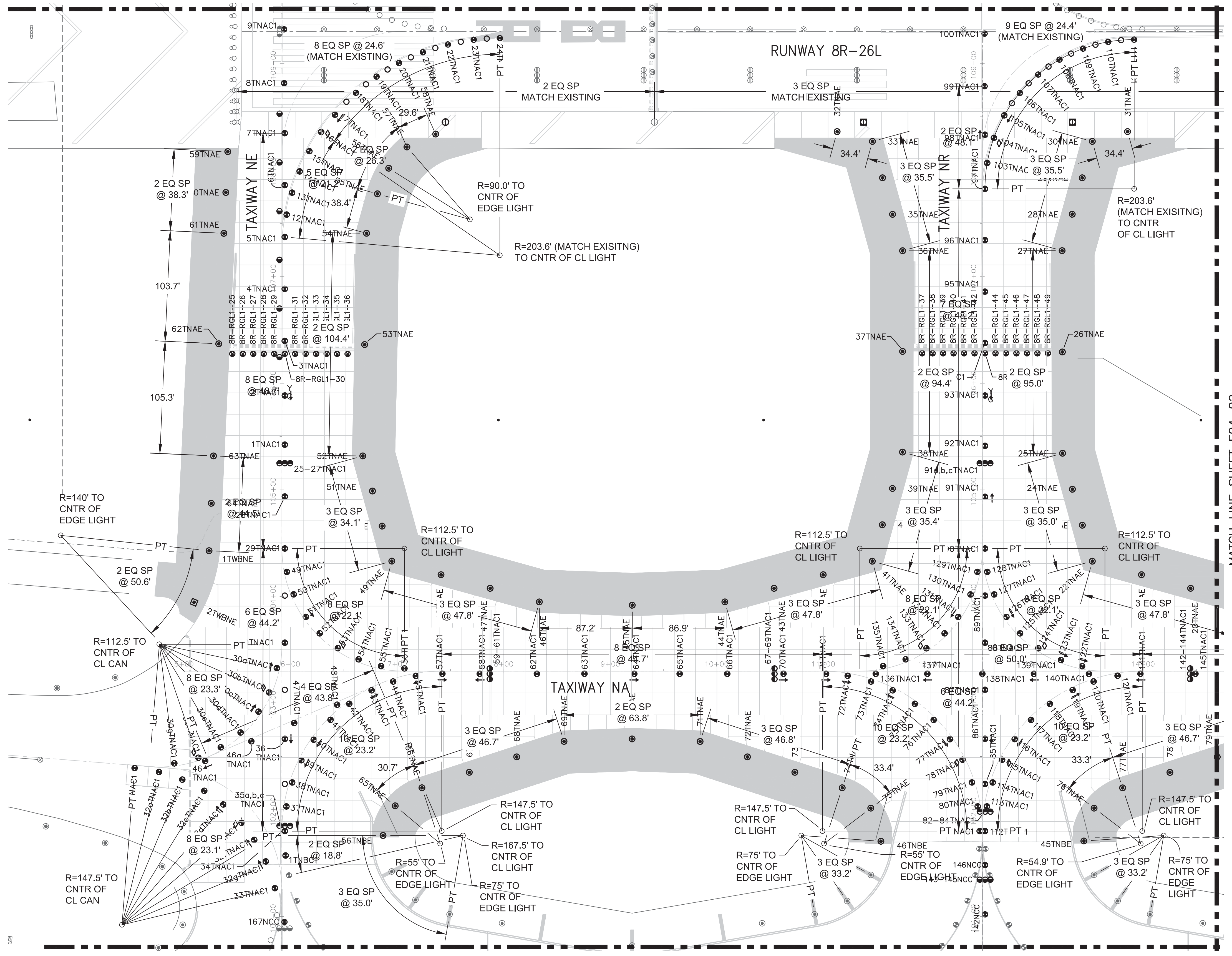
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/18



DEPARTMENT OF AVIATION  
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 HOUSTON AIRPORT SYSTEMS  
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PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**E04-01**

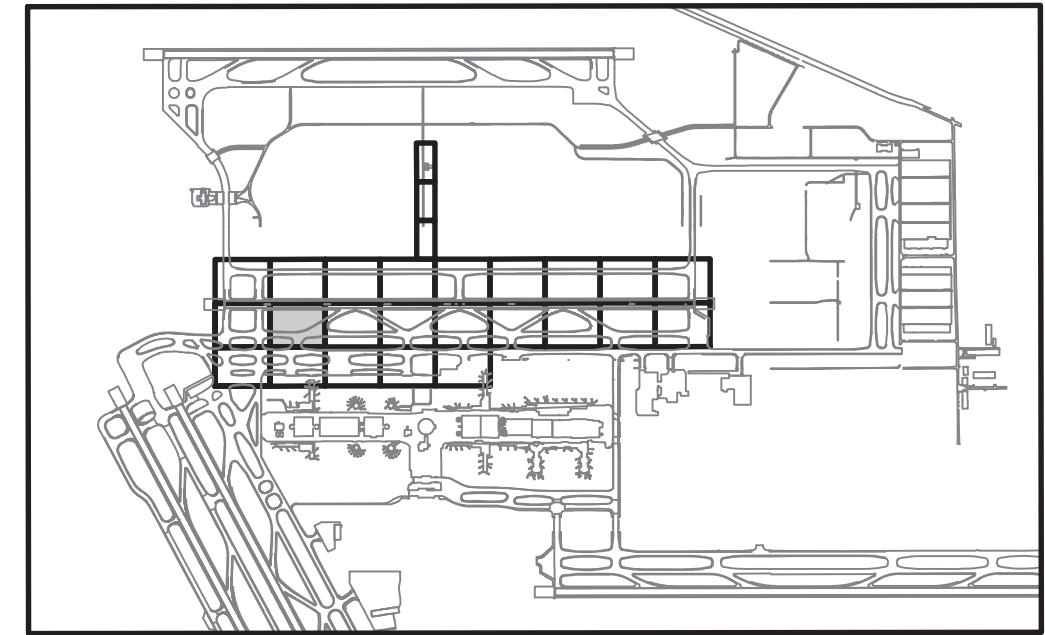






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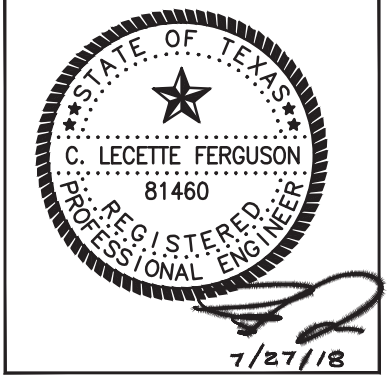
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 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD LIGHTING  
 DIMENSIONS PLAN**  
 TAXIWAY 'NA'

ISSUED FOR BID

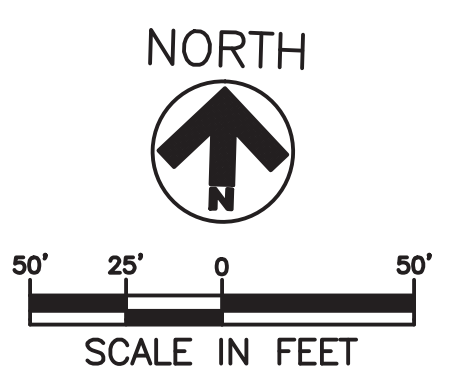
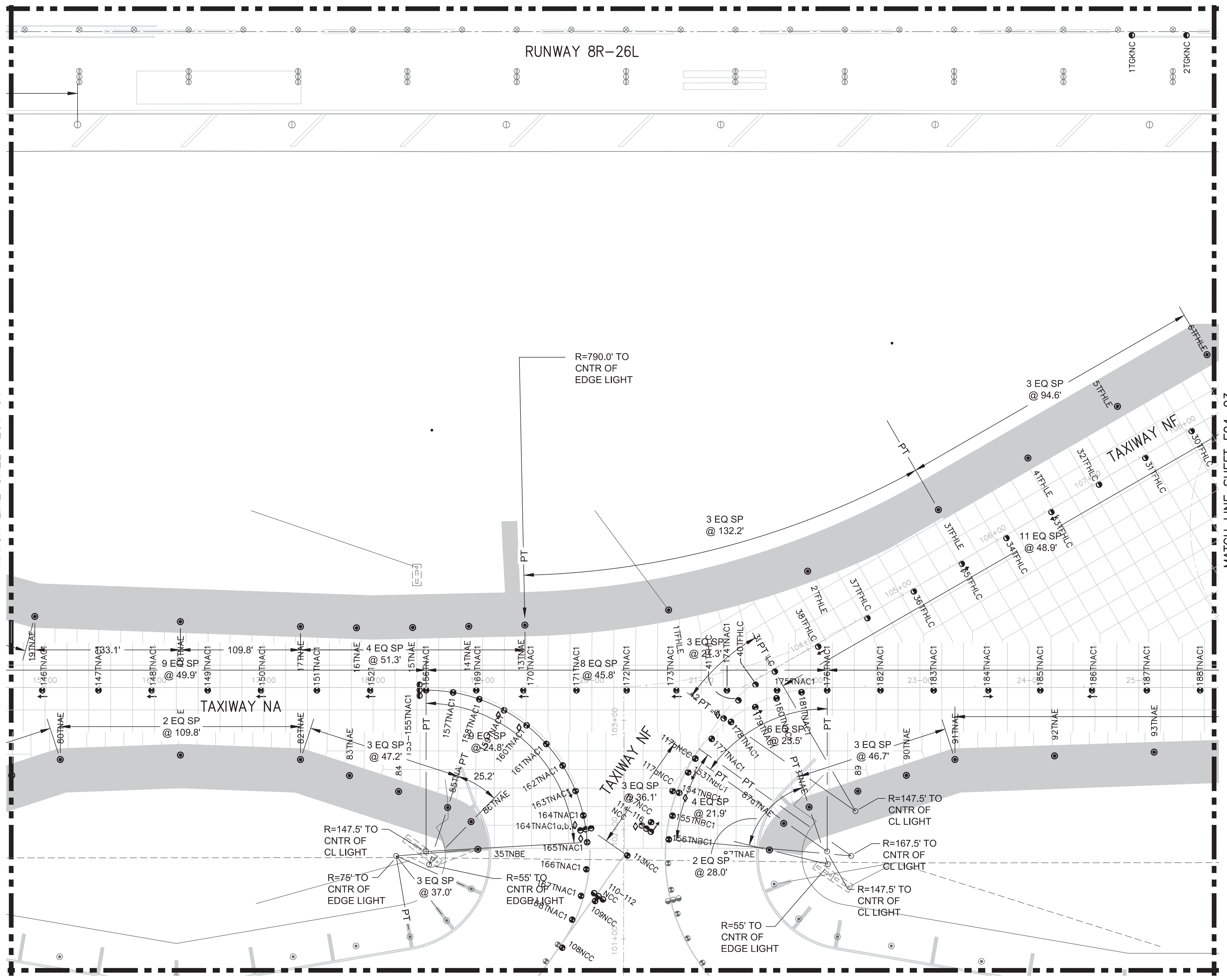
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

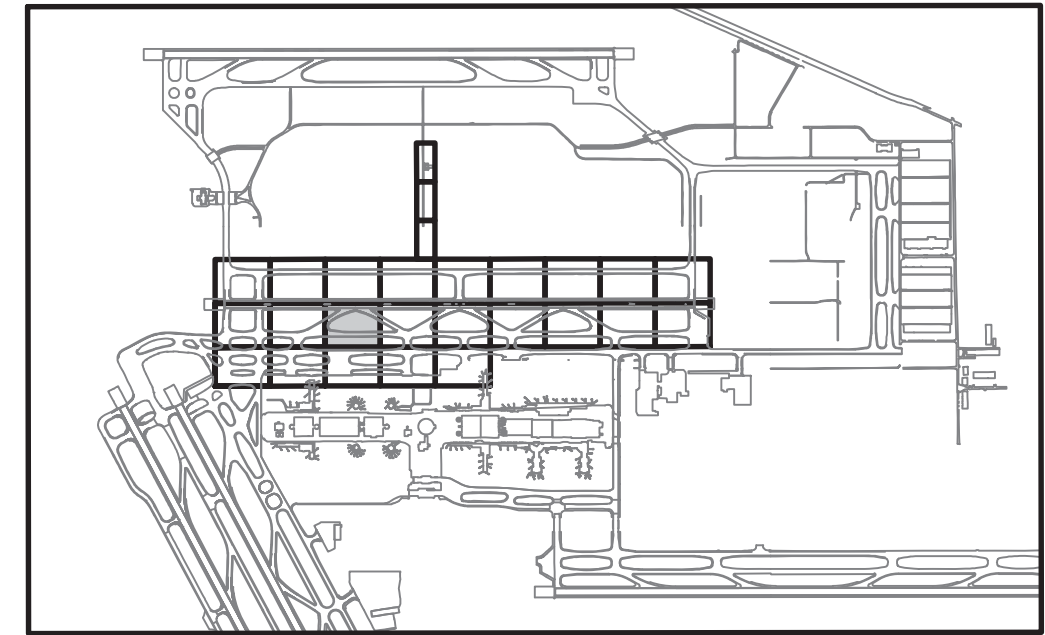
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NO.	DESCRIPTION	DATE	BY



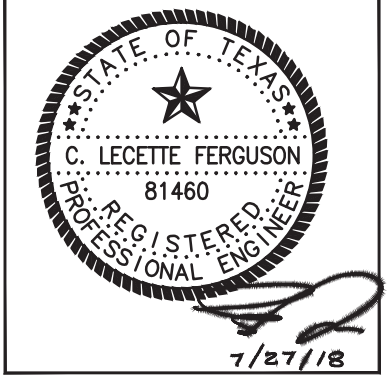
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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD LIGHTING  
 DIMENSIONS PLAN**  
 TAXIWAY 'NA'

ISSUED FOR BID

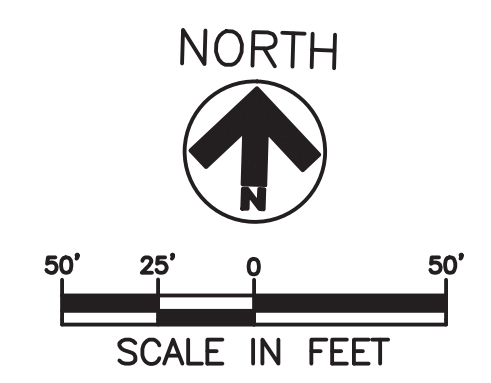
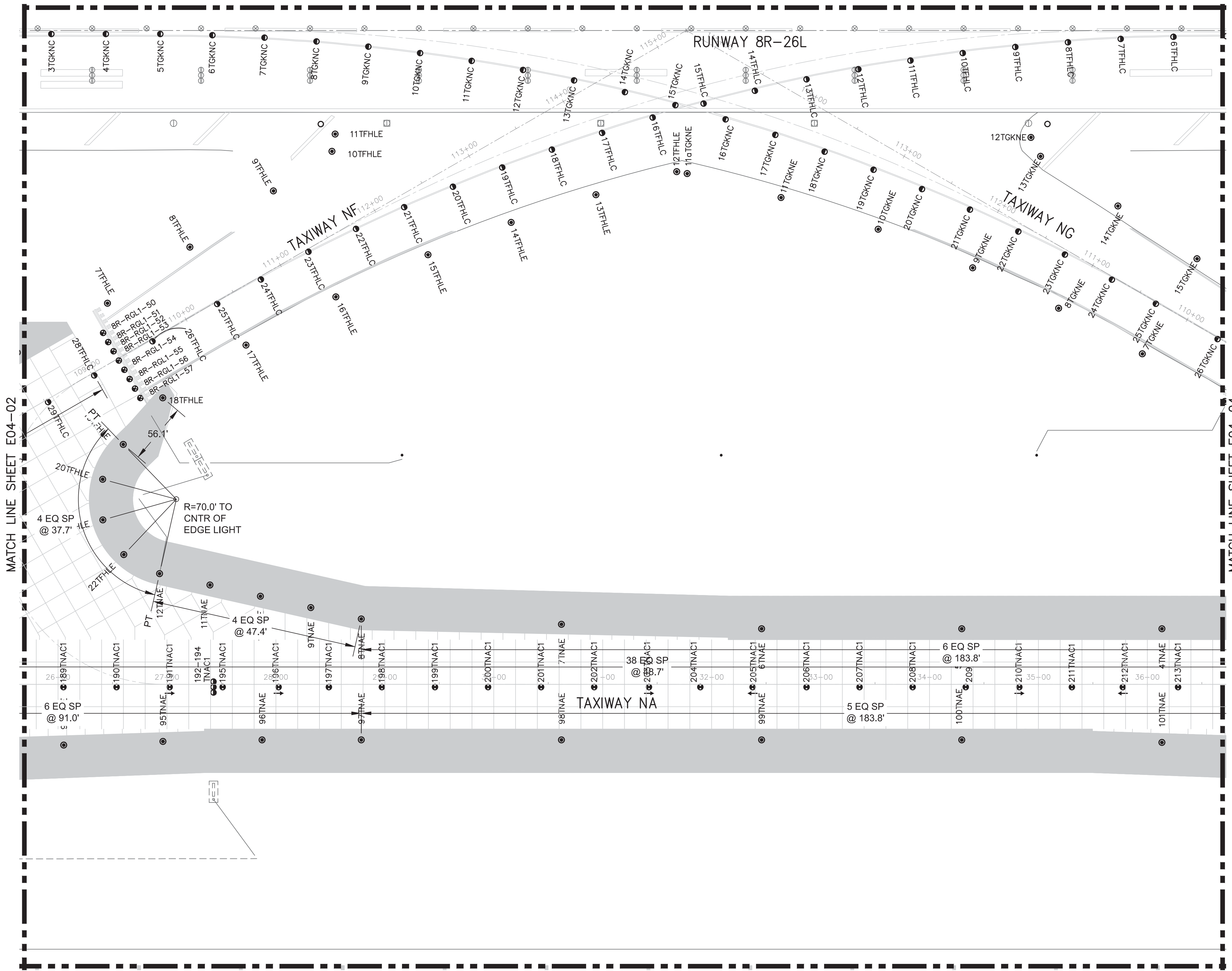
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DESIGNER:	RSF
DRAWN BY:	RSF
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SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahnel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

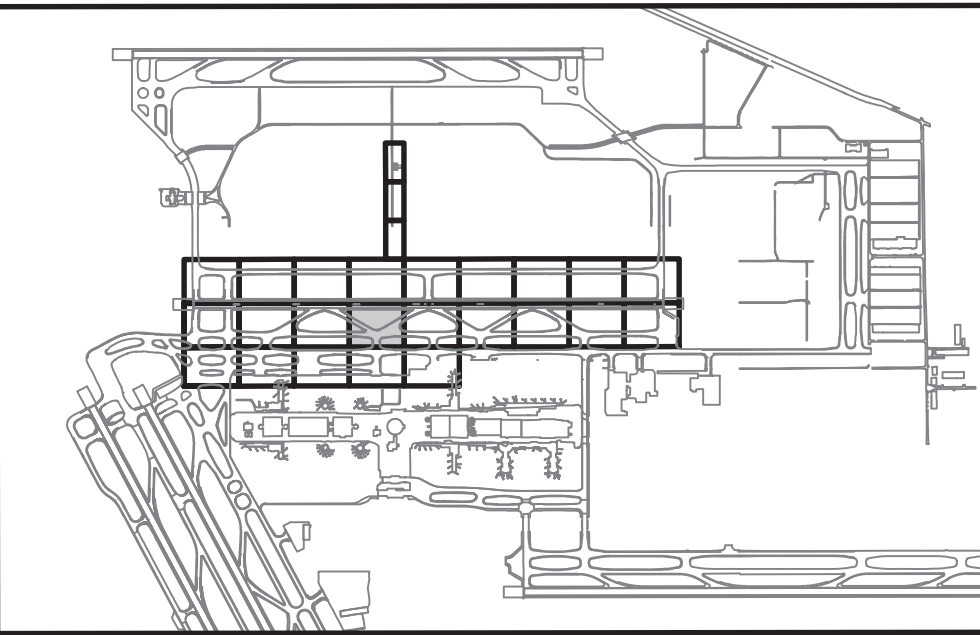
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NO.	DESCRIPTION	DATE	BY



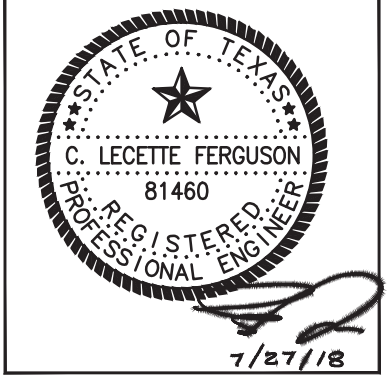
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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD LIGHTING  
 DIMENSIONS PLAN**  
 TAXIWAY 'NA'

ISSUED FOR BID

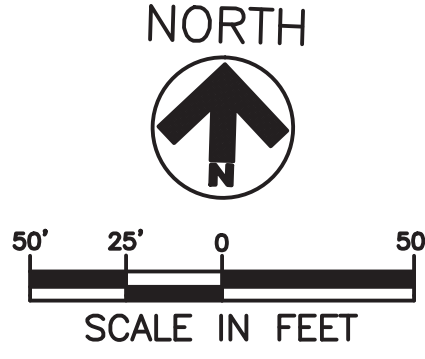
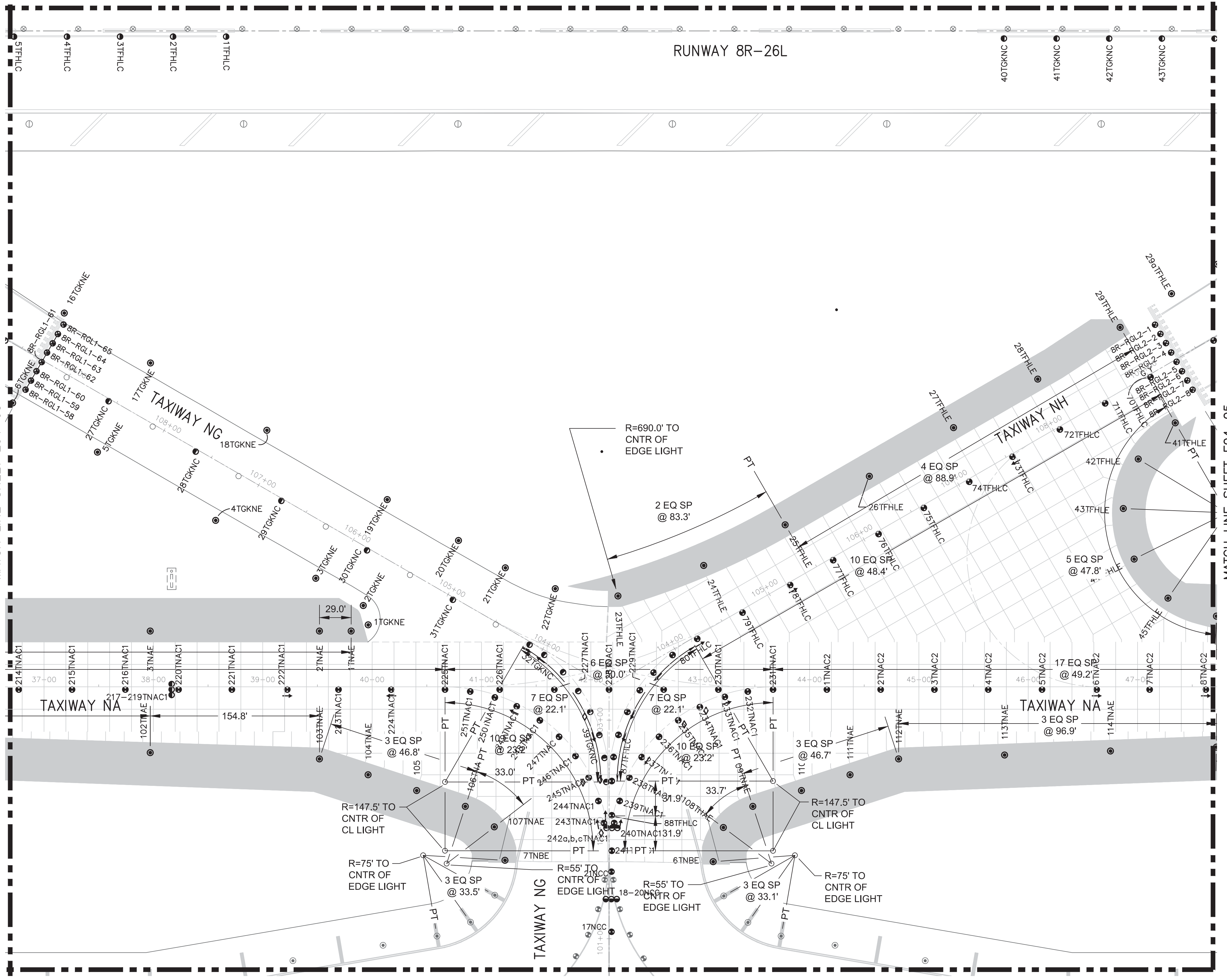
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahnel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

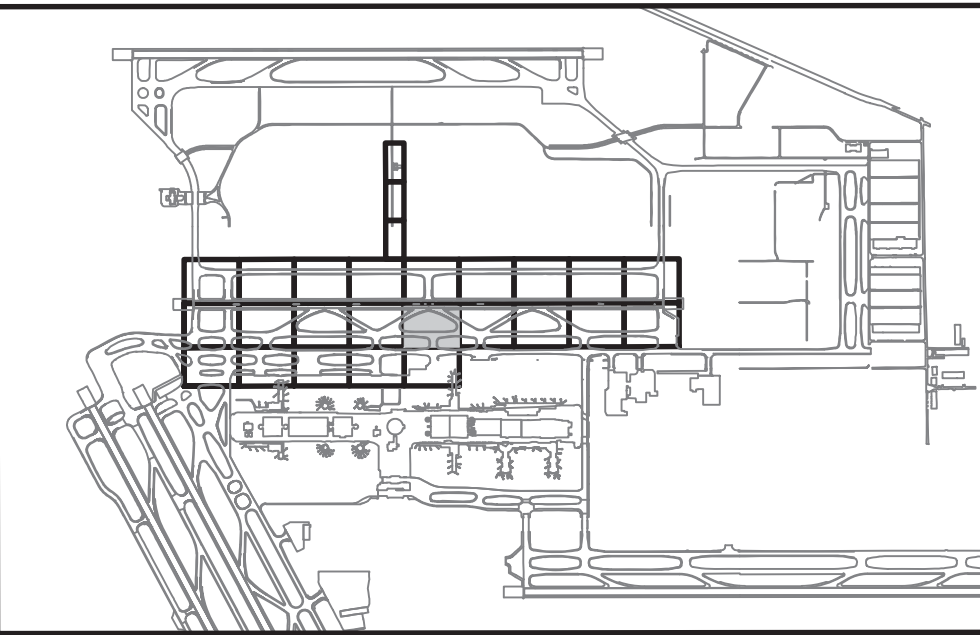
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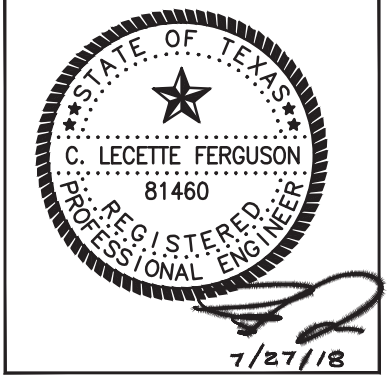
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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD LIGHTING  
 DIMENSIONS PLAN**  
 TAXIWAY NA

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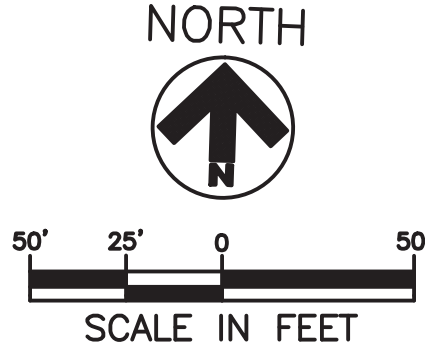
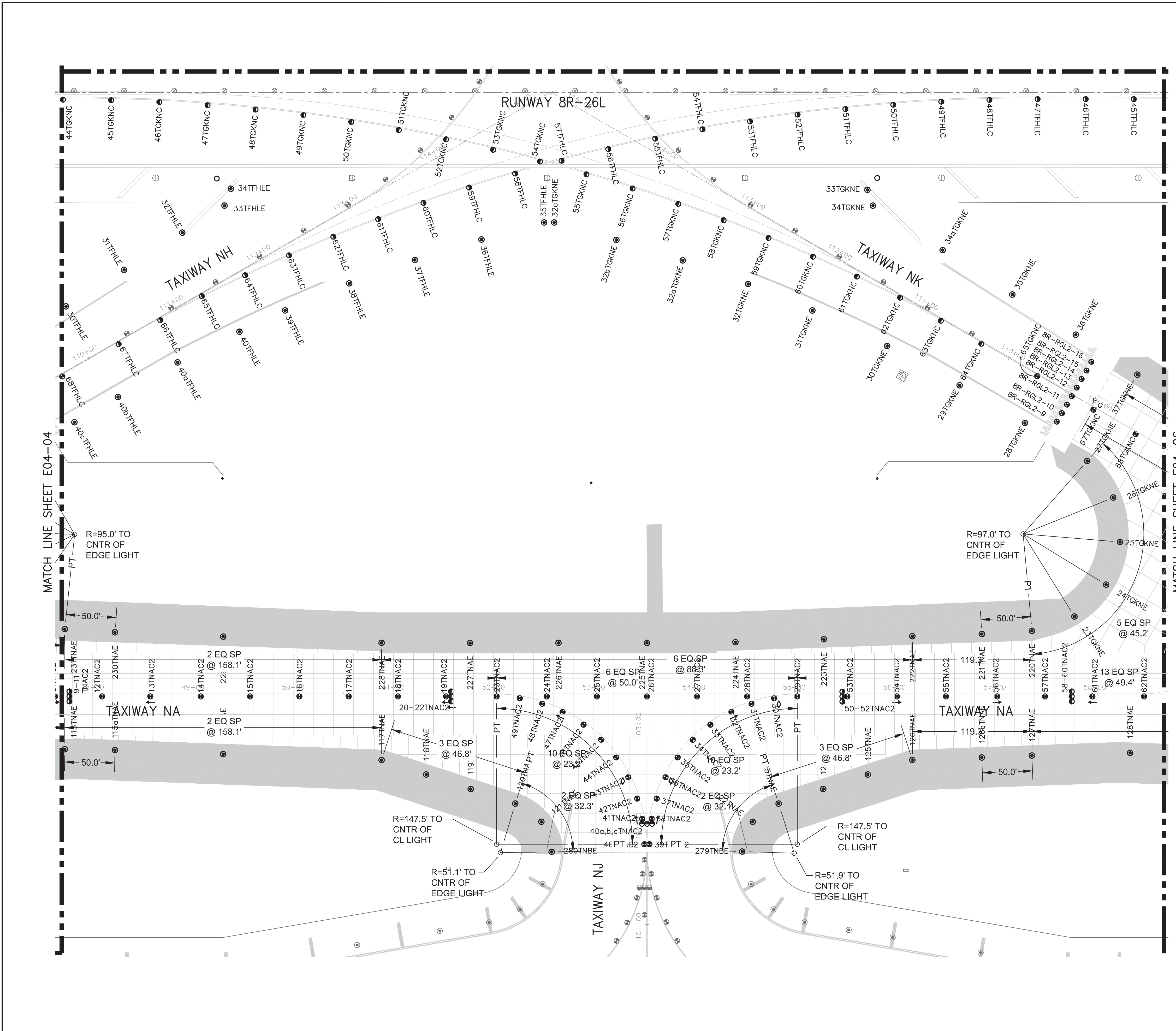
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SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**E04-05**

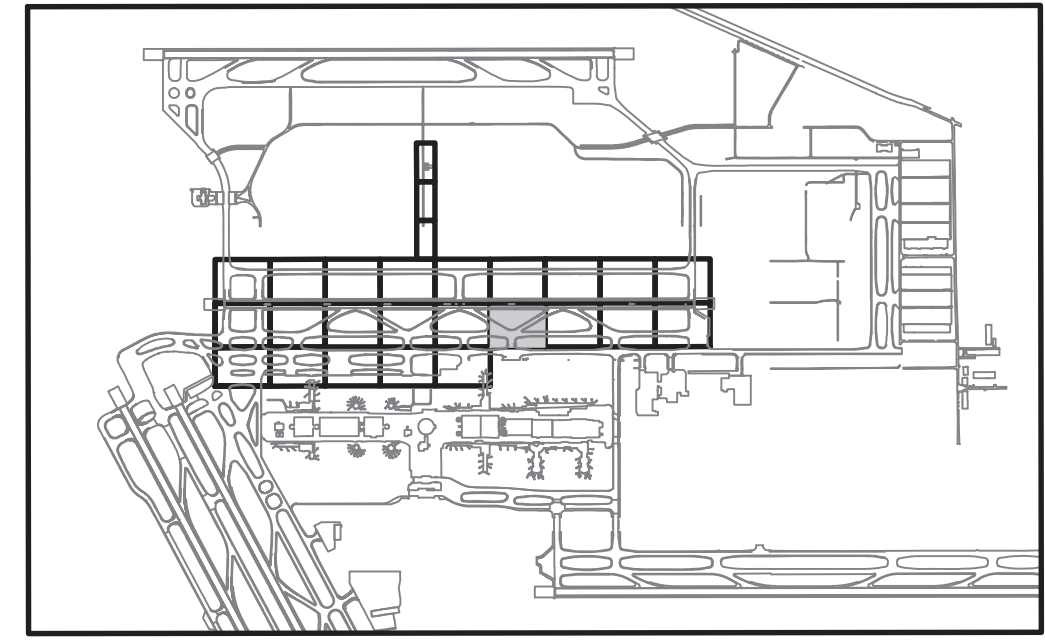






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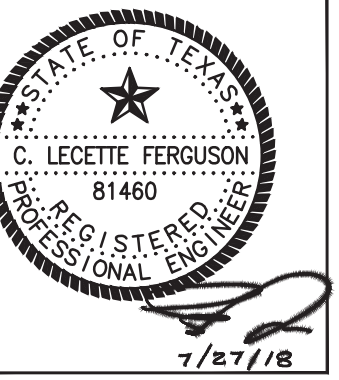
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**AIRFIELD LIGHTING  
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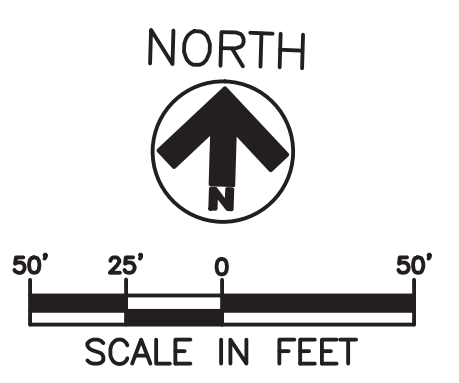
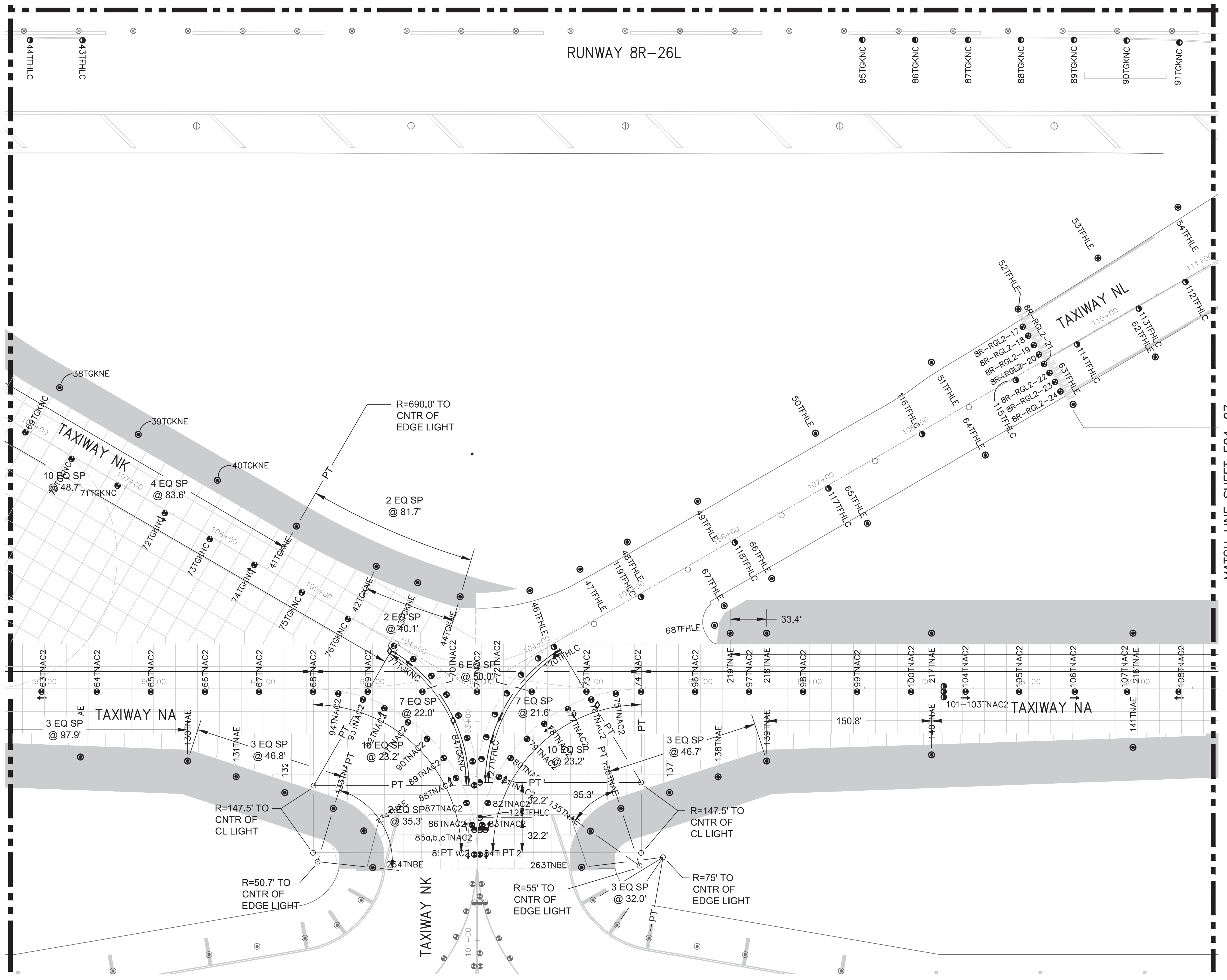
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SCALE:	1" = 50'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
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PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

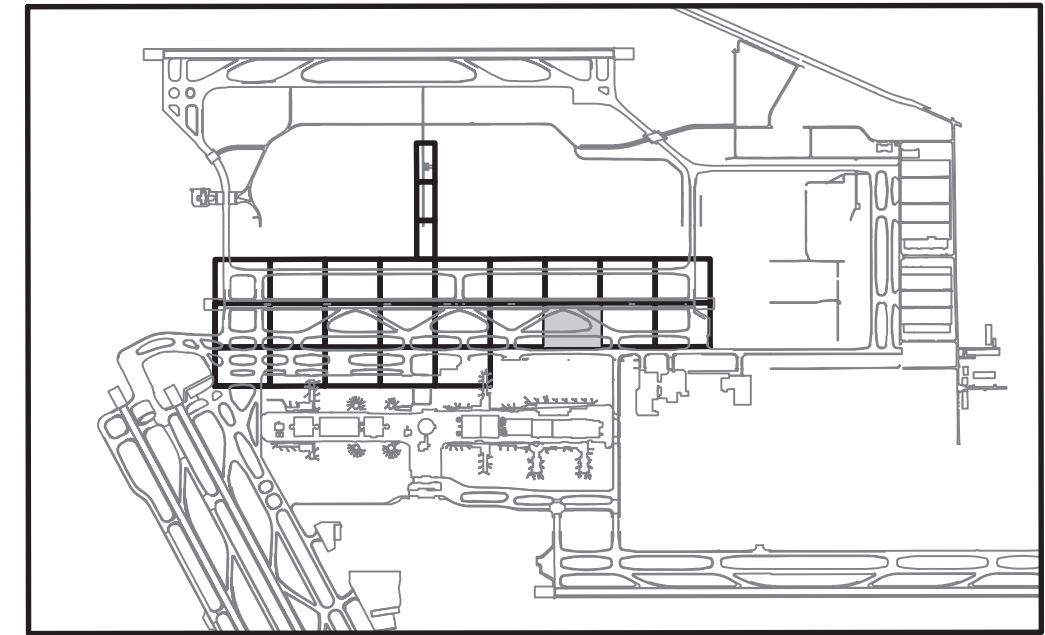
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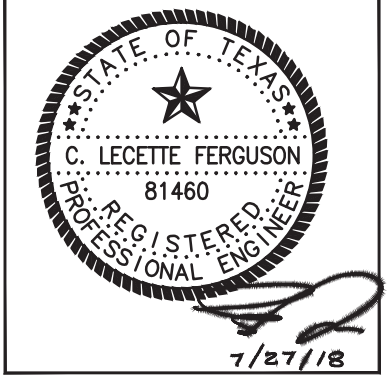


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**AIRFIELD LIGHTING  
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 TAXIWAY 'NA'

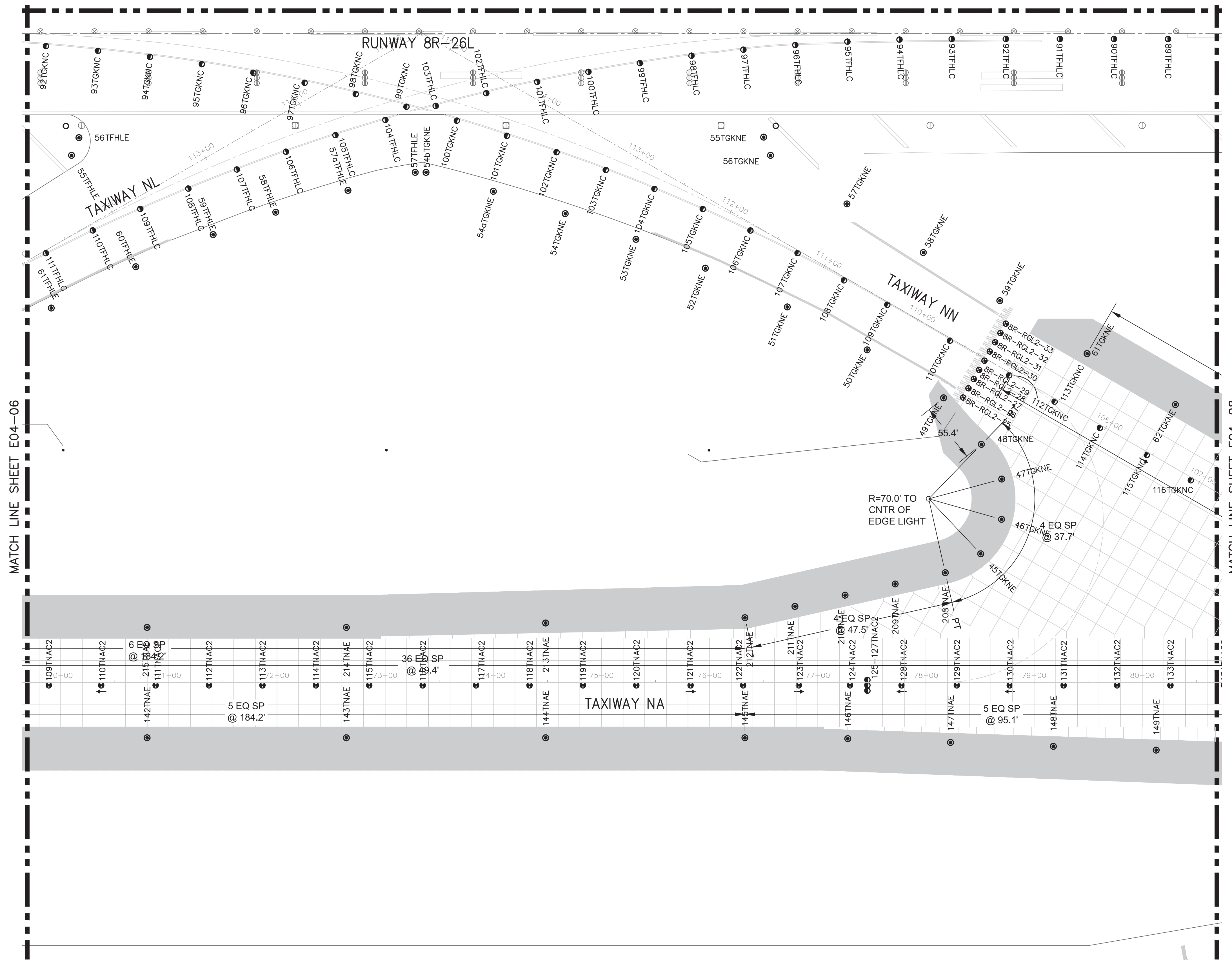
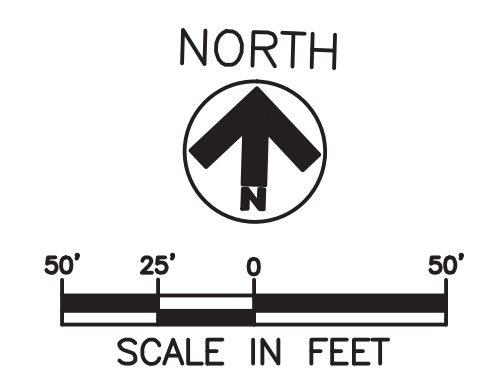
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PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
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SCALE:	1" = 50'
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*Denej Pahnel*  
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PROJECT NO. **0907**  
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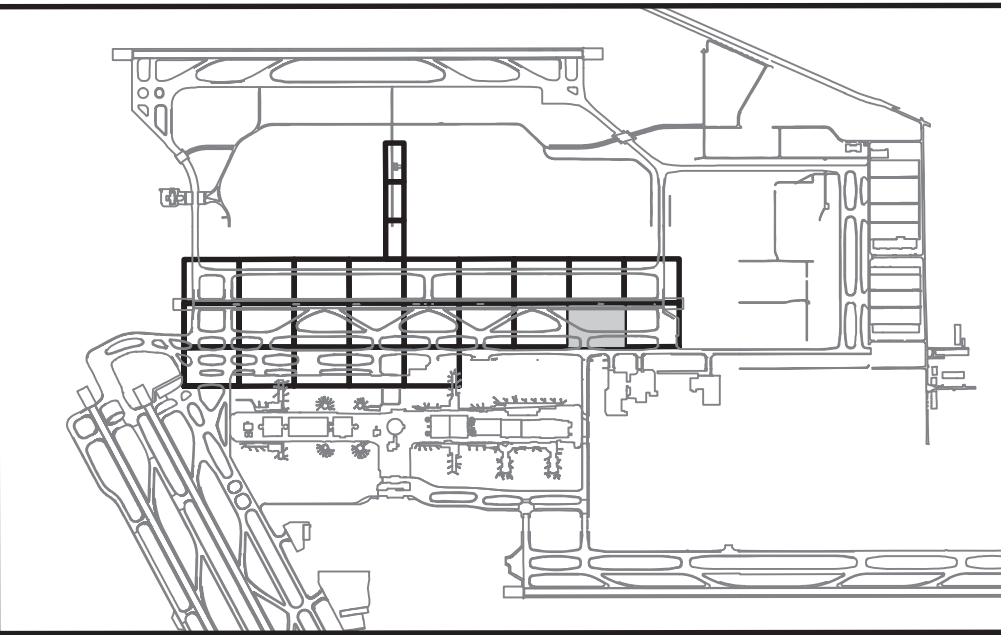
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REVISIONS			
NO.	DESCRIPTION	DATE	BY



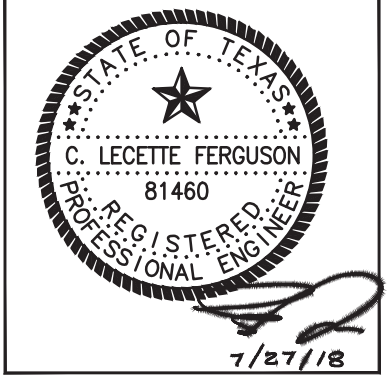
**GENERAL NOTES:**

1. NO SURVEY DATA WAS AVAILABLE TO LOCATE EXISTING LIGHTS WITHIN THE RSA OF RUNWAY 8R-26L. SHOWN LOCATIONS HAVE BEEN OBTAINED FROM AS-BUILT DOCUMENTATION. IT IS THE CONTRACTORS RESPONSIBILITY TO SURVEY THE EXISTING LIGHTING CAN TO REMAIN AND BRING ANY DISCREPANCIES TO THE ENGINEER. LIGHTING ADJUSTMENTS MAY BE REQUIRED BASED ON SURVEY DATA OBTAINED TO COMPLY WITH FAA SPACING CRITERIA.
2. COORDINATE ALL DIMENSIONS WITH MARKING PLANS. IF ADJUSTMENTS ARE MADE TO MARKINGS, THE CONTRACTOR SHALL CONTACT ENGINEER FOR DIRECTION.
3. WHERE EXISTING LIGHT CANS WILL BE USED FOR NEW FIXTURES, THE EXACT CAN LOCATION IS TO BE FIELD VERIFIED AND WILL NOT BE DIMENSIONED.
4. REFER TO THE LIGHT FIXTURES SCHEDULES IN THE E08 SERIES FOR ADDITIONAL DIMENSIONS WHERE THE DIMENSION IS NOT SHOWN ON THIS DRAWING. REFER TO THE SIGNAGE SCHEDULE FOR ALL SIGNAGE DIMENSIONS.
5. REFER TO E03 SERIES FOR OVERALL LIGHTING LAYOUT PLANS.
6. INDIVIDUAL INPAVEMENT LIGHT CAN LOCATIONS HAVE BEEN ADJUSTED WITHIN FAA ALLOWABLE TOLERANCES (RE: 150/5340-30, LATEST EDITION) TO MAINTAIN 2' CLEARANCE FROM NEAREST CAN EDGE TO PAVEMENT JOINT. WHERE CLEARANCES CANNOT BE ACHIEVED WITHIN ALLOWABLE TOLERANCES, PROVIDE PAVEMENT BLOCK-OUT FOLLOWING DETAILS ON E10 SERIES. REFER TO SECTION 265590 FOR PAYMENT. COORDINATE ALL LOCATIONS WITH PAVING CONTRACTOR. REFER TO THE FIXTURE SCHEDULE FOR BASE CAN NORTHINGS AND EASTINGS.

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD LIGHTING  
 DIMENSIONS PLAN**  
 TAXIWAY 'NA'

ISSUED FOR BID

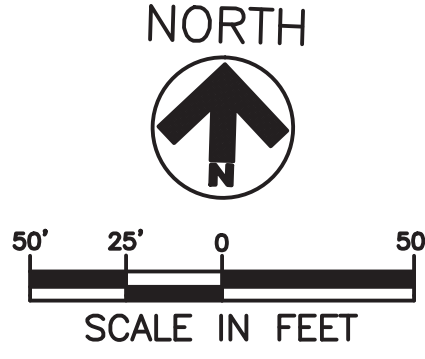
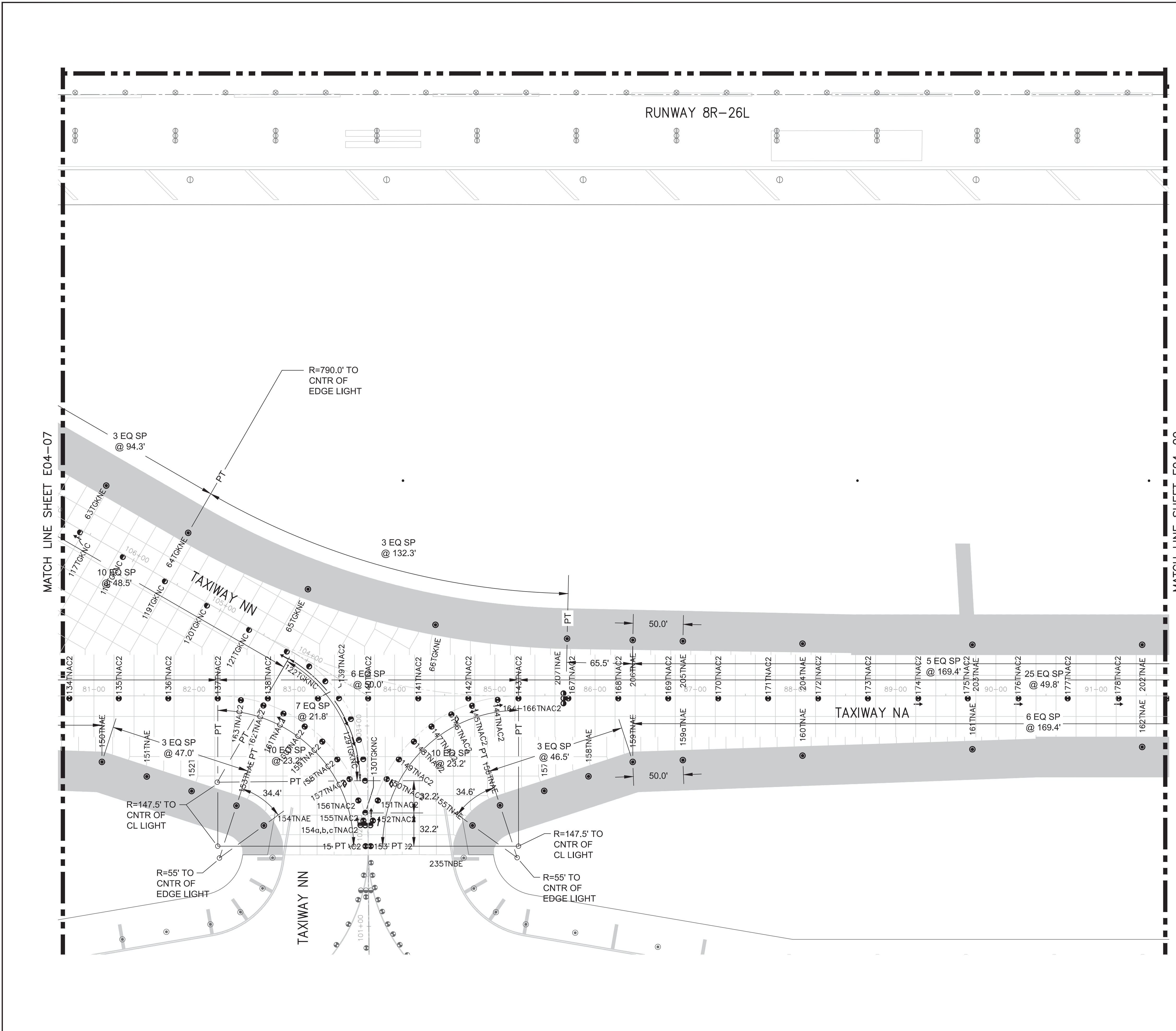
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/18



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	<b>0907</b>
C.I.P. NO.	<b>A-000570</b>
H.A.S. NO.	
SHEET NO.	

**E04-08**

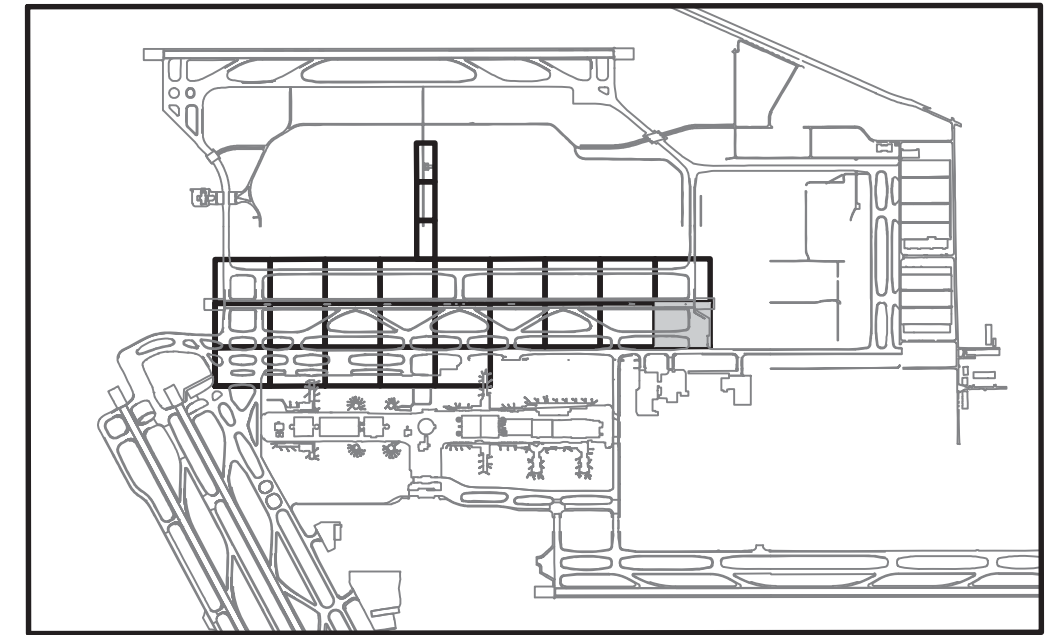






REVISIONS

NO.	DESCRIPTION	DATE	BY



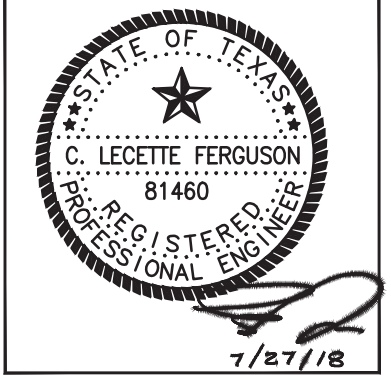
**GENERAL NOTES:**

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REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD LIGHTING  
 DIMENSIONS PLAN**  
 TAXIWAY 'NA'

ISSUED FOR BID

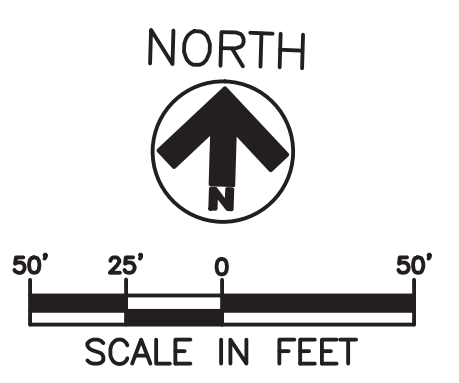
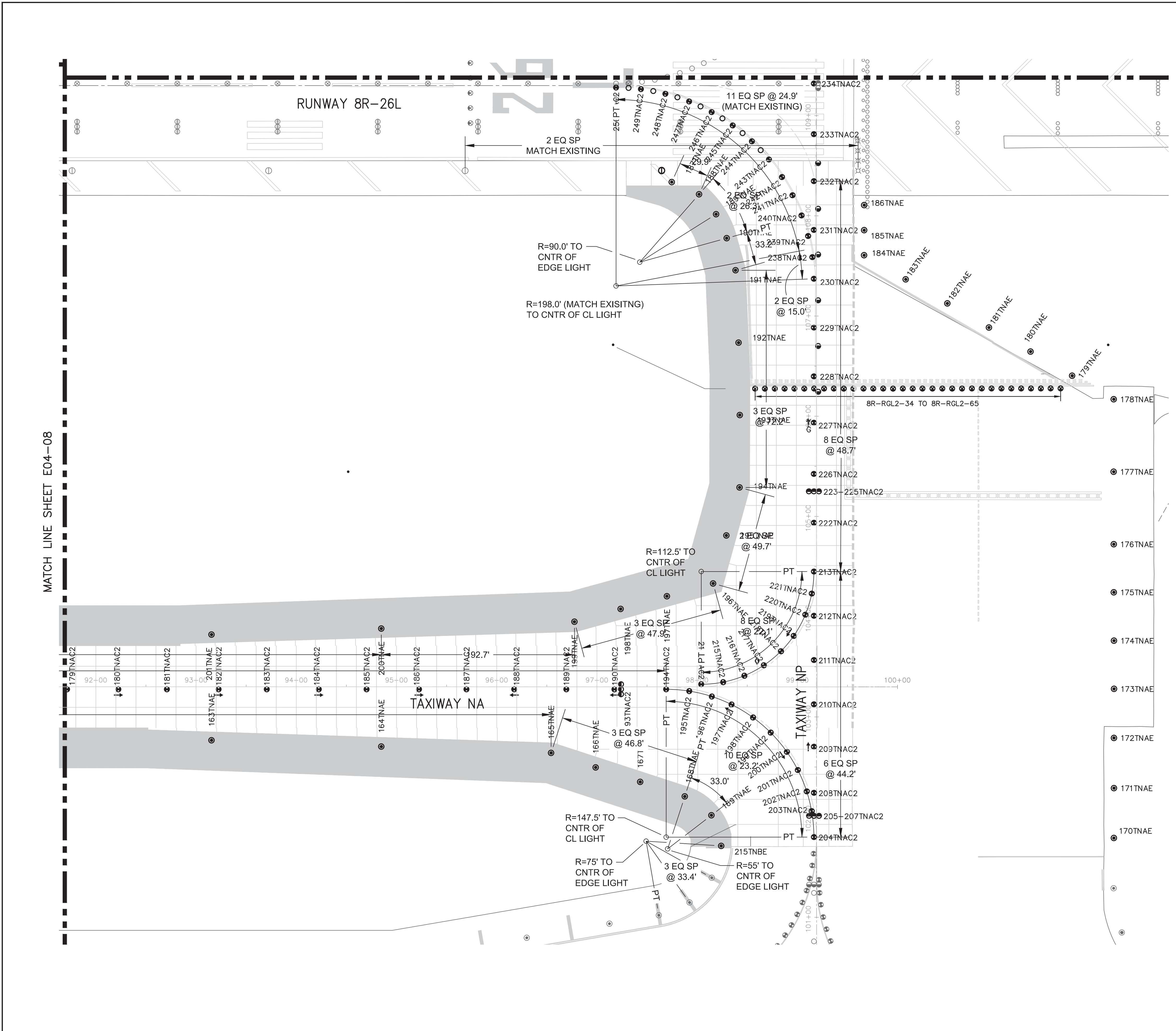
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 50'
DATE:	07/27/18



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Rahmal*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**E04-09**

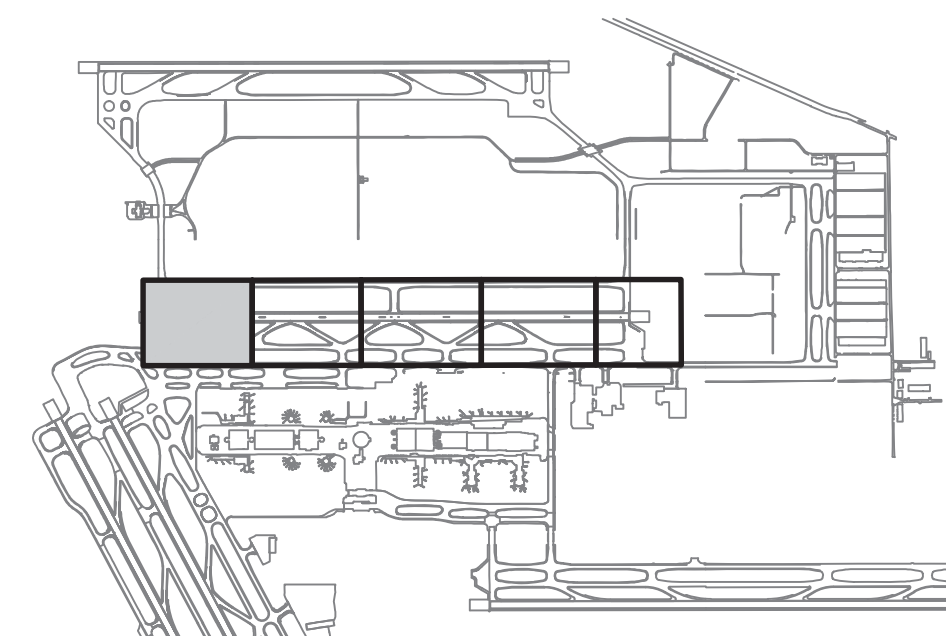






REVISIONS

NO.	DESCRIPTION	DATE	BY

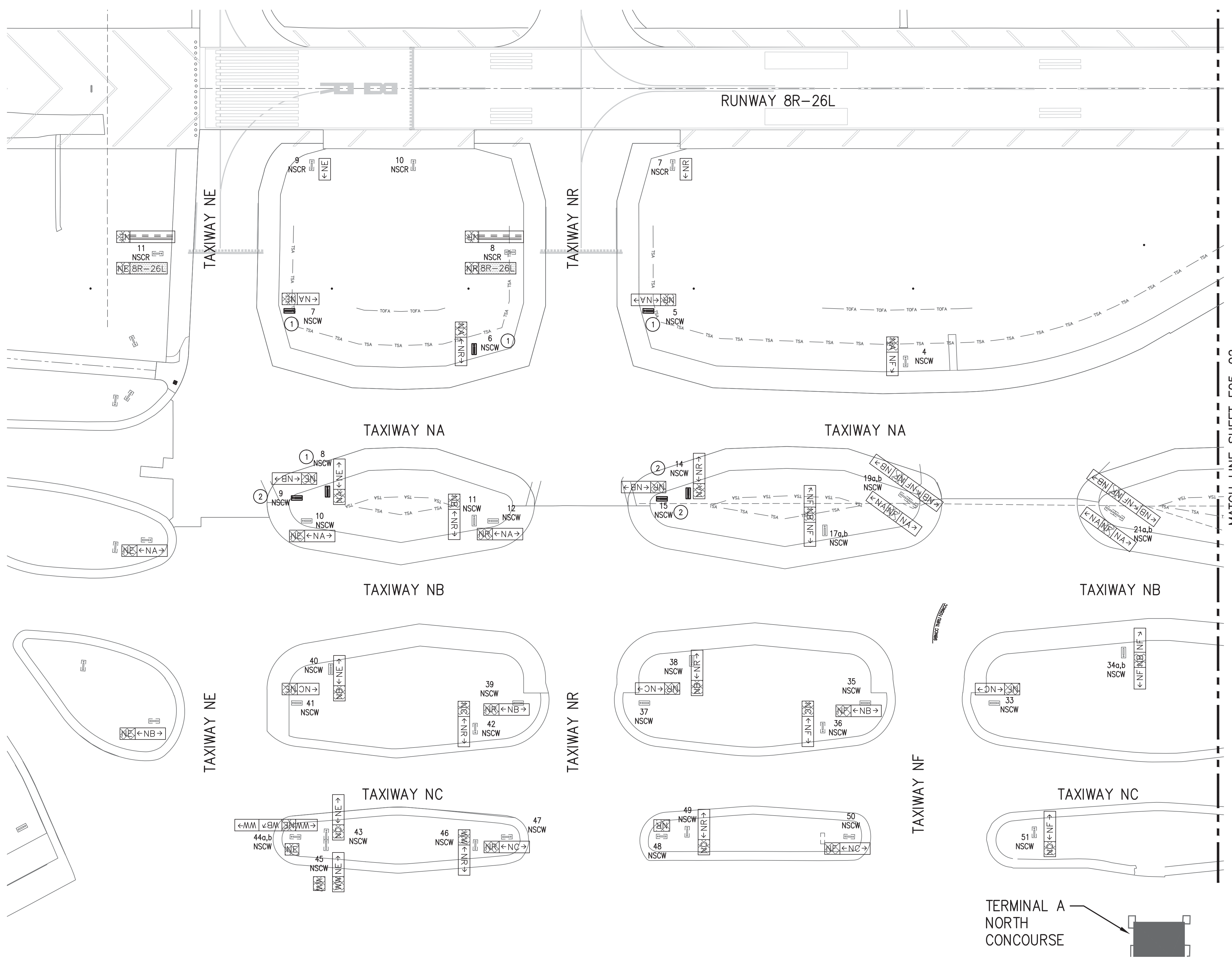


**GENERAL NOTES:**

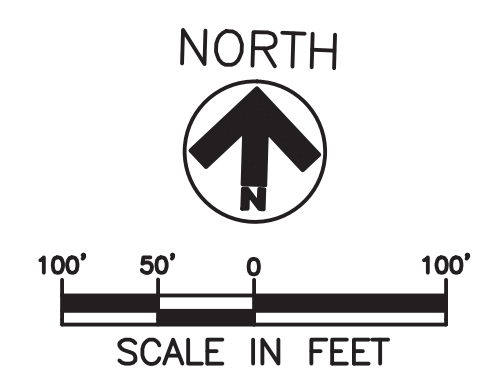
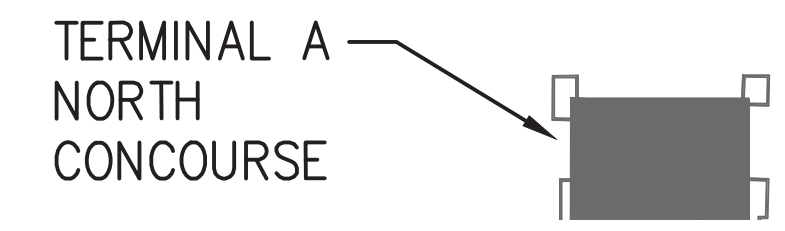
- REFER TO SHEET E01-01 FOR ELECTRICAL SYMBOL LEGEND, C1 SERIES CONSTRUCTION SEQUENCING AND CIVIL DRAWINGS FOR COMPLETE COORDINATION.
- REFER TO THE E08 SERIES FOR THE SIGNAGE SCHEDULES.
- COORDINATE WORK WITH LOCAL FAA FIELD REPRESENTATIVE, ELECTRIC SHOP AND OPERATIONS.
- ALL SIGNS SHOWN ARE IN THE SIGNAGE PROJECT LIMITS AND UTILIZE EXISTING TAG ID. CONTRACTOR TO RENUMBER AND PROVIDE NEW SIGN TAGS FOR ALL SIGNS SHOWN. SIGN TAG TO BE SEQUENTIAL ORIGINATING AT START OF CIRCUIT AND STOPPING AT END OF CIRCUIT USING THE FOLLOWING FORMAT:  
 XXNSCY  
 DENOTES SIGN CKT (ie. E,W)  
 DENOTES 1 OR 2 DIGIT SEQUENTIAL NUM (ie. 8,9,10,11)

**KEYED NOTES:**

- PROVIDE NEW SIGN OR SIGN MODIFICATIONS AS NOTED ON THE SIGNAGE SCHEDULE ON E08-01 AND E08-02.
- INSTALL SALVAGED SIGN ON NEW SIGN PAD.



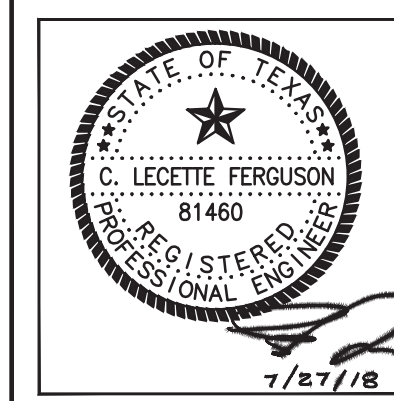
MATCH LINE SHEET E05-02



REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD ELECTRICAL  
 SIGNAGE LEGEND PLANS  
 TAXIWAY 'NA'

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

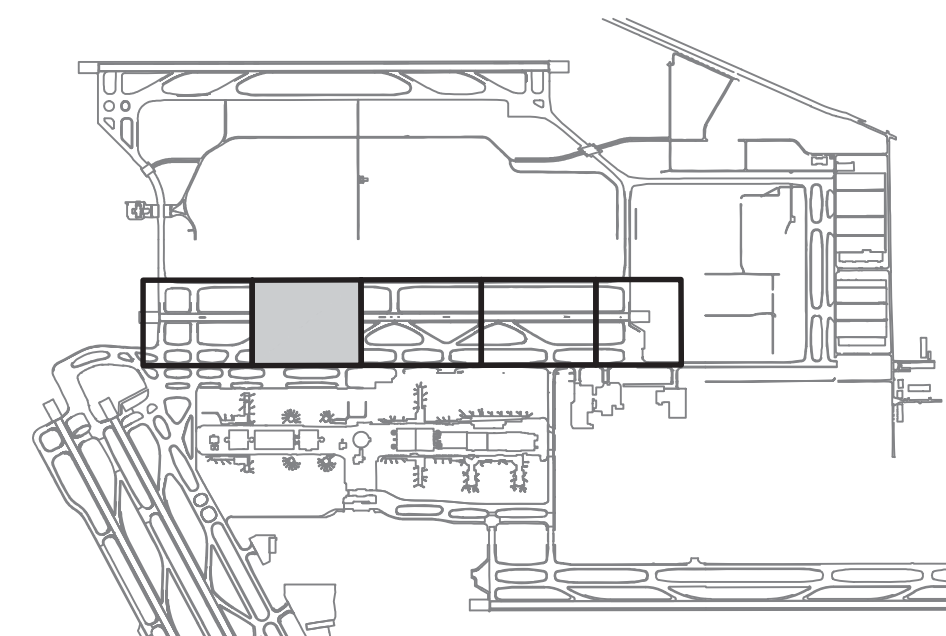
**E05-01**





REVISIONS

NO.	DESCRIPTION	DATE	BY



**GENERAL NOTES:**

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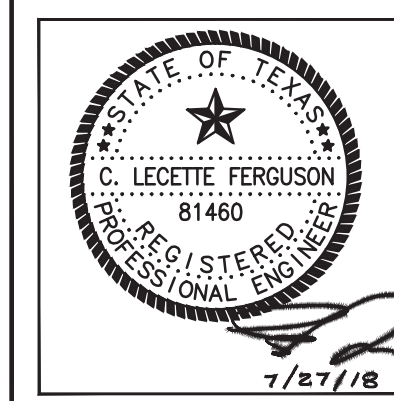
**KEYED NOTES:**

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- INSTALL SALVAGED SIGN ON NEW SIGN PAD.

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD ELECTRICAL  
 SIGNAGE LEGEND PLANS  
 TAXIWAY 'NA'

ISSUED FOR BID

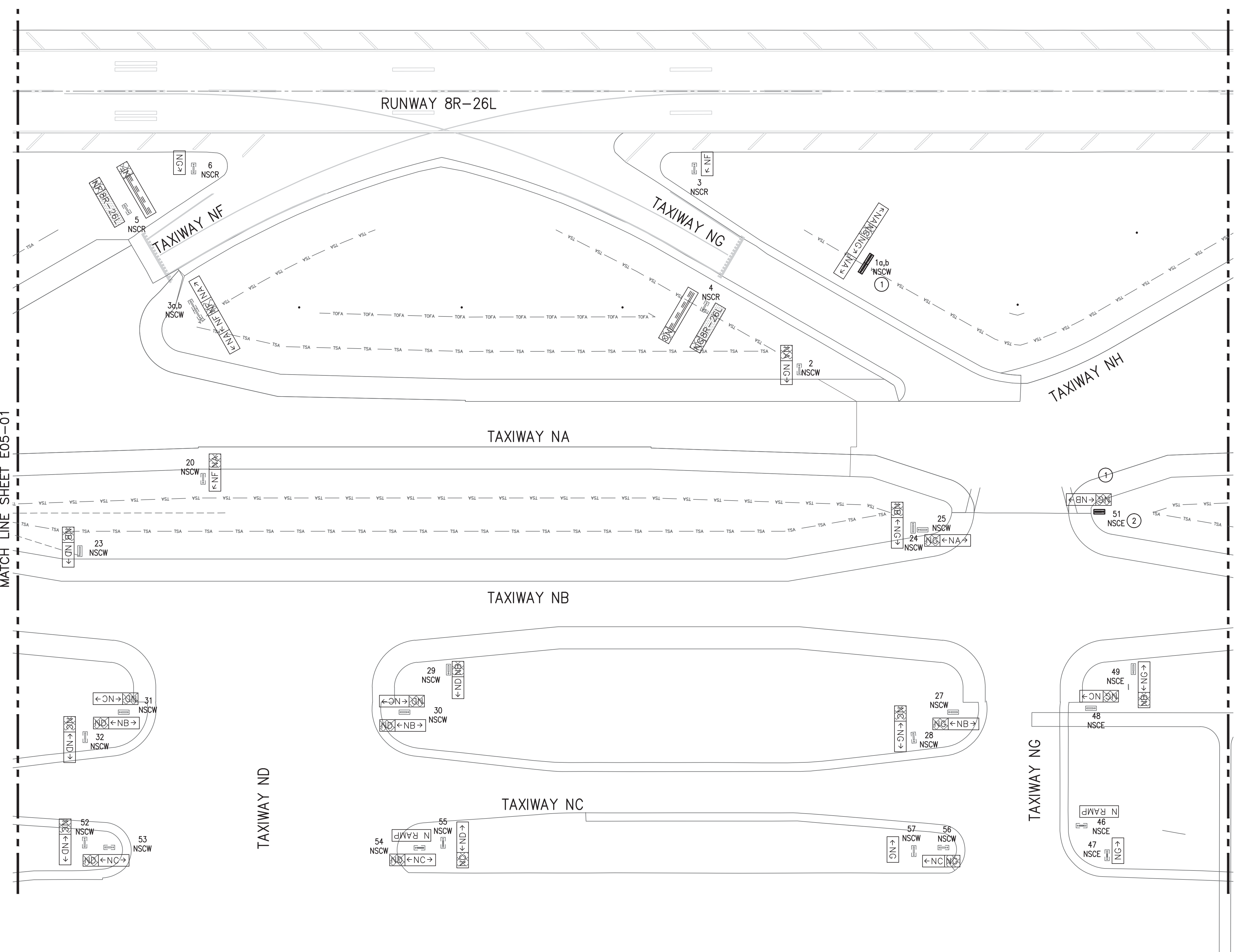
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

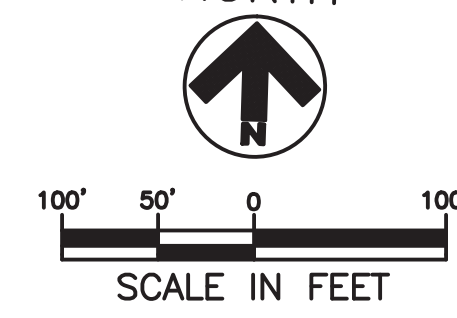
E05-02



MATCH LINE SHEET E05-01

MATCH LINE SHEET E05-03

NORTH

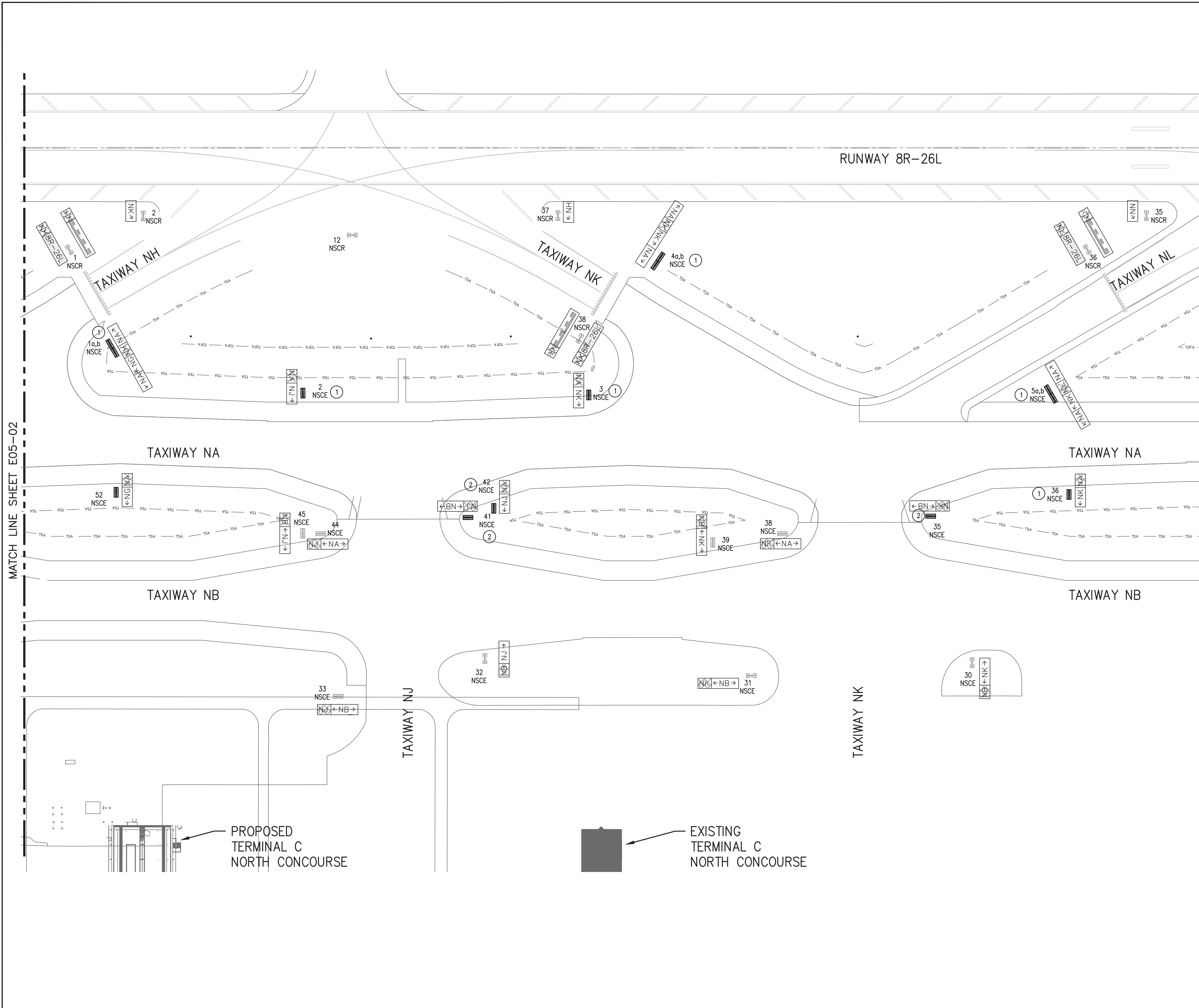
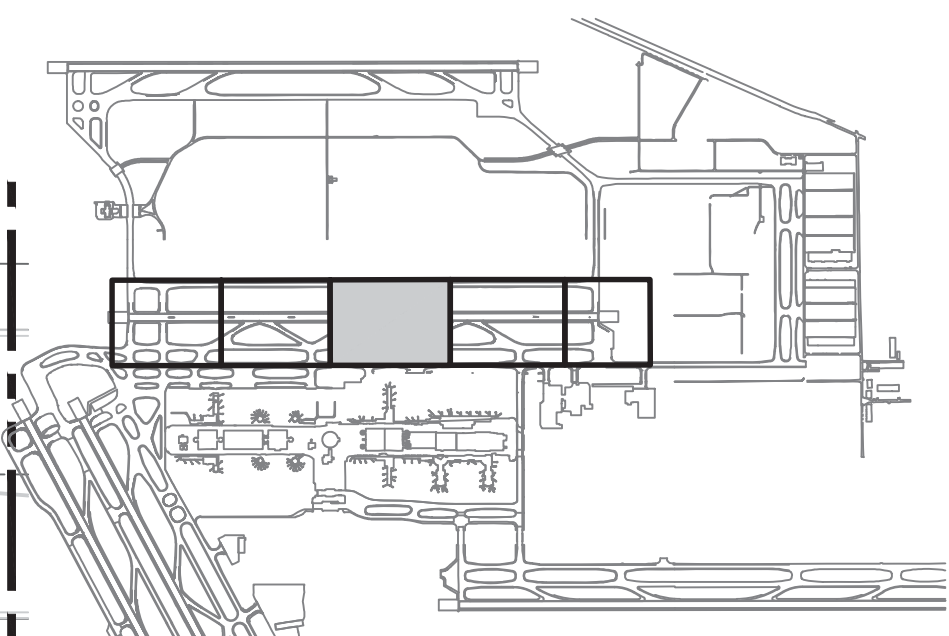






REVISIONS

NO.	DESCRIPTION	DATE	BY



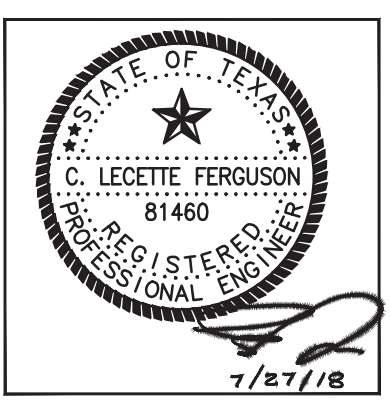
- GENERAL NOTES:**
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  - REFER TO THE E08 SERIES FOR THE SIGNAGE SCHEDULES.
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 DENOTES SIGN CKT (ie. E,W)  
 DENOTES 1 OR 2 DIGIT SEQUENTIAL NUM (ie. 8,9,10,11)

- KEYED NOTES:**
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  - INSTALL SALVAGED SIGN ON NEW SIGN PAD.

