SAN ANTONIO INTERNATIONAL AIRPORT
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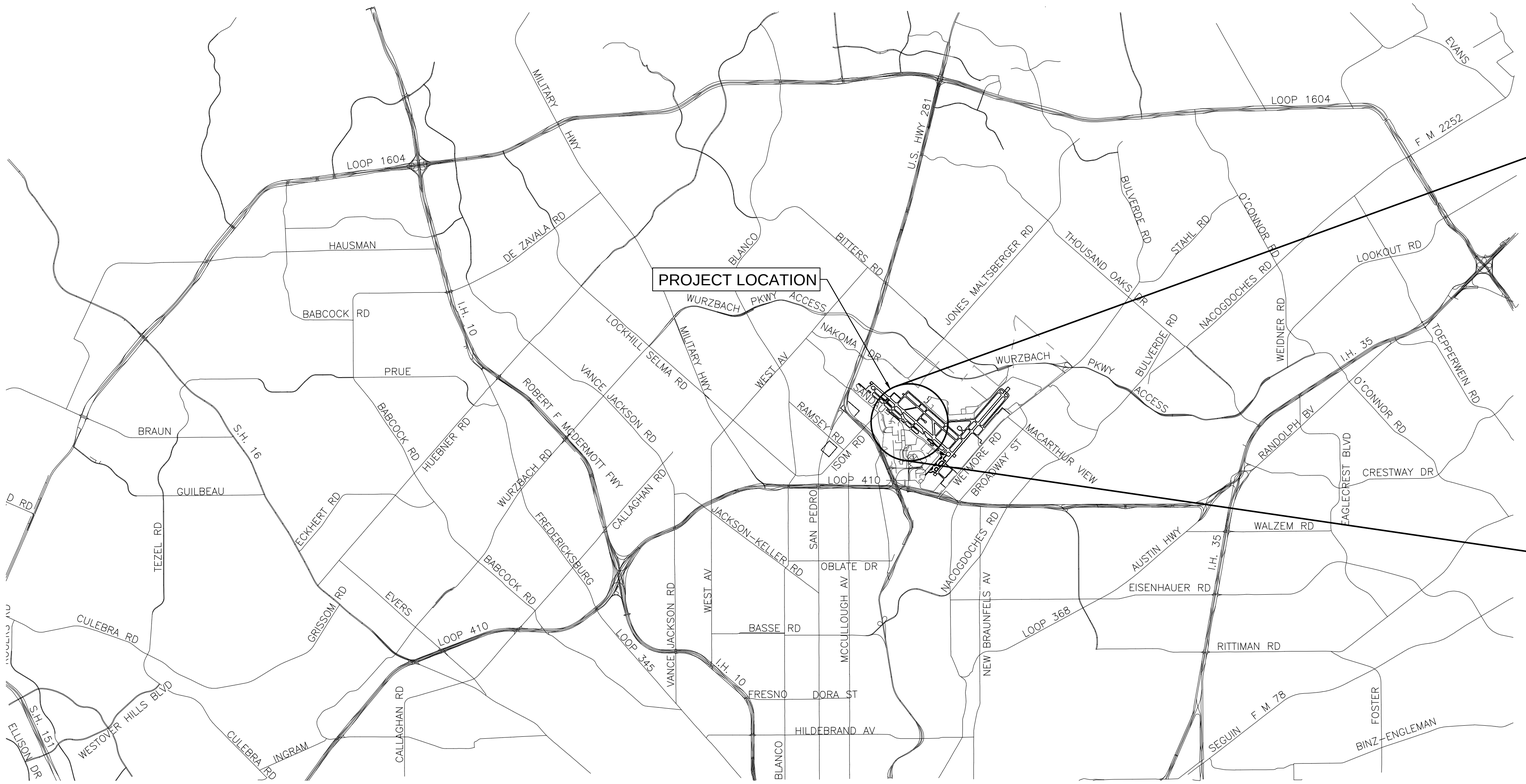

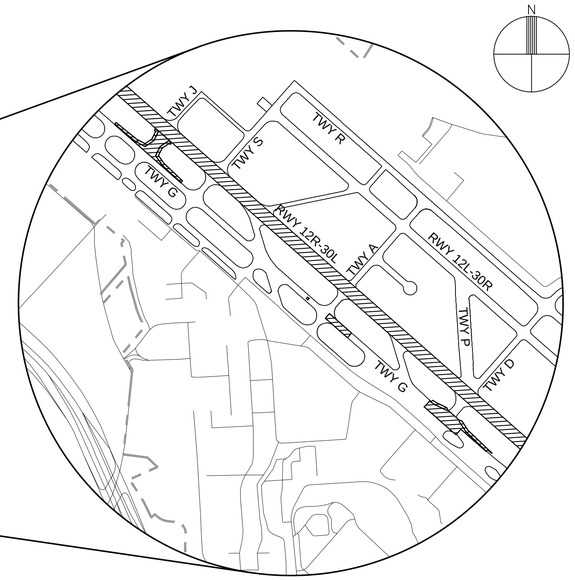

PROJECT DESCRIPTION

WORK INCLUDES GRADING, PAVING, MARKING, SIGNAGE AND LIGHTING FOR THE FOLLOWING:

BASE BID:
REHABILITATION AND NEW CONSTRUCTION OF PAVEMENTS ON THE AIRFIELD. THE PAVEMENTS TO BE REHABILITATED ARE AS FOLLOWS:

- TAXIWAY J – PORTION OF TAXIWAY CONNECTOR FROM RUNWAY 12R-30L EDGE TO A POINT JUST BEYOND THE RUNWAY 12R-30L RSA
- DRAINAGE IMPROVEMENTS
- RUNWAY 12R-30L - ELECTRICAL IMPROVEMENTS

ALTERNATE 1:

- TAXIWAY J – PORTION OF TAXIWAY CONNECTOR BETWEEN RUNWAY 12R-30L RSA AND CONNECTING TO TAXIWAY G
- ELECTRICAL IMPROVEMENTS

ALTERNATE 2:

- TAXIWAY G -PANEL REPLACEMENT/RECONSTRUCTION AT INTERSECTION OF TAXIWAY A
- ELECTRICAL IMPROVEMENTS

ALTERNATE 3:

- TAXIWAY G - RECONSTRUCTION AT INTERSECTION OF TAXIWAY D
- ELECTRICAL IMPROVEMENTS

RUNWAY 12R-30L ELECTRICAL IMPROVEMENTS AND TERMINAL AREA TAXIWAY IMPROVEMENTS (PACKAGE 4)

PROJECT NO. 33-0019X
FAA AIP 3-48-0192-XX-2015

*DURING THIS CONSTRUCTION RUNWAY 12R-30L WILL BE REMARKED (AIRPORT FORCES) TO RUNWAY 13R-31L

ISSUED FOR BID

PREPARED FOR:
CITY OF SAN ANTONIO AVIATION DEPARTMENT
9800 AIRPORT BOULEVARD
SAN ANTONIO, TX 78216
PH: (210) 207-SAIA (7242)

PREPARED BY:
KIMLEY-HORN AND ASSOCIATES, INC.
601 NW LOOP 410, SUITE 350
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CITY OF SAN ANTONIO AVIATION DEPARTMENT

SAN ANTONIO AIRPORT SYSTEM

Kimley»Horn
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TEXAS REGISTERED FIRM, NO. 928

RUNWAY 12R-30L ELECTRICAL IMPROVEMENTS AND TERMINAL AREA TAXIWAY IMPROVEMENTS (PACKAGE 4)

MICHAEL A. NORBY
87178
REGISTERED PROFESSIONAL ENGINEER
05/03/16

MARK	DATE	DESCRIPTION
ISSUE:		

PROJECT NO:	33-0019X
FILE NAME:	33-00193-R1GC-001-D00
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SHEET TITLE:

COVER SHEET

C1.1

SHEET NO. 1 OF 157

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BASE BID

TAXIWAY J - PORTION OF TAXIWAY CONNECTOR WITHIN THE RUNWAY 12R-30L RSA AND RUNWAY 12R-30L ELECTRICAL IMPROVEMENTS

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
		BASE BID: GENERAL
1	C1.1	COVER SHEET
2	C1.2	SHEET INDEX
3	C1.3	SHEET INDEX
4	C1.4	PROJECT KEYMAP
5	C1.5	ABBREVIATIONS AND LEGEND
6	C1.6	SUMMARY OF QUANTITIES
7	C1.7	SUMMARY OF QUANTITIES
8	C1.8	GENERAL NOTES
9	C1.9	GENERAL NOTES
10	C1.10	PROJECT LAYOUT PLAN
11	C1.11	HORIZONTAL AND VERTICAL CONTROL PLAN
		BASE BID: OPERATIONS AND PHASING
12	C2.1	OVERALL PHASING PLAN
13	C2.2	OPERATIONS AND PHASING PLAN – BASE BID
14	C2.3	PHASING DETAILS
		BASE BID: DEMOLITION
15	C3.1	DEMOLITION PLAN – TAXIWAY J – BASE BID
		BASE BID: TYPICAL SECTIONS
16	C4.1	TYPICAL SECTIONS
		BASE BID: GEOMETRICS
17	C5.1	GEOMETRIC LAYOUT PLAN – TAXIWAY J – BASE BID
		BASE BID: PLAN AND PROFILE
18	C6.1	PLAN AND PROFILE – TAXIWAY J – BASE BID
		BASE BID: PAVEMENT JOINTS
19	C7.1	JOINT LAYOUT PLAN – TAXIWAY J – BASE BID
20	C7.2	JOINT LAYOUT DETAILS
		BASE BID: PAVEMENT ELEVATIONS
21	C8.1	PAVEMENT ELEVATION PLAN– TAXIWAY J – BASE BID
		BASE BID: GRADING AND DRAINAGE
22	C9.1	GRADING AND DRAINAGE PLAN – TAXIWAY J – BASE BID
23	C9.2	SINGLE CATCH BASIN DETAILS
24	C9.3	STORM DRAIN GRADE ADJUSTMENT DETAIL
		BASE BID: UNDERDRAIN
25	C10.1	UNDERDRAIN PLAN BASE BID
26	C10.2	UNDERDRAIN DETAILS
27	C10.3	UNDERDRAIN DETAILS
		BASE BID: PAVEMENT MARKING
28	C11.1	PAVEMENT MARKING PLAN – TAXIWAY J – BASE BID
29	C11.2	PAVEMENT MARKING DETAILS
30	C11.3	PAVEMENT MARKING DETAILS
		BASE BID: STORM WATER POLLUTION PREVENTION
31	C12.1	STORM WATER POLLUTION PREVENTION COVER SHEET
32	C12.2	STORM WATER POLLUTION PREVENTION PLAN – TAXIWAY J – BASE BID
33	C12.3	STORM WATER POLLUTION PREVENTION PLAN DETAILS
34	C12.4	STORM WATER POLLUTION PREVENTION PLAN DETAILS

ELECTRICAL PLANS

SHEET NUMBER	ELECTRICAL NO.	SHEET DESCRIPTION
		ELECTRICAL: BASE BID
35	E0.1	ELECTRICAL SCOPE OF WORK – BASE BID
36	E0.2	ELECTRICAL SYMBOL LIST AND GENERAL NOTES
37	E0.3	TEMPORARY AIRFIELD ELECTRICAL – BASE BID
38	E1.1	ELECTRICAL LAYOUT PLAN – BASE BID
39	E1.2	ELECTRICAL LAYOUT PLAN – BASE BID
40	E1.3	ELECTRICAL LAYOUT PLAN – BASE BID
41	E1.4	ELECTRICAL LAYOUT PLAN – BASE BID
42	E1.5	ELECTRICAL LAYOUT PLAN – BASE BID
43	E1.6	ELECTRICAL LAYOUT PLAN – BASE BID
44	E1.7	ELECTRICAL LAYOUT PLAN – BASE BID
45	E1.8	ELECTRICAL LAYOUT PLAN – BASE BID
46	E1.9	ELECTRICAL LAYOUT PLAN – BASE BID
47	E1.10	ELECTRICAL LAYOUT PLAN – BASE BID
48	E1.11	ELECTRICAL LAYOUT PLAN – BASE BID
49	E2.1	ELECTRICAL FIXTURE LAYOUT PLAN – BASE BID
50	E2.1A	ELECTRICAL FIXTURE DATA TABLES – BASE BID
51	E2.2	ELECTRICAL FIXTURE LAYOUT PLAN – BASE BID
52	E2.2A	ELECTRICAL FIXTURE DATA TABLES – BASE BID
53	E3.1	SIGN DETAILS FOR INSTALLATION IN UNPAVED AREAS
54	E3.2	EXISTING L-868 BASE MODIFICATION DETAILS
55	E3.3	ELEVATED TAXIWAY EDGE LIGHT DETAILS
56	E3.4	IN-PAVEMENT LIGHT DETAILS – NEW PCCP & TEMPORARY LIGHT DETAIL
57	E3.5	LIGHT FIXTURE/JOINT COORDINATION DETAILS
58	E3.6	DUCT DETAILS
59	E3.7	HANDHOLE DETAILS
60	E3.8	JUNCTION CAN PLAZA (JCP) AND HANDHOLE DETAILS
61	E3.9	RAISE STRUCTURES TO GRADE DETAILS
62	E3.10	MISCELLANEOUS DETAILS
64	E4.1	CIRCUIT MAP 12R-30L EDGE (CKT 31)
65	E4.2	CIRCUIT MAP 12R & 30L CL (CKTS 30 & 32)
66	E4.3	CIRCUIT MAP 12R TDZ (CKT 33)
67	E4.4	CIRCUIT MAP TAXIWAY ALPHA (CKT 11)
68	E4.5	CIRCUIT MAP TAXIWAY G2 (CKT 5)
69	E4.6	CIRCUIT MAPS TAXIWAY G-3 (CKT 6) & TAXIWAY G3-CL (CKT N/A)
70	E4.7	CIRCUIT MAP TAXIWAY JULIET (CKT 9)
71	E4.8	CIRCUIT MAPS LAHSO (CKT 31) & LIMA & RGL (CKT 10)
72	E4.9	CIRCUIT MAP TAXIWAY DELTA D1 (CKT 56)
73	E5.1	AIRFIELD SIGN PLAN – BASE BID
74	E5.2	AIRFIELD SIGN PLAN – BASE BID
75	E6.1	ELECTRICAL DEMOLITION PLAN – BASE BID
76	E6.2	ELECTRICAL DEMOLITION PLAN – BASE BID
77	E6.3	ELECTRICAL DEMOLITION PLAN – BASE BID
78	E6.4	ELECTRICAL DEMOLITION PLAN – BASE BID
79	E6.5	ELECTRICAL DEMOLITION PLAN – BASE BID
80	E6.6	ELECTRICAL DEMOLITION PLAN – BASE BID
81	E6.7	ELECTRICAL DEMOLITION PLAN – BASE BID
82	E6.8	ELECTRICAL DEMOLITION PLAN – BASE BID
83	E6.9	ELECTRICAL DEMOLITION PLAN – BASE BID
84	E6.10	ELECTRICAL DEMOLITION PLAN – BASE BID
85	E6.11	ELECTRICAL DEMOLITION PLAN – BASE BID
86	E7.1	WEST AIRFIELD LIGHTING VAULT – EXISTING
87	E7.2	WEST AIRFIELD LIGHTING VAULT – MODIFIED
88	E7.3	MISCELLANEOUS VAULT DETAILS

ALTERNATE 1

TAXIWAY J - PORTION OF TAXIWAY CONNECTOR BETWEEN RUNWAY 12R-30L RSA AND CONNECTING TO TAXIWAY G AND ELECTRICAL IMPROVEMENTS

Sheet Number	Sheet Title	Sheet Description
		ALTERNATE 1: OPERATIONS AND PHASING
89	C2.4	OPERATIONS AND PHASING PLAN – ALTERNATE 1
		ALTERNATE 1: DEMOLITION
90	C3.2	DEMOLITION PLAN – TAXIWAY J – ALTERNATE 1
91	C3.3	DEMOLITION PLAN – TAXIWAY J – ALTERNATE 1
		ALTERNATE 1: TYPICAL SECTIONS
92	C4.2	TYPICAL SECTIONS
		ALTERNATE 1: GEOMETRICS
93	C5.2	GEOMETRIC LAYOUT PLAN – TAXIWAY J – ALTERNATE 1
94	C5.3	GEOMETRIC LAYOUT PLAN – TAXIWAY J – ALTERNATE 1
		ALTERNATE 1: PLAN AND PROFILE
95	C6.2	PLAN AND PROFILE – TAXIWAY J – ALTERNATE 1
		ALTERNATE 1: PAVEMENT JOINTS
96	C7.3	JOINT LAYOUT PLAN – TAXIWAY J – ALTERNATE 1
97	C7.4	JOINT LAYOUT PLAN – TAXIWAY J – ALTERNATE 1
		ALTERNATE 1: PAVEMENT ELEVATIONS
98	C8.2	PAVEMENT ELEVATION PLAN – TAXIWAY J – ALTERNATE 1
99	C8.3	PAVEMENT ELEVATION PLAN – TAXIWAY J – ALTERNATE 1
		ALTERNATE 1: GRADING AND DRAINAGE
100	C9.4	GRADING AND DRAINAGE PLAN – TAXIWAY J – ALTERNATE 1
101	C9.5	GRADING AND DRAINAGE PLAN – TAXIWAY J – ALTERNATE 1
		ALTERNATE 1: UNDERDRAIN
102	C10.4	UNDERDRAIN PLAN ALTERNATE 1
		ALTERNATE 1: PAVEMENT MARKING
103	C11.4	PAVEMENT MARKING PLAN – TAXIWAY J – ALTERNATE 1
104	C11.5	PAVEMENT MARKING PLAN – TAXIWAY J – ALTERNATE 1
		ALTERNATE 1: STORM WATER POLLUTION PREVENTION
105	C12.5	STORM WATER POLLUTION PREVENTION PLAN – TAXIWAY J – ALTERNATE 1
106	C12.6	STORM WATER POLLUTION PREVENTION PLAN – TAXIWAY J – ALTERNATE 1

ELECTRICAL PLANS

SHEET NUMBER	ELECTRICAL NO.	SHEET DESCRIPTION
		ELECTRICAL: ALTERNATE 1
107	E0.4	ELECTRICAL SCOPE OF WORK – ALTERNATE 1
108	E0.5	TEMPORARY AIRFIELD ELECTRICAL – ALTERNATE 1
109	E1.12	ELECTRICAL LAYOUT PLAN – ALTERNATE 1
110	E2.3	ELECTRICAL FIXTURE LAYOUT PLAN – ALTERNATE 1
111	E4.10	CIRCUIT MAP G-1 (CKT 2) – ALTERNATE 1
112	E4.11	CIRCUIT MAP TAXIWAY JULIET (CKT 9) – ALTERNATE 1
113	E5.3	AIRFIELD SIGN PLAN – ALTERNATE 1
114	E6.12	ELECTRICAL DEMOLITION PLAN – ALTERNATE 1

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TEXAS REGISTERED FIRM, NO. 928

RUNWAY 12R-30L ELECTRICAL IMPROVEMENTS AND TERMINAL AREA TAXIWAY IMPROVEMENTS (PACKAGE 4)

MICHAEL A. NORBY
87178
REGISTERED
PROFESSIONAL ENGINEER
05/03/16

MARK	DATE	DESCRIPTION

ISSUE:

