ADDENDUM NO. 1

PROJECT TITLE: GA Apron and Taxiway C

DATE: June 2, 2025

This addendum shall be included in, and be considered a part of the plans and specification for the above named project.

Addendum No. 1 is issued to notify you of the revisions and/or corrections to the following items that were posted on the City of Coolidge website (coolidgeaz.com/bidpackage).

BEGIN ADDENDUM NO. 1

Prospective bidders and interested parties are hereby directed to make the following changes to the plans and specifications for the above referenced project. This addendum shall be affixed to the contract documents and the signature of the receiving party shall be placed on page 'B – 1' of the specifications.

I. SPECS DIVISION I – Bid Proposal

Remove Pages B-1 through B-37 and replaced with attached "*Specifications Division I – Bid Proposal_Addendum 01.pdf*" including the following updates:

a. Bid Proposal, pages B-3 – B-7, Bid Schedule:

Updated Project Quantities for Base Bid, Alternate 1, and Alternate 2. Updated item numbers have been highlighted.

b. Bid Proposal, pages B-8, B-13, B-15, B-23, Date of Submittal:

Updated all dates of signature to read "*202__*"

II. SPECS DIVISION IV – Item M-002 Engineer's Field Office and Curing Facilities:

This specification can be omitted from the required documents as a Field Office and On-site Curing Facility is not a requirement for this project.

III. SPECS DIVISION V – Technical Specifications

The following FAA technical specifications have been included and shall be utilized for the specified material acceptance.

a. P-209 Crushed Aggregate Base Course

IV. PLAN SHEETS:

Remove the following plan sheets and **Replace** with the attached sheets:

Sheet Number	Title Description	Narrative
C1.2	Notes	Added sheet E2.6 to Sheet List

C1.3	Summary of Quantities	Updated project quantities for Base Bid, Alt 1, and Alt 2
C1.4	Project Layout	Updated Primary Control Point
C3.1	Typical Sections	Updated Subbase to P-152
C3.2	Typical Sections	Updated Subbase to P-152
C3.3	Typical Sections	Updated Subbase to P-152
C3.4	Typical Sections	Updated Subbase to P-152
C5.3	Storm Drain Details	Updated Base Course Spec Reference
E1.0	Electrical Scope of Work	Updated Alt 1 map
E1.1	Electrical Layout Plan	Updated Handhole, Sign, and Light Tables
E1.2	Electrical Layout Plan	Updated Handhole, Sign, and Light Tables
E3.2	Electrical Circuit Map	Updated Circuit Map
E2.6	Electrical Details	Added sheet and detail

V. Geotechnical Report

The attached Geotechnical Report shall become a part of the above referenced project contract documents.

VI. Pre-Bid Attendance Sheet

The attached attendance sheet shall become a part of the above referenced project contract documents.

VII. Pre-Bid Meeting Questions

The following questions were generated as a result of the Pre-Bid Meeting held on May 28, 2025 at 10:00 AM.

Q01 Article 15 specifies that bidders must submit the entire contract document book. The file P08_GA_Apron__Twy_C_IFB_Specifications.pdf appears to contain 407 pages. Could you please confirm whether bidders are required to submit all 407 pages with their bid, in addition to the required forms? If not, could you kindly specify which pages must be submitted in order for a bid to be considered responsive?

A01 B-1 through B-37 (Bid Proposal) and Attachment A (Subcontracting and Good Faith Efforts Summary), Attachment B (Letter of Intent to Perform as a Subcontractor/Subconsultant/Supplier), Attachment C (Identification Statement for Disadvantaged Business Enterprises), including items A – N in Article 15 of Division I Instructions to Bidders are the only required submittal documents.

Q02 Can you confirm the Handholes are to be H-20 Rated – construction note mentions Aircraft rated.

A02 Confirmed, handholes are to be H-20 rated

Q03 Can you clarify the Directional drilling bid items for Base Bid and Alternate. Does the base bid require 2-2” and the Alternate require an additional 2-2” at the same location? Bid schedule shows 4-2” for each bid item.

A03 The bore will be in the one location base bid only and it will be 4-2"

Q04 Can you confirm the DBE goal for this project as Section A2 lists a DBE goal of 1.90%, however other portions of the specifications state that there is not a DBE goal and we're only required to document Good Faith Efforts.