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD ELECTRICAL SIGNAGE LEGEND PLANS**  
 TAXIWAY 'NA'

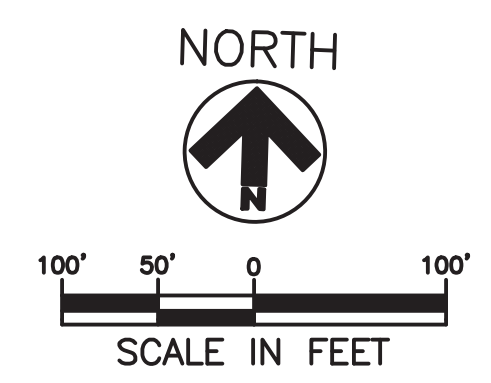
ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.



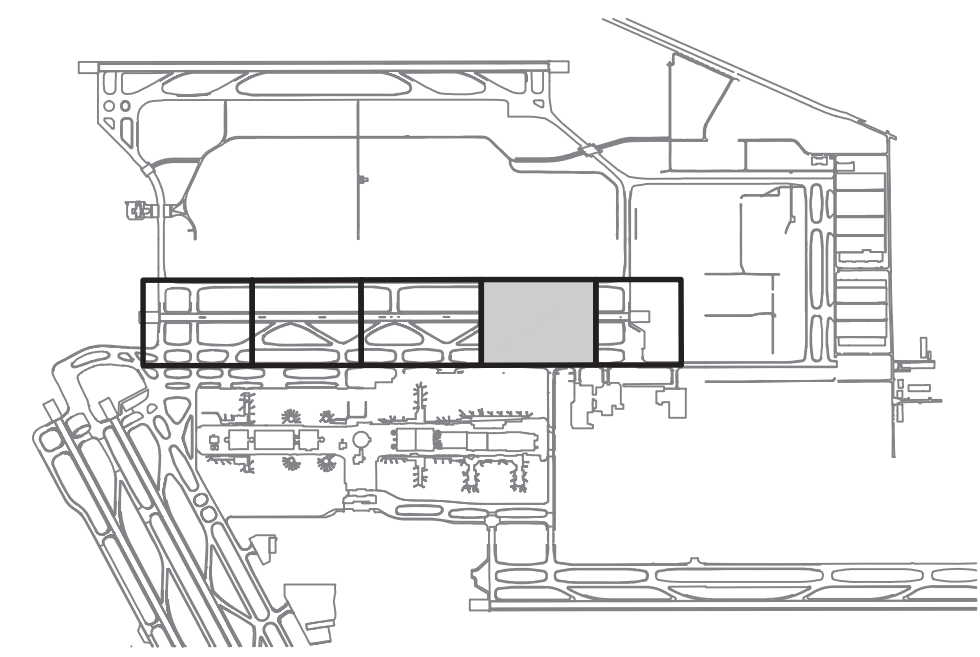
**E05-03**





REVISIONS

NO.	DESCRIPTION	DATE	BY



**GENERAL NOTES:**

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 DENOTES SIGN CKT (ie. E,W)  
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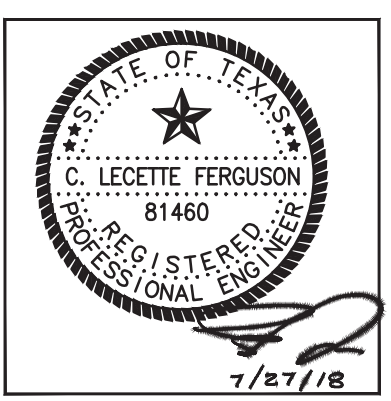
**KEYED NOTES:**

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- INSTALL SALVAGED SIGN ON NEW SIGN PAD.

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD ELECTRICAL  
 SIGNAGE LEGEND PLANS  
 TAXIWAY 'NA'

ISSUED FOR BID

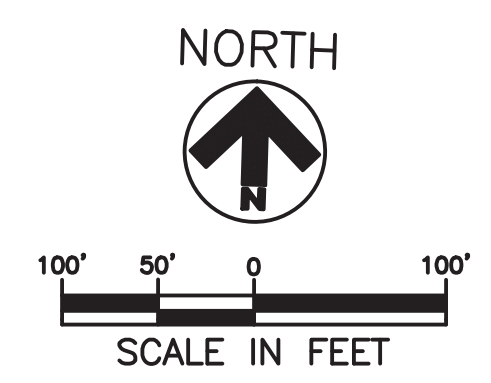
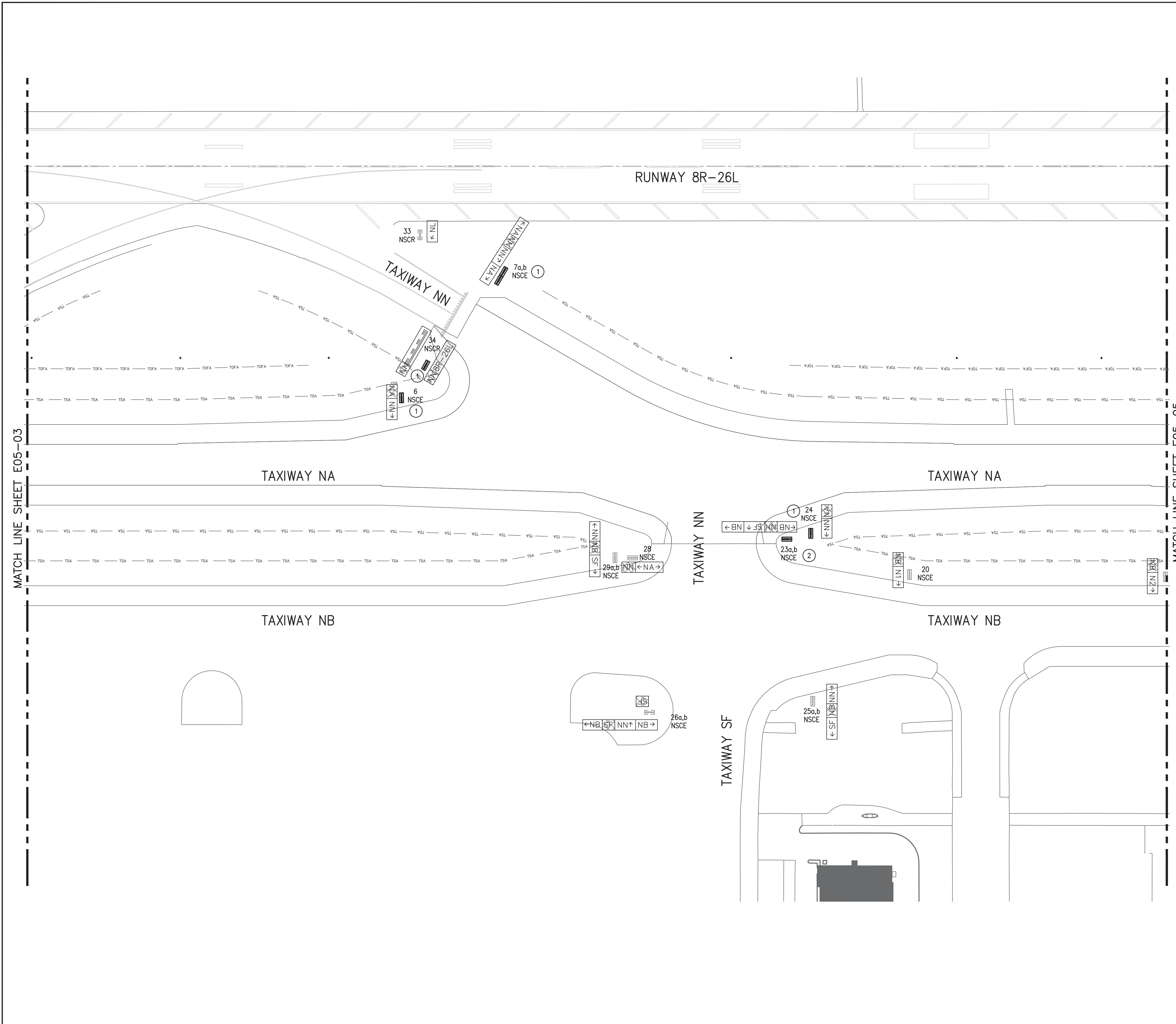
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

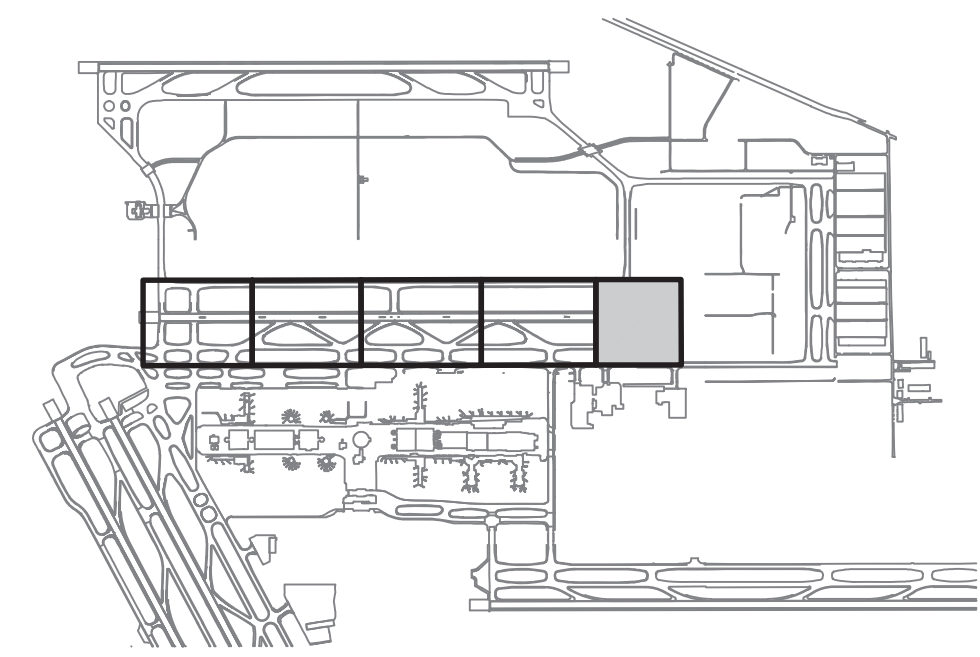
E05-04







REVISIONS			
NO.	DESCRIPTION	DATE	BY

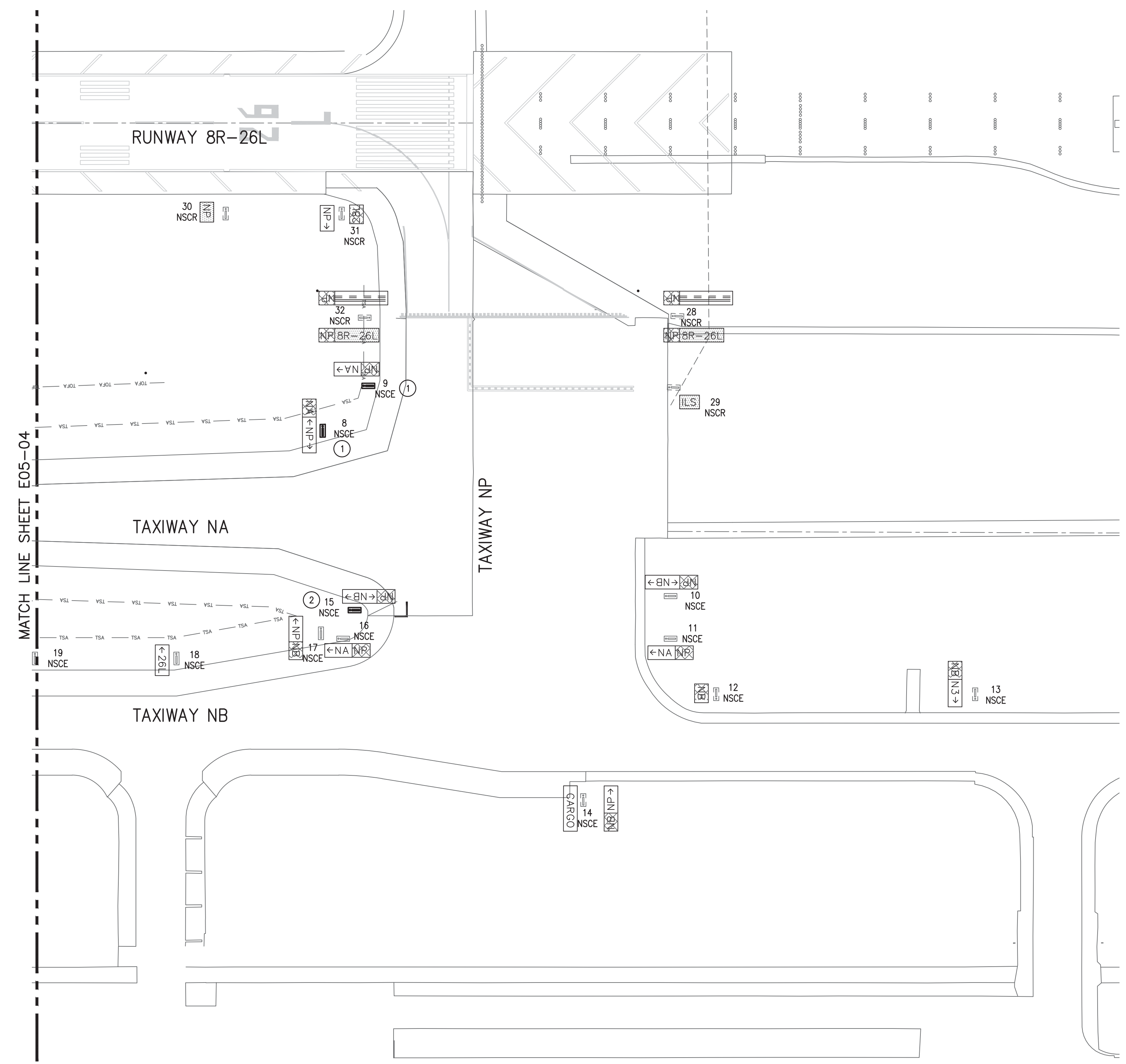


**GENERAL NOTES:**

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 DENOTES 1 OR 2 DIGIT SEQUENTIAL NUM (ie. 8,9,10,11)

**KEYED NOTES:**

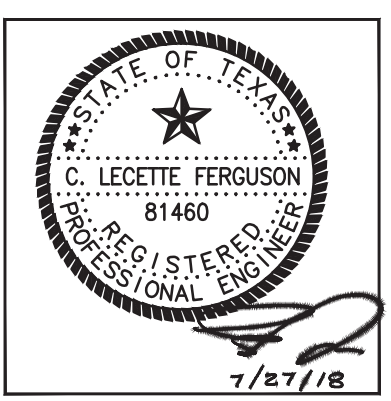
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- INSTALL SALVAGED SIGN ON NEW SIGN PAD.



REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD ELECTRICAL  
 SIGNAGE LEGEND PLANS  
 TAXIWAY 'NA'

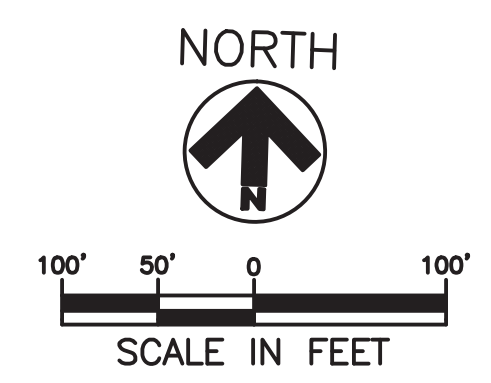
**ISSUED FOR BID**

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



**E05-05**



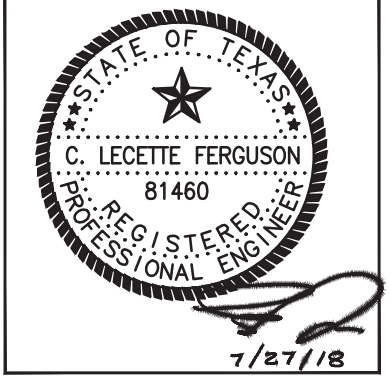
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W 'NA' EDGE (TNAE)  
 CIRCUIT PLAN**

ISSUED FOR BID

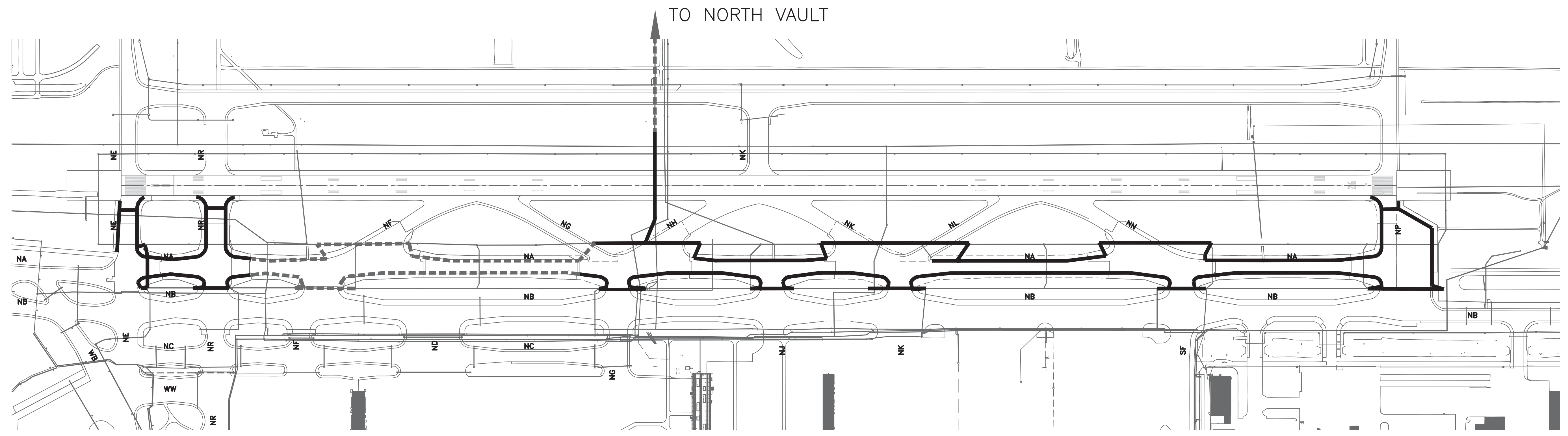
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E06-01

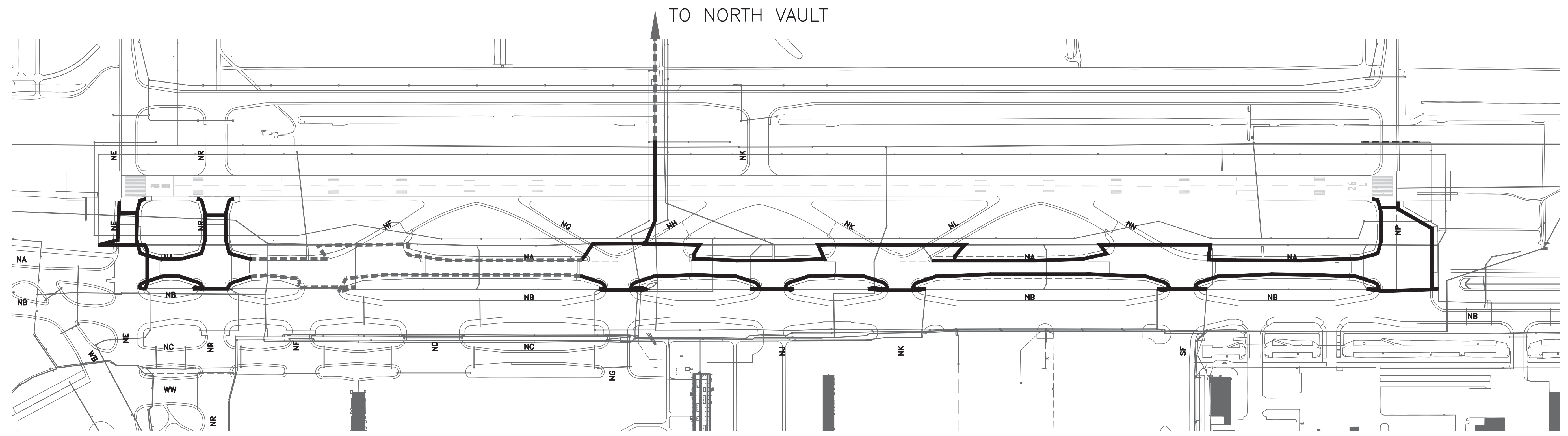


**1 TAXIWAY CIRCUIT 'NA' EDGE (TNAE) - EXISTING**  
 E06-01 SCALE: 1"=400'-0"



**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- - - EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT 'NA' EDGE (TNAE) - PROPOSED**  
 E06-01 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- - - EXISTING CIRCUIT

**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-861T	231	15W/EA	3,465
5KV CABLE	40,200	3W/100LF	1,206
<b>TOTAL LOAD</b>			<b>4,651</b>



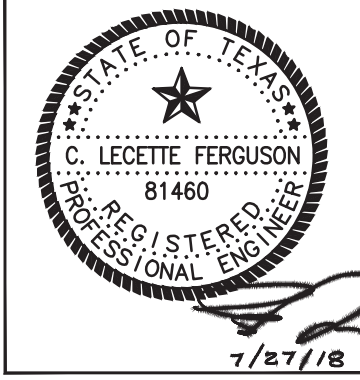
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W 'NA' CENTERLINE WEST (TNAC1)  
 CIRCUIT PLAN**

ISSUED FOR BID

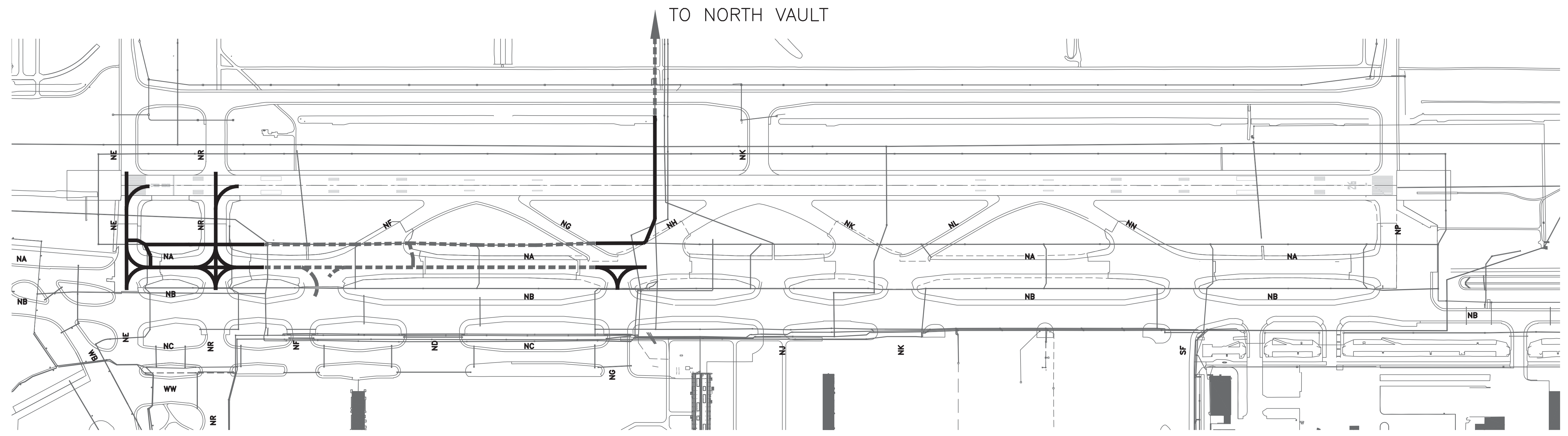
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E06-02

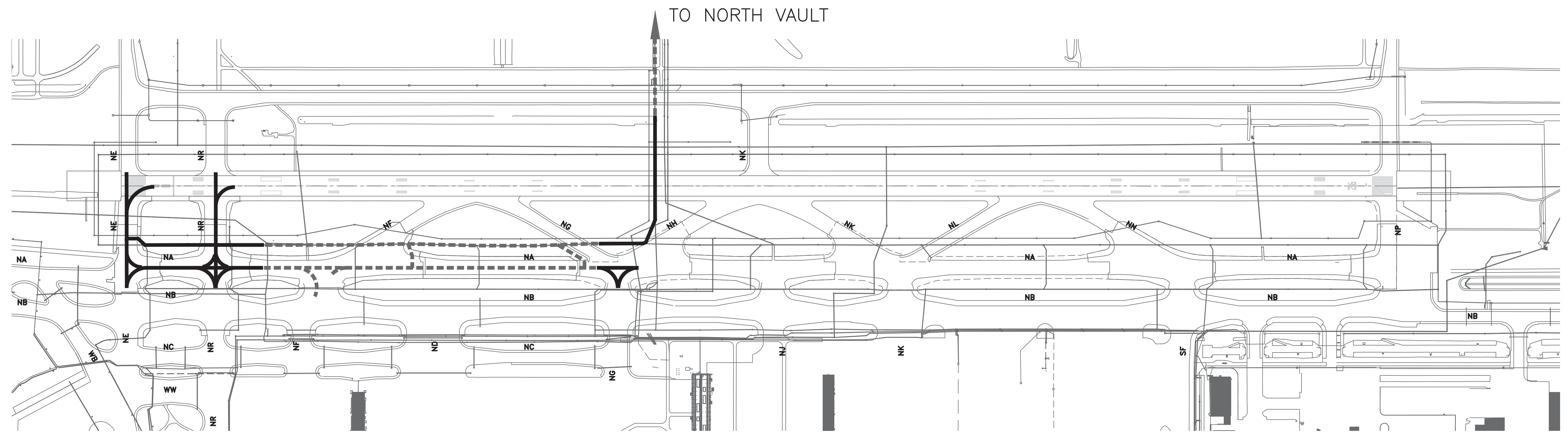


**1 TAXIWAY CIRCUIT 'NA' CENTERLINE WEST (TNAC1) - EXISTING**  
 E06-02 SCALE: 1"=400'-0"



**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT 'NA' CENTERLINE WEST (TNAC1) - PROPOSED**  
 E06-02 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- EXISTING CIRCUIT

LOAD ESTIMATE			
ITEM	QTY	LOAD	TOTAL (W)
L-852C UNI	30	15W/EA	450
L-852C BI	119	20W/EA	2,380
L-852K BI	104	30W/EA	3,120
5KV CABLE	25,700	3W/100LF	771
<b>TOTAL LOAD</b>			<b>6,721</b>



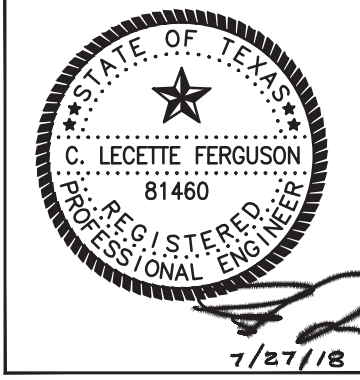
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W 'NA' CENTERLINE EAST (TNAC2)  
 CIRCUIT PLAN**

ISSUED FOR BID

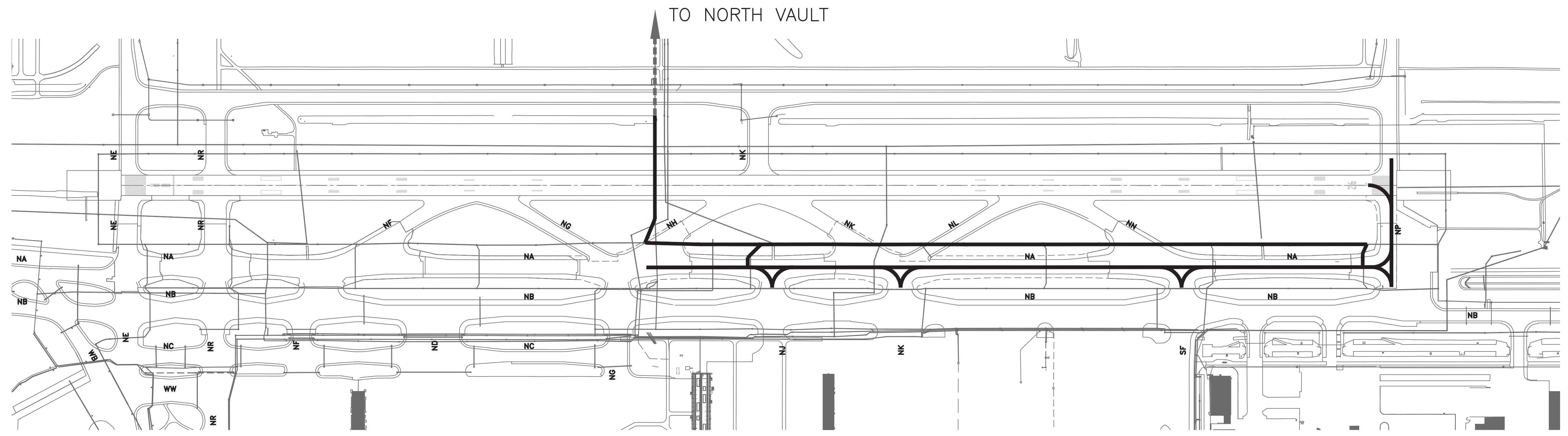
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

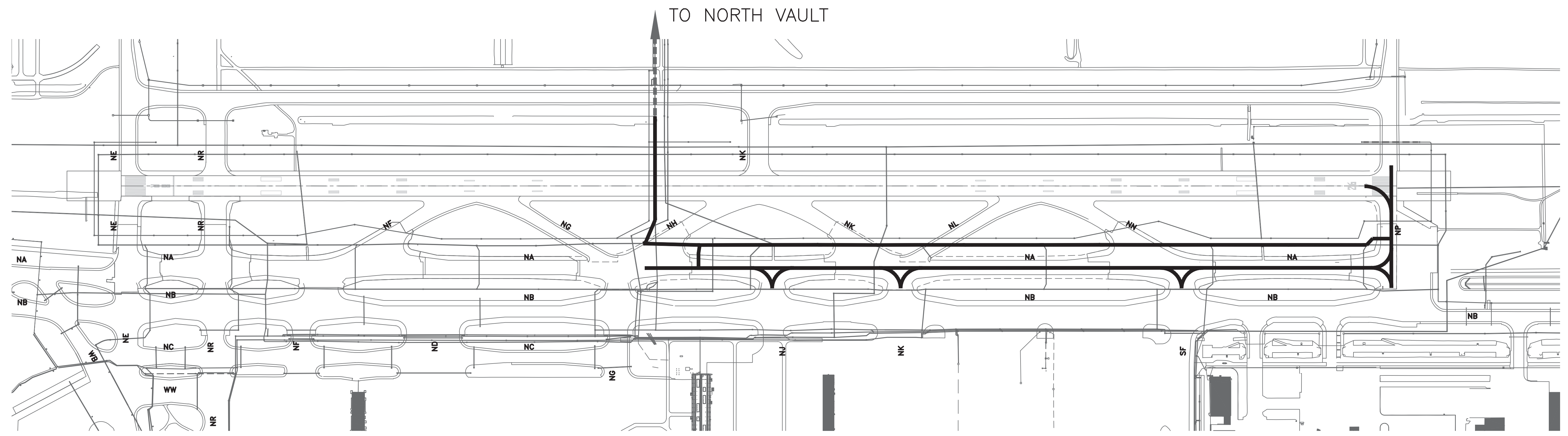
E06-03



**1 TAXIWAY CIRCUIT 'NA' CENTERLINE EAST (TNAC2) - EXISTING**  
 E06-03 SCALE: 1"=400'-0"

**SYMBOL LEGEND (EXIST):**

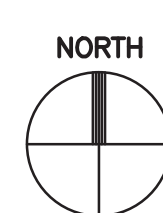
- REMOVE EXISTING CIRCUIT
- - - EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT 'NA' CENTERLINE EAST (TNAC2) - PROPOSED**  
 E06-03 SCALE: 1"=400'-0"

**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- - - EXISTING CIRCUIT



**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-852C UNI	36	15W/EA	540
L-852C BI	136	20W/EA	2,720
L-852K BI	83	30W/EA	4,490
5KV CABLE	27,800	3W/100LF	834
<b>TOTAL LOAD</b>			<b>8,584</b>

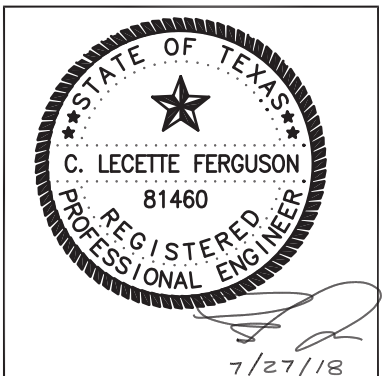




REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W HSE EDGE WEST (FHLE)  
 CIRCUIT PLAN**

ISSUED FOR BID

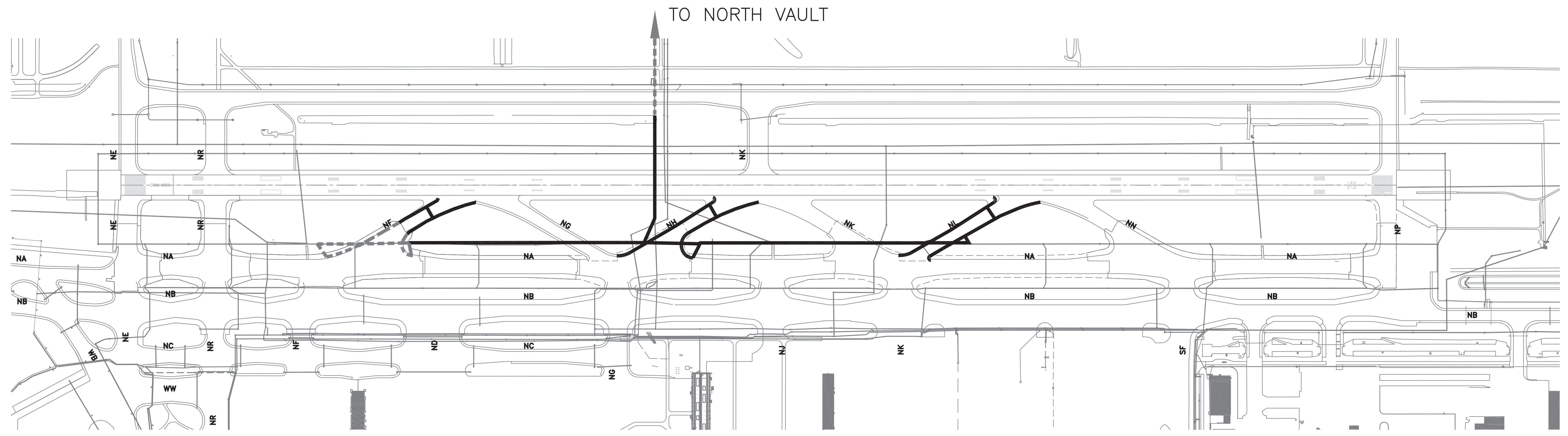
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 DESIGNER: RSF  
 DRAWN BY: RSF  
 CHECKED BY: CLF  
 SCALE: 1" = 400'  
 DATE: 07/27/2018



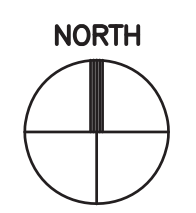
DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Palmer*  
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 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

E06-04

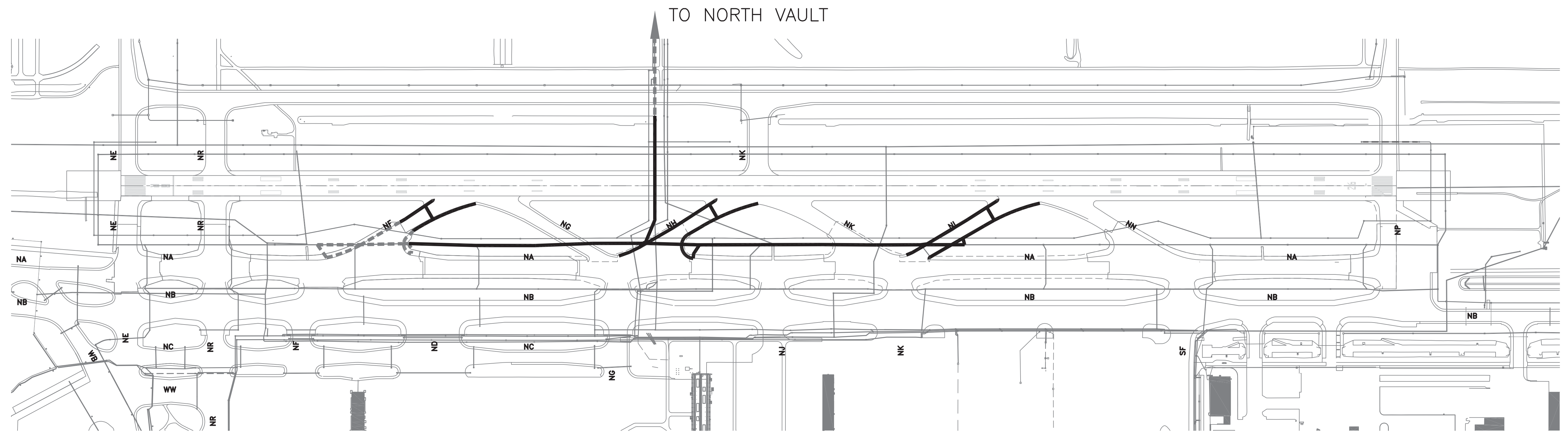


**1 TAXIWAY CIRCUIT HSE EDGE WEST (FHLE) - EXISTING**  
 E06-04 SCALE: 1"=400'-0"

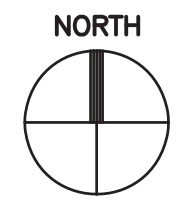


**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- - - EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT HSE EDGE WEST (FHLE) - PROPOSED**  
 E06-04 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- - - EXISTING CIRCUIT

**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-861T	74	15W/EA	1,110
5KV CABLE	26,600	3W/100LF	798
<b>TOTAL LOAD</b>			<b>1,908</b>



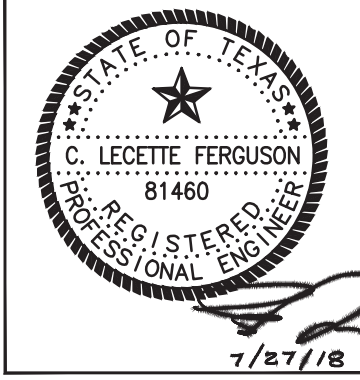
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 NORTH HSE CENTERLINE WEST (FHLC)  
 CIRCUIT PLAN**

ISSUED FOR BID

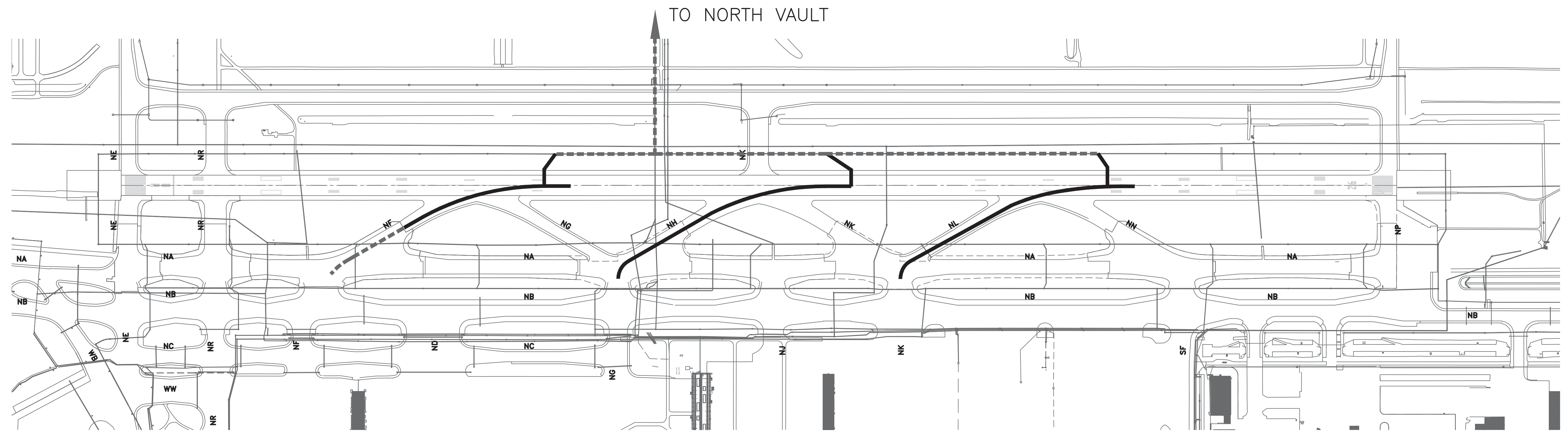
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



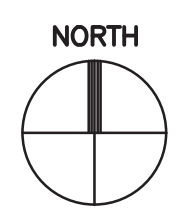
DEPARTMENT OF AVIATION  
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PROJECT NO.	0907
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SHEET NO.	

E06-05

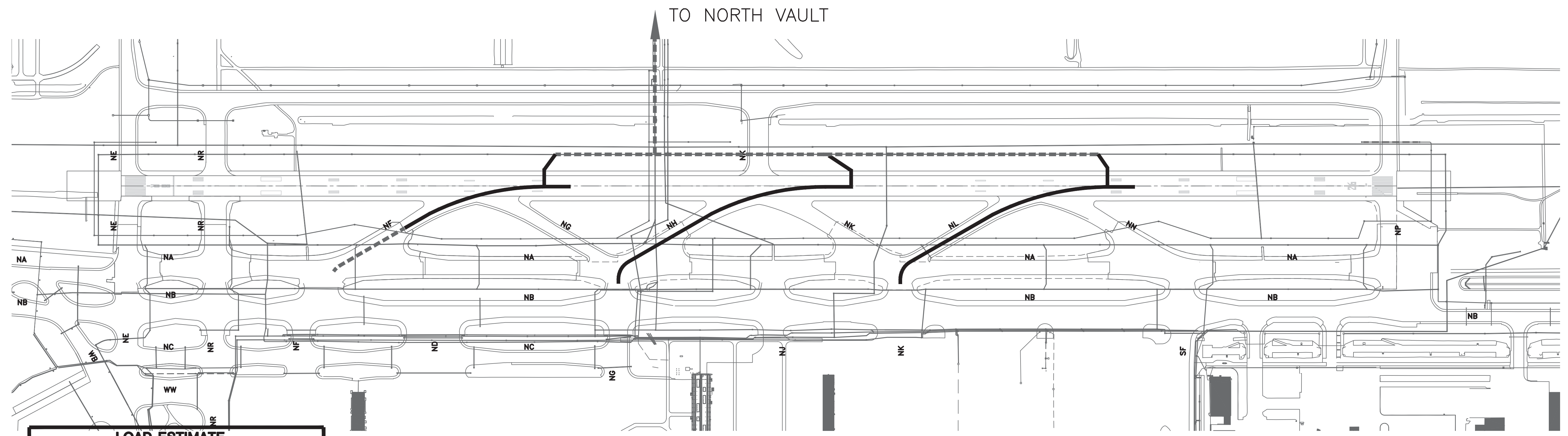


**1 NORTH HSE CENTERLINE CIRCUIT WEST (FHLC) - EXISTING**  
 E06-05 SCALE: 1"=400'-0"



**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- EXISTING CIRCUIT TO REMAIN



**2 NORTH HSE CENTERLINE CIRCUIT WEST (FHLC) - PROPOSED**  
 E06-05 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- EXISTING CIRCUIT

**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-852C UNI	98	15W/EA	1,470
L-852K UNI	8	25W/EA	200
L-852C BI	14	20W/EA	280
L-852K BI	6	30W/EA	180
5KV CABLE	31,200	3W/100LF	936
<b>TOTAL LOAD</b>			<b>3,066</b>





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 THE WOODLANDS, TEXAS 77380  
 (281) 252-9232 FAX No. F-6864

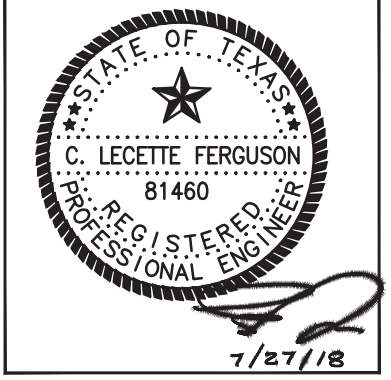
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W HSE EDGE EAST (GKNE)  
 CIRCUIT PLAN**

ISSUED FOR BID

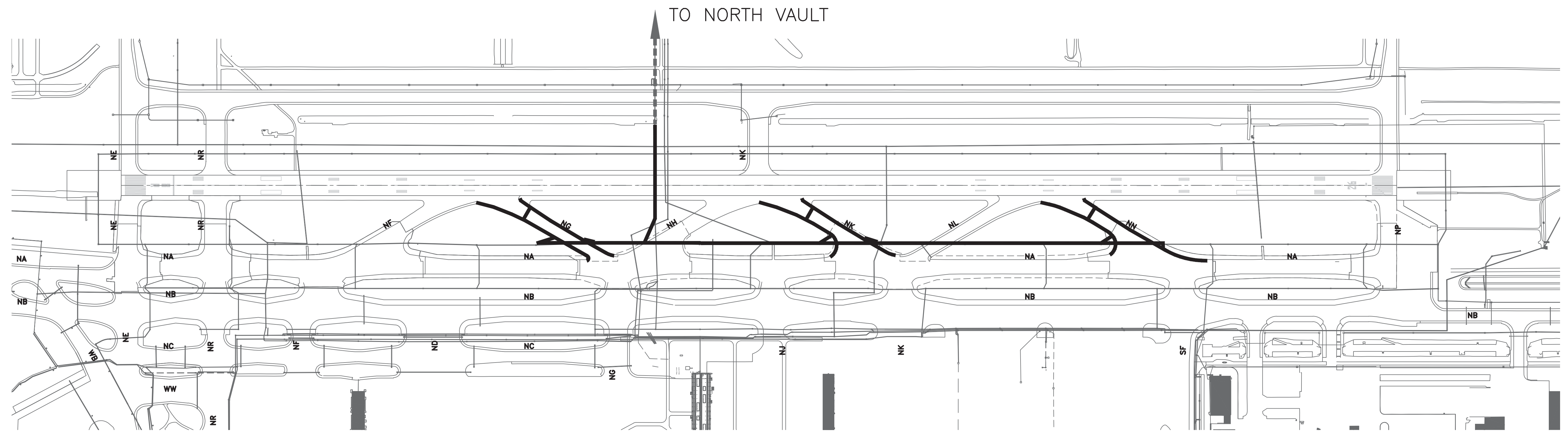
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



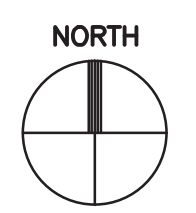
DEPARTMENT OF AVIATION  
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PROJECT NO.	0907
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H.A.S. NO.	
SHEET NO.	

E06-06

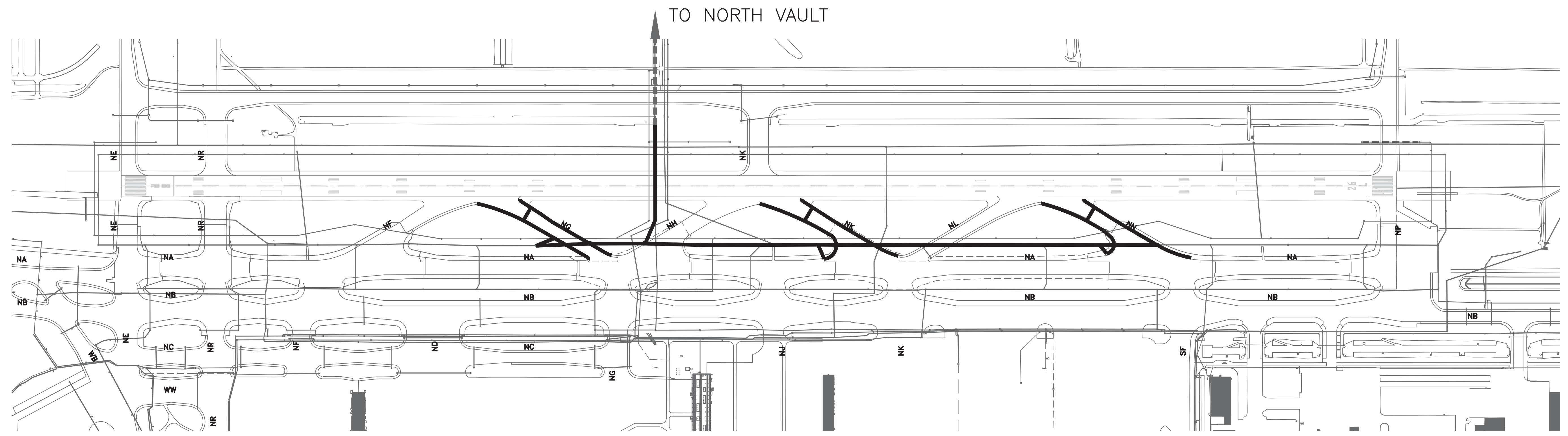


**1 TAXIWAY CIRCUIT HSE EDGE EAST (GKNE) - EXISTING**  
 E06-06 SCALE: 1"=400'-0"



**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT HSE EDGE EAST (GKNE) - PROPOSED**  
 E06-06 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- EXISTING CIRCUIT

**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-861T	73	15W/EA	1,095
5KV CABLE	26,400	3W/100LF	792
<b>TOTAL LOAD</b>			<b>1,887</b>





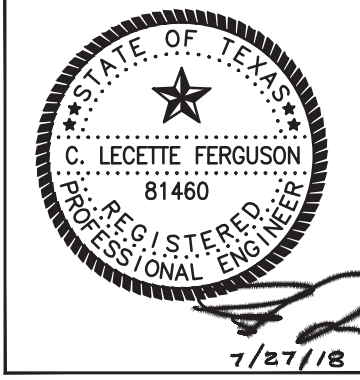
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 NORTH HSE CENTERLINE EAST (GKNC)  
 CIRCUIT PLAN**

ISSUED FOR BID

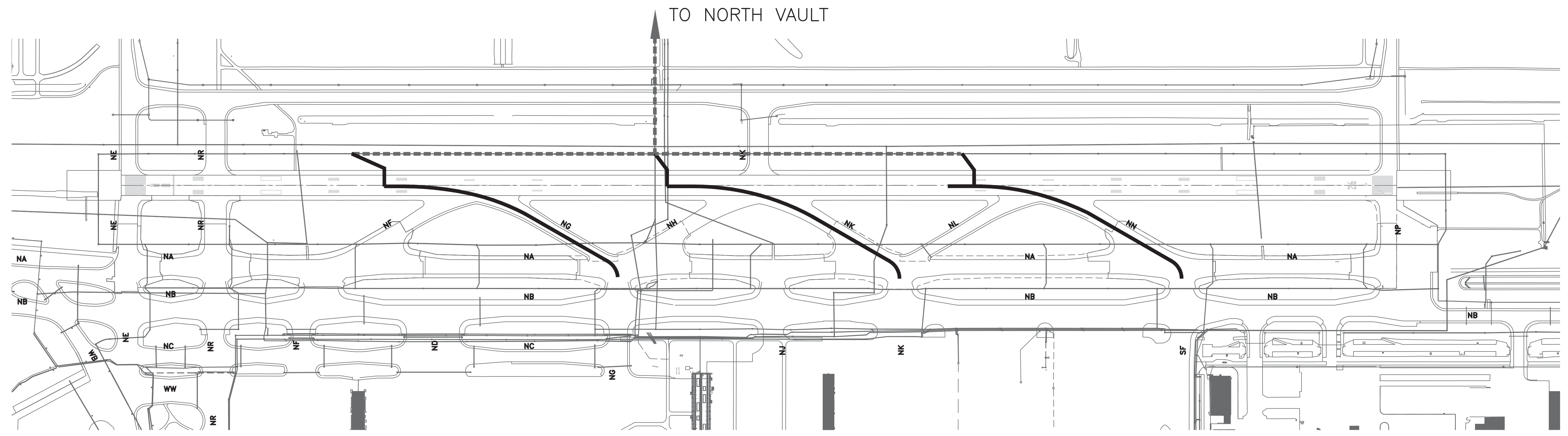
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



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PROJECT NO.	0907
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H.A.S. NO.	
SHEET NO.	

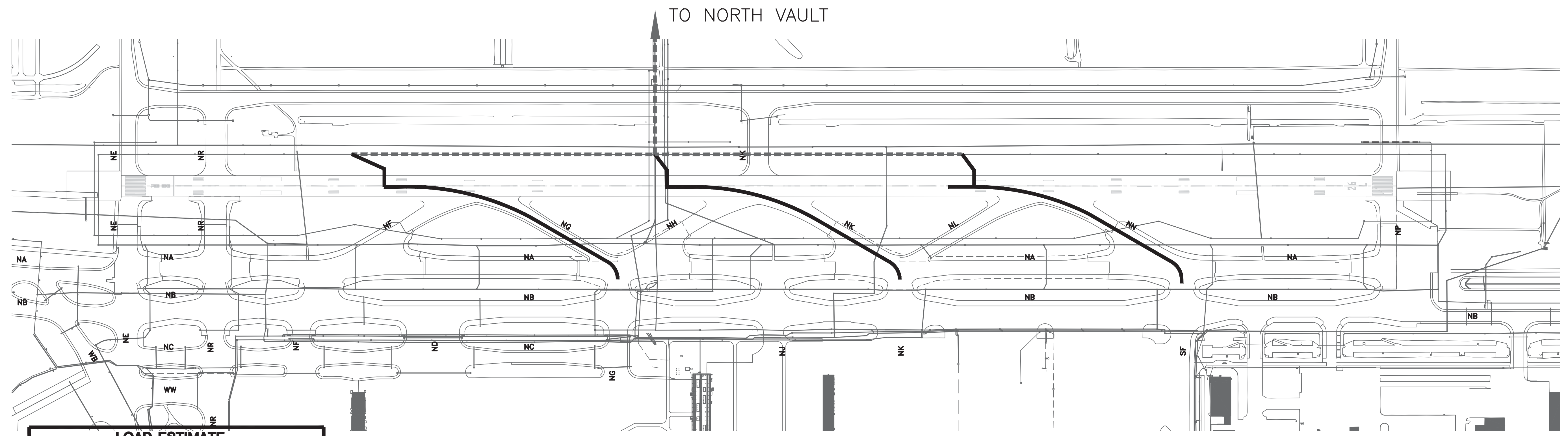
E06-07



**1 NORTH HSE CENTERLINE CIRCUIT EAST (GKNC) - EXISTING**  
 E06-07 SCALE: 1"=400'-0"

**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- EXISTING CIRCUIT TO REMAIN



**2 NORTH HSE CENTERLINE CIRCUIT EAST (GKNC) - PROPOSED**  
 E06-07 SCALE: 1"=400'-0"

**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- EXISTING CIRCUIT

**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-852C UNI	97	15W/EA	1,455
L-852K UNI	12	25W/EA	300
L-852C BI	13	20W/EA	260
L-852K BI	6	30W/EA	180
5KV CABLE	32,300	3W/100LF	969
<b>TOTAL LOAD</b>			<b>3,164</b>



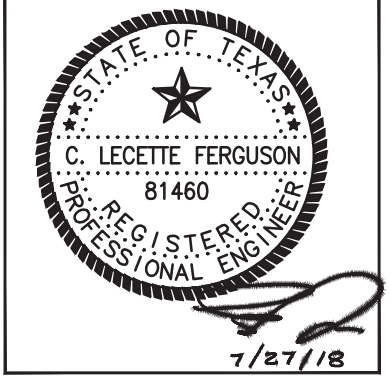
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W 'NC' EDGE (NCE)  
 CIRCUIT PLAN**

ISSUED FOR BID

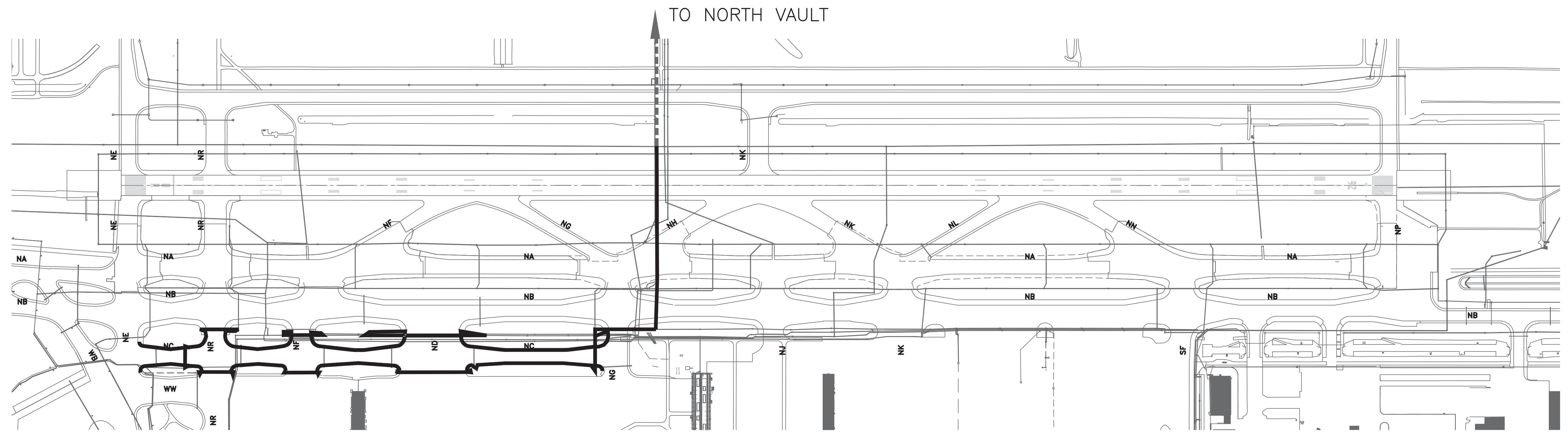
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



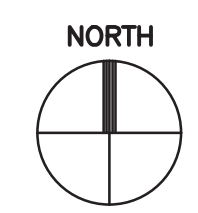
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PROJECT NO.	0907
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H.A.S. NO.	
SHEET NO.	

E06-08

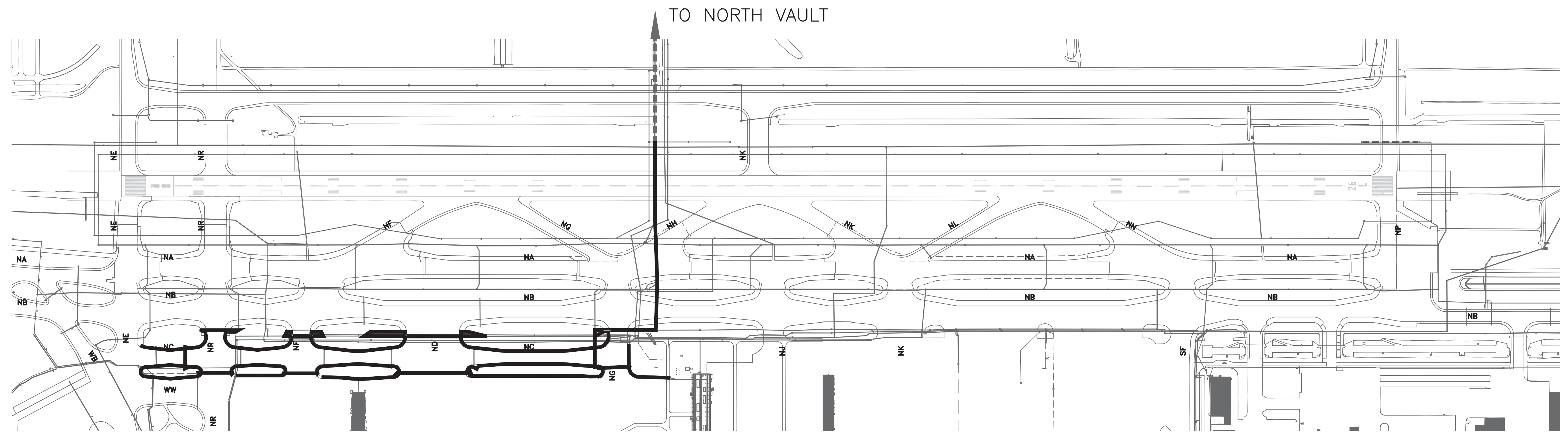


**1 TAXIWAY CIRCUIT 'NC' EDGE (NCE) - EXISTING**  
 E06-08 SCALE: 1"=400'-0"

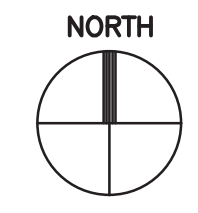


**SYMBOL LEGEND (EXIST):**

	REMOVE EXISTING CIRCUIT
	EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT 'NC' EDGE (NCE) - PROPOSED**  
 E06-08 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

	NEW CIRCUIT
	EXISTING CIRCUIT

**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-861T	139	15W/EA	2,085
5KV CABLE	30,100	3W/100LF	903
<b>TOTAL LOAD</b>			<b>2,988</b>





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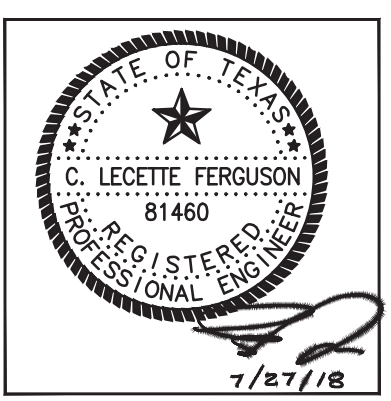
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W 'NC' CENTERLINE (NCC)  
 CIRCUIT PLAN**

ISSUED FOR BID

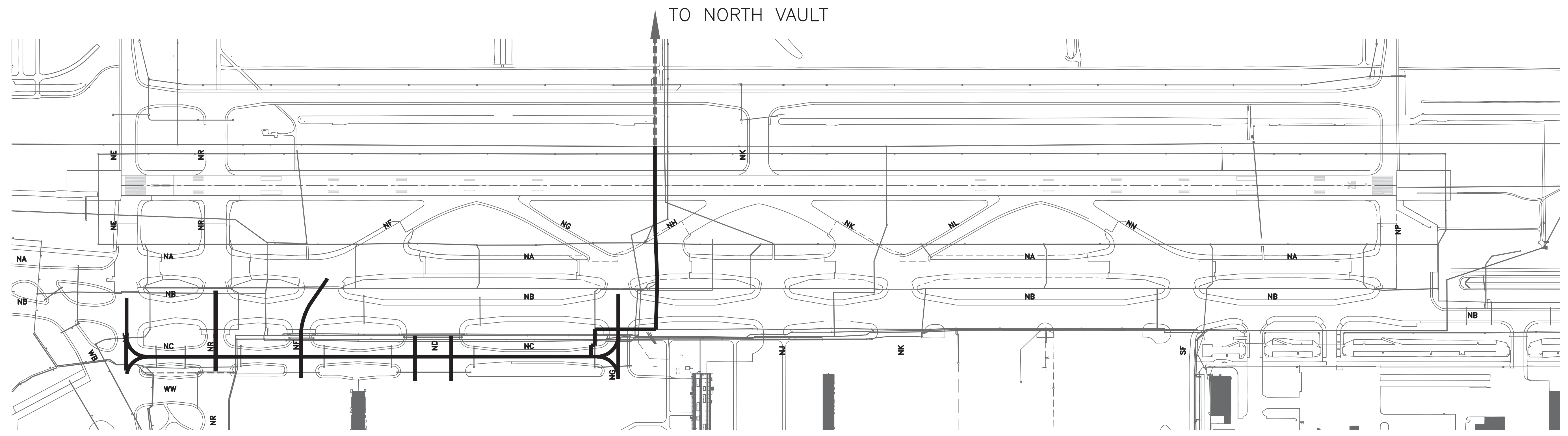
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



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PROJECT NO.	0907
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H.A.S. NO.	
SHEET NO.	

E06-09

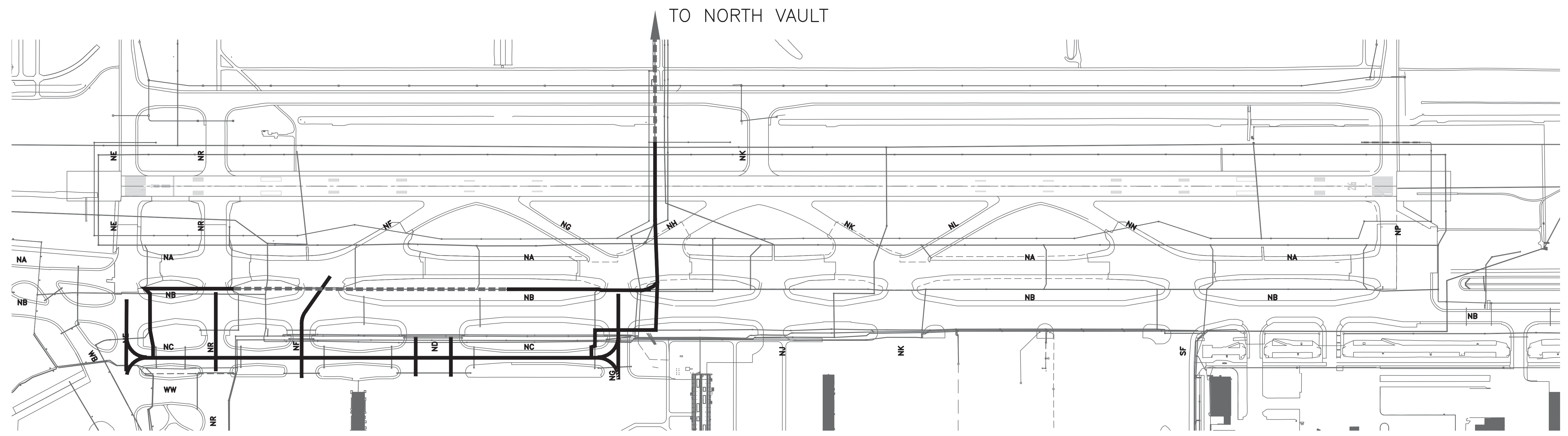


**1 TAXIWAY CIRCUIT 'NC' CENTERLINE (NCC) - EXISTING**  
 E06-09 SCALE: 1"=400'-0"



**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT 'NC' CENTERLINE (NCC) - PROPOSED**  
 E06-09 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- EXISTING CIRCUIT

**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-852C UNI	40	15W/EA	600
L-852C BI	100	20W/EA	2,000
L-852K BI	43	30W/EA	1,290
L-852F OMNI	3	120W/EA	360
5KV CABLE	26,900	3W/100LF	807
<b>TOTAL LOAD</b>			<b>5,057</b>





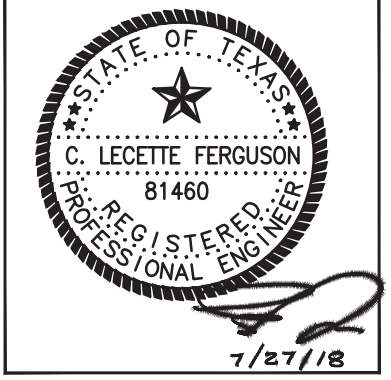
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 8R GUARD LIGHT WEST (8RGL1)  
 CIRCUIT PLAN**

ISSUED FOR BID

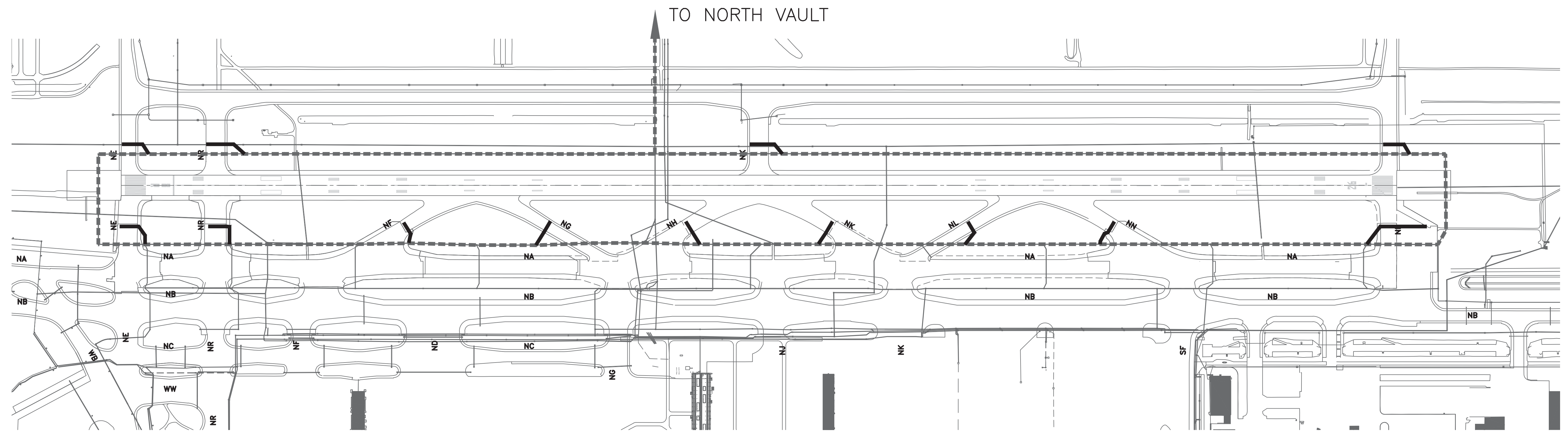
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



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PROJECT NO.	0907
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SHEET NO.	

E06-10

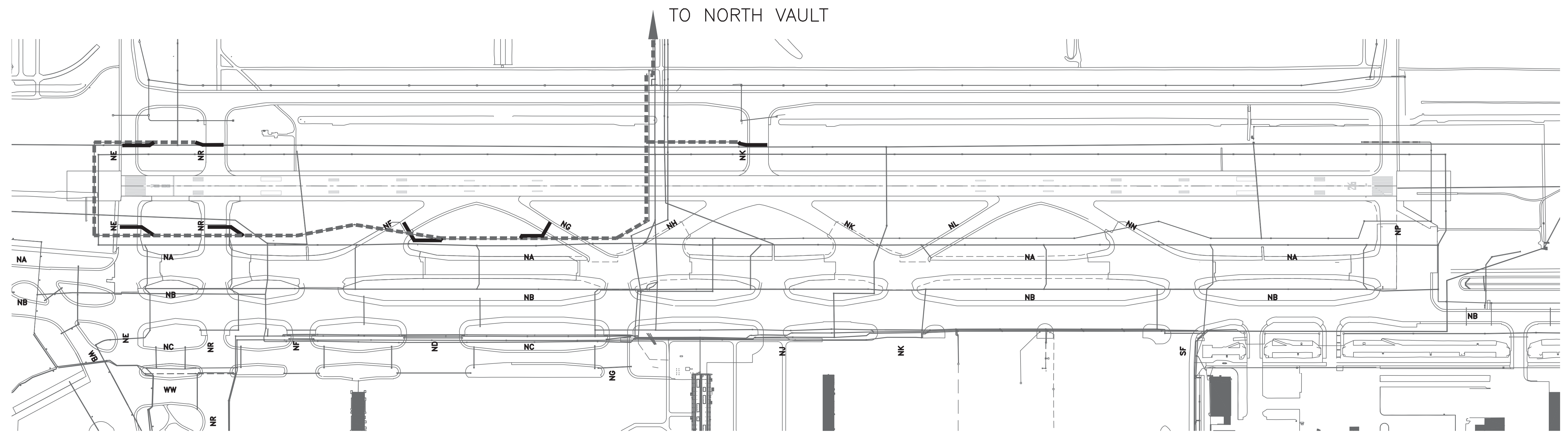


**1 8R GUARD LIGHT CIRCUIT (8RGL) - EXISTING**  
 E06-10 SCALE: 1"=400'-0"



**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- - - EXISTING CIRCUIT TO REMAIN



**2 8R GUARD LIGHT CIRCUIT WEST (8RGL1) - PROPOSED**  
 E06-10 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- - - EXISTING CIRCUIT

**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-852G	79	65W/EA	5,135
5KV CABLE	25,800	3W/100LF	774
<b>TOTAL LOAD</b>			<b>5,909</b>





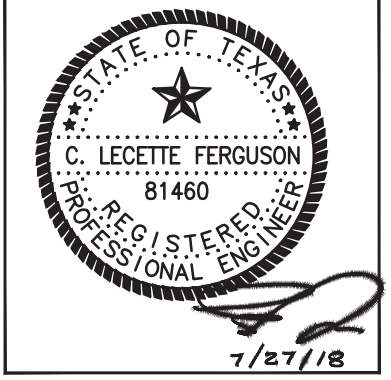
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 8R GUARD LIGHT EAST (8RGL2)  
 CIRCUIT PLAN**

ISSUED FOR BID

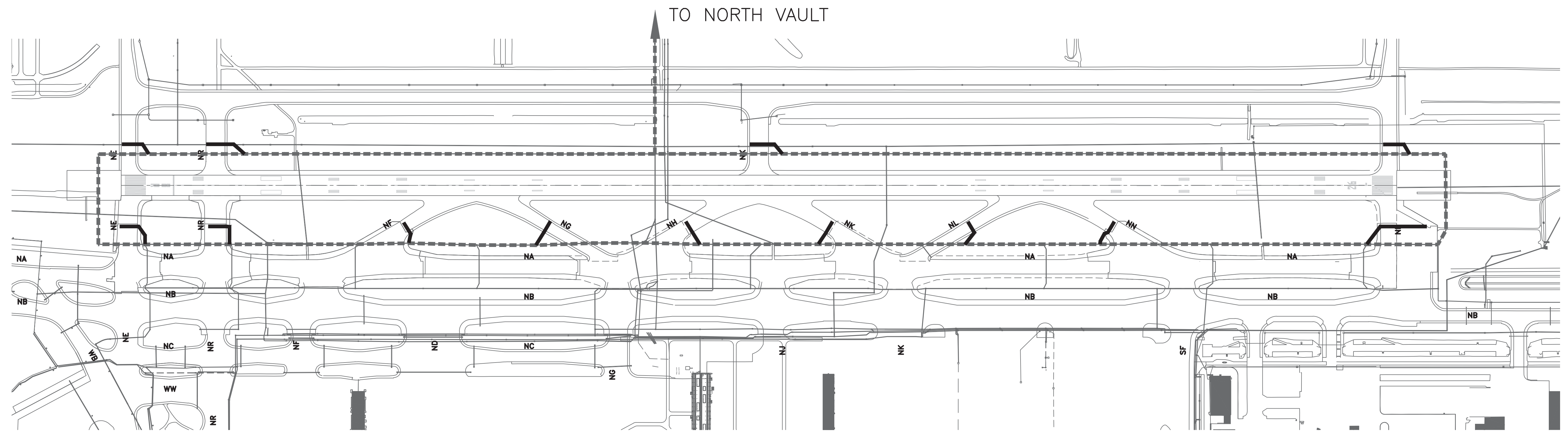
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DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



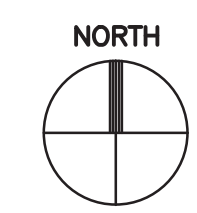
DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
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PROJECT NO.	0907
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H.A.S. NO.	
SHEET NO.	