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ALTERNATE 2

TAXIWAY G - PANEL REPLACEMENTS AT INTERSECTION OF TAXIWAY A AND ELECTRICAL IMPROVEMENTS		
Sheet Number	Sheet Title	Sheet Description
ALTERNATE 2: OPERATIONS AND PHASING		
115	C2.5	OPERATIONS AND PHASING PLAN – ALTERNATE 2
ALTERNATE 2: DEMOLITION		
116	C3.5	DEMOLITION PLAN – TAXIWAY G – ALTERNATE 2
ALTERNATE 2: TYPICAL SECTIONS		
117	C4.3	TYPICAL SECTIONS
ALTERNATE 2: GEOMETRICS		
118	C5.4	GEOMETRIC LAYOUT PLAN – TAXIWAY G – ALTERNATE 2
ALTERNATE 2: PLAN AND PROFILE		
119	C6.3	PLAN AND PROFILE – TAXIWAY G – ALTERNATE 2
ALTERNATE 2: PAVEMENT JOINTS		
120	C7.5	JOINT LAYOUT PLAN – TAXIWAY G – ALTERNATE 2
ALTERNATE 2: PAVEMENT ELEVATIONS		
121	C8.4	PAVEMENT ELEVATION PLAN – TAXIWAY G – ALTERNATE 2
ALTERNATE 2: GRADING AND DRAINAGE		
122	C9.6	GRADING AND DRAINAGE PLAN – TAXIWAY G – ALTERNATE 2
ALTERNATE 2: PAVEMENT MARKING		
123	C11.6	PAVEMENT MARKING PLAN – TAXIWAY G – ALTERNATE 2
ALTERNATE 2: STORM WATER POLLUTION PREVENTION		
124	C12.7	STORM WATER POLLUTION PREVENTION PLAN – TAXIWAY G – ALTERNATE 2

ELECTRICAL PLANS		
SHEET NUMBER	ELECTRICAL NO.	SHEET DESCRIPTION
ELECTRICAL: ALTERNATE 2		
125	E0.6	ELECTRICAL SCOPE OF WORK – ALTERNATE 2
126	E0.7	TEMPORARY AIRFIELD ELECTRICAL – ALTERNATE 2
127	E1.13	ELECTRICAL LAYOUT PLAN – ALTERNATE 2
128	E2.4	ELECTRICAL FIXTURE LAYOUT PLAN – ALTERNATE 2
129	E4.12	CIRCUIT MAPS TAXIWAY G CL WEST (CKT 16) & TAXIWAY G CL EAST (CKT 15) – ALTERNATE 2
130	E6.13	ELECTRICAL DEMOLITION PLAN – ALTERNATE 2

ALTERNATE 3

TAXIWAY G - RECONSTRUCTION AT INTERSECTON OF TAXIWAY D AND ELECTRICAL IMPROVEMENTS		
Sheet Number	Sheet Title	Sheet Description
ALTERNATE 3: OPERATIONS AND PHASING		
131	C2.6	OPERATIONS AND PHASING PLAN – ALTERNATE 3
ALTERNATE 3: DEMOLITION		
132	C3.6	DEMOLITION PLAN – TAXIWAY G – ALTERNATE 3
133	C3.7	DEMOLITION PLAN – TAXIWAY G – ALTERNATE 3
ALTERNATE 3: TYPICAL SECTIONS		
134	C4.4	TYPICAL SECTIONS
135	C4.5	TYPICAL SECTIONS
ALTERNATE 3: GEOMETRICS		
136	C5.5	GEOMETRIC LAYOUT PLAN – TAXIWAY G – ALTERNATE 3
137	C5.6	GEOMETRIC LAYOUT PLAN – TAXIWAY G – ALTERNATE 3
ALTERNATE 3: PLAN AND PROFILE		
138	C6.4	PLAN AND PROFILE – TAXIWAY G – ALTERNATE 3
ALTERNATE 3: PAVEMENT JOINTS		
139	C7.6	JOINT LAYOUT PLAN – TAXIWAY G – ALTERNATE 3
140	C7.7	JOINT LAYOUT PLAN – TAXIWAY G – ALTERNATE 3
ALTERNATE 3: PAVEMENT ELEVATIONS		
141	C8.5	PAVEMENT ELEVATION PLAN – TAXIWAY G – ALTERNATE 3
142	C8.6	PAVEMENT ELEVATION PLAN – TAXIWAY G – ALTERNATE 3
ALTERNATE 3: GRADING AND DRAINAGE		
143	C9.7	GRADING AND DRAINAGE PLAN – TAXIWAY G – ALTERNATE 3
144	C9.8	GRADING AND DRAINAGE PLAN – TAXIWAY G – ALTERNATE 3
ALTERNATE 3: PAVEMENT MARKING		
145	C11.7	PAVEMENT MARKING PLAN – TAXIWAY G – ALTERNATE 3
146	C11.8	PAVEMENT MARKING PLAN – TAXIWAY G – ALTERNATE 3
ALTERNATE 3: STORM WATER POLLUTION PREVENTION		
147	C12.8	STORM WATER POLLUTION PREVENTION PLAN – TAXIWAY G – ALTERNATE 3
148	C12.9	STORM WATER POLLUTION PREVENTION PLAN – TAXIWAY G – ALTERNATE 3

ELECTRICAL PLANS		
SHEET NUMBER	ELECTRICAL NO.	SHEET DESCRIPTION
ELECTRICAL: ALTERNATE 3		
149	E0.8	ELECTRICAL SCOPE OF WORK – ALTERNATE 3
150	E0.9	TEMPORARY AIRFIELD ELECTRICAL – ALTERNATE 3
151	E1.14	ELECTRICAL LAYOUT PLAN – ALTERNATE 3
152	E2.5	ELECTRICAL FIXTURE LAYOUT PLAN – ALTERNATE 3
153	E2.5A	ELECTRICAL FIXTURE DATA TABLES – ALTERNATE 3
154	E4.13	CIRCUIT MAP 12R–30L EDGE (CKT 31) – ALTERNATE 3
155	E4.14	CIRCUIT MAPS TAXIWAY G 3 (CKT 6) & TAXIWAY G CL EAST (CKT 15) – ALTERNATE 3
156	E5.4	AIRFIELD SIGN PLAN – ALTERNATE 3
157	E6.13	ELECTRICAL DEMOLITION PLAN – ALTERNATE 3

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MICHAEL A. NORBY
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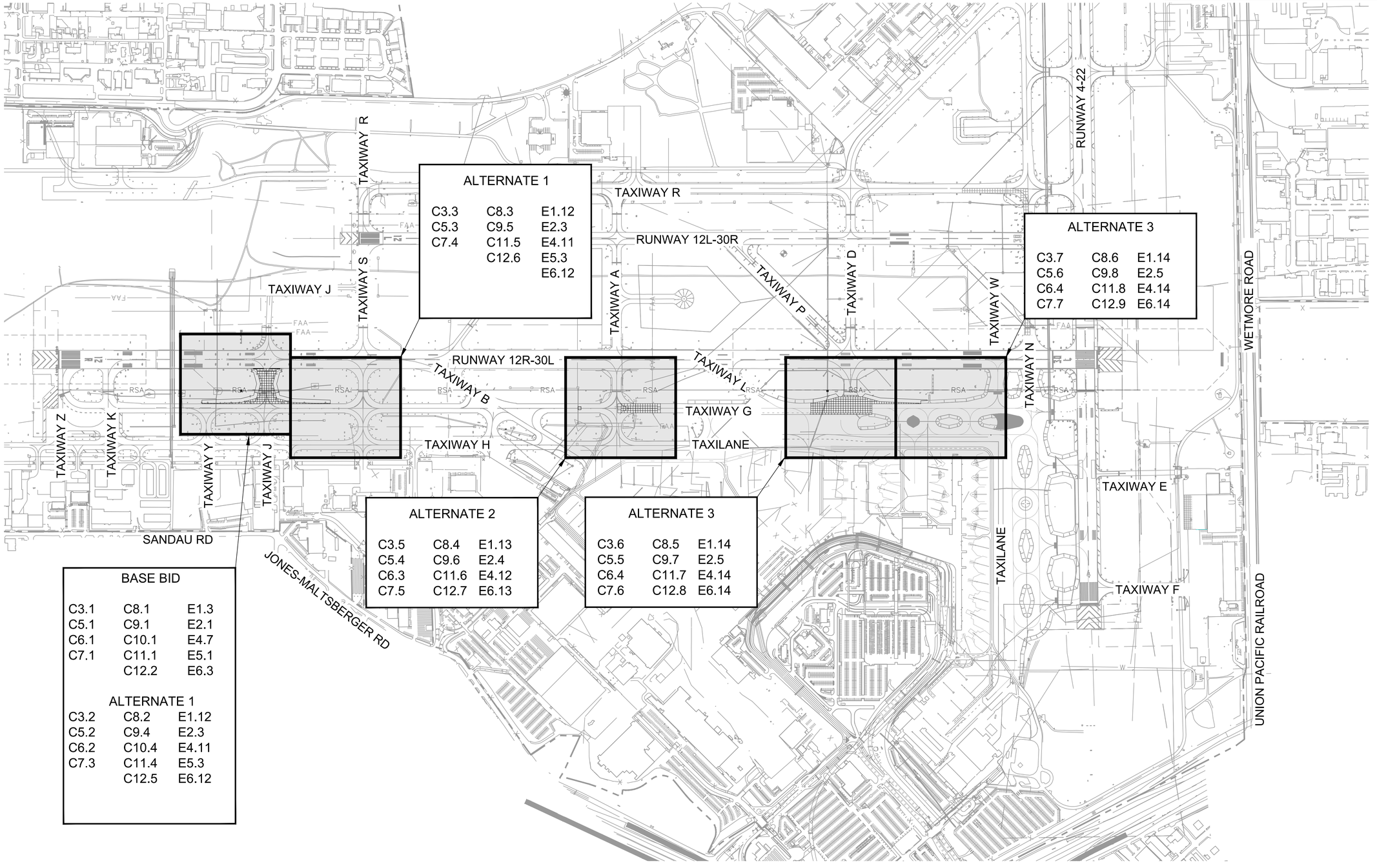

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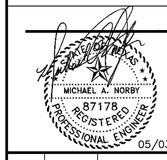

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PROJECT KEYMAP

C1.4

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ABBREVIATIONS:

ABAND	ABANDONED
AB OR ABC	AGGREGATE BASE COURSE
AC	ADVISORY CIRCULAR OR ASPHALTIC CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ADPER	AVIATION DEPARTMENT PLANNING AND ENGINEERING REPRESENTATIVE
AHD	AHEAD
AIP	AIRPORT IMPROVEMENT PROGRAM
ALP	AIRPORT LAYOUT PLAN
ALS	APPROACH LIGHT SYSTEM
AOA	AIR OPERATIONS AREA
APPROX	APPROXIMATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATCT	AIR TRAFFIC CONTROL TOWER
AWOS	AUTOMATED WEATHER OBSERVATION SYSTEM
BK	BACK
BM	BENCH MARK
BT	BASIC TRANSPORT
BU	BASIC UTILITY
BVC	BEGIN VERTICAL CURVE
CB	CATCH BASIN
CFR	CRASH, FIRE, AND RESCUE AND CODE OF FEDERAL REGULATIONS
CFS	CUBIC FEET PER SECOND
CIP	CAST IRON PIPE
CIPP	CAST-IN-PLACE CONCRETE PIPE
CL	CENTERLINE
CLR	CLEARANCE
CM	CONSTRUCTION MANAGER
CMP	CORRUGATED METAL PIPE
COI	CONSTRUCTION OBSERVER/INSPECTOR
CPT	CONTROL POINT
CTB	CEMENT TREATED BASE
CSPP	CONSTRUCTION SAFETY AND PHASING PLAN
CY	CUBIC YARDS
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
E	EAST, EASTING OR ELECTRICAL FEATURE
EA	EACH OR ENVIRONMENTAL ASSESSMENT
EL	ELEVATION
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EVC	END VERTICAL CURVE
EX	EXISTING
EXIST	EXISTING
FAA	FEDERAL AVIATION ADMINISTRATION
FAR	FEDERAL AVIATION REGULATION
FBO	FIXED BASE OPERATOR
FH	FIRE HYDRANT
FL	FLOWLINE
FOD	FOREIGN OBJECT DAMAGE/DEBRIS
FPS	FEET PER SECOND
GA	GAUGE OR GENERAL AVIATION
GB	GRADE BREAK
GALV	GALVANIZED
GIS	GEOGRAPHIC INFORMATION SYSTEM
GR	GRATE ELEVATION
GS	GLIDE SLOPE
GT	GENERAL TRANSPORT
GU	GENERAL UTILITY
H&S	HEALTH & SAFETY PLAN
HAZWOPER	HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE
HDPE	HIGH DENSITY POLYETHLYNE
HORIZ	HORIZONTAL
HP	HIGH POINT
IE	INVERT ELEVATION
IFR	INSTRUMENT FLIGHT RULES
ILS	INSTRUMENT LANDING SYSTEM
INT	INTERSECTION
IR	IRON ROD
IRRIG	IRRIGATION
JT	JOINT
KV	KILOVOLT
L	LEFT
LF	LINEAR FEET
LOC	LOCALIZER
LS	LUMP SUM
LT	LEFT
LTS	LIME TREATED SUBGRADE
MAX	MAXIMUM
MBE	MINORITY BUSINESS ENTERPRISE
MGW	MAXIMUM GROSS WEIGHT
MH	MANHOLE
MIN	MINIMUM
MIRL	MEDIUM INTENSITY RUNWAY LIGHTS
MITL	MEDIUM INTENSITY TAXIWAY LIGHTS
ML	MONUMENT LINE
MPH	MILES PER HOUR
MULTI	MULTIPLE
N	NORTH, NORTHING
NAD	NORTH AMERICAN DATUM
NE	NORTHEAST
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION
NGVD	NATIONAL GEODETIC VERTICAL DATUM
MPIAS	NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS
NAVAID	NAVIGATIONAL AID
NDB	NON-DIRECTIONAL BEACON
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NOS	NUMBERS
NOTAM	NOTICE TO AIRMEN
NP	NON-PLASTIC
NP	NON-PRECISION INSTRUMENT
NPI	NON-PAY ITEM
NTP	NOTICE TO PROCEED
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFSET
OSHA	OCCUPATIONAL SAFETY AND HEALTH ACT
PAPI	PRECISION APPROACH PATH INDICATOR
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CURVE
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
PI	POINT OF INTERSECTION OR PLASTICITY INDEX
PL	PROPERTY LINE
POC	POINT ON CURVE
PP	POWER POLE
PPE	PERSONAL PROTECTIVE EQUIPMENT
PRC	POINT OF REVERSE CURVE
PROP	PROPOSED
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
R	RADIUS, RIGHT OR RUNWAY
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REIL	RUNWAY END IDENTIFIER LIGHTS
RGRCP	RUBBER GASKETED REINFORCED CONCRETE PIPE
RP	RADIUS POINT
RSA	RUNWAY SAFETY AREA
RW	RIGHT-OF-WAY
RT	RIGHT
S	SLOPE OR SOUTH
SAIA	SAN ANTONIO INTERNATIONAL AIRPORT
SAT	SAN ANTONIO INTERNATIONAL AIRPORT
SD	STORM DRAIN
SE	SOUTHEAST
SEC	SECTION
SF	SEMI-FLUSH OR SQUARE FEET
SHT	SHEET
SIDA	SECURITY IDENTIFICATION DISPLAY AREA
SPA	SPACING
SPEC	SPECIFICATIONS
STA	STATION
STD	STANDARD
SW	SOUTHWEST
SY	SQUARE YARD
TCEQ	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
TOFA	TAXIWAY/TAXILANE OBJECT FREE AREA
TSA	TAXIWAY SAFETY AREA
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UTIL	UTILITY
VAR	VARIES
VFR	VISUAL APPROACH SLOPE INDICATOR
VC	VERTICAL CURVE
VERT	VERTICAL
VFR	VISUAL FLIGHT RULES
VPI	VERTICAL POINT OF INTERSECTION
W	WEST OR WELDED
WF	WIRE FABRIC
WV	WATER VALVE

LEGEND:

- CENTERLINE
- RSA — RUNWAY SAFETY AREA
- TSA — TAXIWAY SAFETY AREA
- TOFA — TAXIWAY/TAXILANE OBJECT FREE AREA
- CONTRACTOR FIELD OFFICE, HAUL ROUTE, STAGING AND STORAGE AREA
- CONSTRUCTION AND/OR GRADING LIMITS
- SAWCUT PAVEMENT–FULL DEPTH
- E — EXISTING ELECTRIC
- AB — EXISTING ELECTRIC (ABANDONED)
- (R) — ELECTRIC REMOVAL
- E — PROPOSED ELECTRIC
- AB FAA — EXISTING FAA COMMUNICATIONS
- FAA — EXISTING FAA COMMUNICATIONS (ABANDONED)
- ILS — EXISTING INSTRUMENT LANDING SYSTEM
- SWR — EXISTING SEWER
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- BORE LOCATION
- SURVEY MONUMENT
- HORIZONTAL AND/OR VERTICAL CONTROL POINT
- ×32.12 — EXISTING PAVEMENT ELEVATION
- ×32.12 — PROPOSED PAVEMENT ELEVATION
- 10 — EXISTING CONTOURS
- 10 — PROPOSED CONTOURS
- EXISTING TAXIWAY EDGE LIGHT
- PROPOSED TAXIWAY EDGE LIGHT
- EXISTING RUNWAY EDGE LIGHT
- OR — EXISTING RUNWAY LIGHT
- EXISTING ELECTRIC MANHOLE
- EXISTING ELECTRIC JUNCTION BOX
- PROPOSED ELECTRIC JUNCTION BOX
- EXISTING UTILITY MANHOLE
- UCO — EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM DRAIN INLET
- PROPOSED STORM DRAIN INLET
- X / CX.X — DETAIL NO. OVER SHEET NO.
- EXISTING WINDCONE

CITY OF SAN ANTONIO AVIATION DEPARTMENT

SAN ANTONIO AIRPORT SYSTEM

Kimley»Horn

KIMLEY-HORN AND ASSOCIATES, INC.
601 NW LOOP 410, SUITE 350
SAN ANTONIO, TEXAS 78216
PHONE: (210) 541-9166

TEXAS REGISTERED FIRM,
NO. 928

RUNWAY 12R-30L ELECTRICAL IMPROVEMENTS AND TERMINAL AREA TAXIWAY IMPROVEMENTS (PACKAGE 4)

MICHAEL A. NORBY
87178
REGISTERED
PROFESSIONAL ENGINEER
05/03/16

MARK	DATE	DESCRIPTION
ISSUE:		

PROJECT NO:	33-0019X
FILE NAME:	_33-00193-R1GN-001-D00
DRAWN BY:	CAD
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ABBREVIATIONS AND LEGEND

C1.5

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SUMMARY OF QUANTITIES

BASE BID (TAXIWAY J)