A04 DBE goal for this project is 1.90%

Q05 Are you able to provide the geotechnical report?

A05 Geotechnical report will be made available in Addendum 01

Q06 Can you confirm the RipRap quantity as the measured plan quantities do not align with the Base Bid and Alt. 1 bid quantities?

A06 Base bid RipRap quantity should equal 150 SY. Alternate 1 quantity should equal 50 SY

Q07 Can you confirm the aggregate bedding specification as detail 1 on sheet C5.3 notes a MAG and FAA Spec?

A07 Bedding should be per MAG 701. Note on C5.3 has been updated and the sheet is included in this addendum

Q08 For project cost savings would it be feasible to have QC testing done at offsite facilities instead of having an on-site QC lab?

A08 No objections to performing QC testing at an offsite facility

Q09 Can Phase 1 and Phase 2 be constructed concurrently, or must phase 1 be completed prior to Phase 2 commencement?

A09 Phase 1 and Phase 2 can be constructed concurrently. Airport will need to close the primary Runway 5-23 during Phase 2 so advanced notice is required.

Q10 How many days are allocated for each phase within the base bid, alt. 1, and alt. 2?

A10 55 days for Base Bid; 20 days for Alt 1; 15 days for Alt 2

Q11 Is the on-site stockpile shown on the plans a long or short-term stockpile? Will excess materials become property of the airport?

A11 The stockpile shown on the plans is a long-term stockpile. All excess materials will become property of the airport.

Q12 Is there an available on-site water source?

A12 There are available fire hydrants that can be tapped with a meter

Q13 Are the chains and hardware incidental to the aircraft tie-down bid item?

A13 Yes, the chains and hardware are incidental to the aircraft tie-down bid items.

Q14 The electrical items listed in Alternative 1 Bid appear to include the quantities also listed in the Base Bid instead of the additional quantities for the Alternative 1 Bid; what are the correct electrical quantities for Alternative 1 Bid?

A14 The corrected electrical quantities have been included in Addendum 1

Q15 At the pre-bid meeting it was mentioned there is a water hydrant located near the hangars. Is the contractor responsible for paying any fees for use of this hydrant or is there no charge to the contractor?

A15 The contractor is responsible for paying any fees imposed by the City of Coolidge for use of the hydrant

Q16 Please confirm the onsite stockpiled material located at the southwest corner of Parachute Dr. and Beachcraft Rd. is suitable for the project fill required?

A16 Confirmed, the stockpiled material at the referenced location is an acceptable source of fill for the project and will be required to be excavated, placed, and compacted per FAA specification P-152 Excavation, Subgrade, and Embankment.

Q17 What are the restrictions on runway closures? What is the max duration that the runway may be closed in the base bid, alt. 1, and alt. 2?

A17 The runway will be closed only while active construction activities are taking place within the Runway Object Free area.

Q18 Is milling required for asphalt removal?

A18 Milling of the asphalt shoulder pavement is not required for removal.

Q19 Due to the short duration of the project will the engineers field office and curing facility be required? If not – will this item be removed?

A19 Engineers field office and curing facility are not required. This specification can be omitted from the book and bid item has been removed.

Q20 In the Base Bid and Bid Alternate #1 the taxiway edge lights use a single-piece base can due to crushed aggregate shoulders. In Bid Alternate #2, with paved asphalt shoulders, typically a 2-piece adjustable base can and asphalt coring are utilized in place of the single-piece can. Where should the additional cost for the 2-piece base can and coring be accounted for in Bid alternate 2?

A20 Added sheet E2.6 to Alternate 2 includes detail for in-pavement edge light. Added line item to Alternate 2 for associated cost.

Q21 Can you please confirm the following Bid Quantities: Unclassified Excavation, Fill with Select Material, Aggregate Base Course (Stabilized Shoulder)

A21 Bid quantities should reflect what has been listed within Addendum 01

Q22 We are not able to quote the exact mix the attached specs call for, as some of the requirements we do not make in Coolidge, Arizona. My question to you is if you believe that they will make an exception to our 4500 PSI .45 W/C mix using Coolidge materials and non air entrained mixes? We have poured at this airport several times over the years.