E06-11

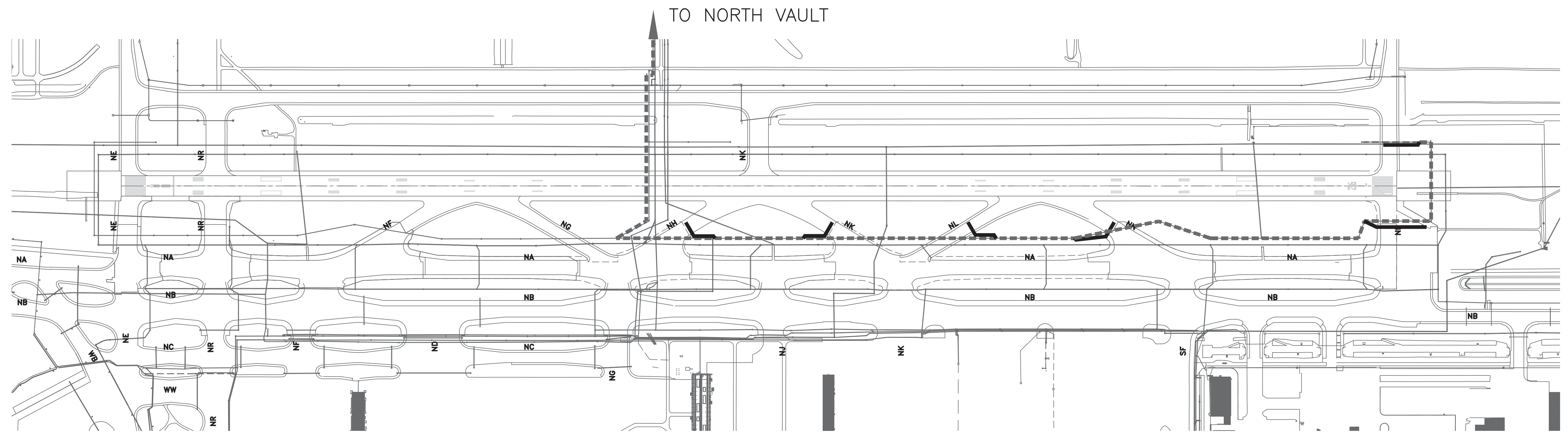


**1 8R GUARD LIGHT CIRCUIT (8RGL) - EXISTING**  
 E06-11 SCALE: 1"=400'-0"

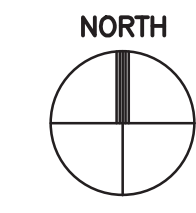


**SYMBOL LEGEND (EXIST):**

	REMOVE EXISTING CIRCUIT
	EXISTING CIRCUIT TO REMAIN



**2 8R GUARD LIGHT CIRCUIT EAST (8RGL2) - PROPOSED**  
 E06-11 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

	NEW CIRCUIT
	EXISTING CIRCUIT

**LOAD ESTIMATE**

ITEM	QTY	LOAD	TOTAL (W)
L-852G	75	65W/EA	4,875
5KV CABLE	31,250	3W/100LF	940
<b>TOTAL LOAD</b>			<b>5,815</b>





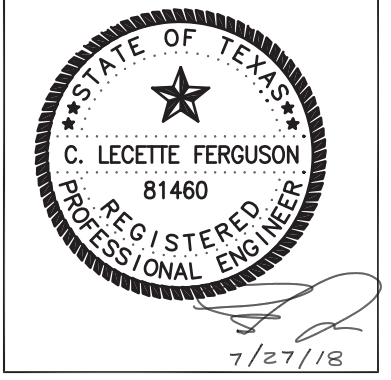
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 NORTH SIGN CIRCUIT WEST (SCW)  
 CIRCUIT PLAN**

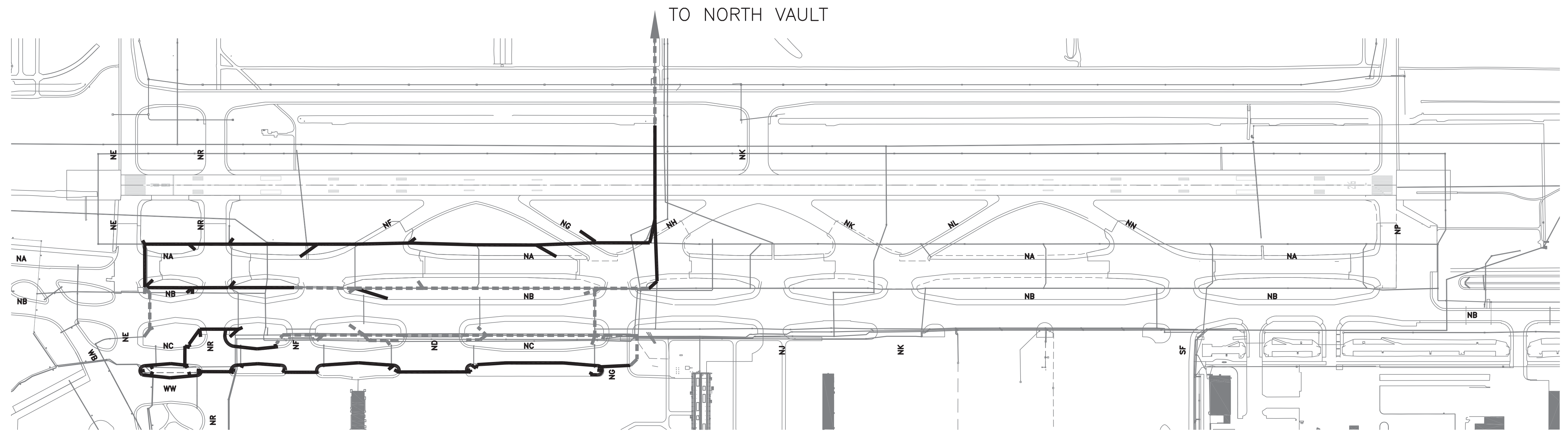
ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
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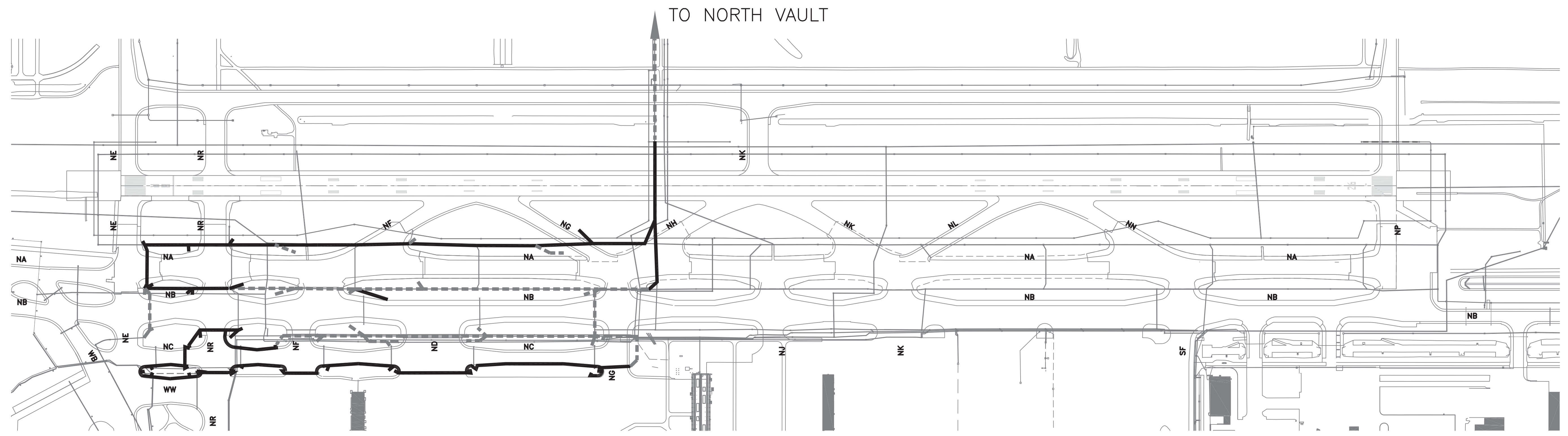
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



**1 NORTH SIGN CIRCUIT WEST (SCW) - EXISTING**  
 E06-12 SCALE: 1"=400'-0" NORTH

**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- - - EXISTING CIRCUIT TO REMAIN



**2 NORTH SIGN CIRCUIT WEST (SCW) - PROPOSED**  
 E06-12 SCALE: 1"=400'-0" NORTH

**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- - - EXISTING CIRCUIT





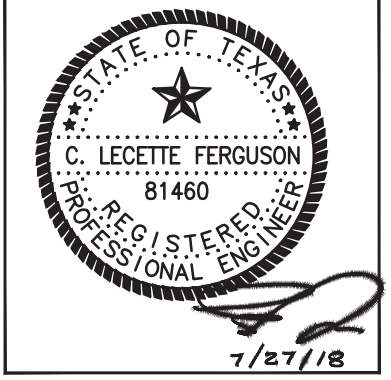
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 NORTH SIGN CIRCUIT EAST (SCE)  
 CIRCUIT PLAN**

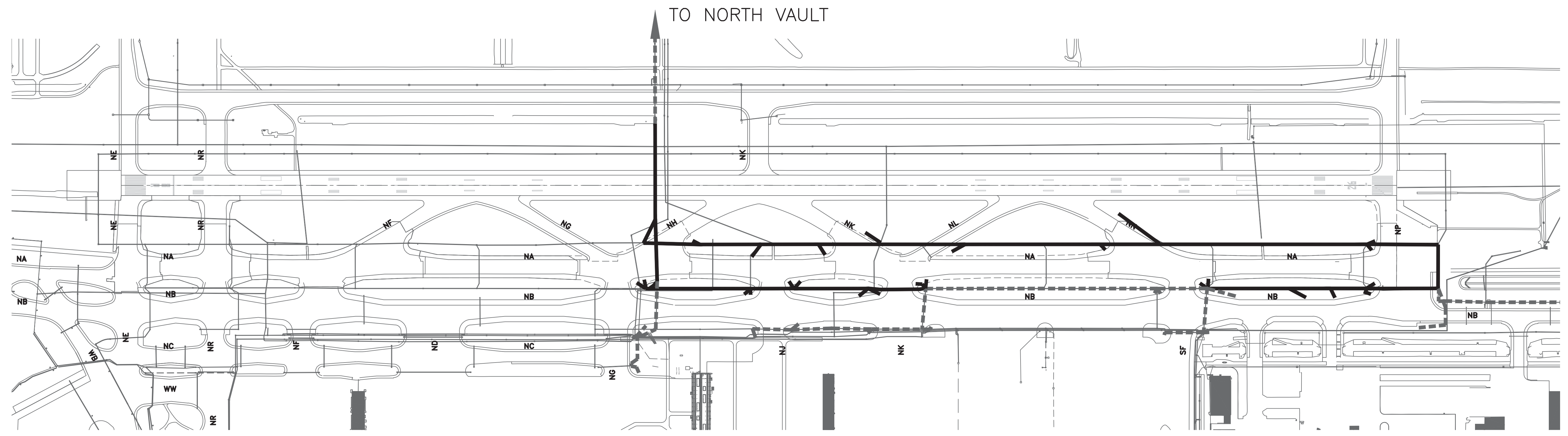
ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018

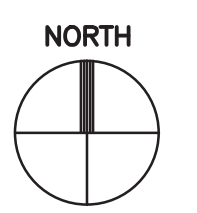


DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

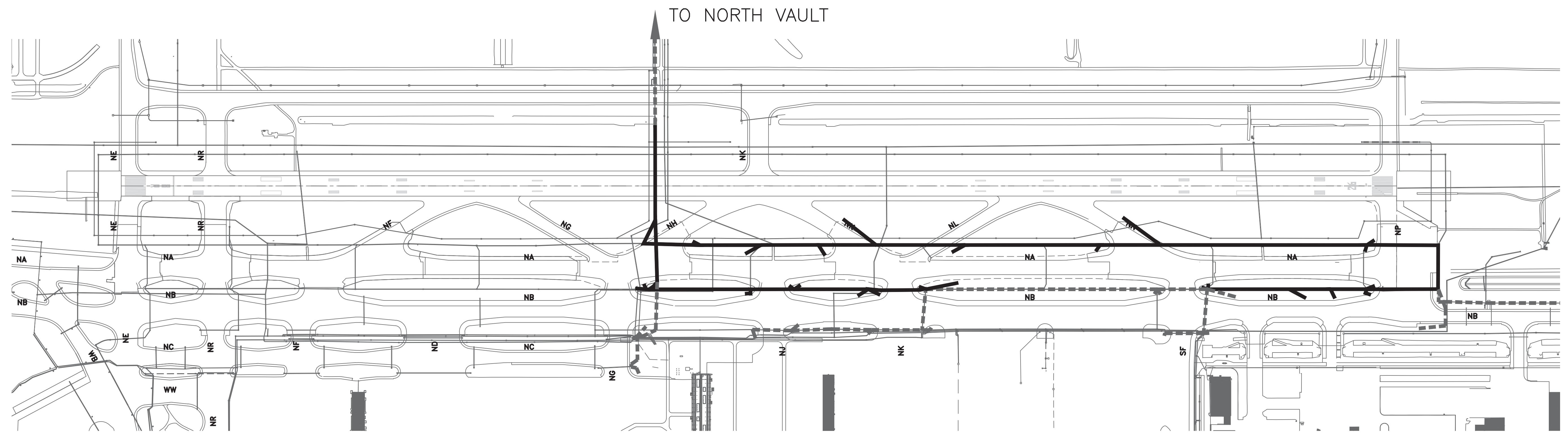


**1 NORTH SIGN CIRCUIT EAST (SCE) - EXISTING**  
 E06-13 SCALE: 1"=400'-0"

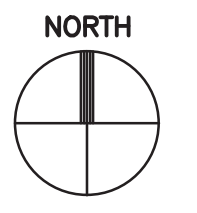


**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- - - EXISTING CIRCUIT TO REMAIN



**2 NORTH SIGN CIRCUIT EAST (SCE) - PROPOSED**  
 E06-13 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- - - EXISTING CIRCUIT



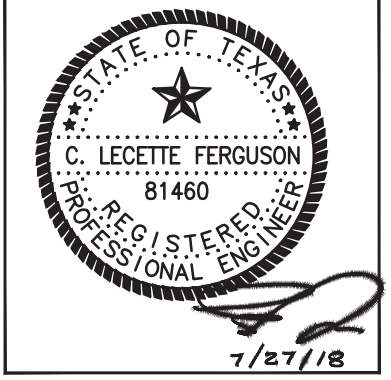


REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W 'NB' EDGE (TNBE)  
 CIRCUIT PLAN**

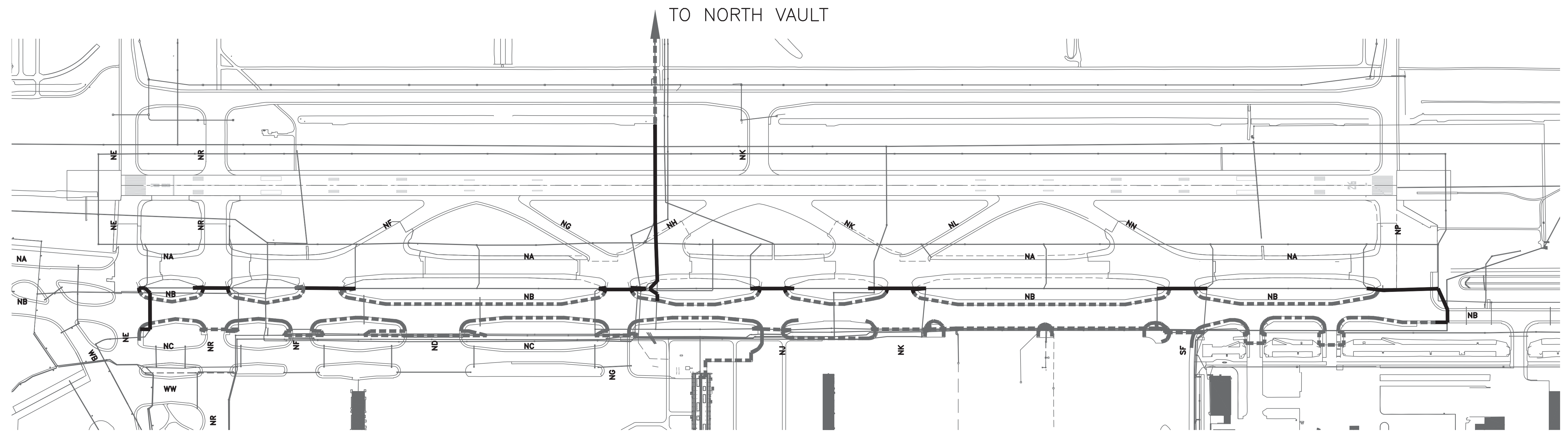
ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

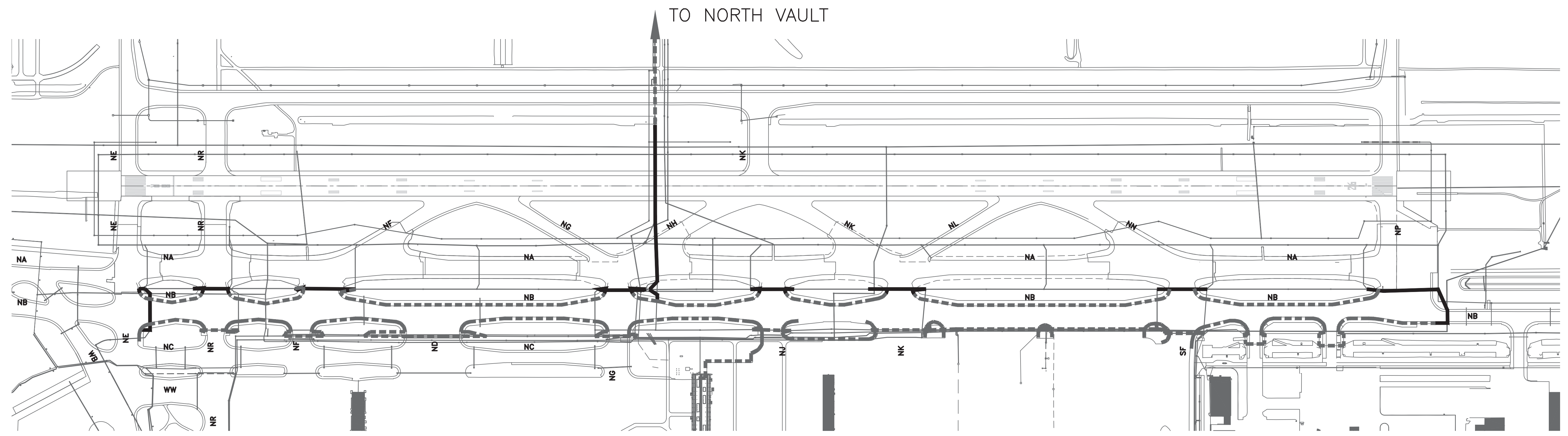


**1 TAXIWAY CIRCUIT 'NB' EDGE (TNBE) - EXISTING**  
 E06-14 SCALE: 1"=400'-0"



**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- - - EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT 'NB' EDGE (TNBE) - PROPOSED**  
 E06-14 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- - - EXISTING CIRCUIT





**Ferguson Consulting**  
 Aviation Specialists for Electrical, Telecommunications and Security Systems  
 FERGUSON CONSULTING, INC.  
 10200 GROGANS MILL RD, SUITE #420  
 THE WOODLANDS, TEXAS 77380  
 (281) 252-9232 FAX No. F-6864

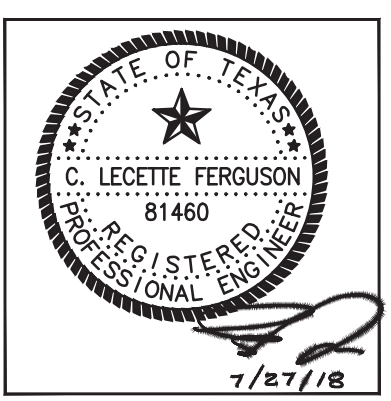
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W 'NB' CENTERLINE WEST (TNBC1)  
 CIRCUIT PLAN**

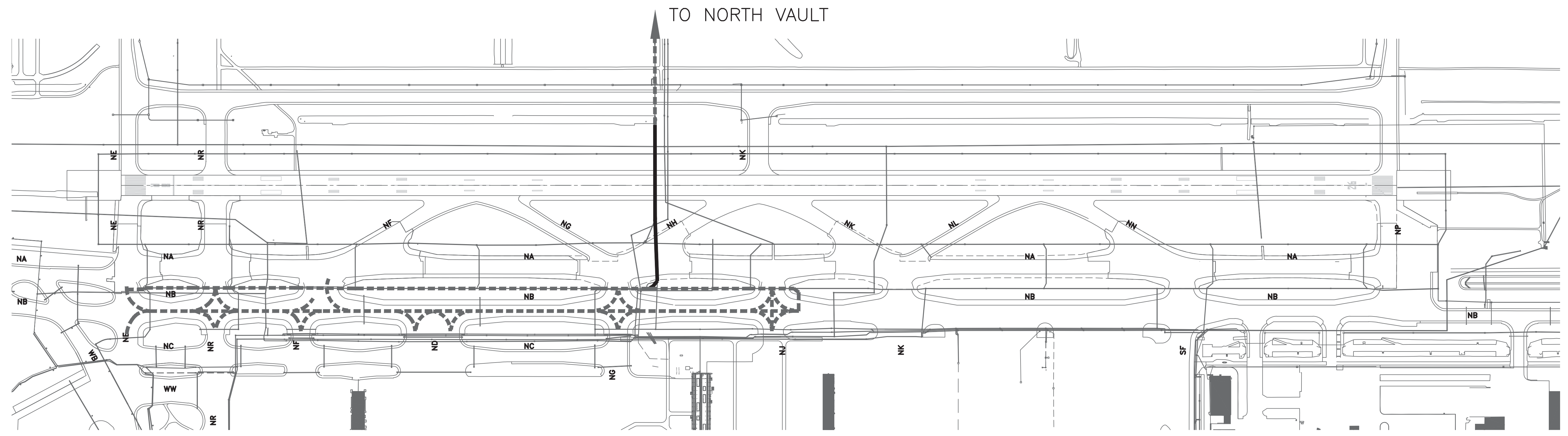
ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018

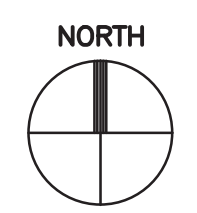


DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

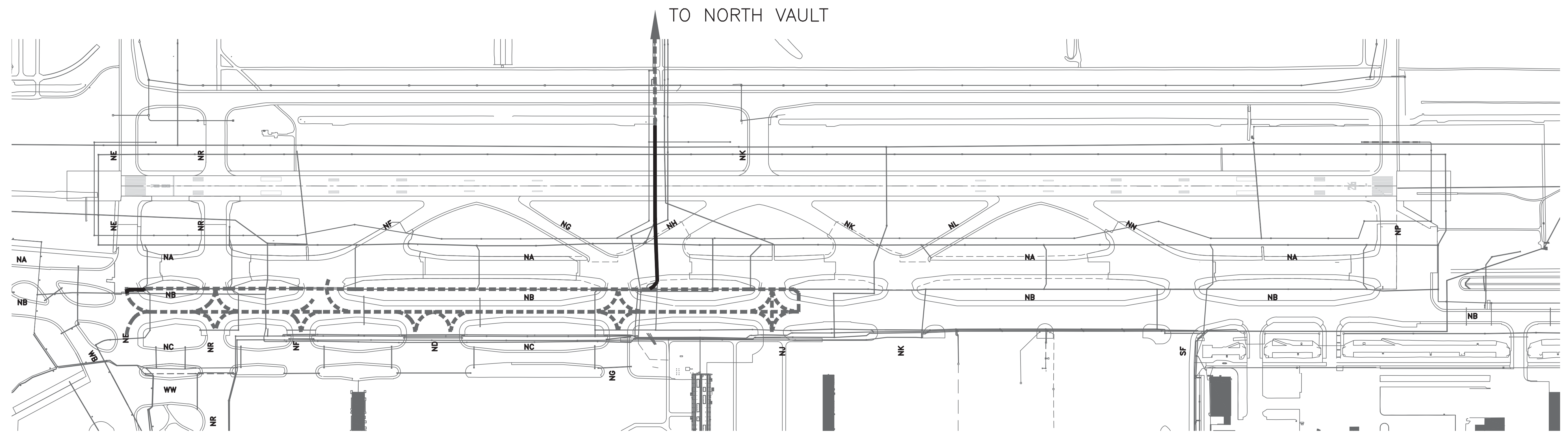


**1 TAXIWAY CIRCUIT 'NB' CENTERLINE WEST (TNBC1) - EXISTING**  
 E06-15 SCALE: 1"=400'-0"

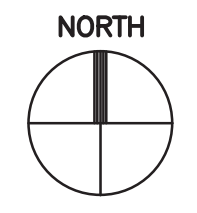


**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- - - EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT 'NB' CENTERLINE WEST (TNBC1) - PROPOSED**  
 E06-15 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- - - EXISTING CIRCUIT





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 THE WOODLANDS, TEXAS 77380  
 (281) 252-9232 FAX No. F-6864

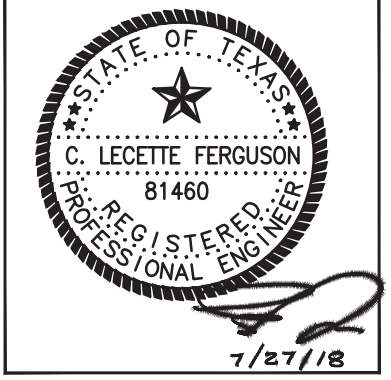
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 T/W 'NB' CENTERLINE EAST (TNBC2)  
 CIRCUIT PLAN**

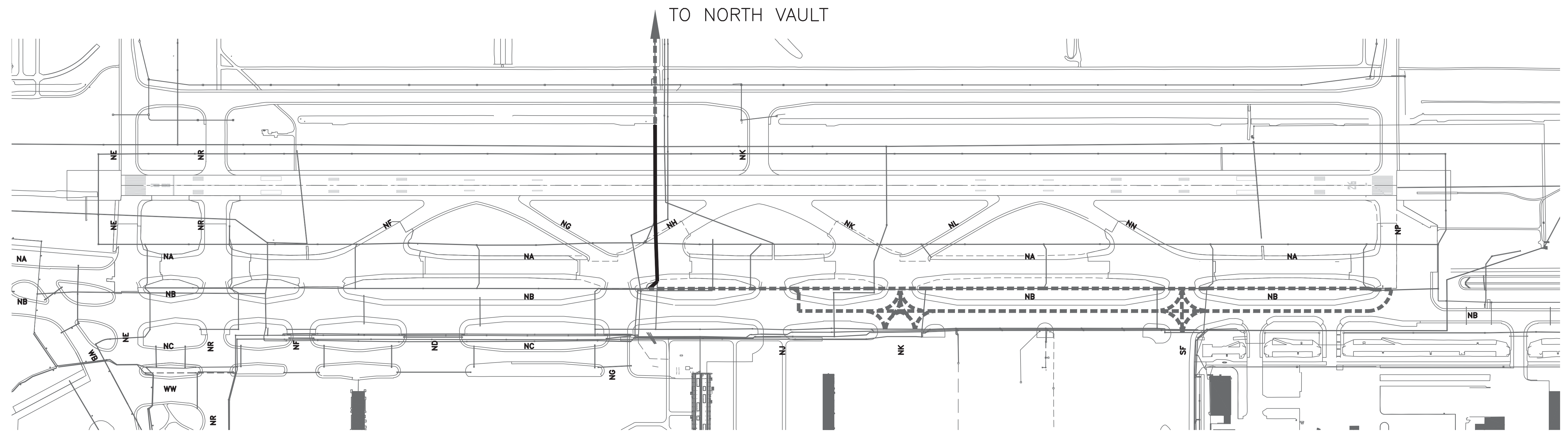
ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018

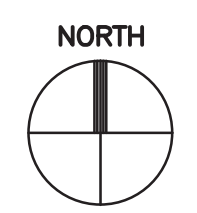


DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

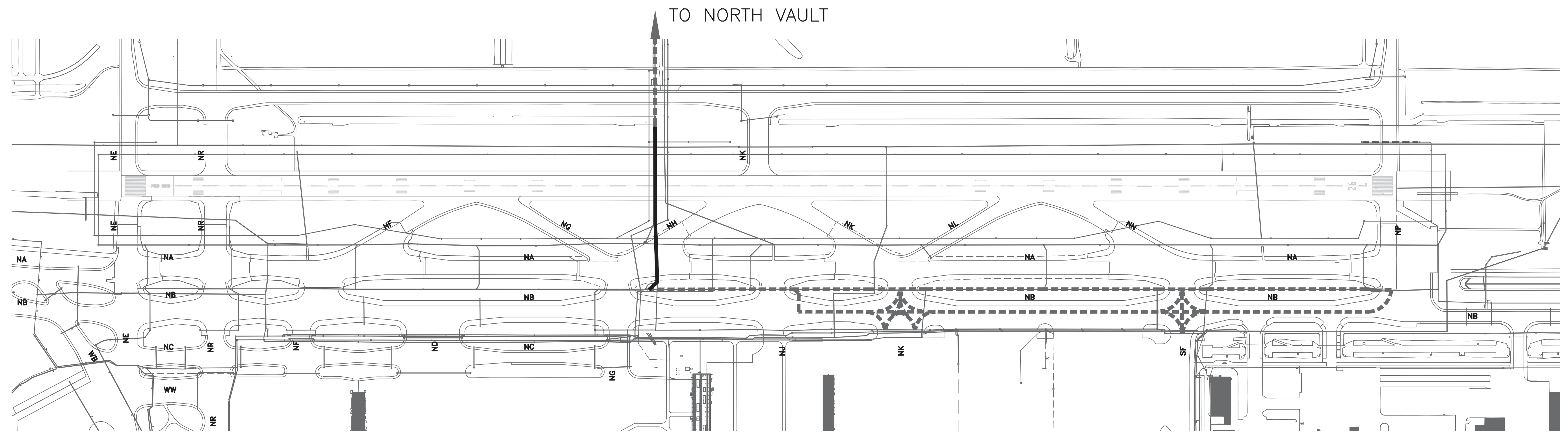


**1 TAXIWAY CIRCUIT 'NB' CENTERLINE EAST (TNBC2) - EXISTING**  
 E06-16 SCALE: 1"=400'-0"

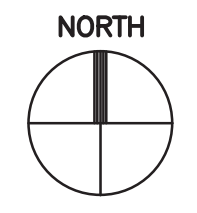


**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- - - EXISTING CIRCUIT TO REMAIN



**2 TAXIWAY CIRCUIT 'NB' CENTERLINE EAST (TNBC2) - PROPOSED**  
 E06-16 SCALE: 1"=400'-0"



**SYMBOL LEGEND (PROP):**

- NEW CIRCUIT
- - - EXISTING CIRCUIT





HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

**Ferguson Consulting**  
 Aviation Specialists for Electrical, Telecommunications and Security Systems  
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 THE WOODLANDS, TEXAS 77380  
 (281) 252-9232 FAX No. F-6864

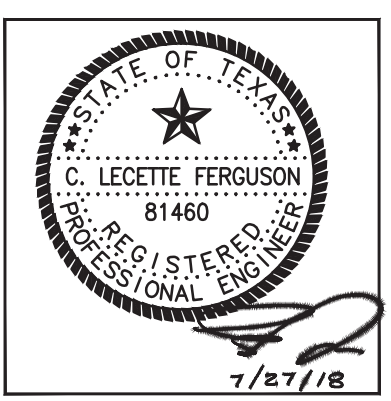
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**EXISTING AND PROPOSED  
 NORTH RAMP 1 (NR1)  
 CIRCUIT PLAN**

ISSUED FOR BID

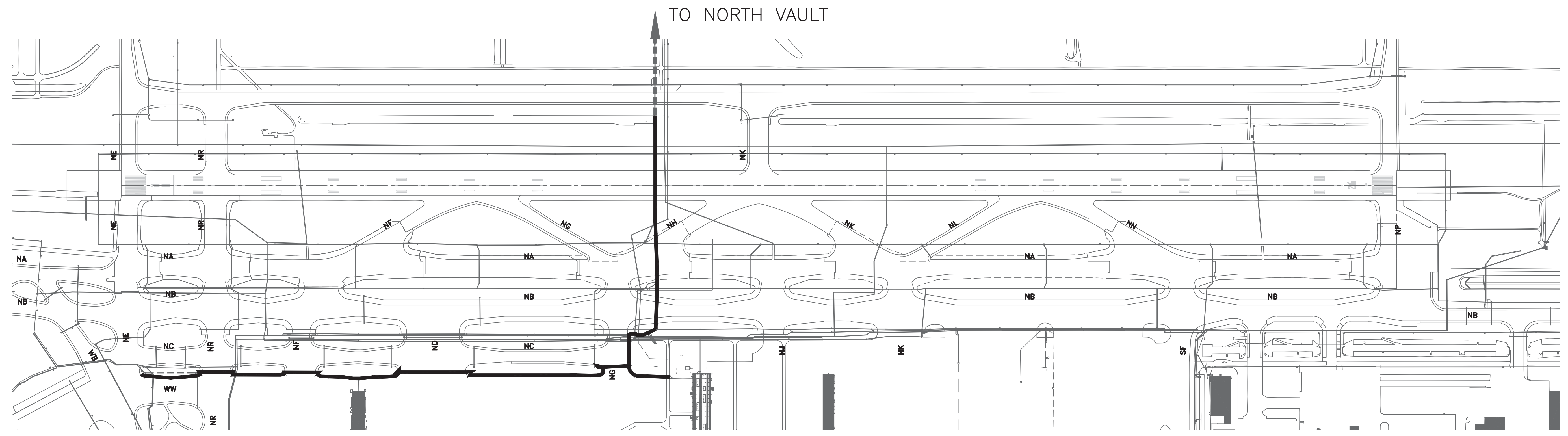
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 400'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denzel Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

E06-17



**1 NORTH RAMP CIRCUIT 1 (NR1) - EXISTING**  
 E06-19 SCALE: 1"=400'-0" NORTH

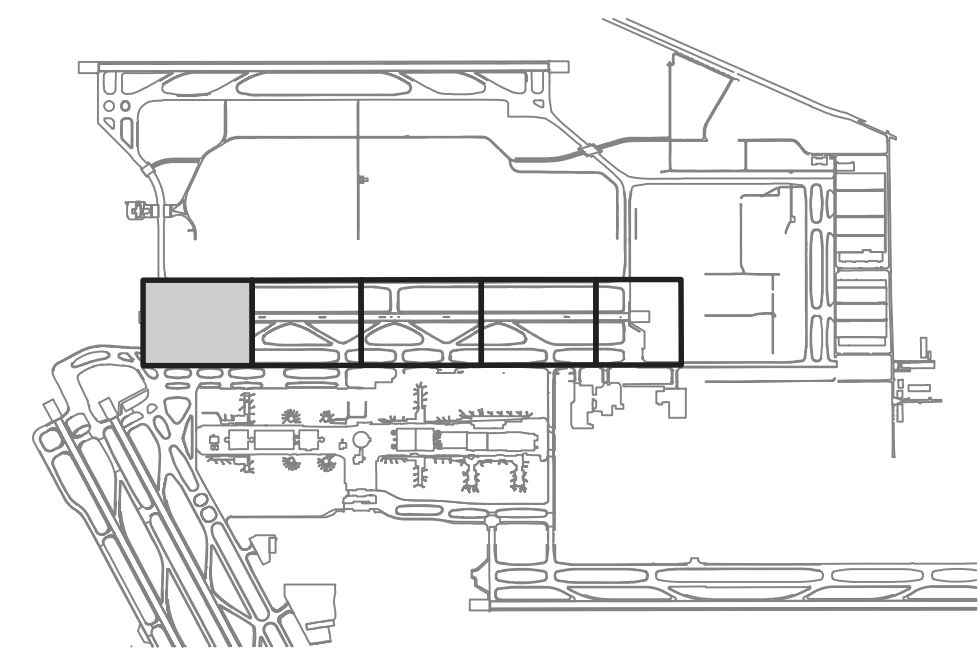
**SYMBOL LEGEND (EXIST):**

- REMOVE EXISTING CIRCUIT
- EXISTING CIRCUIT TO REMAIN



REVISIONS

NO.	DESCRIPTION	DATE	BY



**GENERAL NOTES:**

- REFER TO SHEET E00-01 FOR ELECTRICAL SYMBOL LEGEND, C1 SERIES CONSTRUCTION SEQUENCING AND CIVIL DRAWINGS FOR COMPLETE COORDINATION.
- REFER TO THE E08-03 FOR THE MANHOLE SCHEDULE AND E10 SERIES FOR DUCTBANK DETAILS.
- COORDINATE WORK WITH LOCAL FAA FIELD REPRESENTATIVE, ELECTRIC SHOP AND OPERATIONS.
- KEYED NOTES ARE THE SAME FOR EACH DRAWING, NOT EVERY KEYED NOTE IS USED ON EACH INDIVIDUAL DRAWING. REFER TO SPECIFICATIONS AND LINE ITEMS PAY DETAILS FOR CLARIFICATIONS.
- PROVIDE DRAIN LINE IN ALL NEW MANHOLES. REFER TO DRAINAGE PLANS.

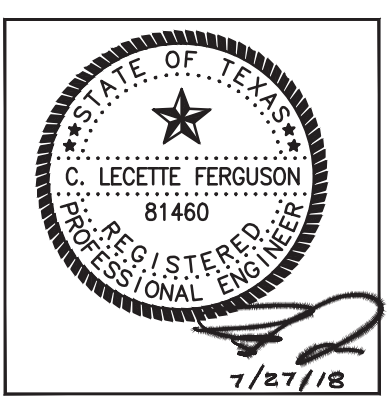
**KEYED NOTES:**

- PROVIDE NEW DUCTBANK. SIZE AS SHOWN. REFER TO E10 SERIES FOR DETAILS.
- EXISTING DUCTBANK TO BE REMOVED.
- MODIFY EXISTING MANHOLE. REFER TO SCHEDULE ON E08-03.
- REMOVE MANHOLE. CAP EXISTING DUCTS.
- INSTALL NEW MANHOLE OR JUNCTION PLAZA AS SHOWN. REFER TO E10 FOR DETAILS AND E08-03 FOR SCHEDULE.
- NOT USED.
- INSTALL DRAIN LINE FROM NEW STRUCTURE TO STORM INLET OR DITCH AS SHOWN. REFER TO DETAILS FOR LINE SIZE. PAYMENT IS INCIDENTAL TO THE ASSOCIATED STRUCTURE ITEM (JCP OR HH).
- FIELD COORDINATE LOCATION OF NEAREST STORM INLET.

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD ELECTRICAL  
 DUCTBANK PLAN - AREA 1**

ISSUED FOR BID

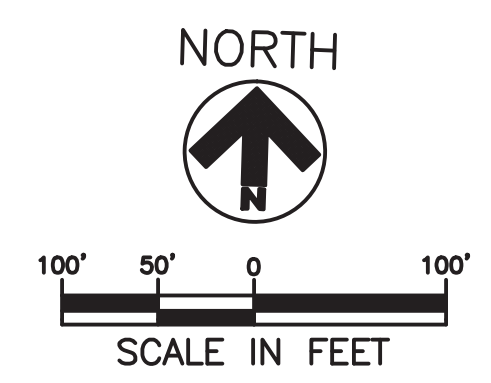
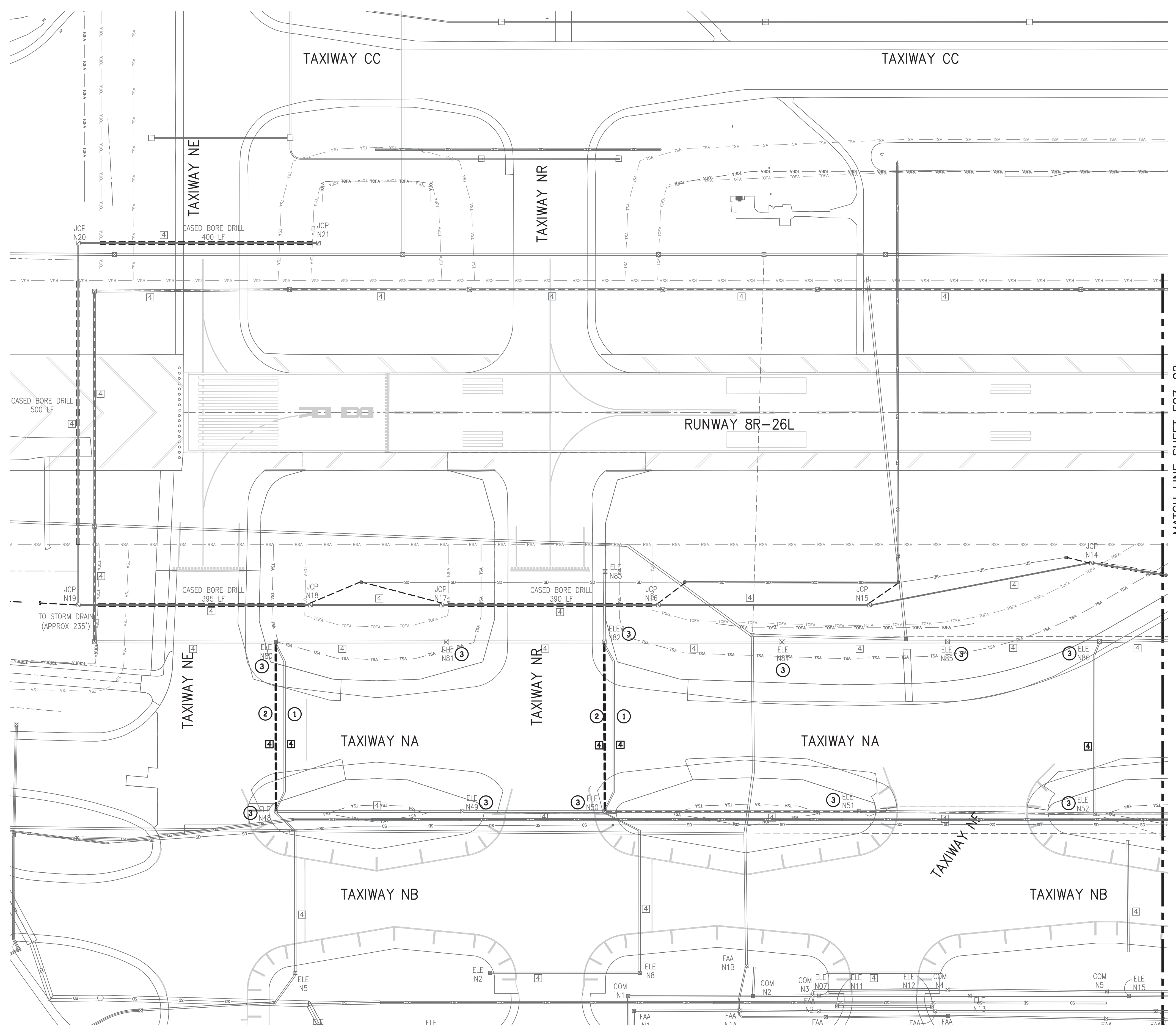
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/18



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**E07-01**

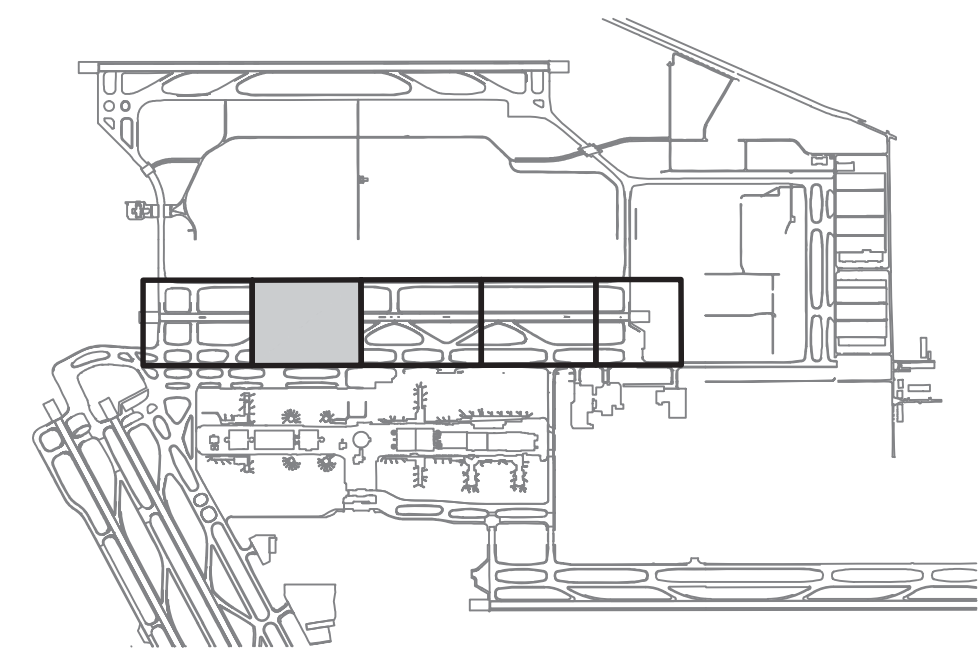






REVISIONS

NO.	DESCRIPTION	DATE	BY

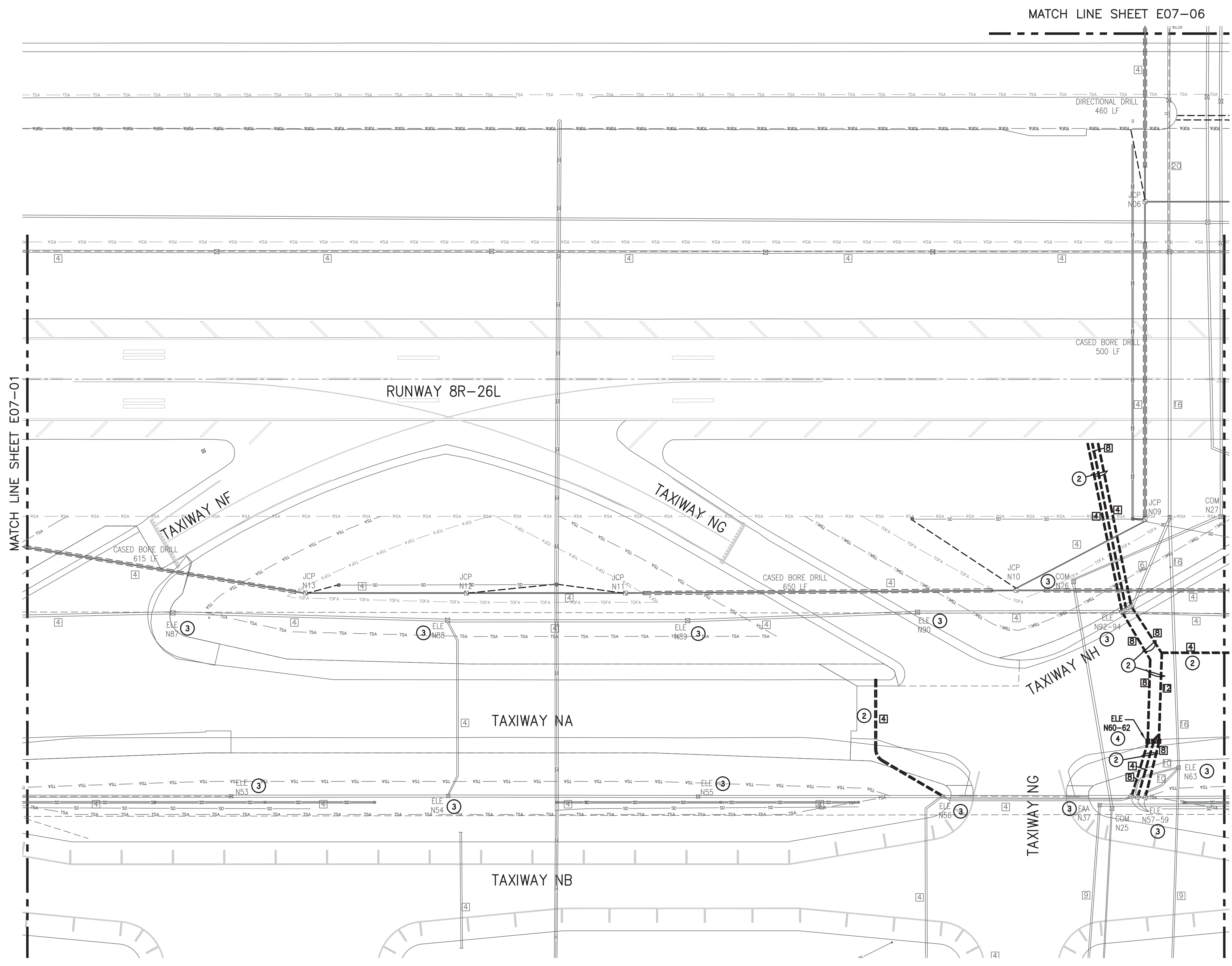


**GENERAL NOTES:**

- REFER TO SHEET E00-01 FOR ELECTRICAL SYMBOL LEGEND, C1 SERIES CONSTRUCTION SEQUENCING AND CIVIL DRAWINGS FOR COMPLETE COORDINATION.
- REFER TO THE E08-03 FOR THE MANHOLE SCHEDULE AND E10 SERIES FOR DUCTBANK DETAILS.
- COORDINATE WORK WITH LOCAL FAA FIELD REPRESENTATIVE, ELECTRIC SHOP AND OPERATIONS.
- KEYED NOTES ARE THE SAME FOR EACH DRAWING, NOT EVERY KEYED NOTE IS USED ON EACH INDIVIDUAL DRAWING. REFER TO SPECIFICATIONS AND LINE ITEMS PAY DETAILS FOR CLARIFICATIONS.
- PROVIDE DRAIN LINE IN ALL NEW MANHOLES. REFER TO DRAINAGE PLANS.

**KEYED NOTES:**

- PROVIDE NEW DUCTBANK. SIZE AS SHOWN. REFER TO E10 SERIES FOR DETAILS.
- EXISTING DUCTBANK TO BE REMOVED.
- MODIFY EXISTING MANHOLE. REFER TO SCHEDULE ON E08-03.
- REMOVE MANHOLE. CAP EXISTING DUCTS.
- INSTALL NEW MANHOLE OR JUNCTION PLAZA AS SHOWN. REFER TO E10 FOR DETAILS AND E08-03 FOR SCHEDULE.
- NOT USED.
- INSTALL DRAIN LINE FROM NEW STRUCTURE TO STORM INLET OR DITCH AS SHOWN. REFER TO DETAILS FOR LINE SIZE. PAYMENT IS INCIDENTAL TO THE ASSOCIATED STRUCTURE ITEM (JCP OR HH).
- FIELD COORDINATE LOCATION OF NEAREST STORM INLET.



MATCH LINE SHEET E07-01

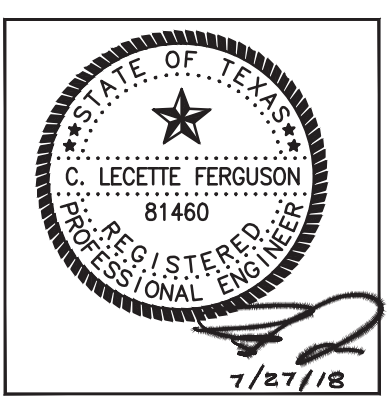
MATCH LINE SHEET E07-06

MATCH LINE SHEET E07-03

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD ELECTRICAL  
 DUCTBANK PLAN - AREA 2

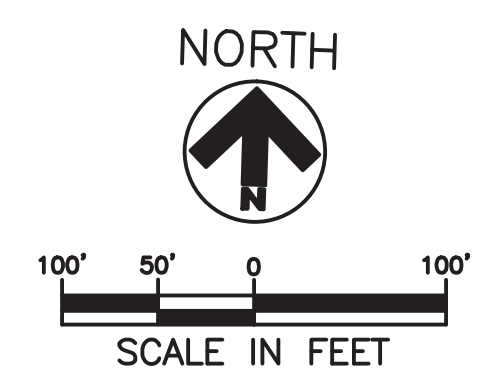
ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/2018



DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
<i>Denzel Palmer</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

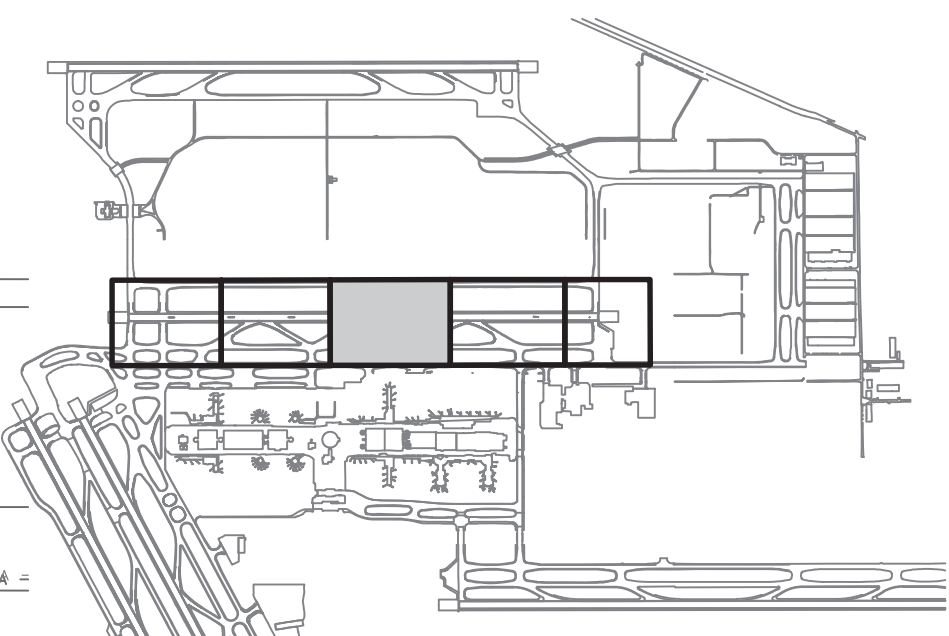


E07-02





REVISIONS		
NO.	DESCRIPTION	DATE



**GENERAL NOTES:**

- REFER TO SHEET E00-01 FOR ELECTRICAL SYMBOL LEGEND, C1 SERIES CONSTRUCTION SEQUENCING AND CIVIL DRAWINGS FOR COMPLETE COORDINATION.
- REFER TO THE E08-03 FOR THE MANHOLE SCHEDULE AND E10 SERIES FOR DUCTBANK DETAILS.
- COORDINATE WORK WITH LOCAL FAA FIELD REPRESENTATIVE, ELECTRIC SHOP AND OPERATIONS.
- KEYED NOTES ARE THE SAME FOR EACH DRAWING, NOT EVERY KEYED NOTE IS USED ON EACH INDIVIDUAL DRAWING. REFER TO SPECIFICATIONS AND LINE ITEMS PAY DETAILS FOR CLARIFICATIONS.
- PROVIDE DRAIN LINE IN ALL NEW MANHOLES. REFER TO DRAINAGE PLANS.

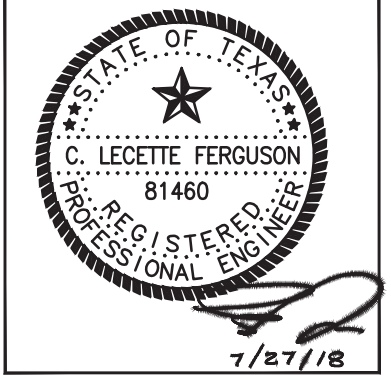
**KEYED NOTES:**

- PROVIDE NEW DUCTBANK. SIZE AS SHOWN. REFER TO E10 SERIES FOR DETAILS.
- EXISTING DUCTBANK TO BE REMOVED.
- MODIFY EXISTING MANHOLE. REFER TO SCHEDULE ON E08-03.
- REMOVE MANHOLE. CAP EXISTING DUCTS.
- INSTALL NEW MANHOLE OR JUNCTION PLAZA AS SHOWN. REFER TO E10 FOR DETAILS AND E08-03 FOR SCHEDULE.
- NOT USED.
- INSTALL DRAIN LINE FROM NEW STRUCTURE TO STORM INLET OR DITCH AS SHOWN. REFER TO DETAILS FOR LINE SIZE. PAYMENT IS INCIDENTAL TO THE ASSOCIATED STRUCTURE ITEM (JCP OR HH).
- FIELD COORDINATE LOCATION OF NEAREST STORM INLET.

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD ELECTRICAL  
 DUCTBANK PLAN - AREA 3**

ISSUED FOR BID

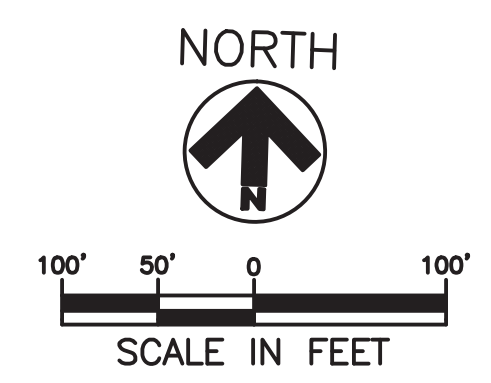
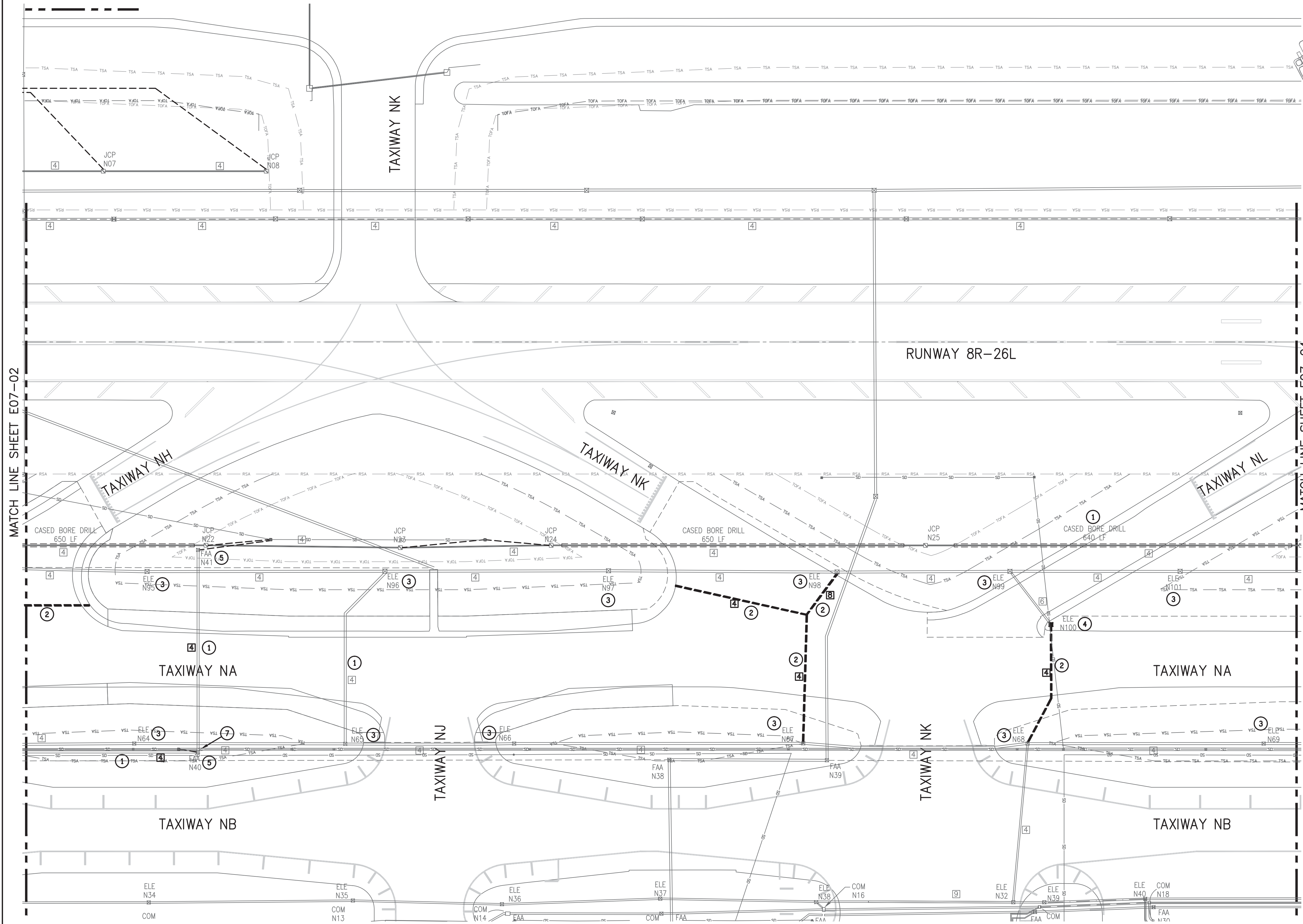
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/18



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**E07-03**



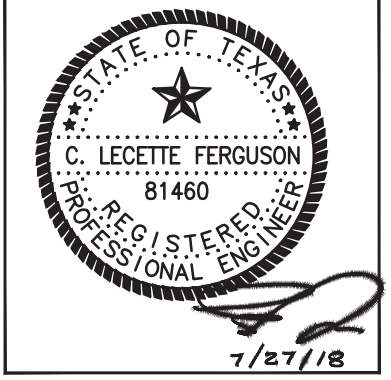




REVISIONS		
NO.	DESCRIPTION	DATE

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD ELECTRICAL  
 DUCTBANK PLAN - AREA 4**

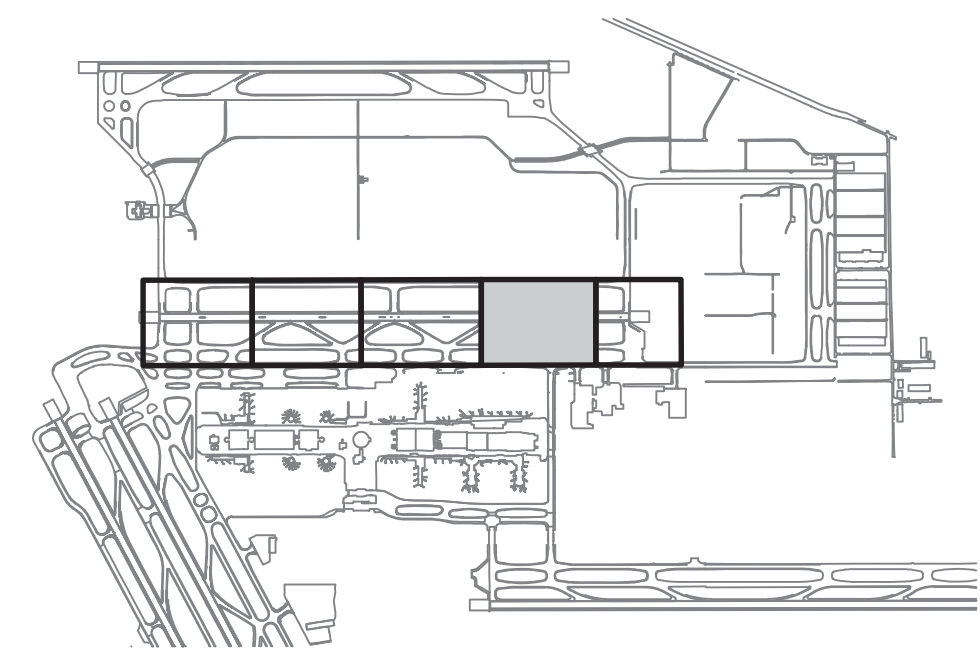
ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DP 7/26/18
<i>Denaj Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0607
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**E07-04**

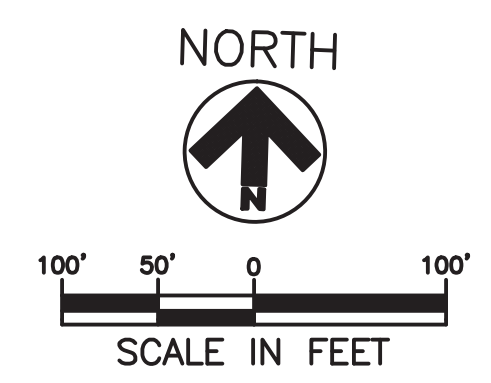
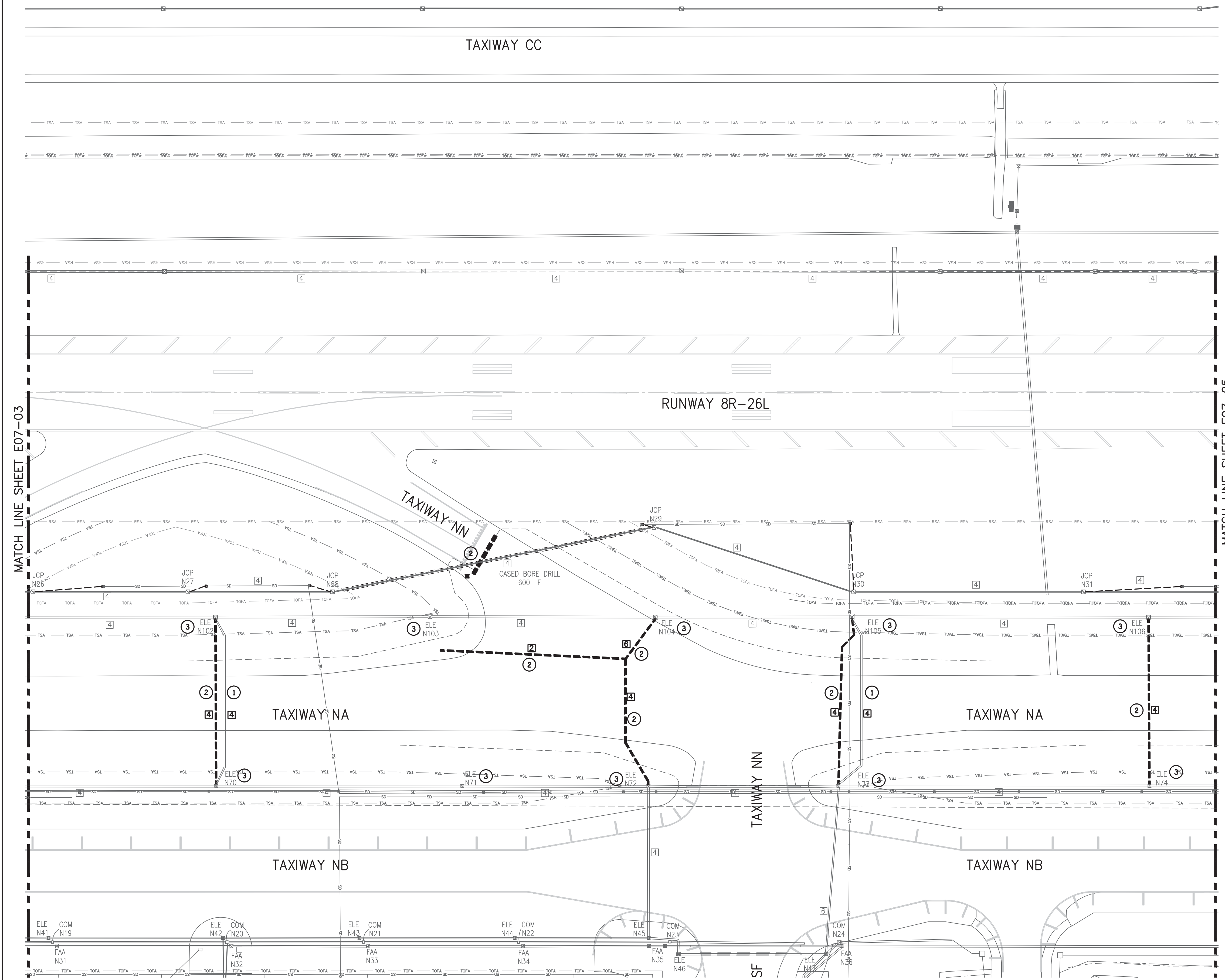


**GENERAL NOTES:**

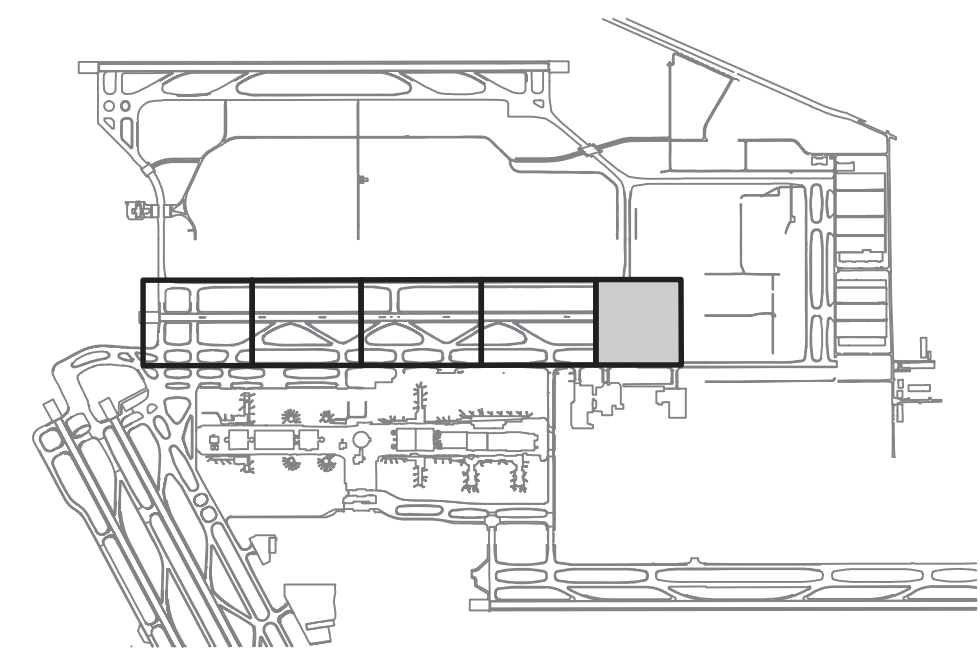
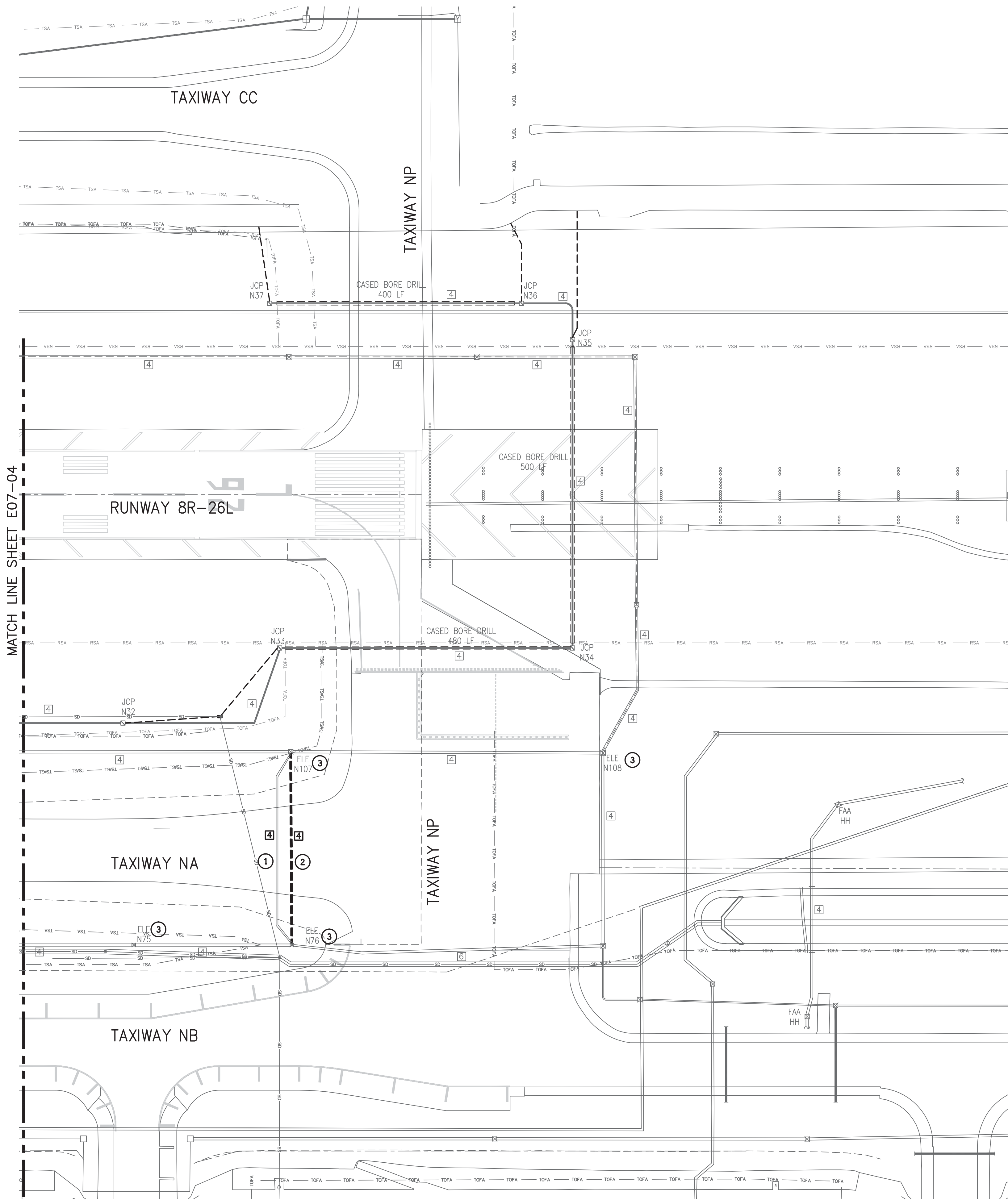
- REFER TO SHEET E00-01 FOR ELECTRICAL SYMBOL LEGEND, C1 SERIES CONSTRUCTION SEQUENCING AND CIVIL DRAWINGS FOR COMPLETE COORDINATION.
- REFER TO THE E08-03 FOR THE MANHOLE SCHEDULE AND E10 SERIES FOR DUCTBANK DETAILS.
- COORDINATE WORK WITH LOCAL FAA FIELD REPRESENTATIVE, ELECTRIC SHOP AND OPERATIONS.
- KEYED NOTES ARE THE SAME FOR EACH DRAWING, NOT EVERY KEYED NOTE IS USED ON EACH INDIVIDUAL DRAWING. REFER TO SPECIFICATIONS AND LINE ITEMS PAY DETAILS FOR CLARIFICATIONS.
- PROVIDE DRAIN LINE IN ALL NEW MANHOLES. REFER TO DRAINAGE PLANS.

**KEYED NOTES:**

- PROVIDE NEW DUCTBANK. SIZE AS SHOWN. REFER TO E10 SERIES FOR DETAILS.
- EXISTING DUCTBANK TO BE REMOVED.
- MODIFY EXISTING MANHOLE. REFER TO SCHEDULE ON E08-03.
- REMOVE MANHOLE. CAP EXISTING DUCTS.
- INSTALL NEW MANHOLE OR JUNCTION PLAZA AS SHOWN. REFER TO E10 FOR DETAILS AND E08-03 FOR SCHEDULE.
- NOT USED.
- INSTALL DRAIN LINE FROM NEW STRUCTURE TO STORM INLET OR DITCH AS SHOWN. REFER TO DETAILS FOR LINE SIZE. PAYMENT IS INCIDENTAL TO THE ASSOCIATED STRUCTURE ITEM (JCP OR HH).
- FIELD COORDINATE LOCATION OF NEAREST STORM INLET.





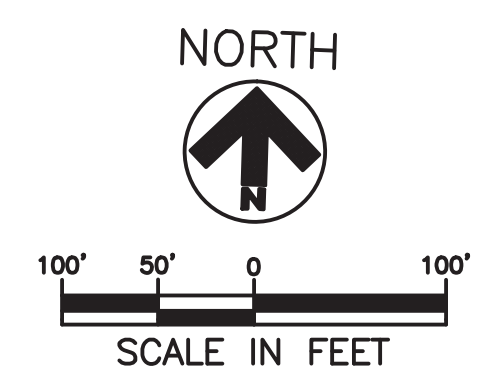


**GENERAL NOTES:**

1. REFER TO SHEET E00-01 FOR ELECTRICAL SYMBOL LEGEND, C1 SERIES CONSTRUCTION SEQUENCING AND CIVIL DRAWINGS FOR COMPLETE COORDINATION.
2. REFER TO THE E08-03 FOR THE MANHOLE SCHEDULE AND E10 SERIES FOR DUCTBANK DETAILS.
3. COORDINATE WORK WITH LOCAL FAA FIELD REPRESENTATIVE, ELECTRIC SHOP AND OPERATIONS.
4. KEYED NOTES ARE THE SAME FOR EACH DRAWING, NOT EVERY KEYED NOTE IS USED ON EACH INDIVIDUAL DRAWING. REFER TO SPECIFICATIONS AND LINE ITEMS PAY DETAILS FOR CLARIFICATIONS.
5. PROVIDE DRAIN LINE IN ALL NEW MANHOLES. REFER TO DRAINAGE PLANS.

**KEYED NOTES:**

- ① PROVIDE NEW DUCTBANK. SIZE AS SHOWN. REFER TO E10 SERIES FOR DETAILS.
- ② EXISTING DUCTBANK TO BE REMOVED.
- ③ MODIFY EXISTING MANHOLE. REFER TO SCHEDULE ON E08-03.
- ④ REMOVE MANHOLE. CAP EXISTING DUCTS.
- ⑤ INSTALL NEW MANHOLE OR JUNCTION PLAZA AS SHOWN. REFER TO E10 FOR DETAILS AND E08-03 FOR SCHEDULE.
- ⑥ NOT USED.
- ⑦ INSTALL DRAIN LINE FROM NEW STRUCTURE TO STORM INLET OR DITCH AS SHOWN. REFER TO DETAILS FOR LINE SIZE. PAYMENT IS INCIDENTAL TO THE ASSOCIATED STRUCTURE ITEM (JCP OR HH).
- ⑧ FIELD COORDINATE LOCATION OF NEAREST STORM INLET.



**Ferguson Consulting**  
 Aviation Specialists for Electrical, Telecommunications and Security Systems  
 FERGUSON CONSULTING, INC.  
 10200 GROGANS MILL RD, SUITE #420  
 THE WOODLANDS, TEXAS 77380  
 (281) 252-9232 FAX No. F-6864

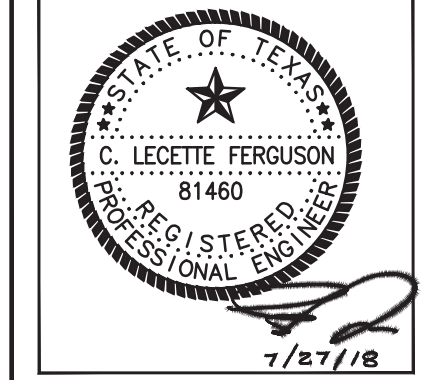
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD ELECTRICAL  
 DUCTBANK PLAN - AREA 5**

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Rahmal*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

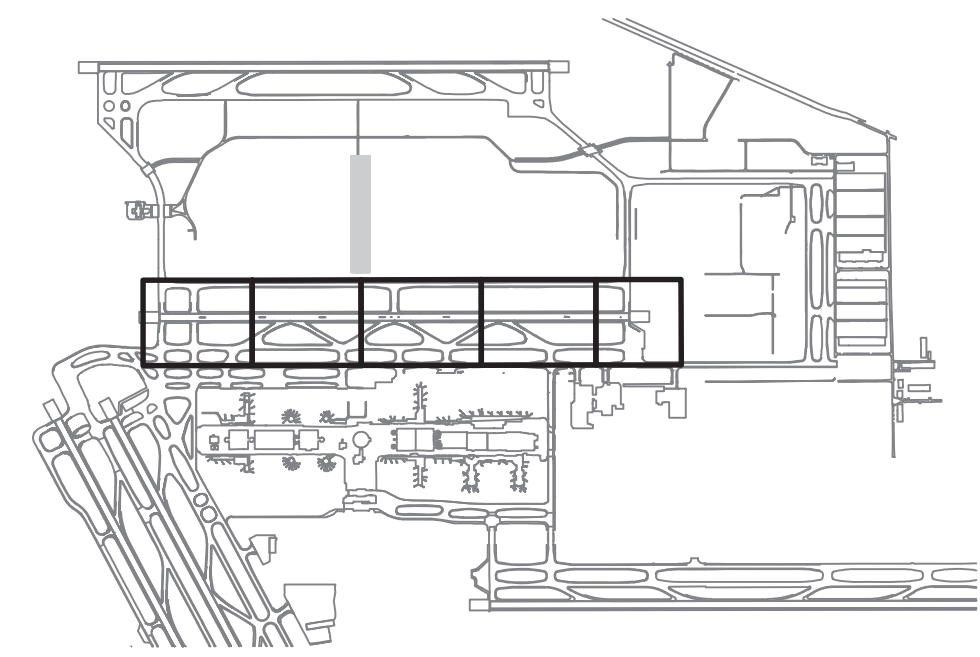
**E07-05**





REVISIONS

NO.	DESCRIPTION	DATE	BY



**GENERAL NOTES:**

- REFER TO SHEET E00-01 FOR ELECTRICAL SYMBOL LEGEND, C1 SERIES CONSTRUCTION SEQUENCING AND CIVIL DRAWINGS FOR COMPLETE COORDINATION.
- REFER TO THE E08-03 FOR THE MANHOLE SCHEDULE AND E10 SERIES FOR DUCTBANK DETAILS.
- COORDINATE WORK WITH LOCAL FAA FIELD REPRESENTATIVE, ELECTRIC SHOP AND OPERATIONS.
- KEYED NOTES ARE THE SAME FOR EACH DRAWING, NOT EVERY KEYED NOTE IS USED ON EACH INDIVIDUAL DRAWING. REFER TO SPECIFICATIONS AND LINE ITEMS PAY DETAILS FOR CLARIFICATIONS.
- PROVIDE DRAIN LINE IN ALL NEW MANHOLES. REFER TO DRAINAGE PLANS.

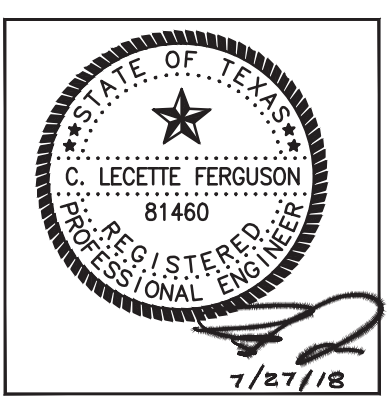
**KEYED NOTES:**

- PROVIDE NEW DUCTBANK. SIZE AS SHOWN. REFER TO E10 SERIES FOR DETAILS.
- EXISTING DUCTBANK TO BE REMOVED.
- MODIFY EXISTING MANHOLE. REFER TO SCHEDULE ON E08-03.
- REMOVE MANHOLE. CAP EXISTING DUCTS.
- INSTALL NEW MANHOLE OR JUNCTION PLAZA AS SHOWN. REFER TO E10 FOR DETAILS AND E08-03 FOR SCHEDULE.
- NOT USED.
- INSTALL DRAIN LINE FROM NEW STRUCTURE TO STORM INLET OR DITCH AS SHOWN. REFER TO DETAILS FOR LINE SIZE. PAYMENT IS INCIDENTAL TO THE ASSOCIATED STRUCTURE ITEM (JCP OR HH).
- FIELD COORDINATE LOCATION OF NEAREST STORM INLET.

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**AIRFIELD ELECTRICAL  
 DUCTBANK PLAN - AREA 6**

ISSUED FOR BID

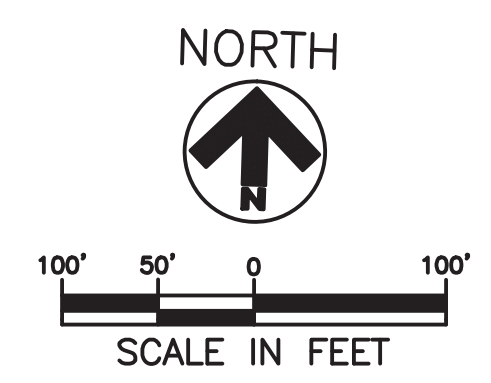
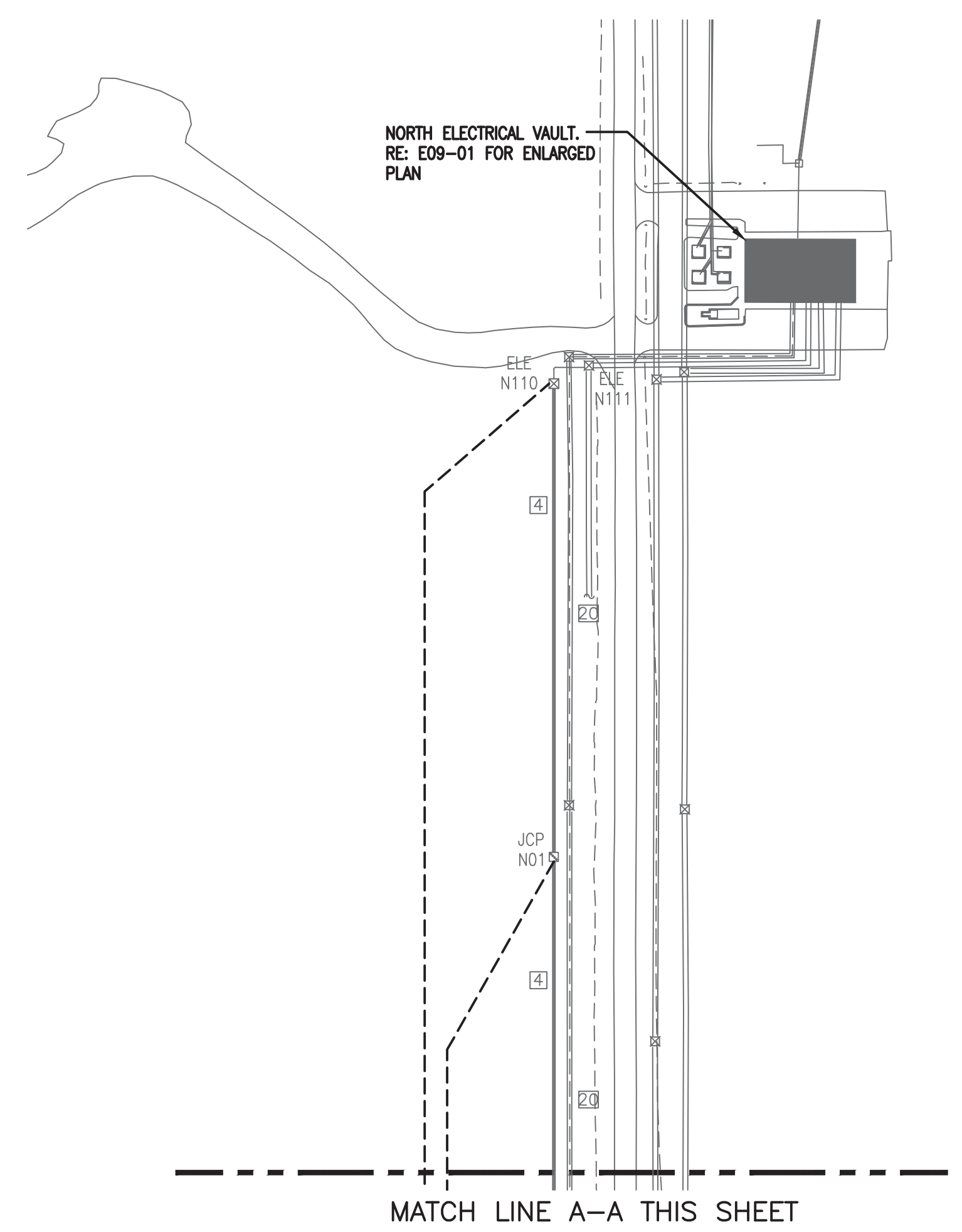
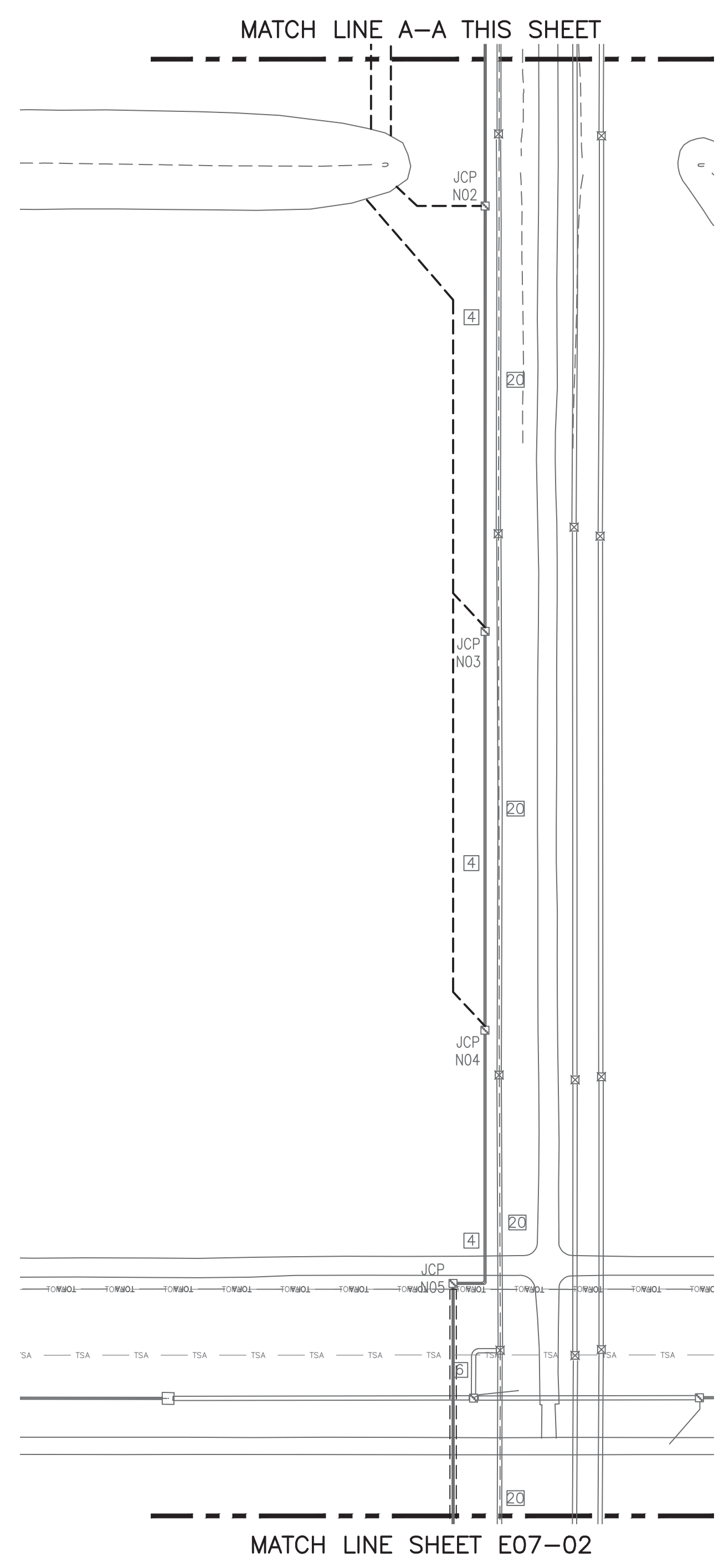
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	1" = 100'
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denej Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**E07-06**





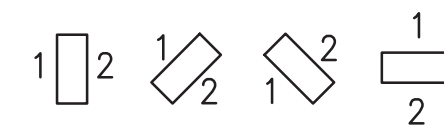
PROPOSED SIGN SCHEDULE – WEST CIRCUIT (RUNWAY 8R-26L)

FIELD TAG	FIELD CIRCUIT	SIGN MODULES	SIGN LEGEND		SIGN LOCATION			SIGN DATA			ISOLATION TRANSFORMER (QUANTITY) AND SIZE			LAMP DATA PER MODULE			SEE DWG. NO. E05-	KEY NOTES	ORIGINAL INSTALLED PRJ #
			SIDE 1	SIDE 2	TO EDGE	TO INT.	RELATIVE STATION	SIZE	STYLE	CLASS	QUAN	TYPE	WATT	QUAN	TYPE	WATT			
1	1aNSCW	SCW	3	NA NG		60'		107+18.0	3	5	1	(1)100W	N/A	LED	92	02	③	PN491B	
2	1bNSCW	SCW	3	NG NA		60'		107+18.0	3	5	1	(1)100W	N/A	LED	92	02	③③	PN491B	
3	2NSCW	SCW	3	NA NG		50'		38+16.6	3	5	1	(1)100W	N/A	LED	92	02	①	PN675	
4	3aNSCW	SCW	3		NA NF	60'		109+45.9	3	5	1	(1)100W	N/A	LED	92	02	①	PN675	
5	3bNSCW	SCW	3		NF NA	60'		109+45.9	3	5	1	(1)100W	N/A	LED	92	02	①	PN675	
6	4NSCW	SCW	3	NA NF		50'		18+39.9	3	5	1	(1)100W	N/A	LED	92	01	①	PN675	
7	5NSCW	SCW	3	NR --NA--		50'	195'	105+25.0	3	5	1	(1)100W	N/A	LED	92	01	③	PN491B	
8	6NSCW	SCW	3	NA --NR--		50'	195'	10+54.1	3	5	1	(1)100W	N/A	LED	92	01	③	PN491B	
9	7NSCW	SCW	3	--NA NE		50'	195'	105+24.9	3	5	1	(1)100W	N/A	LED	92	01	③	PN491B	
10	8NSCW	SCW	3		NA --NE--	50'	195'	7+87.0	3	5	1	(1)100W	N/A	LED	92	01	⑤	PN491B	
11	9NSCW	SCW	3	NE --NB--		50'	178'	101+84.2	3	5	1	(1)300W	2	INC.	48	01	④	PN647	
12	10NSCW	SCW	3		NE --NA--	50'	143'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
13	11NSCW	SCW	3	NB --NR--		50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN647	
14	12NSCW	SCW	3		NR --NA--	50'	188'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN647	
16	14NSCW	SCW	3		NA --NR--	50'	195'	14+44.0	3	5	1	(1)300W	2	INC.	48	01	④	PN647	
17	15NSCW	SCW	3	NR --NB--		50'	177'	101+82.8	3	5	1	(1)300W	2	INC.	48	01	④	PN647	
19	17aNSCW	SCW	3	NF NB		50'	222'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN647	
20	17bNSCW	SCW	2	NF --		50'	222'	EXISTING	3	5	1	(1)200W	2	INC.	48	01	②	PN647	
21	18aNSCW	SCW	2	NA		50'	--	EXISTING	3	5	1	(1)200W	2	INC.	48	--	⑤	PN647	
22	18bNSCW	SCW	3	NF NA		50'	--	EXISTING	3	5	1	(1)300W	2	INC.	48	--	⑤	PN647	
23	19aNSCW	SCW	3	NA		50'	--	101+72.1	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
24	19bNSCW	SCW	3	NF NA		50'	--	101+72.1	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
25	20NSCW	SCW	3	NF NA		50'	195'	27+42.7	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
26	21aNSCW	SCW	3	NA NF		50'	--	101+66.7	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
27	21bNSCW	SCW	3	NA		50'	--	101+66.7	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
28	22aNSCW	SCW	3	NA NF		50'	--	EXISTING	3	5	1	(1)300W	2	INC.	48	--	⑤	PN647	
29	22bNSCW	SCW	2	NA		50'	--	EXISTING	3	5	1	(1)200W	2	INC.	48	--	⑤	PN647	
30	23NSCW	SCW	3	NB ND		50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	02	①	PN647	
31	24NSCW	SCW	3	NB --NG--		50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	02	①	PN647	
32	25NSCW	SCW	3		NG --NA--	50'	190'	EXISTING	3	5	1	(1)300W	2	INC.	48	02	①	PN647	
34	27NSCW	SCW	3		NG --NB--	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	02	①	PN647	
35	28NSCW	SCW	3	NC --NG--		20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	02	①		
36	29NSCW	SCW	3		-- ND NB	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	02	①	PN647	
37	30NSCW	SCW	3	ND --NC--		50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	02	①	PN647	
38	31NSCW	SCW	3	ND --NC--		50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	02	①	PN647	
39	32NSCW	SCW	3	NC --ND--		20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	02	①		
40	33NSCW	SCW	3	NF --NC--		50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
41	34aNSCW	SCW	3		-- NF NB	50'	355'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
42	34bNSCW	SCW	2		NF	50'	355'	EXISTING	3	5	1	(1)200W	2	INC.	48	01	①	PN647	
43	35NSCW	SCW	3		NF --NB--	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
44	36NSCW	SCW	3	NC --NF--		50'	193'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN491B	
45	37NSCW	SCW	3	NP --NC--		50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN647	
46	38NSCW	SCW	3		NB --NR--	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN647	
47	39NSCW	SCW	3	NR --NB--		50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN647	
48	40NSCW	SCW	3		NB --NE--	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
49	41NSCW	SCW	3	--NC NE		50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	①	PN647	
50	42NSCW	SCW	3	NC --NR--		20'	193'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN491B	
51	43NSCW	SCW	3		NC --NE--	20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	01	②		
52	44aNSCW	SCW	3	--WW NE		20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	01	②		
53	44bNSCW	SCW	3	WB WW		20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	01	②		
54	45NSCW	SCW	3	WW		20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	01	②		
55	46NSCW	SCW	3	WW --NR--		20'	193'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN491B	
56	47NSCW	SCW	3		NR --NC--	20'	193'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN491B	

PROPOSED SIGN SCHEDULE – WEST CIRCUIT (RUNWAY 8R-26L)

FIELD TAG	FIELD CIRCUIT	SIGN MODULES	SIGN LEGEND		SIGN LOCATION			SIGN DATA			ISOLATION TRANSFORMER (QUANTITY) AND SIZE			LAMP DATA PER MODULE			SEE DWG. NO. E05-	KEY NOTES	ORIGINAL INSTALLED PRJ #
			SIDE 1	SIDE 2	TO EDGE	TO INT.	RELATIVE STATION	SIZE	STYLE	CLASS	QUAN	TYPE	WATT	QUAN	TYPE	WATT			
57	48NSCW	SCW	1	NR		20'	193'	EXISTING	3	5	1	(1)100W	2	INC.	48	01	②	PN491B	
58	49NSCW	SCW	3		NC --NR--	20'	193'	EXISTING	3	5	1	(1)300W	2	INC.	48	01	②	PN491B	
59	50NSCW	SCW	3		NF --NC--	20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	01	②		
60	51NSCW	SCW	3		NC --NF--	20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	01	②		
61	52NSCW	SCW	3	NC --ND--		20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	02	②		
62	53NSCW	SCW	3		ND --NC--	20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	02	②		
63	54NSCW	SCW	3	N RAMP		20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	02	②		
64	55NSCW	SCW	3		NC --ND--	20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	02	②		
65	56NSCW	SCW	3		-- NC NG	20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	02	②		
66	57NSCW	SCW	2	-- NG		20'	193'	EXISTING	2	5	1	(1)200W	2	INC.	48	02	②		

SIGN SIDE LEGEND:



GENERAL NOTES:

- REFER TO E02, E03 AND E05 SERIES DRAWINGS FOR SIGNAGE INFORMATION.