Item	Specification Number	Bid Item Description	Quantity	Unit
BASE BID				
1	100.1	Mobilization/Demobilization	1	LS
2	100.2	Contractor Staging Area	1	Allow
3	100.3	Insurance and Bonds	1	LS
4	100.4	Airside Safety and Security / Traffic Control	1	LS
5	101.1	Preparing Right-of-Way	1	LS
6	540.1	Storm Water Pollution Prevention Plan	1	LS
7	GP 60-05	Field Office and Curing Facilities	1	LS
8	P-100-2.1	Contractor Quality Control	1	LS
9	P-101-5.1	Portland Cement Concrete Pavement Removal, Including Thickened Edge and Reinforcement	2,650	SY
10	P-101-5.3	Cement-Treated Base Removal	2,650	SY
11	P-101-5.4	Concrete Pavement Saw Cut (Full Depth)	382	LF
12	P-151-4.1	Clearing and Grubbing	2.08	AC
13	P-151-4.2	Remove Existing Storm Drain Pipe	32	LF
14	P-151-4.3	Remove Existing Catch Basin or Manhole	2	EA
15	P-152-4.1	Unclassified Excavation (Estimated)	4,120	CY
16	P-155-8.1	Lime-Treated Subgrade, 6" Depth (P-155)	4,670	SY
17	P-155-8.2	Lime	100	TON
18	P-208-5.1	Aggregate Base Course, 13" Depth (P-208)	660	SY
19	P-208-5.1	Temporary Aggregate Base Course, 8" Depth (P-208)	170	SY
20	P-304-8.1	Cement-Treated Base Course, 8" Depth (P-304)	1,500	SY
21	P-304-8.2	Cement-Treated Base Course, 16" Depth (P-304)	3,200	SY
22	P-401-8.1	Temporary HMA Pavement (5" Surface Course)	50	TON
23	P-403-8.1	HMA Pavement (3" Surface Course)	240	TON
24	P-403-8.2	Temporary HMA Pavement (9" Base Course)	80	TON
25	P-501-8.1	Portland Cement Concrete Pavement, 16" Depth	3,000	SY
26	P-604-6.1	Preformed Sealer, 1/2-inch Joint	3,350	LF
27	P-604-6.2	Preformed Sealer, 1-inch Joint	310	LF
28	P-604-6.3	Hot Applied Edge Seal	480	LF
29	P-620-5.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	1,810	SF
30	P-620-5.2	Reflective White Runway Pavement Markings, Waterborne	900	SF
31	P-620-5.3	Non-Reflective Black Pavement Markings, Waterborne	2,620	SF
32	P-620-5.4	Reflective Surface Painted Holding Position Signs, Waterborne	860	SF
33	P-620-5.5	Pavement Marking Obliteration	2,120	SF
34	P-620-5.6	Temporary Reflective Yellow Taxiway Pavement Markings, Waterborne	490	SF
35	T-904-5.1	Sodding, 2" Depth (T-904)	10,040	SY
36	T-905-5.1	Top Soil, 2" Depth (T-905)	560	CY
37	D-701-5.1	30" RGRCP, Class V	24	LF
38	D-701-5.2	36" RGRCP, Class V	8	LF
39	D-701-5.4	Concrete Pipe Collar	4	EA
40	D-705-5.1	Underdrain System	1	LS
41	D-751-5.1	Catch Basins	2	EA
42	L-100-5.1	Electrical Demolition	0.10	LS
43	L-105-6.2	Base Bid Twy J Temporary Jumpers, Lighting and Signage	1	LS
44	L-108-5.1	L-824, Type C, 1/C #8, 5 kV Cable	4,100	LF
45	L-108-5.2	L-824, Type C, 1/C #6, 5 kV Cable	1,000	LF
46	L-108-5.3	Bare, 1/C #6, Counterpoise Wire	3,100	LF
47	L-110-5.1	Single-way 2" Conduit, Direct Buried	1,340	LF
48	L-110-5.2	Multiple-way (6) 2-inch Conduits, Direct Buried	80	LF
49	L-110-5.4	Single-way 2" Conduit, Concrete Encased	300	LF
50	L-110-5.5	Multiple-way (4) 2-inch HDPE Conduits, Directional Bored	580	LF
51	L-110-5.6	Multiple-way (6) 2-inch HDPE Conduits, Directional Bored	400	LF
52	L-110-5.8	System Drain, (1) 2" Conduit, Concrete Encased	350	LF
53	L-115-5.1	New Concrete Handhole, Type I, Furnished & Installed	4	EA
54	L-115-5.3	Two-Can Junction Can Plaza, Furnished & Installed	4	EA
55	L-850-4.3	Salvage and Reinstall In-pavement L-850C Runway Edge Light with New Isolation Transformer on New or Existing Base	1	EA
56	L-858-5.1	New Size 3, 1-Module Airside LED Guidance Sign, Installed on Any Foundation or Base Assembly	2	EA
57	L-858-5.3	New Size 3, 3-Module Airside LED Guidance Sign, Installed on Any Foundation or Base Assembly	1	EA
58	L-858-5.4	New Size 3, 4-Module Airside LED Guidance Sign, Installed on Any Foundation or Base Assembly	1	EA
59	L-861T-4.3	Salvage and Reinstall L-861T Quartz Taxiway Edge Light with New Isolation Transformer on New Base	18	EA
60	L-867/868-6.1	Size "B" L-867 Base Can for Any New, Reinstalled or Future Fixture in New Asphalt Shoulder	12	EA
61	L-867/868-6.2	Size "B" L-867 Base Can for Any New, Reinstalled or Future Fixture in Non-Paved Shoulder	7	EA
62	L-867/868-6.3	Size "B" L-868 Base Can – "Standard Installation (New PCCP)"	1	EA
63	L-867/868-6.5	New Size "B" L-867 Blank Base Can Cover	3	EA
64	L-867/868-6.10	Concrete Foundation for 1-Module Sign	2	EA
65	L-867/868-6.11	Concrete Foundation for 2-Module Sign	2	EA
66	L-867/868-6.12	Concrete Foundation for 3-Module Sign	1	EA
67	L-867/868-6.13	Concrete Foundation for 4-Module Sign	1	EA

ALTERNATE 3 (TAXIWAY D)

Item	Specification Number	Bid Item Description	Quantity	Unit
ALTERNATE 1				
1	100.1	Mobilization/Demobilization	1	LS
2	100.2	Contractor Staging Area	1	Allow
3	100.3	Insurance and Bonds	1	LS
4	100.4	Airside Safety and Security / Traffic Control	1	LS
5	101.1	Preparing Right-of-Way	1	LS
6	540.1	Storm Water Pollution Prevention Plan	1	LS
7	GP 60-05	Field Office and Curing Facilities	1	LS
8	P-100-2.1	Contractor Quality Control	1	LS
9	P-101-5.1	Portland Cement Concrete Pavement Removal, Including Thickened Edge and Reinforcement	7,170	SY
10	P-101-5.2	Bituminous Pavement Removal	1,180	SY
11	P-101-5.3	Cement-Treated Base Removal	8,340	SY
12	P-101-5.4	Concrete Pavement Saw Cut (Full Depth)	1,284	LF
13	P-101-5.5	AC Pavement Saw Cut (Full Depth)	55	LF
14	P-151-4.1	Clearing and Grubbing	1.54	AC
15	P-151-4.2	Remove Existing Storm Drain Pipe	377	LF
16	P-151-4.3	Remove Existing Catch Basin or Manhole	1	EA
17	P-152-4.1	Unclassified Excavation (Estimated)	7,000	CY
18	P-155-8.1	Lime-Treated Subgrade, 6" Depth (P-155)	10,670	SY
19	P-155-8.2	Lime	230	TON
20	P-208-5.1	Aggregate Base Course, 13" Depth (P-208)	800	SY
21	P-304-8.1	Cement-Treated Base Course, 8" Depth (P-304)	2,400	SY
22	P-304-8.2	Cement-Treated Base Course, 16" Depth (P-304)	8,500	SY
23	P-403-8.1	HMA Pavement (3" Surface Course)	390	TON
24	P-501-8.1	Portland Cement Concrete Pavement, 16" Depth	8,230	SY
25	P-604-6.1	Preformed Sealer, 1/2-inch Joint	6,840	LF
26	P-604-6.2	Preformed Sealer, 1-inch Joint	950	LF
27	P-604-6.3	Hot Applied Edge Seal	740	LF
28	P-620-5.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	2,930	SF
29	P-620-5.3	Non-Reflective Black Pavement Markings, Waterborne	3,160	SF
30	P-620-5.4	Reflective Surface Painted Holding Position Signs, Waterborne	860	SF
31	P-620-5.5	Pavement Marking Obliteration	1,780	SF
32	T-904-5.1	Sodding, 2" Depth (T-904)	7,440	SY
33	T-905-5.1	Top Soil, 2" Depth (T-905)	410	CY
34	D-701-5.3	66" RGRCP, Class V	16	LF
35	D-701-5.4	Concrete Pipe Collar	2	EA
36	D-751-5.1	Catch Basins	1	EA
37	D-751-5.2	Adjust Existing Manhole/Inlet	1	EA
38	L-100-5.1	Electrical Demolition	0.20	LS
39	L-105-6.5	Alternate 3 Temporary Jumpers, Lighting and Signage	1	LS
40	L-108-5.1	L-824, Type C, 1/C #8, 5 kV Cable	4,000	LF
41	L-108-5.2	L-824, Type C, 1/C #6, 5 kV Cable	600	LF
42	L-108-5.3	Bare, 1/C #6, Counterpoise Wire	2,600	LF
43	L-110-5.1	Single-way 2" Conduit, Direct Buried	1,130	LF
44	L-110-5.2	Multiple-way (6) 2-inch Conduits, Direct Buried	180	LF
45	L-110-5.4	Single-way 2" Conduit, Concrete Encased	690	LF
46	L-110-5.6	Multiple-way (6) 2-inch HDPE Conduits, Directional Bored	140	LF
47	L-110-5.8	System Drain, (1) 2" Conduit, Concrete Encased	380	LF
48	L-115-5.2	Extend Handhole To New Grade	1	EA
49	L-115-5.4	Extend Two-Can Junction Can Plaza To New Grade	1	EA
50	L-852-4.1	Remove and Relocate In-pavement L-852A Taxiway Centerline Light with New Isolation Transformer on New Base	13	EA
51	L-858-5.5	Remove and Relocate Size 3, Any-Module Airside Guidance Sign, Installed on New Foundation	3	EA
52	L-861T-4.2	Salvage and Reinstall L-861T LED Taxiway Edge Light with New Isolation Transformer on New Base	15	EA
53	L-867/868-6.1	Size "B" L-867 Base Can for Any New, Reinstalled or Future Fixture in New Asphalt Shoulder	13	EA
54	L-867/868-6.2	Size "B" L-867 Base Can for Any New, Reinstalled or Future Fixture in Non-Paved Shoulder	4	EA
55	L-867/868-6.3	Size "B" L-868 Base Can – "Standard Installation (New PCCP)"	17	EA
56	L-867/868-6.4	Size "B" L-868 Base Can – "Core Drill New PCCP" Installation at Joint or Sawcut	2	EA
57	L-867/868-6.5	New Size "B" L-867 Blank Base Can Cover	2	EA
58	L-867/868-6.6	New Size "B" L-868 Blank Base Can Cover	6	EA
59	L-867/868-6.12	Concrete Foundation for 3-Module Sign	1	EA
60	L-867/868-6.13	Concrete Foundation for 4-Module Sign	1	EA
61	L-867/868-6.14	Concrete Foundation for 2+4-Module Sign	1	EA

CITY OF SAN ANTONIO AVIATION DEPARTMENT

SAN ANTONIO AIRPORT SYSTEM

Kimley»Horn
KIMLEY-HORN AND ASSOCIATES, INC.
601 NW LOOP 410, SUITE 350
SAN ANTONIO, TEXAS 78216
PHONE: (210) 541-9166
TEXAS REGISTERED FIRM, NO. 928

RUNWAY 12R-30L ELECTRICAL IMPROVEMENTS AND TERMINAL AREA TAXIWAY IMPROVEMENTS (PACKAGE 4)

MICHAEL A. NORBY 87178 REGISTERED PROFESSIONAL ENGINEER
05/03/16

MARK	DATE	DESCRIPTION
ISSUE:		

PROJECT NO: 33-0019X
FILE NAME: _33-00193-R1GN-003-D00
DRAWN BY: CAD
CHECKED BY: MAN
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SHEET TITLE: SUMMARY OF QUANTITIES

C1.6
SHEET NO. 6 OF 157

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SUMMARY OF QUANTITIES

BASE BID (ELECTRICAL IMPROVEMENTS)

Item	Specification Number	Bid Item Description	Quantity	Unit
BASE BID				
1	100.1	Mobilization/Demobilization	1	LS
2	100.2	Contractor Staging Area	1	Allow
3	100.3	Insurance and Bonds	1	LS
4	100.4	Airside Safety and Security / Traffic Control	1	LS
5	101.1	Preparing Right-of-Way	1	LS
6	540.1	Storm Water Pollution Prevention Plan	1	LS
7	GP 60-05	Field Office and Curing Facilities	1	LS
8	P-100-2.1	Contractor Quality Control	1	LS
9	L-100-5.1	ALCMS Modifications (Manufacturer Allowance)	1.00	LS
10	L-100-5.2	ALCMS Modifications Contractor Effort	1.00	LS
11	L-100-5.1	Electrical Demolition	0.40	LS
12	L-100a-3.1	Photometric Testing	1.00	LS
13	L-105-6.1	Base Bid Rwy 13R-31L Temporary Jumpers, Lighting and Signage	1	LS
14	L-108-5.1	L-824, Type C, 1/C #8, 5 kV Cable	18,200	LF
15	L-108-5.2	L-824, Type C, 1/C #6, 5 kV Cable	89,400	LF
16	L-108-5.3	Bare, 1/C #6, Counterpoise Wire	3,100	LF
17	L-110-5.1	Single-way 2" Conduit, Direct Buried	1,140	LF
18	L-110-5.2	Multiple-way (6) 2-inch Conduits, Direct Buried	350	LF
19	L-110-5.3	Multiple-way (8) 2-inch Conduits, Direct Buried	510	LF
20	L-110-5.6	Multiple-way (6) 2-inch HDPE Conduits, Directional Bored	700	LF
21	L-110-5.7	Multiple-way (8) 2-inch HDPE Conduits, Directional Bored	360	LF
22	L-111-5.1	Furnish and Install Packaged 480/277 Volt Engine Generator, Controls and Exhaust System for West ALV	1	LS
23	L-111-5.2	Remove and Dispose of Existing 480V West ALV Engine Generator, Controls, and Exhaust System	1	LS
24	L-111-5.3	Furnish Temporary Engine Generator	2	WK
25	L-115-5.1	New Concrete Handhole, Type I, Furnished & Installed	7	EA
26	L-115-5.3	Two-Can Junction Can Plaza, Furnished & Installed	7	EA
27	L-850-4.1	New In-pavement L-850A Runway Centerline Light with New Isolation Transformers on Existing or Modified Base	168	EA
28	L-850-4.2	Salvage and Reinstall In-pavement L-850B Runway TDZ Light with New Isolation Transformer on Existing Base	180	EA
29	L-850-4.3	Salvage and Reinstall In-pavement L-850C Runway Edge Light with New Isolation Transformer on New or Existing Base	14	EA
30	L-858-5.3	New Size 3, 3-Module Airside LED Guidance Sign, Installed on Any Foundation or Base Assembly	1	EA
31	L-858-5.4	New Size 3, 4-Module Airside LED Guidance Sign, Installed on Any Foundation or Base Assembly	2	EA
32	L-862-4.1	Salvage and Reinstall Elevated L-862 Runway Edge Light with New Isolation Transformer on Existing Base	74	EA
33	L-862-4.2	Salvage and Reinstall Elevated L-862E Runway Threshold/End Light with New Isolation Transformer on Existing Base	16	EA
34	L-867/868-6.2	Size "B" L-867 Base Can for Any New, Reinstalled or Future Fixture in Non-Paved Shoulder	2	EA
35	L-867/868-6.5	New Size "B" L-867 Blank Base Can Cover	4	EA
36	L-867/868-6.7	New Size "B" L-868 Flange Ring and Spacer	168	EA
37	L-867/868-6.8	Core Drill Replace L-868 in (E) PCCP	80	EA
38	L-867/868-6.9	Core Drill L-868 Extension in (E) PCCP	20	EA
39	L-867/868-6.12	Concrete Foundation for 3-Module Sign	1	EA
40	L-867/868-6.13	Concrete Foundation for 4-Module Sign	2	EA

ALTERNATE 1 (TAXIWAY J)

Item	Specification Number	Bid Item Description	Quantity	Unit
ALTERNATE 1				
1	100.1	Mobilization/Demobilization	1	LS
2	100.2	Contractor Staging Area	1	Allow
3	100.3	Insurance and Bonds	1	LS
4	100.4	Airside Safety and Security / Traffic Control	1	LS
5	101.1	Preparing Right-of-Way	1	LS
6	540.1	Storm Water Pollution Prevention Plan	1	LS
7	GP 60-05	Field Office and Curing Facilities	1	LS
8	P-100-2.1	Contractor Quality Control	1	LS
9	P-101-5.1	Portland Cement Concrete Pavement Removal, Including Thickened Edge and Reinforcement	1,330	SY
10	P-101-5.2	Bituminous Pavement Removal	170	SY
11	P-101-5.3	Cement-Treated Base Removal	1,490	SY
12	P-101-5.4	Concrete Pavement Saw Cut (Full Depth)	369	LF
13	P-101-5.5	AC Pavement Saw Cut (Full Depth)	60	LF
14	P-151-4.1	Clearing and Grubbing	1.94	AC
15	P-152-4.1	Unclassified Excavation (Estimated)	7,830	CY
16	P-155-8.1	Lime-Treated Subgrade, 6" Depth (P-155)	6,130	SY
17	P-155-8.2	Lime	130	TON
18	P-208-5.1	Aggregate Base Course, 13" Depth (P-208)	1,010	SY
19	P-304-8.1	Cement-Treated Base Course, 8" Depth (P-304)	3,200	SY
20	P-304-8.2	Cement-Treated Base Course, 16" Depth (P-304)	3,200	SY
21	P-403-8.1	HMA Pavement (3" Surface Course)	520	TON
22	P-501-8.1	Portland Cement Concrete Pavement, 16" Depth	2,890	SY
23	P-604-6.1	Preformed Sealer, 1/2-inch Joint	2,780	LF
24	P-604-6.2	Preformed Sealer, 1-inch Joint	530	LF
25	P-604-6.3	Hot Applied Edge Seal	1,020	LF
26	P-620-5.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	2,890	SF
27	P-620-5.3	Non-Reflective Black Pavement Markings, Waterborne	4,080	SF
28	P-620-5.4	Reflective Surface Painted Holding Position Signs, Waterborne	860	SF
29	P-620-5.5	Pavement Marking Obliteration	830	SF
30	T-904-5.1	Sodding, 2" Depth (T-904)	9,390	SY
31	T-905-5.1	Top Soil, 2" Depth (T-905)	520	CY
32	D-705-5.1	Underdrain System	1	LS
33	L-100-5.1	Electrical Demolition	0.20	LS
34	L-105-6.3	Alternate 1 Temporary Jumpers, Lighting and Signage	1	LS
35	L-108-5.1	L-824, Type C, 1/C #8, 5 kV Cable	2,400	LF
36	L-108-5.3	Bare, 1/C #6, Counterpoise Wire	1,400	LF
37	L-110-5.1	Single-way 2" Conduit, Direct Buried	1,210	LF
38	L-110-5.8	System Drain, (1) 2" Conduit, Concrete Encased	180	LF
39	L-858-5.2	New Size 3, 2-Module Airside LED Guidance Sign, Installed on Any Foundation or Base Assembly	1	EA
40	L-858-5.3	New Size 3, 3-Module Airside LED Guidance Sign, Installed on Any Foundation or Base Assembly	1	EA
41	L-861T-4.1	New L-861T LED Taxiway Edge Light with New Isolation Transformer on New Base	14	EA
42	L-861T-4.3	Salvage and Reinstall L-861T Quartz Taxiway Edge Light with New Isolation Transformer on New Base	8	EA
43	L-867/868-6.1	Size "B" L-867 Base Can for Any New, Reinstalled or Future Fixture in New Asphalt Shoulder	13	EA

ALTERNATE 2 (TAXIWAY G)