A22 Concrete mix designs specified for light can bases and sign bases should conform to the specified P-610 specification. If there is deviation with the submitted mix design, MAG 725 Class AA concrete will be utilized as a secondary option for compliance and approval.

Q23 Please provide a detail for the (4) catch basin dimensions.

A23 Catch basins are to be constructed per MAG standard details 537 Type G. Rim and Invert elevations are per plans

Q24 There doesn't seem to be an outlet for the storm drain system involving the (2) culverts. Where does the water go?

A24 Downstream catch basin will serve as a bubble-up structure.

Q25 On sheet 4 of the plans the elevation for the primary control point is given as 157.99; that elevation seems incorrect as it is 1400-feet below the elevation of control point number 2. Please confirm.

A25 The correct control point elevation is 1575.99

Q26 The drainage channel north of Taxiway C1 and the Apron seems to have a flat bottom at STA 103, but then it's a V ditch at STA 102 and is a flat bottom at STA 101. Could you please provide a cross sectional detail of the drainage channel?

A26 Drainage channel is to commence at the Runway Object Free Area and transition from a low-point flow line to a flat bottom 10’ wide channel with varying side slopes until ultimate outfall as shown per plan.

Q27 From the details shown on sheet 14 of the plans, it appears that after a rain event the catch basin on the left side of Taxiway C3 will be filled with water to the level of 1571.34 and the catch basin on the right will have standing water at the same level of 1571.34, which is only 4/10 below the rim. This standing water

will remain, except for evaporation and seepage from the joints at the bottom of the culvert trench. Am I correct in the interpretation of the water flow after a rainstorm?

A27 This is the correct interpretation of the water flow after a rain event.

End Addendum No. 1

ATTACHMENT I

SPECS DIVISION I - BID PROPOSAL

BID PROPOSAL

(Exhibit A of the Construction Contract)

This Bid Proposal shall not be detached from the Contract Documents. The entire Specification Book shall be returned with the executed Bid.

PROJECT IDENTIFICATION:

COOLIDGE MUNICIPAL AIRPORT
COOLIDGE, ARIZONA
GA APRON AND TAXIWAY C
CONTRACT IDENTIFICATION AND NUMBER:
PROJECT NO. AIP-01-2024

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all work as specified or indicated in the Contract Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all, which is hereby acknowledged.

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Special Provisions, and (2) reports and drawings of a Hazardous Environmental Condition, if any, which has been identified in the Special Provisions.

E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.

J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

4.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

5.01 Bidder will complete the work in accordance with the Contract Documents for the following price(s):

CONTRACTOR NAME: _____

BID SCHEDULE

Base Bid						
Item No.	Specification Number	Bid Item Description	Quantity	Unit	Unit Price	Amount
1	C-100	Contractor Quality Control	1	LS		
2	C-102-5.1	Storm Water Pollution Prevention	1	LS		
3	C-105	Mobilization/Demobilization (Maximum of 5%)	1	LS		
4	SP-60.1	Airside Safety and Security / Traffic Control	1	LS		
5	P-101-5.1	Bituminous Pavement Removal (4 In. Depth)	130	SY		
6	P-151-4.1	Clearing and Grubbing	5	AC		
7	P-152-4.1	Unclassified Excavation	990	CY		
8	P-152-4.2	Fill with Select Material	5,670	CY		
9	P-152-5.1	Compacted Subgrade (10 In. Depth)	14,690	SY		
10	P-208.1	Aggregate Base Course (Stabilized Shoulder)	300	CY		
11	P-209.1	Crushed Aggregate Base Course (6")	2,450	CY		
12	P-401-8.1	Asphalt Mix Pavement	2,550	TONS		
13	P-610	Aircraft Tie-Down	36	EA		
14	P-620.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	880	SF		
15	P-620.2	Reflective White Runway Pavement Markings, Waterborne	140	SF		
16	P-620.3	Black Taxiway Pavement Markings, Waterborne	450	SF		
17	D-701-5.1	18-inch Concrete Pipe RGRCP, Class V	130	LF		
18	D-751-5.2	Storm Drain Inlet	2	EA		
19	D-751-5.3	Storm Drain Apron	2	EA		
20	MAG 220.5	Ungrouted Rip Rap. D50=9", with Geosynthetic Fabric	150	SY		
21	L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank, or Conduit	2,310	LF		
22	L-108-5.2	No. 6 AWG, Bare CU Counterpoise Installed in Trench	1,670	LF		
23	L-110-5.1	Non-Encased Conduit, 1-Way 2"	1,190	LF		