KEYED NOTES:

- EXISTING SIGN TO REMAIN. SIGN SHOWN FOR REFERENCE ONLY.
- RE-CIRCUIT EXISTING SIGN, RELAMP AND PROVIDE NEW ISOLATION TRANSFORMER.
- INSTALL NEW LED SIGN WITH NEW BASE FOLLOWING LINE ITEMS, SPECIFICATIONS AND DETAILS.
- REMOVE AND RELOCATE EXISTING SIGN.
- REMOVE AND SALVAGE EXISTING SIGN. SIGN MODULES TO BE RE-INSTALLED AT LOCATIONS NOTED ON E02 SERIES. PAYMENT IS INCIDENTAL TO 'REMOVE AND SALVAGE SIGN, REMOVE SIGN FOUNDATION' ITEM.



HOUSTON AIRPORT SYSTEM  
GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS



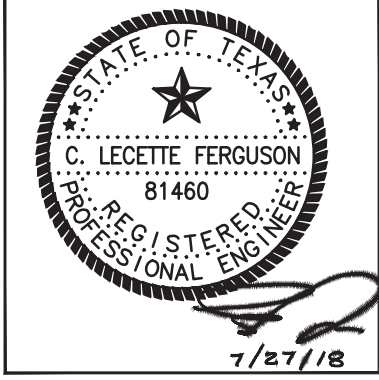
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
AIRFIELD LIGHTING SIGN SCHEDULES  
NORTH SIGN CIRCUIT WEST

ISSUED FOR BID

PROJECT MGR: CLF  
DESIGNER: RSF  
DRAWN BY: RSF  
CHECKED BY: CLF  
SCALE: N.T.S.  
DATE: 07/27/2018



DEPARTMENT OF AVIATION  
APPROVED BY: DP 7/26/18  
*Denaj Rahal*  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
C.I.P. NO. A-000570  
H.A.S. NO.  
SHEET NO.

E08-01



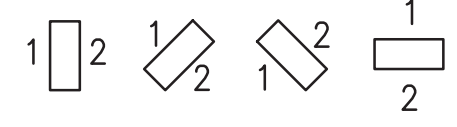
PROPOSED SIGN SCHEDULE – EAST CIRCUIT (RUNWAY 8R-26L)

FIELD TAG	FIELD CIRCUIT	SIGN MODULES	SIGN LEGEND		SIGN LOCATION			SIGN DATA			ISOLATION TRANSFORMER (QUANTITY) AND SIZE			LAMP DATA PER MODULE			SEE DWG. NO. E05-	KEY NOTES	ORIGINAL INSTALLED PRJ #
			SIDE 1	SIDE 2	TO EDGE	TO INT.	RELATIVE STATION	SIZE	STYLE	CLASS	QUAN	TYPE	WATT	E05-					
1	1aNSCE	SCE	3	NA NG	60'	-	109+4.6	3	5	1	(1)100W	N/A	LED	92	03		③	PN491B	
2	1bNSCE	SCE	3	NH NA	60'	-	109+4.6	3	5	1	(1)100W	N/A	LED	92	03		③	PN491B	
3	2NSCE	SCE	3	NA NJ	50'	195'	51+58.1	3	5	1	(1)100W	N/A	LED	92	03		③		
4	3NSCE	SCE	3	NA NK	50'	-	57+42.0	3	5	1	(1)100W	N/A	LED	92	03		③		
5	4aNSCE	SCE	3	NA NK	60'	-	108+72.3	3	5	1	(1)100W	N/A	LED	92	03		③	PN491B	
6	4bNSCE	SCE	3	NK NA	60'	-	108+72.3	3	5	1	(1)100W	N/A	LED	92	03		③	PN491B	
7	5aNSCE	SCE	3	NA NK	60'	-	107+17.9	3	5	1	(1)100W	N/A	LED	92	03		③	PN491B	
8	5bNSCE	SCE	3	NL NA	60'	-	107+17.9	3	5	1	(1)100W	N/A	LED	92	03		③	PN491B	
9	6NSCE	SCE	3	NA NN	50'	-	77+45.5	3	5	1	(1)100W	N/A	LED	92	04		③	PN491B	
10	7aNSCE	SCE	3	NA NN	60'	-	108+89.4	3	5	1	(1)100W	N/A	LED	92	04		③	PN491B	
11	7bNSCE	SCE	3	NN NA	60'	-	108+89.4	3	5	1	(1)100W	N/A	LED	92	04		③	PN491B	
12	8NSCE	SCE	3	NA NP	50'	195'	97+24.2	3	5	1	(1)100W	N/A	LED	92	05		③	PN491B	
13	9NSCE	SCE	3	NP NA	50'	195'	105+25.0	3	5	1	(1)100W	N/A	LED	92	05		③	PN491B	
14	10NSCE	SCE	3	NP NB	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	05	①		PN647	
15	11NSCE	SCE	3	NA NP	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	05	①		PN647	
16	12NSCE	SCE	1	NB	25'	193'	EXISTING	2	5	1	(1)100W	2	INC.	48	05	①		PN647	
17	13NSCE	SCE	3	NP N3	25'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	05	①		PN647	
18	14NSCE	SCE	3	C A R G O NB NP	25'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	05	①		PN647	
19	15NSCE	SCE	3	NP NB	50'	173'	101+79.5	3	5	1	(1)300W	2	INC.	48	05		④	PN647	
20	16NSCE	SCE	3	NA NP	60'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	05		②	PN647	
21	17NSCE	SCE	3	NP NB	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	05		②	PN647	
22	18NSCE	SCE	2	-26L	50'	420'	EXISTING	3	5	1	(1)200W	2	INC.	48	05		②	PN647	
23	19NSCE	SCE	3	NB N2	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	04		②	PN647	
24	20NSCE	SCE	3	NB N1	50'	143'	EXISTING	3	5	1	(1)300W	2	INC.	48	04		①	PN647	
28	23aNSCE	SCE	3	NB NN	50'	175'	101+79.3	3	5	1	(1)300W	2	INC.	48	04		④	PN647	
29	23bNSCE	SCE	3	SF NB	50'	175'	101+79.3	3	5	1	(1)300W	2	INC.	48	04		④	PN647	
30	24NSCE	SCE	3	NN NA	50'	195'	85+68.4	3	5	1	(1)100W	N/A	LED	92	04		③		
31	25aNSCE	SCE	3	SF NB	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	04		①	PN647	
32	25bNSCE	SCE	2	NN	50'	195'	EXISTING	3	5	1	(1)200W	2	INC.	48	04		①	PN647	
33	26aNSCE	SCE	3	SF NB	45'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	04		①		
34	26bNSCE	SCE	3	NN NB	45'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	04		①		
37	28NSCE	SCE	3	NN NA	50'	188'	EXISTING	3	5	1	(1)300W	2	INC.	48	04		①	PN647	
38	29aNSCE	SCE	3	NN NB	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	04		①	PN647	
39	29bNSCE	SCE	2	SF	50'	195'	EXISTING	3	5	1	(1)200W	2	INC.	48	04		①	PN647	
40	30NSCE	SCE	3	NB NK	55'	120'	EXISTING	2	5	1	(1)300W	2	INC.	48	03		①		
41	31NSCE	SCE	3	NK NB	45'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	03		①		
42	32NSCE	SCE	3	NB NJ	55'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	03		①		
43	33NSCE	SCE	3	NJ NB	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	03		①	PN647	
45	35NSCE	SCE	3	NK NB	50'	-	101+78.1	3	5	1	(1)300W	2	INC.	48	03		④	PN647	
46	36NSCE	SCE	3	NK NA	50'	172'	67+22.6	3	5	1	(1)100W	N/A	LED	92			③		
48	38NSCE	SCE	3	NK NA	50'	188'	EXISTING	3	5	1	(1)300W	2	INC.	48	03		②	PN647	
49	39NSCE	SCE	3	NB NK	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	03		②	PN647	
51	41NSCE	SCE	3	NJ NB	50'	170'	101+75.4	3	5	1	(1)300W	2	INC.	48	03		④	PN647	
52	42NSCE	SCE	3	NJ NA	50'	195'	55+48.0	3	5	1	(1)300W	2	INC.	48	03		④	PN647	
54	44NSCE	SCE	3	NJ NA	50'	188'	EXISTING	3	5	1	(1)300W	2	INC.	48	03		②	PN647	
55	45NSCE	SCE	3	NB NJ	50'	193'	EXISTING	3	5	1	(1)300W	2	INC.	48	03		②	PN647	
56	46NSCE	SCE	3	N RAMP	20'	193'	EXISTING	2	5	1	(1)300W	2	INC.	48	02		②		
57	47NSCE	SCE	2	NG	20'	193'	EXISTING	2	5	1	(1)200W	2	INC.	48	02		①		
58	48NSCE	SCE	3	NG NC	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	02		①	PN647	
59	49NSCE	SCE	3	NB NG	50'	195'	EXISTING	3	5	1	(1)300W	2	INC.	48	02		①	PN647	
61	51NSCE	SCE	3	NG NB	50'	166'	101+72.5	3	5	1	(1)300W	2	INC.	48	02		④	PN647	
62	52NSCE	SCE	3	NG NA	50'	-	47+76.7	3	5	1	(1)100W	N/A	LED	92			③		

PROPOSED SIGN SCHEDULE – RUNWAY CIRCUIT (RUNWAY 8R-26L)

FIELD TAG	FIELD CIRCUIT	SIGN MODULES	SIGN LEGEND		SIGN LOCATION			SIGN DATA			ISOLATION TRANSFORMER (QUANTITY) AND SIZE			LAMP DATA PER MODULE			SEE DWG. NO. E05-	KEY NOTES	ORIGINAL INSTALLED PRJ #
			SIDE 1	SIDE 2	TO EDGE	TO INT.	RELATIVE STATION	SIZE	STYLE	CLASS	QUAN	TYPE	WATT	E05-					
1	34NSCR	SCR	4	NN NN	60'	-	109+31.2	3	5	2	(1)100W	N/A	LED	110	04		④	PN491B	

SIGN SIDE LEGEND:



GENERAL NOTES:

- REFER TO E02, E03 AND E05 SERIES DRAWINGS FOR SIGNAGE INFORMATION.

KEYED NOTES:

- EXISTING SIGN TO REMAIN. SIGN SHOWN FOR REFERENCE ONLY..
- RE-CIRCUIT EXISTING SIGN, RELAMP AND PROVIDE NEW ISOLATION TRANSFORMER.
- INSTALL NEW LED SIGN WITH NEW BASE FOLLOWING LINE ITEMS, SPECIFICATIONS AND DETAILS.
- REMOVE AND RELOCATE EXISTING SIGN.

HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS

Ferguson Consulting  
 Aviation Specialists for Electrical, Telecommunications and Security Systems  
 FERGUSON CONSULTING, INC.  
 10200 GROGANS MILL RD., SUITE #420  
 THE WOODLANDS, TEXAS 77380  
 (281) 252-9232 FAX No. F-6864

REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD LIGHTING SIGN SCHEDULES  
 NORTH SIGN CIRCUIT EAST

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	N.T.S.
DATE:	07/27/2018

C. LECETTE FERGUSON  
 81460  
 REGISTERED PROFESSIONAL ENGINEER  
 7/27/18

DEPARTMENT OF AVIATION

APPROVED BY: DP	7/26/18
<i>Denzil Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E08-02



ELECTRICAL HANDHOLE/MANHOLE SCHEDULE						
MANHOLE DESIGNATION	BOX SIZE	LOAD RATING	NORTHING	EASTING	DUCTBANK DRAWING No.	REFERENCE DETAILS KEY NOTES COMMENTS
ELE-N 45	5x5x5	AC	EXISTING	EXISTING	E07-04	EXIST 501 (1)
ELE-N 46	5x5x5	AC	EXISTING	EXISTING	E07-04	EXIST 501 (1)
ELE-N 47	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 647 (1)
ELE-N 48	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (2)
ELE-N 49	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (2)
ELE-N 50	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (2)
ELE-N 51	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (5)
ELE-N 52	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (5)
ELE-N 53	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (5)
ELE-N 54	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (5)
ELE-N 55	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (5)
ELE-N 56	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 57	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 58	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 59	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 60	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (3)
ELE-N 61	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (3)
ELE-N 62	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (3)
ELE-N 63	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 64	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (5)
ELE-N 65	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (2)
ELE-N 66	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (2)
ELE-N 67	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (5)
ELE-N 68	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (2)
ELE-N 69	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (5)
ELE-N 70	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (5)
ELE-N 71	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (5)
ELE-N 72	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (2)
ELE-N 73	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (2)
ELE-N 74	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (5)
ELE-N 75	4x4x4	AC	EXISTING	EXISTING	E07-05	EXIST 491A (5)
ELE-N 76	4x4x4	AC	EXISTING	EXISTING	E07-05	EXIST 491A (2)
ELE-N 80	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (2)
ELE-N 81	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (2)
ELE-N 82	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (2)
ELE-N 83	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (2)
ELE-N 84	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (5)
ELE-N 85	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (5)
ELE-N 86	4x4x4	AC	EXISTING	EXISTING	E07-01	EXIST 491A (5)
ELE-N 87	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 88	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (5)
ELE-N 89	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 90	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (5)
ELE-N 92	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 93	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 94	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 491A (2)
ELE-N 95	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (2)
ELE-N 96	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (5)
ELE-N 97	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (2)
ELE-N 98	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (2)
ELE-N 99	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (5)
ELE-N 100	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (3)
ELE-N 101	4x4x4	AC	EXISTING	EXISTING	E07-03	EXIST 491A (2)
ELE-N 102	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (2)
ELE-N 103	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (2)
ELE-N 104	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (2)
ELE-N 105	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (5)
ELE-N 106	4x4x4	AC	EXISTING	EXISTING	E07-04	EXIST 491A (5)
ELE-N 107	4x4x4	AC	EXISTING	EXISTING	E07-05	EXIST 491A (2)
ELE-N 108	4x4x4	AC	EXISTING	EXISTING	E07-05	EXIST 491A (5)
ELE-N 109	4x4x4	AC	EXISTING	EXISTING	E07-05	EXIST 491A (2)
ELE-N 110	4x4x4	AC	13930585.1046	3126235.1733	E07-06	NEW 675 (4)

FAA HANDHOLE/MANHOLE SCHEDULE						
JUNCTION CAN PLAZA	BOX SIZE	LOAD RATING	NORTHING	EASTING	DUCTBANK DRAWING No.	REFERENCE DETAILS KEY NOTES COMMENTS
FAA-37	4x4x4	AC	EXISTING	EXISTING	E07-02	EXIST 647 (2)
FAA-40	4x4x4	AC	13927170.5547	3126784.5919	E07-03	NEW 675 (4)
FAA-41	4x4x4	AC	13927553.0171	3126772.3314	E07-03	NEW 675 (4)

COMMUNICATION HANDHOLE/MANHOLE SCHEDULE					
MANHOLE DESIGNATION	BOX SIZE	STATION	OFFSET	PLAN/PROFILE DRAWING No.	REFERENCE DETAILS KEY NOTES COMMENTS
COM-N 01	6x6x6	EXISTING	EXISTING	E07-01	539B/647MOD (1)
COM-N 02	6x6x6	EXISTING	EXISTING	E07-01	539B/647MOD (1)
COM-N 03	5x5x5	EXISTING	EXISTING	E07-01	555/647MOD (1)
COM-N 04	5x5x5	EXISTING	EXISTING	E07-01	EXIST 555 (1)
COM-N 05	5x5x5	EXISTING	EXISTING	E07-01	EXIST 555 (1)
COM-N 06	5x5x5	EXISTING	EXISTING		EXIST 555 (1)
COM-N 07	5x5x5	EXISTING	EXISTING		EXIST 555 (1)
COM-N 08	5x5x5	EXISTING	EXISTING		EXIST 555 (1)
COM-N 09	5x5x5	EXISTING	EXISTING		EXIST 555 (1)
COM-N 10	5x5x5	EXISTING	EXISTING		EXIST 555 (1)
COM-N 12	5x5x5	EXISTING	EXISTING		EXIST 555 (1)
COM-N 13	5x5x5	EXISTING	EXISTING		EXIST 555 (1)
COM-N 14	5x5x5	EXISTING	EXISTING	E07-03	EXIST 555 (1)
COM-N 15	5x5x5	EXISTING	EXISTING	E07-03	EXIST 555 (1)
COM-N 16	5x5x5	EXISTING	EXISTING	E07-03	EXIST 555 (1)
COM-N 17	5x5x5	EXISTING	EXISTING	E07-03	EXIST 501 (1)
COM-N 18	5x5x5	EXISTING	EXISTING	E07-03	EXIST 501 (1)
COM-N 19	5x5x5	EXISTING	EXISTING	E07-04	EXIST 501 (1)
COM-N 20	5x5x5	EXISTING	EXISTING	E07-04	501/647MOD (1)
COM-N 21	5x5x5	EXISTING	EXISTING	E07-04	EXIST 501 (1)
COM-N 22	5x5x5	EXISTING	EXISTING	E07-04	EXIST 501 (1)
COM-N 23	5x5x5	EXISTING	EXISTING	E07-04	EXIST 501 (1)
COM-N 24	5x5x5	EXISTING	EXISTING	E07-04	EXIST 501 (1)
COM-N 25	5x5x5	EXISTING	EXISTING	E07-02	EXIST 501 (1)
COM-N 26	5x5x5	EXISTING	EXISTING	E07-02	EXIST 501 (2)
COM-N 27	5x5x5	EXISTING	EXISTING	E07-02	EXIST 501 (1)

**GENERAL NOTES:**

1. PROVIDE DRAIN LINE IN ALL NEW MANHOLES. REFER TO E08 SERIES.
2. FOR ALL WORK TO THE HAS COMMUNICATION MANHOLES, UPDATE THE LABELING AND GIS DATA FOLLOWING THE HAS MASTER SPECIFICATION SECTION 27 05 53 - IDENTIFICATION AND LABELING OF COMMUNICATION INFRASTRUCTURE. PAYMENT IS INCIDENTAL TO THE ASSOCIATED MANHOLE LINE ITEM. ALL NEW MANHOLE COVERS MUST GET AN ID FOLLOWING THE GIS REQUIREMENTS. THE CONTRACTOR WILL BE REQUIRED TO ENTER DATA REGARDING THE HANDHOLE MODIFICATIONS INTO THE GIS SOFTWARE. THIS DATA WILL INCLUDE THE MANHOLE NECK LENGTH, LID TYPE, LID DIAMETER, AND DEPTH. NEW BUTTERFLY DIAGRAMS, DIGITAL PHOTOS, X/Y COORDINATES, ETC ARE NOT REQUIRED FOR EXISTING MODIFIED HANDHOLES.

**KEY NOTES:**

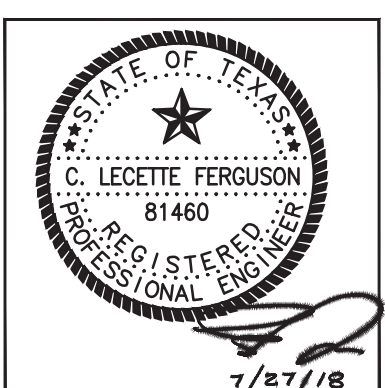
- 1 EXISTING MANHOLE/HANDHOLE TO REMAIN. SHOWN FOR REFERENCE ONLY.
- 2 MODIFY EXISTING MANHOLE/HANDHOLE TO ADJUST FOR NEW GRADES AND MODIFY TO AC RATED. RE-USE EXISTING AC RATED SPRING-LOADED COVER.
- 3 REMOVE EXISTING MANHOLE/HANDHOLE.
- 4 INSTALL NEW AC RATED MANHOLE/HANDHOLE. VERIFY EXACT ID WITH RESPECTIVE MH OWNER REPRESENTATIVE.
- 5 MODIFY EXISTING MANHOLE/HANDHOLE TO AC RATED.



REVISIONS		
NO.	DESCRIPTION	DATE

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD LIGHTING  
 MANHOLE SCHEDULES

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	N.T.S.
DATE:	07/27/18



DEPARTMENT OF AVIATION	
APPROVED BY: DP	7/26/18
<i>Denaj Rahmal</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E08-03

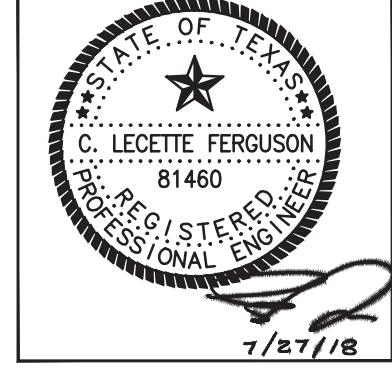




REVISIONS  
NO. DESCRIPTION DATE BY

REHABILITATION OF TAXIWAY NA AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE TAXIWAY 'NA' EDGE

ISSUED FOR BID  
PROJECT MGR: CLF  
DESIGNER: RSF  
DRAWN BY: RSF  
CHECKED BY: CLF  
SCALE: N.T.S.  
DATE: 07/27/2018



DEPARTMENT OF AVIATION  
APPROVED BY: DP 7/26/18  
Doraj Pahel  
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
C.I.P. NO. A-000570  
H.A.S. NO.  
SHEET NO.

FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR					LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES	
			CLEAR	180°	360°	QUANT	LED VA	NORTHING COORD.	EASTING COORD.					
														RED
197NAE	L-861T	L-867							N/A	15	13927593.0714	3131628.8838	NA EDGE	(1)
198NAE	L-861T	L-867							N/A	15	13927578.8694	3131583.1870	NA EDGE	(1)
199NAE	L-861T	L-867							N/A	15	13927564.6674	3131537.4902	NA EDGE	(1)
200NAE	L-861T	L-867							N/A	15	13927551.6480	3131345.1101	NA EDGE	(1)
201NAE	L-861T	L-867							N/A	15	13927540.2004	3131175.9550	NA EDGE	(1)
202NAE	L-861T	L-867							N/A	15	13927533.6387	3131006.6428	NA EDGE	(1)
203NAE	L-861T	L-867							N/A	15	13927528.1933	3130837.2947	NA EDGE	(1)
204NAE	L-861T	L-867							N/A	15	13927523.7865	3130667.9132	NA EDGE	(1)
205NAE	L-861T	L-867							N/A	15	13927522.4879	3130548.4576	NA EDGE	(1)
206NAE	L-861T	L-867							N/A	15	13927521.9443	3130498.4493	NA EDGE	(1)
207NAE	L-861T	L-867							N/A	15	13927521.2324	3130432.9621	NA EDGE	(1)
208NAE	L-861T	L-867							N/A	15	13927541.5066	3129677.5762	NA EDGE	(1)
209NAE	L-861T	L-867							N/A	15	13927529.6217	3129631.6215	NA EDGE	(1)
210NAE	L-861T	L-867							N/A	15	13927517.7369	3129585.6667	NA EDGE	(1)
211NAE	L-861T	L-867							N/A	15	13927505.8520	3129539.7120	NA EDGE	(1)
212NAE	L-861T	L-867							N/A	15	13927493.9671	3129493.7572	NA EDGE	(1)
213NAE	L-861T	L-867							N/A	15	13927483.1431	3129309.7777	NA EDGE	(1)
214NAE	L-861T	L-867							N/A	15	13927473.1594	3129125.7711	NA EDGE	(1)
215NAE	L-861T	L-867							N/A	15	13927467.2384	3128941.6339	NA EDGE	(1)
216NAE	L-861T	L-867							N/A	15	13927461.3175	3128757.4967	NA EDGE	(1)
217NAE	L-861T	L-867							N/A	15	13927455.3966	3128573.3595	NA EDGE	(1)
218NAE	L-861T	L-867							N/A	15	13927450.5495	3128422.6194	NA EDGE	(1)
219NAE	L-861T	L-867							N/A	15	13927449.4757	3128389.2223	NA EDGE	(1)
220NAE	L-861T	L-867							N/A	15	13927436.1048	3127599.1788	NA EDGE	(1)
221NAE	L-861T	L-867							N/A	15	13927431.3351	3127549.3064	NA EDGE	(1)
222NAE	L-861T	L-867							N/A	15	13927426.7908	3127480.1549	NA EDGE	(1)
223NAE	L-861T	L-867							N/A	15	13927420.9991	3127392.0209	NA EDGE	(1)
224NAE	L-861T	L-867							N/A	15	13927415.2074	3127303.8868	NA EDGE	(1)
225NAE	L-861T	L-867							N/A	15	13927411.7404	3127215.6780	NA EDGE	(1)
226NAE	L-861T	L-867							N/A	15	13927408.9034	3127127.4490	NA EDGE	(1)
227NAE	L-861T	L-867							N/A	15	13927405.7909	3127039.2226	NA EDGE	(1)
228NAE	L-861T	L-867							N/A	15	13927403.2294	3126950.9908	NA EDGE	(1)
229NAE	L-861T	L-867							N/A	15	13927404.3368	3126792.8254	NA EDGE	(1)
230NAE	L-861T	L-867							N/A	15	13927405.1498	3126684.6952	NA EDGE	(1)
231NAE	L-861T	L-867							N/A	15	13927406.7700	3126634.6173	NA EDGE	(1)

GENERAL NOTES:

- REFER TO THE E3 SERIES FOR LIGHTING PLANS, THE E4 SERIES FOR DIMENSION PLANS AND THE E10 SERIES FOR DETAILS. FIXTURE NORTHINGS AND EASTINGS HAVE BEEN PROVIDED FOR THE CONTRACTORS USE IN LOCATING THE NEW BASE CAN. HOWEVER, THE CONTRACTOR MUST INSTALL ALL FIXTURES FOLLOWING THE DETAILS. WHERE THE NORTHINGS AND EASTINGS CONFLICT WITH DETAILS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR GUIDANCE. TYPICALLY, THE DETAILS SHALL SUPERCEDE THE NORTHINGS AND EASTINGS INFORMATION. FOR EXAMPLE, ALL EDGE FIXTURES MUST MAINTAIN A 10'-0" OFFSET FROM THE EDGE OF PAVEMENT MARKING. IF MARKINGS ARE MODIFIED, THE NORTHINGS AND EASTINGS MAY NO LONGER BE ACCURATE.

KEYED NOTES:

- FURNISH AND INSTALL NEW LIGHT (TYPE AS SHOWN) MOUNTED ON A NEW BASE CAN (TYPE AS SHOWN) IN NEW PAVEMENT FOLLOWING LINE ITEM, SPECIFICATIONS AND DETAILS.
- FURNISH AND INSTALL NEW LIGHT (TYPE AS SHOWN) MOUNTED IN AN EXISTING BASE CAN (TYPE AS SHOWN) FOLLOWING LINE ITEM, SPECIFICATIONS AND DETAILS.
- FURNISH AND INSTALL 1" PVC DRAIN PIPE FROM BASE CAN.
- EXISTING FIXTURE SHOWN FOR REFERENCE ONLY. FIXTURE IS NOT IN SCOPE OF WORK.

LIGHT FIXTURES ELECTRICAL INFORMATION:

FIXTURE TYPE	FAA TYPE	LAMP WATTAGE	ISOLATION TRANSFORMER
TAXIWAY ELEVATED LED EDGE LIGHT	L-861T	15 VA	10/15W (6.6A)
TAXIWAY SEMI-FLUSH LED EDGE LIGHT	L-852T	25 VA	20/25W (6.6A)

FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR					LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES	
			CLEAR	180°	360°	QUANT	LED VA	NORTHING COORD.	EASTING COORD.					
														RED
100NAE	L-861T	L-867							N/A	15	13927247.9763	3125296.4919	NA EDGE	(1)
101NAE	L-861T	L-867							N/A	15	13927251.5106	3125480.2250	NA EDGE	(1)
102NAE	L-861T	L-867							N/A	15	13927250.5972	3125664.1011	NA EDGE	(1)
103NAE	L-861T	L-867							N/A	15	13927249.8279	3125818.9781	NA EDGE	(1)
104NAE	L-861T	L-867							N/A	15	13927236.7778	3125863.8744	NA EDGE	(1)
105NAE	L-861T	L-867							N/A	15	13927223.7276	3125908.7706	NA EDGE	(1)
106NAE	L-861T	L-867							N/A	15	13927210.6774	3125953.6669	NA EDGE	(1)
107NAE	L-861T	L-867							N/A	15	13927192.7831	3125980.8078	NA EDGE	(1)
108NAE	L-861T	L-867							N/A	15	13927198.9938	3126190.1877	NA EDGE	(1)
109NAE	L-861T	L-867							N/A	15	13927219.1341	3126216.4955	NA EDGE	(1)
110NAE	L-861T	L-867							N/A	15	13927235.0394	3126260.4479	NA EDGE	(1)
111NAE	L-861T	L-867							N/A	15	13927250.9447	3126304.4003	NA EDGE	(1)
112NAE	L-861T	L-867							N/A	15	13927266.8499	3126348.3527	NA EDGE	(1)
113NAE	L-861T	L-867							N/A	15	13927273.5581	3126445.0582	NA EDGE	(1)
114NAE	L-861T	L-867							N/A	15	13927280.2662	3126541.7637	NA EDGE	(1)
115NAE	L-861T	L-867							N/A	15	13927286.9743	3126638.4693	NA EDGE	(1)
115oNAE	L-861T	L-867							N/A	15	13927287.6712	3126688.4727	NA EDGE	(1)
116NAE	L-861T	L-867							N/A	15	13927287.1342	3126796.5940	NA EDGE	(1)
117NAE	L-861T	L-867							N/A	15	13927286.3486	3126954.7491	NA EDGE	(1)
118NAE	L-861T	L-867							N/A	15	13927273.2984	3126999.6454	NA EDGE	(1)
119NAE	L-861T	L-867							N/A	15	13927260.2483	3127044.5417	NA EDGE	(1)
120NAE	L-861T	L-867							N/A	15	13927247.1981	3127089.4379	NA EDGE	(1)
121NAE	L-861T	L-867							N/A	15	13927229.8957	3127116.0560	NA EDGE	(1)
122NAE	L-861T	L-867							N/A	15	13927236.6939	3127326.9051	NA EDGE	(1)
123NAE	L-861T	L-867							N/A	15	13927255.6400	3127352.1537	NA EDGE	(1)
124NAE	L-861T	L-867							N/A	15	13927271.5502	3127396.1436	NA EDGE	(1)
125NAE	L-861T	L-867							N/A	15	13927287.4604	3127440.1336	NA EDGE	(1)
126NAE	L-861T	L-867							N/A	15	13927303.3706	3127484.1235	NA EDGE	(1)
126oNAE	L-861T	L-867							N/A	15	13927308.1668	3127553.2668	NA EDGE	(1)
127NAE	L-861T	L-867							N/A	15	13927311.6292	3127603.1813	NA EDGE	(1)
128NAE	L-861T	L-867							N/A	15	13927317.5177	3127700.9864	NA EDGE	(1)
129NAE	L-861T	L-867							N/A	15	13927317.1335	3127798.9931	NA EDGE	(1)
130NAE	L-861T	L-867							N/A	15	13927316.6467	3127897.0031	NA EDGE	(1)
131NAE	L-861T	L-867							N/A	15	13927303.5966	3127941.8994	NA EDGE	(1)
132NAE	L-861T	L-867							N/A	15	13927290.5464	3127986.7957	NA EDGE	(1)
133NAE	L-861T	L-867							N/A	15	13927277.4962	3128031.6919	NA EDGE	(1)
134NAE	L-861T	L-867							N/A	15	13927257.8817	3128060.1562	NA EDGE	(1)
135NAE	L-861T	L-867							N/A	15	13927264.4266	3128267.2722	NA EDGE	(1)
136NAE	L-861T	L-867							N/A	15	13927285.9571	3128294.5321	NA EDGE	(1)
137NAE	L-861T	L-867							N/A	15	13927301.8610	3128338.4806	NA EDGE	(1)
138NAE	L-861T	L-867							N/A	15	13927317.7649	3128382.4291	NA EDGE	(1)
139NAE	L-861T	L-867							N/A	15	13927333.6687	3128426.3777	NA EDGE	(1)
140NAE	L-861T	L-867							N/A	15	13927344.1126	3128576.9378	NA EDGE	(1)
141NAE	L-861T	L-867							N/A	15	13927356.8703	3128760.8552	NA EDGE	(1)
142NAE	L-861T	L-867							N/A	15	13927365.2910	3128944.9120	NA EDGE	(1)
143NAE	L-861T	L-867							N/A	15	13927371.2116	3129129.0493	NA EDGE	(1)
144NAE	L-861T	L-867							N/A	15	13927377.1323	3129313.1865	NA EDGE	(1)
145NAE	L-861T	L-867							N/A	15	13927383.0530	3129497.3237	NA EDGE	(1)
146NAE	L-861T	L-867							N/A	15	13927385.2856	3129592.3818	NA EDGE	(1)
147NAE	L-861T	L-867							N/A	15	13927384.8139	3129687.5269	NA EDGE	(1)
148NAE	L-861T	L-867							N/A	15	13927384.3422	3129782.6720	NA EDGE	(1)
149NAE	L-861T	L-867							N/A	15	13927383.8706	3129877.8171	NA EDGE	(1)
150NAE	L-861T	L-867							N/A	15	13927383.3989	3129972		





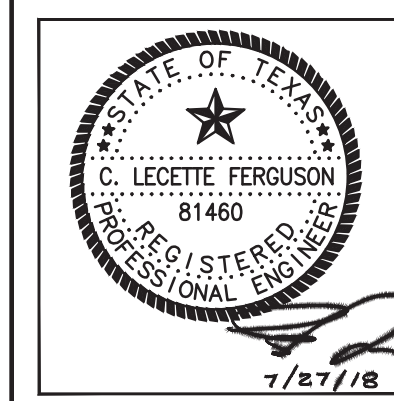
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD LIGHTING  
 LIGHT FIXTURE SCHEDULE  
 TAXIWAY 'NA' CENTERLINE (WEST)

ISSUED FOR BID

PROJECT MGR: CLF  
 DESIGNER: RLF  
 DRAWN BY: RLF  
 CHECKED BY: CLF  
 SCALE: N.T.S.  
 DATE: 07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
 Donaj Pahel  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO. 0907  
 C.I.P. NO. A-000570  
 H.A.S. NO.  
 SHEET NO. E08-05

FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR					LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES
			CLEAR	180°		360°		QUANT	WATT				
				RED	YEL	GRN	BLU						
179NAC1	L-852C	L-868B						2	30	13927239.8487	3124015.9215	NA CL1	
180NAC1	L-852C	L-868B						2	30	13927248.4927	3124035.1369	NA CL1	
181NAC1	L-852K	L-868B						2	30	13927254.7964	3124057.7846	NA CL1	
182NAC1	L-852C	L-868B						2	20	13927258.9879	3124129.8448	NA CL1	
183NAC1	L-852C	L-868B						2	20	13927260.5538	3124178.5434	NA CL1	
184NAC1	L-852C	L-868B						2	20	13927262.1558	3124228.3654	NA CL1	
185NAC1	L-852C	L-868B						2	20	13927263.6856	3124275.9405	NA CL1	
186NAC1	L-852C	L-868B						2	20	13927265.2090	3124323.3163	NA CL1	
187NAC1	L-852C	L-868B						2	20	13927266.8174	3124373.3377	NA CL1	
188NAC1	L-852C	L-868B						2	20	13927268.3833	3124422.0363	NA CL1	
189NAC1	L-852C	L-868B						2	20	13927269.9492	3124470.7348	NA CL1	
190NAC1	L-852C	L-868B						2	20	13927271.5151	3124519.4334	NA CL1	
191NAC1	L-852C	L-868B						2	20	13927273.0829	3124568.1898	NA CL1	
192NAC1	L-852C	L-868B						1	15	13927269.3772	3124608.5231	NA CL1	
193NAC1	L-852C	L-868B						1	15	13927274.3746	3124608.3620	NA CL1	
194NAC1	L-852C	L-868B						1	15	13927279.3720	3124608.2010	NA CL1	
195NAC1	L-852C	L-868B						2	20	13927274.6469	3124616.8306	NA CL1	
196NAC1	L-852C	L-868B						2	20	13927276.2967	3124668.1381	NA CL1	
197NAC1	L-852C	L-868B						2	20	13927277.7787	3124714.2277	NA CL1	
198NAC1	L-852C	L-868B						2	20	13927279.3446	3124762.9263	NA CL1	
199NAC1	L-852C	L-868B						2	20	13927280.9105	3124811.6249	NA CL1	
200NAC1	L-852C	L-868B						2	20	13927282.4764	3124860.3235	NA CL1	
201NAC1	L-852C	L-868B						2	20	13927284.0423	3124909.0221	NA CL1	
202NAC1	L-852C	L-868B						2	20	13927285.6082	3124957.7206	NA CL1	
203NAC1	L-852C	L-868B						2	20	13927287.2237	3125007.9625	NA CL1	
204NAC1	L-852C	L-868B						2	20	13927288.7400	3125055.1178	NA CL1	
205NAC1	L-852C	L-868B						2	20	13927290.2793	3125103.0351	NA CL1	
206NAC1	L-852C	L-868B						2	20	13927291.8718	3125152.5150	NA CL1	
207NAC1	L-852C	L-868B						2	20	13927293.4377	3125201.2135	NA CL1	
208NAC1	L-852C	L-868B						2	20	13927295.0036	3125249.9121	NA CL1	
209NAC1	L-852C	L-868B						2	20	13927296.5695	3125298.6107	NA CL1	
210NAC1	L-852C	L-868B						2	20	13927298.1507	3125347.7868	NA CL1	
211NAC1	L-852C	L-868B						2	20	13927299.7013	3125396.0079	NA CL1	
212NAC1	L-852C	L-868B						2	20	13927301.2039	3125442.7378	NA CL1	
213NAC1	L-852C	L-868B						2	20	13927302.8331	3125493.4050	NA CL1	
214NAC1	L-852C	L-868B						2	20	13927304.3990	3125542.1036	NA CL1	
215NAC1	L-852C	L-868B						2	20	13927305.9649	3125590.8022	NA CL1	
216NAC1	L-852C	L-868B						2	20	13927307.5308	3125639.5008	NA CL1	
217NAC1	L-852C	L-868B						1	15	13927303.8841	3125681.9804	NA CL1	
218NAC1	L-852C	L-868B						1	15	13927308.8916	3125681.8190	NA CL1	
219NAC1	L-852C	L-868B						1	15	13927313.8789	3125681.6582	NA CL1	
220NAC1	L-852C	L-868B						2	20	13927309.0967	3125688.1993	NA CL1	
221NAC1	L-852C	L-868B						2	20	13927310.6626	3125736.8979	NA CL1	
222NAC1	L-852C	L-868B						2	20	13927312.2916	3125787.5595	NA CL1	
223NAC1	L-852C	L-868B						2	20	13927313.7944	3125834.2951	NA CL1	
224NAC1	L-852C	L-868B						2	20	13927315.3447	3125882.5105	NA CL1	
225NAC1	L-852C	L-868B						2	20	13927316.9262	3125931.6922	NA CL1	
226NAC1	L-852C	L-868B						2	20	13927318.5331	3125981.6664	NA CL1	
227NAC1	L-852C	L-868B						2	20	13927320.1400	3126031.6406	NA CL1	
228NAC1	L-852C	L-868B						2	20	13927321.7469	3126081.6148	NA CL1	
229NAC1	L-852C	L-868B						2	20	13927323.3538	3126131.5889	NA CL1	
230NAC1	L-852C	L-868B						2	20	13927324.9608	3126181.5631	NA CL1	
231NAC1	L-852C	L-868B						2	20	13927326.5677	3126231.5373	NA CL1	
232NAC1	L-852C	L-868B						2	30	13927324.0118	3126208.5371	NA CL1	
233NAC1	L-852K	L-868B						2	30	13927318.4064	3126187.6754	NA CL1	
234NAC1	L-852K	L-868B						2	30	13927308.3526	3126165.1346	NA CL1	
235NAC1	L-852K	L-868B						2	30	13927295.6349	3126145.8006	NA CL1	
236NAC1	L-852K	L-868B						2	30	13927280.0496	3126128.6938	NA CL1	
237NAC1	L-852K	L-868B						2	30	13927260.9123	3126113.5171	NA CL1	
238NAC1	L-852K	L-868B						2	30	13927241.8273	3126102.7809	NA CL1	
239NAC1	L-852K	L-868B						2	30	13927220.2201	3126094.6126	NA CL1	
240NAC1	L-852K	L-868B						2	30	13927199.8531	3126090.2387	NA CL1	
241NAC1	L-852C	L-868B						2	20	13927174.4400	3126088.8527	NA CL1	
242NAC1	L-852C	L-868B						1	15	13927195.1151	3126083.3625	NA CL1	
242BAC1	L-852C	L-868B						1	15	13927195.2577	3126088.3386	NA CL1	
242CAC1	L-852C	L-868B						1	15	13927195.4316	3126093.3523	NA CL1	
243NAC1	L-852K	L-868B						2	30	13927199.4864	3126080.8529	NA CL1	
244NAC1	L-852K	L-868B						2	30	13927219.5397	3126075.1861	NA CL1	
245NAC1	L-852K	L-868B						2	30	13927240.6327	3126065.6481	NA CL1	
246NAC1	L-852K	L-868B						2	30	13927259.9736	3126052.9285	NA CL1	
247NAC1	L-852K	L-868B						2	30	13927277.0862	3126037.3384	NA CL1	
248NAC1	L-852K	L-868B						2	30	13927291.5488	3126019.2632	NA CL1	
249NAC1	L-852K	L-868B						2	30	13927303.6548	3125997.7464	NA CL1	
250NAC1	L-852K	L-868B						2	30	13927311.1736	3125977.4877	NA CL1	
251NAC1	L-852K	L-868B						2	30	13927315.8522	3125954.8164	NA CL1	

- KEYED NOTES:**
- FURNISH AND INSTALL NEW BI-DIRECTIONAL INPAVEMENT LIGHT (TYPE AS NOTED) MOUNTED ON A NEW L-868B BASE CAN IN NEW PAVEMENT FOLLOWING LINE ITEM, SPECIFICATIONS AND DETAILS.
  - FURNISH AND INSTALL NEW BI-DIRECTIONAL INPAVEMENT LIGHT (TYPE AS NOTED) MOUNTED IN AN EXISTING BASE CAN FOLLOWING LINE ITEM, SPECIFICATIONS AND DETAILS.
  - FURNISH AND INSTALL NEW UNI-DIRECTIONAL INPAVEMENT LIGHT (L-852C) MOUNTED ON A NEW L-868B BASE CAN IN NEW PAVEMENT FOLLOWING LINE ITEM, SPECIFICATIONS AND DETAILS.
  - EXISTING FIXTURE SHOWN FOR REFERENCE ONLY. FIXTURE IS NOT IN SCOPE OF WORK.

**GENERAL NOTES:**  
 REFER TO E08-06 FOR GENERAL NOTES

LIGHT FIXTURES ELECTRICAL INFORMATION:			
FIXTURE TYPE	FAA TYPE	LAMP WATTAGE	ISOLATION TRANSFORMER
TAXIWAY FLUSH LED CENTERLINE LIGHT	L-852C	20VA	20/25W (6.6A)
TAXIWAY FLUSH LED CENTERLINE LIGHT	L-852D	30VA	30/45W (6.6A)
TAXIWAY FLUSH LED CLEARANCE LIGHT	L-852C	15VA	10/15W (6.6A)
TAXIWAY FLUSH LED CENTERLINE LIGHT	L-852K	30VA	30/45W (6.6A)

FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR					LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES
			CLEAR	180°		360°		QUANT	LED VA				
				RED	YEL	GRN	BLU						
1NAC1	L-852C	L-868B						2	20	13927420.1181	3122454.4654	NA CL1	
2NAC1	L-852C	L-868B						2	20	13927466.2105	3122452.9853	NA CL1	
3NAC1	L-852C	L-868B						2	20	13927517.4332	3122451.3147	NA CL1	
4NAC1	L-852C	L-868B						2	20	13927566.0908	3122449.7394	NA CL1	
5NAC1	L-852C	L-868B						2	20	13927614.7484	3122448.1641	NA CL1	
6NAC1	L-852C	L-868B						2	20	13927663.4059	3122446.5887	NA CL1	
7NAC1	L-852C	L-868B						2	20	13927712.0635	3122445.0134	NA CL1	
8NAC1	L-852C	L-868B						2	20	EXISTING	EXISTING	NA CL1	
9NAC1	L-852C	L-868B						2	20	EXISTING	EXISTING	NA CL1	
10NAC1	L-852C	L-868B						2	20	EXISTING	EXISTING	NA CL1	
11NAC1	L-852C	L-868B						2	20	EXISTING	EXISTING	NA CL1	
12NAC1	L-852K	L-868B						2	30	13927635.8295	3122449.3177	NA CL1	
13NAC1	L-852K	L-868B						2	30	13927656.5122	3122453.6963	NA CL1	
14NAC1	L-852K	L-868B						2	30	13927676.6295	3122460.1956	NA CL1	
15NAC1	L-852K	L-868B						2	30	13927695.9646	3122468.7456	NA CL1	
16NAC1	L-852K	L-868B											





REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD LIGHTING  
 LIGHT FIXTURE SCHEDULE  
 TAXIWAY 'NA' CENTERLINE (EAST)

TAXIWAY NA CENTERLINE LIGHT FIXTURES													
FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR					LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES
			CLEAR	RED	YEL	GRN	BLU	QUANT	LED VA				
1NAC2	L-852C	L-868B						2	20	13927328.1487	3126280.7082	NA CL2	⓪
2NAC2	L-852C	L-868B						2	20	13927329.7298	3126329.8792	NA CL2	⓪
3NAC2	L-852C	L-868B						2	20	13927331.3109	3126379.0502	NA CL2	⓪
4NAC2	L-852C	L-868B						2	20	13927332.8919	3126428.2212	NA CL2	⓪
5NAC2	L-852C	L-868B						2	20	13927334.4730	3126477.3921	NA CL2	⓪
6NAC2	L-852C	L-868B						2	20	13927336.0806	3126527.3444	NA CL2	⓪
7NAC2	L-852C	L-868B						2	20	13927337.6351	3126575.7341	NA CL2	⓪
8NAC2	L-852C	L-868B						2	20	13927339.2876	3126627.1256	NA CL2	⓪
9NAC2	L-852C	L-868B						1	15	13927334.7484	3126641.5289	NA CL2	⓪
10NAC2	L-852C	L-868B						1	15	13927339.7458	3126641.3679	NA CL2	⓪
11NAC2	L-852C	L-868B						1	15	13927344.7432	3126641.2068	NA CL2	⓪
12NAC2	L-852C	L-868B						2	20	13927340.7973	3126674.0760	NA CL2	⓪
13NAC2	L-852C	L-868B						2	20	13927342.3393	3126722.0766	NA CL2	⓪
14NAC2	L-852C	L-868B						2	20	13927343.9594	3126772.4180	NA CL2	⓪
15NAC2	L-852C	L-868B						2	20	13927345.5405	3126821.5890	NA CL2	⓪
16NAC2	L-852C	L-868B						2	20	13927347.1215	3126870.7599	NA CL2	⓪
17NAC2	L-852C	L-868B						2	20	13927348.7026	3126919.9309	NA CL2	⓪
18NAC2	L-852C	L-868B						2	20	13927350.2837	3126969.1019	NA CL2	⓪
19NAC2	L-852C	L-868B						2	20	13927351.8175	3127017.0482	NA CL2	⓪
20NAC2	L-852C	L-868B						1	15	13927346.9877	3127022.1642	NA CL2	⓪
21NAC2	L-852C	L-868B						1	15	13927351.9851	3127022.0031	NA CL2	⓪
22NAC2	L-852C	L-868B						1	15	13927356.9825	3127021.8421	NA CL2	⓪
23NAC2	L-852C	L-868B						2	20	13927353.4458	3127067.4438	NA CL2	⓪
24NAC2	L-852C	L-868B						2	20	13927355.0527	3127117.4180	NA CL2	⓪
25NAC2	L-852C	L-868B						2	20	13927356.6596	3127167.3922	NA CL2	⓪
26NAC2	L-852C	L-868B						2	20	13927358.2665	3127217.3663	NA CL2	⓪
27NAC2	L-852C	L-868B						2	20	13927359.8735	3127267.3405	NA CL2	⓪
28NAC2	L-852C	L-868B						2	20	13927361.4804	3127317.3147	NA CL2	⓪
29NAC2	L-852C	L-868B						2	20	13927363.0873	3127367.2889	NA CL2	⓪
30NAC2	L-852K	L-868B						2	30	13927360.5307	3127344.2849	NA CL2	⓪
31NAC2	L-852K	L-868B						2	30	13927354.4069	3127321.9642	NA CL2	⓪
32NAC2	L-852K	L-868B						2	30	13927345.5439	3127302.1197	NA CL2	⓪
33NAC2	L-852K	L-868B						2	30	13927332.1452	3127281.5403	NA CL2	⓪
34NAC2	L-852K	L-868B						2	30	13927316.5554	3127264.4325	NA CL2	⓪
35NAC2	L-852K	L-868B						2	30	13927298.4814	3127249.9741	NA CL2	⓪
36NAC2	L-852K	L-868B						2	30	13927278.3680	3127238.5212	NA CL2	⓪
37NAC2	L-852K	L-868B						2	30	13927256.7106	3127230.3558	NA CL2	⓪
38NAC2	L-852K	L-868B						2	30	13927236.4685	3127226.0036	NA CL2	⓪
39NAC2	L-852C	L-868B						2	20	13927210.9219	3127224.6055	NA CL2	⓪
40NAC2	L-852C	L-868B						2	20	13927210.7624	3127219.6080	NA CL2	⓪
40aNAC2	L-852C	L-868B						1	15	13927231.1216	3127216.5390	NA CL2	⓪
40bNAC2	L-852C	L-868B						1	15	13927231.2642	3127221.5151	NA CL2	⓪
40cNAC2	L-852C	L-868B						1	15	13927231.4380	3127226.5288	NA CL2	⓪
41NAC2	L-852K	L-868B						2	30	13927236.1013	3127216.5847	NA CL2	⓪
42NAC2	L-852K	L-868B						2	30	13927256.0868	3127210.9277	NA CL2	⓪
43NAC2	L-852K	L-868B						2	30	13927277.1747	3127201.3877	NA CL2	⓪
44NAC2	L-852K	L-868B						2	30	13927296.5106	3127188.6663	NA CL2	⓪
45NAC2	L-852K	L-868B						2	30	13927313.6183	3127173.0766	NA CL2	⓪
46NAC2	L-852K	L-868B						2	30	13927328.0767	3127155.0027	NA CL2	⓪
47NAC2	L-852K	L-868B						2	30	13927340.0718	3127133.7221	NA CL2	⓪
48NAC2	L-852K	L-868B						2	30	13927347.6952	3127113.2323	NA CL2	⓪
49NAC2	L-852K	L-868B						2	30	13927352.3723	3127090.5644	NA CL2	⓪
50NAC2	L-852C	L-868B						1	15	13927359.3647	3127412.4335	NA CL2	⓪
51NAC2	L-852C	L-868B						1	15	13927364.5341	3127412.2669	NA CL2	⓪
52NAC2	L-852C	L-868B						1	15	13927369.3595	3127412.1114	NA CL2	⓪
53NAC2	L-852C	L-868B						2	20	13927364.6876	3127417.2201	NA CL2	⓪
54NAC2	L-852C	L-868B						2	20	13927366.2837	3127466.6917	NA CL2	⓪
55NAC2	L-852C	L-868B						2	20	13927367.8545	3127515.5417	NA CL2	⓪
56NAC2	L-852C	L-868B						2	20	13927369.4976	3127566.6400	NA CL2	⓪
57NAC2	L-852C	L-868B						2	20	13927371.0326	3127614.3769	NA CL2	⓪
58NAC2	L-852C	L-868B						1	15	13927366.8827	3127641.1982	NA CL2	⓪
59NAC2	L-852C	L-868B						1	15	13927371.8901	3127641.0368	NA CL2	⓪
60NAC2	L-852C	L-868B						1	15	13927376.8775	3127640.8761	NA CL2	⓪
61NAC2	L-852C	L-868B						2	20	13927372.5508	3127661.5910	NA CL2	⓪
62NAC2	L-852C	L-868B						2	20	13927374.2107	3127713.2121	NA CL2	⓪
63NAC2	L-852C	L-868B						2	20	13927375.7647	3127761.5393	NA CL2	⓪
64NAC2	L-852C	L-868B						2	20	13927377.3888	3127812.0474	NA CL2	⓪
65NAC2	L-852C	L-868B						2	20	13927378.9779	3127861.4650	NA CL2	⓪
66NAC2	L-852C	L-868B						2	20	13927380.5669	3127910.8826	NA CL2	⓪
67NAC2	L-852C	L-868B						2	20	13927382.1560	3127960.3002	NA CL2	⓪
68NAC2	L-852C	L-868B						2	20	13927383.7450	3128009.7178	NA CL2	⓪
69NAC2	L-852C	L-868B						2	20	13927385.3519	3128059.6920	NA CL2	⓪
70NAC2	L-852C	L-868B						2	20	13927386.9589	3128109.6661	NA CL2	⓪
71NAC2	L-852C	L-868B						2	20	13927388.5658	3128159.6403	NA CL2	⓪
72NAC2	L-852C	L-868B						2	20	13927390.1727	3128209.6145	NA CL2	⓪
73NAC2	L-852C	L-868B						2	20	13927391.7796	3128259.5887	NA CL2	⓪
74NAC2	L-852C	L-868B						2	20	13927393.3865	3128309.5628	NA CL2	⓪
75NAC2	L-852K	L-868B						2	30	13927390.8299	3128286.5588	NA CL2	⓪
76NAC2	L-852K	L-868B						2	30	13927384.7081	3128264.2379	NA CL2	⓪
77NAC2	L-852K	L-868B						2	30	13927375.1659	3128243.1499	NA CL2	⓪
78NAC2	L-852K	L-868B						2	30	13927376.0890	3128222.0959	NA CL2	⓪
79NAC2	L-852K	L-868B						2	30	13927346.8543	3128206.7061	NA CL2	⓪
80NAC2	L-852K	L-868B						2	30	13927328.7801	3128192.2478	NA CL2	⓪
81NAC2	L-852K	L-868B						2	30	13927311.2180	3128182.0232	NA CL2	⓪
82NAC2	L-852K	L-868B						2	30	13927287.0090	3128172.6295	NA CL2	⓪
83NAC2	L-852K	L-868B						2	30	13927266.7647	3128168.2775	NA CL2	⓪
84NAC2	L-852C	L-868B						2	20	13927239.7932	3128166.9254	NA CL2	⓪
85NAC2	L-852C	L-868B						2	20	13927239.6371	3128161.9278	NA CL2	⓪
85aNAC2	L-852C	L-868B						1	15	13927282.0577	3128161.2738	NA CL2	⓪
85bNAC2	L-852C	L-868B						1	15	13927282.2003	3128166.2499	NA CL2	⓪
85cNAC2	L-852C	L-868B						1	15	13927282.3741	3128171.2636	NA CL2	⓪
86NAC2	L-852K	L-868B						2	30	13927286.4655	3128158.8451	NA CL2	⓪
87NAC2	L-852K	L-868B						2	30	13927286.3878	3128153.2011	NA CL2	⓪
88NAC2	L-852K	L-868B						2	30	13927308.8244	3128142.9087	NA CL2	⓪
89NAC2	L-852K	L-868B						2	30	13927326.8109	3128130.9394	NA CL2	⓪
90NAC2	L-852K	L-868B						2	30	13927343.9183	3128115.3498	NA CL2	⓪
91NAC2	L-852K	L-868B						2	30	13927358.3764	3128097.2759	NA CL2	⓪
92NAC2	L-852K	L-868B						2	30	13927370.6385	3128075.4099	NA CL2	⓪
93NAC													



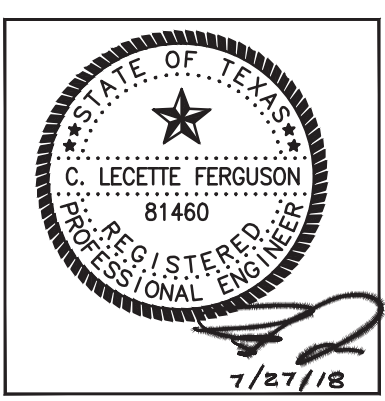
REVISIONS

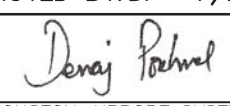
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD LIGHTING  
 LIGHT FIXTURE SCHEDULE  
 HIGH SPEED EXIT EDGE

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	N.T.S.
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR						LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES
			CLEAR	180°			360°		QUANT.	WATT				
				RED	YEL	GRN	OBS	YEL						
1NFHLE	L-861T	L-867							N/A	15	13927326.1017	31243933.8427	NF,NH,NL EDGE	②
2NFHLE	L-861T	L-867							N/A	15	13927365.7066	31244059.8564	NF,NH,NL EDGE	②
3NFHLE	L-861T	L-867							N/A	15	13927425.7542	3124177.5097	NF,NH,NL EDGE	②
4NFHLE	L-861T	L-867							N/A	15	13927475.6369	3124257.8304	NF,NH,NL EDGE	②
5NFHLE	L-861T	L-867							N/A	15	13927525.5197	3124338.1510	NF,NH,NL EDGE	②
6NFHLE	L-861T	L-867							N/A	15	13927575.4025	3124418.4717	NF,NH,NL EDGE	②
7NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
8NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
9NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
10NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
11NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
12NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
13NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
14NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
15NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
16NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
17NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
18NFHLE	L-861T	L-867							N/A	15	13927538.1375	3124553.2764	NF,NH,NL EDGE	②
19NFHLE	L-861T	L-867							N/A	15	13927494.2567	3124518.3943	NF,NH,NL EDGE	②
20NFHLE	L-861T	L-867							N/A	15	13927461.6214	3124500.5427	NF,NH,NL EDGE	②
21NFHLE	L-861T	L-867							N/A	15	13927424.4486	3124501.9311	NF,NH,NL EDGE	②
22NFHLE	L-861T	L-867							N/A	15	13927393.2358	3124522.1673	NF,NH,NL EDGE	②
23NFHLE	L-861T	L-867							N/A	15	13927407.5646	3126087.0527	NF,NH,NL EDGE	① ②
24NFHLE	L-861T	L-867							N/A	15	13927438.0052	3126164.5180	NF,NH,NL EDGE	①
25NFHLE	L-861T	L-867							N/A	15	13927477.5517	3126237.7545	NF,NH,NL EDGE	①
26NFHLE	L-861T	L-867							N/A	15	13927524.4335	3126313.2749	NF,NH,NL EDGE	①
27NFHLE	L-861T	L-867							N/A	15	13927571.3153	3126388.7952	NF,NH,NL EDGE	① ②
28NFHLE	L-861T	L-867							N/A	15	13927618.1971	3126464.3156	NF,NH,NL EDGE	①
29NFHLE	L-861T	L-867							N/A	15	13927667.9402	3126538.0598	NF,NH,NL EDGE	①
29aNFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
30NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
31NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
32NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
33NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
34NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
35NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
36NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
37NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
38NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
39NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
40NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
40aNFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
40bNFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
40cNFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
41NFHLE	L-861T	L-867							N/A	15	13927582.2425	3126591.2595	NF,NH,NL EDGE	①
42NFHLE	L-861T	L-867							N/A	15	13927548.0930	3126558.5580	NF,NH,NL EDGE	①
43NFHLE	L-861T	L-867							N/A	15	13927502.4094	3126546.3685	NF,NH,NL EDGE	① ②
44NFHLE	L-861T	L-867							N/A	15	13927456.5080	3126557.7103	NF,NH,NL EDGE	①
45NFHLE	L-861T	L-867							N/A	15	13927421.7590	3126589.7741	NF,NH,NL EDGE	①
46NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
47NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
48NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
49NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
50NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
51NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
52NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
53NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
54NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
55NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
56NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
57NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
57aNFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
58NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
59NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
60NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
61NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
62NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
63NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
64NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
65NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
66NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
67NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②
68NFHLE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NF,NH,NL EDGE	②

FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR						LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES
			CLEAR	180°			360°		QUANT.	WATT				
				RED	YEL	GRN	OBS	YEL						
1NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
2NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
3NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
4NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
5NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
6NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
7NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
8NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
9NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
10NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
11NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
11aNGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
12NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
13NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
14NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
15NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
16NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
17NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
18NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
19NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
20NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
21NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
22NGKNE	L-861T	L-867							N/A	15	EXISTING	EXISTING	NG,NK,NN EDGE	②
23NGKNE	L-861T	L-867							N/A	15	13927451.7140	3127641.1606	NG,NK,NN EDGE	①
24NGKNE	L-861T	L-867							N/A	15	13927484.5205	3127671.6540	NG,NK,NN EDGE	①
25NGKNE	L-861T	L-867							N/A	15	13927527.5295	3127684.1575	NG,NK,NN EDGE	①
26NGK														





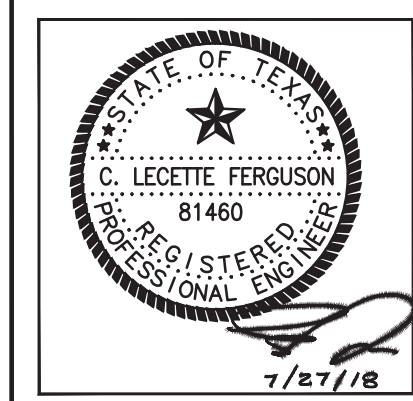
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD LIGHTING  
 LIGHT FIXTURE SCHEDULE  
 TAXIWAY 'NF', 'NH', 'NL' CENTERLINE

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	N.T.S.
DATE:	07/27/2018



DEPARTMENT OF AVIATION

APPROVED BY: DP 7/26/18

*Denaj Fahad*

HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0907**

C.I.P. NO.  
**A-000570**

H.A.S. NO.

SHEET NO.

E08-08

FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR						LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES
			180°			360°			QUANT	LED VA				
			CLEAR	RED	YEL	GRN	BLU	RED						
1NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
2NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
3NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
4NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
5NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
6NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
7NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
8NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
9NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
10NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
11NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
12NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
13NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
14NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
15NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
16NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
17NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
18NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
19NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
20NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
21NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
22NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
23NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
24NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
25NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
26NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
28NFHLC	L-852C	L-868							1	15	13927556.6483	3124489.7601	NF,NH,NL CL	(2)
29NFHLC	L-852C	L-868							1	15	13927530.8564	3124448.2183	NF,NH,NL CL	(2)
30NFHLC	L-852C	L-868							1	15	13927505.0646	3124406.6765	NF,NH,NL CL	(2)
31NFHLC	L-852C	L-868							1	15	13927479.2727	3124365.1347	NF,NH,NL CL	(2)
32NFHLC	L-852C	L-868							1	15	13927453.4808	3124323.5929	NF,NH,NL CL	(2)
33NFHLC	L-852C	L-868							1	15	13927426.9703	3124280.8936	NF,NH,NL CL	(2)
34NFHLC	L-852C	L-868							1	15	13927401.8971	3124240.5093	NF,NH,NL CL	(2)
35NFHLC	L-852C	L-868							1	15	13927377.0184	3124200.4382	NF,NH,NL CL	(2)
36NFHLC	L-852C	L-868							1	15	13927350.3134	3124157.4256	NF,NH,NL CL	(2)
37NFHLC	L-852C	L-868							1	15	13927324.5215	3124115.8838	NF,NH,NL CL	(2)
38NFHLC	L-852C	L-868							1	15	13927297.0736	3124071.6746	NF,NH,NL CL	(2)
39NFHLC	L-852C	L-868							1	15	13927272.9378	3124032.8002	NF,NH,NL CL	(2)
40NFHLC	L-852K	L-868							1	25	13927260.4201	3124015.5607	NF,NH,NL CL	(2)
41NFHLC	L-852K	L-868							1	25	13927245.5495	3124000.3044	NF,NH,NL CL	(2)
42NFHLC	L-852C	L-868							1	15	13927228.6361	3123987.3496	NF,NH,NL CL	(2)
43NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
44NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
45NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
46NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
47NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
48NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
49NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
50NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
51NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
52NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
53NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
54NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
55NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
56NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
57NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
58NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
59NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
60NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
61NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
62NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
63NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
64NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
65NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
66NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
67NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
68NFHLC	L-852C	L-868							2	20	EXISTING	EXISTING	NF,NH,NL CL	(2)
70NFHLC	L-852C	L-868							2	20	13927623.3156	3126567.3558	NF,NH,NL CL	(1)
71NFHLC	L-852C	L-868							2	20	13927598.0694	3126526.6882	NF,NH,NL CL	(1)
72NFHLC	L-852C	L-868							2	20	13927572.8233	3126486.0206	NF,NH,NL CL	(1)
73NFHLC	L-852C	L-868							2	20	13927546.4763	3126443.5798	NF,NH,NL CL	(1)
74NFHLC	L-852C	L-868							2	20	13927522.3310	3126404.6855	NF,NH,NL CL	(1)
75NFHLC	L-852C	L-868							2	20	13927497.0849	3126364.0179	NF,NH,NL CL	(1)
76NFHLC	L-852C	L-868							2	20	13927471.8387	3126323.3503	NF,NH,NL CL	(1)
77NFHLC	L-852C	L-868							2	20	13927446.5926	3126282.6828	NF,NH,NL CL	(1)
78NFHLC	L-852C	L-868							2	20	13927422.6413	3126244.0715	NF,NH,NL CL	(1)
79NFHLC	L-852C	L-868							2	20	13927396.1003	3126201.3476	NF,NH,NL CL	(1)
80NFHLC	L-852C	L-868							2	20	13927370.8542	3126160.6800	NF,NH,NL CL	(1)
81NFHLC	L-852K	L-868							2	30	13927355.2236	3126138.6245	NF,NH,NL CL	(1)
82NFHLC	L-852K	L-868							2	30	13927338.5508	3126121.9446	NF,NH,NL CL	(1)
83NFHLC	L-852K	L-868							2	30	13927322.0566	3126109.7656	NF,NH,NL CL	(1)
84NFHLC	L-852K	L-868							2	30	13927301.7989	3126098.9963	NF,NH,NL CL	(1)
85NFHLC	L-852K	L-868							2	30	13927280.6142	3126091.6295	NF,NH,NL CL	(1)
86NFHLC	L-852K	L-868							2	30	13927260.2203	3126087.7470	NF,NH,NL CL	(1)
87NFHLC	L-852C	L-868							2	20	13927238.1966	3126086.8016	NF,NH,NL CL	(1)
88NFHLC	L-852C	L-868							2	20	13927206.8052	3126087.8115	NF,NH,NL CL	(1)
89NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
90NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
91NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
92NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
93NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
94NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
95NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
96NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
97NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
98NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
99NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
100NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
101NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)
102NFHLC	L-852C	L-868							1	15	EXISTING	EXISTING	NF,NH,NL CL	(2)

FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR						LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES
			180°			360°			QUANT	WATT				
			CLEAR	RED	YEL	GRN	BLU	RED						



TAXIWAY NG,NK,NN CENTERLINE LIGHT FIXTURES																	
FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR						LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES			
			CLEAR	RED	YEL	GRE	OBS	YEL	GRE	BLU					RED	QUANT.	LED VA
1NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
2NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
3NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
4NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
5NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
6NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
7NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
8NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
9NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
10NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
11NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
12NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
13NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
14NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
15NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
16NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
17NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
18NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
19NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
20NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
21NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
22NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
23NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
24NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
25NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
26NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
27NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
28NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
29NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
30NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
31NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
32NGKNC	L-852C	L-868B								1	15	13927360.4272	3126007.6661	NG,NK,NN CL	(1)		
33NGKNC	L-852K	L-868B								1	25	13927351.5286	3126021.4151	NG,NK,NN CL	(1)		
34NGKNC	L-852K	L-868B								1	25	13927336.2917	3126039.1345	NG,NK,NN CL	(1)		
35NGKNC	L-852K	L-868B								1	25	13927319.4899	3126053.4698	NG,NK,NN CL	(1)		
36NGKNC	L-852K	L-868B								1	25	13927300.7358	3126065.1355	NG,NK,NN CL	(1)		
37NGKNC	L-852K	L-868B								1	25	13927279.8412	3126074.0784	NG,NK,NN CL	(1)		
38NGKNC	L-852K	L-868B								1	25	13927259.0877	3126079.4779	NG,NK,NN CL	(1)		
39NGKNC	L-852C	L-868B								1	15	13927237.1273	3126081.8330	NG,NK,NN CL	(1)		
40NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
41NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
42NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
43NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
44NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
45NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
46NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
47NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
48NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
49NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
50NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
51NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
52NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
53NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
54NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
55NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
56NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
57NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
58NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
59NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
60NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
61NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
62NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
63NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
64NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
65NGKNC	L-852C	L-868B								2	20	EXISTING	EXISTING	NG,NK,NN CL	(2)		
67NGKNC	L-852C	L-868B								2	20	13927658.6175	3127653.3971	NG,NK,NN CL	(1)		
68NGKNC	L-852C	L-868B								2	20	13927635.5541	3127696.2897	NG,NK,NN CL	(1)		
69NGKNC	L-852C	L-868B								2	20	13927612.4908	3127739.1824	NG,NK,NN CL	(1)		
70NGKNC	L-852C	L-868B								2	20	13927589.4274	3127782.0751	NG,NK,NN CL	(1)		
71NGKNC	L-852C	L-868B								2	20	13927566.3641	3127824.9677	NG,NK,NN CL	(1)		
72NGKNC	L-852C	L-868B								2	20	13927542.7594	3127868.8672	NG,NK,NN CL	(1)		
73NGKNC	L-852C	L-868B								2	20	13927520.2374	3127910.7530	NG,NK,NN CL	(1)		
74NGKNC	L-852C	L-868B								2	20	13927497.8626	3127952.3652	NG,NK,NN CL	(1)		
75NGKNC	L-852C	L-868B								2	20	13927474.1107	3127996.5384	NG,NK,NN CL	(1)		
76NGKNC	L-852C	L-868B								2	20	13927451.0474	3128039.4310	NG,NK,NN CL	(1)		
77NGKNC	L-852C	L-868B								2	20	13927427.9840	3128082.3237	NG,NK,NN CL	(1)		
78NGKNC	L-852K	L-868B								2	30	13927416.4540	3128100.4610	NG,NK,NN CL	(1)		
79NGKNC	L-852K	L-868B								2	30	13927401.6803	3128117.4560	NG,NK,NN CL	(1)		
80NGKNC	L-852K	L-868B								2	30	13927384.9084	3128131.7017	NG,NK,NN CL	(1)		
81NGKNC	L-852K	L-868B								2	30	13927366.2038	3128143.2937	NG,NK,NN CL	(1)		
82NGKNC	L-852K	L-868B								2	30	13927345.9828	3128151.9739	NG,NK,NN CL	(1)		
83NGKNC	L-852K	L-868B								2	30	13927324.6954	3128157.5491	NG,NK,NN CL	(1)		
84NGKNC	L-852C	L-868B								2	20	13927302.8154	3128159.8954	NG,NK,NN CL	(1)		
85NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
86NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
87NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
88NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
89NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
90NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
91NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
92NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
93NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
94NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
95NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
96NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
97NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
98NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
99NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
100NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
101NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		

TAXIWAY NG,NK,NN CENTERLINE LIGHT FIXTURES																	
FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR						LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES			
			CLEAR	RED	YEL	GRE	OBS	YEL	GRE	BLU					RED	QUANT.	WATT
102NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
103NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
104NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
105NGKNC	L-852C	L-868B								1	15	EXISTING	EXISTING	NG,NK,NN CL	(2)		
106																	





HOUSTON AIRPORT SYSTEM

GEORGE BUSH INTERCONTINENTAL AIRPORT HOUSTON, TEXAS



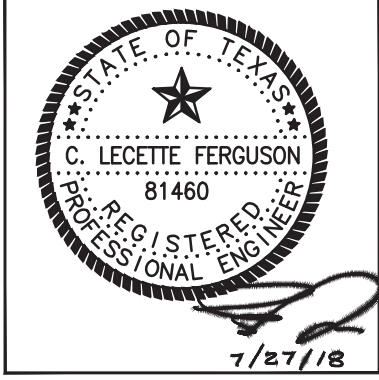
REVISIONS

Table with columns: NO., DESCRIPTION, DATE, BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT AIRFIELD LIGHTING LIGHT FIXTURE SCHEDULE TAXIWAY 'NC' EDGE

ISSUED FOR BID

Table with project details: PROJECT MGR, DESIGNER, DRAWN BY, CHECKED BY, SCALE, DATE



DEPARTMENT OF AVIATION APPROVED BY: DP 7/26/18 Denaj Pahol HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO. 0807 C.I.P. NO. A-000570 H.A.S. NO. SHEET NO.

E08-10

Main table for Taxiway NC Edge Light Fixtures with columns: Fixture Number, FAA Type, FAA Base, Lens Color, Lamp Type, North/S/East Coord., Regulator Circuit Name, Key Notes

Summary table for Taxiway NC Edge Light Fixtures with columns: Fixture Number, FAA Type, FAA Base, Lens Color, Lamp Type, North/S/East Coord., Regulator Circuit Name, Key Notes

GENERAL NOTES:

- 1. REFER TO THE E3 SERIES FOR LIGHTING PLANS.

KEYED NOTES:

- 1 FURNISH AND INSTALL NEW LIGHT (TYPE AS SHOWN) MOUNTED IN AN EXISTING BASE CAN (TYPE AS SHOWN) FOLLOWING LINE ITEM, SPECIFICATIONS AND DETAILS.