Item	Specification Number	Bid Item Description	Quantity	Unit
ALTERNATE 1				
1	100.1	Mobilization/Demobilization	1	LS
2	100.2	Contractor Staging Area	1	Allow
3	100.3	Insurance and Bonds	1	LS
4	100.4	Airside Safety and Security / Traffic Control	1	LS
5	101.1	Preparing Right-of-Way	1	LS
6	540.1	Storm Water Pollution Prevention Plan	1	LS
7	GP 60-05	Field Office and Curing Facilities	1	LS
8	P-100-2.1	Contractor Quality Control	1	LS
9	P-101-5.1	Portland Cement Concrete Pavement Removal, Including Thickened Edge and Reinforcement	3,070	SY
10	P-101-5.3	Cement-Treated Base Removal	3,070	SY
11	P-101-5.4	Concrete Pavement Saw Cut (Full Depth)	520	LF
12	P-151-4.1	Clearing and Grubbing	0.17	AC
13	P-152-4.1	Unclassified Excavation (Estimated)	165	CY
14	P-155-8.1	Lime-Treated Subgrade, 6" Depth (P-155)	3,230	SY
15	P-155-8.2	Lime	70	TON
16	P-208-5.1	Aggregate Base Course, 13" Depth (P-208)	510	SY
17	P-304-8.2	Cement-Treated Base Course, 16" Depth (P-304)	3,200	SY
18	P-501-8.1	Portland Cement Concrete Pavement, 16" Depth	3,070	SY
19	P-604-6.1	Preformed Sealer, 1/2-inch Joint	2,120	LF
20	P-604-6.2	Preformed Sealer, 1-inch Joint	360	LF
21	P-620-5.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	420	SF
22	P-620-5.3	Non-Reflective Black Pavement Markings, Waterborne	810	SF
23	P-620-5.5	Pavement Marking Obliteration	270	SF
24	T-904-5.1	Sodding, 2" Depth (T-904)	820	SY
25	T-905-5.1	Top Soil, 2" Depth (T-905)	50	CY
26	L-100-5.1	Electrical Demolition	0.10	LS
27	L-105-6.4	Alternate 2 Temporary Jumpers, Lighting and Signage	1	LS
28	L-108-5.1	L-824, Type C, 1/C #8, 5 kV Cable	1,300	LF
29	L-108-5.3	Bare, 1/C #6, Counterpoise Wire	500	LF
30	L-110-5.4	Single-way 2" Conduit, Concrete Encased	380	LF
31	L-110-5.8	System Drain, (1) 2" Conduit, Concrete Encased	120	LF
32	L-852-4.1	Remove and Relocate In-pavement L-852A Taxiway Centerline Light with New Isolation Transformer on New Base	4	EA
33	L-867/868-6.3	Size "B" L-868 Base Can – "Standard Installation (New PCCP)"	6	EA
34	L-867/868-6.4	Size "B" L-868 Base Can – "Core Drill New PCCP" Installation at Joint or Sawcut	2	EA
35	L-867/868-6.6	New Size "B" L-868 Blank Base Can Cover	4	EA

CITY OF SAN ANTONIO AVIATION DEPARTMENT

SAN ANTONIO AIRPORT SYSTEM

Kimley»Horn
KIMLEY-HORN AND ASSOCIATES, INC.
601 NW LOOP 410, SUITE 350
SAN ANTONIO, TEXAS 78216
PHONE: (210) 541-9166
TEXAS REGISTERED FIRM, NO. 928

RUNWAY 12R-30L ELECTRICAL IMPROVEMENTS AND TERMINAL AREA TAXIWAY IMPROVEMENTS (PACKAGE 4)

MICHAEL A. NORBY 87178 REGISTERED PROFESSIONAL ENGINEER
05/03/16

MARK	DATE	DESCRIPTION
ISSUE:		

PROJECT NO:	33-0019X
FILE NAME:	_33-00193-R1GN-003-D00
DRAWN BY:	CAD
CHECKED BY:	MAN
COPYRIGHT:	2016

SHEET TITLE: SUMMARY OF QUANTITIES

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GENERAL NOTES:

1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE PROJECT IS SUBJECT TO REVIEW BY REPRESENTATIVES OF THE SAN ANTONIO AIRPORT (AIRPORT), THE PROGRAM MANAGER/CONSTRUCTION MANAGER (PM/CM), THE ENGINEER, THE FEDERAL AVIATION ADMINISTRATION (FAA) AND THE TRANSPORTATION SAFETY AGENCY (TSA). THE CONTRACTOR SHALL PROVIDE UNRESTRICTED ACCESS TO THE SITE FOR INSPECTION PURPOSES DURING THE ENTIRE CONSTRUCTION PERIOD.

2. ALL CONTRACTOR PERSONNEL AGENTS, SUBCONTRACTORS, SUPPLIERS, VEHICLES, EQUIPMENT AND MATERIALS SHALL REMAIN WITHIN THE LIMITS OF THE PROJECT AND WITHIN THE SITE ACCESS AND HAUL ROUTES DESIGNATED ON THE PLANS.

3. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION WITH THE CM PRIOR TO COMMENCING WORK.

4. THE AIR OPERATIONS AREA (AOA) IS DEFINED AS ALL PAVED AND UNPAVED AREAS OF THE AIRPORT INSIDE THE PERIMETER SECURITY FENCE AND INCLUDES BUT IS NOT LIMITED TO APRONS, TAXIWAYS, RUNWAYS AND RUNWAY/TAXIWAY SAFETY AREAS. NO VEHICLE OR EQUIPMENT SHALL MOVE UPON THE AOA UNLESS THE VEHICLE IS IDENTIFIED BY COMPANY LOGO OR NAME (12" MIN LOGO/6" MIN LETTERS) ON EACH SIDE OF THE VEHICLE, THE APPROPRIATE FLAG OR FLASHING AMBER LIGHT (FLAG OR LIGHT FOR DAYTIME ACTIVITY AND LIGHT FOR NIGHTTIME ACTIVITY) AND IS MONITORING THE APPROPRIATE RADIO FREQUENCY OR IS UNDER THE ESCORT OF A VEHICLE MONITORING THE APPROPRIATE RADIO FREQUENCY. THE CONTRACTOR SHALL PROVIDE THE NECESSARY NUMBER OF RADIOS FOR THE VEHICLES AND EQUIPMENT.

5. THE CONTRACTOR SHALL MONITOR SAN ANTONIO GROUND CONTROL FOR 121.9 OR AS ASSIGNED BY THE AIR TRAFFIC CONTROL TOWER (ATCT) AT ALL TIMES.

6. FLAG MEN OR ESCORTS WILL BE REQUIRED TO DIRECT THE CONTRACTOR'S TRUCKS AND EQUIPMENT WHICH ARE OPERATING ON ACTIVE AREAS OF THE AOA IF NOT IN RADIO CONTACT WITH THE TOWER.

7. IT IS THE INTENT OF THESE PLANS TO MINIMIZE INTERFERENCE TO AIRCRAFT MOVEMENTS; THEREFORE, IN AREAS OF THE AOA, AIRCRAFT MOVEMENT SHALL HAVE THE RIGHT-OF-WAY.

8. THE CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES, AND TAXES, AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL EXECUTION OF THE WORK.

9. THE PROJECT PAY ITEMS ARE PROVIDED TO BE INCLUSIVE OF ALL WORK TO BE PERFORMED AS SHOWN IN THESE PLANS. ALL WORK NOT IDENTIFIED WITH A SPECIFIC PAY ITEM IS TO BE CONSIDERED REQUIRED/INCIDENTAL WORK TO COMPLETE THE PROJECT AND IS TO BE INCLUDED IN THE COST OF THE PROJECT PAY ITEMS PROVIDED.

10. THE CONTRACTOR SHALL HAVE SUFFICIENT EQUIPMENT AND PERSONNEL ON SITE TO ACCOMPLISH EFFICIENT AND PROMPT CONSTRUCTION OF THE VARIOUS WORK ITEMS, INCLUDING WORK ON MORE THAN ONE WORK ITEM SIMULTANEOUSLY.

11. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND LOCATE ALL SERVICES A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK IN THE AREA. IN THE EVENT OF DAMAGE TO UNDERGROUND UTILITIES, AIRPORT OR FAA POWER OR COMMUNICATION LINES, WHETHER SHOWN ON THE DRAWINGS OR NOT, THE CONTRACTOR SHALL MAKE AND EXPEDITE REPAIRS TO REPLACE THE UTILITY LINE BACK IN FULL SERVICE AT NO INCREASE IN COST TO THE PROJECT.

    EXISTING UNDERGROUND UTILITIES ARE SHOWN FROM AVAILABLE UTILITY RECORDS AND OBSERVABLE SURFACE FEATURES. ACTUAL LOCATIONS MAY VARY AND UTILITIES NOT SHOWN ON THESE PLANS MAY EXIST. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANIES AND AIRPORT MAINTENANCE PERSONNEL FOR ASSISTANCE IN LOCATING ALL UNDERGROUND FACILITIES IN THE PROJECT AREA PRIOR TO CONSTRUCTION.

UTILITY SERVICE	CONTACT	PHONE NUMBER
SAN ANTONIO WATER SYSTEMS	PIPELINES RELOCATION	(210) 233-3446
CPS ENERGY (CITY OF SAN ANTONIO PROJECTS)	JOHN OFFER	(210) 353-2012
CPS ENERGY (PROJECTS OTHER THAN CITY OF SAN ANTONIO PROJECTS)	RICHARD RODRIGUEZ	(210) 353-2226
ATT	JAMES PRINCE, LONG DISTANCE	(210) 471-0022
	RON CAPPS, LOCAL	(210) 283-1990
TIME-WARNER	STEPHON ROBERTSON	(210) 382-4306
MCI/VERIZON	DOUG LINDHOLM	(210) 554-3220
GREY FOREST GAS	VANESSA LOPEZ	(210) 695-5992
GRANDE COMMUNICATION	GABRIEL MORALES	(210) 389-6011
VIA	ERNEST SWEET	(210) 362-2155
TXDOT	DAVID FULTON AVIATION	(512) 416-4502
	HENRY WICKES, SIGNALS	(512) 506-5125
	MATT SNEET TRANSGUIDE	(210) 731-5247
COSA TRAFFIC	ADRIAN OLGUIN	(210) 207-7769

12. UTILITIES SHALL BE LOCATED BY CALLING 1-800-DIG-TESS. THE FAA AND THE CONTRACTOR SHALL UNCOVER ALL EXISTING UTILITIES AND VERIFY EXISTING ELEVATIONS OF SAME AT ALL UTILITY CROSSINGS BEFORE COMMENCING ANY OTHER WORK. CONFLICTS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

13. EACH CONSTRUCTION AREA SHALL BE SHAPED TO ALLOW DRAINAGE OF SURFACE OR GROUND WATER DURING EACH WORK OPERATION. IF NECESSARY, SURFACE OR GROUND WATER SHALL BE PUMPED IMMEDIATELY FROM EACH CONSTRUCTION AREA IN COMPLIANCE WITH THE EPA OR TCEQ REGULATIONS. THE COST OF DEWATERING SHALL BE SUBSIDIARY TO THE CONSTRUCTION.

14. CONTRACTOR SHALL MAKE ALL PROVISIONS INCLUDING UTILITIES, TO ESTABLISH HIS/HER STAGING AREA <u>OFFSITE</u>. THE CONTRACTOR SHALL PROVIDE A SECURITY FENCE AROUND THE UTILIZED STAGING AREA. THIS SECURITY FENCE SHALL INCLUDE VISUAL SCREENING FROM PUBLIC AREAS. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL RESTORE THE STAGING AREA INCLUDING REMOVAL OF UTILITY SERVICE LINES, GRADING, TOPSOIL, AND SEEDING AS NECESSARY TO THE SATISFACTION OF THE CM TO RESTORE THE STAGING AREA TO ITS ORIGINAL CONDITION. NO SEPARATE PAY ITEM FOR WORK ASSOCIATED WITH ESTABLISHING AND RESTORING THE CONTRACTOR STAGING AREA IS INCLUDED.

15. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND ACQUIRING AN ACCEPTABLE WATER SOURCE AS NECESSARY FOR CONSTRUCTION.

16. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL HORIZONTAL AND VERTICAL CONSTRUCTION STAKING AS REQUIRED FOR THE PROJECT DEVELOPMENT.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING HIS/HER OWN PROJECT OFFICE AND COMPLETE UTILITY SERVICES. THE AIRPORT WILL NOT PROVIDE FACILITIES AND SERVICES TO THE CONTRACTOR DURING CONSTRUCTION. THE CONTRACTOR'S PERSONNEL ARE PROHIBITED FROM UTILIZING THE AIRPORT TERMINAL OR ANY TENANT FACILITIES.

18. THE CONTRACTOR SHALL VIDEO TAPE THE ENTIRE WORK AREA AFTER THE PRE-CONSTRUCTION MEETING AND PRIOR TO MOBILIZATION OF PERSONNEL AND EQUIPMENT. IN AREAS WHERE CONSTRUCTION EQUIPMENT CROSSES EXISTING PAVEMENTS, THE CONTRACTOR SHALL TAKE PICTURES OR VIDEO OF THE PAVEMENT PRIOR TO COMMENCING OPERATIONS. THE CONTRACTOR SHALL PROVIDE ONE (1) COPY OF ALL VIDEO AND/OR PHOTOGRAPHS TO THE CONSTRUCTION MANAGER. THIS DOCUMENTATION SHALL BE USED TO DETERMINE THE AMOUNT OF DAMAGE, IF ANY, CAUSED TO THE PAVEMENTS AND SURROUNDING FACILITIES BY THE CONSTRUCTION EQUIPMENT AND THE QUALITY OF CONSTRUCTION WHICH SHALL BE REQUIRED FOR THE REPAIRS, IF ANY.

GENERAL NOTES (CONT'D):

19. ALL SAWCUTTING SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS IN THE CONTRACT.

20. WEEKLY PROGRESS MEETINGS ARE MANDATORY. THE DAY OF THE WEEK FOR THESE MEETINGS WILL BE DETERMINED BY AGREEMENT BETWEEN THE AIRPORT MANAGEMENT, THE CONSTRUCTION MANAGER AND THE CONTRACTOR, AT A MINIMUM. THE MEETING WILL BE ATTENDED BY THE PROJECT SUPERINTENDENT, CONTRACTING SUPERINTENDENT, FOREMEN OF ACTIVE WORK (INCLUDING SUBS) AND THE CONTRACTOR'S QC REPRESENTATIVE.

21. THE CONTRACTOR SHALL SUBMIT HIS/HER CONSTRUCTION WORK SCHEDULE TO THE CONSTRUCTION MANAGER EACH WEEK PROJECTING UPCOMING WORK FOR THE NEXT THREE WEEKS.

22. THE CONTRACTOR'S PROJECT SUPERINTENDENT SHALL PARTICIPATE IN ALL COORDINATION MEETINGS AND SHALL BE ON SITE DURING ALL ACTIVITIES.

23. HAUL TRUCKS TRANSPORTING LOOSE MATERIALS SHALL USE LOAD COVERS AND SHALL BE LOADED SUCH THAT NO SPILLAGE OCCURS DURING TRANSIT ON THE STATE, MUNICIPAL, OR AIRPORT ROADWAYS, TAXIWAYS OR APRONS. ALL CONTRACTOR EQUIPMENT MUST BE MAINTAINED IN GOOD WORKING ORDER. CONTRACTOR VEHICLES THAT LEAK OR DRIP OIL AND/OR FLUIDS ONTO ANY APRON, RAMP OR TAXIWAY MUST BE REMOVED FROM THE PROJECT FOR REPAIR.

24. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL OFF-AIRPORT ROUTES WITH THE APPROPRIATE AUTHORITIES. ON-AIRPORT HAULING SHALL BE COORDINATED WITH CM AND APPROVED IN ADVANCE TO MINIMIZE IMPACT TO AIRPORT OPERATIONS.

25. CONSTRUCTION EQUIPMENT AND VEHICLES SHALL TRAVEL A MINIMUM AMOUNT ON NEWLY CONSTRUCTED PAVEMENTS SO THAT THESE AREAS WILL NOT BE DAMAGED, AT SPEEDS OF 15 MPH IN TENANT AND RAMP AREAS AND 25 MPH ON THE PERIMETER ROAD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY DAMAGE TO THE NEWLY CONSTRUCTED PAVEMENTS AT THE CONTRACTOR'S EXPENSE.

26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EFFORT AND COST OF IMMEDIATE CLEANING OF EARTH TRACKING AND SPILLS ON PAVED SURFACES RESULTING FROM THE CONTRACTOR'S OPERATIONS. BECAUSE OF THE POTENTIAL FOR EXTREME DAMAGE TO AIRCRAFT ENGINES BY INGESTION OF FOREIGN OBJECTS, THE CONTRACTOR SHALL OPERATE AND MAINTAIN MECHANICAL SWEEPER/VACUUM (WET/DRY) EQUIPMENT COMPLETE WITH OPERATORS ON THE PROJECT DURING ANY HAULING OR OTHER OPERATIONS ACROSS TAXIWAYS, TAXILANES OR APRONS. AT A MINIMUM, ONE VAC TRUCK PER CROSSING OF ACTIVE TAXIWAY OR RUNWAY IS REQUIRED.

27. BATCH PLANTS ARE PERMITTED AT THE DESIGNATED LOCATION. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS. THE BATCH PLANT MUST BE LIT WITH AN OBSTRUCTION LIGHT MEETING FAA CRITERIA FOR OBSTRUCTION LIGHTING.

28. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MATERIALS AND DRAINAGE STRUCTURES TO CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE/EXIT AT EACH POINT SHOWN ON THE PLANS. THE COST OF ANY DRAINING STRUCTURES SHALL BE SUBSIDIARY TO ITEM 100-MOBILIZATION.

29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REPAIR OF ANY DAMAGE TO AIRPORT/AIRLINE FACILITIES, INCLUDING BUT NOT LIMITED TO EXISTING PAVEMENTS, UNDERGROUND CABLES, LIGHTS, SIGNS, BUILDINGS, FENCE, EQUIPMENT, ETC., CAUSED DURING CONSTRUCTION. ALL REPAIRS MUST BE MADE IN COORDINATION WITH THE CM AND TO EQUAL OR BETTER QUALITY AND IN COMPLIANCE WITH AIRPORT AND/OR FAA REQUIREMENTS. ALL REPAIR AND REPLACEMENT COSTS SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

30. ALL MATERIAL SUBMITTALS FOR ITEMS TO BE USED IN CONSTRUCTION OF THE PROJECT SHALL BE SUBMITTED TO THE CONSTRUCTION MANAGER FOR REVIEW AND APPROVAL A MINIMUM OF 10 DAYS PRIOR TO COMMENCEMENT OF THE ASSOCIATED WORK.

31. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL WASTE MATERIAL GENERATED DURING CONSTRUCTION. WASTE MATERIAL MUST BE REMOVED FROM THE WORK SITE AND DISPOSED OF IN SUCH A MANNER AS TO NOT DAMAGE THE OWNER'S OR OTHER PERSON'S PROPERTY. (NO SEPARATE PAY FOR THE ITEM)

32. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REQUIRED SECURITY TO PROTECT HIS OWN PROPERTY, EQUIPMENT, AND WORK IN PROGRESS.

33. VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD BEFORE COMMENCING ANY WORK. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO REPORT ANY DISCREPANCIES TO THE OWNER IN A TIMELY MANNER.

34. THE DRAWINGS SHOW AS MUCH INFORMATION AS CAN BE REASONABLY OBTAINED FROM AN ON THE GROUND OBSERVATION, SURVEY AND EXISTING CONSTRUCTION DRAWINGS REGARDING THE TOPOGRAPHIC FEATURES, AND ELEVATIONS, AS WELL AS THE LOCATION AND NATURE OF PIPELINES, UNDERGROUND CABLES, UTILITIES, ETC., HOWEVER, THE ACCURACY OF OR COMPLETENESS OF SUCH INFORMATION IS NOT GUARANTEED.