CONTRACTOR NAME: _____

BID SCHEDULE – BASE BID (CONTINUED)

Base Bid (Continued)						
Item No.	**Specification Number**	**Bid Item Description**	**Quantity**	**Unit**	**Unit Price**	**Amount**
24	L-110-5.2	Concrete Encased Conduit, 1-Way 2"	170	LF		
25	L-110-5.3	Concrete Encased Conduit, 2-Way 2"	90	LF		
26	L-110-5.4	Directional Bored Duct Bank, 4-Way 2"	220	LF		
27	L-115-5.1	Concrete H-20 Load Rated Electrical Handhole	3	EA		
28	L-125-5.1	NEW L-861T Elevated Taxiway Edge Light Installed on L-867 Base Can including Isolation Transformer, stem, plate and splice kit	30	EA		
29	L-125-5.2	NEW L-861T Elevated Taxiway Edge Light Installed on L-868(B) Base Can including Isolation Transformer, stem, plate and splice kit	1	EA		
30	L-125-5.3	New 2 Module Size 1 LED Airfield Sign with Concrete Base	2	EA		
31	L-125-5.4	New 3 Module Size 1 LED Airfield Sign with Concrete Base	2	EA		
32	L-125-5.5	New 4 Module Size 1 LED Airfield Sign with Concrete Base	1	EA		

TOTAL BASE BID AMOUNT (IN NUMBERS) **$ _____**

TOTAL BASE BID AMOUNT (IN WORDS):

CONTRACTOR NAME: _____

BID SCHEDULE

Alternative 1 Bid						
Item No.	Specification Number	Bid Item Description	Quantity	Unit	Unit Price	Amount
1	C-100	Contractor Quality Control	1	LS		
2	C-102-5.1	Storm Water Pollution Prevention	1	LS		
3	C-105	Mobilization/Demobilization (Maximum of 5%)	1	LS		
4	SP-60.1	Airside Safety and Security / Traffic Control	1	LS		
5	P-101-5.1	Bituminous Pavement Removal (4 In. Depth)	140	SY		
5	P-151-4.1	Clearing and Grubbing	1	AC		
6	P-152-4.1	Unclassified Excavation	290	CY		
7	P-152-4.2	Fill with Select Material	270	CY		
8	P-152-5.1	Compacted Subgrade (10 In. Depth)	1,790	SY		
9	P-208.1	Aggregate Base Course (Stabilized Shoulder)	140	CY		
10	P-209.1	Crushed Aggregate Base Course (6")	300	CY		
11	P-401-8.1	Asphalt Mix Pavement	400	TONS		
12	P-620.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	450	SF		
13	P-620.2	Reflective White Runway Pavement Markings, Waterborne	180	SF		
14	P-620.3	Black Taxiway Pavement Markings, Waterborne	410	SF		
15	D-701-5.1	24-inch Concrete Pipe RGRCP, Class V	110	LF		
16	D-751-5.2	Storm Drain Inlet	2	EA		
17	D-751-5.3	Storm Drain Apron	2	EA		
18	MAG 220.5	Ungrouted Rip Rap. D50=9", with Geosynthetic Fabric	50	SY		
19	L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank, or Conduit	1,275	LF		
20	L-108-5.2	No. 6 AWG, Bare CU Counterpoise Installed in Trench	855	LF		
21	L-110-5.1	Non-Encased Conduit, 1-Way 2"	750	LF		
22	L-110-5.2	Concrete Encased Conduit, 1-Way 2"	105	LF		

CONTRACTOR NAME: _____

BID SCHEDULE – ALTERNATIVE 1 (CONTINUED)

Alternative 1 Bid						
Item No.	**Specification Number**	**Bid Item Description**	**Quantity**	**Unit**	**Unit Price**	**Amount**
23	L-115-5.1	Concrete H-20 Load Rated Electrical Handhole	1	EA		
24	L-125-5.1	NEW L-861T Elevated Taxiway Edge Light Installed on L-867 Base Can including Isolation Transformer, stem, plate and splice kit	18	EA		
25	L-125-5.3	New 2 Module Size 1 LED Airfield Sign with Concrete Base	1	EA		
26	L-125-5.5	New 4 Module Size 1 LED Airfield Sign with Concrete Base	1	EA		