Table for Light Fixtures Electrical Information with columns: Fixture Type, FAA Type, Lamp Wattage, Isolation Transformer









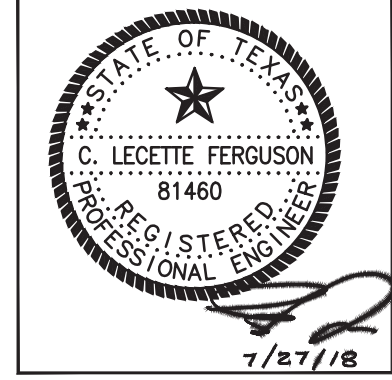
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 AIRFIELD LIGHTING  
 LIGHT FIXTURE SCHEDULE  
 AND PARTIAL SCHEDULES  
 RGL LIGHTS

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	N.T.S.
DATE:	07/27/2018



DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
<i>Danaj Pahnel</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

TAXIWAY NB EDGE LIGHT FIXTURES													
FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR				LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES	
			CLEAR	180°	360°	QUANT	WATT						
6NBE	L-861T	L-867B						1	15	13927167.4085	3126181.8584	NB EDGE	(3) (6)
7NBE	L-861T	L-867B						1	15	13927162.5513	3125991.5412	NB EDGE	(3) (6)
35NBE	L-861T	L-867B						1	15	13927101.6425	3123766.5893	NB EDGE	(3) (6)
45NBE	L-861T	L-867B						1	15	13927072.7107	3123215.7612	NB EDGE	(3) (6)
46NBE	L-861T	L-867B						1	15	13927066.3199	3123025.4922	NB EDGE	(3) (6)
56NBE	L-861T	L-867B						1	15	13927056.7343	3122558.4350	NB EDGE	(3) (6)
215NBE	L-861T	L-867B						1	15	13927345.7772	3131691.0188	NB EDGE	(3) (6)
263NBE	L-861T	L-867B						1	15	13927230.9759	3128260.3223	NB EDGE	(3) (6)
264NBE	L-861T	L-867B						1	15	13927224.5854	3128069.4461	NB EDGE	(3) (6)
279NBE	L-861T	L-867B						1	15	13927206.6192	3127317.3158	NB EDGE	(3) (6)
280NBE	L-861T	L-867B						1	15	13927200.2165	3127127.3273	NB EDGE	(3) (6)

TAXIWAY NB CENTERLINE LIGHT FIXTURES													
FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR				LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES	
			CLEAR	180°	360°	QUANT	WATT						
17NBC1	L-852D	L-868B						2	30	13927035.0671	3122467.6389	NB CL1	(4)
527NBC1	L-852K	L-868B						2	30	EXISTING	EXISTING	NB CL1	(5)
537NBC1	L-852K	L-868B						2	30	EXISTING	EXISTING	NB CL1	(5) (6)
547NBC1	L-852K	L-868B						2	30	EXISTING	EXISTING	NB CL1	(5) (6)
557NBC1	L-852K	L-868B						2	30	EXISTING	EXISTING	NB CL1	(5) (6)
567NBC1	L-852K	L-868B						2	30	EXISTING	EXISTING	NB CL1	(5) (6)
577NBC1	L-852K	L-868B						2	30	EXISTING	EXISTING	NB CL1	(5) (6)
587NBC1	L-852K	L-868B						2	30	EXISTING	EXISTING	NB CL1	(5) (6)
597NBC1	L-852K	L-868B						2	30	EXISTING	EXISTING	NB CL1	(5) (6)
1537NBC1	L-852D	L-868B						2	30	13927178.2170	3123956.5943	NB CL1	(4)
1547NBC1	L-852D	L-868B						2	30	13927159.2542	3123949.0014	NB CL1	(4)
1557NBC1	L-852D	L-868B						2	30	13927138.0738	3123943.4921	NB CL1	(4)
1567NBC1	L-852D	L-868B						2	30	13927116.3558	3123940.7913	NB CL1	(4)

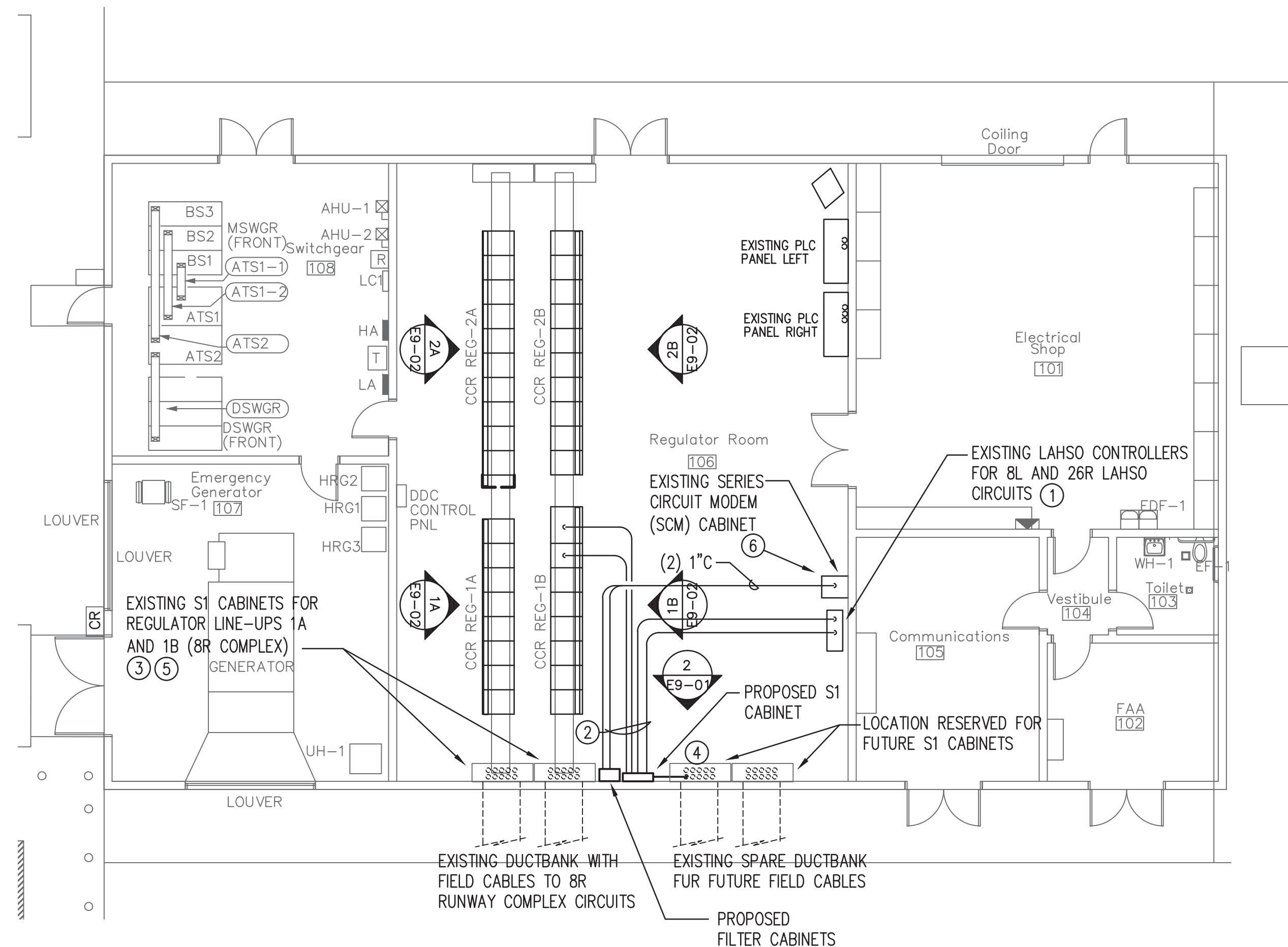
TAXIWAY WBN EDGE LIGHT FIXTURES													
FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR				LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES	
			CLEAR	180°	360°	QUANT	WATT						
17WBE	EXIST	L-867B								13927318.4189	3122386.6427	WBN EDGE	(4) ** NOTE
21WBE	EXIST	L-868B								13927269.6794	3122374.1300	WBN EDGE	(4) ** NOTE

\*\*NOTE: CONTRACTOR TO VERIFY EXACT FIXTURE TYPE AND EXISTING BASE CAN PRIOR TO CONSTRUCTION. ANY DISCREPANCIES, SEND RFI TO ENGINEER FOR RESOLUTION.

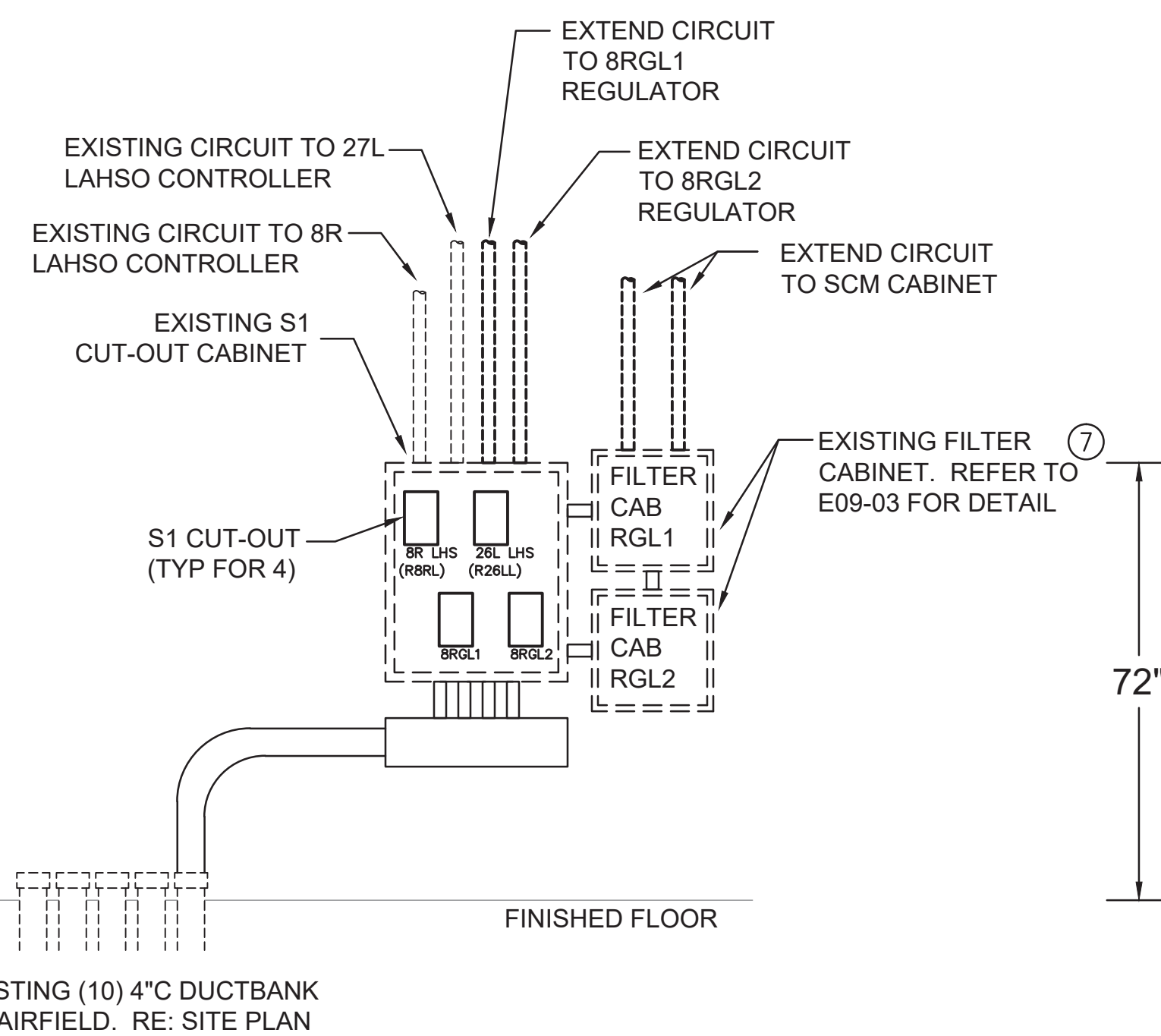
LIGHT FIXTURES ELECTRICAL INFORMATION:			
FIXTURE TYPE	FAA TYPE	LAMP WATTAGE	ISOLATION TRANSFORMER
TAXIWAY ELEVATED LED EDGE LIGHT	L-861T	15 VA	10/15W (6.6A)
TAXIWAY FLUSH LED CENTERLINE LIGHT	L-852C	20VA	20/25W (6.6A)
TAXIWAY FLUSH LED CENTERLINE LIGHT	L-852D	30VA	30/45W (6.6A)
TAXIWAY FLUSH LED CLEARANCE LIGHT	L-852C	15VA	10/15W (6.6A)
TAXIWAY FLUSH LED CENTERLINE LIGHT	L-852K	30VA	30/45W (6.6A)
IN PAVEMTN RUNWAY GUARD LIGHT, WITH INTEGRAL FLASHER/MONITOR, LED, STYLE 3	L-852G (L)	65VA	65W (6.6A), LOW INDUCTANCE

RUNWAY 8R-26L GUARD LIGHT FIXTURES- EAST CKT 2													
FIXTURE NUMBER	FAA TYPE	FAA BASE	LENS COLOR				LAMP TYPE		NORTHING COORD.	EASTING COORD.	REGULATOR CIRCUIT NAME	KEY NOTES	
			CLEAR	180°	360°	QUANT	WATT						
BR-RGL2-1	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-2	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-3	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-4	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-5	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-6	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-7	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-8	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-9	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-10	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-11	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-12	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-13	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-14	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-15	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-16	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-17	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-18	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-19	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-20	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-21	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-22	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-23	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-24	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-25	L-852G	L-868B						1	65	13927703.8700	3129688.9220	BRGL2	(2)
BR-RGL2-26	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-27	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-28	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-29	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-30	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-31	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-32	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-33	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-34	L-852G	L-868B						1	65	13927802.8900	3131710.1790	BRGL2	(2)
BR-RGL2-35	L-852G	L-868B						1	65	13927803.2600	3131719.9280	BRGL2	(2)
BR-RGL2-36	L-852G	L-868B						1	65	13927803.5800	3131729.8200	BRGL2	(2)
BR-RGL2-37	L-852G	L-868B						1	65	13927803.8900	3131739.6030	BRGL2	(2)
BR-RGL2-38	L-852G	L-868B						1	65	13927804.2100	3131749.4460	BRGL2	(2)
BR-RGL2-39	L-852G	L-868B						1	65	13927804.5400	3131759.2950	BRGL2	(2)
BR-RGL2-40	L-852G	L-868B						1	65	13927804.8600	3131769.1150	BRGL2	(2)
BR-RGL2-41	L-852G	L-868B						1	65	13927805.1800	3131778.9620	BRGL2	(2)
BR-RGL2-42	L-852G	L-868B						1	65	13927805.5100	3131788.7820	BRGL2	(2)
BR-RGL2-43	L-852G	L-868B						1	65	13927805.8000	3131798.6150	BRGL2	(2)
BR-RGL2-44	L-852G	L-868B						1	65	13927806.1200	3131808.4310	BRGL2	(2)
BR-RGL2-45	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-46	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-47	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-48	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-49	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-50	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-51	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-52	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-53	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	(1)
BR-RGL2-54	L-852G	L-868B						1	65	EXISTING	EXISTING	BRGL2	





**1 NORTH VAULT - ELECTRICAL MODIFICATIONS**  
E09-01 SCALE:



**2 S1 CUT-OUT CABINET AND FILTER CABINET**  
E09-01 SCALE: 1/2" = 1'-0"

**LOAD ANALYSIS**

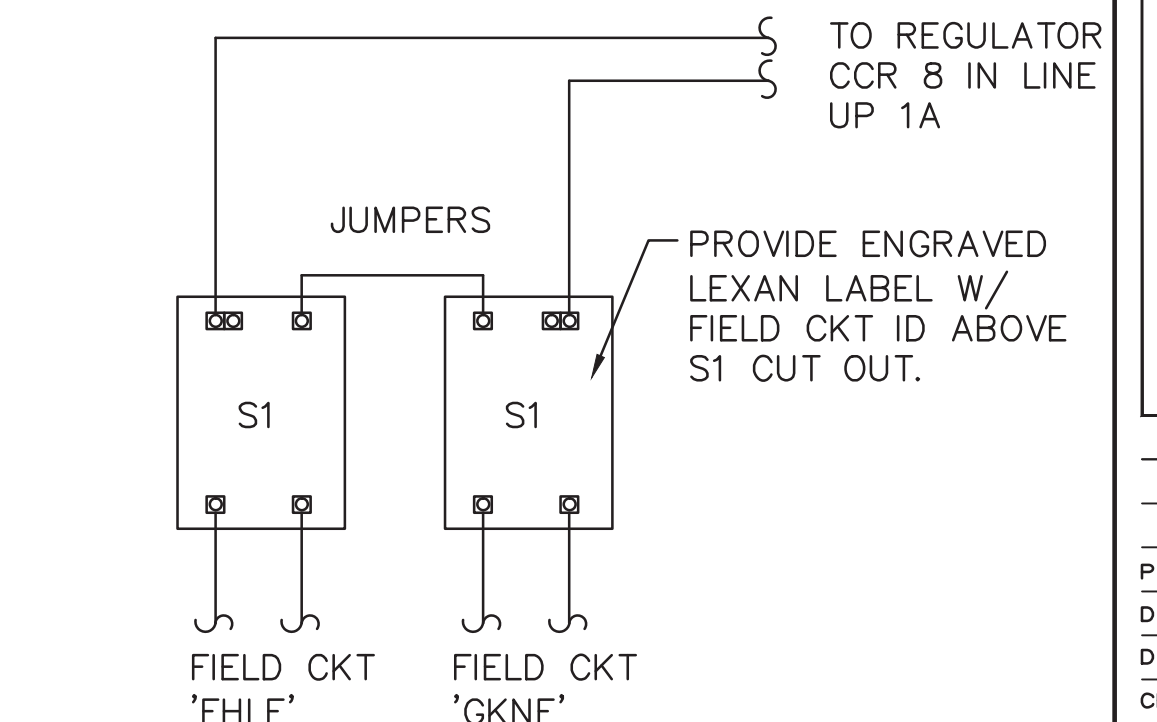
LOAD DESCRIPTION	NET LOAD IN KW
REGULATOR TAXIWAY NA EDGE (20KW) 'TNAE'	
EXISTING LOAD AT 6.6 amp (MEASURED)	13.70
REMOVED LIGHTS (214 @50VA/EA)	-10.7
ADDED LIGHTS (232 @15VA/EA)	3.5
FINAL LOAD (INCLUDING CABLE LOSS)	6.5
REGULATOR TAXIWAY NA CENTER #1 (30KW) 'TNAC1'	
EXISTING LOAD AT 6.6 amp (MEASURED)	19.1
REMOVED LIGHTS (208@70VA/EA, 14@35VA/EA)	-15.1
ADDED LIGHTS (120@20VA/EA, 104@30VA/EA, 30@15VA/EA)	6.0
FINAL LOAD (INCLUDING CABLE LOSS)	10.0
REGULATOR TAXIWAY NA CENTER #2 (30KW) 'TNAC2'	
EXISTING LOAD AT 6.6 amp (MEASURED)	16.2
REMOVED LIGHTS (187@70VA/EA, 9@35VA/EA)	-13.4
ADDED LIGHTS (136@20VA/EA, 83@30VA/EA, 36@15VA/EA)	5.8
FINAL LOAD (INCLUDING CABLE LOSS)	8.6
REGULATOR TAXIWAY FHL EDGE (20KW) 'TFHLE'	
EXISTING LOAD AT 6.6 amp (MEASURED)	5.3
REMOVED LIGHTS (84 @50VA/EA)	-4.2
ADDED LIGHTS (68 @15VA/EA)	1.0
FINAL LOAD (INCLUDING CABLE LOSS)	2.1
REGULATOR TAXIWAY FHL CENTER (20KW) 'FHLC'	
EXISTING LOAD AT 6.6 amp (MEASURED)	14.7
REMOVED LIGHTS (144 @ 70VA/EA)	-10.1
ADDED LIGHTS (114@15VA/EA, 14@25VA/EA)	2.1
FINAL LOAD (INCLUDING CABLE LOSS)	6.7
REGULATOR TAXIWAY GKN EDGE (20KW) 'TGKNE'	
EXISTING LOAD AT 6.6 amp (MEASURED)	5.3
REMOVED LIGHTS (68 @50VA/EA)	-3.4
ADDED LIGHTS (68 @15VA/EA)	1.0
FINAL LOAD (INCLUDING CABLE LOSS)	2.9
REGULATOR TAXIWAY GKN CENTER (20KW) 'GKNC'	
EXISTING LOAD AT 6.6 amp (MEASURED)	15.3
REMOVED LIGHTS (138 @ 70VA/EA)	-9.7
ADDED LIGHTS (112@15VA/EA, 18@25VA/EA)	2.1
FINAL LOAD (INCLUDING CABLE LOSS)	7.7
REGULATOR TAXIWAY NC EDGE (20KW) 'NCE'	
EXISTING LOAD AT 6.6 amp (MEASURED)	6.3
REMOVED LIGHTS (141 @35VA/EA)	-5.0
ADDED LIGHTS (141 @15VA/EA)	2.1
FINAL LOAD (INCLUDING CABLE LOSS)	3.4
REGULATOR TAXIWAY NC CENTER (30KW) 'TNCC'	
EXISTING LOAD AT 6.6 amp (CALCULATED)	12.9
REMOVED LIGHTS (153@70VA, 30@35VA, 3@130VA)	-12.2
ADDED LIGHTS (100@20VA, 43@30VA, 40@15VA, 3@130VA)	4.3
FINAL LOAD (INCLUDING CABLE LOSS)	5.0
REGULATOR NORTH SIGN CIRCUIT EAST (30KW) 'SCE'	
EXISTING LOAD AT 6.6 amp (MEASURED)	12.5
REMOVED LOAD (16 @300VA/EA)	-4.8
ADDED LOAD (16 @100VA/EA)	1.6
FINAL LOAD (INCLUDING CABLE LOSS)	9.3
REGULATOR NORTH SIGN CIRCUIT WEST (30KW) 'SCW'	
EXISTING LOAD TO REMAIN	15.0
REMOVED LOAD (14 @300VA/EA)	-4.2
ADDED LOAD (10 @100VA/EA)	1.0
FINAL LOAD (INCLUDING CABLE LOSS)	11.8
NORTH ELECTRICAL VAULT	
REMOVED LOAD	-92.8
ADDED LOAD	30.5
TOTAL CALCULATED LOAD CHANGE . . . . .	-62.3
NO INCREASE IN BUILDING LOAD	

**GENERAL NOTES:**

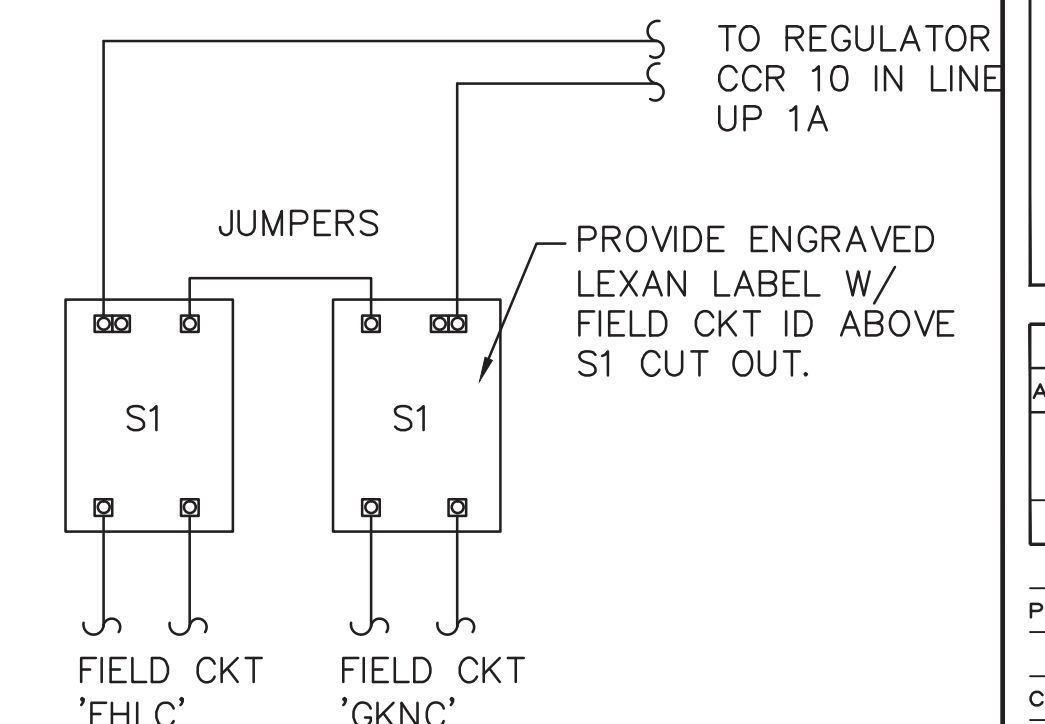
- REFER TO E09 AND E10 SERIES SHEETS FOR DETAILS AND DIAGRAMS.
- COORDINATE ALL OUTAGES AND OBTAIN WRITTEN APPROVAL FROM HAS FOLLOWING SPECIFICATIONS AND LOCKOUT PROCEDURES.
- WORK SHALL FOLLOW ALL REQUIREMENTS OF ALL SPECIFICATIONS AND CONTRACT DRAWINGS. COORDINATE ALL WORK WITH DESIGNATED HAS REPRESENTATIVE..

**KEYED NOTES:**

- REMOVE EXISTING CIRCUIT FROM LAHSO CONTROLLERS AND INSTALL NEW CIRCUITS FOLLOWING CONTRACT DOCUMENTS.
- FIELD COORDINATE EXACT CONDUIT ROUTE WITH EXISTING SATRUCTURE AND UTILITIES.
- PROVIDE LOCK-OUT TAG-OUT PROCEDURES AS SUBMITTED AND APPROVED AND IN CONFORMANCE WITH HAS ELECTRICAL GROUP.
- UTILIZE SPARE 4" DUCT FOR NEW LAHSO AND RGL CABLES TO KEEP SEGREGATED FROM REST OF 8R COMPLEX FIELD CIRCUITS.
- PROVIDE NEW LABELS FOR ANY MODIFIED CIRCUIT TAG. WHERE A CIRCUIT HAS BEEN REMOVED (NR1), LABEL S1 SWITCH AS 'SPARE-REG XX' WHERE 'XX' DENOTES REGULATOR NUMBER.
- PROVIDE AND INSTALL NEW SERIES CIRCUIT MODEM FOR NEW RGL CIRCUIT 8RGL2. INCLUDE ALL NECESSARY INTERFACES, ENCLOSURE MODIFICATION POWER, CABLING, NETWORK, AND CALIBRATION AND INTEGRATION FOR PROPER OPERATION.
- PROVIDE AND INSTALL NEW SERIES CIRCUIT FILTER AND ISOLATION TRANSFORMER FOR NEW RGL CIRCUIT NOTED, INCLUDING ALL CABLING AND NECESSARY COMPONENTS FOR PROPER OPERATION.
- REVISE S1 CONFIGURATION FOR THE 8R HIGH SPEED EXIT CENTERLINE AND EDGE S1 CUT-OUT SWITCHES PER DETAIL 3, THIS SHEET

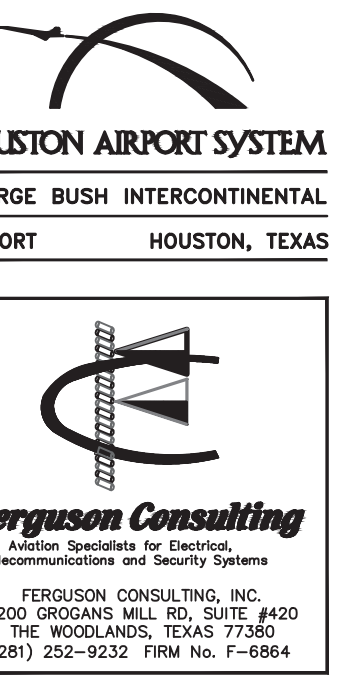


**HSE EDGE CIRCUITS**



**HSE CENTERLINE CIRCUITS**

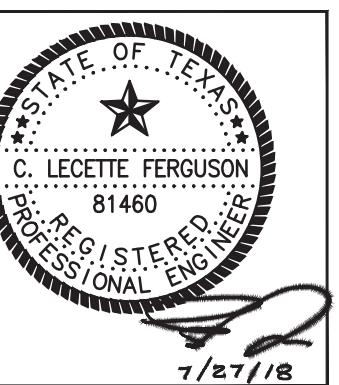
**3 S-1 CUT-OUT DETAILS**  
SCALE: N. T. S.



NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
NORTH VAULT  
EQUIPMENT LAYOUT

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



DEPARTMENT OF AVIATION
APPROVED BY: DP 7/26/18
<i>Denaj Pahol</i>
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0807
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E09-01





REVISIONS		
NO.	DESCRIPTION	DATE

**GENERAL NOTES:**

- REFER TO E09 AND E10 SERIES SHEETS FOR DETAILS AND DIAGRAMS.
- COORDINATE ALL OUTAGES AND OBTAIN WRITTEN APPROVAL FROM HAS FOLLOWING SPECIFICATIONS AND LOCKOUT PROCEDURES.
- WORK SHALL FOLLOW ALL REQUIREMENTS OF ALL SPECIFICATIONS AND CONTRACT DRAWINGS. COORDINATE ALL WORK WITH DESIGNATED HAS REPRESENTATIVE.

**KEYED NOTES:**

- CALIBRATE EXISTING REGULATOR PER SPECIFICATIONS. PROVIDE NEW DATA IN FINAL FORMAT ON RECORD DRAWINGS.
- EXISTING REGULATOR TO BE MODIFIED FOR USE AS A SPARE. PROVIDE NEW LABEL.
- UPDATE NAMEPLATE FOR CCR TO 8R-RGL1, CIRCUIT 8RGL1.
- MODIFY CCR TO 10KW 5 STEP FERRORESONANT PER SPECIFICATIONS. UPDATE NAMEPLATE TO CCR 8R-RGL2, CIRCUIT 8RGL2.
- MODIFY CCR TO 5 STEP CONFIGURATION.

EXISTING REGULATOR 8R EDGE (R8RE) 480V, 30KW, 6.6A CCR1	EXISTING REGULATOR 8R CL (R8RC) 480V, 30KW, 6.6A CCR2	EXISTING REGULATOR 8R SIGNS (SCR) 480V, 30KW, 6.6A CCR3	EXISTING REGULATOR 8R TDZ (R8RT) 480V, 30KW, 6.6A CCR4	INCOMING SERVICE SECTION	EXISTING REGULATOR 26L TDZ (R26LT) 480V, 30KW, 6.6A CCR5	EXISTING REGULATOR NB CL EAST (NBC2) 480V, 30KW, 6.6A CCR6	EXISTING REGULATOR NB CL WEST (NBC1) 480V, 30KW, 6.6A CCR14
EXISTING REGULATOR NF, NH, NL EDGE (FHL) 480V, 20KW, 6.6A CCR8	EXISTING REGULATOR NG, NH, NK EDGE (GKNE) 480V, 20KW, 6.6A CCR9	EXISTING REGULATOR NF, NH, NL CL (FHL) 480V, 20KW, 6.6A CCR10	EXISTING REGULATOR NG, NH, NK CL (GKNC) 480V, 20KW, 6.6A CCR11	INCOMING SERVICE SECTION	EXISTING REGULATOR NA EDGE (NAE) 480V, 20KW, 6.6A CCR12	EXISTING REGULATOR NB EDGE (NBE) 480V, 20KW, 6.6A CCR13	EXISTING REGULATOR NA CL WEST (NAC1) 480V, 30KW, 6.6A CCR7

**1A** REGULATOR ELEVATION - LINEUP 1A  
 E09-02 SCALE:

EXISTING REGULATOR SPARE 480V, 20KW, 6.6A CCR22	EXISTING REGULATOR NB EXT CL (NBCX) 480V, 20KW, 6.6A CCR16	EXISTING REGULATOR NC EDGE (NCE) 480V, 20KW, 6.6A CCR17	INCOMING SERVICE SECTION	EXISTING REGULATOR NC CL (NCC) 480V, 30KW, 6.6A CCR18	EXISTING REGULATOR SIGNS WEST (SCW) 480V, 30KW, 6.6A CCR19	EXISTING REGULATOR SIGNS EAST (SCE) 480V, 30KW, 6.6A CCR20	EXISTING REGULATOR 8L RGL (8LGL) 480V, 30KW, 6.6A CCR27
EXISTING REGULATOR NA CL EAST (NAC2) 480V, 30KW, 6.6A CCR21	EXISTING REGULATOR TWY EA CL (TEAC) 480V, 30KW, 6.6A CCR15	EXISTING REGULATOR NB EDGE EXT (NBX) 480V, 20KW, 6.6A CCR23	INCOMING SERVICE SECTION	EXISTING REGULATOR EB CL (TEBC) 480V, 30KW, 6.6A CCR24	EXISTING REGULATOR N RAMP 480V, (N RAMP) 20KW, 6.6A CCR25	EXISTING REGULATOR SPARE 480V, 20KW, 6.6A CCR26	EXISTING REGULATOR 8R RGL 480V, (8RGL) 30KW, 6.6A CCR28

**1B** REGULATOR ELEVATION - LINEUP 1B  
 E09-02 SCALE:

EXISTING REGULATOR SPARE 480V, 20KW, 6.6A CCR51	EXISTING REGULATOR BL EDGE WEST 480V, 20KW, 6.6A CCR52	EXISTING REGULATOR 26R EDGE EAST 480V, 20KW, 6.6A CCR53	EXISTING REGULATOR RW 8L CL 480V, 30KW, 6.6A CCR54	INCOMING SERVICE SECTION	EXISTING REGULATOR RW 8L TDZ 480V, 20KW, 6.6A CCR55	EXISTING REGULATOR 26R TDZ 480V, 20KW, 6.6A CCR56	EXISTING REGULATOR SPARE 480V, 20KW, 6.6A CCR57	EXISTING REGULATOR SPARE 480V, 20KW, 6.6A CCR58	EXISTING REGULATOR SPARE 480V, 20KW, 6.6A CCR59
EXISTING REGULATOR CC CL WEST (TCCC1) 480V, 20KW, 6.6A CCR60	EXISTING REGULATOR CC CL MIDDLE (TCCC2) 480V, 20KW, 6.6A CCR61	EXISTING REGULATOR CC CL EAST (TCCC3) 480V, 20KW, 6.6A CCR62	EXISTING REGULATOR FA CL 1 (WEST) 480V, 30KW, 6.6A CCR63	INCOMING SERVICE SECTION	EXISTING REGULATOR FA CL 2 WEST 480V, 20KW, 6.6A CCR64	EXISTING REGULATOR FA CL 3 EAST 480V, 30KW, 6.6A CCR65	EXISTING REGULATOR FC CL 480V, 20KW, 6.6A CCR66	EXISTING REGULATOR FJ CL 480V, 20KW, 6.6A CCR67	EXISTING REGULATOR NE CL (TNEC) 20KW, 6.6A CCR68

**2A** REGULATOR ELEVATION - LINEUP 2A  
 E09-02 SCALE:

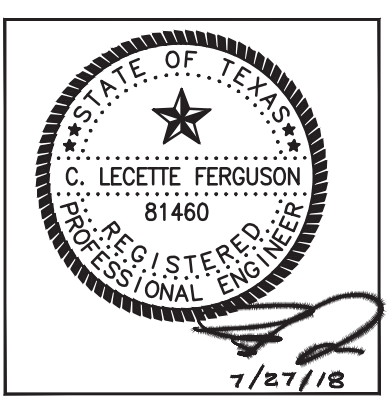
EXISTING REGULATOR NP CL (TNPC) 480V, 30KW, 6.6A CCR69	EXISTING REGULATOR FD CL 480V, 20KW, 6.6A CCR70	EXISTING REGULATOR FE CL 480V, 20KW, 6.6A CCR71	EXISTING REGULATOR FG CL 480V, 20KW, 6.6A CCR72	EXISTING REGULATOR FH CL 480V, 20KW, 6.6A CCR73	INCOMING SERVICE SECTION	EXISTING REGULATOR SPARE (1-STEP) 480V, 20KW, 6.6A CCR74	EXISTING REGULATOR BL SIGNS 1 (8LS1A) 480V, 30KW, 6.6A CCR75	EXISTING (DRM) REGULATOR RW 8L SIGNS 2 (8LS1) 480V, 20KW, 6.6A CCR76	EXISTING REGULATOR BR SIGNS 2 (8LS2) 480V, 20KW, 6.6A CCR77
EXISTING REGULATOR SPARE 480V, 20KW, 6.6A CCR78	EXISTING REGULATOR SPARE 480V, 20KW, 6.6A CCR79	EXISTING REGULATOR SPARE 480V, 30KW, 6.6A CCR80	EXISTING REGULATOR SPARE 480V, 30KW, 6.6A CCR81	EXISTING REGULATOR SPARE 20KW CCR82	INCOMING SERVICE SECTION	EXISTING REGULATOR FA EDGE 2 WEST 480V, 20KW, 6.6A CCR83	EXISTING REGULATOR FA EDGE 1 EAST 480V, 20KW, 6.6A CCR84	EXISTING REGULATOR CC EDGE (TCCE) 480V, 20KW, 6.6A CCR85	EXISTING REGULATOR NP EDGE (TNPE) 480V, 20KW, 6.6A CCR86

**2B** REGULATOR ELEVATION - LINEUP 2B  
 E09-02 SCALE:

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 NORTH VAULT  
 REGULATOR LINEUP MODIFICATIONS

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/18



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denzel Palmer*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E09-02



REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
 NORTH VAULT  
 ALCMS EQUIPMENT

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.  
**0607**  
 C.I.P. NO.  
**A-000570**  
 H.A.S. NO.  
 SHEET NO.

**GENERAL NOTES:**

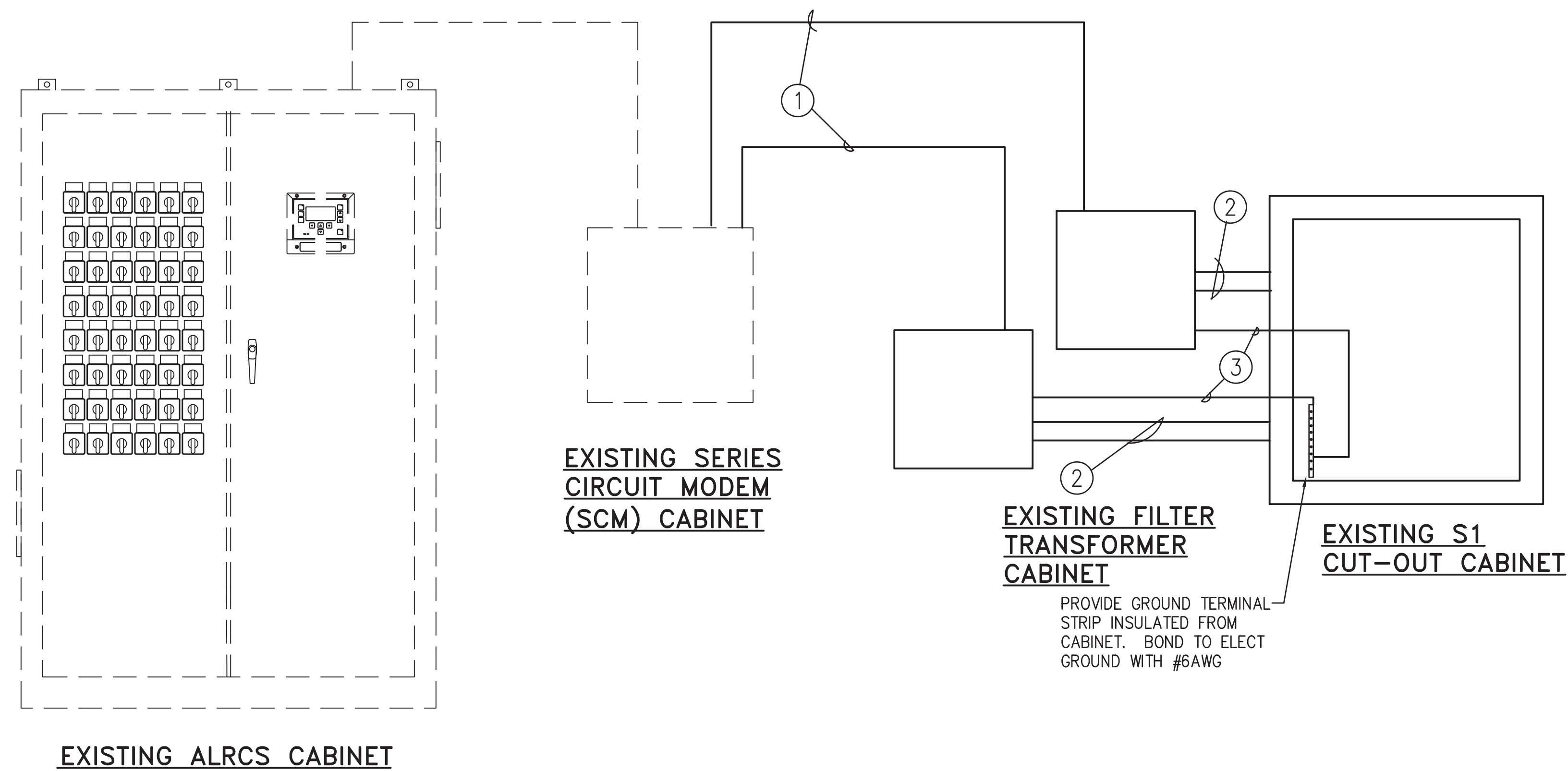
1. REFER TO E09 SERIES SHEETS FOR FURTHER DETAILS AND DIAGRAMS.
2. COORDINATE ALL OUTAGES AND OBTAIN WRITTEN APPROVAL FROM HAS FOLLOWING SPECIFICATIONS AND LOCKOUT PROCEDURES.
3. WORK SHALL FOLLOW ALL REQUIREMENTS OF ALL SPECIFICATIONS AND CONTRACT DRAWINGS. COORDINATE ALL WORK WITH DESIGNATED HAS REPRESENTATIVE.

**SUMMARY NOTES:**

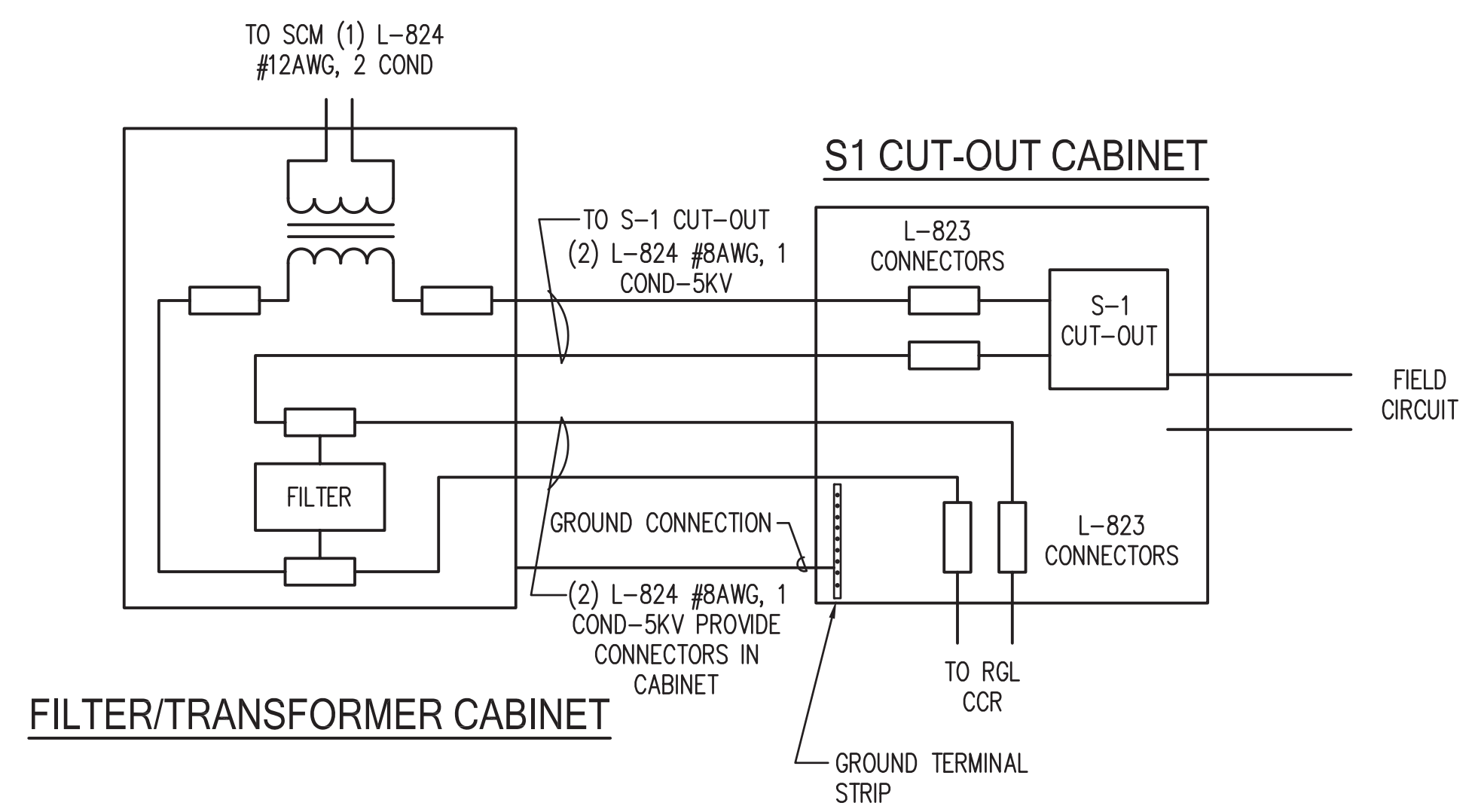
EXISTING CONDUITS AS SHOWN FOR S-1 CUT-OUT CABINETS TO FILTER/TRANSFORMER CABINET, FILTER/TRANSFORMER CABINET TO SERIES CIRCUIT MODEM CABINET, FILTER TRANSFORMER CABINET TO RGL CCR.

**KEYED NOTES:**

- ① PROVIDE (1) L-824 2/C #12, 600V RATED CABLE FOR EACH FILTER TRANSFORMER ENCLOSURE. ROUTE IN EXISTING CONDUIT.
- ② EXISTING (2) 1 1/4" CONDUITS, FROM FILTER CABINET TO S-1 CUTOUT CABINET, PROVIDE NEW (2) L-824 1/C #8, 5KV RATED CABLES IN EACH.
- ③ PROVIDE (1) 1" CONDUIT WITH ONE #6AWG SAFETY GROUND CABLE BETWEEN GROUND STUD OF TO FILTER TRANSFORMER CABINET AND GROUND BUS IN CUT-OUT CABINET



**1 PROPOSED ALRCS SYSTEM INTERCONNECTS**  
 E09-03 SCALE:

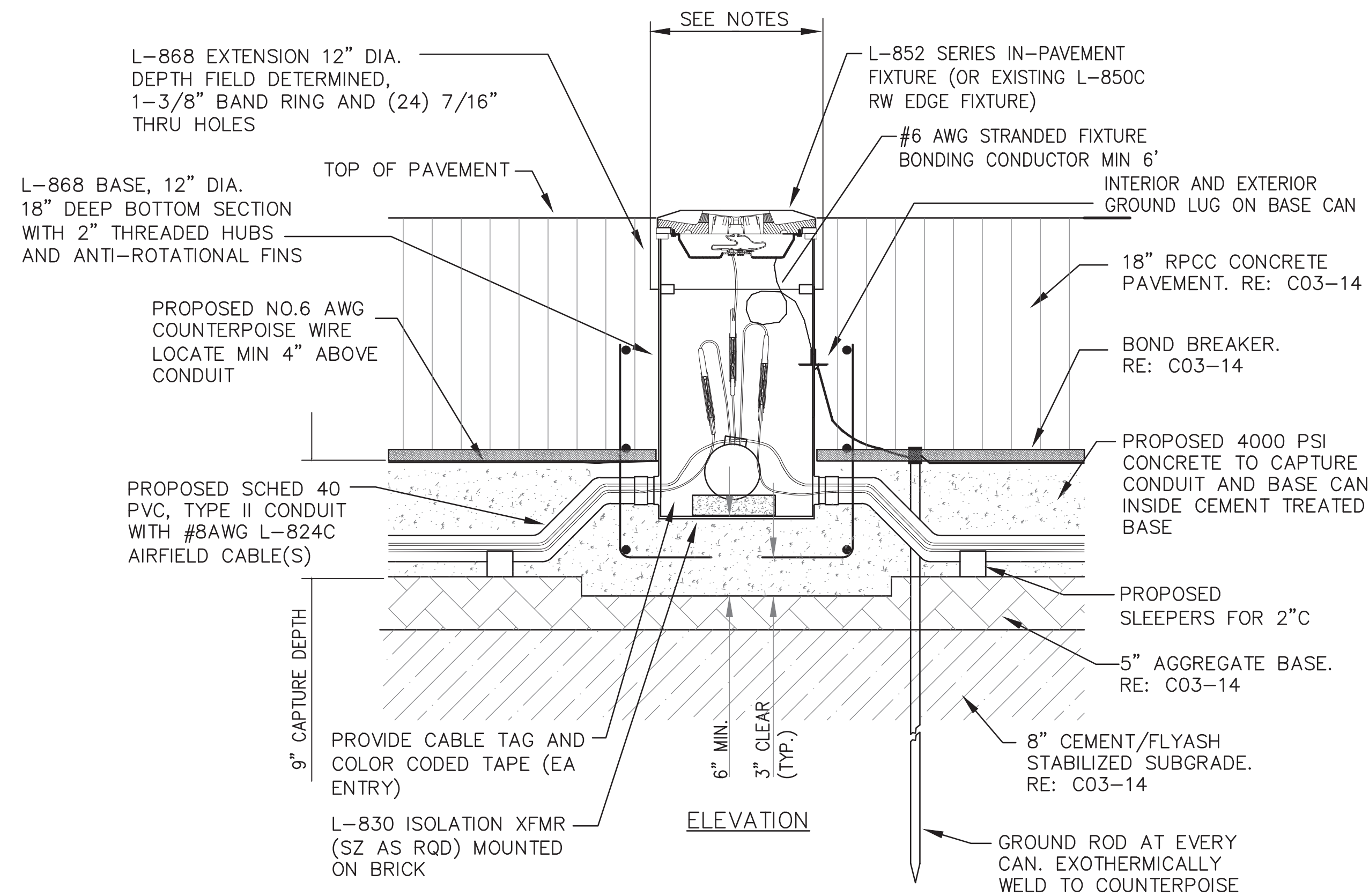


**3 PROPOSED FILTER/TRANSFORMER CABINET WIRING DIAGRAM**  
 E09-03 SCALE:



**NOTES:**

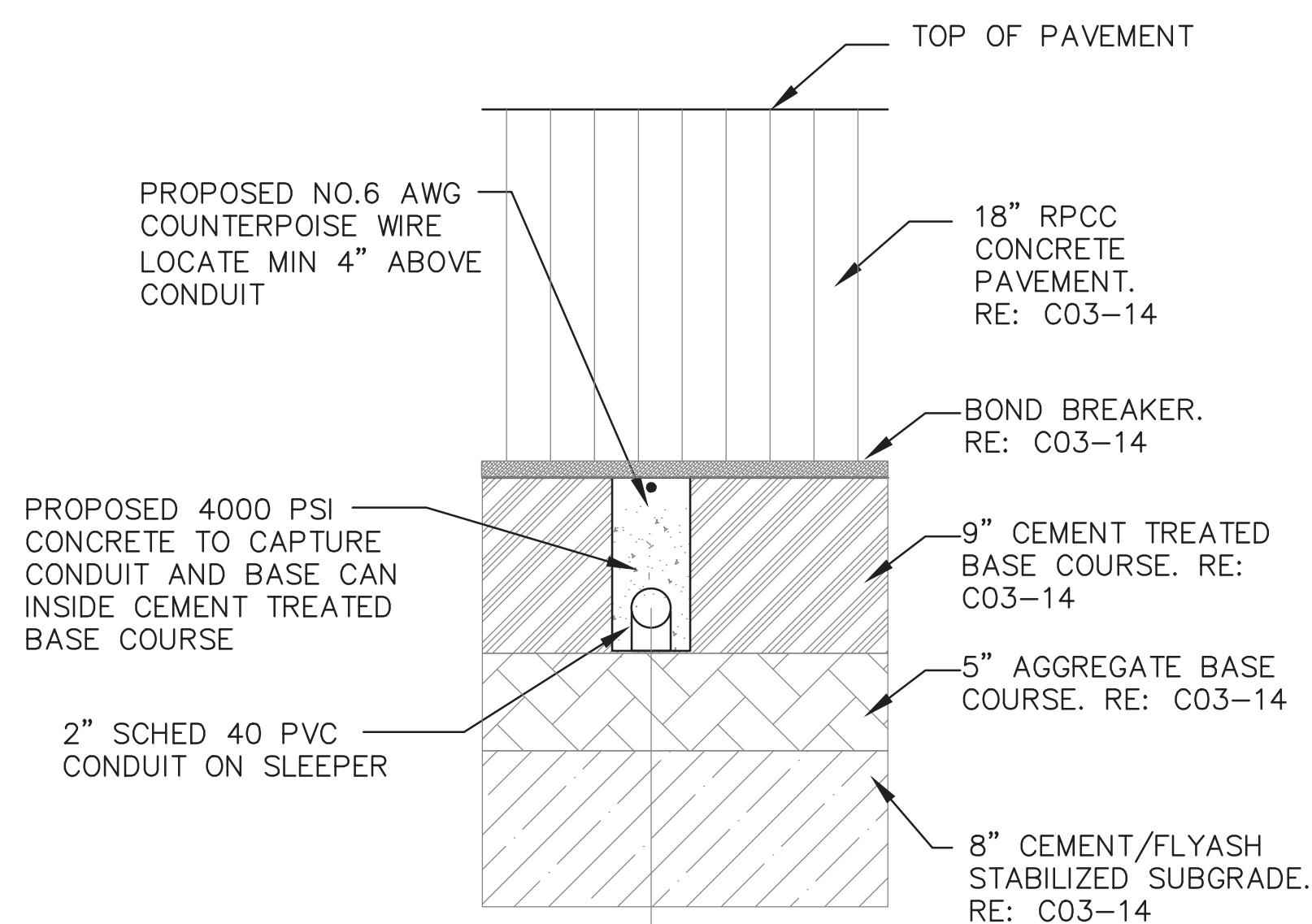
- COUNTERPOISE WIRE SHALL BE NO. 6 AWG, STRANDED, COPPER WIRE. ALL EXOTHERMICALLY CONNECTED GROUNDING CONNECTIONS SHALL BE COATED WITH COAL TAR BITUMINOUS MATERIAL. SEE SPECIFICATION L-108.
- TOP OF 1/8" MUD PLATE SHALL BE LOCATED BELOW THEORETICAL TOP OF PAVEMENT TO ALLOW FOR THE SUBSEQUENT INSTALLATION OF THE-868 TOP SECTION.
- LIGHT BASES SHALL CONFORM TO FAA ADVISORY CIRCULAR 150/5345-42 SPECIFICATIONS FOR AIRPORT LIGHT BASES AND TRANSFORMER HOUSINGS.
- ORIENTATION AND NUMBER OF HUBS REQUIRED ON LIGHT BASES VARY. SEE PLAN SHEETS FOR DETAILS.
- GROUND RODS SHALL BE INSTALLED AT EACH FIXTURE LOCATION.
- ALL CONDUIT SHALL BE 2" SCHED 40 PVC, TYPE II.
- REFER TO E10-03 FOR MULTIHOLE ADAPTER RING FOR SEMI-FLUSH FIXTURE AND OTHER ELECTRICAL LIGHTING DETAILS.



**NOTES:**

- CORE EXTENSION O.D. + 1" MINIMUM IN CONCRETE PAVEMENT.

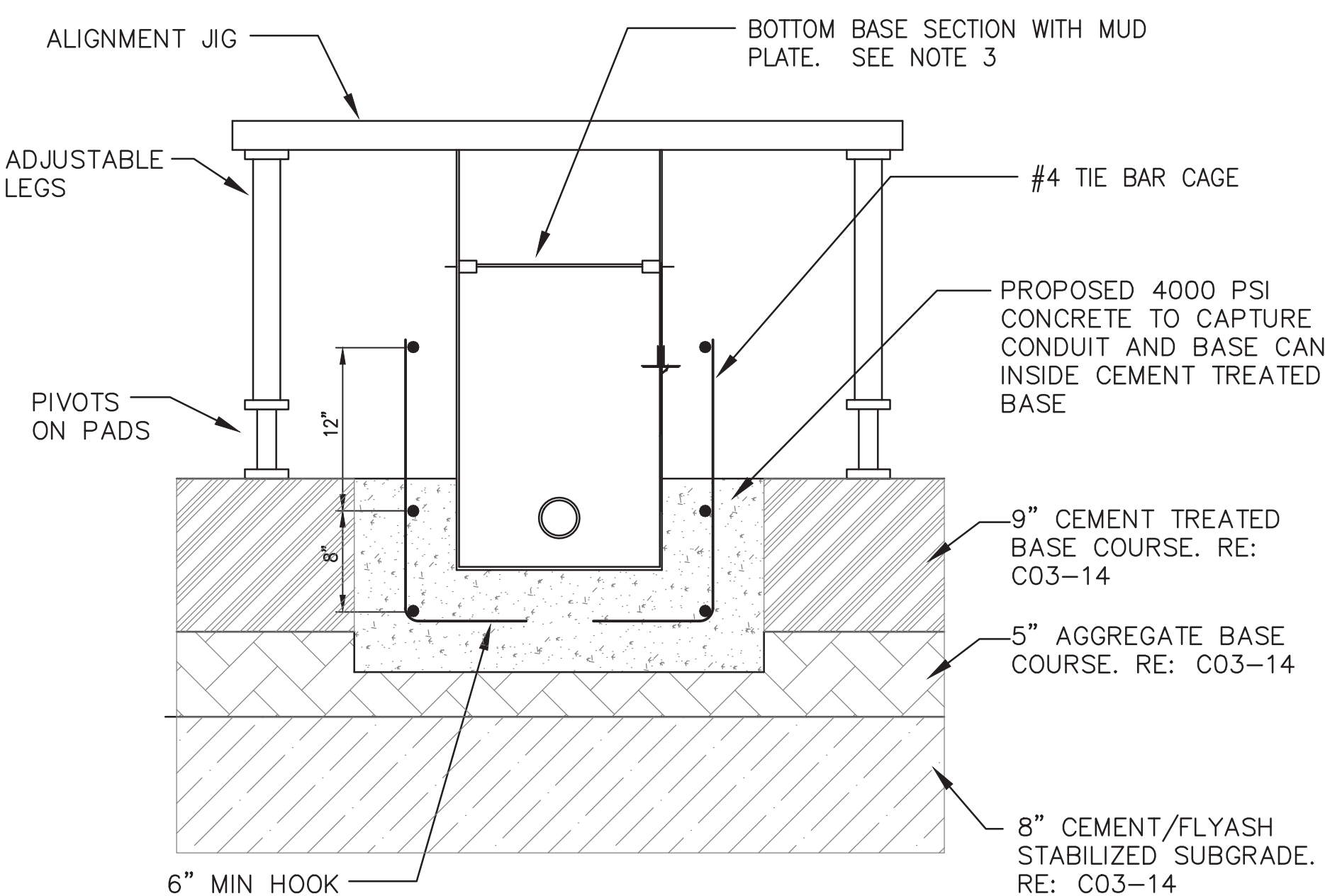
**1 SEMI-FLUSH FIXTURE IN NEW PAVEMENT DETAIL**  
SCALE: NTS



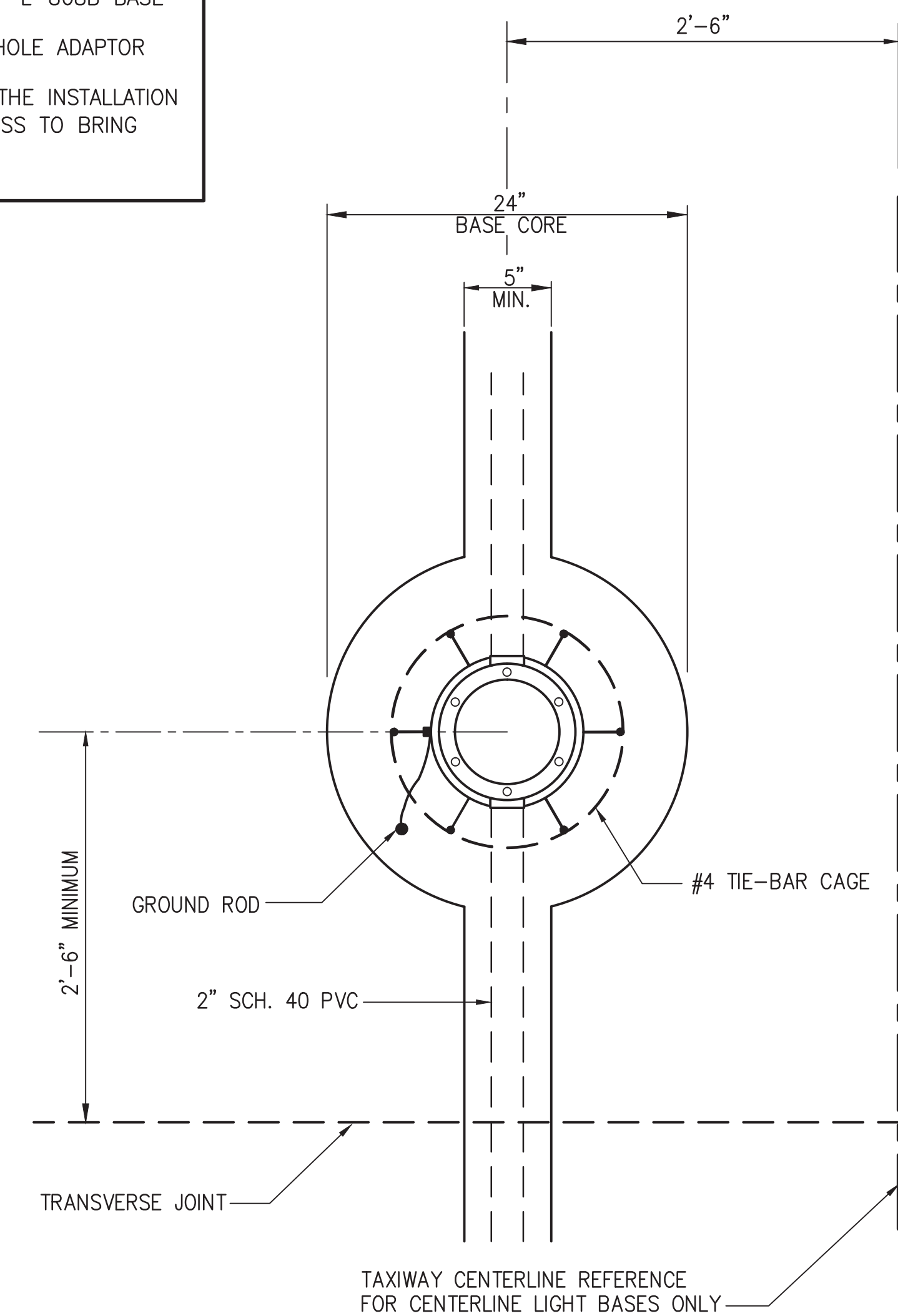
**3 CONDUIT SECTION**  
SCALE: NTS

**NEW SEMI-FLUSH FIXTURE INSTALLATION GUIDELINES**

- REMOVE EXISTING TAXIWAY LIGHT FIXTURES, TRANSFORMERS AND ALL ITEMS AND DISPOSE OF PER CONTRACT DOCUMENTS.
- AFTER PROPOSED 9" CEMENT TREATED BASE (CTB) IS PLACED, PREPARE A CAPTURE SECTION FOR A NEW BASE, 24" DIAMETER TO A MINIMUM DEPTH OF 32" BELOW FINAL GRADE, ENOUGH FOR ANCHORING SECURELY THE BASE CAN SO THAT THE FORCE OF THE CONCRETE PAVING TRAIN OPERATION WILL NOT DISLodge THE CANS IF NOT PROPERLY SECURED.
- PROVIDE A CONDUIT TRENCH 6" WIDE BY NOMINAL 9" DEEP BETWEEN BASES AND OUTSIDE POINTS FOR NEW 2" PVC CONDUIT PLACEMENT INTO PROPOSED CTB, TRENCH TO BE DEEP ENOUGH TO AVOID CRACKS TRAVELING UPWARDS TO SURFACE.
- SET BOTTOM SECTION OF NOMINAL 18" L-868B BASE WITH MUD PLATE INTO CAPTURE SECTION USING ALIGNMENT JIG TO KEEP ALIGNMENT AND ELEVATION PER FAA A/C. PROVIDE #4 TIE-BAR CAGE AS DETAILED ON CAPTURE SECTION DETAIL.
- RUN 2" SCHEDULE PVC BETWEEN BASES COMPLETING CONDUIT INSTALLATIONS, PROVIDE CONDUIT SLEEPERS SO CONDUIT CONCRETE AGGREGATES WILL FLOW UNDER CONDUIT.
- INSTALL SEPARATE GROUND ROD FOR EVERY BASE CAN AND EXOTHERMICALLY WELD TO LOCAL COUNTERPOISE WHICH IS TERMINATED AT CUSTOM FACTORY MANUFACTURED MECHANICAL TERMINATION POINT, WHICH HAS BEEN BONDED TO BASE CAN PRIOR TO GALVANIZATION PROCESS.
- PLACE CONCRETE INTO TRENCH AND CAPTURE SECTION OF L-868B BASE CAN FILLING ANNULAR SPACE OF CONDUIT AND BASE CAN LEVELING UP TO TOP OF CTB.
- SURVEY LOCATION OF NEWLY SET BASE CAN FOR EASE OF RECOVERY AFTER PROPOSED REINFORCED PORTLAND CEMENT CONCRETE (RPCC) IS PLACED.
- AFTER RPCC IS PLACED, LOCATE NEW BASE CAN BY SURVEY, THEN DRILL A 4" PILOT HOLE TO LOCATE THE CENTER OF THE BASE. CENTER A 14" DIAMETER CORE OVER THE BASE, CORE DOWN TO TOP OF L-868B BASE BOTTOM SECTION AND REMOVE THE CORE.
- INSTALL TOP SECTION OF L-868B BASE WITH A MULTI-HOLE ADAPTOR RING AND FILL ANNULAR VOID WITH P-606 EPOXY.
- PHASING RESTRICTIONS WITHIN THE AREA WILL REQUIRE THE INSTALLATION OF ONLY MAXIMUM (1) SPACER RING OF VARIED THICKNESS TO BRING FINAL FIXTURE ELEVATION TO MEET FAA A/C.



**4 CAPTURE SECTION**  
SCALE: NTS

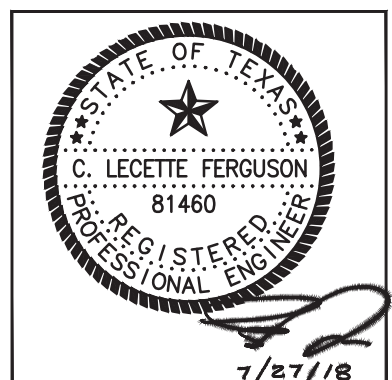


**2 TAXIWAY CENTERLINE LIGHT BASE MOUNTING IN NEW PAVEMENT**  
SCALE: NTS

REVISIONS		
NO.	DESCRIPTION	DATE

REHABILITATION OF TAXIWAY NA  
AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DETAILS**  
**SEMI-FLUSH FIXTURE**

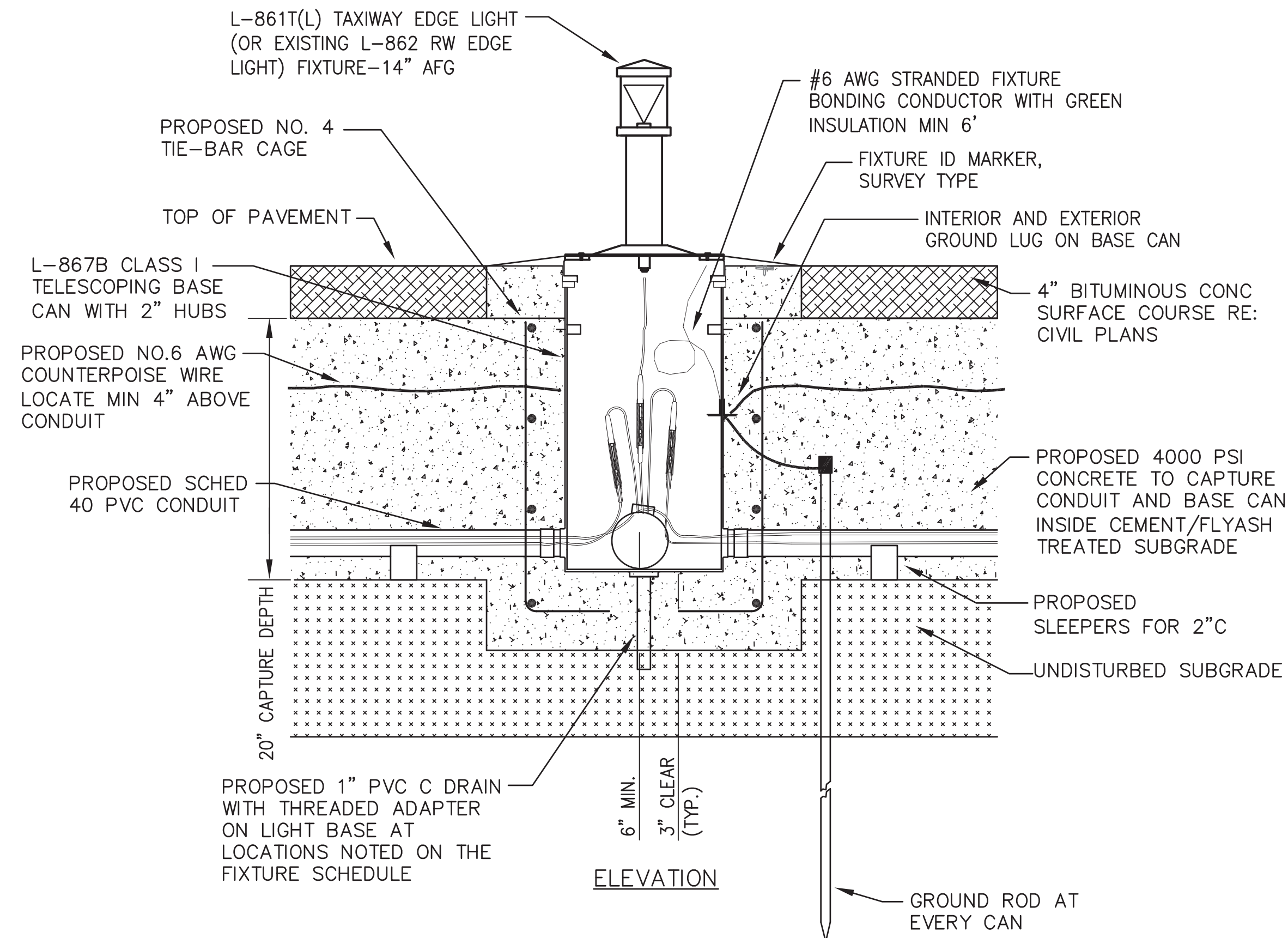
ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



DEPARTMENT OF AVIATION	
APPROVED BY: DP	7/26/18
<i>Denaj Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

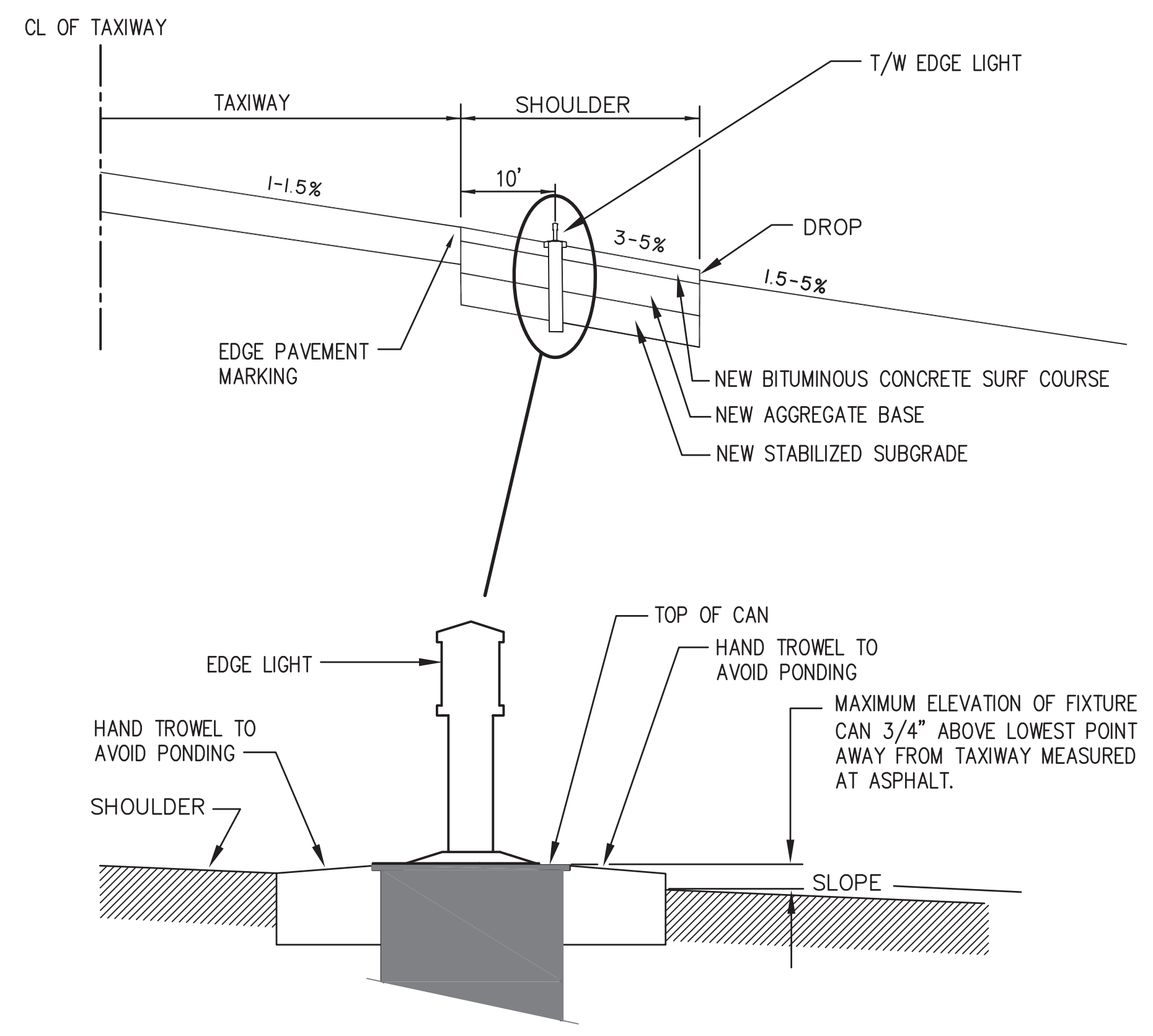
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



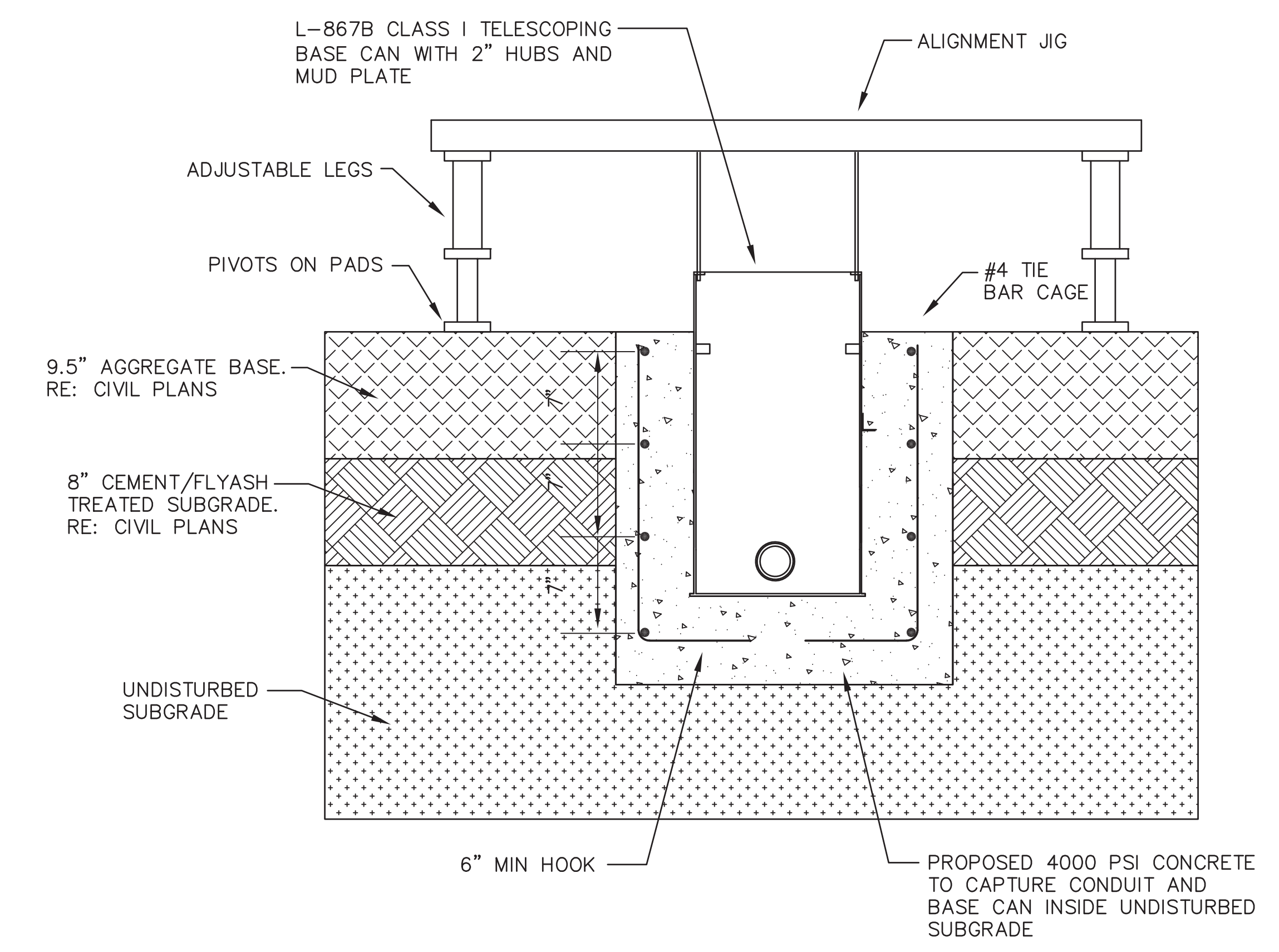


**1 LIGHT FIXTURE INSTALLATION AT NEW SHOULDER**  
 E10-02 SCALE: N.T.S.

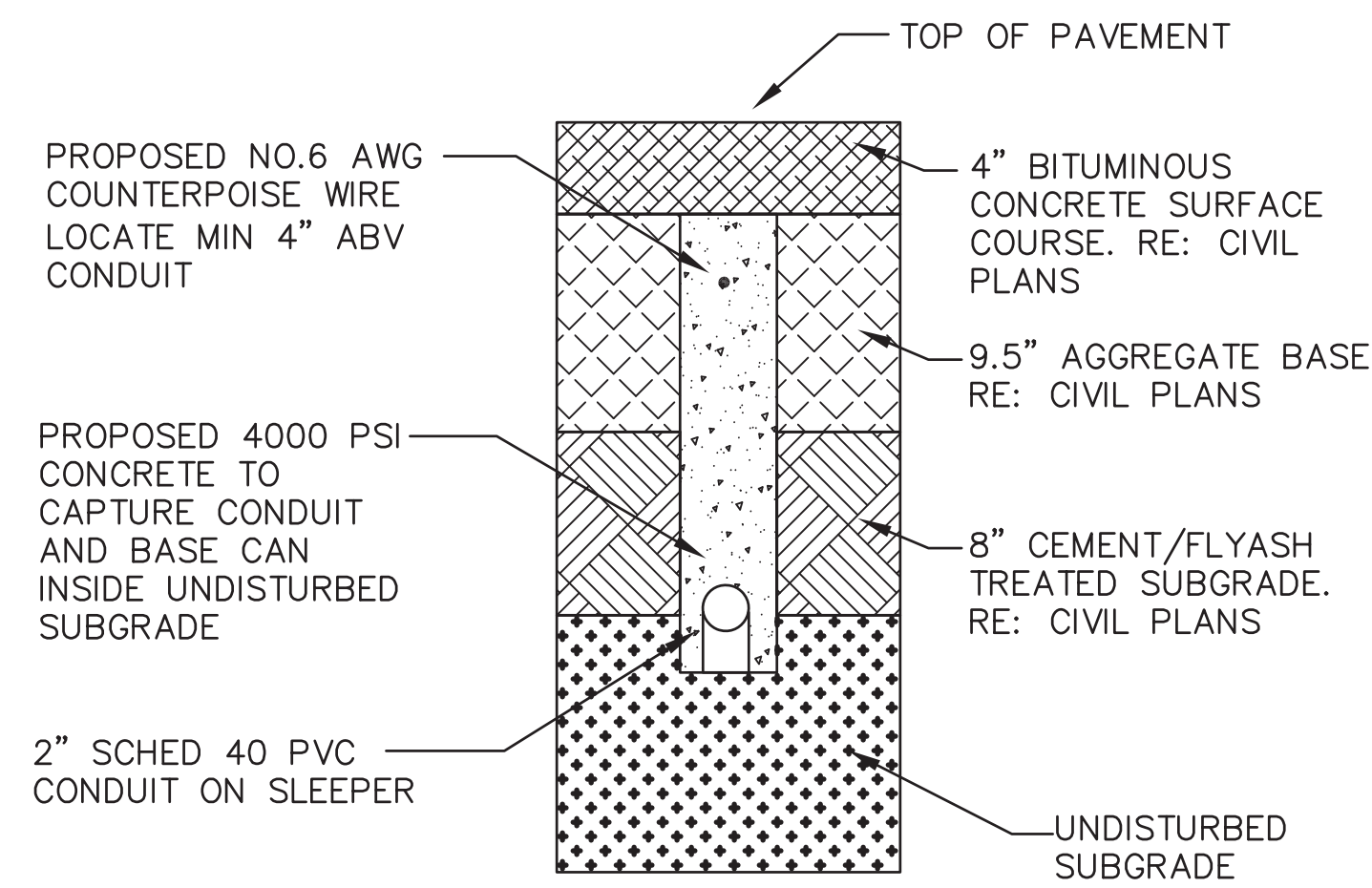
- TYPICAL ELEVATED EDGE LIGHT INSTALLATION IN NEW SHOULDER ( REFER TO CIVL SECTIONS):**
1. SURVEY EXISTING FIXTURE LOCATION WHERE NOTED.
  2. REMOVE EXISTING FIXTURES, TRANSFORMERS AND ALL ITEMS.
  3. AFTER AGGREGATE BASE IS PLACED, PREPARE A CAPTURE SECTION FOR A NEW BASE, 24" DIAMETER TO A MINIMUM DEPTH OF 32" BELOW FINAL GRADE.
  4. PROVIDE A CONDUIT TRENCH 6" WIDE BY NOMINAL 20" DEEP BETWEEN BASES AND OUTSIDE POINTS FOR NEW 2" PVC CONDUIT PLACEMENT INTO NEW SUBGRADE AND EXISTING UNDISTURBED SUBGRADE.
  5. SET ADJUSTABLE L-867 BASE WITH MUD PLATE INTO CAPTURE SECTION USING ALIGNMENT JIG TO KEEP ALIGNMENT AND ELEVATION PER FAA A/C.
  6. PROVIDE #4 TIE-BAR CAGE AS DETAILED ON CAPTURE SECTION DETAIL.
  7. RUN 2" SCHEDULE PVC BETWEEN BASES COMPLETING CONDUIT INSTALLATIONS, PROVIDE CONDUIT SLEEPERS SO CONDUIT CONCRETE AGGREGATES WILL FLOW UNDER CONDUIT.
  8. INSTALL SEPARATE GROUND ROD FOR EVERY BASE CAN AND AT 500' INTERVALS ALONG CONDUIT ROUTE.
  9. INSTALL COUNTERPOISE WIRE CENTERED ABOVE CONDUIT. EXOTHERMICALLY WELD TO EACH GROUND ROD AND EXOTHERMIC WELD TO BASE CAN AT CUSTOM FACTORY MANUFACTURED MECHANICAL TERMINATION POINT WHICH HAS BEEN BONDED TO BASE CAN PRIOR TO GALVANIZATION PROCESS.
  10. PLACE 4000 PSI CONCRETE INTO TRENCH AND CAPTURE SECTION OF THE BASE CAN FILLING ANNULAR SPACE OF CONDUIT AND BASE CAN LEVELING UP TO TOP OF THE AGGREGATE BASE.
  11. SURVEY LOCATION OF NEWLY SET BASE CAN FOR EASE OF RECOVERY AFTER PROPOSED FINAL SHOULDER MATERIAL IS PLACED.
  12. PLACE 1" LAYER OF SAND ON TOP OF MUD PLATE.
  13. AFTER BITUMINOUS CONCRETE SURFACE COURSE IS PLACED, LOCATE NEW BASE CAN BY SURVEY, THEN DRILL A 4" PILOT HOLE TO LOCATE THE CENTER OF THE BASE.
  14. AFTER DETERMINING CENTER OF BASE, CENTER A 24" DIAMETER CORE OVER THE BASE, CORE DOWN TO TOP OF BASE AND REMOVE THE CORE.
  15. EXTEND ADJUSTABLE BASE UP TO 3/4" ABOVE FINISHED SURFACE OF SHOULDER.
  16. PLACE 4000PSI CONCRETE INTO VOID, TAPERING OFF CONCRETE BACK TO SHOULDER SURFACE AS REQUIRED.
  17. INSTALL A 2" DIAMETER BRASS SURVEY MARKER WITH STAMPED FIXTURE ID NUMBER. SEE FIXTURE SCHEDULE.