35. NO OPEN TRENCHES OR DROP OFFS ARE PERMITTED. AREA NEEDS TO BE FENCED OFF WITH REFLECTIVE SAFETY FENCE AND/OR STEEL PLATES MAY NEED TO BE USED.

36. HORIZONTAL CONTROL MONUMENTS ARE SHOWN ON SHEET C1.11. CONTRACTOR IS RESPONSIBLE FOR PROVIDING OTHER LAYOUT AND GRADE CONTROL SURVEYING FOR CONSTRUCTION OF THE PROJECT.

37. CONTRACTOR SHALL BE RESPONSIBLE FOR PERMANENT SERVICE TERMINATION ASSOCIATED WITH UTILITY LINES TO BE REMOVED AND ABANDONED.

38. CONTRACTOR SHALL MAINTAIN A COPY OF ALL NECESSARY PERMITS ON THE JOBSITE.

39. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ROCK AND ALL OTHER MATERIALS ENCOUNTERED REGARDLESS OF THEIR NATURE OR THE MANNER IN WHICH THEY ARE REMOVED.

40. WHERE FINISHED CONTOURS ARE SHOWN TO MATCH EXISTING CONTOURS ON THE GRADING PLANS, NO GRADE SEPARATION IS ALLOWABLE. CONTRACTOR SHALL ADJUST GRADING AS NECESSARY TO ACCOMPLISH THIS REQUIREMENT.

41. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACTOR DOCUMENTS. THE CONTRACTORS IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS COVERING THE PRESENCE AND ACTIVITY OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

42. CONTRACTOR SHALL FURNISH THE ENGINEER WITH AN AS-BUILT PLAN INDICATING THE ACTUAL MEASUREMENT AND LOCATION OF UTILITY LINES AND SITE IMPROVEMENTS INSTALLED OR ENCOUNTERED.

43. CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION.

44. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND GAS VALVES THAT ARE IN THE PROJECT AREAS.

45. NO EXTRA PAYMENT WILL BE MADE FOR INCIDENTAL WORK OR MATERIALS REQUIRED TO COMPLETE A CONTRACT PAY ITEM. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER THE PAY ITEM TO WHICH IT RELATES.

46. WHENEVER POWER POLES ARE ADJACENT TO THE PROPOSED CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE PROPER SHORING, BRACING AND/OR OTHER SUITABLE SUPPORT FOR THE POLES DURING CONSTRUCTION (NO SEPARATE PAY ITEM)

GENERAL NOTES (CONT'D):

47. OVERHEAD POWER LINES EXIST IN THE AREA OF THE PROJECT OR HAUL ROUTES. TEXAS LAW ARTICLE 1436C, PROHIBITS ALL ACTIVITIES IN WHICH PERSONS OR EQUIPMENT MAY COME WITHIN SIX (6) FEET OF ENERGIZED OVERHEAD POWER LINES, AND FEDERAL REGULATIONS, TITLE 29, PART 1910.180(I) AND PART (1926.550(A) (15) REQUIRE A MINIMUM OF TEN (10) FEET FROM THESE FACILITIES WHERE CONTRACTOR MUST WORK NEAR OVERHEAD POWER LINES, CALL (210) 353-2012 FOR THE LINES TO BE DE-ENERGIZED AND/OR MOVED AT CONTRACTOR'S EXPENSE. NEED TO PROVIDE FAA TECH OPS (7) BUSINESS DAYS PRIOR NOTICE; AIRFIELD FACILITIES MAINTENANCE (3) BUSINESS DAYS PRIOR NOTICE; CPS ENERGY (1.5) MONTHS PRIOR NOTICE.

48. BLASTING IS NOT ALLOWED.

49. WATER LINE CROSSING: WHERE THE MINIMUM 9 FOOT HORIZONTAL SEPARATION DISTANCE BETWEEN SEWER LINES AND WATER LINES/MAINS CANNOT BE MAINTAINED, INSTALLATION OF WATER AND SEWER LINE SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (30 TAC 290.44(E) AND 317.13 APPENDIX E)

50. EROSION AND SEDIMENTATION CONTROL: STORMWATER POLLUTION PREVENTION PLANS AND PROCEDURES SHALL BE IMPLEMENTED ACCORDING TO TCEQ AND EPA REGULATIONS FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL MEET ALL REQUIREMENTS OF THE ATTACHED SW3P PLAN AND THESE REGULATIONS. FINAL PROJECT ACCEPTANCE SHALL NOT BE GRANTED UNTIL ALL PERMANENT STABILIZATION MEASURES HAVE BEEN ESTABLISHED. FURTHER INFORMATION REGARDING SAN ANTONIO AIRPORT SYSTEM'S SW3P, SOIL MANAGEMENT PLAN, FUEL SPILL RESPONSE PLAN, AND NOISE MANAGEMENT PROGRAM CAN BE FOUND AT AVIATION DEPARTMENT'S WEBSITE UNDER ENVIRONMENTAL STEWARDSHIP: HTTP: //WWW.SANANTONIO.GOV/AVIATION/

CONSTRUCTION NOTES:

1. SANITARY FACILITIES ARE TO BE SUPPLIED BY THE CONTRACTOR AND CAN ONLY BE LOCATED WITHIN SECURED CONSTRUCTION AREAS.

2. ALL ACCESS ROADS TO STORAGE AREAS AND/OR WORK AREAS ARE TO BE DEVELOPED AND MAINTAINED BY THE CONTRACTORS. THESE ROADS ARE TO BE RETURNED TO THEIR ORIGINAL OR BETTER CONDITION BY THE CONTRACTOR UPON COMPLETION OF THE PROJECT.

3. THE CONTRACTOR'S JOB SUPERINTENDENT IS TO MEET WITH THE RESIDENT PROJECT INSPECTOR PRIOR TO THE START OF EACH WORKING DAY TO COORDINATE DAILY CONSTRUCTION.

4. THE CONTRACTOR IS TO COORDINATE WITH THE RESIDENT PROJECT INSPECTOR AND THE AVIATION DEPARTMENT CONCERNING SAFETY IN ASSURING THAT POWER IS OFF IN THE SYSTEM WHILE THE ELECTRICAL WORK IS UNDERWAY. SPECIFICALLY, THEY ARE TO AGREE ON A CONTROL AND CHECK PROCEDURE TO PREVENT ACCIDENTAL POWER RECONNECT. THESE AGREED UPON PROCEDURES ARE TO BE DOCUMENTED IN A WRITTEN OUTLINE, SIGNED BY BOTH GROUPS AND A COPY ON FILE WITH THE RESIDENT PROJECT INSPECTOR AND THE AVIATION DEPARTMENT BEFORE ANY SUCH WORK IS UNDERTAKEN.

5. CONTRACTOR SHALL VERIFY THE SIZE OF EXISTING CABLES WHERE SPLICES AND CONNECTORS OCCUR IN ORDER TO PROVIDE THE PROPER SPLICE CONNECTOR KITS.

6. AT NO TIME SHALL ANY EXCAVATION AREAS BE LEFT UNATTENDED UNLESS APPROPRIATE MARKING AND BARRICADING IS EMPLOYED.

7. DEMOLITION AND EXCAVATION SOILS:

    A. BUILDING MATERIALS AND FENCING SHALL BE LEGALLY DISPOSED OF OUTSIDE AIRPORT PROPERTY.

    B. CONTAMINATED SOILS, IF ENCOUNTERED, SHALL BE MOVED TO A LOCATION ON AIRPORT PROPERTY TO BE DETERMINED, SPREAD OUT, COMPACTED AND SEEDED AT NO ADDITIONAL COST TO THE CONTRACTOR.

    C. CONCRETE RUBBLE, CEMENT STABILIZED BASE, REINFORCING STEEL AND ASPHALT SHALL BE LEGALLY DISPOSED OF OUTSIDE AIRPORT PROPERTY.

    D. UNCONTAMINATED SOILS SHALL BE STOCKPILED WITHIN THE PHASING LIMITS INCLUDING HEIGHT RESTRICTIONS UNTIL SUCH TIME THAT THEY ARE RE-USED OR REMOVED FROM THE AIRPORT.

8. SEE STORM WATER POLLUTION PREVENTION PLAN FOR TURF REQUIREMENTS.

9. ALL CONCRETE FOR STRUCTURES, CURBS, RIPRAP, ETC., SHALL CONFORM TO FAA SPECIFICATION P-610.

10. ALL APRON AND TAXIWAY CONCRETE SHALL CONFORM TO FAA SPECIFICATION P-501.

11. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL UTILITIES IN THE PROJECT AREA UNDER DEMOLITION AND CONSTRUCTION.

12. RESTRICTED AIRPORT AREA MUST REMAIN SECURE AT ALL TIMES. TEMPORARY FENCE ADEQUATE FOR THIS PURPOSE SHALL BE ERECTED PRIOR TO DEMOLITION AND ERECTION OF PERMANENT SECURITY FENCE. NO SEPARATE PAY ITEM FOR TEMPORARY FENCES.

13. EMPLOYEE PARKING WILL NOT BE PROVIDED BY OWNER. CONTRACTOR SHALL ARRANGE FOR OFF-SITE PARKING AND TRANSPORTATION TO JOB SITE.

14. ALL PERSONNEL OPERATING VEHICLES IN THE AOA MUST HAVE RECEIVED TRAINING AND HAVE AN AIRPORT DRIVING LICENSE.

SPECIAL CONDITIONS FOR CONSTRUCTION WITHIN THE AIR OPERATIONS AREA:

SAN ANTONIO INTERNATIONAL AIRPORT MAINTAINS OPERATIONS 24 HOURS A DAY, 365 DAYS PER YEAR FOR GENERAL AVIATION AND AIR CARRIER SERVICE. SAFETY, SECURITY AND OPERATIONS WILL TAKE PRECEDENCE OVER ALL CONSTRUCTION ACTIVITIES WITH THE AIRPORT SECURITY. AS SUCH, ALL CONSTRUCTION ACTIVITY SHALL BE CONDUCTED IN ACCORDANCE WITH THE STIPULATIONS OUTLINED BELOW AND WITH THOSE PROVIDED IN SPECIFICATIONS AND BID DOCUMENTS:

<u>SECURITY</u>
FINES: ANY FINES ASSESSED TO THE AVIATION DEPARTMENT DUE TO THE CONTRACTOR'S VIOLATIONS OF ANY SECURITY REQUIREMENTS WILL BE PASSED ON TO THE CONTRACTOR.

BADGING: PERSONNEL WORKING WITHIN THE SECURITY IDENTIFICATION DISPLAY AREA (SIDA)/AOA MUST DISPLAY CURRENT AIRPORT ISSUED IDENTIFICATION AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVING THE NECESSARY BACKGROUND CHECKS FOR THESE PERSONNEL AS WELL AS MAINTAINING PERSONNEL FILES FOR THE PROJECT DURATION. THESE FILES ARE SUBJECT TO FAA REVIEW. SUBSEQUENT TO THE PRECONSTRUCTION MEETING, THE CONTRACTOR MUST ARRANGE FOR ALL BADGED PERSONNEL TO ATTEND THE SIDA CLASS. ALL PERSONNEL MUST BE BADGED. UNBADGED PERSONNEL CAN BE ESCORTED FOR UP TO 14 DAYS, BEYOND 14 DAYS A BADGE MUST BE OBTAINED. ALL UNESCORTED EQUIPMENT OPERATORS AND DRIVERS MUST BE BADGED. SIDA CLASSES ARE COORDINATED THROUGH AIRPORT SECURITY AND TAKE APPROXIMATELY TWO HOURS. ALL BADGES REMAIN THE PROPERTY OF THE AVIATION DEPARTMENT AND MUST BE RETURNED AT THE COMPLETION OF THE CONTRACT.

CONSTRUCTION ACCESS: THE CONTRACTOR WILL BE ISSUED INGRESS/EGRESS INTO THE SIDA/AOA AT A POINT DESIGNATED BY THE AVIATION DEPARTMENT. THIS POINT WILL BE AS CLOSE AS PRACTICABLE TO THE MARSHALING AREA. THE CONTRACTOR WILL BE REQUIRED TO ENTER INTO A SECURITY AMENDMENT WHICH SHALL BE ISSUED AND KEPT ON FILE WITH AIRPORT POLICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN SECURITY AT ALL TIMES DURING THE DURATION OF THE CONTRACT. THE ACCESS WILL BE LOCKED AT ALL TIMES WHILE UNATTENDED AND SHALL BE MANNED BY APPROVED BADGED PERSONNEL ONLY. ANY CONTRACTOR ASSIGNED TO THE PROJECT WHO HAS A BUSINESS RELATED NEED TO BE PRESENT WITHIN THE SIDA, SECURED AREA OR STERILE AREA FOR MORE THAN 14 DAYS (CONSECUTIVE OR INTERMITTENTLY) MUST BE PROCESSED FOR A SIDA BADGE. THIS POLICY IS APPLIED TO ALL WORKERS, INCLUDING SUBCONTRACTOR AND SUPPLIERS AND ETC. ESCORT RATIO OF 2:1 APPLIES ONLY FOR WORK THAT IS LESS THAN 14 DAYS.

SPECIAL CONDITIONS FOR CONSTRUCTION WITHIN THE AIR OPERATIONS AREA (CONT'D):

<u>FENCING</u>
RESTRICTED AREA SHALL BE KEPT SECURE AT ALL TIMES BY TEMPORARY AND/OR PERMANENT SECURITY FENCES.

<u>INSURANCE</u>
IN ADDITION TO THE INSURANCE REQUIREMENTS OUTLINED IN THE GENERAL CONDITIONS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL EXCESS (UMBRELLA) LIABILITY INSURANCE OF NOT LESS THAN $15,000,000 (FIFTEEN MILLION DOLLARS), THE COST OF WHICH SHALL BE INCLUDED IN ITEM GC-11.1.2 "ADDITIONAL INSURANCE COVERAGE".

<u>OPERATIONS</u>
AIRPORT OPERATIONS IS CHARGED WITH THE RESPONSIBILITY OF OVERSEEING THE DAILY OPERATIONS OF ALL ACTIVITIES WITHIN THE AIRPORT, INCLUDING THE PROPER EXECUTION OF ALL FACETS OF THE CONSTRUCTION ACTIVITIES AND COMPLIANCE WITH APPLICABLE FEDERAL REGULATIONS. THE CONTRACTOR SHALL COMPLY WITH ALL DIRECTIONS ISSUED BY OPERATIONS IN A TIMELY MANNER.

VEHICULAR OPERATIONS: IN ADDITION TO BEING BADGED, ALL UNESCORTED EQUIPMENT OPERATORS AND DRIVERS MUST ATTEND THE REQUIRED DRIVING COURSE SPONSORED BY AIRPORT OPERATIONS. THIS COURSE TAKES APPROXIMATELY 4 HOURS. NO VEHICLES MAY BE OPERATED WITHIN THE AIR OPERATING AREA (AOA) UNTIL THE DRIVERS SUCCESSFULLY PASS THE DRIVING COURSE AND SATISFACTORY INSURANCE CERTIFICATES ARE ON FILE WITH THE OFFICE OF PLANNING & DEVELOPMENT (REFER TO SECTION ENTITLED "INSURANCE" ABOVE). ALL VEHICULAR MOVEMENT AREAS WILL BE SUBJECT TO THE APPROVAL OF THE AVIATION DEPARTMENT. ALL CONSTRUCTION VEHICLES OPERATING ON AIRPORT PROPERTY UTILIZE AN FAA APPROVED FLAG ATTACHED TO THE VEHICLE TOGETHER WITH 12" COMPANY LOGOS OR 6" LETTERS IDENTIFYING THE COMPANY, DISPLAYED ON BOTH DOORS/SIDES OF VEHICLE.

ESCORT: ALL VEHICLES AND EQUIPMENT BEING OPERATED BY PERSONNEL WITHOUT HAVING SUCCESSFULLY COMPLETED THE DRIVING COURSE MUST BE ESCORTED BY VEHICLES OPERATED BY PERSONNEL AUTHORIZED TO DRIVE WITHIN THE SIDA/AOA. THE ESCORT MUST BE PROXIMATE TO THE VEHICLES AT ALL TIMES WHILE WITHIN THE SIDA/AOA INCLUDING DEPARTING THROUGH THE CONSTRUCTION ACCESS. SHOULD THE NEED ARISE TO ENTER OR CROSS AN ACTIVE RUNWAY, THE ESCORT MUST BE DONE BY PERSONNEL FROM AIRPORT OPERATIONS AND COORDINATED THROUGH AIRPORT OPERATIONS.

<u>STORAGE & MARSHALING AREAS</u>
EXCESS MATERIAL: ALL MATERIAL REMOVED FROM THE CONSTRUCTION SITE WHICH IS NOT TO BE USED IN THE FINAL CONSTRUCTION SHALL BE REMOVED FROM THE AIRPORT PROPERTY AND DISPOSED OF IN A LEGAL MANNER. NO EXCESS MATERIAL SHALL BE DISPOSED OF ON AIRPORT PROPERTY UNLESS PRIOR WRITTEN APPROVAL FROM THE AVIATION DEPARTMENT IS ISSUED. SUITABLE MATERIAL MAY BE HAULED AND DISPOSED AT AIRPORT'S STOCKPILE SITE, AND SHALL BE FREE FROM ALL OF THE FOLLOWING:

- CONCRETE GREATER THAN 3" IN ANY DIMENSION
- ASPHALT OR BITUMINOUS MATERIAL
- PIPE OR CONDUIT
- CABLES AND WIRES
- CEMENT TREATED MATERIAL GREATER THAN 3" IN ANY DIMENSION
- METAL PRODUCTS OF ANY KIND
- TRASH, GARBAGE OR ORGANIC MATERIAL
- CONTAMINATED MATERIALS

CONSTRUCTION MATERIALS: CONSTRUCTION MATERIALS NOT FOR IMMEDIATE USE SHALL BE STOCKPILED AT THE DESIGNATED MARSHALING AREA. OTHER MATERIALS MAY BE STORED AT APPROVED LOCATIONS APPROXIMATE TO THE WORK AREA PROVIDED HOWEVER, THAT THE PILES ARE NO GREATER THAN 18" IN HEIGHT. HIGHER PILES MAY BE PERMITTED ONLY DURING WORKING HOURS AND IN SUCH QUANTITY THAT THEY MAY BE REDUCED IN HEIGHT TO 18" MAXIMUM WITHIN 30 MINUTES OF NOTIFICATION.

EQUIPMENT: ALL EQUIPMENT SHALL BE STORED AT THE DESIGNATED STORAGE AREAS DURING NON-WORKING TIMES. SPECIAL PROVISIONS MAY BE GRANTED FOR EQUIPMENT WHICH IS NOT READILY MOVABLE TO BE STORED ELSEWHERE UPON APPROVAL BY THE AVIATION DEPARTMENT.

<u>NAVIGATIONAL EQUIPMENT</u>
TESTING: THE FAA MAINTAINS VARIOUS FORMS OF NAVIGATIONAL EQUIPMENT AND APPURTENANCES THROUGHOUT THE AIRPORT. THERE MAY BE TIMES DURING THE CONSTRUCTION WHERE TESTS AND/OR EQUIPMENT CHECKS MUST BE RUN TO MAINTAIN SERVICEABILITY. THE CONTRACTOR SHALL COMPLY WITH ALL REQUESTS AND DIRECTIVES DURING THE PROSECUTION OF THE TESTS. TIMELY NOTIFICATION OF SUCH TESTS CANNOT BE GUARANTEED.