TOTAL ALTERNATIVE 1 BID AMOUNT (IN NUMBERS) **$ _____**

TOTAL ALTERNATIVE 1 BID AMOUNT (IN WORDS):

CONTRACTOR NAME: _____

BID SCHEDULE

Alternative 2 Bid						
Item No.	**Specification Number**	**Bid Item Description**	**Quantity**	**Unit**	**Unit Price**	**Amount**
1	C-100	Contractor Quality Control	1	LS		
2	C-102-5.1	Storm Water Pollution Prevention	1	LS		
3	C-105	Mobilization/Demobilization (Maximum of 5%)	1	LS		
4	SP-60.1	Airside Safety and Security / Traffic Control	1	LS		
5	P-152-4.1	Unclassified Excavation	470	CY		
6	P-152-4.2	Fill with Select Material	40	CY		
7	P-152-5.1	Compacted Subgrade (10 In. Depth)	3,060	SY		
8	MAG 702-4.1	Crushed Aggregate Base Course (6") (Not FAA AIP Eligible)	510	CY		
9	MAG 710-5.1	Asphalt Concrete (4") (Not FAA AIP Eligible)	510	TONS		
10	P-620.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	1,740	SF		
11	l-125-5.6	NEW L-861T Elevated Taxiway Edge Light Installed on L-867 Base Can with Base Can Extension including Isolation Transformer, stem, plate and splice kit (price differential from Taxiway Edge Lights specified per Base Bid and Alternate 1)	48	EA		

TOTAL ALTERNATIVE 2 BID AMOUNT (IN NUMBERS) **$ _____**

TOTAL ALTERNATIVE 2 BID AMOUNT (IN WORDS):

The lower responsible bidder will be as determined from Article 14 – BASIS OF BID; EVALUATION OF BIDS. The award of the contract will be according to Article 19, AWARD OF CONTRACT of the *Instructions to Bidders*.

Unit Prices have been computed in accordance with Article 14 of the *Instructions to Bidders*.

Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities constructed and accepted by the Engineer, determined as provided in the Contract Documents.

Bid Schedule Summary:

Total: $_____

6.01 Bidder agrees that the work will be substantially completed and ready for final payment in accordance with Article 3 of the Construction Contract, and within the number of calendar days indicated in the Construction Contract.

7.01 Bidder accepts the provisions of the Agreement (*Construction Contract*) as to liquidated damages in the event of failure to complete the work within the times specified above, which shall be stated in the Agreement.

8.01 The following documents are attached to and made a condition of this Bid.

a. Certified Copy of Resolution of Board of Directors (if Bidder is corporation) or evidence of authority to sign (if Bidder is a partnership).

b. Statutory Bid Bond (if used in lieu of cashier's check or certified check).

c. Certificate of Insurability.

d. Non-Collusive Bidding Certification.

e. Bidders Qualification Statements with supporting data.

f. A list of Subcontractors that the Bidder proposes to utilize in the contract.

g. A list of proposed electrical equipment, including the name of equipment and manufacturer, specification item and/or model number and estimated time to deliver to the project site.

h. Bidder's Statement on Previous Contracts Subject to EEO Clauses.

i. Buy American Certificate Steel and Manufactured Products for Construction Contracts.

j. DBE Identification Form

k. Tax Delinquency and Felony Conviction Certificate

l. Attachment A, Base Bid, Subcontracting and Good Faith Efforts Summary.

m. Attachment B, Base Bid, Letter of Intent to perform as a subcontractor/subconsultant/supplier.

n. Attachment C, where applicable. Identification Statement for Disadvantaged Business Enterprises. Submit for any proposed DBE sub-contractor that is certified but not certified by ADOT, the city of Phoenix or Tucson.

9.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders and the *Special Provisions*.

SUBMITTED on _____, 202__.

State Contractor License No. _____.