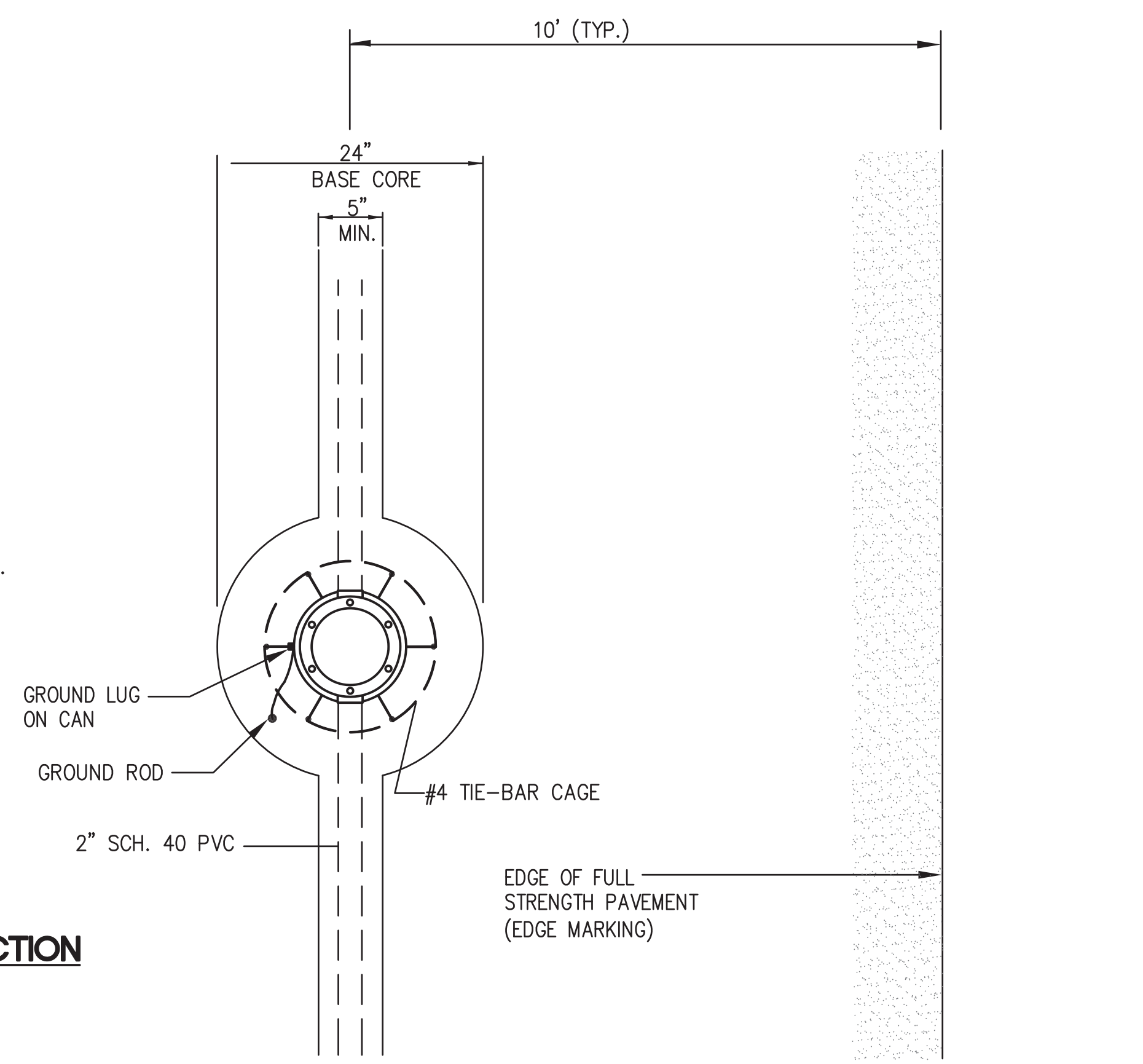
**5 TYPICAL NEW LED LIGHT FIXTURE FINISHING DETAIL**  
 E10-02 SCALE: NTS



**2 CONDUIT AND BASE CAN CAPTURE SECTION DETAIL**  
 E10-02 SCALE: N.T.S.



**3 CONDUIT SECTION AT NEW SHOULDER CONSTRUCTION**  
 E10-02 SCALE: N.T.S.



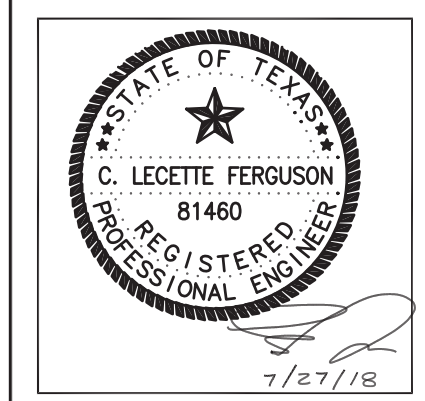
**4 EDGE LIGHT BASE MOUNT - NEW SHOULDER CONSTRUCTION**  
 E10-02 SCALE: NTS

REVISIONS		
NO.	DESCRIPTION	DATE

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DETAILS**  
**ELEVATED EDGE FIXTURE**

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pehmal*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



REVISIONS

NO.	DESCRIPTION	DATE	BY

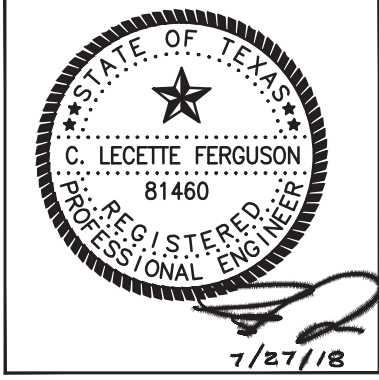
REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT

**ELECTRICAL DETAILS**

AIRFIELD LIGHTING

ISSUED FOR BID

PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



DEPARTMENT OF AVIATION

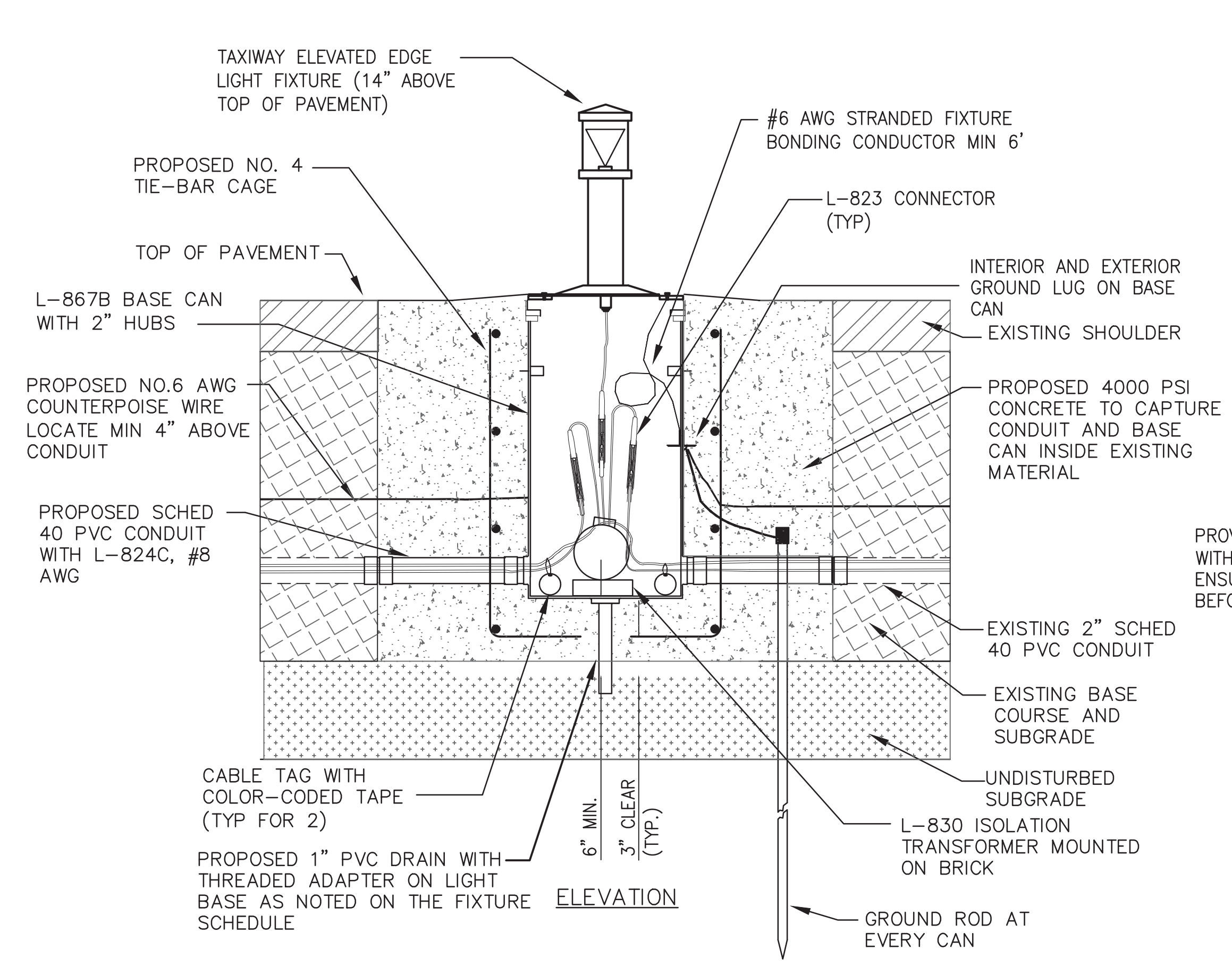
APPROVED BY: DP 7/26/18

*Denzel Palmer*

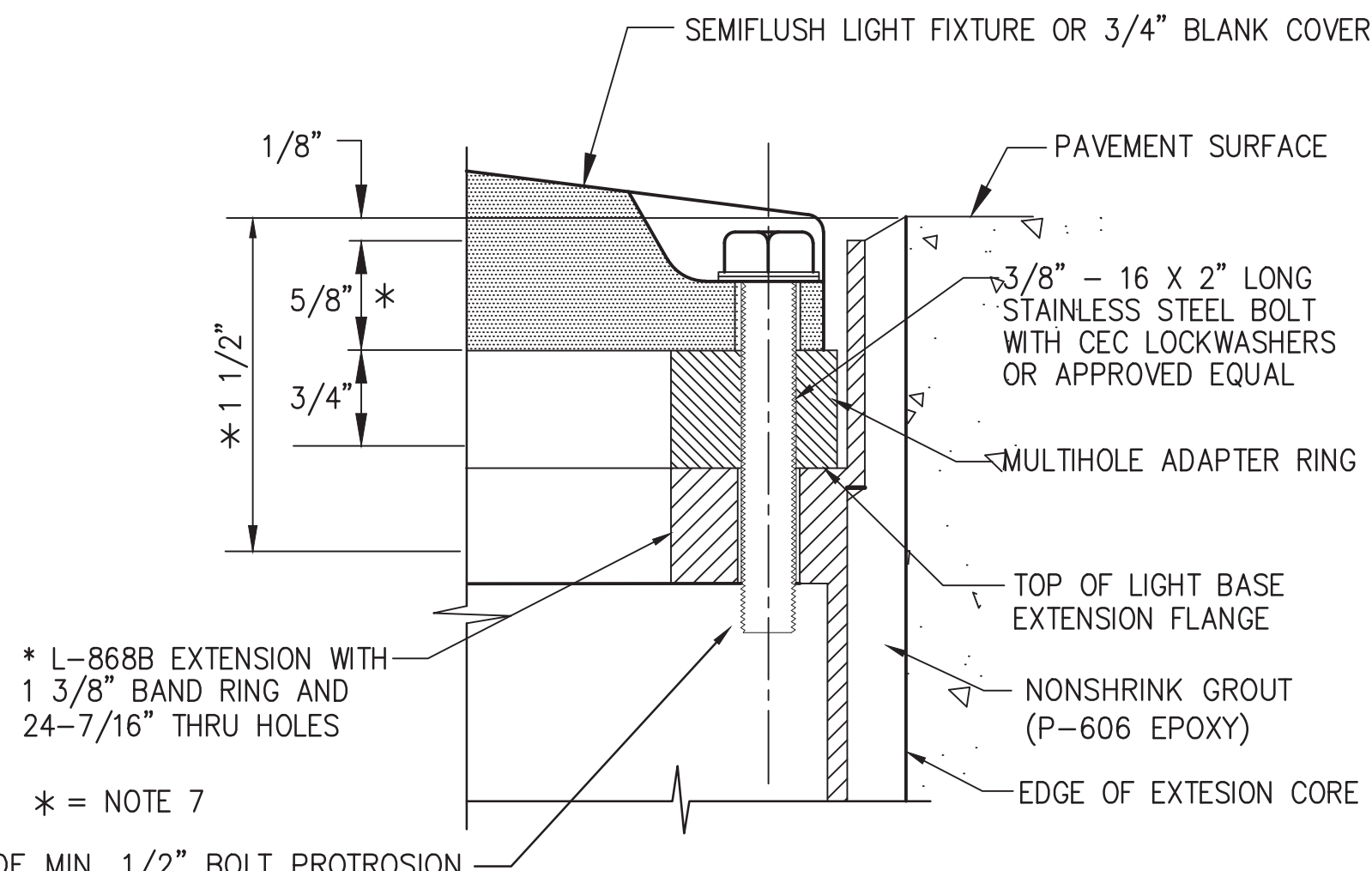
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

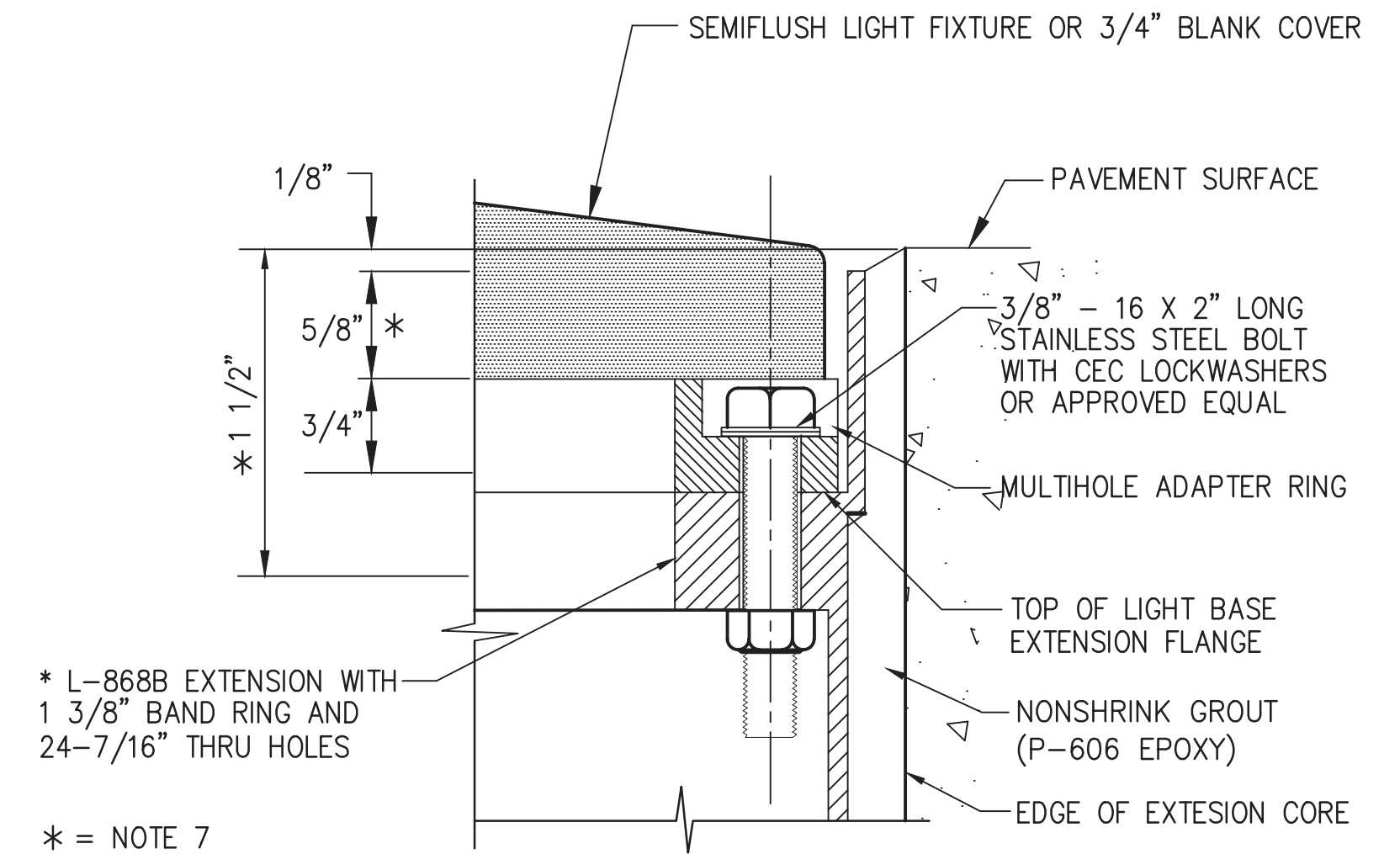
E10-03



**1 LIGHT FIXTURE INSTALLATION AT EXISTING SHOULDER**  
 SCALE: 1" = 1'-0"



**A - FIXTURE MOUNTING BOLT**

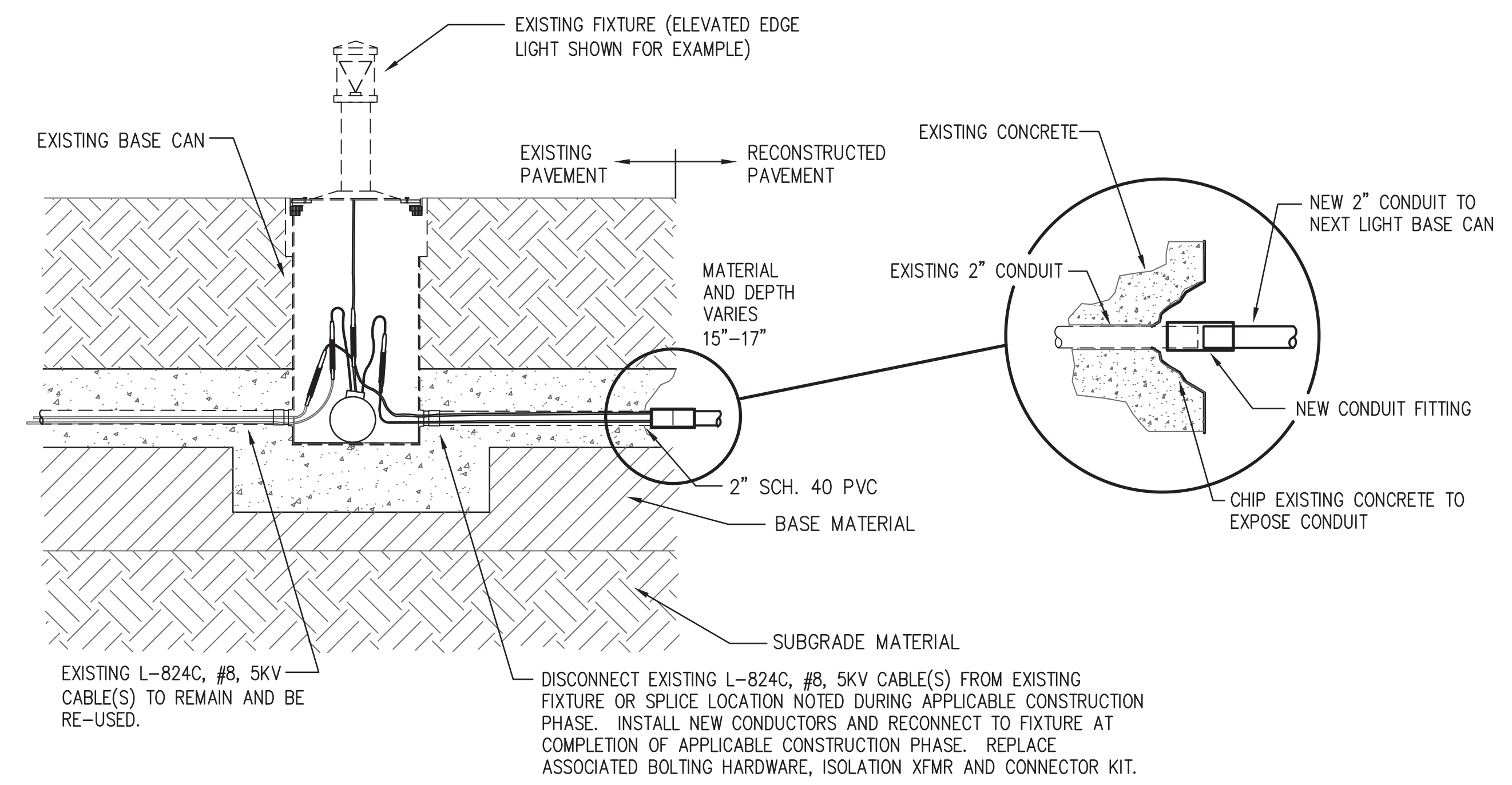


**B - MULTIHOLE ADAPTER RING MOUNTING BOLT**

**NOTES:**

- BOLTS SHALL BE LENGTH SPECIFIED ABOVE UNLESS OTHERWISE APPROVED BY DESIGN ENGINEER.
- STANDARD BAND RING EXTENDS 1-3/8" ABOVE TOP OF UPPER BASE SECTION TO ALLOW 3/4" FIXTURE RECESS AND 3/4" MULTIHOLE ADAPTER RING. TOP OF FLANGE RING BAND IS 1/8" BELOW PAVEMENT SURFACE. SEE NOTE 7.
- TORQUE BOLTS HOLDING FIXTURE TO 180 INCH-POUNDS. TORQUE REMAINING BOLTS TO MANUFACTURER'S RECOMMENDATIONS.
- BLANK LIDS FOR L-868 BASES IN RIGID PAVEMENT SHALL BE 3/4" THICK
- ALL LIGHT BASE BOLTS SHALL BE PROVIDED WITH TWO-PIECE CEC LOCK WASHERS
- FOR L-850 HIRL FIXTURES THE BAND RING EXTENDS 1-7/8" FOR A TOTAL RECESS OF 2" FROM THE PAVEMENT SURFACE TO THE TOP OF THE LIGHT BASE EXTENSION FLANGE.
- BOLTS FOR L-850 HIRL FIXTURES SHALL BE APPROPRIATELY SIZED TO EXTEND ~3/4" BELOW MULTIHOLE ADAPTER RING AS SHOWN.

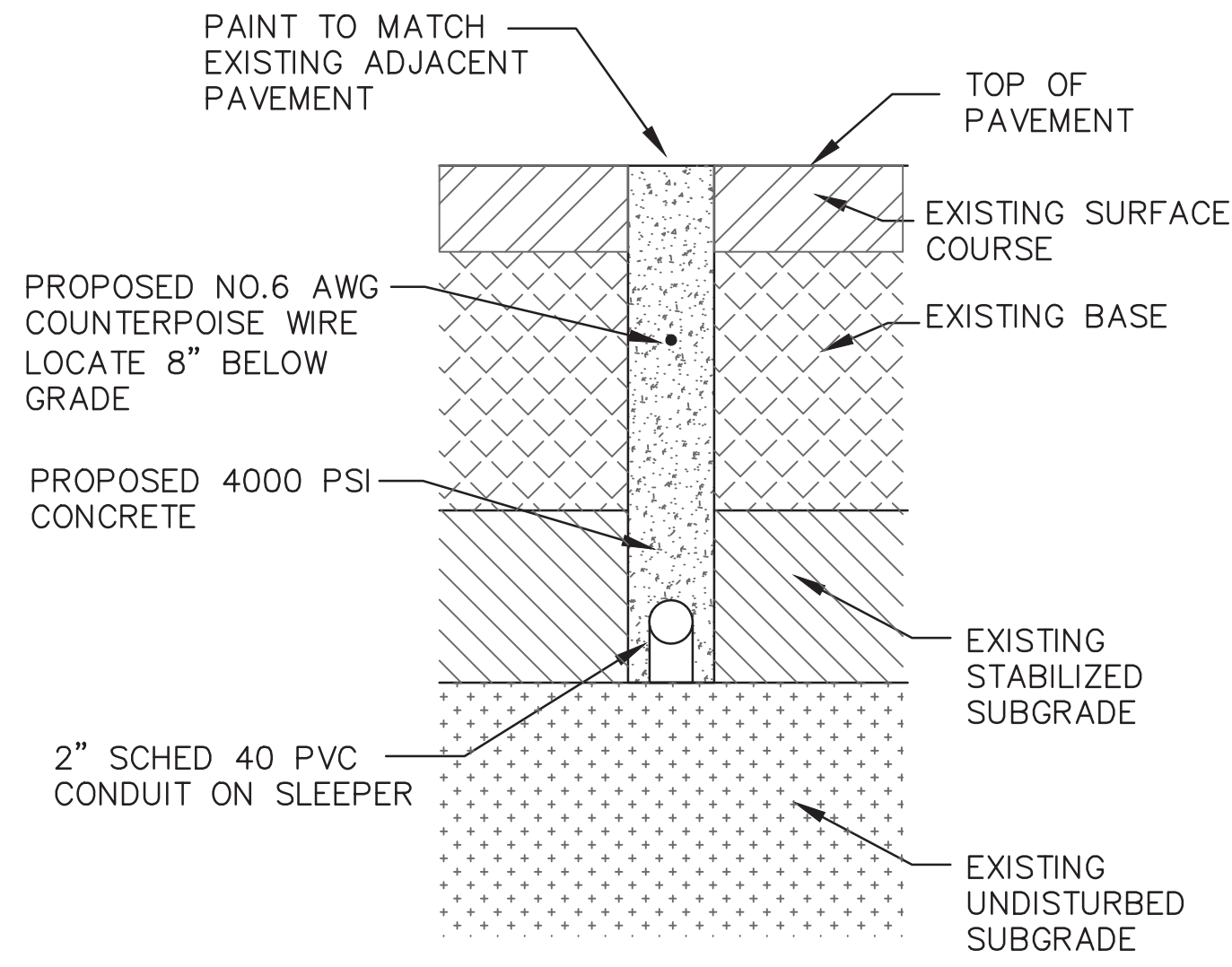
**4 DETAILS FOR SEMIFLUSH FIXTURE MOUNTING BOLT AND MULTIHOLE ADAPTOR RING IN FULL STRENGTH PAVEMENT**  
 SCALE: NTS



**3 CONDUIT SECTION AT NEW SHOULDER CONSTRUCTION**  
 SCALE: 1" = 1'-0"

**TYPICAL ELEVATED TAXIWAY EDGE LIGHT INSTALLATION IN EXISTING SHOULDER:**

- DISCONNECT EXISTING L-824C, #8 5KV CABLES FROM EXISTING CONDUIT PATHWAY.
- CORE DRILL A MINIMUM 36" DIAMETER TO A MINIMUM DEPTH OF 32" BELOW EXISTING FINISHED GRADE FOR INSTALLATION OF NEW BASE CAN. CONTRACTOR HAS THE OPTION TO CORE UP TO 42" DIA CORE IF NEEDED TO CAPTURE EXISTING CONDUIT. NO ADDITIONAL PAYMENT WILL BE MADE.
- SET ONE-PIECE L-867 BASE INTO CAPTURE SECTION USING ALIGNMENT JIG TO KEEP ALIGNMENT AND ELEVATION PER FAA A/C. TOP OF BASE CAN SHOULD BE 3/4" ABOVE EXISTING FINISHED SURFACE OF SHOULDER. PROVIDE #4 TIE-BAR CAGE AS DETAILED ON CAPTURE SECTION DETAIL ON E503.
- EXPOSE EXISTING CONDUIT END. INSTALL NEW 2" SCHED 40 PVC CONDUIT FROM NEW BASE CAN TO EXISTING CONDUIT. INSTALL CONDUIT FITTINGS TO CONNECT NEW CONDUIT TO EXISTING. PROVIDE CONDUIT SLEEPERS SO CONDUIT CONCRETE AGGREGATES WILL FLOW UNDER CONDUIT.
- INSTALL SEPARATE GROUND ROD FOR EVERY BASE CAN AND EXOTHERMIC WELD TO COUNTERPOISE WHICH IS TERMINATED AT CUSTOM FACTORY MANUFACTURED MECHANICAL TERMINATION POINT, WHICH HAS BEEN BONDED TO BASE CAN PRIOR TO GALVANIZATION PROCESS. BOND NEW COUNTERPOISE CABLE TO EXISTING COUNTERPOISE CABLE FOR CONTINUITY.
- PLACE 4000 PSI CONCRETE INTO CAPTURE SECTION OF L-867B BASE CAN FILLING ANNULAR SPACE OF CONDUIT AND BASE CAN LEVELING UP TO TOP OF CAN AND TAPERING OFF CONCRETE BACK TO EXISTING SHOULDER SURFACE AS REQUIRED.

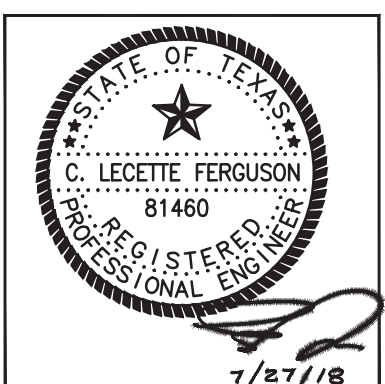


**2 TYPICAL OPEN-CUT CONDUIT SECTION AT EXISTING SHOULDER CONSTRUCTION**  
 SCALE: 1" = 1'-0"



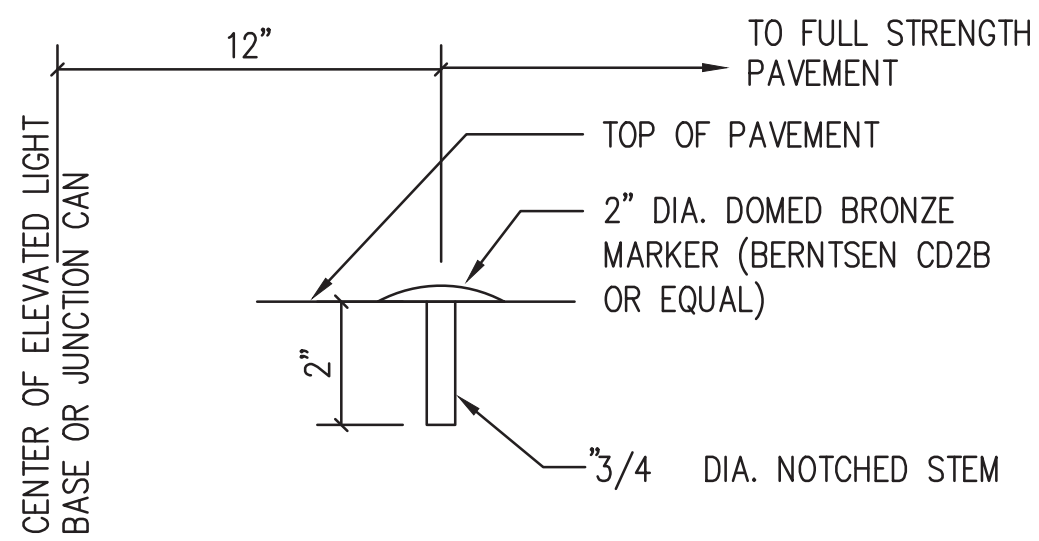
REVISIONS		
NO.	DESCRIPTION	DATE

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



DEPARTMENT OF AVIATION	
APPROVED BY:	DP 7/26/18
<i>Denaj Rahal</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



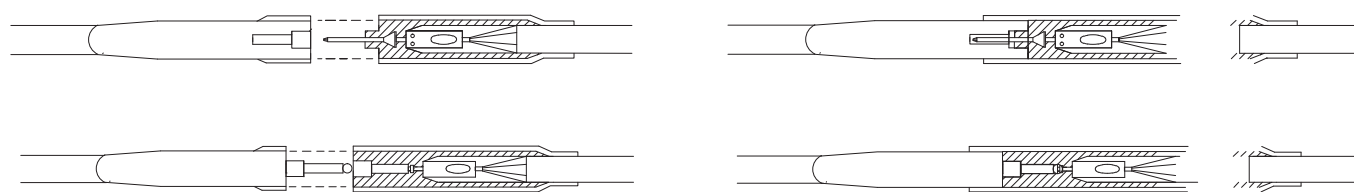
- NOTES:
- IDENTIFICATION SHALL BE STAMPED 3" LETTERS AND NUMBERS UNIFORMLY SPACED ON THE BRONZE MARKER.
  - IDENTIFICATION MARKERS SHALL BE UNIFORMLY INSTALLED ADJACENT TO JUNCTION CANS AND ELEVATED EDGE LIGHTS LOCATED PERPENDICULAR TO PAVEMENT CENTERLINE INBOARD OF THE BASE CAN.

**4 BRASS ID TAG DETAIL**  
 E10-04 SCALE: NTS



**TYPE A**

FOR SPLICES FOR USE AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT

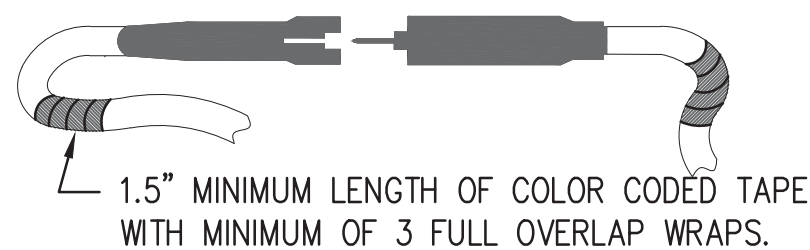


**TYPE B**

FOR SPLICES AT LIGHTS OR SIGNS

- NOTES:
- PROVIDE AMERACE KIT FOR SPLICES OR APPROVED EQUAL.
  - PROVIDE CABLE TAGS AT EVERY SPLICE IN CANS, PULL BOX, HANDHOLE, AND MANHOLE.

**3 SPLICE DETAILS**  
 E10-04 SCALE: NTS

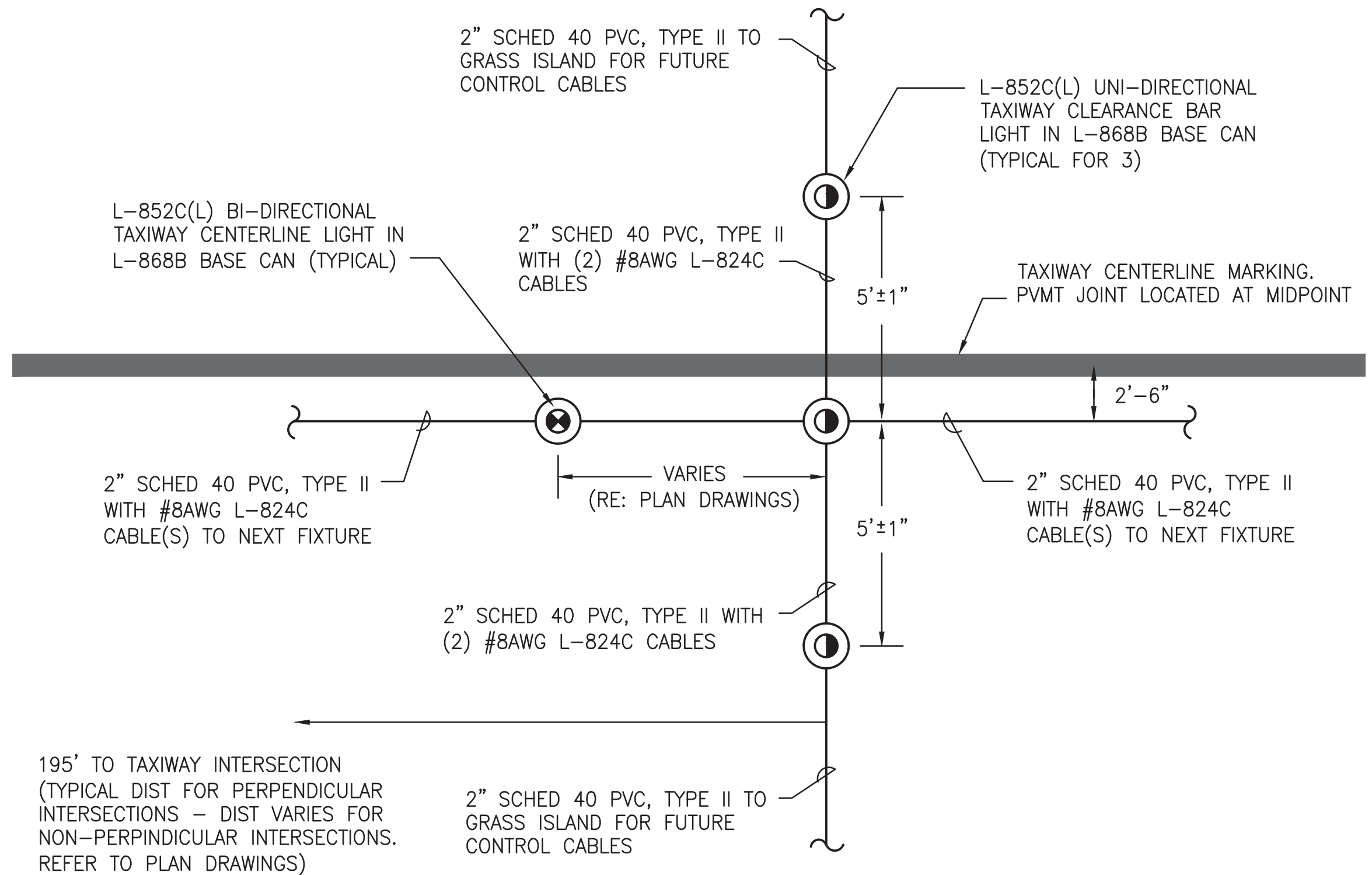


NOTE:

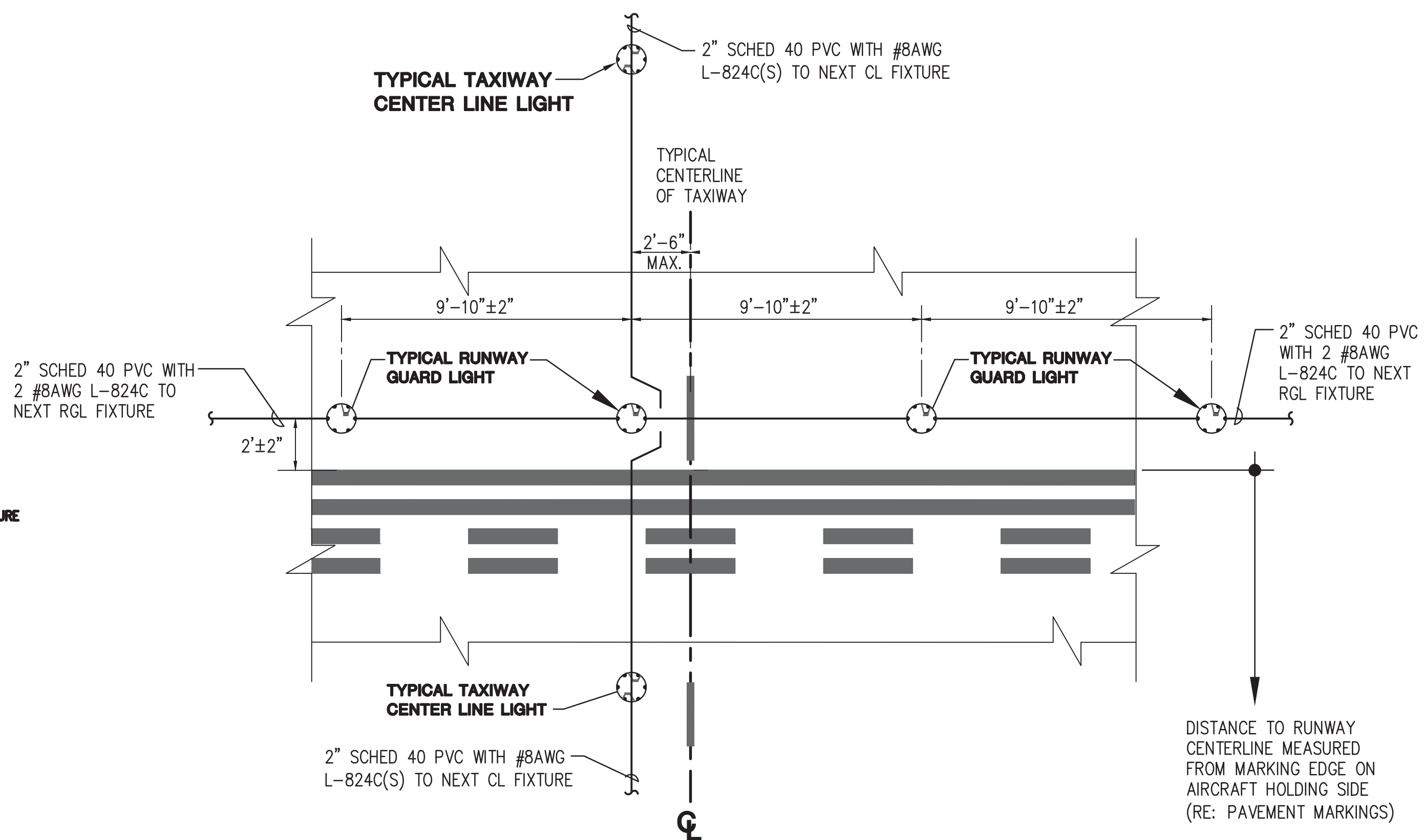
PROVIDE MATCHING LABEL TAGS (STAINLESS STEEL TAG ATTACHED TO STAINLESS STEEL WIRE) FOR EACH CONNECTOR PAIR FOR ALL CIRCUITS ON THIS PROJECT IN HANDHOLES, MANHOLES AND PULL BOXES. PROVIDE SEPARATE LABEL WITH UNIQUE IDENTIFICATION FOR EACH ADDITIONAL CONNECTOR PAIR. EXAMPLE: TAG 'AA' MATCHES 'AA', 'BB' MATCHES 'BB' AND ....ETC. AS AN ALTERNATE TO STAINLESS STEEL TAGS, THE CONTRACTOR HAS THE OPTION TO INSTALL WATERPROOF VINYL LABELS 2"x3.5"L, YELLOW, SELF-LAMINATING AND RIGID (PANDUIT #PST-FOBLNK OR EQUAL). LABELS SHALL BE FASTENED TO CABLE USING TY-WRAPS, MINIMUM 2 PER LABEL. LABEL LOCATIONS SHALL BE THE SAME AS FOR SS TAGS DESCRIBED ABOVE.

IN ADDITION TO CABLE TAG, INSTALL COLOR CODED TAPE AT END OF ALL "BLACK" JACKETED CONDUCTORS. LOCATE TAPE AT ALL CONDUCTOR ENDS AND IN ALL HANDHOLES, MANHOLES AND PULLBOXES. EACH CONDUCTOR MUST BE TAPED WITH A UNIQUE COLOR FOR IDENTIFICATION. CONTRACTOR TO PROVIDE A COLOR-CODE CIRCUIT SCHEDULE FOR ELECTRICIANS AT PROJECT COMPLETION. SUBMIT SCHEDULE WITH AS-BUILT DOCUMENTS FOR REVIEW.

**1 STAINLESS STEEL TAG + TAPE DETAIL**  
 E10-04 SCALE: NTS



**6 TAXIWAY CLEARANCE BAR INSTALLATION DETAIL**  
 E10-04 SCALE: 1" = 5'-0"



**2 IN-PAVEMENT RW GUARD LIGHT INSTALLATION DETAIL**  
 E10-04 SCALE: NTS



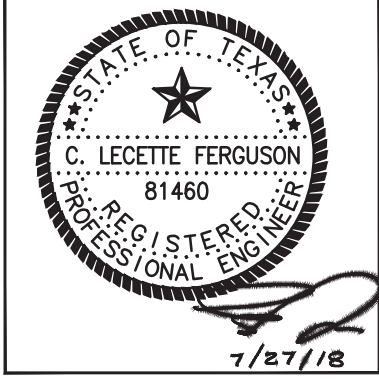


REVISIONS		
NO.	DESCRIPTION	DATE

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT

ELECTRICAL DETAILS  
 AIRFIELD GUIDANCE SIGN AND BASE

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



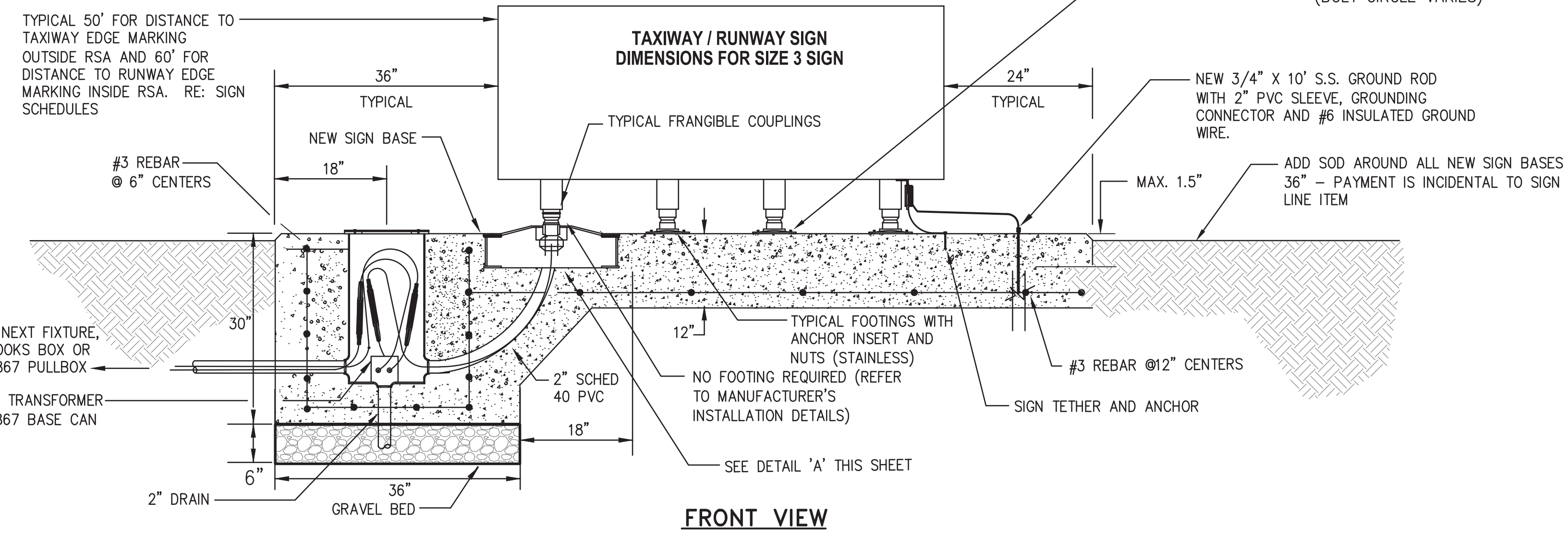
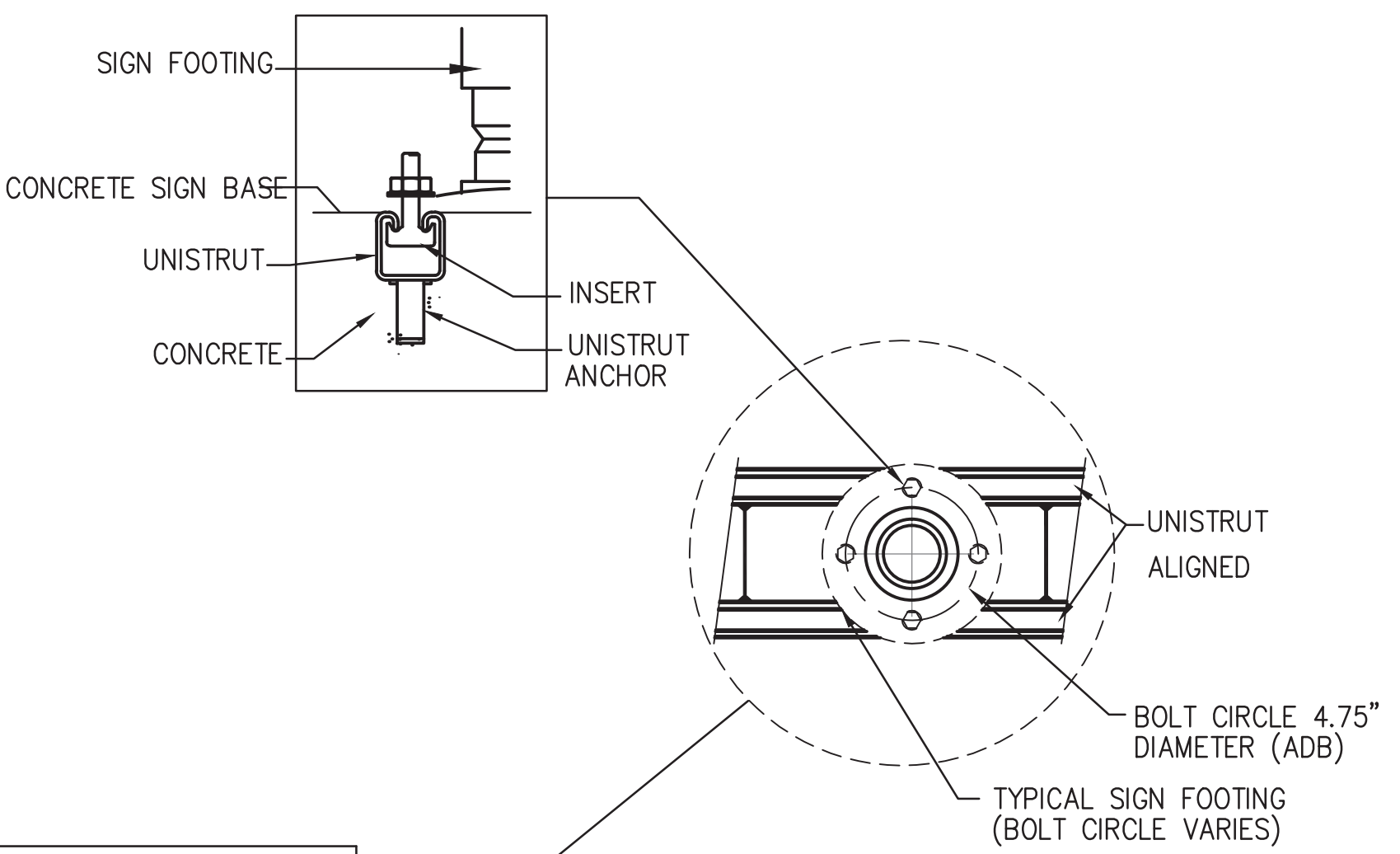
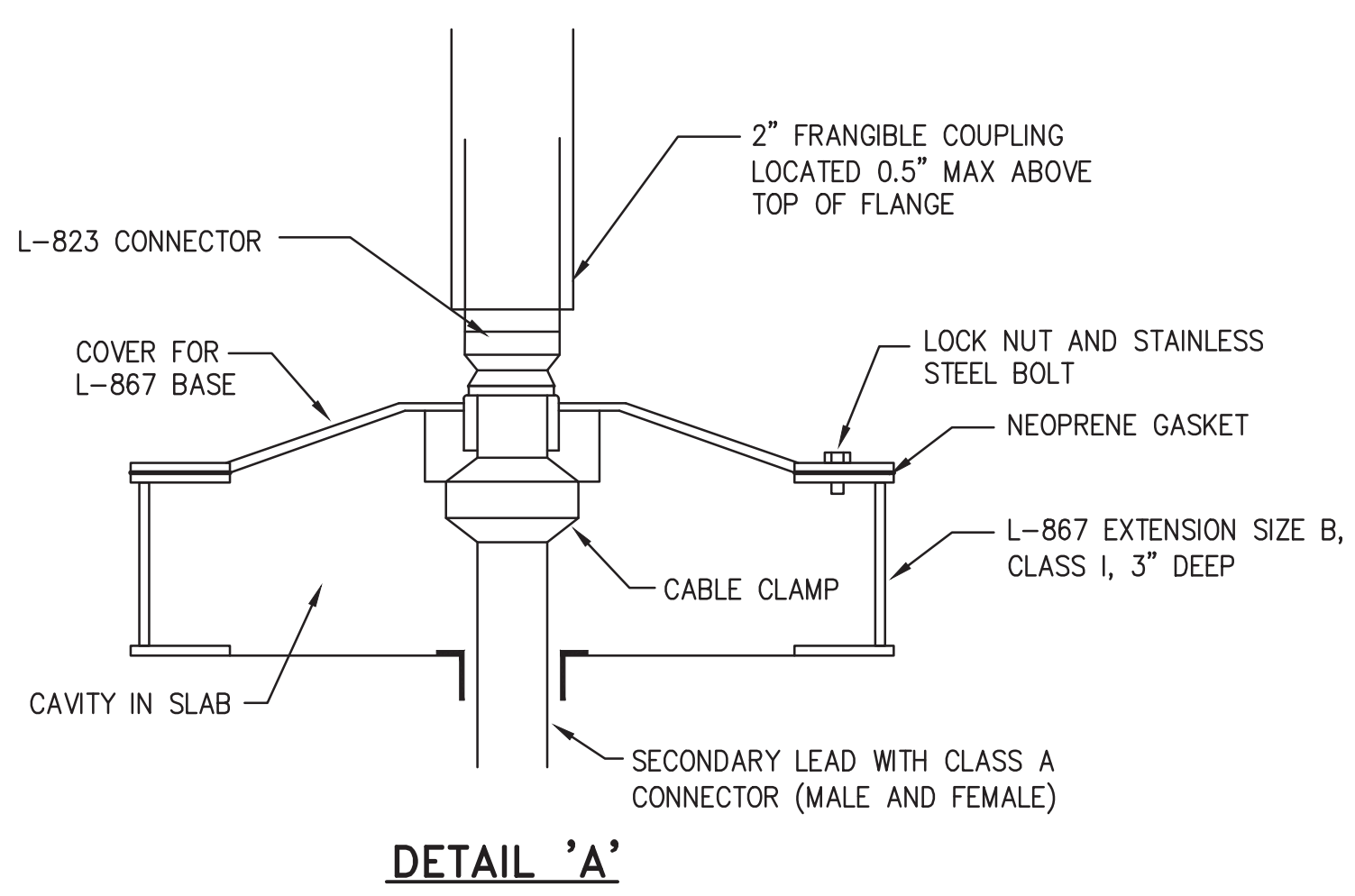
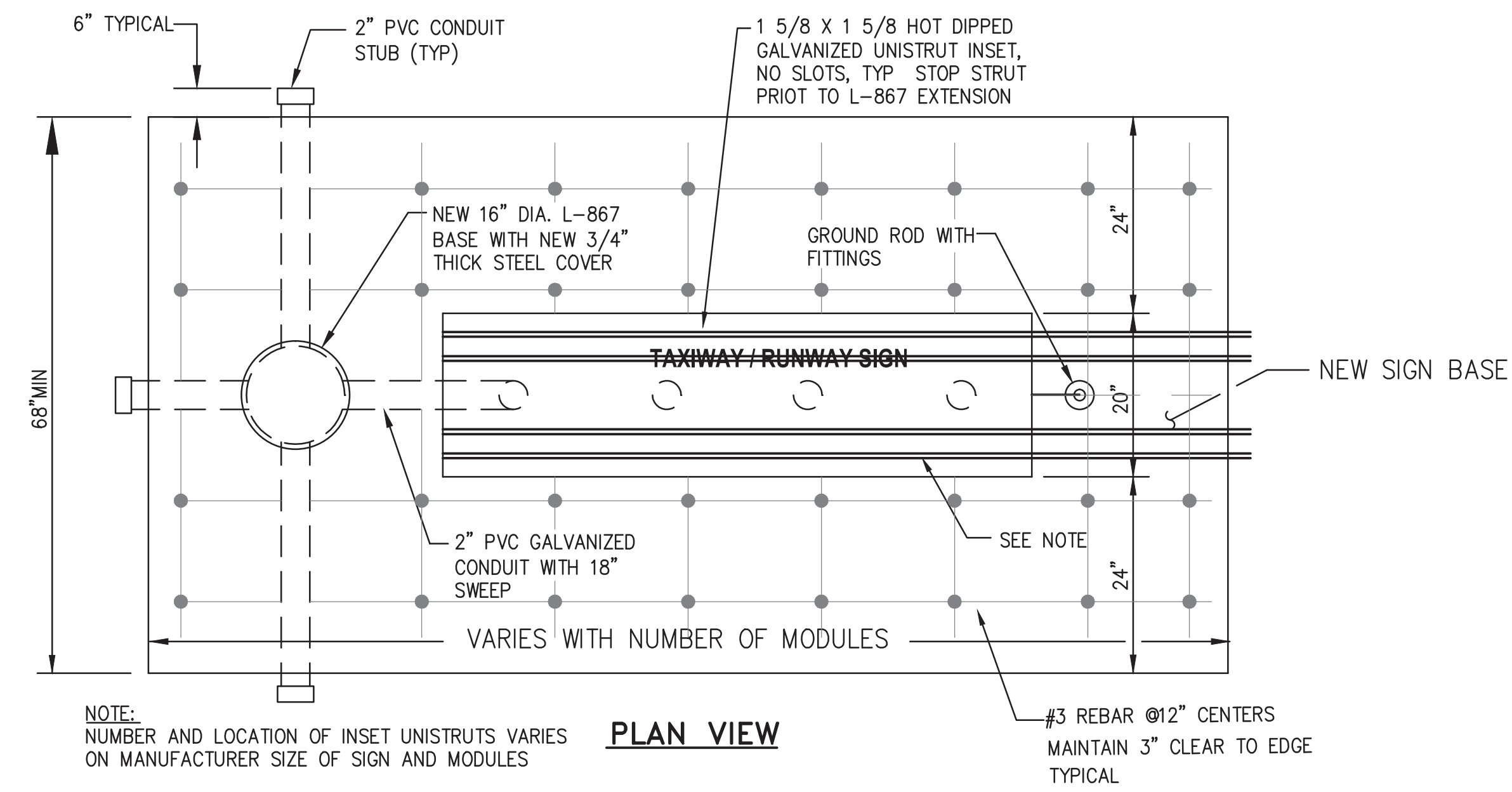
DEPARTMENT OF AVIATION	
APPROVED BY:	DP 7/26/18
<i>Dana J. Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E10-05

**GENERAL SIGN NOTES**

- SEE SIGN SCHEDULE FOR SIGN NUMBERS, LEGEND, TYPE AND NUMBER OF MODULES.
- SEE AIRFIELD ELECTRICAL PLAN SHEETS E03 SERIES FOR SIGN LOCATIONS.
- ALL LETTERS AND SPACINGS OF NEW SIGNS TO BE PER AC 150/5345-44 LATEST REVISION.
- ALL NEW SIGNS, SIGN MODULES AND ANY MODIFICATION TO AN EXISTING SIGN SHALL CONFORM TO AC 150/5340-18 AND 150/5345-44, LATEST EDITIONS AND SIGNAGE AND MARKING SUPPLEMENTS. ALL MATERIALS, SIGN BASE DETAILS, ETC., SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. REPLACEMENT SIGN PANELS SHALL BE FURNISHED BY THE MANUFACTURER OF THE SIGN IN WHICH THE PANELS ARE TO BE INSTALLED AND SHALL FIT WITHIN THE EXISTING HOUSING.
- THE SIGNS SHALL BE FRANGIBLE, MEETING THE REQUIREMENTS OF AC 150/5345-44, LATEST EDITION.
- THE DETAILS SHOWN IN THE PLANS PROVIDE THE MINIMUM REQUIREMENTS FOR SIGN INSTALLATIONS. THE CONTRACTOR SHALL USE STANDARDS APPLICABLE FOR THE PARTICULAR SIGN MANUFACTURER. THE BOLTING PATTERN, METHOD OF ANCHORING, ETC., SHALL BE PER SIGN MANUFACTURER'S RECOMMENDATIONS AND APPROVED BY THE ENGINEER.
- THE ACTUAL SIGN DIMENSIONS WILL VARY PER MANUFACTURER. THE BASE SIZE AS SHOWN SHALL BE ADJUSTED TO MATCH THE SIGN SUBMITTED. THE SUBMITTAL SHALL INCLUDE NEW BASE DIMENSIONS, LAYOUT, ETC.
- FOR LOCATION AND ORIENTATION OF SIGNS AND FOUNDATIONS, SEE PLANS. THE LOCATION SHOWN ON THE PLANS IS THE PERPENDICULAR DISTANCE FROM THE DEFINED TAXIWAY EDGE, TO THE NEAR SIDE OF THE SIGN ON THE SIGN'S LONGITUDINAL CENTERLINE (SEE PLAN VIEW). ALL SIGNS SHALL BE INSTALLED WITH FIXTURE I.D. MARKERS.
- ALL SIGNS SHALL BE ORIENTED SUCH THAT THE LONGITUDINAL CENTERLINE OF THE SIGN IS PERPENDICULAR TO THE RESPECTIVE RUNWAY OR TAXIWAY CENTERLINE, UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL PROVIDE NEW CONCRETE FOUNDATION, BASE CAN, LAMPS, GROUND ROD AND CONNECTORS, ISOLATION TRANSFORMER, SIGN TAG AND CONNECTIONS FOR ALL NEW OR RELOCATED GUIDANCE SIGNS.
- SITE GRADING AT EACH SIGN IS ANTICIPATED. GRADING AND RESTORATION ARE INCIDENTAL TO THE SIGN LINE ITEM.
- ALL CONCRETE SHALL COMPLY WITH P-610 SPECIFICATION. P-610 CONCRETE STEEL REINFORCEMENT SHALL BE TYPE ASTM A615 GRADE 60. ALL REINFORCEMENT SHALL HAVE A 2" MINIMUM CONCRETE COVER. REINFORCEMENTS MAY BE ADJUSTED TO MISS INTERFERENCES.
- STRUCTURAL BACKFILL, FREE-DRAINING, AS APPROVED BY THE ENGINEER, SHALL BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED 4" IN LOOSE DEPTH AND COMPACTED TO 95% MAXIMUM DENSITY AT ZERO TO 2% ABOVE OPTIMUM MOISTURE AS DETERMINED BY ASTM D1557. SLOPE SHALL NOT EXCEED 33:1 WITHIN RUNWAY SAFETY AREA.
- SODDING OF DISTURBED AREAS SHALL BE INCLUDED IN THE INDIVIDUAL SIGN PAY ITEM. EXCAVATION, GRADING, FILL ETC. FOR THE SIGNS IS INCIDENTAL TO THE SIGN PAY ITEM.
- ALL AREAS FOR THE SUPPORT PLATES SHALL BE IN THE SAME HORIZONTAL PLANE. WHEN CAST INTEGRALLY WITH THE CONCRETE PAD, THE ANCHOR BOLTS SHALL BE A-36 STEEL, HOT DIP GALVANIZED.
- BASE CAN SHALL BE ON SIDE OF SIGN CLOSEST TO THE POWER SOURCE.
- APPLY ANTI-SIEZE OR APPROVED EQUAL TO ALL THREADED BOLTS AND CONNECTIONS.
- SIGNS TO BE PLACED PLUMB AND LEVEL.
- FRANGIBLE COUPLING SHALL BE LOCATED 1/2" MAX. ABOVE COVER. MANUFACTURER SHALL PROVIDE AT LEAST A 1/4" DIA OPENING OR EQUAL FOR DRAINAGE INTO L-867 BASE. COUPLING SHALL NOT BE SUPPLIED WITH WEEP HOLES TO THE OUTSIDE.
- CONTRACTOR SHALL INSTALL NEW REPLACEMENT LAMPS (FOR ALL NON-LED SIGNS) FOR ALL NEW OR RELOCATED LIGHTED SIGNS AT TIME OF FINAL INSPECTION. TURN REMOVED LAMPS OVER TO OWNER.
- GROUND RODS SHALL BE 3/4" DIA. X 10'L COPPER-CLAD ROD. EACH GROUND ROD SHALL BE TESTED PRIOR TO CONNECTION TOT HE GROUND SYSTEM. THE EARTH RESISTANCE AT EACH ROD SHALL NOT EXCEED 25 OHMS. INSTALL ADDITIONAL RODS AS NEEDED TO ACHIEVE THE 25 OHM MAX RESISTANCE REQUIREMENT.
- THE #6 AWG COPPER BONDING CONDUCTOR AND SIGN TETHER SHALL NOT BE ATTACHED AT THE SAME ANCHOR BOLT. AN APPROVED IRREVERSIBLE CRIMP SHALL BE USED TO CONNECT THE BONDING CONDUCTOR TO THE SIGN FLANGE AND SIGN.
- USE #6 AWG COPPER COUNTERPOISE WITH TYPE THHW INSULATION WHEN INSTALLED IN CONCRETE. COUNTERPOISE TO BE CONNECTED TO GROUND ROD AT EACH SIGN.
- ALL SIGNS SHALL BE FURNISHED WITH TWO TETHERS PER SIGN. TETHERS SHALL BE 3/16" STAINLESS STEEL AIRCRAFT CABLE WITH A FORMED EYE ON BOTH ENDS. THE TETHER EYE SHALL BE ATTACHED TO THE SIGN AND BASE BY BEING SANDWICHED BETWEEN TWO STAINLESS STEEL FENDER WASHERS, WITH A 1/2" MINIMUM STAINLESS STEEL BOLT. THE TETHER SHALL BE OF SUFFICIENT LENGTH TO HAVE A MINIMUM OF 6" OF SLACK WHEN ATTACHED BETWEEN THE SIGN AND THE SIGN BASE. THE TETHERS AND BONDING CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLINGS TO OPERATE WITHOUT RESTRICTIONS AND TO ALLOW THE POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER.
- SIGNS SHALL BE SEALED AGAINST INFILTRATION BY WATER AND DIRT.
- EACH SIGN SHALL BE FURNISHED WITH AN ON-OFF TOGGLE SWITCH WITH WEATHERPROOF COVER. THE SWITCH SHALL BE USED BY MAINTENANCE PERSONNEL TO DE-ENERGIZE THE SIGN SO MAINTENANCE WORK CAN BE PERFORMED. THE SWITCH SHALL BE PHYSICALLY AND ELECTRICALLY LOCATED IMMEDIATELY ADJACENT TO THE LOAD SIDE OF THE L-823 DISCONNECT PLUG. WHEN THE SWITCH IS IN THE OFF POSITION, THE SIGN SHALL BE ISOLATED FROM THE SERIES CIRCUIT AND THE SECONDARY OF THE L-830 ISOLATION TRANSFORMER SHALL BE SHORTED. THE WEATHERPROOF COVER SHALL PROVIDE PROTECTION FROM DRIVING RAIN, SNOW AND ICE, AND SHALL HAVE A SPRING OPERATED CLOSING DEVICE. THE WEATHERPROOF COVER SHALL ALSO PROVIDE PHYSICAL PROTECTION FOR THE SWITCH HANDLE.



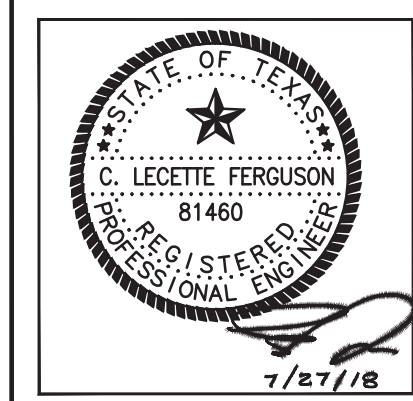
**1 NEW SIGN AND BASE DETAIL**  
 E10-05 SCALE: N.T.S.



REVISIONS		
NO.	DESCRIPTION	DATE

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DETAILS**  
**HAS ELECTRICAL HANDHOLE**

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018

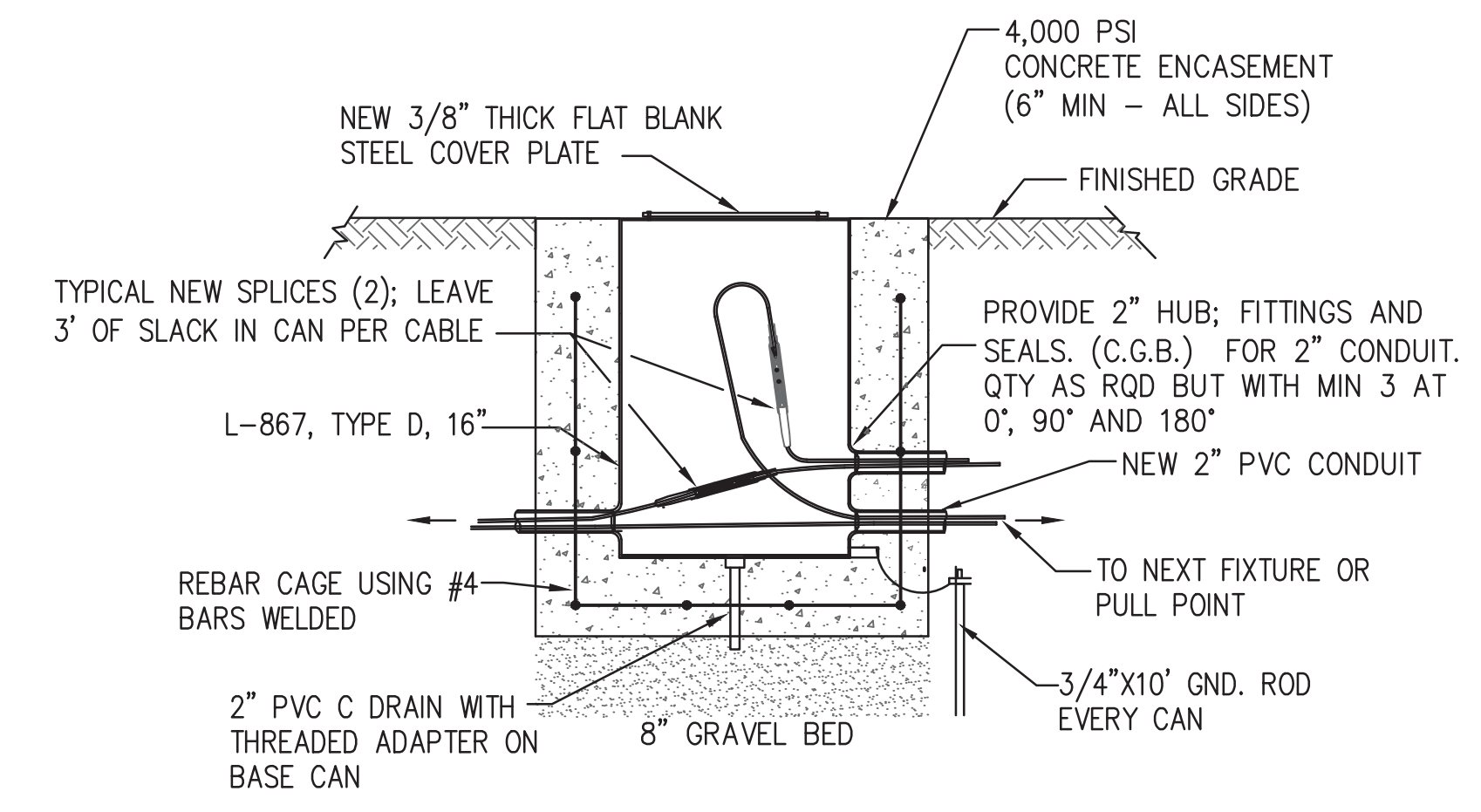


DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Denaj Pahel*  
 HOUSTON AIRPORT SYSTEMS  
 AUTHORIZED REPRESENTATIVE

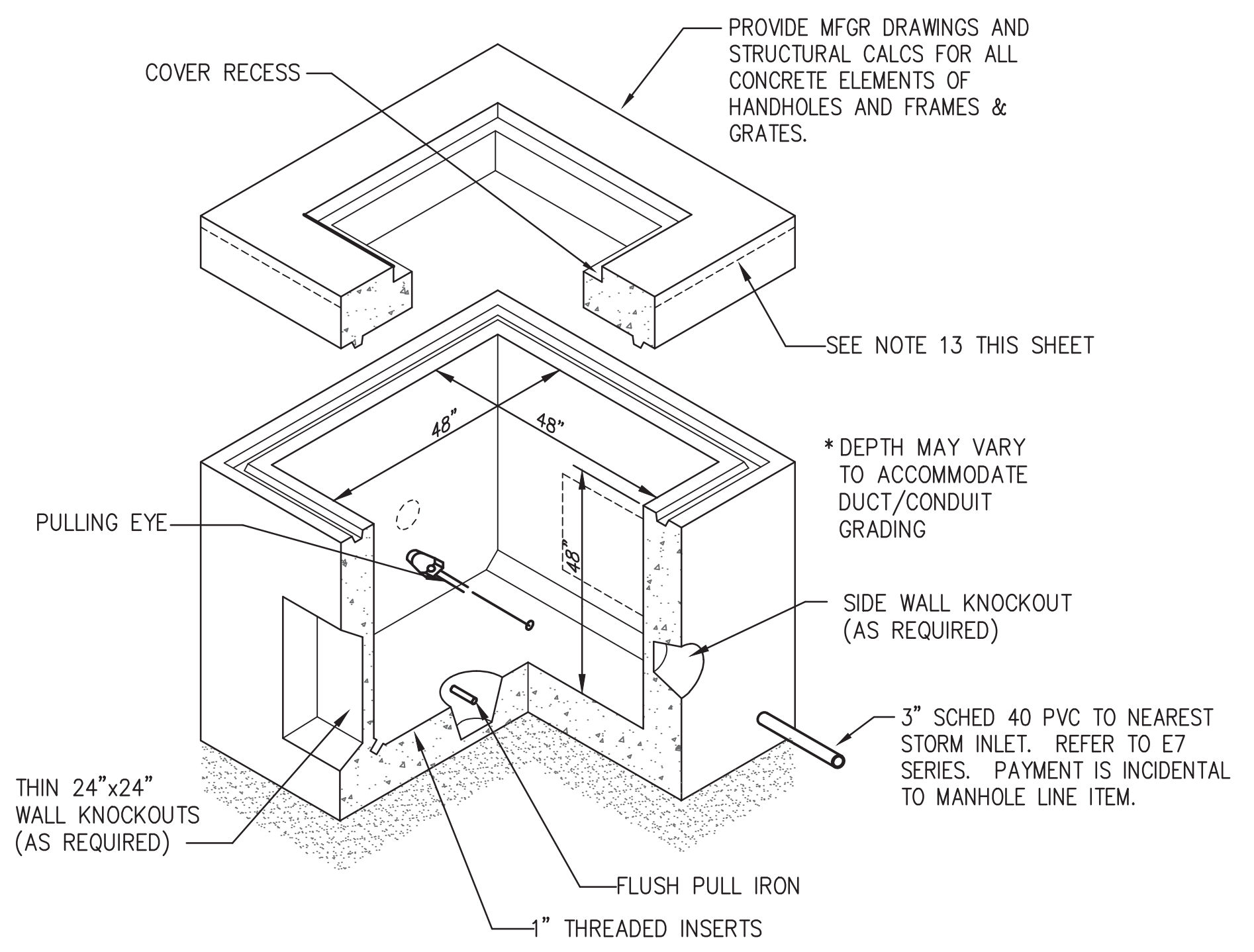
PROJECT NO. **0907**  
 C.I.P. NO. **A-000570**  
 H.A.S. NO.  
 SHEET NO.

**HANDHOLE NOTES:**

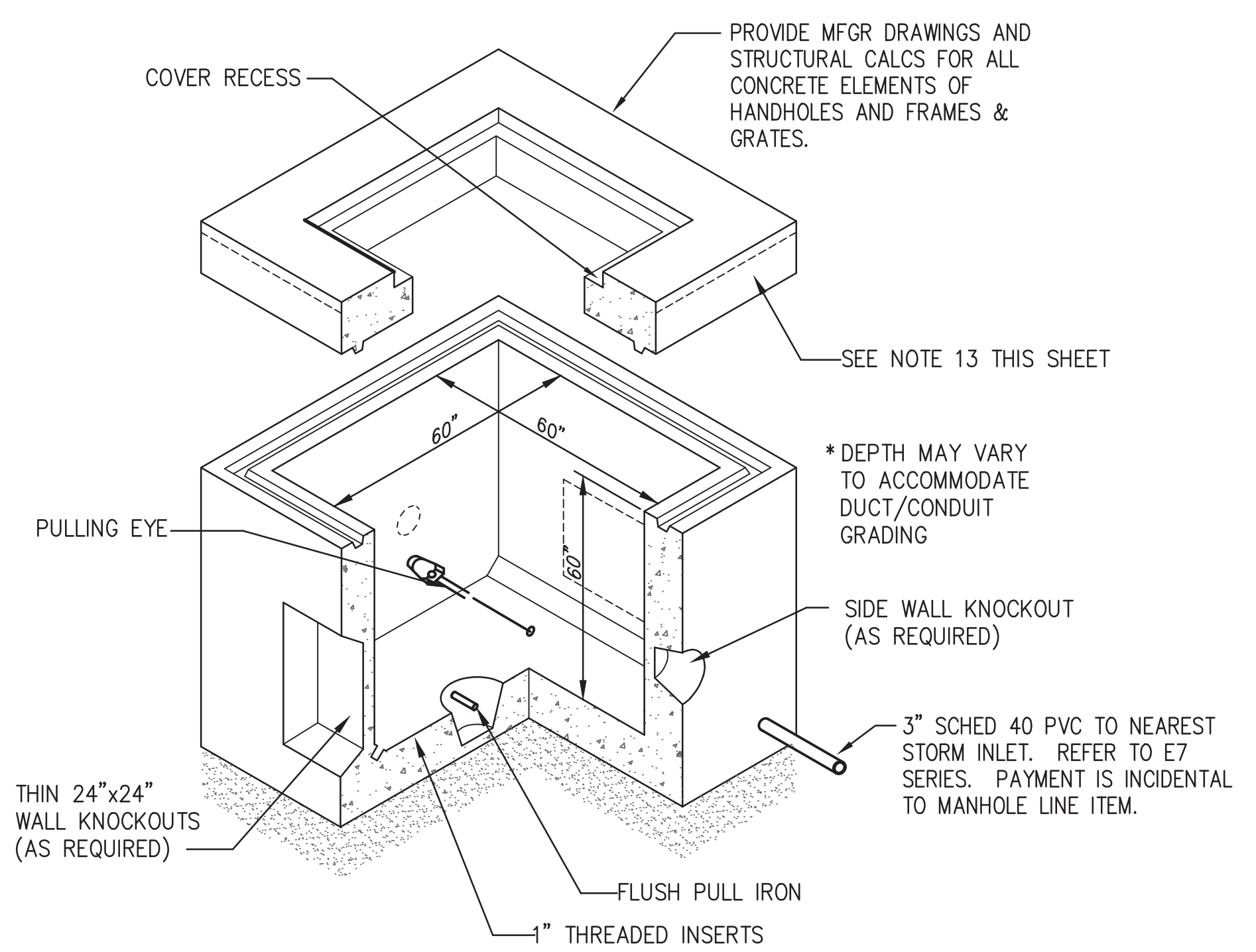
- ALL MANHOLE/HANDHOLE STRUCTURES TO BE CAST IN PLACE OR PRECAST.
- ALL STRUCTURES SHALL BE PLACED ON A MINIMUM OF 6" CRUSHED AGGREGATE BASE.
- CONCRETE SHALL BE IN ACCORDANCE WITH ITEM P-610 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- STEEL SHALL CONFORM TO ASTM 615 - GRADE 60. ALL STEEL OTHER THAN REBAR TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.
- DRAIN SHALL BE 3" SCHEDULE 40 PVC AND SHALL DRAIN FROM INTERIOR OF HANDHOLE INTO NEAREST STORM SYSTEM AS SHOWN ON DRAWINGS.
- EACH STRUCTURE SHALL HAVE A 3/4" X 10" COPPERCLAD GROUND ROD INSTALLED IN ONE CORNER OF THE FLOOR 1' FROM THE ADJACENT STRUCTURE WALLS.
- A MINIMUM OF 4-4" SLEEVES (VARIES) SHALL BE PLACED IN EACH WALL OF HANDHOLE RECEIVING DUCTBANKS. A 2'X2' KNOCK-OUT SHALL BE PROVIDED IN EACH WALL OF THE MANHOLE OR HANDHOLE NOT RECEIVING DUCTBANKS IN THIS PROJECT FOR FUTURE ACCESS.
- PULLING IRONS SHALL BE PLACED IN EACH WALL OPPOSITE DUCT BANKS.
- THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EACH STRUCTURE WITH THE DRAWINGS AND SCHEDULE.
- GROUND ALL METALLIC PARTS OF THE MANHOLE/HANDHOLE WITH A #6 AWG B.H.D. COPPER WIRE. ALL GROUNDING AND TERMINATION METHODS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. T&B KOPR-KOTE OR APPROVED EQUAL SHALL BE USED ON ALL MECHANICAL CONNECTIONS.
- ALL MANHOLES/HANDHOLES SHALL BE PROVIDED WITH CABLE RACKS PULLING IRONS.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING ALL REINFORCING STEEL AND OTHER CONSTRUCTION DETAILS PRIOR TO FABRICATION.
- THE TOP OF THE MANHOLES/HANDHOLES SHALL BE 1" MIN/ 3" MAX. ABOVE THE FINISHED GRADE INCLUDING THE SOD, EXCEPT WHEN INSTALLED IN PAVEMENT. LOCATE MANHOLES/HANDHOLES FLUSH WITH GRADE IN PAVEMENT. SOD TO EXTEND MIN 36" AROUND PERIMETER OF MAINTENANCE PAD. PAYMENT IS INCIDENTAL TO MANHOLE/HANDHOLE LINE ITEM.
- ALL MANHOLE COVERS SHALL HAVE SURFACE LETTERING AS FOLLOWS: "ELECTRICAL"
- AT LOCATIONS WHERE DUCT ENTERS MANHOLES IN THIS PROJECT, THE TERMINATORS SHALL BE CAST INTO THE MANHOLE WALLS. ALL CONDUIT OPENINGS TO BE GROUTED.
- INSTALL HANDHOLES AND MANHOLES PARALLEL TO ADJACENT RWY OR TWY. HANDHOLE DEPTHS SHALL BE 48" NOMINAL DEPTH, EXCEPT ADJACENT TO PAVEMENT CROSSINGS WHERE EXTRA DEEP HANDHOLES MAY BE REQUIRED TO CLEAR UNDERDRAINS, ELECTRICAL CONDUITS, OR OTHER POTENTIAL ITEMS OF INTERFERENCE.
- PROVIDE (2) SADDLE RACKS FOR EACH MANHOLE / HANDHOLE SIDE WALL, MANUFACTURED BY UNDERGROUND DEVICES, INC. MODEL NO. 2SR3N OR APPROVED EQUAL. INSTALL PER MANUFACTURER RECOMMENDATION.