CABLES: COMMUNICATION AND NAVIGATIONAL CABLES TRAVERSE THE CONSTRUCTION AREA. EVERY EFFORT HAS BEEN MADE TO IDENTIFY AND PROPERLY DEPICT THE LOCATIONS OF ALL CABLES ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE AVIATION DEPARTMENT AT (210) 207-3519, 48 HOURS IN ADVANCE OF ANY CONSTRUCTION IN ORDER THAT THE CABLES WITHIN THE CONSTRUCTION AREA CAN BE PROPERLY LOCATED AND IDENTIFIED. THE CONTRACTOR SHALL IDENTIFY THE LOCATION AND ALIGNMENT OF THESE CABLES ALONG AND THROUGHOUT THE ENTIRE PROJECT AREA USING ORANGE SAFETY NETTING. GAPS TO FACILITATE VEHICULAR CROSSINGS WILL BE PERMITTED AS REQUIRED. THESE CROSSINGS SHALL BE PROTECTED USING 1/2" THICK BY 8' LONG STEEL PLATES PLACED ALONG THE FULL WIDTH OF EACH CROSSING. NO CONSTRUCTION SHALL COMMENCE PRIOR TO THE LOCATION OF THE CABLES. SHOULD THE CONTRACTOR ENCOUNTER CABLES NOT IDENTIFIED ON THE DRAWINGS OR FIELD LOCATED OR CUT OR OTHERWISE DAMAGED, HE SHALL IMMEDIATELY CEASE OPERATIONS IN THE AREA AND NOTIFY THE AVIATION DEPARTMENT DURING THE DAY OR AFTER HOURS AT (210) 207-3519, IN ORDER THAT THE FAA CAN IDENTIFY THE CABLE. UNLESS DIRECTED OTHERWISE, CUT OR DAMAGED CABLES SHALL BE REPLACED BETWEEN THE EXISTING PULL BOXES (TYPICALLY 2000 FEET APART). ALL SPLICING SHALL BE PERFORMED BY AN FAA CERTIFIED SPLICER. AFTER ALL SPLICES ARE COMPLETED, THE CABLES SHALL BE TESTED FOR CONTINUITY AND MEGGERED BY THE CONTRACTOR.

LIGHTING SYSTEMS: THE AVIATION DEPARTMENT AND THE FAA MAINTAINS VARIOUS FORMS OF LIGHTING SYSTEMS THROUGHOUT THE AIRPORT. ALL PORTIONS OF THESE SYSTEMS SHALL BE PROPERLY LOCATED AND IDENTIFIED PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR TO CONTACT THE AVIATION DEPARTMENT AT (210) 207-3519, 48 HOURS IN ADVANCE OF ANY CONSTRUCTION IN ORDER THAT THESE SYSTEMS MAY BE PROPERLY IDENTIFIED. ALL ELECTRICAL WORK SHALL BE COORDINATED THROUGH THE AVIATION DEPARTMENT TO ENSURE CIRCUIT OUTAGES ARE AVOIDED AND THAT THE APPROPRIATE CIRCUITS AND PROPERLY TAGGED OUT. WHERE DIRECTED, THE CONTRACTOR SHALL PROVIDE THE NECESSARY SAFETY NETTING AND VEHICULAR CROSSINGS AS OUTLINED IN THE SECTION ENTITLED "CABLES".

ALL LABOR, MATERIALS, TOOLS, CABLES AND CONNECTORS NECESSARY TO PROVIDE TEMPORARY CIRCUITS AS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR. FAA REQUIRES 7 BUSINESS DAYS PRIOR NOTICE.

<u>BARRICADES</u>
ALL CONSTRUCTION AREAS SHALL BE PROPERLY BARRICADED, SIGNED AND MARKED AS DIRECTED BY THE AVIATION DEPARTMENT IN ACCORDANCE WITH THE BARRICADES SHOWN ON THE DRAWINGS. BARRICADES SHALL BE PROPERLY SECURED AS NECESSARY TO PREVENT OVERTURNING OR DISPLACEMENT FROM WIND OR JET BLAST AND SHALL BE ILLUMINATED. REFER TO FAA AC 150/5340-1L "STANDARD FOR AIRPORT MARKINGS" FOR FAA LIGHTING AND MARKING STANDARDS. EXCAVATED AREAS SHALL NOT BE LEFT UNATTENDED UNLESS APPROPRIATE BARRICADES ARE PROVIDED. THE CONTRACTOR SHALL HAVE A DESIGNATED CONTACT ON FILE WITH AIRPORT OPERATIONS WHO SHALL BE ON CALL 24 HOURS A DAY IN ORDER TO MAINTAIN THE BARRICADES. LOCATION AND PLACEMENT SHALL BE ADJUSTED AS NECESSITATED BY CHANGES IN CONSTRUCTION PROGRESS.

SAFETY NETTING SHALL BE INSTALLED IN LOCATIONS AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE RESIDENT PROJECT INSPECTOR. NETTING SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. ADJUSTMENTS IN LOCATION SHALL BE MADE AS DIRECTED BY THE AVIATION DEPARTMENT. REFER TO FAA AC 150/5340-1, CURRENT VERSION.

CITY OF
SAN ANTONIO
AVIATION
DEPARTMENT

Kimley»Horn
KIMLEY-HORN AND ASSOCIATES, INC.
601 NW LOOP 410, SUITE 350
SAN ANTONIO, TEXAS 78216
PHONE: (210) 541-9166

TEXAS REGISTERED FIRM, NO. 928

RUNWAY 12R-30L
ELECTRICAL IMPROVEMENTS
AND TERMINAL AREA
TAXIWAY IMPROVEMENTS
(PACKAGE 4)

STATE OF TEXAS
MICHAEL A. NORBY
87178
REGISTERED PROFESSIONAL ENGINEER
05/03/16

MARK	DATE	DESCRIPTION

ISSUE: .

PROJECT NO:	33-0019X
FILE NAME:	_33-00193-R1GN-004-D00
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SHEET TITLE:

GENERAL NOTES

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GENERAL SAFETY NOTES:

1. CONSTRUCTION PERSONNEL WILL NOT BE ALLOWED TO OPERATE VEHICLES OR EQUIPMENT IN THE AOA UNTIL THEY HAVE SUCCESSFULLY COMPLETED THE AIRPORT AOA DRIVING SAFETY COURSE.

2. DURING THE PERFORMANCE OF THIS CONTRACT, THE AIRPORT RUNWAYS, TAXIWAYS, AND AIRCRAFT PARKING APRONS SHALL REMAIN IN USE BY AIRCRAFT TO THE MAXIMUM EXTENT POSSIBLE. AIRCRAFT USE OF AREAS NEAR THE CONTRACTOR'S WORK WILL BE CONTROLLED BY ATCT GROUND CONTROL, AIRPORT OPERATIONS AND THE AIRLINES TO MINIMIZE DISTURBANCE TO THE CONTRACTOR'S OPERATION. THE CONTRACTOR SHALL NOT ALLOW HIS/HER EMPLOYEES, SUBCONTRACTORS, SUPPLIERS, OR ANY PERSON OVER WHO HE/SHE HAS CONTRACTUAL CONTROL TO ENTER OR REMAIN IN ANY PART OF THE AIRPORT WHICH WOULD BE HAZARDOUS TO PERSONS OR TO AIRCRAFT OPERATIONS. WHENEVER AIRCRAFT OPERATIONS REQUIRE, THE CONSTRUCTION MANAGER MAY ORDER THE CONTRACTOR TO SUSPEND OPERATIONS, MOVE PLANT, PERSONNEL, EQUIPMENT, AND MATERIALS TO A SAFE LOCATION AND STAND BY UNTIL AIRCRAFT USE IS COMPLETED.

3. CONSTRUCTION EQUIPMENT AND VEHICLES SHALL NOT EXCEED 25 MPH WITHIN THE AOA.

4. RUNWAY, TAXIWAY, APRON OR AIRPORT ROADWAY SHALL NOT BE CLOSED WITHOUT PRIOR APPROVAL OF AIRPORT OPERATIONS. TO ENABLE THE NECESSARY NOTICES TO AIRMEN (NOTAMS) OR ADVISORIES TO AIRPORT SERVICES OR TENANTS, CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE OF THE REQUESTED CLOSING TO THE CONSTRUCTION MANAGER AT LEAST 48 HOURS IN ADVANCE.

5. VEHICLE IDENTIFICATION AND PARKING;

   A. CONTRACTOR VEHICLES AND EQUIPMENT SHALL BE IDENTIFIED BY COMPANY LOGO OR NAME (12" MIN LOGO/6" MIN LETTERS) ON EACH SIDE OF THE VEHICLE AND BY FLAGS AND/OR AMBER FLASHING LIGHTS. (FLAGS OR LIGHTS FOR DAY OPERATIONS AND LIGHTS FOR NIGHT OPERATIONS)
   B. EMPLOYEE PARKING SHALL BE LIMITED TO THE PROJECT STAGING AREA AS SHOWN ON THE PLANS OR CONTRACTORS ARRANGED SITE. EMPLOYEE VEHICLES WILL NOT BE ALLOWED WITHIN THE AOA.

6. WILDLIFE MANAGEMENT. DISCUSS THE FOLLOWING:
   A. ACCESS TO THE PROJECT SITE SHALL BE AS SHOWN ON THE PLANS OR AS DESIGNED BY THE CONSTRUCTION MANAGER.

7. THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL SHEETING AND BRACING AS NECESSARY TO SUPPORT THE SIDES OF ANY/ALL TRENCH AND OTHER EXCAVATIONS AS REQUIRED BY CURRENT OSHA REGULATIONS. COST OF SHEETING AND BRACING SHALL BE SUBSIDIARY TO THE CONSTRUCTION.

8. THE CONTRACTOR SHALL PROVIDE A MOTORIZED MECHANICAL SWEEPER/VACUUM, ALONG WITH A "FOREIGN OBJECTS DEBRIS" (FOD) PLAN PRIOR TO BEGINNING WORK. THE FOD PLAN AND DAILY ACTIVITIES SHALL BE PRESENTED BY THE CONTRACTOR PRIOR TO INITIATION OF WORK. THE FOD PLAN IS SUBJECT TO ADVANCE APPROVAL BY THE CONSTRUCTION MANAGER. THE MECHANICAL SWEEPER/VACUUM WILL REMAIN ON SITE AND OPERATIONAL FULL TIME THAT WORK CONTINUES ON THE AOA PAVEMENTS.

9. NOTIFICATION OF CONSTRUCTION ACTIVITIES. PROVIDE THE FOLLOWING:
   A. SUFFICIENT LIGHTED BARRICADES ARE IN PLACE TO CONFINE THE WORK AREA AND TO CREATE A BARRIER BETWEEN AIRCRAFT AND VEHICLE MOVEMENT AREAS AND THE CONSTRUCTION AREA.
   B. ALL SAFETY EQUIPMENT FOR PERSONNEL AND CONSTRUCTION EQUIPMENT IS IN PLACE AND OPERABLE.
   C. ALL PERSONNEL WORKING WITHIN THE AOA HAVE BEEN PROPERLY TRAINED AND BADGED BY THE SAN ANTONIO AIRPORT POLICE DEPARTMENT TO WORK WITHIN THE AOA.
   D. THE CONTRACTOR HAS FAMILIARIZED HIS/HER PERSONNEL WITH THE HORIZONTAL AND VERTICAL CLEARANCES NEEDED TO PROVIDE FOR SAFE CONSTRUCTION OPERATIONS ADJACENT TO ACTIVE TAXIWAYS AND TAXILANES.
   E. THE CONTRACTOR HAS TO DEVELOP, SUBMIT AND RECEIVE APPROVAL OF HIS/HER QUALITY CONTROL AND SITE SAFETY AND FOD PLANS.

10. STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT ITS MOVEMENT BY WIND, JET BLAST, PROPELLER WASH OR STORMWATER. STOCKPILED MATERIALS SHALL NOT BE PERMITTED WITHIN 250' OF AN ACTIVE RUNWAY CENTERLINE OR 160' FROM AN ACTIVE TAXIWAY CENTERLINE.

11. DEBRIS, WASTE AND LOOSE MATERIAL SHALL NOT BE ALLOWED ON ACTIVE AIRCRAFT MOVEMENT AREAS. THE MATERIAL WILL BE REMOVED IMMEDIATELY BY THE CONTRACTOR. DUST AND DEBRIS CONTROL IS SUBSIDIARY TO THE WORK AND IS NOT MEASURED FOR SEPARATE PAYMENT.

12. PRIOR TO OPENING ANY WORK AREA FOR AIRCRAFT OPERATIONS, THE CM WILL ARRANGE FOR INSPECTION BY AIRPORT OPERATIONS OR ANY AREA 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 (FAR) PART 139, AND INTERPRETED BY THE DESIGNATED OPERATION'S INSPECTOR, BEFORE PERMISSION WILL BE GRANTED FOR THE CONTRACTOR'S WORK CREWS TO DEPART THE AREA.

13. THE CONTRACTOR SHALL PROVIDE A FULL TIME SAFETY PROFESSIONAL TO MANAGE THE CONTRACTOR'S SAFETY PLAN.

14. THE MAXIMUM HEIGHT OF CONSTRUCTION EQUIPMENT SHALL NOT EXCEED 20' WITHOUT APPROVAL IN ADVANCE.

15. ALL CONSTRUCTION EQUIPMENT MUST BE KEPT AT A DISTANCE GREATER THAN 25 FEET FROM THE WINGTIPS OF AIRCRAFT.

16. THE CONTRACTOR SHALL MAKE PROVISIONS SUCH THAT HINDRANCES TO SERVICING OPERATIONS AT THE AIRCRAFT GATES ADJACENT TO CONSTRUCTION ARE KEPT TO A MINIMUM.

17. CONTRACTOR MUST SUPPLY RADIO CONTROLLED VEHICLES TO SHUTTLE WORKERS TO AND FROM WORK AREAS AND MARSHALLING AREAS. AT NO TIME WILL WORKERS BE PERMITTED TO WALK ACROSS OPERATIONAL AREAS ON THE AIRPORT.

18. ANY FINES ASSESSED TO THE SAN ANTONIO AVIATION DEPARTMENT DUE TO VIOLATIONS BY THE CONTRACTOR OF TSA SECURITY REQUIREMENTS WILL BE PASSED ON TO THE CONTRACTOR.

19. ALL ACCESS ROADS TO MARSHALLING AREAS AND/OR WORK AREAS ARE TO BE DEVELOPED AND/OR MAINTAINED BY THE CONTRACTOR. THESE ROADS ARE TO BE RETURNED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT.

20. THE CONTRACTOR SHALL PROVIDE A UNIFORMED, LICENSED SECURITY GUARD. ACCEPTABLE TO THE OWNER, AND A FUNCTIONING TELEPHONE AT EACH AOA GATE AT ALL TIMES THAT SUCH A GATE IS UNLOCKED. ALL PERSONNEL AND VEHICLES REQUIRED ACCESS TO THE AOA SHALL COMPLY WITH ALL REQUIREMENTS OF THE AIRPORT SECURITY.

SAFETY PLAN COMPLIANCE DOCUMENT (SPCD):

THE SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) SHOULD INCLUDE A GENERAL STATEMENT BY THE CONSTRUCTION CONTRACTOR THAT HE/SHE HAS READ AND WILL ABIDE BY THE CONSTRUCTION SAFETY AND PHASING PLAN (CSPP). IN ADDITION, THE SPCD MUST INCLUDE ALL SUPPLEMENTAL INFORMATION THAT COULD NOT BE INCLUDED IN THE CSPP PRIOR TO THE CONTRACT AWARD. THE CONTRACTOR STATEMENT SHOULD INCLUDE THE NAME OF THE CONTRACTOR, THE TITLE OF THE PROJECT CSPP, THE APPROVAL DATE OF CSPP, AND A REFERENCE TO ANY SUPPLEMENTAL INFORMATION (THAT IS "I, NAME OF CONTRACTOR, HAVE READ THE TITLE OF PROJECT CSPP, APPROVED ON DATE, AND WILL ABIDE BY IT AS WRITTEN AND WITH THE FOLLOWING ADDITIONAL AS NOTED:"). THE SUPPLEMENTAL INFORAMTION IN THE SPCD SHOULD BE WRITTEN TO MATCH THE FORMAT OF THE CSPP INDICATING EACH SUBJECT BY CORRESPONDING CSPP SUBJECT NUMBER AND TITLE. IF NO SUPPLEMENTAL INFORMATION IS NECESSARY FOR ANY SPECIFIC SUBJECT, THE STATEMENT, "NO SUPPLEMENTAL INFORMATION," SHOULD BE WRITTEN AFTER THE CORRESPONDING SUBJECT TITLE. THE SPCD SHOULD NOT DUPLICATE INFORMATION IN THE CSPP:

1. COORDINATION. DISCUSS DETAILS OF PROPOSED SAFETY MEETINGS WITH THE AIRPORT OPERATOR AND WITH CONTRACTOR EMPLOYEES AND SUBCONTRACTORS.

2. PHASING. DISCUSS PROPOSED CONSTRUCTION SCHEDULE ELEMENTS, INCLUDING:

   A. DURATION OF EACH PHASE.
   B. DAILY START AND FINISH CONSTRUCTION, INCLUDING "NIGHT ONLY" CONSTRUCTION.
   C. DURATION OF CONSTRUCTION ACTIVITIES DURING:
      i. NORMAL RUNWAY OPERATIONS.
      ii. CLOSED RUNWAY OPERATIONS.
      iii. MODIFIED RUNWAY "AIRCRAFT REFERENCE CODE" USAGE.

3. AREAS AND OPERATIONS AFFECTED BY THE CONSTRUCTION ACTIVITY. THESE AREAS AND OPERATIONS SHOULD BE IDENTIFIED IN THE CSPP AND SHOULD NOT REQUIRE AN ENTRY IN THE SPCD.

4. PROTECTION OF NAVAIDS. DISCUSS SPECIFIC METHODS PROPOSED TO PROTECT OPERATING NAVAIDS.

5. CONTRACTOR ACCESS. PROVIDE THE FOLLOWING:

   A. DETAILS ON HOW THE CONTRACTOR WILL MAINTAIN THE INTEGRITY OF THE AIRPORT SECURITY FENCE (GATE GUARDS, DAILY LOG OF CONSTRUCTION PERSONNEL, AND OTHER).
   B. LISTING OF INDIVIDUALS REQUIRING DRIVER TRAINING (FOR CERTIFICATED AIRPORTS AND AS REQUESTED).
   C. RADIO COMMUNICATIONS.
      i. TYPES OF RADIOS AND BACKUP CAPABILITIES.
      ii. WHO WILL BE MONITORING RADIOS.
      iii. WHOM TO CONTACT IF THE ATCT CANNOT REACH THE CONTRACTOR'S DESIGNATED PERSON BY RADIO.
   D. DETAILS ON HOW THE CONTRACTOR WILL ESCORT MATERIAL DELIVERY VEHICLES.

6. WILDLIFE MANAGEMENT. DISCUSS THE FOLLOWING:
   A. METHODS AND PROCEDURES TO PREVENT WILDLIFE ATTRACTION.
   B. WILDLIFE REPORTING PROCEDURES.

7. FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT. DISCUSS EQUIPMENT AND METHODS FOR CONTROL OF FOD, INCLUDING CONSTRUCTION DEBRIS AND DUST.