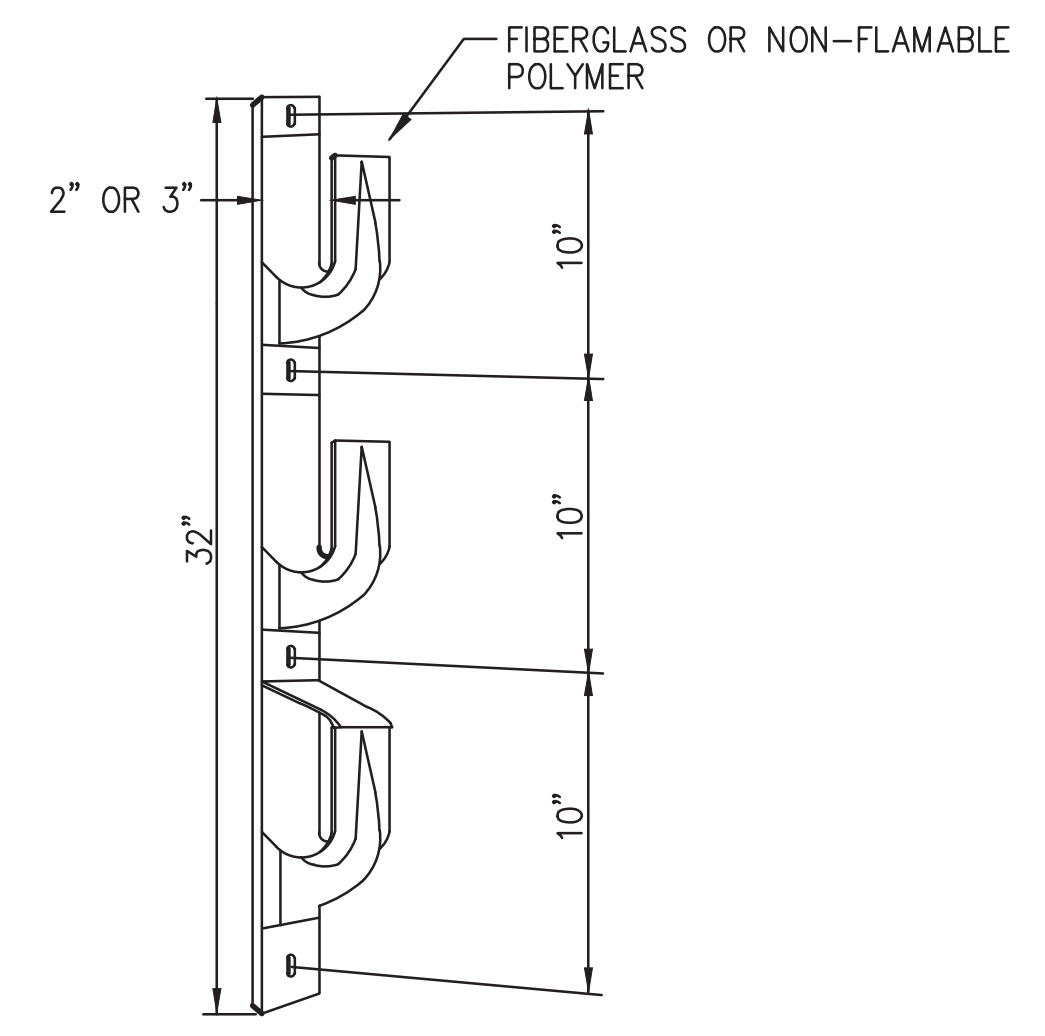
**5 L-867D PULLBOX DETAIL**  
 SCALE: NTS



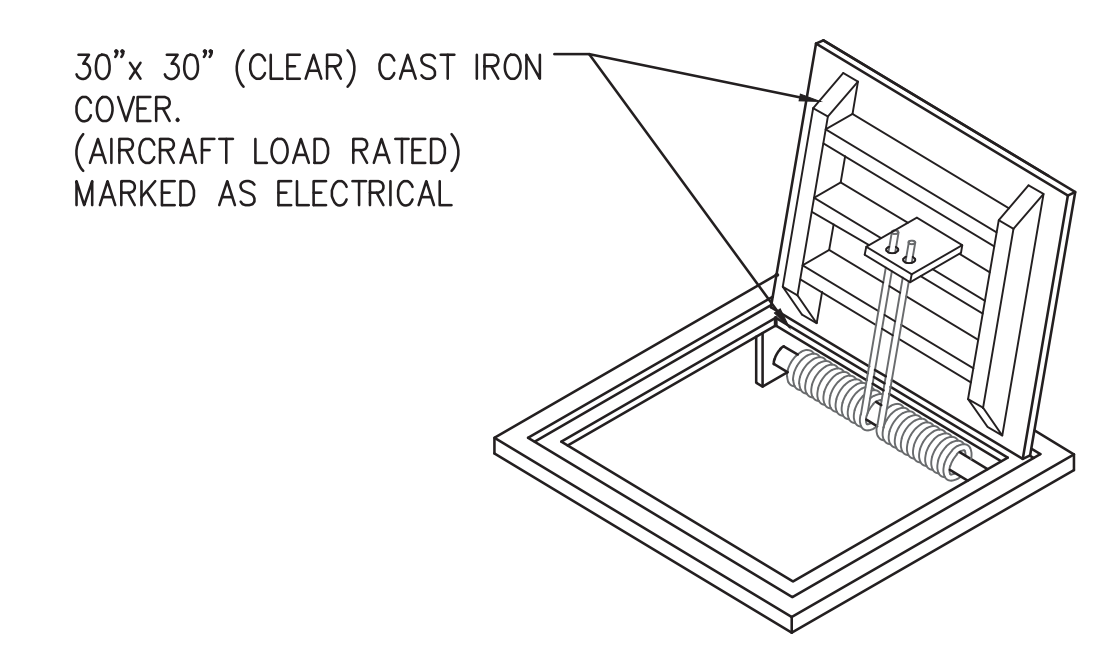
**1 4'X4'X4' HANDHOLE - HAS POWER**  
 SCALE: NTS



**2 5'X5'X5' HANDHOLE - HAS POWER**  
 SCALE: NTS



**3 MANHOLE SADDLE RACKS DETAILS (NON METALIC)**  
 SCALE: NTS



**4 HANDHOLE COVER DETAIL**  
 SCALE: NTS





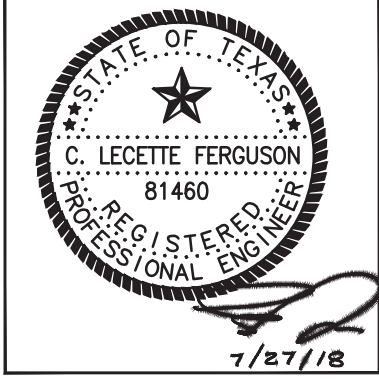
HOUSTON AIRPORT SYSTEM  
 GEORGE BUSH INTERCONTINENTAL AIRPORT  
 HOUSTON, TEXAS



REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DETAILS**  
**FAA/HAS COMM HANDHOLE**  
**AND MANHOLE MODIFICATIONS**

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/18



DEPARTMENT OF AVIATION	
APPROVED BY:	DP 7/26/18
<i>Denaj Pahel</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

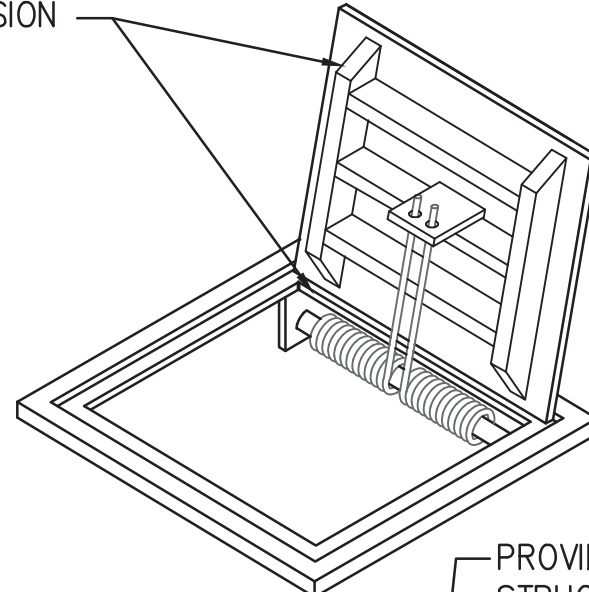
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

E10-07

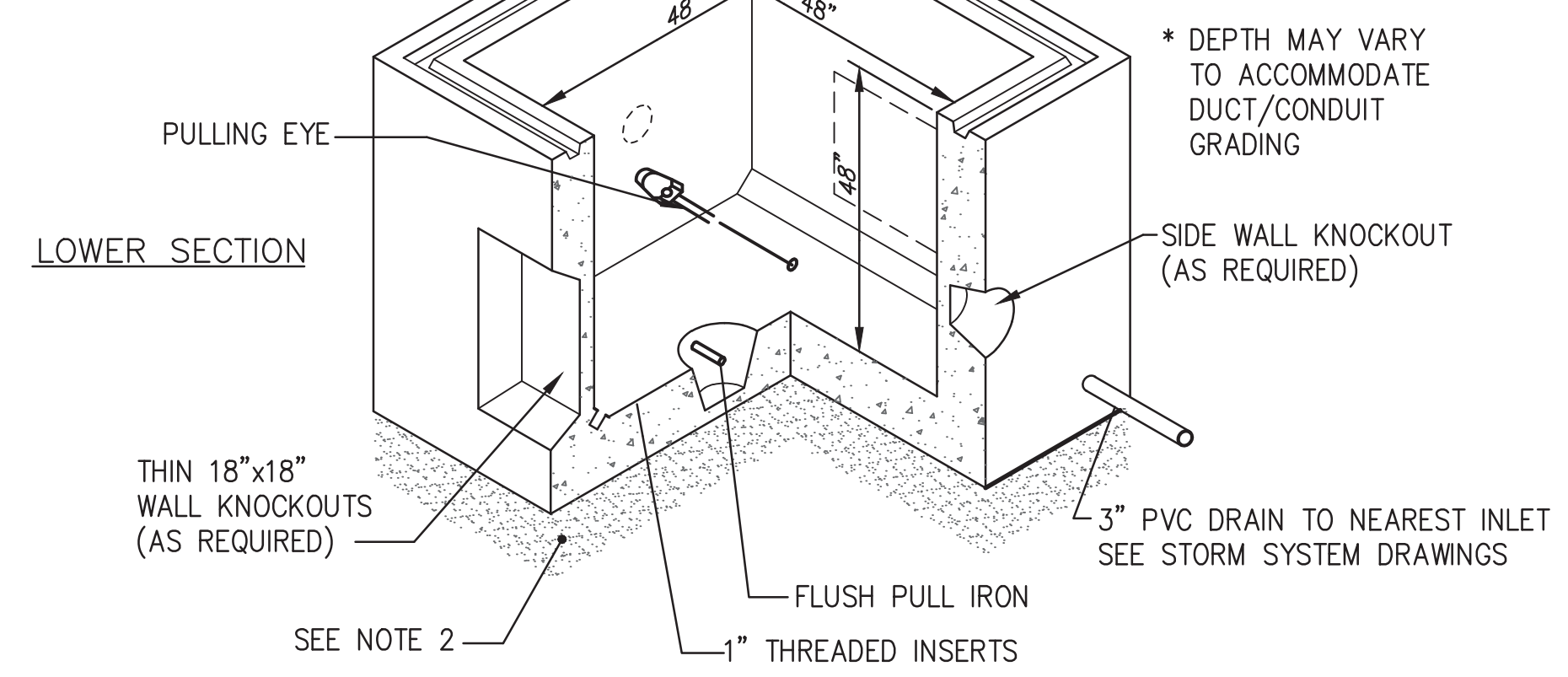
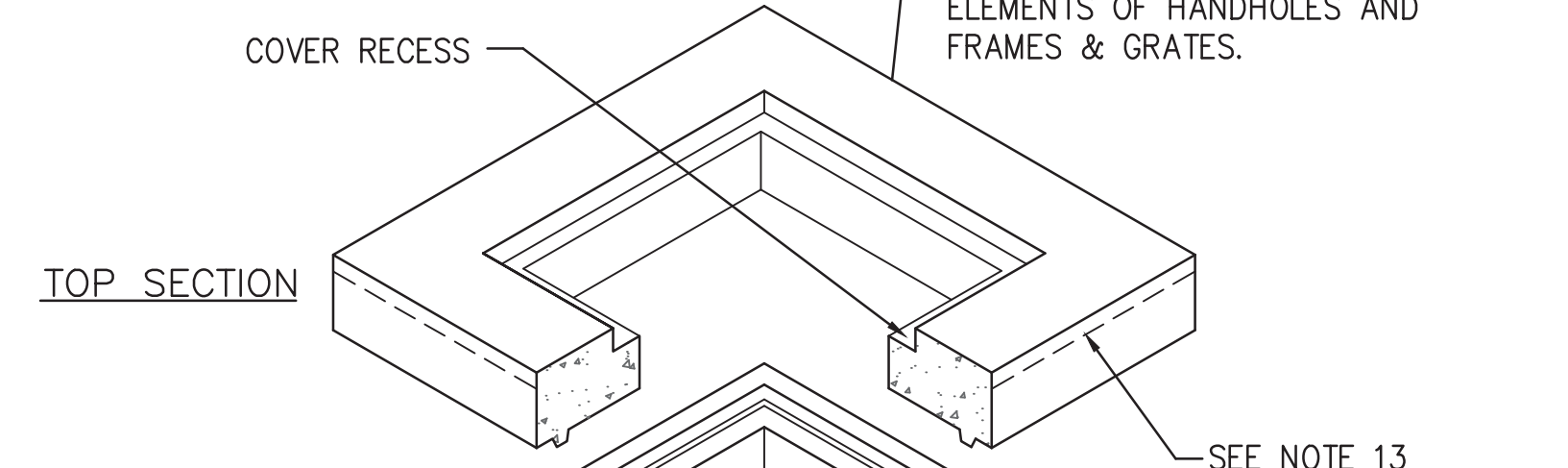
**HANDHOLE NOTES:**

- ALL MANHOLE/HANDHOLE STRUCTURES TO BE CAST IN PLACE OR PRECAST.
- ALL STRUCTURES SHALL BE PLACED ON A MINIMUM OF 6" CRUSHED AGGREGATE BASE.
- CONCRETE SHALL BE IN ACCORDANCE WITH ITEM P-610 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- STEEL SHALL CONFORM TO ASTM 615 - GRADE 60. ALL STEEL OTHER THAN REBAR TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.
- DRAIN SHALL BE 3" SCHEDULE 40 PVC AND SHALL DRAIN FROM INTERIOR OF HANDHOLE INTO NEAREST STORM SYSTEM AS SHOWN ON DRAWINGS.
- EACH STRUCTURE SHALL HAVE A 3/4" X 10' COPPERCLAD GROUND ROD INSTALLED IN ONE CORNER OF THE FLOOR 1' FROM THE ADJACENT STRUCTURE WALLS.
- A MINIMUM OF 4-4" SLEEVES (VARIES) SHALL BE PLACED IN EACH WALL OF HANDHOLE RECEIVING DUCTBANKS. A 2'X2' KNOCK-OUT SHALL BE PROVIDED IN EACH WALL OF THE MANHOLE OR HANDHOLE NOT RECEIVING DUCTBANKS IN THIS PROJECT FOR FUTURE ACCESS.
- PULLING IRONS SHALL BE PLACED IN EACH WALL OPPOSITE DUCT BANKS.
- THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EACH STRUCTURE WITH THE DRAWINGS AND SCHEDULE.
- GROUND ALL METALLIC PARTS OF THE MANHOLE/HANDHOLE WITH A #6 AWG B.H.D. COPPER WIRE. ALL GROUNDING AND TERMINATION METHODS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. T&B KOPR-KOTE OR APPROVED EQUAL SHALL BE USED ON ALL MECHANICAL CONNECTIONS.
- ALL MANHOLES/HANDHOLES SHALL BE PROVIDED WITH CABLE RACKS PULLING IRONS.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING ALL REINFORCING STEEL AND OTHER CONSTRUCTION DETAILS PRIOR TO FABRICATION.
- THE TOP OF THE MANHOLES/HANDHOLES SHALL BE 1" MIN/ 3" MAX. ABOVE THE FINISHED GRADE INCLUDING THE SOD, EXCEPT WHEN INSTALLED IN PAVEMENT. LOCATE MANHOLES/HANDHOLES FLUSH WITH GRADE IN PAVEMENT. SOD TO EXTEND MIN 36" AROUND PERIMETER OF MAINTENANCE PAD. PAYMENT IS INCIDENTAL TO MANHOLE/HANDHOLE LINE ITEM.
- ALL MANHOLE COVERS SHALL HAVE SURFACE LETTERING AS FOLLOWS: "ELECTRICAL"
- AT LOCATIONS WHERE DUCT ENTERS MANHOLES IN THIS PROJECT, THE TERMINATORS SHALL BE CAST INTO THE MANHOLE WALLS. ALL CONDUIT OPENINGS TO BE GROUTED.
- INSTALL HANDHOLES AND MANHOLES PARALLEL TO ADJACENT RWY OR TWY. HANDHOLE DEPTHS SHALL BE 48" NOMINAL DEPTH, EXCEPT ADJACENT TO PAVEMENT CROSSINGS WHERE EXTRA DEEP HANDHOLES MAY BE REQUIRED TO CLEAR UNDERDRAINS, ELECTRICAL CONDUITS, OR OTHER POTENTIAL ITEMS OF INTERFERENCE.
- PROVIDE (2) SADDLE RACKS FOR EACH MANHOLE / HANDHOLE SIDE WALL, MANUFACTURED BY UNDERGROUND DEVICES, INC. MODEL NO. 2SR3N OR APPROVED EQUAL. INSTALL PER MANUFACTURER RECOMMENDATION.

30"x 30" (CLEAR) CAST IRON COVER W/ OPENING ASSIST TORSION DOUBLE SPRING ASSEMBLY. (AIRCRAFT LOAD RATED) MARKED AS "FAA"

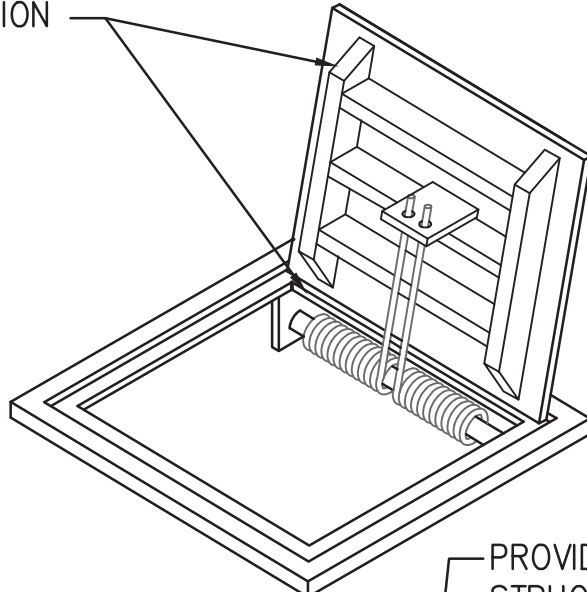


PROVIDE MFRG DRAWINGS AND STRUCTURAL CALCS FOR ALL CONCRETE ELEMENTS OF HANDHOLES AND FRAMES & GRATES.

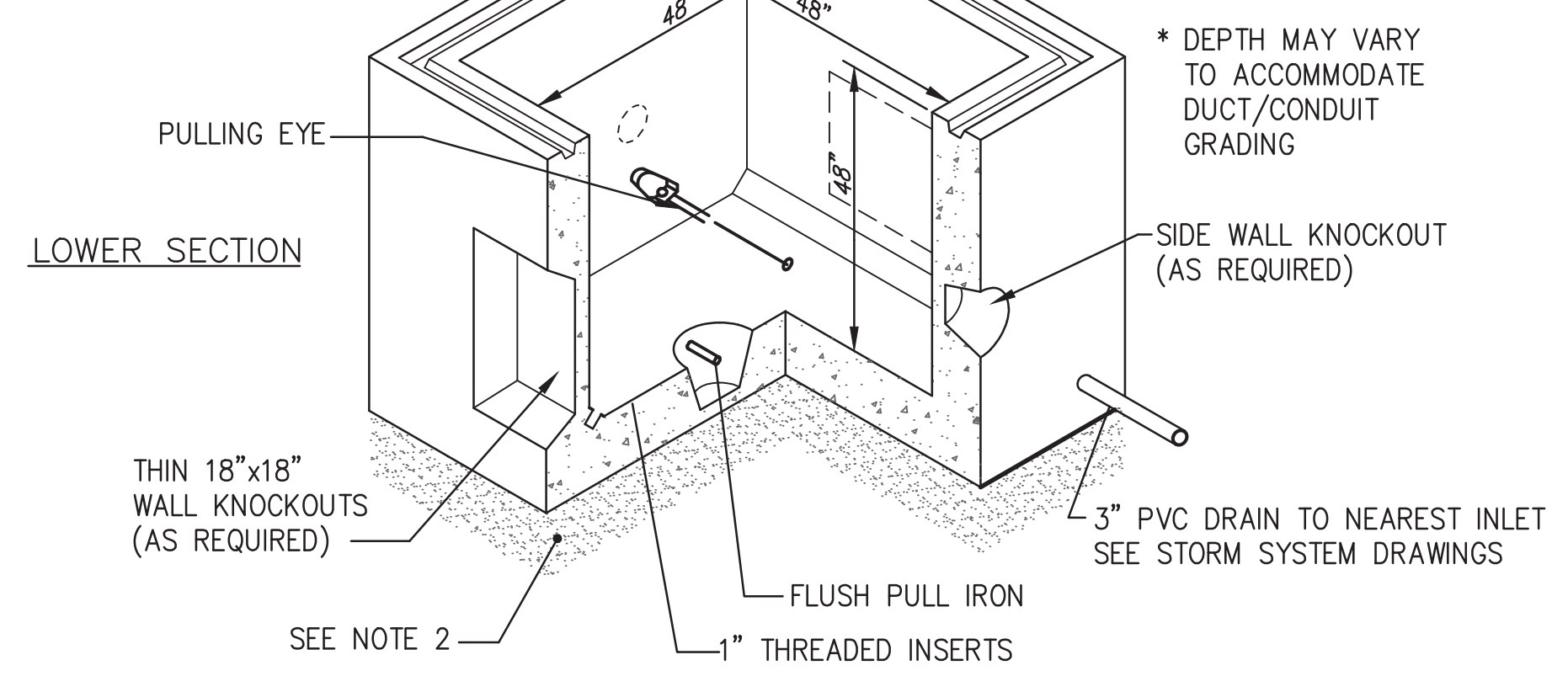
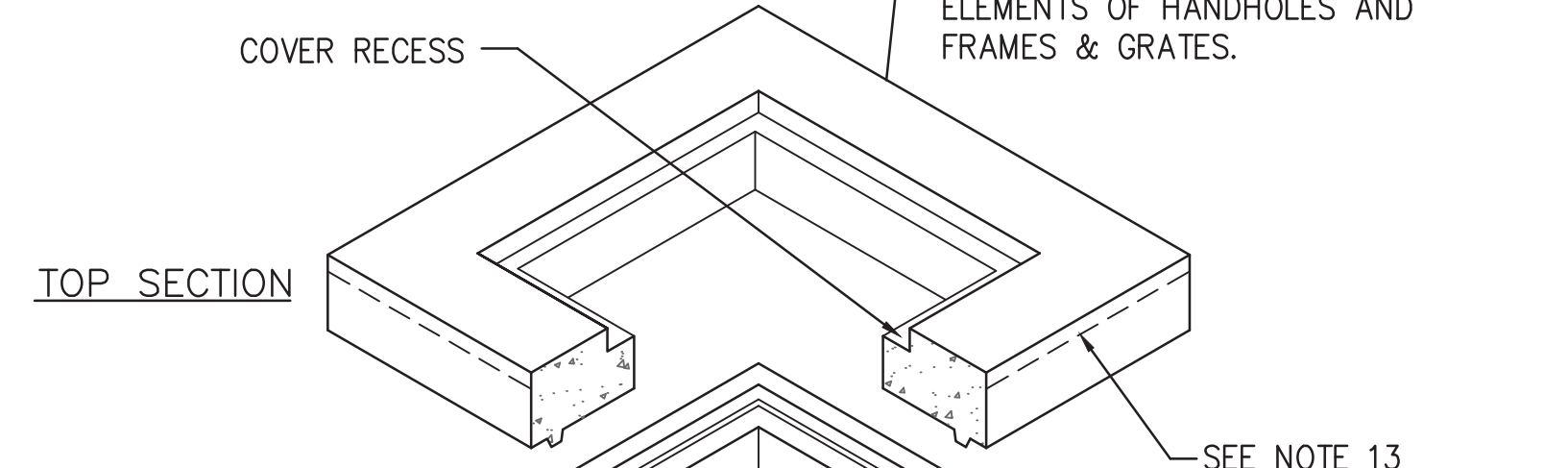


**1 4'X4'X4' HANDHOLE - FAA**  
 SCALE: NTS

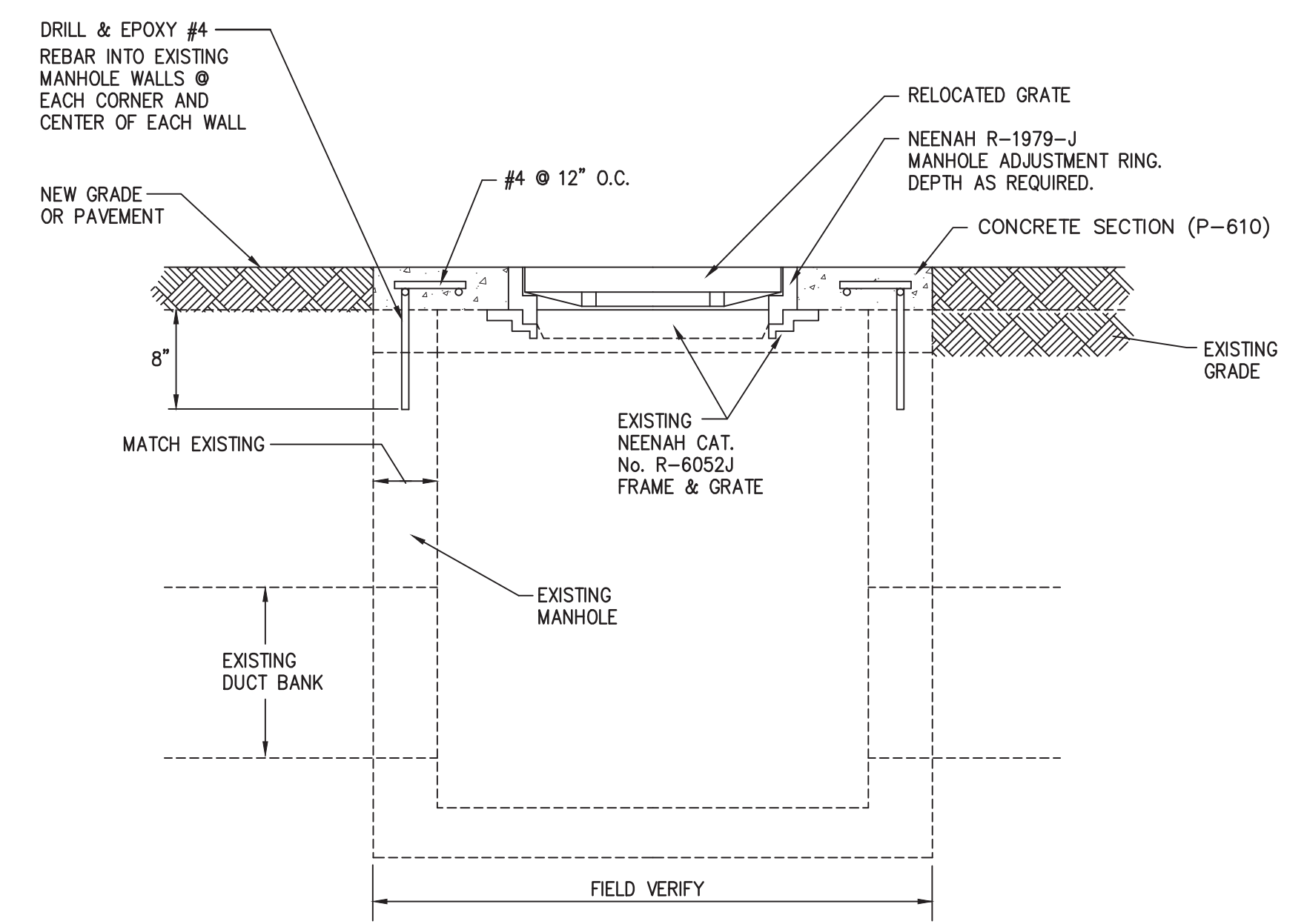
30"x 30" (CLEAR) CAST IRON COVER W/ OPENING ASSIST TORSION DOUBLE SPRING ASSEMBLY. (AIRCRAFT LOAD RATED) MARKED AS "HOUSTON AIRPORT SYSTEM - TELECOM" (FOR HAS)



PROVIDE MFRG DRAWINGS AND STRUCTURAL CALCS FOR ALL CONCRETE ELEMENTS OF HANDHOLES AND FRAMES & GRATES.



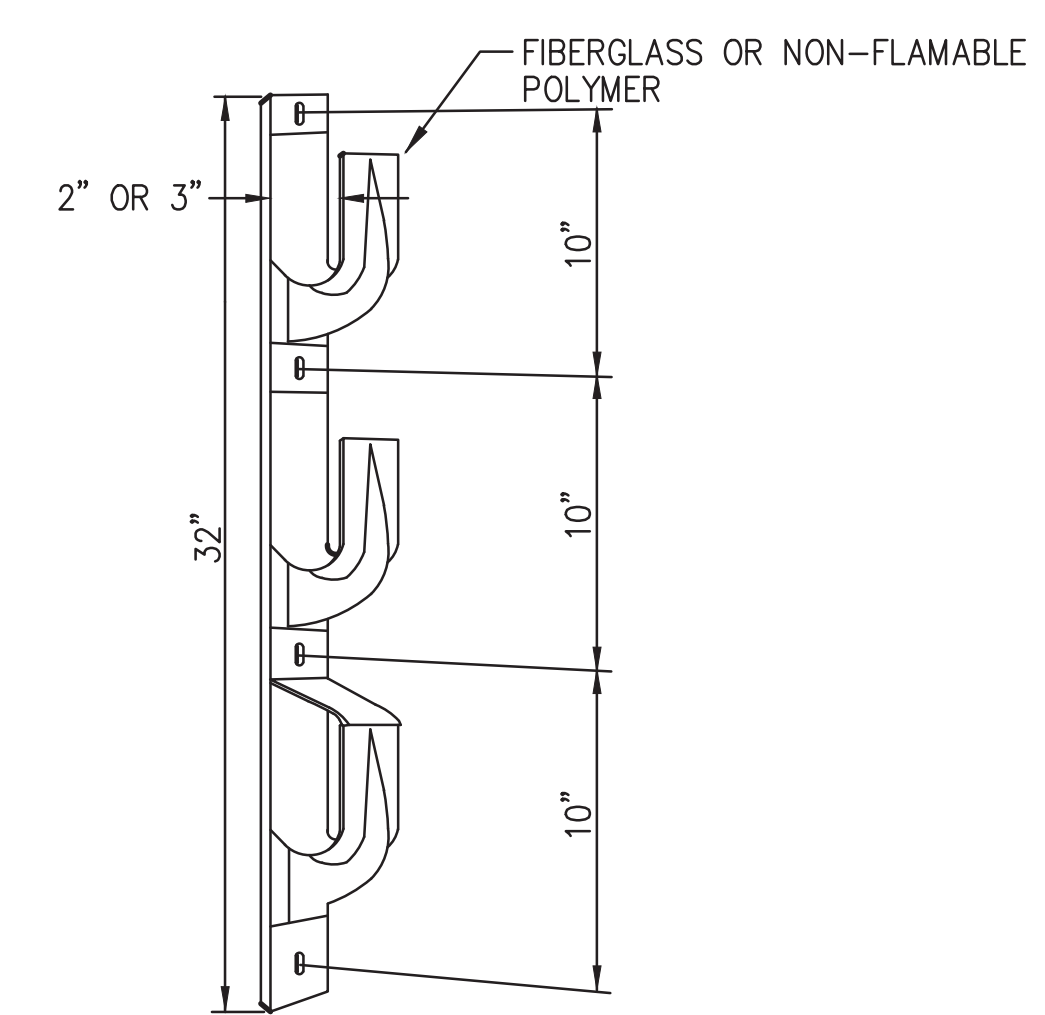
**2 4'X4'X4' HANDHOLE - HAS COMMUNICATION**  
 SCALE: NTS



**3 MODIFIED MANHOLE DETAIL - AIRCRAFT RATED**  
 SCALE: NTS



**4 COMMUNICATIONS HANDHOLE - COVER DETAIL**  
 SCALE: NTS



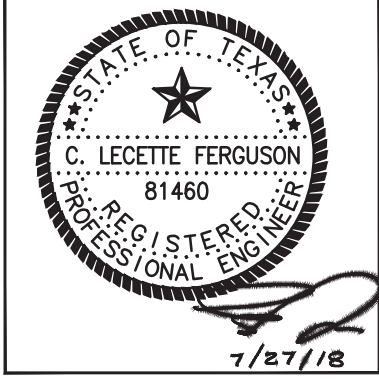
**5 MANHOLE SADDLE RACKS DETAILS (NON METALLIC)**  
 SCALE: NTS



REVISIONS			
NO.	DESCRIPTION	DATE	BY

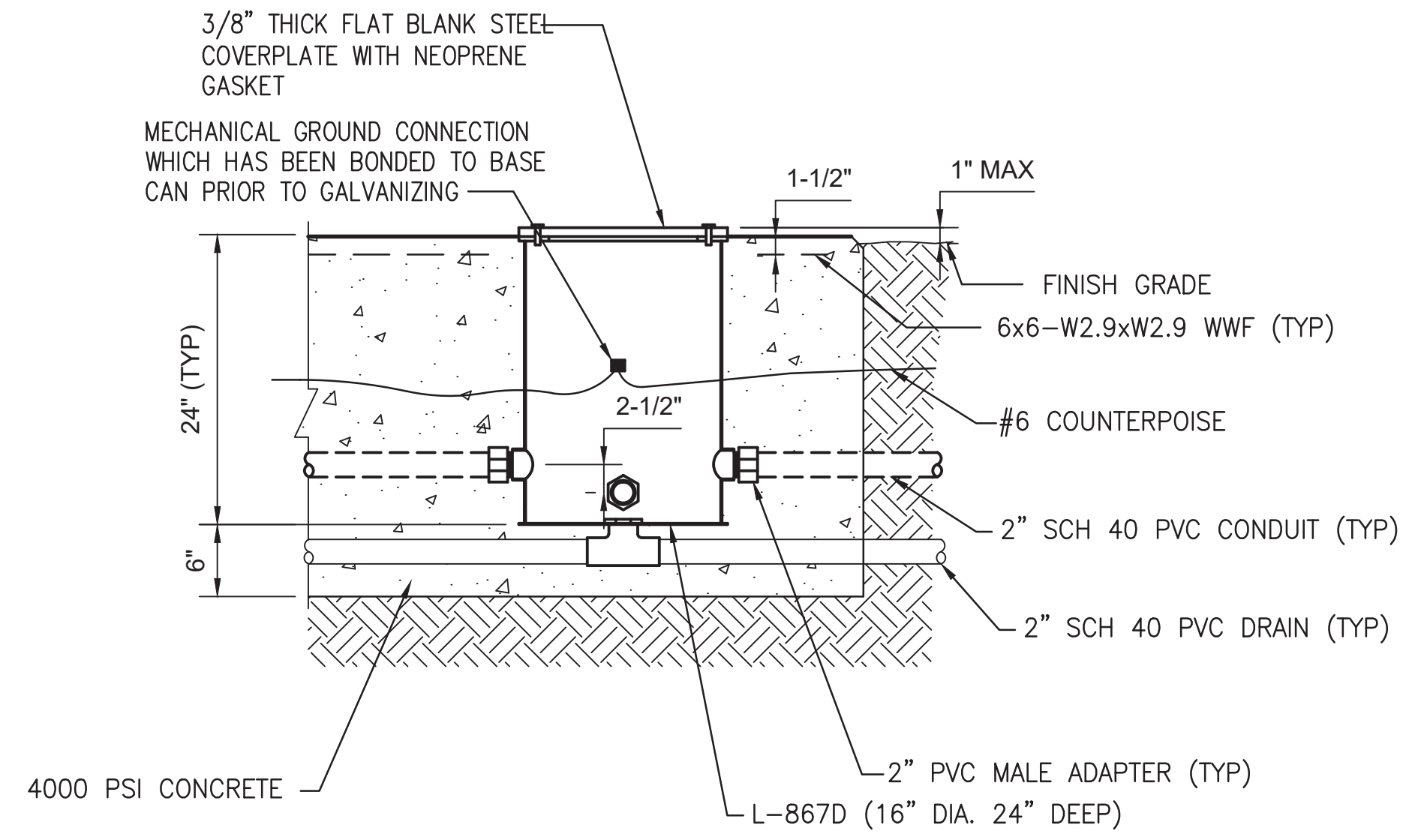
REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DETAILS**  
**JUNCTION CAN PLAZA**  
**AND MANHOLE MODIFICATIONS**

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



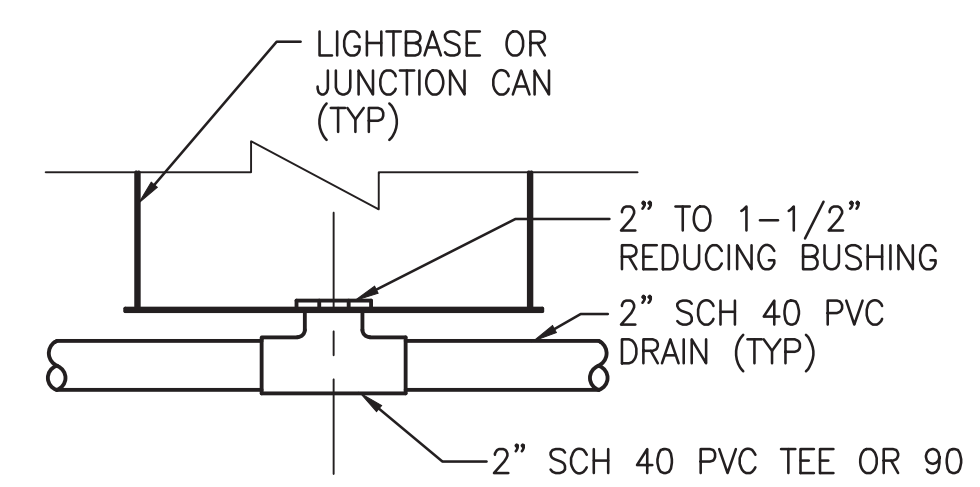
DEPARTMENT OF AVIATION	
APPROVED BY: DP	7/26/18
<i>Denzel Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

PROJECT NO.	<b>0907</b>
C.I.P. NO.	<b>A-000570</b>
H.A.S. NO.	
SHEET NO.	



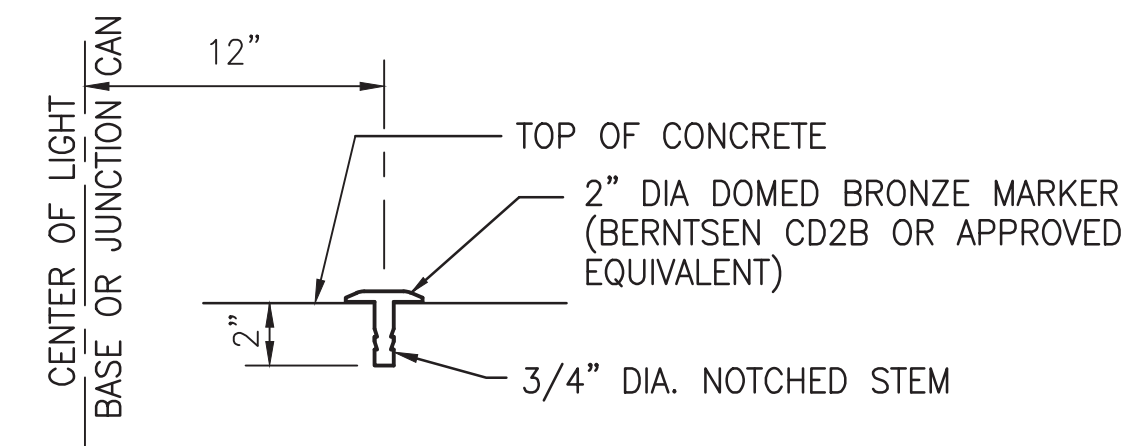
NOTES: EACH JUNCTION CAN HAS 4 HUBS. HUBS SHALL BE PLACED IN 2 LAYERS AND THE HUBS IN ONE LAYER SHALL BE 90° FROM THE HUBS IN THE OTHER LAYER. EACH PAIR OF HUBS SHALL BE 180° APART.

**2 SECTION DETAIL**  
 E10-08 SCALE: NTS



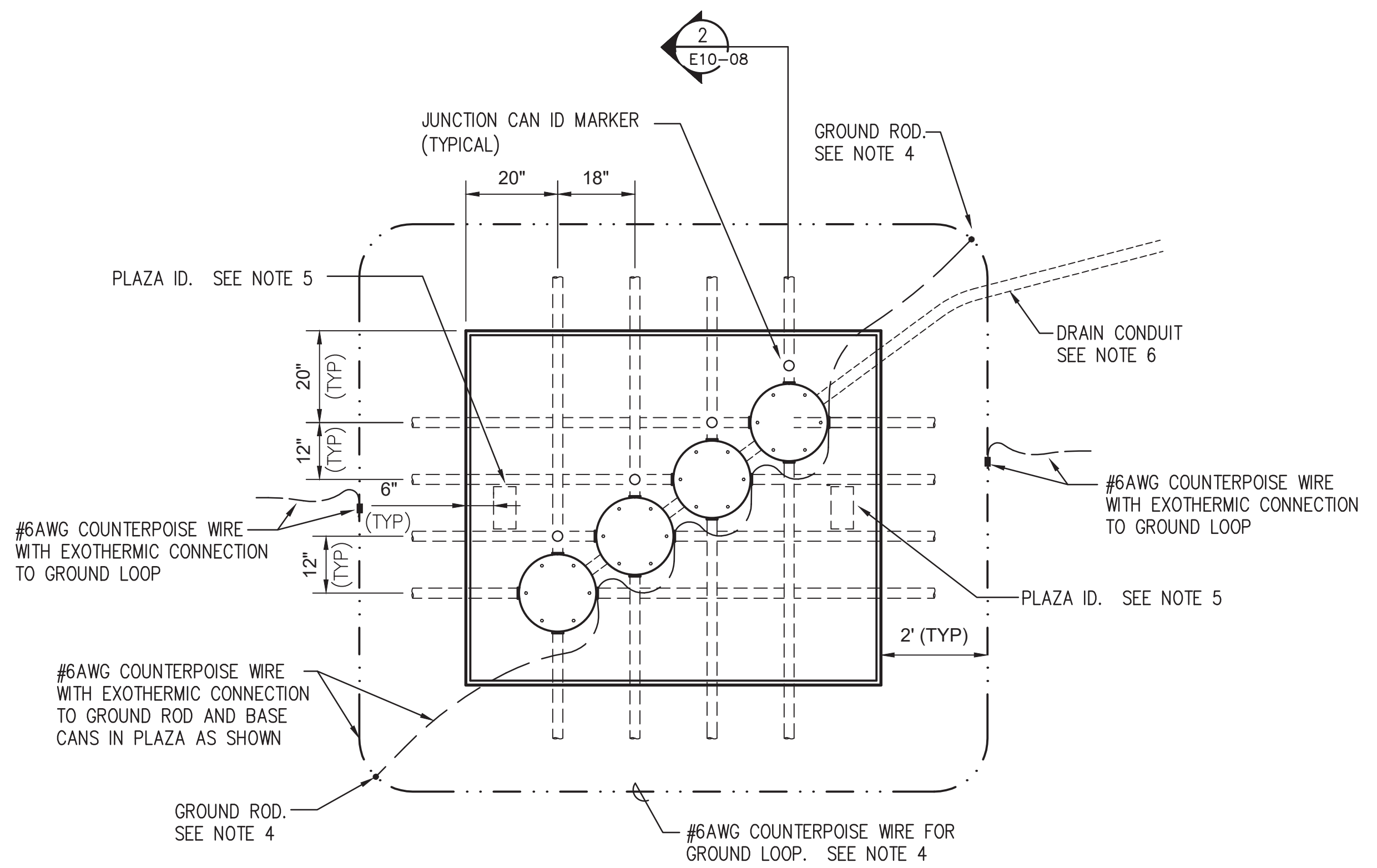
NOTES:  
 1. SEE LAYOUT PLAN SHEETS FOR LOCATION OF DRAIN CONDUITS.  
 2. SLOPE DRAIN CONDUITS 1/8" PER FOOT MINIMUM TOWARD DRAINAGE STRUCTURES.  
 3. PENETRATE INLET/MANHOLE WITH DRAIN CONDUIT ABOVE STORM SEWER PIPES WHERE POSSIBLE WHILE MAINTAINING SLOPE REQUIREMENT.  
 4. SEAL ENTRY AROUND DRAIN CONDUIT AT THE INLET/MANHOLE WITH COMPATIBLE NONSHRINK GROUT.

**3 DRAIN DETAIL FOR JCP**  
 E10-08 SCALE: NTS



NOTES:  
 1. IDENTIFICATION SHALL BE STAMPED USING 1/4" FIGURES AND LETTERS UNIFORMLY SPACED ON THE BRONZE MARKER.  
 2. IDENTIFICATION MARKERS SHALL BE UNIFORMLY INSTALLED ADJACENT TO TAXIWAY AND RUNWAY ELEVATED EDGE LIGHTS. PREFERRED LOCATION IS ON A LINE PERPENDICULAR TO TAXIWAY AND RUNWAY CENTERLINE, INBOARD OF LIGHT FIXTURE.

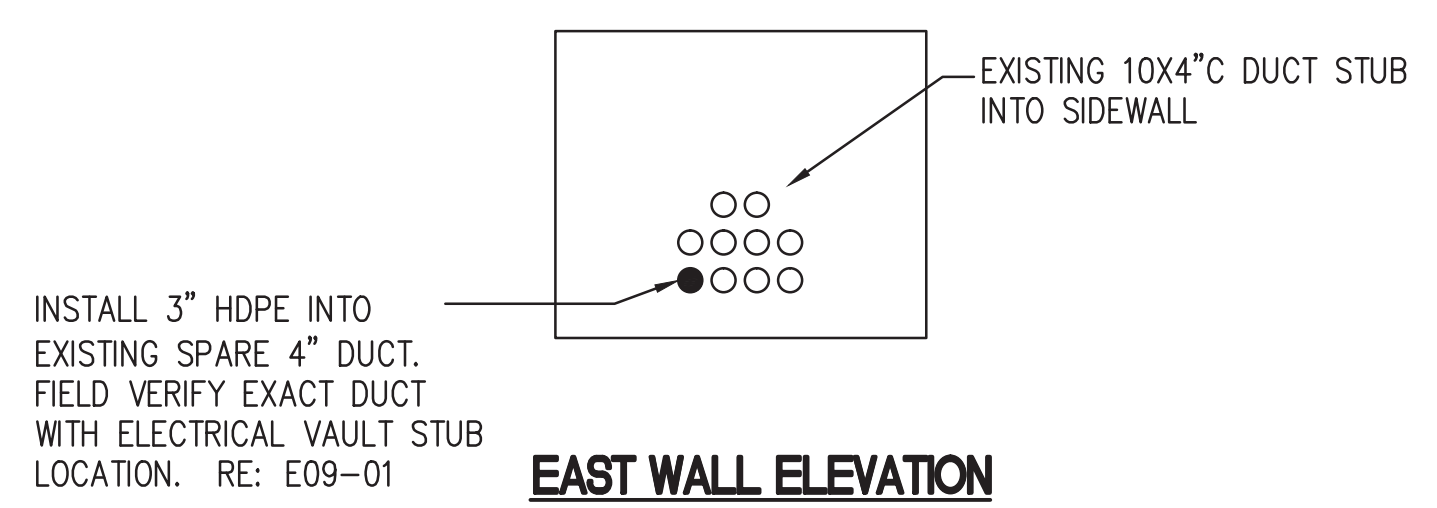
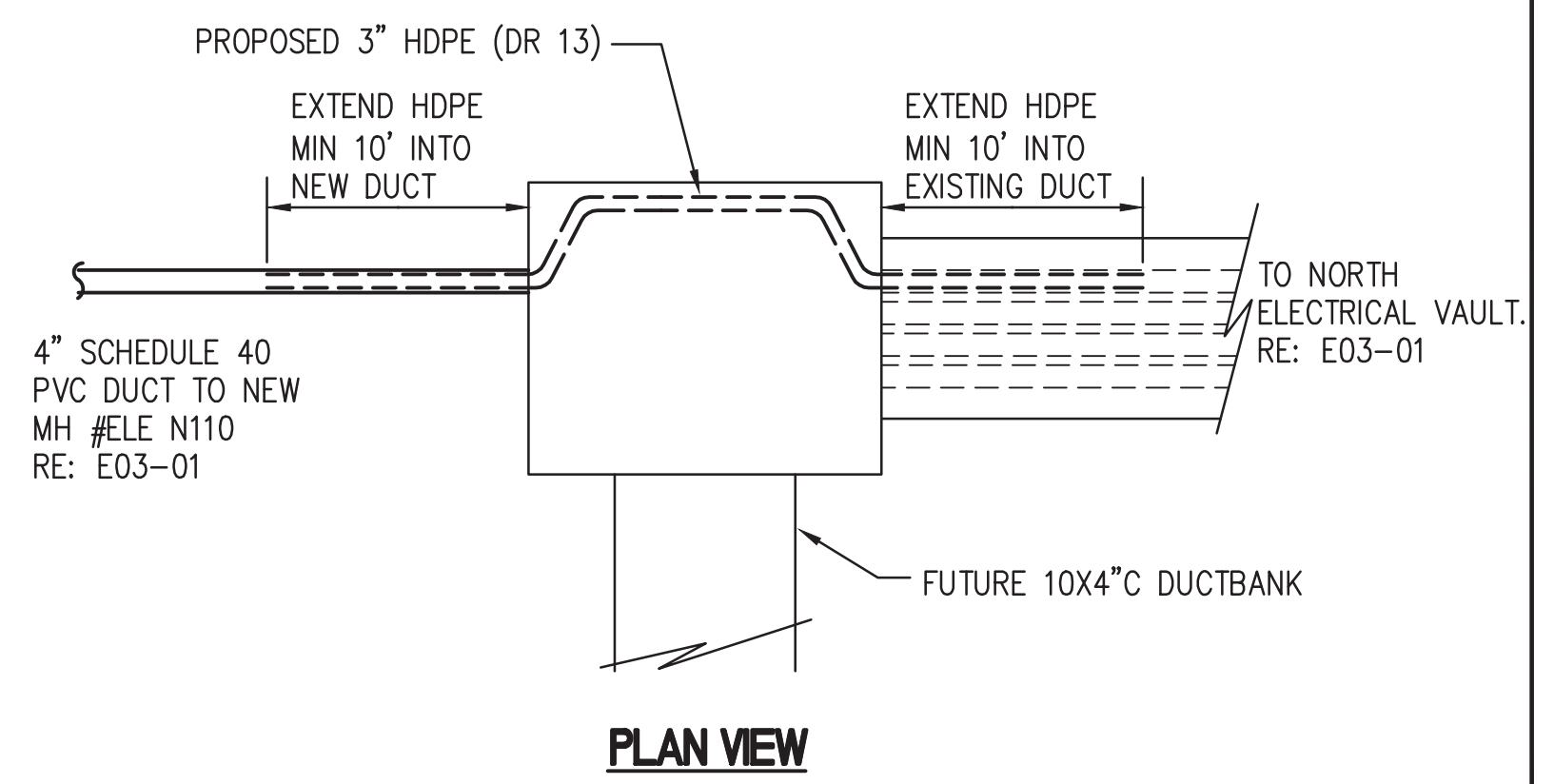
**4 JUNCTION CAN ID MARKER**  
 E10-08 SCALE: NTS



**1 4-WAY JUNCTION CAN PLAZA**  
 E10-08 SCALE: NTS

**JUNCTION CAN PLAZA NOTES:**

- CONDUITS WHICH ARE NOT USED IN THE PROJECT SHALL BE CAPPED 123" OUTSIDE OF PLAZA CONCRETE.
- ORIENT PLAZA PARALLEL TO ADJACENT RW OR TW PAVEMENT UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE A 2" DIA. DOMED BRONZE ID MARKER AT EACH JUNCTION CAN AS SHOWN. MARKER SHALL BE STAMPED WITH UNIQUE IDENTIFIER AND ASSOCIATED CKT ID AS SHOWN ON PLANS. REFER TO DETAIL, THIS SHEET.
- INSTALL GROUND RODS AND GROUND LOOP AT ALL JUNCTION CAN PLAZAS AS SHOWN. TWO GROUND RODS PER PLAZA LOCATED AT OPPOSITE CORNERS SHALL BE PROVIDED. COUNTERPOISE SHALL BE LOCATED NOMINALLY 12" BELOW EXISTING GRADE.
- CONTRACTOR SHALL LABEL 2 ENDS OF EACH JUNCTION CAN PLAZA (JCP) BY IMPRESSING THE JCP IDENTIFICATION NUMBER INTO THE CONCRETE FOUNDATION. DURING PLACEMENT. LETTERS AND NUMBERS SHALL BE 4" IN HEIGHT, PROPORTIONAL IN WIDTH, AND HAVE A STROKE WIDTH OF 1/2" AND 1/4" DEPTH.
- DRAIN CONDUITS SHALL BE PROVIDED WHERE SHOWN ON THE LIGHTING AND SIGNAGE LAYOUT SHEETS. SEE DETAIL 2/E002-07 FOR CONNECTION TO JUNCTION CANS.
- PROVIDE SOD, MINIMUM 36" AROUND PERIMETER OF MAINTENANCE PAD SURROUNDING JUNCTION CAN PLAZA. PAYMENT IS INCIDENTAL TO JCP LINE ITEM.

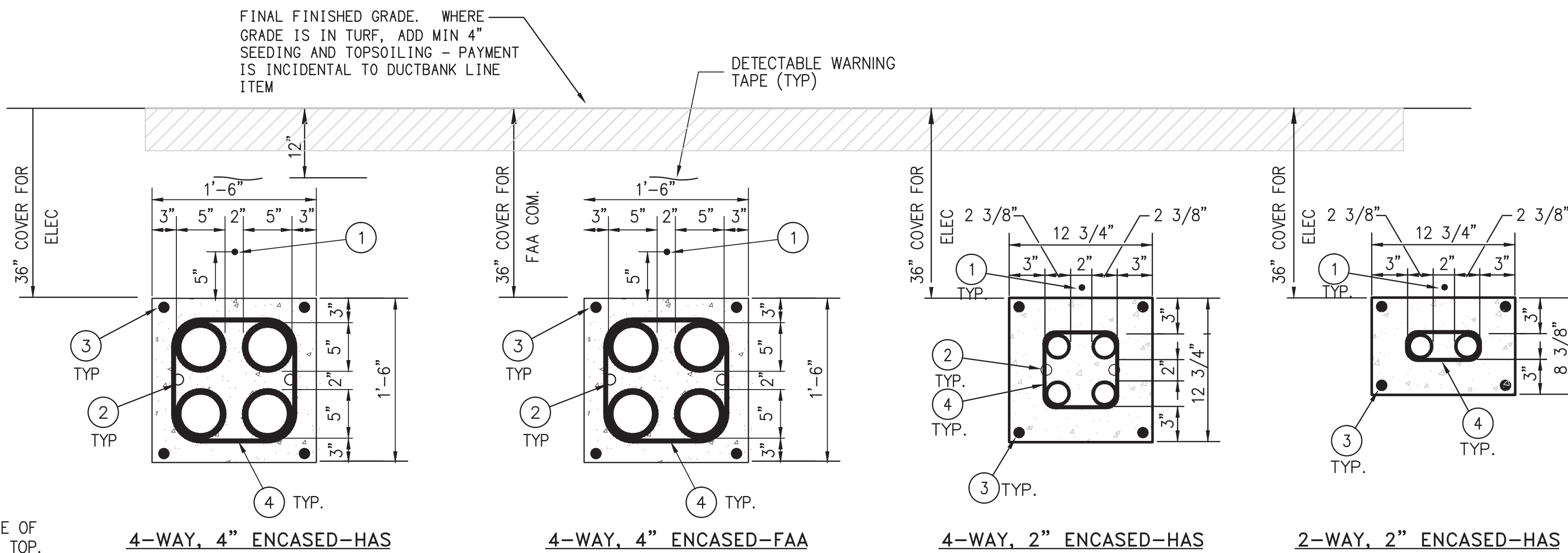


**5 MANHOLE #ELE N111 MODIFICATIONS**  
 E10-08 SCALE: NTS

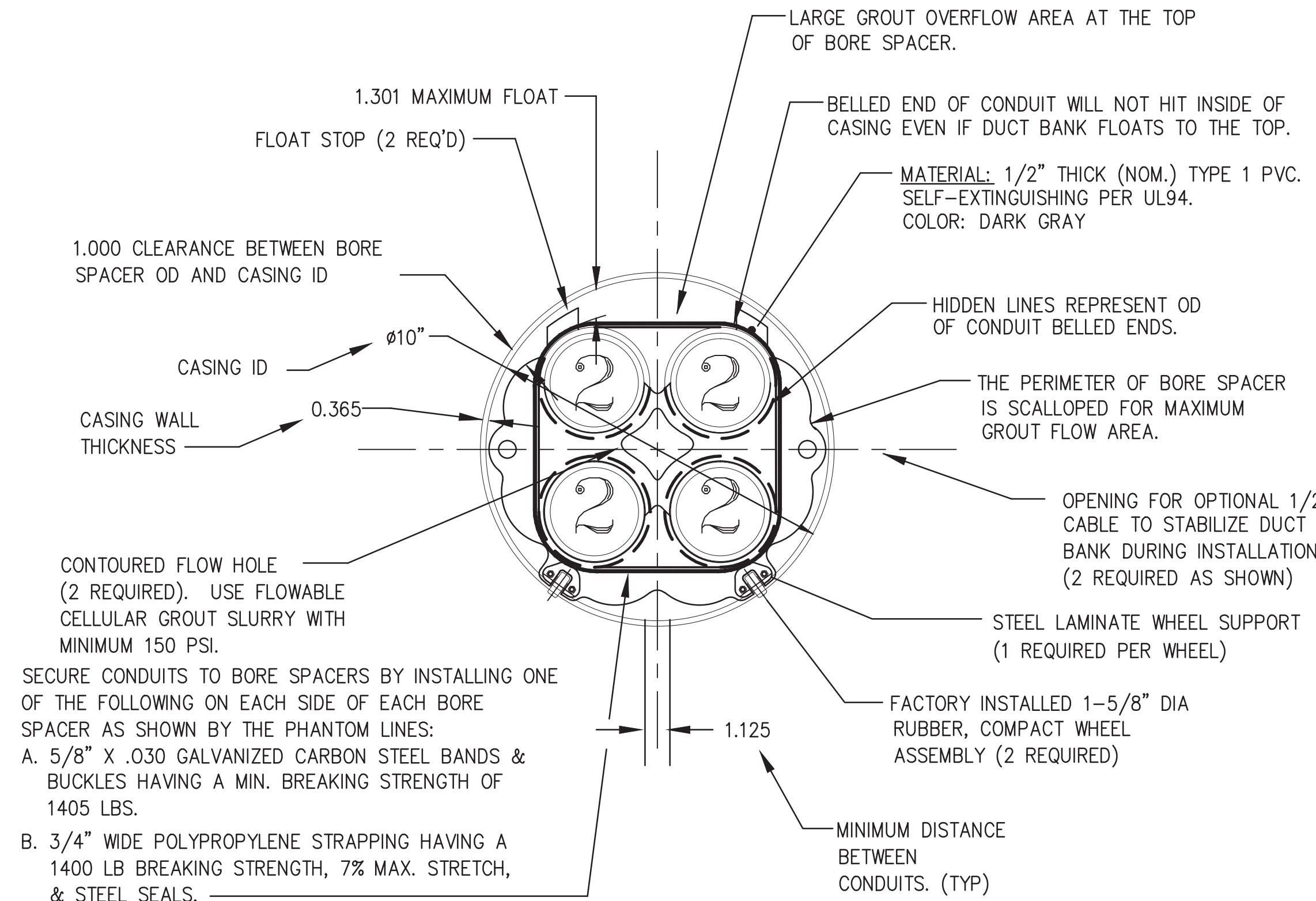


**KEYED NOTES FOR DUCT SECTIONS:**

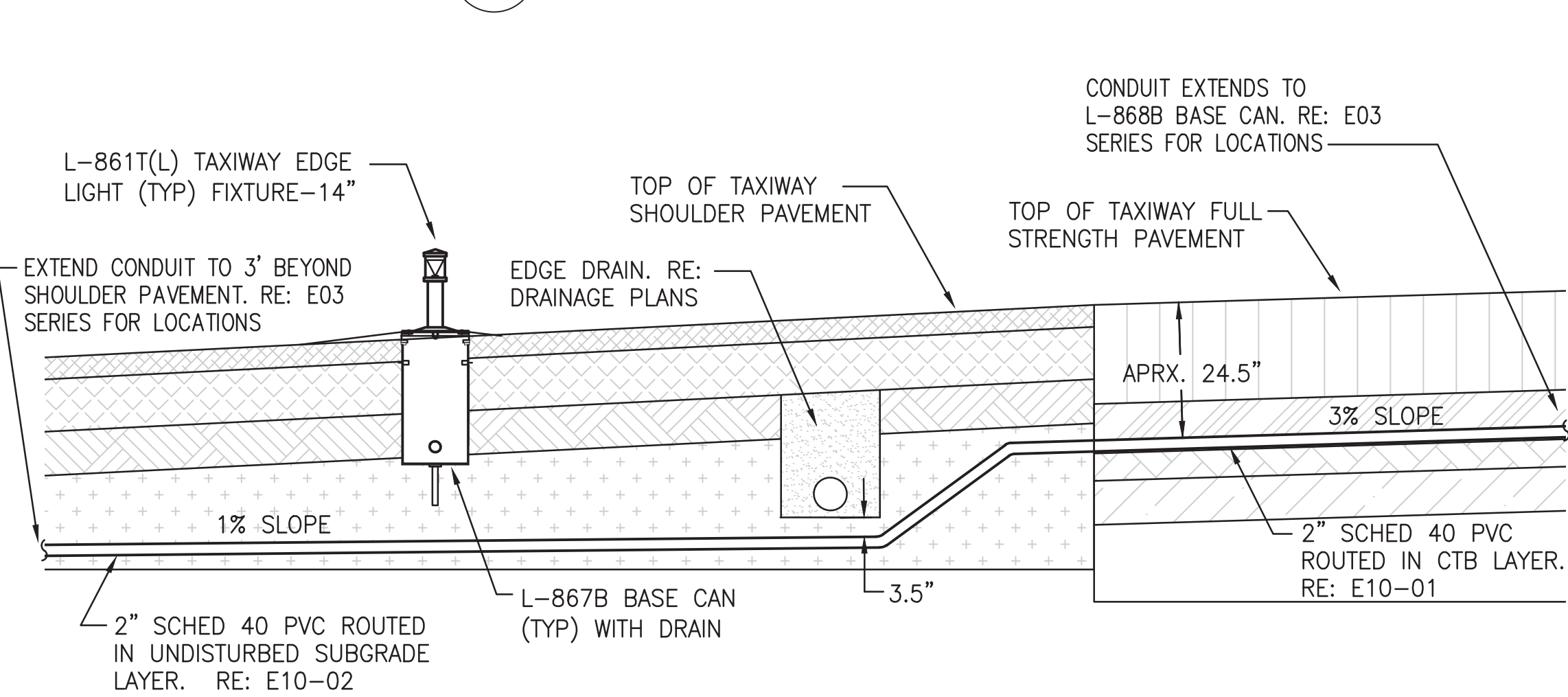
- 1 INSTALL BARE COPPER STRANDED WIRE FOR COUNTERPOISE PROTECTION OF DUCTBANK AS REQUIRED PER FAA CRITERIA GIVING A 45 DEGREE CONE OF PROTECTION. PAYMENT FOR COUNTERPOISE IS INCIDENTAL TO THE DUCTBANK LINE ITEM. USE #6AWG FOR HAS ELECTRICAL AND USE #1/0 AWG FOR FAA DUCTBANKS.
- 2 WHEN DUCTS ARE TO BE EXTENDED, HOLES ARE BORED AS INDICATED ON ALL DUCT SECTIONS. INSTALL #6 BARS INTO EXISTING DUCTS TO A DEPTH OF 9" AND SHALL BE EXTENDED INTO NEW EXTENSION A MINIMUM OF 9". SEE PLAN DRAWINGS FOR LOCATIONS WHERE DUCTS ARE TO BE EXTENDED.
- 3 PROVIDE #4 REBAR AT EACH CORNER AND SPACERS EVERY 5 FEET.
- 4 INSTALL STIRRUPS AT EVERY 24" ON CENTER.



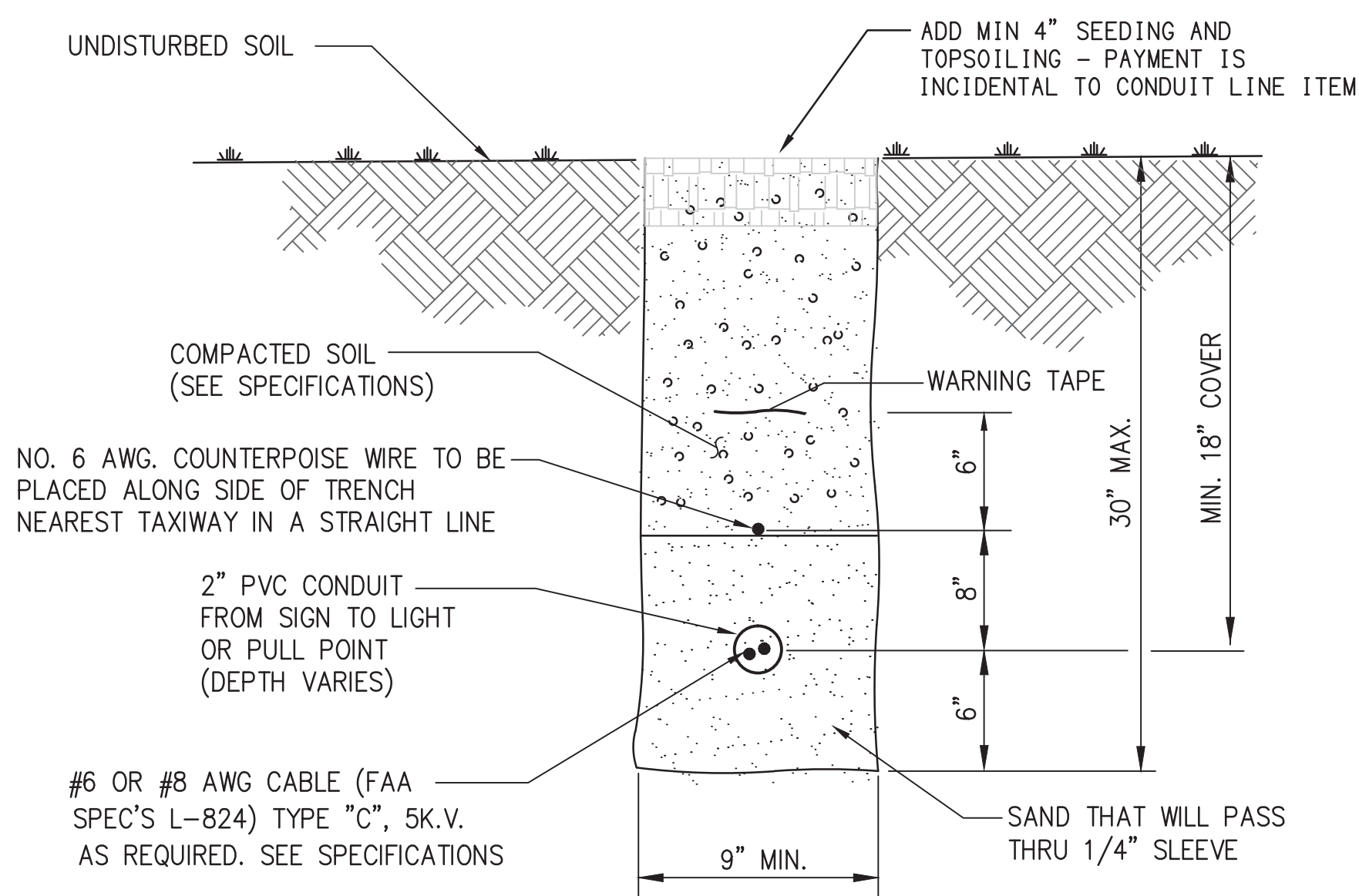
**1 TYPICAL DUCT SECTIONS**  
E10-09 SCALE: NTS



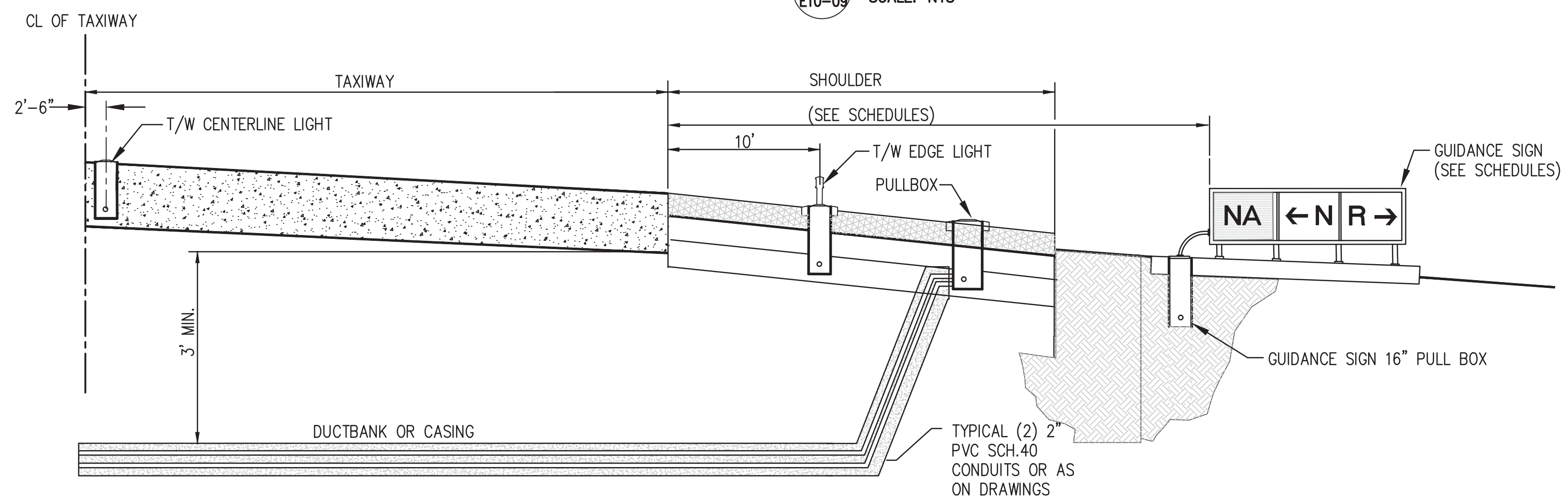
**3 4X2\"/>**



**4 TYPICAL CONDUIT CROSSING AT EDGE DRAIN**  
E10-09 SCALE: 1\"/>



**2 DIRECT BURIED CONDUIT TRENCH DETAIL**  
E10-09 SCALE: NTS

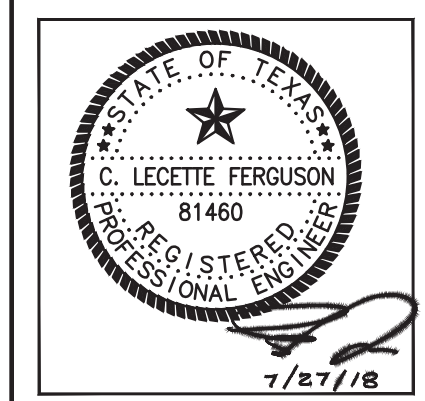


**5 TYPICAL CROSS SECTION THROUGH TAXIWAY**  
E10-09 SCALE: NTS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DETAILS**  
**DUCTBANK AND BORE CASING**

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
APPROVED BY: DP 7/26/18  
*Denzel Palmer*  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

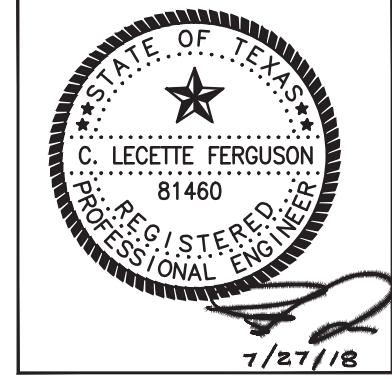
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	



REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DETAILS**  
**SCHEMATIC DIAGRAM FOR 8R-26L RGL**

ISSUED FOR BID	
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	NONE
DATE:	07/27/2018



DEPARTMENT OF AVIATION	
APPROVED BY: DP	7/26/18
<i>Dennis Palmer</i>	
HOUSTON AIRPORT SYSTEMS AUTHORIZED REPRESENTATIVE	

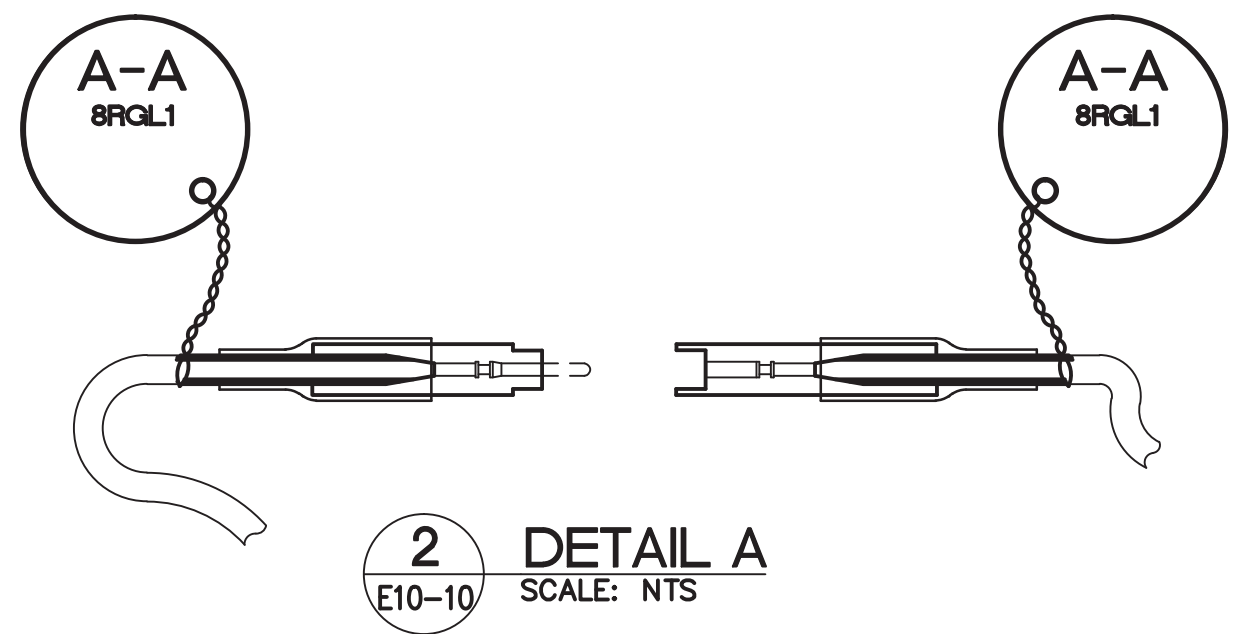
PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

**GENERAL NOTES:**

1. INSTALL RUNWAY GUARD LIGHT CIRCUIT AS SHOWN. THE TWO CONDUCTORS EXITING THE VAULT ARE DESIGNATED L1 AND L2. THE DESIGNATED CONDUCTOR (L1 OR L2) AT EACH RGL BAR SHALL BE CIRCUITED THROUGH THE ISOLATION TRANSFORMERS AT THAT BAR, AND THE OPPOSING CONDUCTOR SHALL BE INSTALLED IN THE SAME PATHWAY AS SHOWN ON THIS DRAWING.
2. RUNWAY GUARD LIGHT CIRCUITS SHALL BE INSTALLED WITH CABLE ROUTING AS SHOWN. PRIMARY SUPPLY AND RETURN SHALL BE IN SAME CONDUIT WITH NO OTHER CABLES IN ALL LOCATIONS.
3. SEE DETAIL 2 THIS SHEET FOR GUARD LIGHT CIRCUIT LABELING REQUIREMENTS.
4. REMOVE ALL RGL COMPONENTS INCLUDING LAMP, FLASHER Y CONNECTOR AND CABLES AND ISOLATION TRANSFORMER. REPLACE WITH NEW L852G FIXTURE WITH INTEGRAL FLASHER AND MONITOR, LOW INDUCTANCE ISOLATION TRANSFORMER, PRIMARY CABLE AND SPLICE KIT. FOR TAXIWAYS SOUTH OF RW 8R-26L, ADDITIONALLY REMOVE AND REPLACE FIXTURE BASES AND CONDUITS. REFER TO 16531 FOR EXTENT OF WORK.

**DETAIL NOTE:**

PROVIDE MATCHING LABEL TAGS (STAINLESS STEEL TAG ATTACHED TO STAINLESS STEEL WIRE) FOR EACH CONNECTOR PAIR FOR ALL GUARD LIGHT CIRCUITS IN HANDHOLDS, MANHOLES OR PULL BOXES. PROVIDE SEPARATE LABEL WITH UNIQUE IDENTIFICATION FOR EACH ADDITIONAL CONNECTOR PAIR. EXAMPLE: TAG 'AA' MATCHES 'AA', 'BB' MATCHES 'BB' AND ....ETC. INCLUDE CONDUCTOR DESIGNATION L1 OR L2

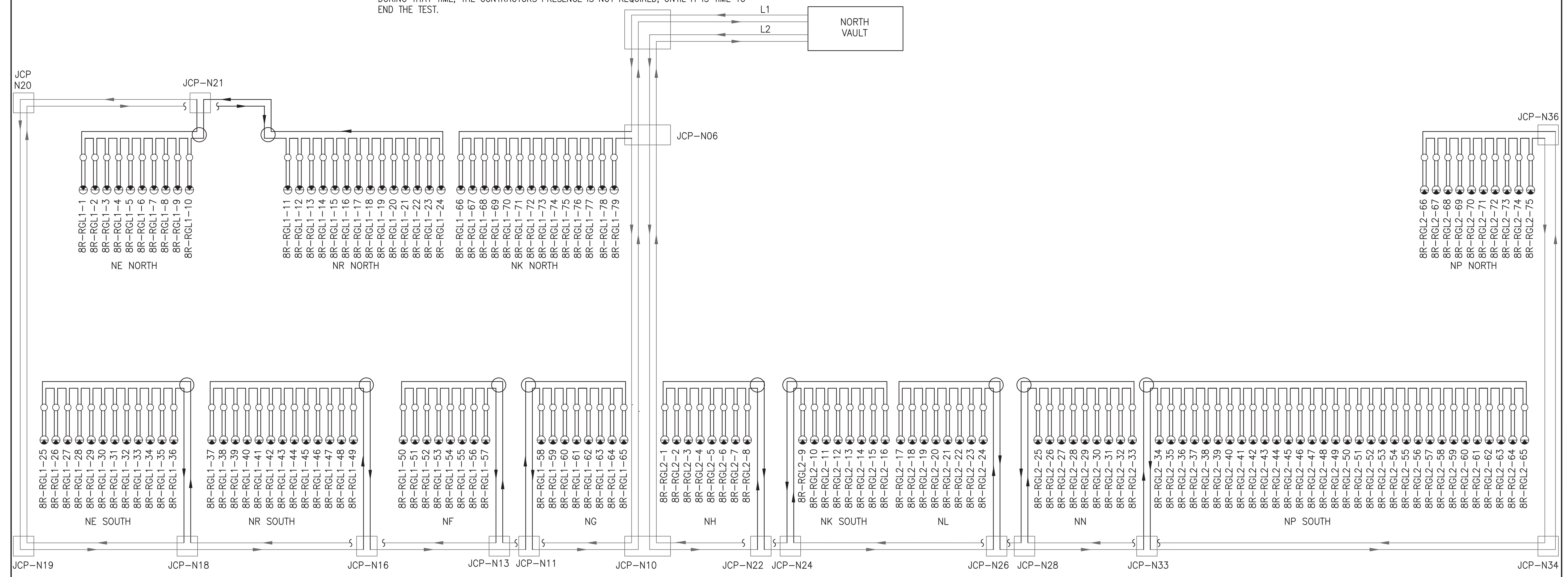


**TESTING GENERAL NOTES:**

- ACCESS**
1. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE TESTING FIRM AND ESCORT AND TRANSPORTATION TO/FROM THE RGL FIXTURES TO BE TESTED. EACH GROUPING OF LIGHTS AT EACH BAR SHALL BE TESTED 1 BAR AT A TIME. DURING WORK AT EACH BAR, THE TAXIWAY SHALL BE TEMPORARILY CLOSED OFF TO TRAFFIC.
- SUPPORT**
2. THE TESTING FIRM PERSONNEL AND TEST EQUIPMENT SHALL BE TRANSPORTED BY THE CONTRACTOR TO THE FIXTURE LOCATION IN THE BAR.
  3. THE FIXTURES SHALL BE UNBOLTED BY THE CONTRACTOR BUT REMAIN CONNECTED, TO EXPOSE THE SECONDARY CABLE TO EACH FIXTURE. THE TESTING FIRM SHALL REQUIRE PHYSICAL ASSISTANCE TO REMOVE THE EQUIPMENT FROM THE TRUCK, SET THE TEST BOX AT THE SIDE OF THE TAXIWAY, PLACE THE TEST DEVICES NEAR EACH FIXTURE, MANAGE LAYING OUT THE TEST CABLES ON THE SURFACE, AND SECURING THE LOCATION.
  4. THE TESTING FIRM WILL THEN SET UP AND START THE TEST. THE CONTRACTOR SHALL CLOSE AND BARRICADE THE TAXIWAY. THE TEST SHALL BE LEFT TO RUN UNATTENDED, FOR UP TO 3 HOURS WITH DATA COLLECTION TAKING PLACE IN A RUGGED BOX LOCATED OUTSIDE THE SAFETY ZONE NEAR THE HOLD POSITION, AT THE SIDE OF THE TAXIWAY. DURING THAT TIME, THE CONTRACTORS PRESENCE IS NOT REQUIRED, UNTIL IT IS TIME TO END THE TEST.
- OTHER NOTES:**
5. DURING THE TEST IT WILL BE NECESSARY TO CHECK THE FAILED LAMP/ DEVICE REPORTING FUNCTION. THIS WILL REQUIRE SOMEONE AT THE BAR, WITH THE TESTING FIRM AT THE VAULT, TO OBSERVE THE MONITORING OF A LAMP FAILURE. THE FIELD WILL HAVE TO BE IN COMMUNICATION WITH THE TESTING FIRM IN THE VAULT, AND PULL THE LAMP/ DEVICE WHEN REQUESTED.
  6. AT THE CONCLUSION OF THE TEST, THE TESTING FIRM SHALL BE TRANSPORTED AND ESCORTED TO THE HOLD BAR, TO REMOVE THE TEST EQUIPMENT. AT THAT TIME MORE PHYSICAL ASSISTANCE SHALL BE REQUIRED TO REMOVE THE EQUIPMENT AND TRANSPORT IT TO THE NEXT BAR TO BE TESTED OR OFF THE AIRFIELD FOR THE DAY. THE FIXTURES SHALL THEN BE BOLTED BACK IN BY THE CONTRACTOR.
  7. ACCESS AND TRANSPORTATION SHALL ALSO BE PROVIDED TO THE AIRFIELD LIGHTING VAULT AND REGULATOR THAT SUPPLIES THE RGL BAR WITH POWER AS REQUIRED BY THE TESTING FIRM TO VIEW AND MAKE ANY NEEDED CHECKS OF THE VAULT EQUIPMENT.

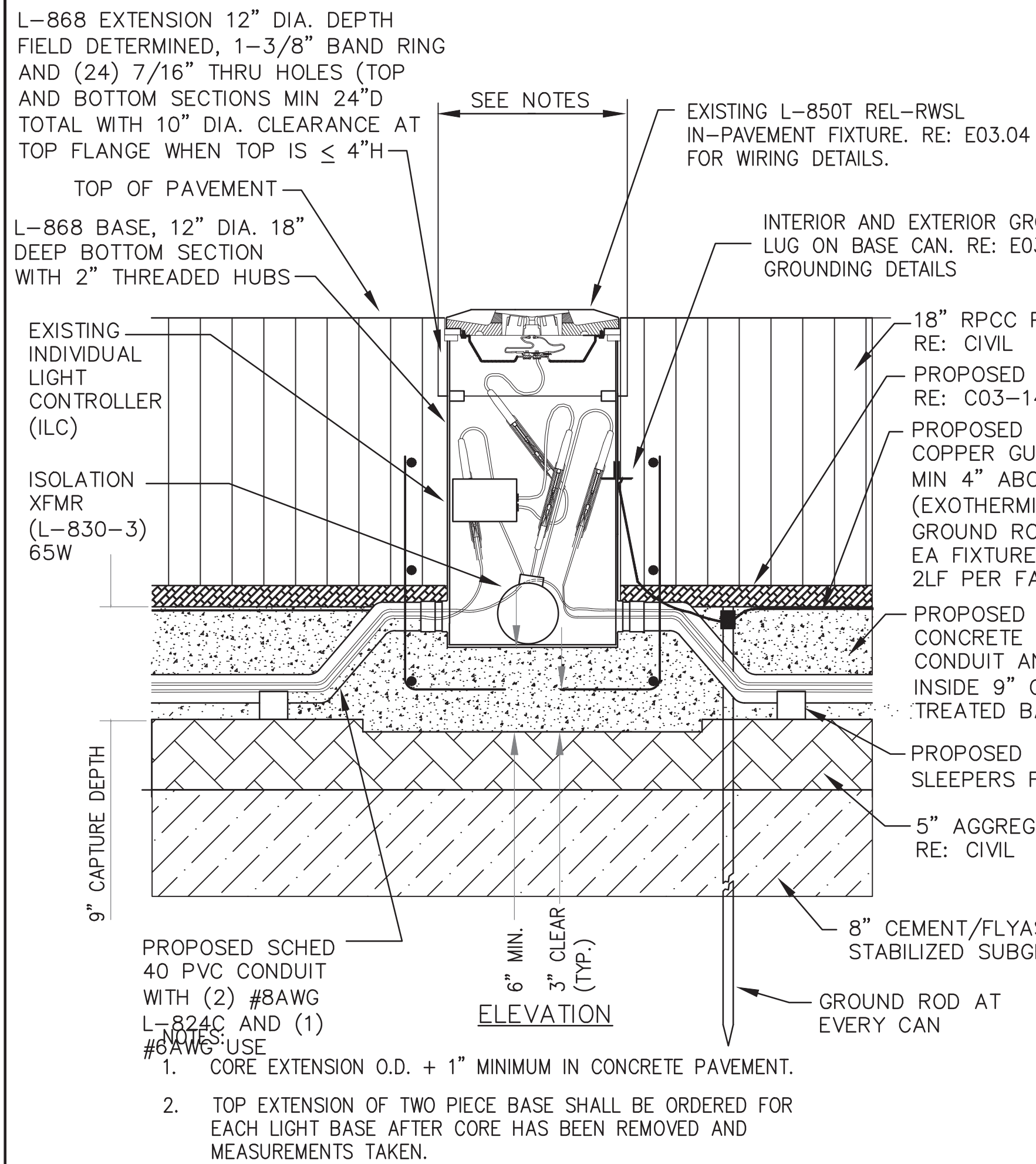
**LEGEND**

- R/W GUARD LIGHT ISOLATION TRANSFORMER WITH L-823 CONNECTORS
- ⊙ R/W GUARD LIGHT FIXTURE WITH INTEGRAL CONTROL AND MONITORING
- ⊙ L-867D 24" DEEP BASE CAN AND COVER, TYPICAL PULL BOX WITH L-823 CONNECTORS FOR CIRCUIT ISOLATION AND TESTING
- L-823 CONNECTOR (FIELD SPLICE)
- JCP-N18 JUNCTION CAN PLAZA WITH ID TAG
- 5-KV FIELD CABLES DEDICATED TO RGL ONLY FOR POWER AND RGL POWER LINE CARRIER



**1** SCHEMATIC DIAGRAM FOR R/W 8R-26L RUNWAY GUARD LIGHT CIRCUIT (8RGL)  
 E10-10 SCALE: NTS  
 CL OF TAXIWAY

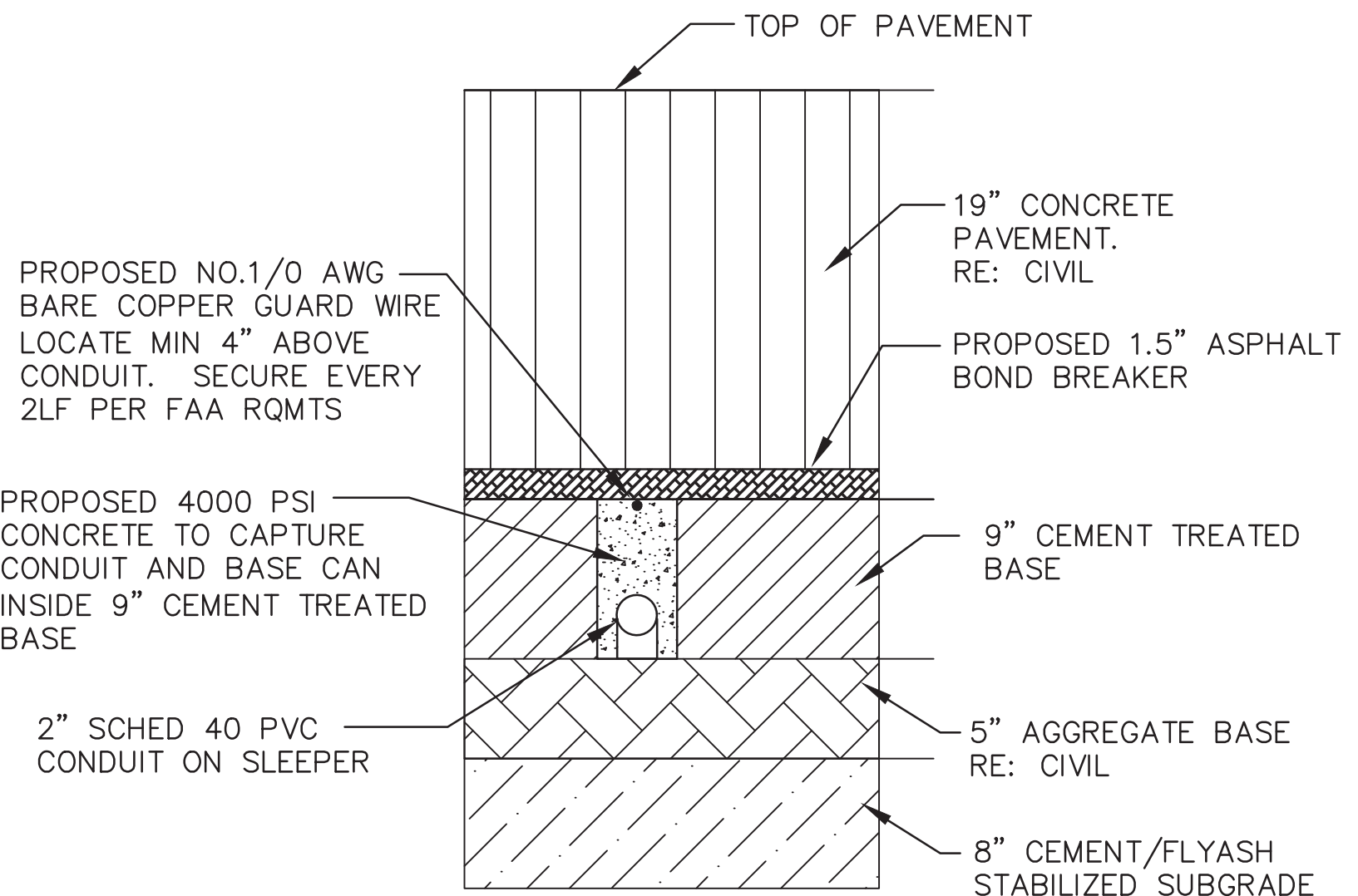




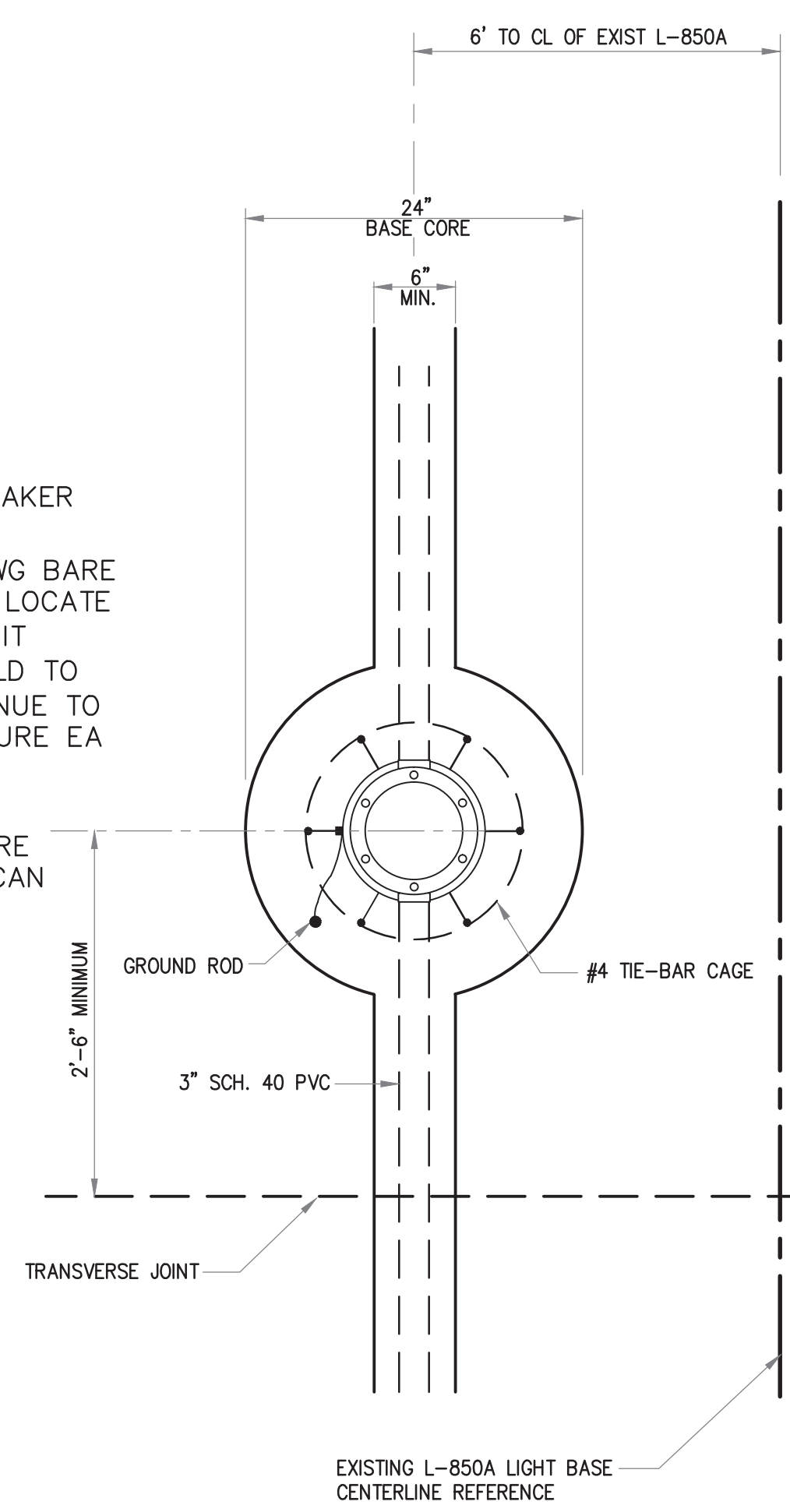
**1**  
E303 SCALE: NTS  
**TYPICAL RUNWAY STATUS LIGHT IN PAVEMENT DETAIL**

**SHEET NOTES:**

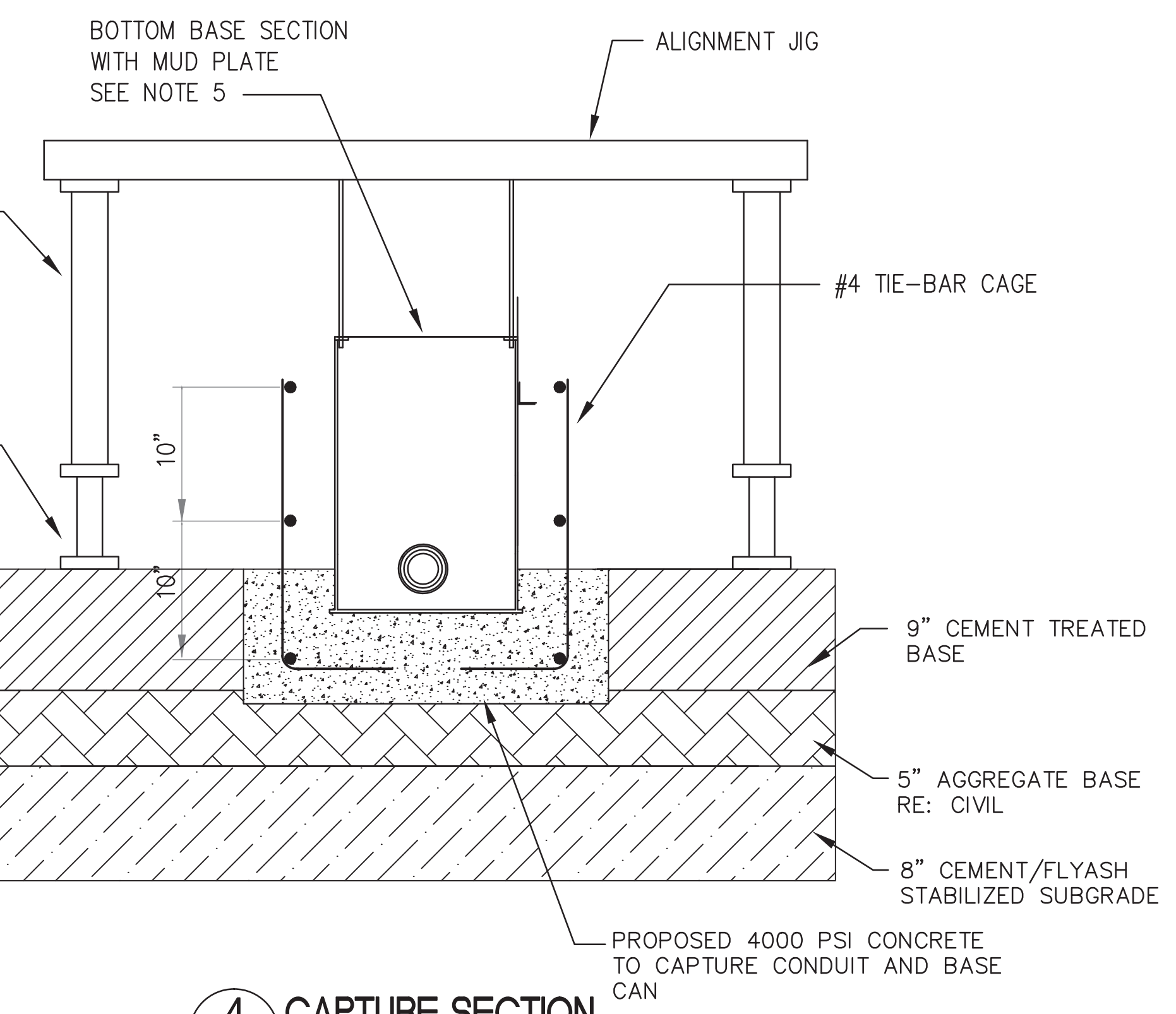
- BARE COPPER GUARD WIRE SHALL BE NO. 1/0 AWG, SOLID, COPPER WIRE. ALL EXOTHERMICALLY WELDED GROUND CONNECTIONS SHALL BE COATED WITH COAL TAR BITUMINOUS MATERIAL. SEE SPECIFICATION L-108.
- ALL CONDUIT SHALL BE 2" SCH 40 PVC, TYPE II.



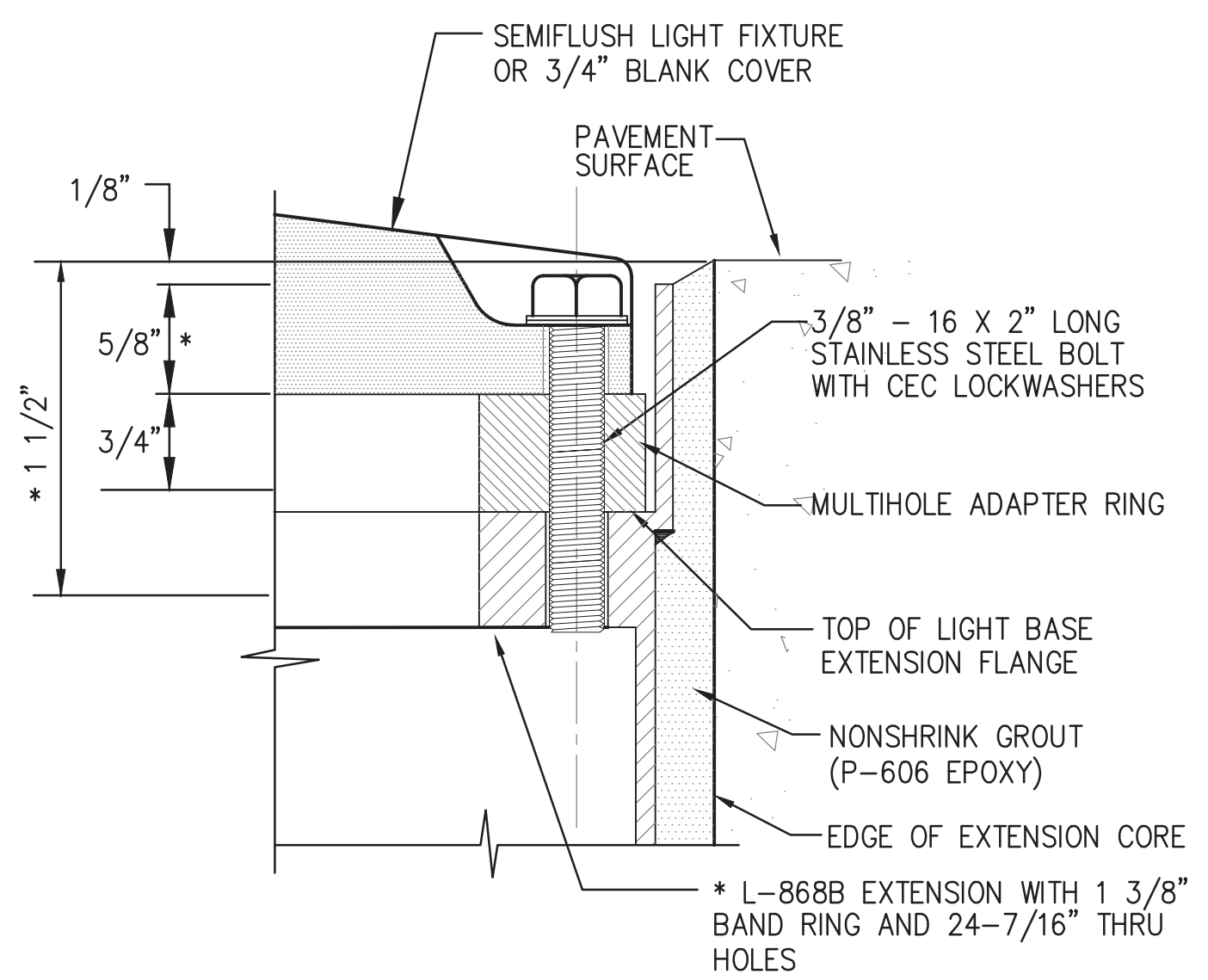
**3**  
E303 SCALE: NTS  
**CONDUIT SECTION**



**2**  
E303 SCALE: NTS  
**LIGHT BASE MOUNTING IN RIGID PAVEMENT**



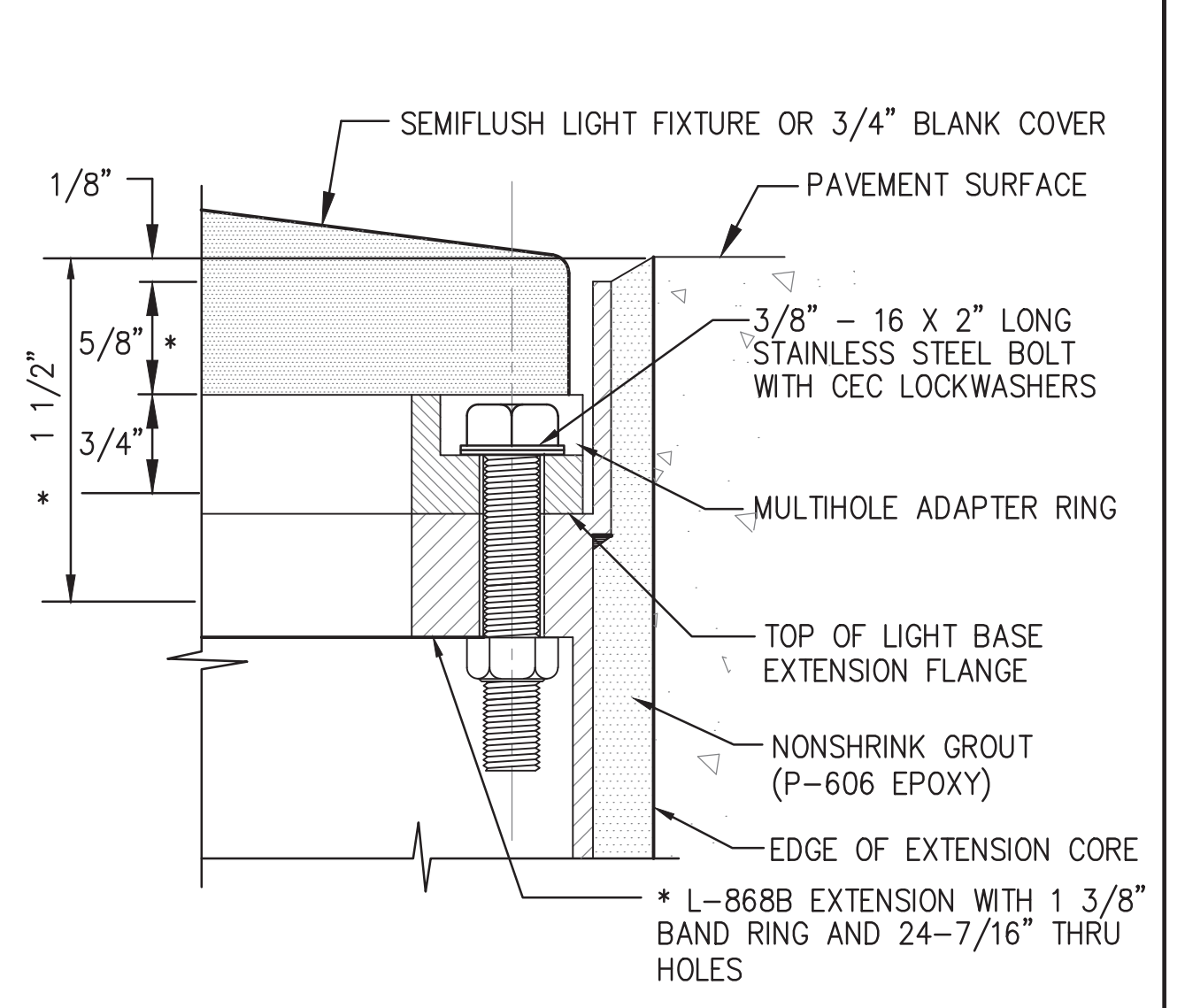
**4**  
E303 SCALE: NTS  
**CAPTURE SECTION**



**A - FIXTURE MOUNTING BOLT**

**NOTES:**

- BOLTS SHALL BE LENGTH SPECIFIED ABOVE UNLESS OTHERWISE APPROVED BY DESIGN ENGINEER.
- STANDARD BAND RING EXTENDS 1-3/8" ABOVE TOP OF UPPER BASE SECTION TO ALLOW 3/4" FIXTURE RECESS AND 3/4" MULTIHOLE ADAPTER RING. TOP OF FLANGE RING BAND IS 1/8" BELOW PAVEMENT SURFACE.



**B - MULTIHOLE ADAPTER RING MOUNTING BOLT**

- TORQUE BOLTS HOLDING FIXTURE TO 180 INCH-POUNDS. TORQUE REMAINING BOLTS TO MANUFACTURER'S RECOMMENDATIONS.
- BLANK LIDS FOR L-868 BASES IN RIGID PAVEMENT SHALL BE 3/4" THICK
- ALL LIGHT BASE BOLTS SHALL BE PROVIDED WITH TWO-PIECE CEC LOCK WASHERS

**5**  
E10-11 SCALE: NTS  
**SEMIFLUSH FIXTURE INSTALLATION DETAIL IN FULL STRENGTH PAVEMENT**

**RUNWAY STATUS LIGHT INSTALLATION GUIDELINES**

- REMOVE AND SALVAGE EXISTING RUNWAY STATUS LIGHT FIXTURES, ILC, TRANSFORMERS AND ALL SALVAGEABLE ITEMS
- AFTER PROPOSED 9" CEMENT TREATED BASE (CTB) IS PLACED, PREPARE A CAPTURE SECTION FOR A NEW BASE, 24" DIAMETER TO A MINIMUM DEPTH OF 32" BELOW FINAL GRADE, ENOUGH FOR ANCHORING SECURELY THE BASE CAN SO THAT THE FORCE OF THE CONCRETE PAVING TRAIN OPERATION WILL NOT DISLodge THE CANS IF NOT PROPERLY SECURED. NEW BASE SHALL BE LOCATED AT SAME SURVEYED LOCATION AS DEMOLISHED BASE CAN.
- PROVIDE A CONDUIT TRENCH 6" WIDE BY NOMINAL 9" DEEP BETWEEN BASES AND OUTSIDE POINTS FOR NEW 2" PVC CONDUIT PLACEMENT INTO PROPOSED CTB, TRENCH TO BE DEEP ENOUGH TO AVOID CRACKS TRAVELING UPWARDS TO SURFACE.
- SET BOTTOM SECTION OF NOMINAL 18" L-868B BASE WITH MUD PLATE INTO CAPTURE SECTION USING ALIGNMENT JIG TO KEEP ALIGNMENT AND ELEVATION PER FAA A/C. PROVIDE #4 TIE-BAR CAGE AS DETAILED ON CAPTURE SECTION DETAIL.
- RUN 2" SCHEDULE PVC BETWEEN BASES COMPLETING CONDUIT INSTALLATIONS, PROVIDE CONDUIT SLEEPERS SO CONDUIT CONCRETE AGGREGATES WILL FLOW UNDER CONDUIT.
- INSTALL SEPARATE GROUND ROD FOR EVERY BASE CAN AND EXOTHERMICALLY WELD TO #1/0 AWG B.C. GUARD WIRE. INSTALL SEPARATE #6 AWG GROUND TERMINATED AT FACTORY MANUFACTURED MECHANICAL TERMINATION POINT WHICH HAS BEEN BONDED TO BASE CAN PRIOR TO GALVANIZATION PROCESS.
- PLACE CONCRETE INTO TRENCH AND CAPTURE SECTION OF L-868B BASE CAN FILLING ANNULAR SPACE OF CONDUIT AND BASE CAN LEVELING UP TO TOP OF CTB.
- SURVEY LOCATION OF NEWLY SET BASE CAN FOR EASE OF RECOVERY AFTER PROPOSED REINFORCED PORTLAND CEMENT CONCRETE (RPCC) IS PLACED.
- AFTER RPCC IS PLACED, LOCATE NEW BASE CAN BY SURVEY, THEN DRILL A 4" PILOT HOLE TO LOCATE THE CENTER OF THE BASE. CENTER A 14" DIAMETER CORE OVER THE BASE, CORE DOWN TO TOP OF L-868B BASE BOTTOM SECTION AND REMOVE THE CORE.
- INSTALL TOP SECTION OF L-868B BASE WITH A MULTI-HOLE ADAPTOR RING AND FILL ANNULAR VOID WITH P-606 EPOXY.
- PHASING RESTRICTIONS WITHIN THE AREA WILL REQUIRE THE INSTALLATION OF ONLY MAXIMUM (1) SPACER RING OF VARIED THICKNESS TO BRING FINAL FIXTURE ELEVATION TO MEET FAA A/C.



REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DETAILS**  
**RWSL SEMI-FLUSH FIXTURE**

ISSUED FOR BID

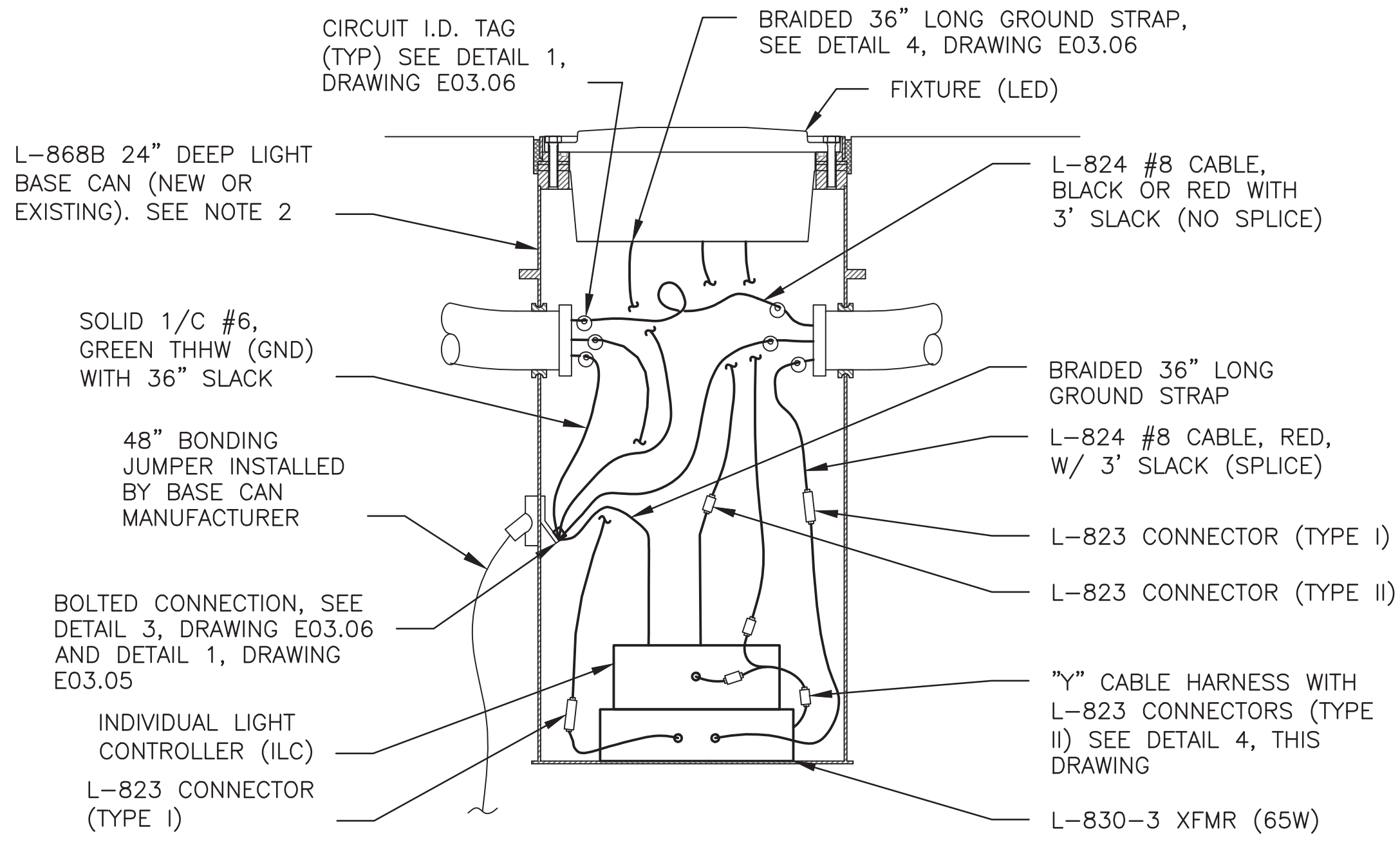
PROJECT MGR:	CLF
DESIGNER:	RSF
DRAWN BY:	RSF
CHECKED BY:	CLF
SCALE:	AS NOTED
DATE:	07/27/2018



DEPARTMENT OF AVIATION  
APPROVED BY: DP 7/26/18  
*Danaj Pahmal*  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO.	0907
C.I.P. NO.	A-000570
H.A.S. NO.	
SHEET NO.	

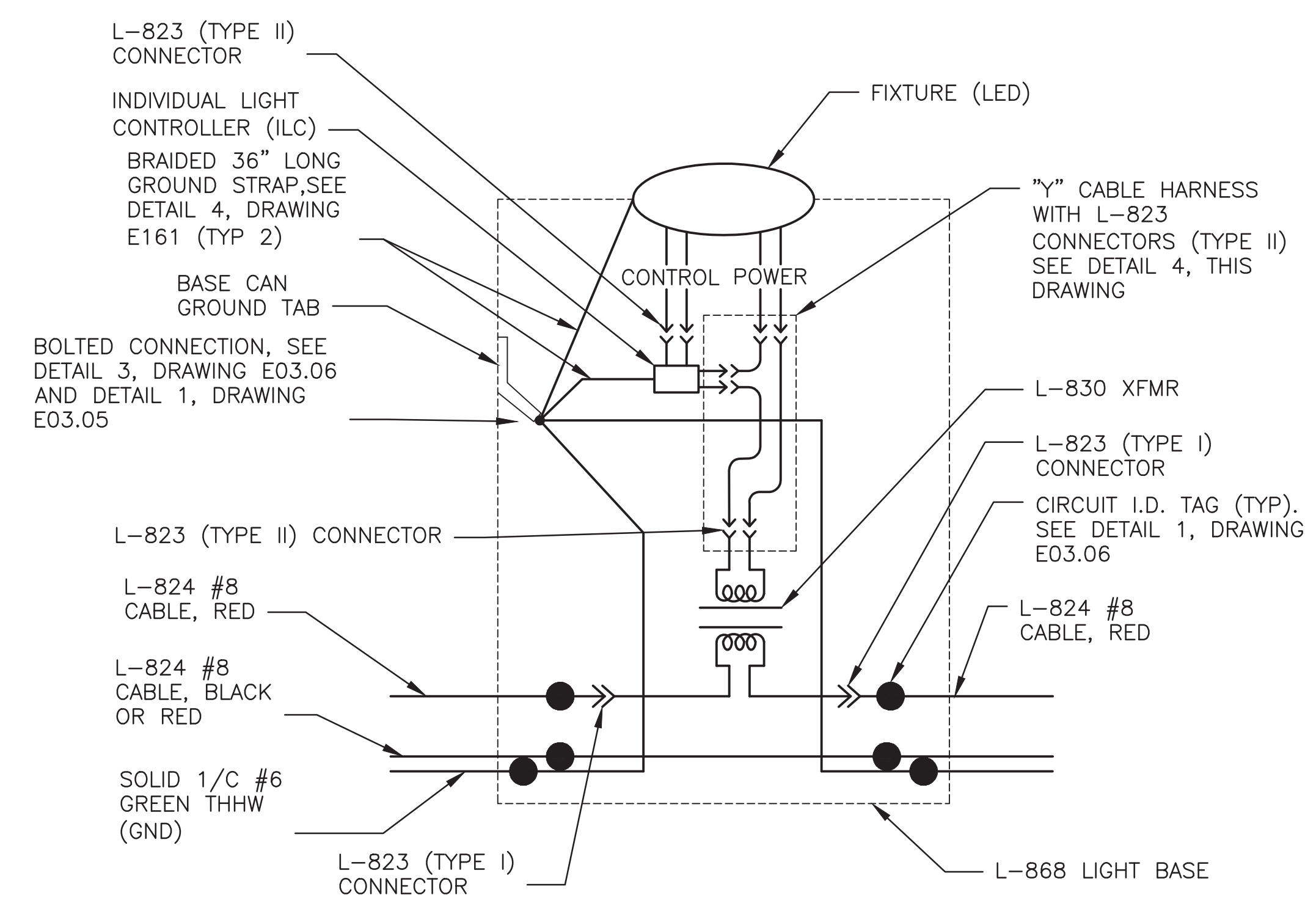




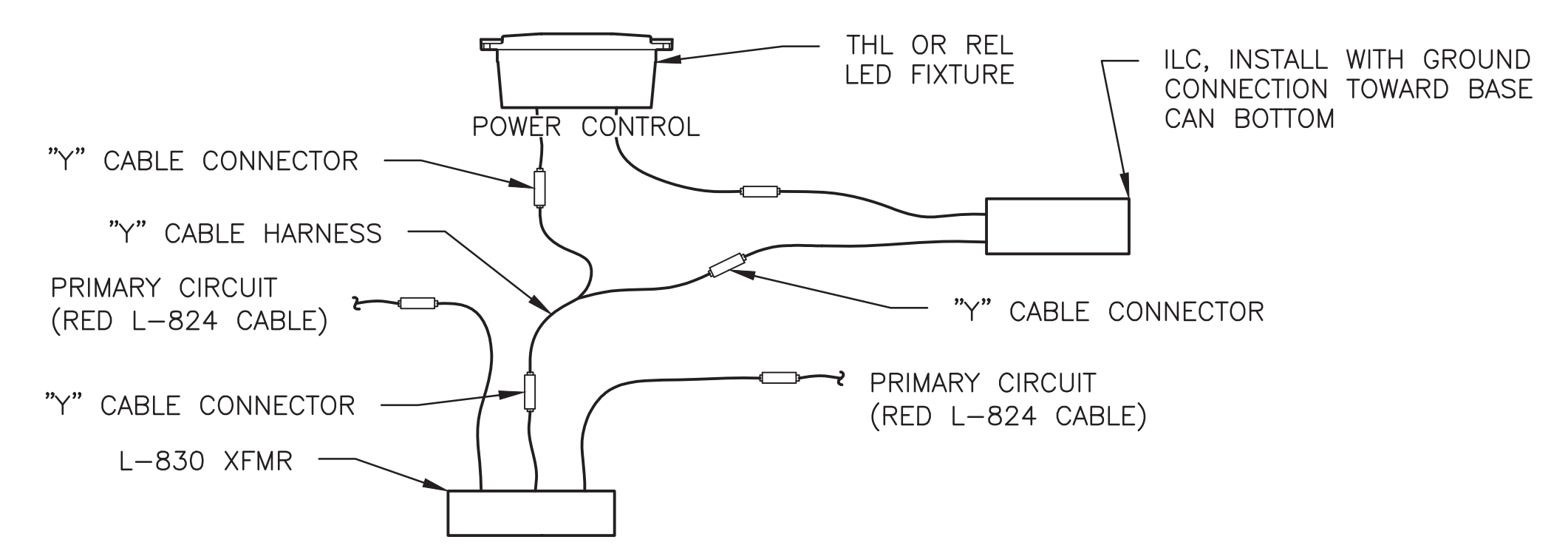
**NOTES:**

1. IF ELEVATION OR LEVEL IS INCORRECT WITH PAVEMENT SURFACE, OR AZIMUTH IS INCORRECT WITH CENTERLINE OR EDGE OF PAVEMENT, CORRECTIONS SHALL BE MADE AS DIRECTED BY THE ENGINEER, AT CONTRACTOR'S OWN EXPENSE.
2. LIGHT BASE CAN SHALL BE GALVANIZED METAL UNLESS OTHERWISE APPROVED BY THE FAA.
3. BLACK L-824 #8 CABLE SHALL BE USED FOR THE CIRCUIT "HOME RUN" BETWEEN THE SHELTER AND THE FURTHEST FIXTURE. RED L-824 #8 CABLE SHALL BE USED TO COMPLETE THE CIRCUIT AND FOR ALL REMAINING FIXTURE CONNECTIONS ON THE CIRCUIT.

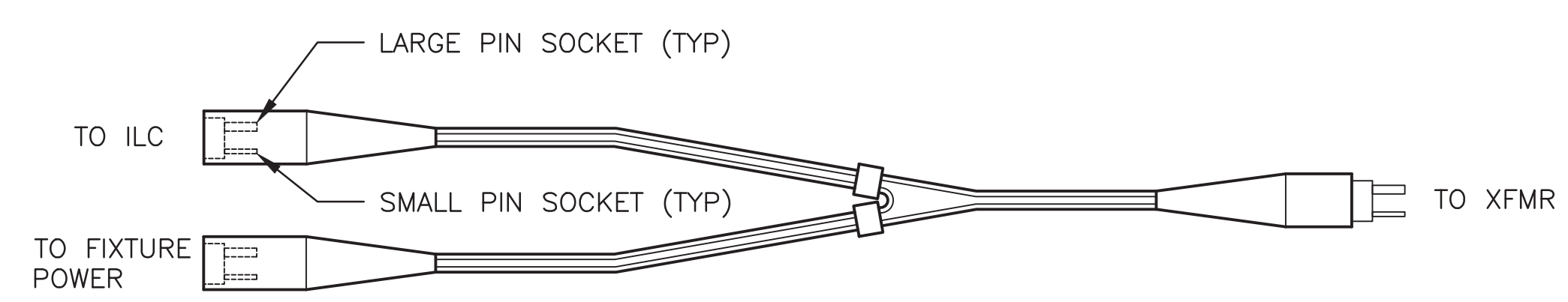
**1 BASE CAN EQUIPMENT INSTALLATION**  
E10-12 SCALE: NTS



**2 BASE CAN EQUIPMENT 1-LINE DIAGRAM**  
E10-12 SCALE: NTS



**3 'Y' CABLE HARNESS INSTALLATION DETAIL**  
E10-12 SCALE: NTS



**4 'Y' CABLE HARNESS DETAIL**  
E10-12 SCALE: NTS



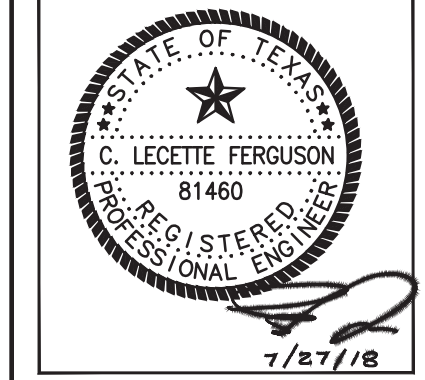
REVISIONS

NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA  
 AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL DETAILS**  
**RWSL WIRING DETAILS**

ISSUED FOR BID

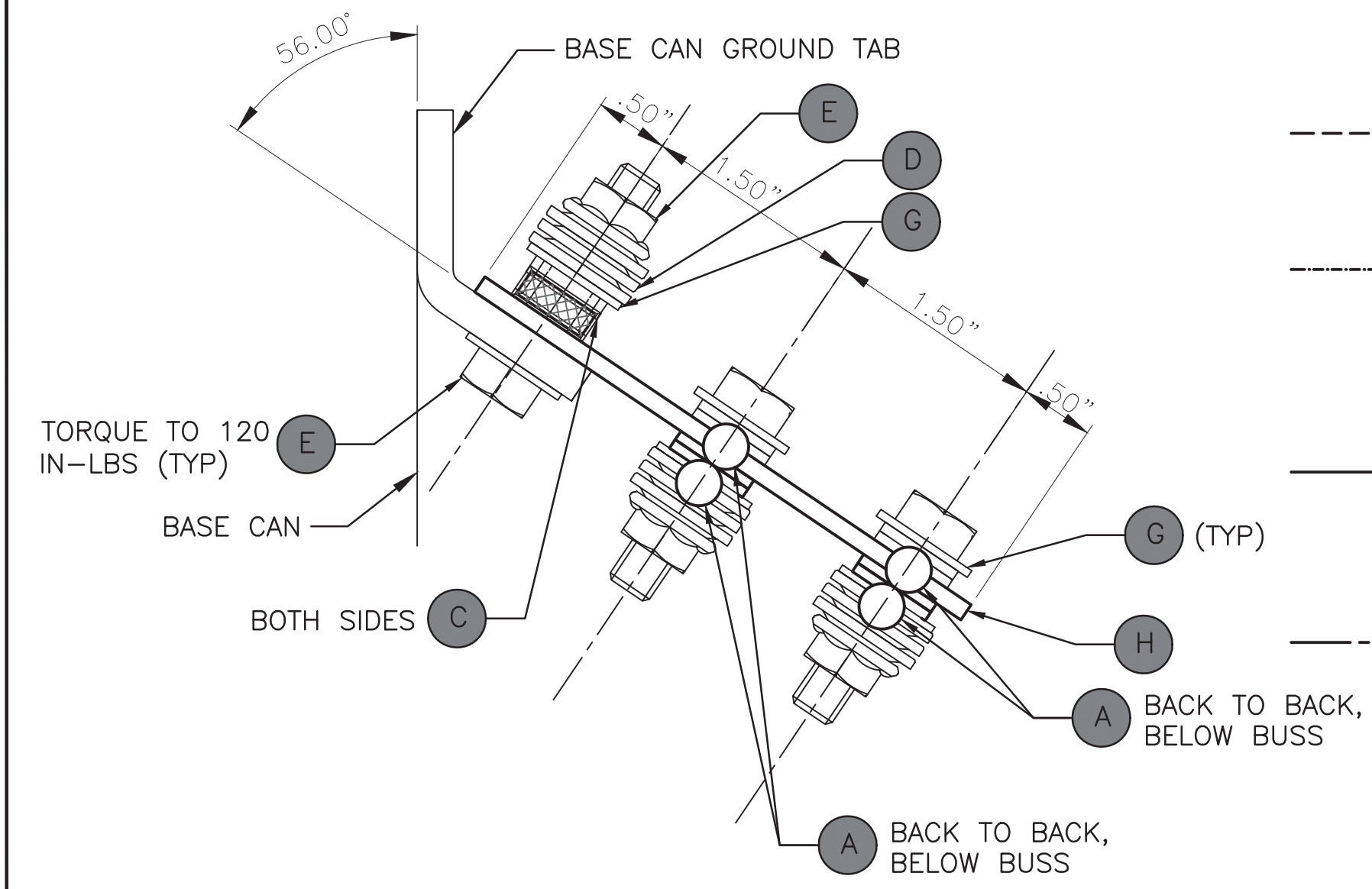
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CHECKED BY:	CLF
SCALE:	AS NOTED
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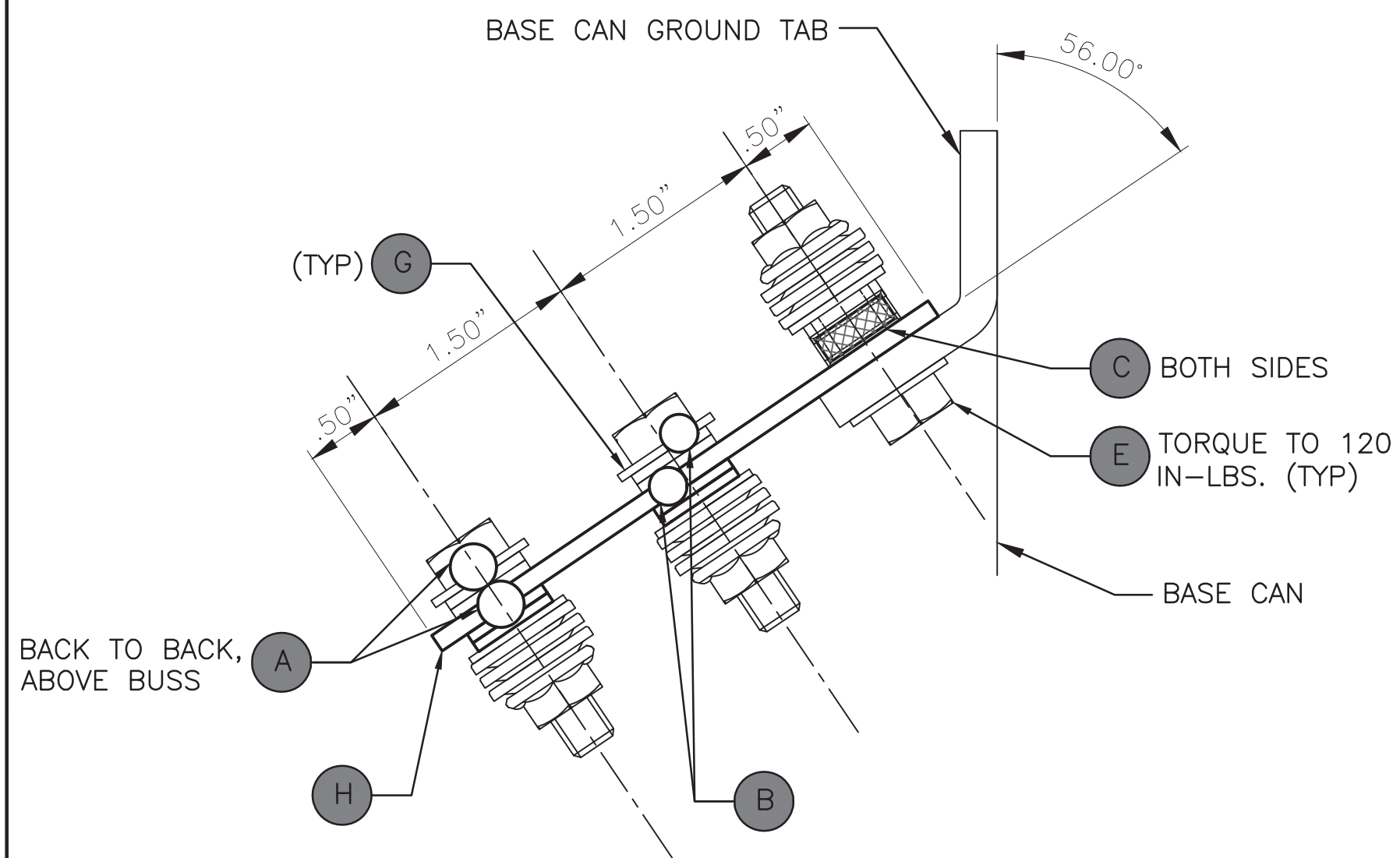
DEPARTMENT OF AVIATION  
APPROVED BY: DP 7/26/18  
*Denaj Rahmel*  
HOUSTON AIRPORT SYSTEMS  
AUTHORIZED REPRESENTATIVE

PROJECT NO. **0907**  
C.I.P. NO. **A-000570**  
H.A.S. NO.  
SHEET NO.

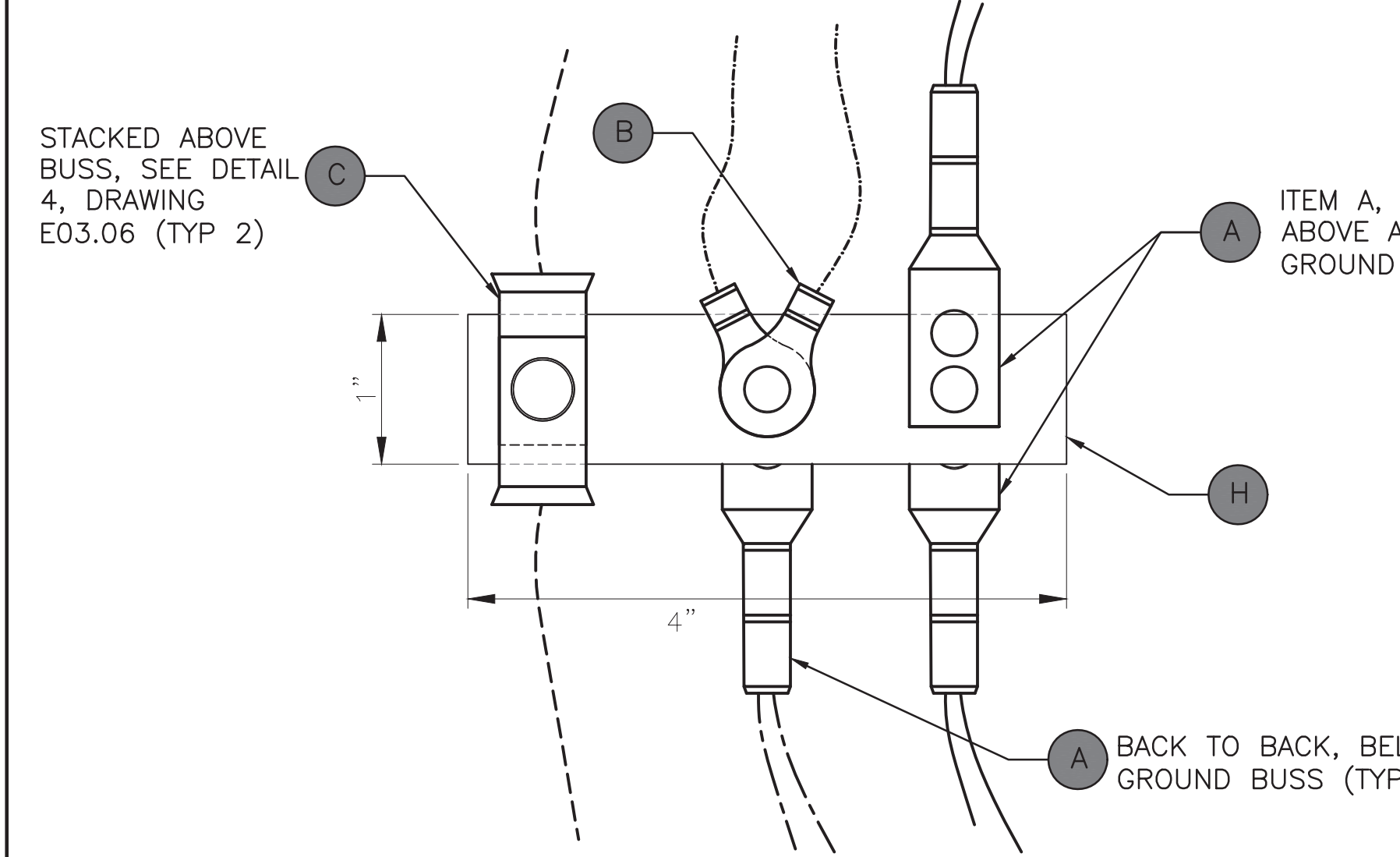




**LEFT SIDE VIEW**



**RIGHT SIDE VIEW**



**TOP VIEW (COPPER BUSS ONLY)**

**WIRE LEGEND:**

- BRAIDED GROUND STRAP (1 FROM ILC, 1 FROM FIXTURE)
- GROUND WIRES FROM CONDUCTOR SHIELD #12 AWG WITH RING TERMINALS (IF REQUIRED)
- GROUND WIRES FROM CIRCUIT SOLID 1/C #6 AWG GREEN THHW (GND) WITH COMPRESSION LUGS.
- GROUND WIRES FROM RGS BUSHING #6 AWG WITH COMPRESSION LUGS (IF REQUIRED)

BOLTING HARDWARE (ALL HARDWARE STAINLESS STEEL)		
ITEM ID	ITEM ILLUSTRATION	DESCRIPTION
D		BELLEVILLE WASHER, GRAINGER PART NO. 1NEE4 OR EQUAL. BELLEVILLE WASHERS MUST PROVIDE 2500 LBS OF BOLT LOAD. USING GRAINGER PART NO. 1NEE4, THIS CAN BE ACCOMPLISHED WITH ONLY TWO WASHERS. SUBSTITUTE SOURCES MAY REQUIRE THREE WASHERS TO ACHIEVE REQUIRED BOLT LOAD
E		BOLT, 5/16" X 1-1/2", FULL THREAD, HEX HEAD AND FLANGE NUT. SEE ITEM D FOR TORQUE REQUIREMENTS
G		FLAT WASHER, 5/16" X 3/4" OD

ELECTRICAL GROUND CONNECTIONS (ALL COPPER TIN-PLATED)		
ITEM ID	ITEM ILLUSTRATION	DESCRIPTION
A		COMPRESSION LUG, T&B PART NO. 54852BE0516 OR EQUAL
B		#12 AWG RING TERMINAL, T&B PART NO. RC707
C		BRAIDED COPPER STRAP WITH FERRULES, STORM COPPER PART NO. ###DETAIL4 OR EQUAL
H		STORM COPPER GROUND BUSS PART NO. SENSIS-110712

**NOTES:**

1. SEE DRAWING E03.04 FOR LOCATION OF BOLTED CONNECTIONS IN LIGHT BASE CAN AND DRAWING E03.06 FOR BOLTED CONNECTION DETAIL WITH 4 OR FEWER CONNECTIONS.
2. WHEN ATTACHING A COMPRESSION LUG, USE A HYDRAULIC TOOL APPLYING A MINIMUM FORCE OF 12 TONS CONCENTRICALLY APPLIED. CONCENTRIC CROSS-SECTION CAN BE EITHER CIRCULAR OR HEXAGONAL.
3. THE EXACT ORIENTATION OF ELECTRICAL GROUND CONNECTIONS (COMPRESSION LUGS, RING TERMINALS AND COPPER BRAID) ON THE COPPER BUSS CAN BE ADJUSTED TO MEET THE PRACTICAL NEEDS OF FIELD INSTALLATION. ORIENTATION MAY BE ADJUSTED TO FACILITATE CONVENIENT ASSEMBLY AND APPLICATION OF THE PROTECTIVE COATING ON THE ENTIRE ASSEMBLY. THE FOLLOWING RESTRICTIONS APPLY:
  - A. FULL CONTACT OF THE CLEAN MATING SURFACES MUST BE MAINTAINED.
  - B. NO GROUND CONNECTIONS CAN BE PLACED BELOW THE CAN GROUND TAB OR BETWEEN THE CAN GROUND TAB AND THE COPPER BUSS.
  - C. A MAXIMUM OF TWO GROUND CONNECTIONS CAN BE PLACED ABOVE THE COPPER BUSS ON THE BOLT SECURING THE BUSS TO THE BASE CAN GROUND TAB.
  - D. A MAXIMUM OF TWO GROUND CONNECTIONS CAN BE PLACED BELOW THE COPPER BUSS EXCEPT AS NOTED IN SUB-NOTE "B" ABOVE.
4. THE ORDER OF ASSEMBLY OF THE BOLTING HARDWARE MUST BE MAINTAINED WITH THE FOLLOWING RESTRICTIONS:
  - A. BOLTING HARDWARE ORDER OF ASSEMBLY IS: BOLT, FLAT WASHER, GROUND CONNECTIONS WITH GROUND BUSS AND/OR BASE CAN GROUND TAB, FLAT WASHER, BELLEVILLE WASHERS, AND FLANGE NUT.
  - B. THE BOLT MAY BE INSERTED FROM ABOVE OR BELOW THE BUSS.
5. IF THERE ARE MORE THAN 10 GROUNDING CONNECTIONS TO BE MADE IN A SINGLE LIGHT BASE CAN, CONTACT THE FAA RWSL PROGRAM OFFICE FOR WRITTEN GUIDANCE BEFORE PROCEEDING.

**BONDING PROCESS TO BASE CAN GROUND BUSS FOR GALVANIZED CAN TAB:**

1. GRIND OFF GALVANIZED COATING DOWN TO BARE METAL IN ALL AREAS OF CONTACT SURFACES.
2. ASSEMBLE AND TORQUE ALL CONNECTIONS.
3. APPLY 3M SCOTCHKOTE ELECTRICAL COATING FD (BRUSH-ON APPLICATION).
4. GENEROUSLY COAT ENTIRE GROUND CONNECTION ASSEMBLY.
5. ALLOW TO DRY.

**FOR STAINLESS STEEL CAN TAB:**

1. THOROUGHLY CLEAN CONTACT SURFACES.
2. ASSEMBLE AND TORQUE ALL CONNECTIONS.
3. APPLY 3M SCOTCHKOTE ELECTRICAL COATING FD (BRUSH-ON APPLICATION).
4. GENEROUSLY COAT ENTIRE GROUND CONNECTION ASSEMBLY.
5. ALLOW TO DRY.

**1 BOLTED CONNECTION INSIDE LIGHT BASE, 5 TO 10 CONNECTIONS**  
 E10-13 SCALE: NTS

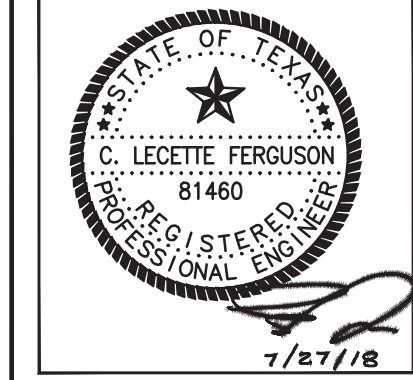


REVISIONS			
NO.	DESCRIPTION	DATE	BY

REHABILITATION OF TAXIWAY NA AT GEORGE BUSH INTERCONTINENTAL AIRPORT  
**ELECTRICAL AIRFIELD RWSL MISC DETAILS**

ISSUED FOR BID

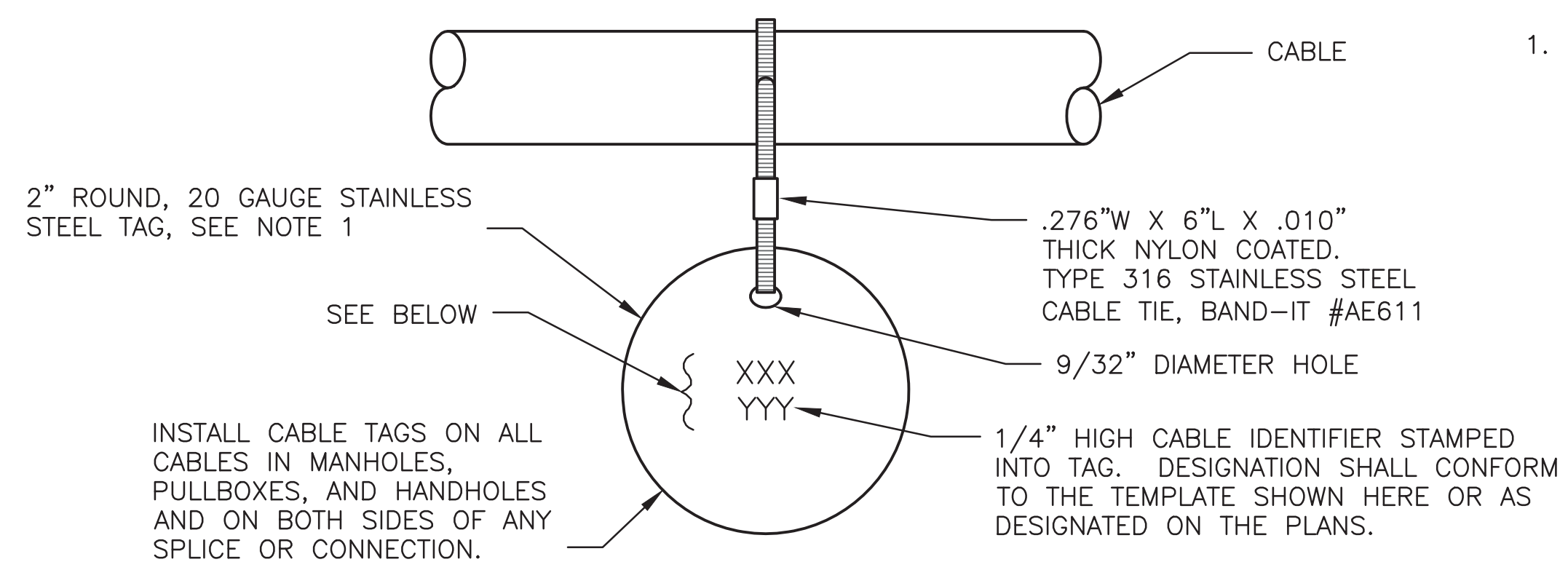
PROJECT MGR:	CLF
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DEPARTMENT OF AVIATION  
 APPROVED BY: DP 7/26/18  
*Danaj Pahel*  
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PROJECT NO.	0907
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H.A.S. NO.	
SHEET NO.	

**NOTE:**  
 1. REMOVE SHARP EDGES FROM CABLE TAG.



**AIRFIELD LIGHTING TAG:**

XXX = RWSL  
 YYY = X # X  
 (A-D) REGULATOR IN SHELTER  
 SHELTER #  
 ("T" OR "R") RESPECTIVE LIGHT ARRAY TYPE

**RWSL COMMUNICATION TAG:**

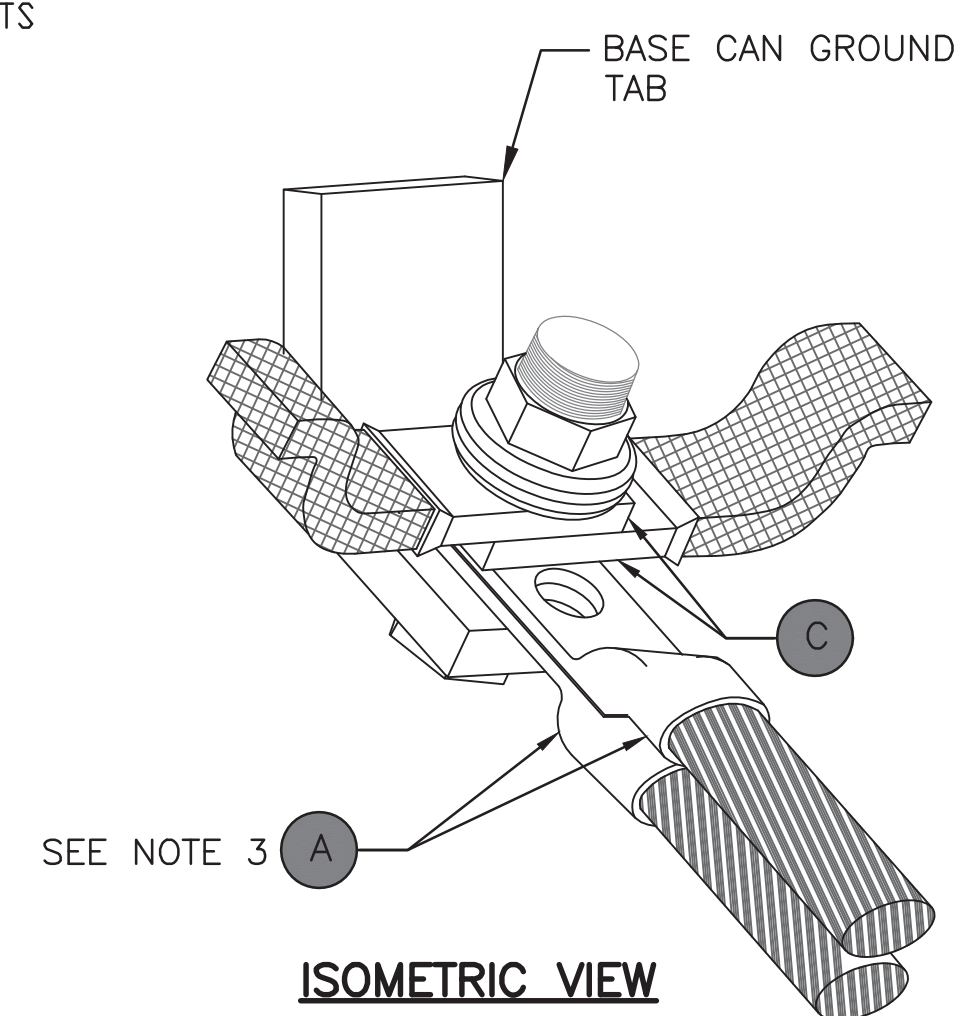
XXX = RWSL  
 YYY = SHELTER #

**1 CIRCUIT ID TAG**  
 E10-14 SCALE: NTS

**BONDING PROCESS TO BASE CAN GROUND TAB**

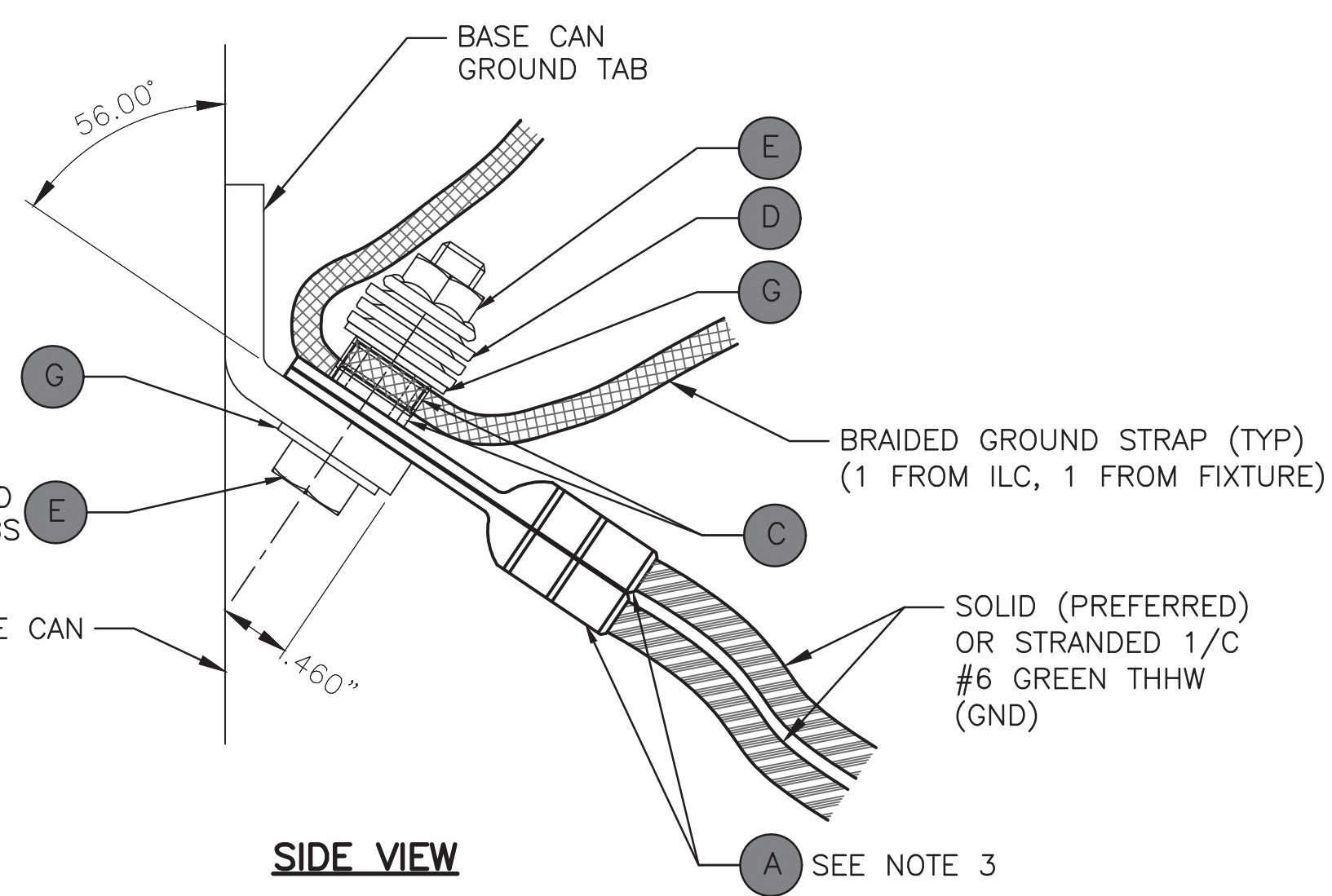
**FOR GALVANIZED CAN TAB:**

- GRIND OFF GALVANIZED COATING DOWN TO BARE METAL IN ALL AREAS OF CONTACT SURFACES.
- ASSEMBLE AND TORQUE ALL CONNECTIONS. NO GROUND CONNECTIONS MAY BE INSTALLED BELOW THE GROUND TAB.
- APPLY 3M SCOTCHKOTE ELECTRICAL COATING FD (BRUSH-ON APPLICATION).
- GENEROUSLY COAT ENTIRE GROUND CONNECTION ASSEMBLY.
- ALLOW TO DRY.



**FOR STAINLESS STEEL CAN TAB:**

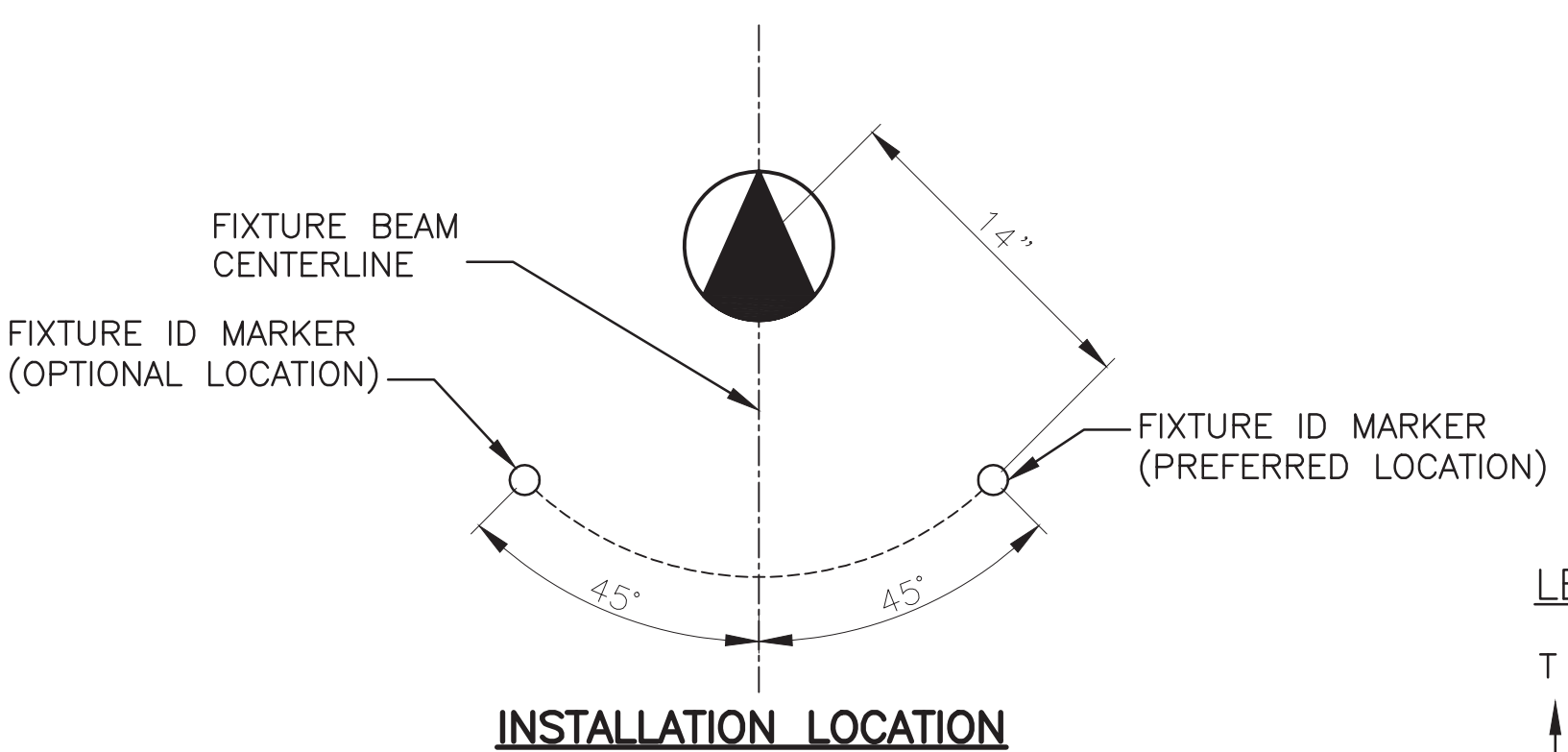
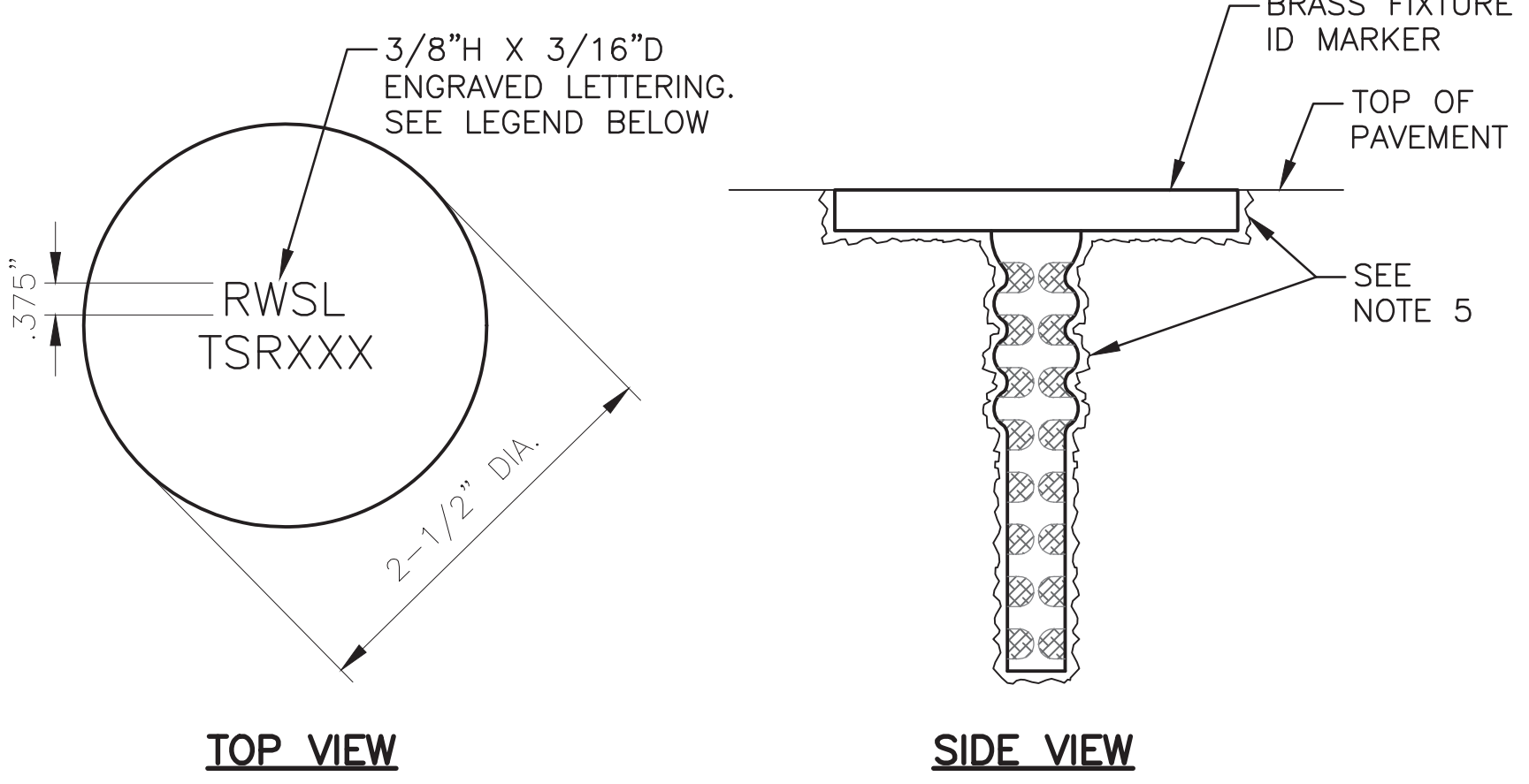
- THOROUGHLY CLEAN CONTACT SURFACES.
- ASSEMBLE AND TORQUE ALL CONNECTIONS. COMPRESSION LUGS MAY BE INSTALLED BELOW THE GROUND TAB, IF NECESSARY.
- APPLY 3M SCOTCHKOTE ELECTRICAL COATING FD (BRUSH-ON APPLICATION).
- GENEROUSLY COAT ENTIRE GROUND CONNECTION ASSEMBLY.
- ALLOW TO DRY.



**3 BOLTED CONNECTION INSIDE LIGHT BASE CAN UP TO 4 CONNECTIONS**  
 E10-14 SCALE: NTS

**NOTES:**

- SEE DRAWING E03.04 FOR LOCATION OF BOLTED CONNECTIONS IN LIGHT BASE CAN AND DRAWING E03.05 FOR BOLTED CONNECTION DETAIL WITH 5 TO 10 CONNECTIONS.
- FOR DETAILS ON BOLTING HARDWARE ITEM ID AND ELECTRICAL GROUND CONNECTIONS, SEE TABLES ON DRAWING E03.05.
- WHEN ATTACHING A COMPRESSION LUG, USE A HYDRAULIC TOOL APPLYING A MINIMUM FORCE OF 12 TONS CONCENTRICALLY APPLIED. CONCENTRIC CROSS-SECTION CAN BE EITHER CIRCULAR OR HEXAGONAL.
- THE BOLTING HARDWARE CAN BE INSTALLED FROM THE TOP OR FROM THE BOTTOM OF THE GROUND TAB, PROVIDED THAT THE SEQUENCE OF HARDWARE STAYS THE SAME.



**2 FIXTURE ID MARKER**  
 E10-14 SCALE: NTS

**LEGEND:**

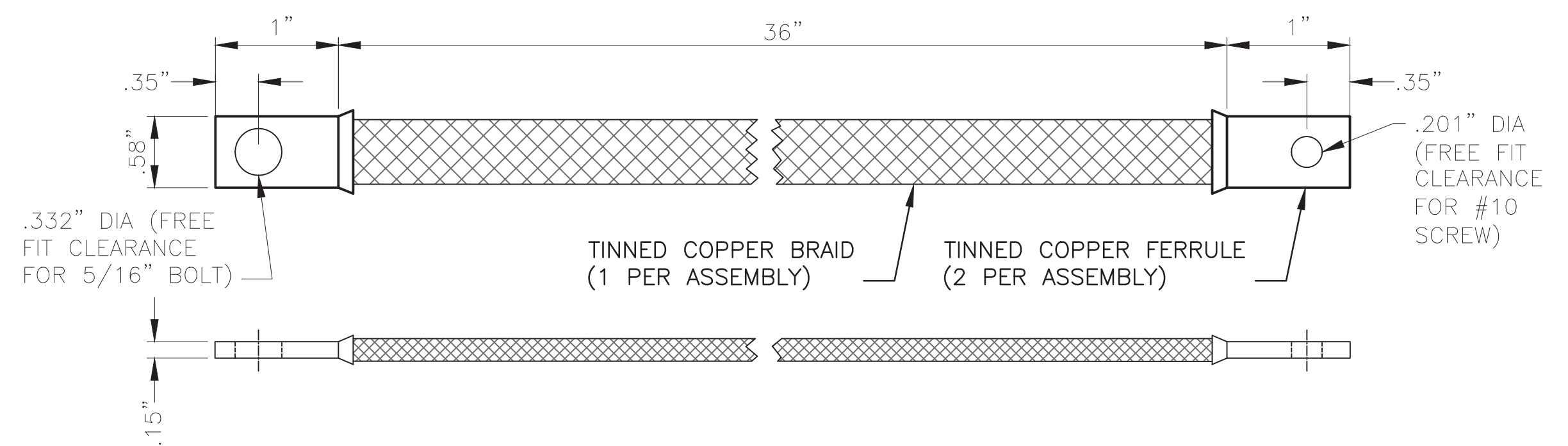
T S R X X X  
 ↑ ↑ ↑ ↑ ↑  
 FIXTURE NUMBER (PER SITE-SPECIFIC DRAWING)  
 "A", "B", "C" OR "D" - REGULATOR IN SHELTER  
 "1", "2" OR "3" - RWSL SHELTER NUMBER  
 "T" OR "R" - LIGHT ARRAY TYPE (THL OR REL)

**NOTES:**

- MARKER SHALL BE A 2-1/2" DIAMETER FLAT BRASS MONUMENT MARKER WITH A CAST CORRUGATED STEM AS MANUFACTURED BY SURV-KAP LLC IN TUCSON, AZ.
- PART NUMBER M/M-BCS-2 1/2F OR APPROVED EQUAL.
- ENGRAVING BY SUBCONTRACTOR OR SUPPLIER AS DESIRED.
- SUBCONTRACTOR SHALL USE A CARBIDE TIPPED BIT (SIMILAR TO BERNTSEN COUNTERSINK DRILL BIT) SUITABLE FOR USE IN A HANDHELD HAMMER DRILL, TO COUNTERSINK THE MARKER BELOW THE PAVEMENT SURFACE.
- THE EPOXY SHALL MEET ASTM C881, TYPE I, GRADE 3, CLASS C (OR AS APPROPRIATE FOR THE CONCRETE TEMPERATURE). THE EPOXY SHALL CONTINUE ACROSS ALL SURFACE OF THE COUNTERSINK AND THE STEM HOLE.
- THE PREFERRED INSTALLATION LOCATION OF THE MARKER SHALL BE 14" FROM THE CENTER OF THE FIXTURE AND OFFSET 45 DEGREES TO THE RIGHT SIDE OF THE FIXTURE BEAM CENTERLINE. IF THIS LOCATION INTERFERES WITH EXISTING STRIPING, PAVEMENT JOINTS OR OTHER FIXTURES, AN OPTIONAL LOCATION TO THE LEFT SIDE OF THE FIXTURE BEAM CENTERLINE IS ACCEPTABLE.
- FIXTURE NUMBER SHALL MATCH NUMBERING DESIGNATION SHOWN IN SITE-SPECIFIC INSTALLATION DRAWINGS. NUMBERING DESIGNATION IS BASED ON PROGRAM STANDARD BUT MAY BE ADJUSTED TO MEET AIRPORT STANDARDS.

**NOTES:**

- APPROXIMATE AMP RATING: 93.A THIS RATING MAY VARY WITH AMBIENT CONDITIONS, ORIENTATION OF THE BRAID, AND OTHER SERVICE CONDITIONS.
- (2) INSTALLED IN EACH BASE CAN, (1) ON ILC, (1) ON FIXTURE.
- SEE TABLE ON DETAIL 1, DRAWING E03.05 FOR PART NUMBER OF BRAIDED GROUND STRAP ASSEMBLY.



**4 BRAIDED GROUND STRAP**  
 E10-14 SCALE: NTS