8. HAZARDOUS MATERIAL (HAZMAT) MANAGEMENT. DISCUSS EQUIPMENT AND METHODS FOR RESPONDING TO HAZARDOUS SPILLS.

9. NOTIFICATION OF CONSTRUCTION ACTIVITIES. PROVIDE THE FOLLOWING:
   A. CONTRACTOR POINTS OF CONTACT.
   B. CONTRACTOR EMERGENCY CONTACT.
   C. LISTING OF TALL OR OTHER REQUESTED EQUIPMENT PROPOSED FOR USE ON THE AIRPORT AND THE TIMEFRAME FOR SUBMITTING 7460-1 FORMS NOT PREVIOUSLY SUBMITTED BY THE AIRPORT OPERATOR.
   D. BATCH PLANT DETAILS, INCLUDING 7460-1 SUBMITTAL.

10. INSPECTION REQUIREMENTS. DISCUSS DAILY (OR MORE FREQUENT) INSPECTIONS AND SPECIAL INSPECTION PROCEDURES.

11. UNDERGROUND UTILITIES. DISCUSS PROPOSED METHODS OF IDENTIFYING AND PROTECTING UNDERGROUND UTILITIES.

12. PENALTIES. PENALTIES SHOULD BE IDENTIFIED IN THE CSPP AND SHOULD NOT REQUIRE AN ENTRY IN THE SPCD.

13. SPECIAL CONDITIONS. DISCUSS PROPOSED ACTIONS FOR EACH SPECIAL CONDITION IDENTIFIED IN THE CSPP.

14. RUNWAY AND TAXIWAY VISUAL AIDS. INCLUDING MARKING, LIGHTING, SIGNS AND VISUAL NAVAIDS. DISCUSS PROPOSED VISUAL AIDS INCLUDING THE FOLLOWING:

   A. EQUIPMENT AND METHODS FOR COVERING SIGNAGE AND AIRFIELD LIGHTS.
   B. EQUIPMENT AND METHODS FOR TEMPORARY CLOSURE MARKINGS (PAINT, FABRIC, OTHER).
   C. TYPES OF TEMPORARY VISUAL GUIDANCE SLOPE INDICATORS (VGSI).

15. MARKING AND SIGNS FOR ACCESS ROUTES. DISCUSS PROPOSED METHODS OF DEMARCATING ACCESS ROUTES FOR VEHICLE DRIVERS.

16. HAZARD MARKING AND LIGHTING. DISCUSS PROPOSED EQUIPMENT AND METHODS FOR IDENTIFYING EXCAVATION AREAS.

17. PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS, INCLUDING OBJECT FREE AREAS, OBSTACLE FREE ZONES, AND APPROACH/DEPARTURE SURFACES. DISCUSS PROPOSED METHODS OF IDENTIFYING, DEMARCATING AND PROTECTING AIRPORT SURFACES INCLUDES:

   A. EQUIPMENT AND METHODS FOR MAINTAINING TAXIWAY SAFETY AREA STANDARDS.
   B. EQUIPMENT AND METHODS FOR SEPARATION OF CONSTRUCTION OPERATIONS FROM AIRCRAFT OPERATIONS, INCLUDING DETAILS OF BARRICADES.

18. OTHER LIMITATIONS ON CONSTRUCTION SHOULD BE IDENTIFIED IN THE CSPP AND SHOULD NOT REQUIRE AN ENTRY IN THE SPCD.

MATERIAL SAFETY DATA SHEETS (MSDS):

1. SUBCONTRACTORS ARE REQUIRED TO BRING COPIES OF MSDS'S FOR ALL HAZARDOUS CHEMICALS BROUGHT ONTO THE SITE.

   A. THESE WILL BE RETAINED BY THE MSDS COORDINATOR AND WILL BE ACCESSIBLE TO ALL EMPLOYEES.

2. EACH SUBCONTRACTOR MUST BRING ITS SPECIFIC HAZARDOUS COMMUNICATION PROGRAM AND MSDS'S IN A BINDER LABELED WITH THE CONTRACTOR'S NAME AND IDENTIFIED AS A HAZARDOUS COMMUNICATION PROGRAM.

   A. UPON LEAVING THE JOB SITE AND THE REMOVAL OF ALL HAZARDOUS MATERIALS, THE BINDER WILL BE RETURNED TO THE SUBCONTRACTORS.

TRAFFIC NOTES AND SPECIAL CONDITIONS:

1. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO SEE THAT ALL TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED AT THE JOBSITE IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND RELATED INDUSTRY STANDARDS AND REGULATIONS. THE CONTRACTOR SHALL SUBMIT FOR REVIEW A SIGN AND BARRICADE PLAN CONFORMING TO THE REQUIREMENTS OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CITY'S CONSTRUCTION OBSERVER/INSPECTOR (COI) AND THE AVIATION DEPARTMENT PLANNING AND DEVELOPMENT REPRESENTATIVE (AVIATION DEPARTMENT) WILL ONLY BE RESPONSIBLE TO INSPECT THE TRAFFIC CONTROL DEVICES BEING DEPLOYED. IF IN THE OPINION OF THE AVIATION DEPARTMENT AND THE COI, THE TRAFFIC CONTROL DEVICES DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE COI SHALL HAVE THE OPINION TO STOP CONSTRUCTION OPERATIONS AT NO EXPENSE TO THE CITY UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED BY THE CONTRACTOR.

2. PRIOR TO REMOVING ANY TRAFFIC SIGNS OR TRAFFIC SIGNALS, THE CONTRACTOR SHALL CONTACT THE AVIATION DEPARTMENT AT (210) 207-3506. PRIOR TO COMPLETION OF THE CONTRACT AND REMOVAL OF THE BARRICADES, THE CONTRACTOR SHALL AGAIN CONTACT THE AVIATION DEPARTMENT. THE BARRICADES SHALL NOT BE REMOVED UNTIL ALL APPLICABLE PERMANENT TRAFFIC SIGNS AND SIGNALS ARE IN PLACE.

3. IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN AND MAINTAIN TEMPORARY STOP SIGNS AND ALL OTHER TRAFFIC CONTROL DEVICES REQUIRED TO PROTECT THE GENERAL PUBLIC. IF THE CITY OF SAN ANTONIO AVIATION DEPARTMENT HAS REMOVED PERMANENT STOP SIGNS, THE CONTRACTOR SHALL REQUEST THAT THE SIGNS BE RETURNED TO THE CONSTRUCTION SITE TO BE REINSTALLED BY THE CONTRACTOR. ALL PERMANENT SIGNS OR TRAFFIC CONTROL DEVICES MISSING OR DAMAGED UPON COMPLETION OF CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

4. THE CONTRACTOR MUST CONTACT THE CITY'S AVIATION DEPARTMENT 10 DAYS IN ADVANCE (NOT INCLUDING WEEKENDS) OF ANY STREET CLOSURE. THIS MUCH TIME IS NECESSARY TO INSTALL ADVISORY SIGNS AND GIVE THE MOTORISTS 7 DAYS NOTICE OF THE STREET CLOSURE. THE COI AFTER BEING NOTIFIED WILL CONTACT THE TRAFFIC DEVELOPMENT OFFICE TO MAKE THE NECESSARY ARRANGEMENTS.

5. AS WORK PROGRESSES, LOCATION OF TEMPORARY TRAFFIC CONTROL DEVICES WILL BE ADJUSTED AND MODIFIED, AS NECESSARY BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.

6. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES, SPECIAL DIRECTIONAL DEVICES, AND/OR BUSINESS NAME SIGNS MAY BE ORDERED BY THE TRAFFIC DEVELOPMENT REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

7. TEMPORARY TRAFFIC SIGNAL DEVICES SHALL CONFORM TO THE CITY'S "TYPICAL SIGN AND BARRICADE STANDARDS" SHEETS AND TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

8. THE CONTRACTOR MUST MAINTAIN ALL STREETS WITHIN THE PROJECT LIMITS OPEN TO THROUGH TRAFFIC BY REPAIRING TRENCHES, POTHOLES, LEVELING UP WITH ASPHALT, ETC. AT NO DIRECT PAYMENT, COST TO BE INCLUDED IN OTHER ITEMS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUITABLE ACCESS ACCOMMODATIONS FOR PEDESTRIANS.

10. THE CONTRACTOR SHALL PROVIDE ACCESS FOR DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.

11. THE CONTRACTOR SHALL PROVIDE FOR ACCESS TO ALL BUSINESSES AT ALL TIMES WITHIN ALL THE PHASES OF THE WORK.

12. WHEN THE CONSTRUCTION WORK NECESSITATES THE UTILIZATION OF VEHICLE PATHS OTHER THAN THE LANES NORMALLY USED, TRAFFIC CONTROL MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED AND APPROVED TEMPORARY PAVEMENT MARKINGS AND SIGNS INSTALLED IN ACCORDANCE WITH PART VI-D OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

    AFTER CONSTRUCTION IS COMPLETED AND TRAFFIC IS REROUTED BACK TO THE ORIGINAL LANES, THE TRAFFIC CONTROL MARKINGS AND/OR RAISED BUTTONS THAT WERE ORIGINALLY REMOVED FROM THE EXISTING PAVEMENT MUST BE REPLACED. IN ADDITION, TEMPORARY MARKINGS MUST BE REMOVED. ALL OF THIS IS TO BE DONE AT NO DIRECT PAYMENT, COST TO BE INCLUDED IN OTHER ITEMS.

13. PERMANENT PAVEMENT MARKINGS SHALL BE APPLIED PRIOR TO THE OPENING OF THE COMPLETED STREET TO TRAFFIC. TEMPORARY ADDITIONAL SHORT-TERM EXPENDABLE PAVEMENT MARKINGS MAY BE PROVIDED PRIOR TO APPLICATION OF PAVEMENT MARKINGS IN MINIMUM LENGTHS OF 36' OR RAISED PAVEMENT MARKINGS TO DELINEATE CONTINUITY UNTIL SUCH TIME AS STANDARD PAVEMENT MARKINGS IN NORMAL LENGTHS CAN BE PLACED AT DIRECT PAYMENT.

14. ALL TEMPORARY TRAFFIC CONTROL DEVICES, ETC., SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT DIRECT PAYMENT, UNLESS OTHERWISE NOTED OR STATED.

15. THE COI WILL MONITOR THE CONTRACTOR'S TRAFFIC CONTROL DEVICES AND WILL BE RESPONSIBLE TO FURNISH ALL BUSINESSES WITH AN INFORMATION FLYER ON ALL JOBS DURING CONSTRUCTION.

16. ANY DAMAGE TO PERMANENT TRAFFIC SIGNALS, THE CONTROLLER BOX, LOOPS OR CONDUIT DURING OR UPON COMPLETION OF THE PROJECT SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. THE DECISION TO REPAIR, AS OPPOSED TO REPLACE, THE DAMAGED EQUIPMENT SHALL BE MADE BY THE CITY AVIATION DEPARTMENT.

17. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL STREETS OUTSIDE OF THE PROJECT LIMITS WHICH WERE DAMAGED BY CONSTRUCTION ACTIVITIES. THE REPLACING SECTION MUST BE APPROVED BY THE AVIATION DEPARTMENT. THERE WILL BE NO DIRECT PAYMENT FOR THIS WORK. THE COST IS TO BE INCLUDED IN OTHER ITEMS.

18. CONTRACTOR TO EVALUATE THE PLAN TO DETERMINE IF AN OFF DUTY POLICE OFFICER IS REQUIRED.

19. IF SPLIT CONSTRUCTION IS SHOWN, THEN THE SANITARY SEWER SHALL BE COMPLETED PRIOR TO BEGINNING STREET AND DRAINAGE CONSTRUCTION, AND TRAFFIC SHALL BE MAINTAINED OR DETOURED AS DIRECTED BY THE AVIATION DEPARTMENT. THERE WILL BE NO ADDITIONAL PAYMENT FOR MAINTAINING OF TRAFFIC AND DETOURS.

20. THE CONTRACTOR SHALL PROVIDE THE CITY OF SAN ANTONIO AN EMERGENCY TELEPHONE NUMBER FOR EVENING, WEEKENDS AND HOLIDAYS BY THE FIRST WORKING DAY OF THE PROJECT. THIS TELEPHONE NUMBER MUST BE A COMMERCIAL ANSWERING SERVICE. THE ANSWERING SERVICE MUST BE ABLE TO CONTACT THE CONTRACTOR AND THE CONTRACTOR MUST RESPOND TO THE CITY STAFF WITHIN 90 MINUTES OF THE INITIAL CONTACT.

21. AIRPORT OPS MAY ALSO INSPECT TRAFFIC CONTROL DEVICES.

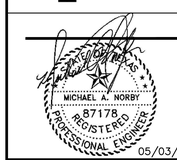
CITY OF SAN ANTONIO AVIATION DEPARTMENT

SAN ANTONIO AIRPORT SYSTEM

Kimley»Horn
KIMLEY-HORN AND ASSOCIATES, INC.
601 NW LOOP 410, SUITE 350
SAN ANTONIO, TEXAS 78216
PHONE: (210) 541-9166

TEXAS REGISTERED FIRM, NO. 928

RUNWAY 12R-30L
ELECTRICAL IMPROVEMENTS
AND TERMINAL AREA
TAXIWAY IMPROVEMENTS
(PACKAGE 4)



05/03/16

MARK	DATE	DESCRIPTION

ISSUE:

PROJECT NO:	33-0019X
FILE NAME:	_33-00193-R1GN-005-D00
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GENERAL NOTES

C1.9

SHEET NO. 9 OF 157

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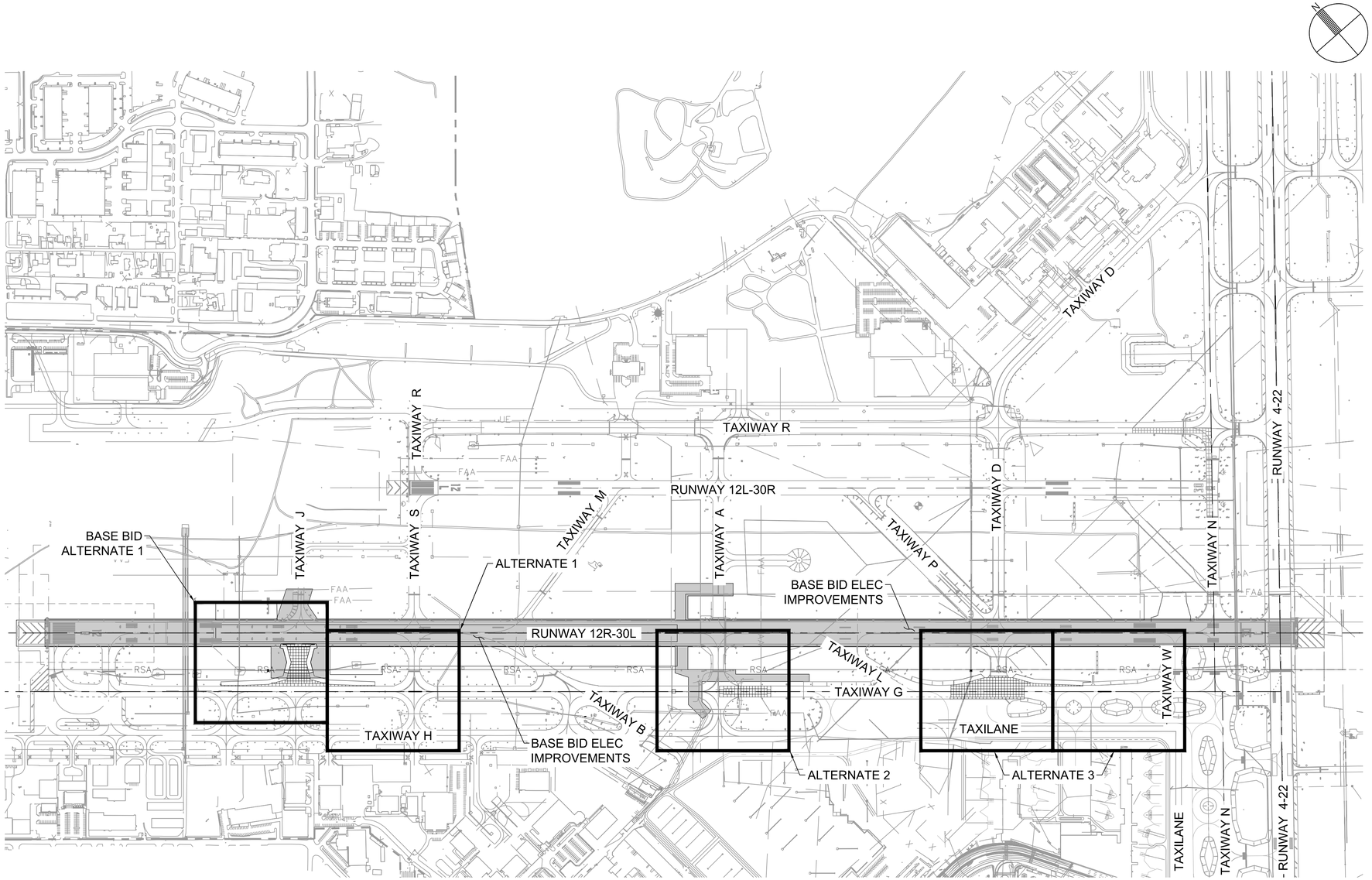

GENERAL NOTES

1. REFER TO SHEET C1.11 FOR HORIZONTAL AND VERTICAL CONTROL.
2. EACH ALTERNATIVE WILL BE BROKEN OUT INTO INDIVIDUAL PHASES. PLEASE REFER TO INDIVIDUAL PHASE SHEETS FOR GREATER DETAIL.

PROJECT DESCRIPTION

WORK INCLUDES GRADING, PAVING, MARKING, SIGNAGE AND LIGHTING FOR THE FOLLOWING:

BASE BID:
REHABILITATION AND NEW CONSTRUCTION OF PAVEMENTS ON THE AIRFIELD. THE PAVEMENTS TO BE REHABILITATED ARE AS FOLLOWS:

- TAXIWAY J – PORTION OF TAXIWAY CONNECTOR FROM RUNWAY 12R–30L EDGE TO A POINT JUST BEYOND THE RUNWAY 12R–30L RSA
- RUNWAY 12R–30L – ELECTRICAL IMPROVEMENTS
- DRAINAGE IMPROVEMENTS

ALTERNATE 1:

- TAXIWAY J – PORTION OF TAXIWAY CONNECTOR OUTSIDE THE RUNWAY 12R–30L RSA
- ELECTRICAL IMPROVEMENTS

ALTERNATE 2:

- TAXIWAY G – PANEL REPLACEMENT/RECONSTRUCTION AT INTERSECTION OF TAXIWAY A
- ELECTRICAL IMPROVEMENTS

ALTERNATE 3:

- TAXIWAY G – RECONSTRUCTION AT INTERSECTION OF TAXIWAY D
- ELECTRICAL IMPROVEMENTS

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SCALE IN FEET

CITY OF SAN ANTONIO AVIATION DEPARTMENT

SAN ANTONIO AIRPORT SYSTEM

Kimley»Horn
KIMLEY–HORN AND ASSOCIATES, INC.
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PHONE: (210) 541–9166
TEXAS REGISTERED FIRM, NO. 928

RUNWAY 12R-30L ELECTRICAL IMPROVEMENTS AND TERMINAL AREA TAXIWAY IMPROVEMENTS (PACKAGE 4)

STATE OF TEXAS
MICHAEL A. NORBY
87178
REGISTERED
PROFESSIONAL ENGINEER
05/03/16

MARK	DATE	DESCRIPTION

ISSUE:	-
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FILE NAME:	_33-00193-R1CL-401-D00
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PROJECT LAYOUT PLAN

C1.10
SHEET NO. 10 OF 157

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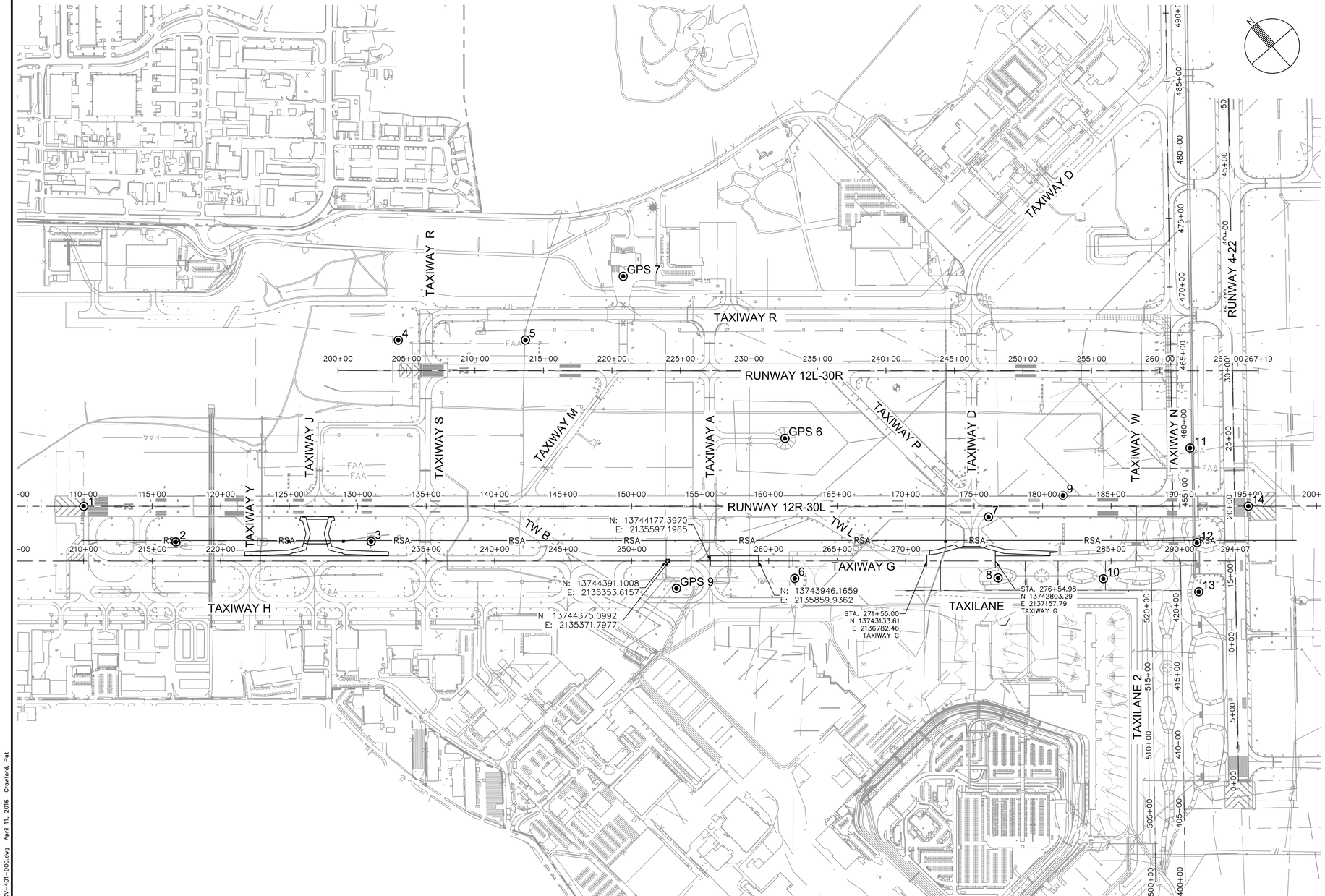

LEGEND

⊙# HORIZONTAL AND VERTICAL CONTROL POINT

GENERAL NOTES

1. CONTRACTOR TO SUBMIT WRITTEN VERIFICATION OF HORIZONTAL AND VERTICAL CONTROL POINTS WITHIN THE PROJECT VICINITY. THE VERIFICATION MUST BE STAMPED BY A LICENSED SURVEYOR IN THE STATE OF TEXAS.
2. WITHIN 72 HOURS OF BEGINNING CONSTRUCTION, ANY DISCREPANCIES NEED TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

DATUM

LATITUDE AND LONGITUDE ARE NAD 83 TEXAS SOUTH CENTRAL ZONE SPC BASED GRID COORDINATES, ELEVATIONS ARE BASED ON NGVD–29, AND NORTHING AND EASTING MONUMENTS ARE NAD 83 TEXAS SOUTH CENTRAL ZONE SPC BASE SURFACE COORDINATES.

HORIZONTAL AND VERTICAL CONTROL POINTS

CONTROL POINT	NORTHING	EASTING	STATION	OFFSET	ELEVATION	DESCRIPTION
GPS 6	13744490.4566	2136596.0172	161+18.62	495.39' LT	785.480'	
GPS 7	13746158.4159	2136491.5000	149+38.21	1678.45' LT	784.750'	
GPS 9	13744191.3278	2135277.9149	153+26.77	599.98' RT	792.870	
1	13747500.2459	2132426.2600	110+00.00	0.00'	809.1'	RUNWAY 12R END THRESHOLD
2	13746859.8059	2132759.1200	116+72.99	260.86' RT	802.332'	TEMPORARY BENCHMARK
3	13745920.4459	2133831.0600	130+98.27	257.84' RT	800.091'	TEMPORARY BENCHMARK
4	13746893.3659	2134951.3400	132+96.48	1212.64' LT	789.049'	TEMPORARY BENCHMARK
5	13746280.5059	2135649.0300	142+25.12	1213.52' LT	788.733'	TEMPORARY BENCHMARK
6	13743675.5572	2135974.4219	161+90.37	527.01' RT	787.345'	TEMPORARY BENCHMARK
7	13743077.4673	2137332.6719	176+05.12	78.64' RT	785.440'	TEMPORARY BENCHMARK
8	13742697.0141	2137091.1670	176+75.18	523.79' RT	782.170'	TEMPORARY BENCHMARK
9	13742837.0343	2137844.6051	181+48.27	79.08' LT	782.430'	TEMPORARY BENCHMARK
10	13742185.2818	2137663.8840	184+43.19	529.57' RT	779.800'	TEMPORARY BENCHMARK
11	13742484.0927	2138769.4648	190+75.72	425.15' LT	774.336'	TEMPORARY BENCHMARK
12	13741932.2864	2138350.7699	191+25.97	265.69' RT.	776.859'	TEMPORARY BENCHMARK
13	13741654.0981	2138123.7712	191+39.35	624.49' RT	777.950'	TEMPORARY BENCHMARK
14	13741883.5882	2138808.2674	195+01.58	0.00'	778.4'	RUNWAY 30L END THRESHOLD

400 0 400 800
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CITY OF SAN ANTONIO AVIATION DEPARTMENT

SAN ANTONIO AIRPORT SYSTEM

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TEXAS REGISTERED FIRM, NO. 928

RUNWAY 12R-30L ELECTRICAL IMPROVEMENTS AND TERMINAL AREA TAXIWAY IMPROVEMENTS (PACKAGE 4)

MICHAEL A. NORBY 87178 REGISTERED PROFESSIONAL ENGINEER
05/03/16

MARK	DATE	DESCRIPTION
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HORIZONTAL AND VERTICAL CONTROL PLAN

C1.11
SHEET NO. 11 OF 157

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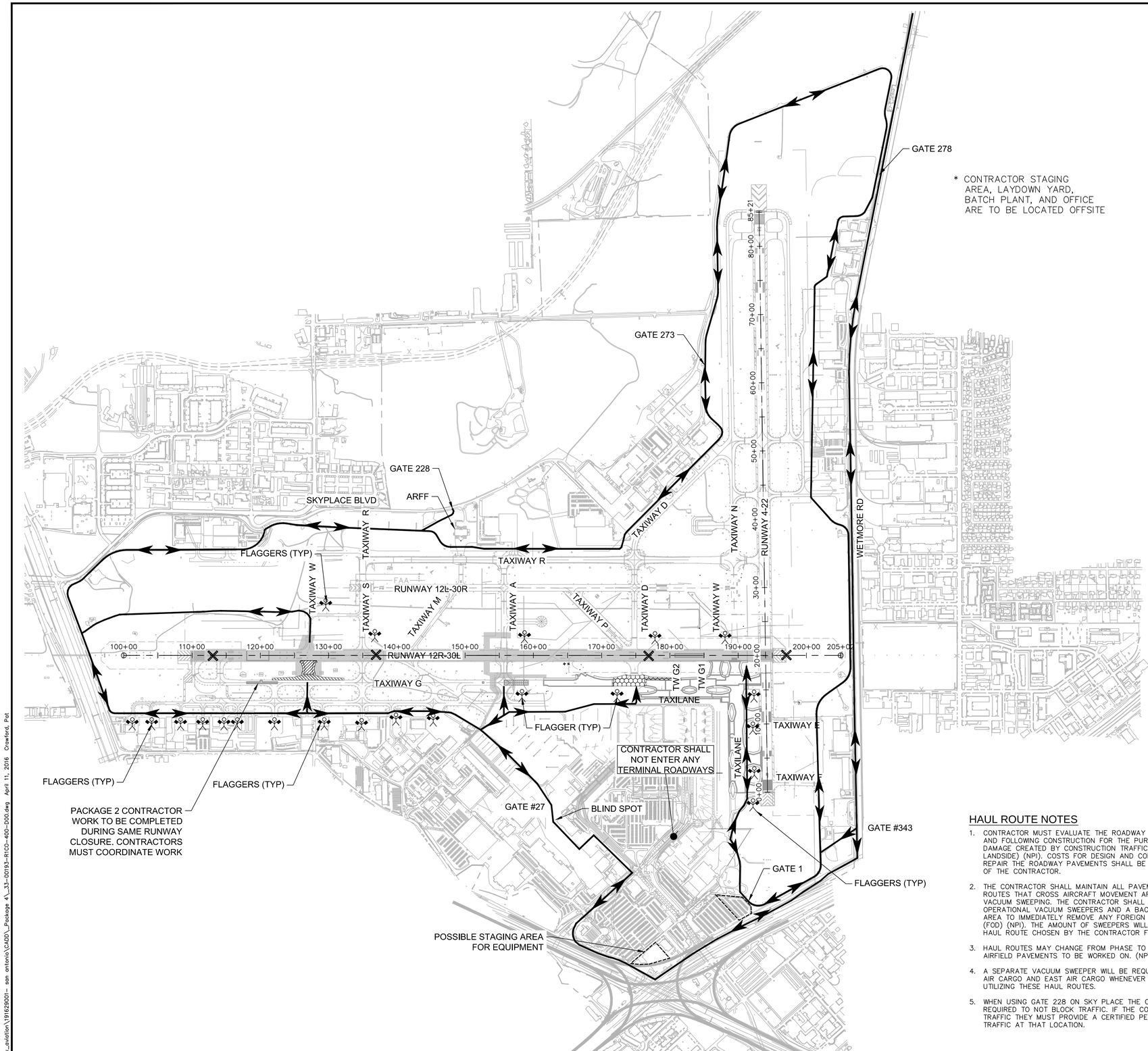

LEGEND

- BASE BID ELECTRICAL/CIVIL (90 DAYS)
- ALTERNATE 1 BID (80 DAYS)
- ALTERNATE 2 BID (45 DAYS)
- ALTERNATE 3 BID (60 DAYS)
- CONTRACTOR FIELD OFFICE, STAGING AND STORAGE AREA
- HAUL ROUTE
- PORTABLE LIGHTED RUNWAY CLOSURE MARKER (PROVIDED BY THE CONTRACTOR)
- FLAGGER (TO BE SUPPLIED BY CONTRACTOR)
- WING WALKER (TO BE SUPPLIED BY AIRLINES)

GENERAL NOTES

1. RUNWAY 4–22 AND 12R–30L WILL NOT BE CLOSED AT THE SAME TIME.
2. BECAUSE THE BATCH PLANT IS LOCATED OFFSITE, IT IS THE INTENT TO PROVIDE ENOUGH ENTRANCES AND OPTIONS FOR THE CONTRACTOR TO CHOOSE THEIR DESIRED HAUL ROUTE FOR ENTERING THE PROJECT LOCATION. THE CONTRACTOR WILL HAVE TO PROVIDE NECESSARY FLAGGERS (NPI) AND SWEEPERS (NPI) NECESSARY FOR EACH PHASE. ANY CHANGES TO THE HAUL ROUTES WILL NEED TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE AIRPORT IMMEDIATELY. THE AIRPORT ALSO RESERVES THE RIGHT TO CHANGE/ALTER THE ROUTE DUE TO UNKNOWN CIRCUMSTANCES. NO ADDITIONAL PAYMENT WILL BE MADE FOR ALTERING THE ROUTE.
3. THE CONTRACTOR SHALL BE AWARE THAT CONSTRUCTION WILL BE ADJACENT TO ACTIVE AIRCRAFT OPERATIONS. CONSTRUCTION TRAFFIC SHALL YIELD TO AIRCRAFT AT ALL TIMES. THE CONTRACTOR SHALL NOT MOVE ANY EQUIPMENT ON ANY ACTIVE AIRPORT OPERATIONS AREA WITHOUT AN OPERATIONS OR MAINTENANCE STAFF ESCORT. DELAYS AND PRECAUTIONS RESULTING FROM AIRCRAFT MOVEMENTS SHOULD BE EXPECTED. EXPENSES ASSOCIATED WITH ANY DELAYS ARE INCIDENTAL TO THE PROJECT (NPI).
4. PORTABLE LIGHTED RUNWAY CLOSURE MARKERS (LIGHTED "X") WILL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT, REFER TO DETAIL 1, SHEET C2.3.
5. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN LOW PROFILE BARRICADES, LIGHTS AND FLAGS FOR RUNWAY/TAXIWAY CLOSURES AS INDICATED ON THE CONSTRUCTION PHASING PLANS, REFER TO DETAIL SHEET C2.3. THE CONTRACTOR SHALL PLACE THE LOW PROFILE BARRICADES AS SHOWN ON EACH PHASING PLAN OR AS DIRECTED BY THE SAT OPERATIONS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER POSITIONING OF LOW PROFILE BARRICADES THROUGHOUT THE DURATION OF THE PROJECT (NPI).
6. THE CONTRACTOR SHALL COORDINATE WITH OPERATIONS AND MAINTENANCE STAFF TO COVER AND PROTECT ANY EXISTING GUIDANCE SIGNS AND EDGE LIGHTS ASSOCIATED WITH CLOSED RUNWAYS AND TAXIWAYS. DAMAGE TO SIGNS AND EDGE LIGHTS SHALL BE REPLACED AT THE CONTRACTOR EXPENSE (NPI).
7. THE CONTRACTOR SHALL REMOVE THE LOW PROFILE BARRICADES AND UNCOVER THE GUIDANCE SIGNS AND EDGE LIGHTS UPON COMPLETION OF THE PROJECT. DAMAGE TO SIGNS AND EDGE LIGHTS SHALL BE REPLACED AT THE CONTRACTORS EXPENSE (NPI).
8. CONTRACTOR IS RESPONSIBLE FOR THE SECURITY OF THE OFFSITE BATCH PLANT LOCATION. ALL MEASURES TO SECURE THE BATCH PLANT ARE THE RESPONSIBILITY OF THE CONTRACTOR.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE SECURITY OF ANY OF THE TEMPORARY STAGING AREAS ASSOCIATED WITH THE PROJECT (NPI). FENCING WILL NOT BE ALLOWED TO BE ANCHORED INTO EXISTING PAVEMENT.
10. THE CONTRACTOR SHALL PROVIDE LICENSED GATE GUARDS IN ACCORDANCE WITH THE AIRPORTS STANDARDS AND REQUIREMENTS. COST FOR PROVIDING GATE GUARDS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS GUARD WILL NOT HAVE AUTHORITY OVER AIRPORT SECURITY WHILE ON DUTY. (NPI)
11. ALL VEHICLES WILL BE SUBJECT TO SEARCH BEFORE ENTERING THE SECURED AREA.
12. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF–SITE ROUTES (STATE HIGHWAYS, COUNTY ROADS OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE. ON–SITE HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE. THE CONTRACTOR SHALL PROVIDE APPROPRIATE TXDOT WARNING SIGNS PRIOR TO THE PROJECT ENTRANCE NOTIFYING THE TRAVELING PUBLIC. THESE SIGNS WILL BE REVIEWED AND APPROVED BY THE ENGINEER/AIRPORT AND BE PROVIDED FOR THE DURATION OF THE PROJECT. THESE SIGNS ARE CONSIDERED INCIDENTAL TO THE PROJECT. (NPI)
13. ALL MATERIAL REMOVED FROM THE PROJECT SHALL REMAIN ON AIRPORT PROPERTY AT A DESIGNATION TO BE DETERMINED BY THE AIRPORT, ENVIRONMENTAL, AND THE ENGINEER. THIS MATERIAL SHALL BE SPREAD COMPACTED AND SEEDED TO THE SATISFACTION OF THE ENGINEER. (NPI)
14. RUNWAY 12R–30L WILL BE RENUMBERED TO RUNWAY 13R–31L DURING THIS SAME RUNWAY CLOSURE. AIRPORT FORCES WILL RENUMBER THE RUNWAY, CHANGE SIGNING NOT ASSOCIATED WITH THIS PROJECT, AND PAINT NEW HOLD POSITION MARKINGS AT ALL INTERSECTIONS. CONTRACTOR MUST PROVIDE ACCESS TO AIRPORT MAINTENANCE PERSONNEL TO ACCOMPLISH THIS WORK.

HAUL ROUTE NOTES

1. CONTRACTOR MUST EVALUATE THE ROADWAY NETWORK PRIOR TO AND FOLLOWING CONSTRUCTION FOR THE PURPOSES OF REPAIRING DAMAGE CREATED BY CONSTRUCTION TRAFFIC (AIRSIDE OR LANDSIDE) (NPI). COSTS FOR DESIGN AND CONSTRUCTION TO REPAIR THE ROADWAY PAVEMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE CONTRACTOR SHALL MAINTAIN ALL PAVEMENTS AND HAUL ROUTES THAT CROSS AIRCRAFT MOVEMENT AREAS BY MEANS OF VACUUM SWEEPING. THE CONTRACTOR SHALL HAVE ENOUGH OPERATIONAL VACUUM SWEEPERS AND A BACKUP AT THE WORK AREA TO IMMEDIATELY REMOVE ANY FOREIGN OBJECT DEBRIS (FOD) (NPI). THE AMOUNT OF SWEEPERS WILL DEPEND ON THE HAUL ROUTE CHOSEN BY THE CONTRACTOR FOR EACH PHASE.
3. HAUL ROUTES MAY CHANGE FROM PHASE TO PHASE BASED ON AIRFIELD PAVEMENTS TO BE WORKED ON. (NPI)
4. A SEPARATE VACUUM SWEEPER WILL BE REQUIRED ON THE NORTH AIR CARGO AND EAST AIR CARGO WHENEVER THE CONTRACTOR IS UTILIZING THESE HAUL ROUTES.
5. WHEN USING GATE 228 ON SKY PLACE THE CONTRACTOR IS REQUIRED TO NOT BLOCK TRAFFIC. IF THE CONTRACTOR BLOCKS TRAFFIC THEY MUST PROVIDE A CERTIFIED PERSON TO DIRECT TRAFFIC AT THAT LOCATION.

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CITY OF SAN ANTONIO AVIATION DEPARTMENT

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05/03/16

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ISSUE:		

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OVERALL PHASING PLAN

C2.1

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