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

Business address: _____

Phone No.: _____ Facsimile No.: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Business address: _____

Phone No.: _____ Facsimile No.: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____
Type (General Business, Professional, Service, Limited Liability):_____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Attest _____
(Signature of Corporate Secretary)

Business address: _____

Phone No.: _____ Facsimile No.: _____

Date of Qualification to do business is _____.

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A Joint Venture

Joint Venture Name: _____ (SEAL)

By: _____

(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ Facsimile No.: _____

Joint Venture Name: _____ (SEAL)

By: _____

(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ Facsimile No.: _____

Phone and facsimile number, and address for receipt of official communications:

_____

_____

_____

(Each joint venture must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

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CERTIFIED COPY OF RESOLUTION OF BOARD OF DIRECTORS OF

(Name of Corporation)

RESOLVED that _____,_____
(Person Authorized to Sign) (Title)

of _____ be authorized to sign and submit the Bid

of_____
(Name of Corporation)

proposal of this corporation for the following projects:

GA Apron and Taxiway C
Project No. AIP-01-2024
ADOT
FAA AIP 3-04-0011-018-2025 (Design)
FAA IIJA 3-04-0011-019-2025

The foregoing is a true and correct copy of the resolution adopted by _____
_____at the meeting of its City Council held on the _____ day of _____, 202__.

By: _____

Title: _____

(SEAL)

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STATUTORY BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That, _____, (hereinafter called the Principal), as Principal, and _____, a corporation duly organized under the laws of the State of _____, with its principal office in the City of _____, (hereinafter called the Surety), as Surety, are held and firmly bound unto City of Coolidge, Pinal County, Arizona (hereinafter called the Obligee), in the penal sum of **Ten Percent (10%)** of the total amount of Principal's bid in lawful money of the United States of America, for the payment of which the Principal and Surety bind themselves and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Obligee advertised for bids to construct GA Apron and Taxiway C, FAA AIP 3-04-0011-018-2025, ADOT No., Coolidge Project No. AIP-01-2024, and the Principal submitted a bid/proposal to construct the improvements,

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Obligee accepts the proposal of the Principal and the Principal enters into a contract with the Obligee in accordance with the terms of the proposal and gives the bonds and certificates of insurance as specified in the standard specifications with good and sufficient surety for the faithful performance of the contract and for the prompt payment of labor and materials furnished in the prosecution of the contract, or in the event of the failure of the Principal to enter into the contract and give the bonds and certificates of insurance, if the Principal pays to the Obligee the difference not to exceed the penalty of the bond between the amount specified in the proposal and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise it remains in full force and effect provided, however, that this bond is executed pursuant to the provisions of § 34-201, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of the section to the extent as if it were copied at length herein.

Witness our hands this _____ day of _____, 202__.

_____ _____

AGENCY OF RECORD, STATE OF ARIZONA **PRINCIPAL**

BY: _____

_____ _____

AGENCY ADDRESS **TITLE:**

_____

SURETY

BY: _____

TITLE: _____

BOND NUMBER: _____ **ATTACH SURETY POWER OF ATTORNEY**

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CERTIFICATE OF INSURABILITY

I hereby certify that as a Bidder for this project, I am fully aware of the insurance requirements for the Contractor and that by submitting this bid proposal, assure the Owner that I am able to produce the required minimum insurance coverage should I be selected to be the successful bidder.

Should I be selected to be the successful bidder and then become unable to produce the insurance coverage prior to the award of the project, I understand that my bid will be rejected and that I will forfeit by bid bond.

_____ Date: _____
COUNTERSIGNED BY (Insurance Representative)

_____ Date: _____
AUTHORIZED CONTRACTOR'S REPRESENTATIVE (Signature)

_____
(Firm's Name)

_____
(Title)

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NON-COLLUSIVE BIDDING CERTIFICATION

STATE OF)
) ss
COUNTY OF)

I, _____ of the City of _____, in the County of

_____ and the State of _____, of full age, being

duly sworn according to the law on my oath depose and say that:

I am _____, (name) a _____

(Title, Position, Etc.) of the firm of _____, the Bidder making the bid for the proposed project as described in this set of contract documents, and that I executed the said Bid with full authority so to do; that said Bidder as not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above name Project; and that all statements contained in said Bid and in this affidavit are true and correct, and made with full knowledge that the Owner relies upon the truth of the statements contained in said Bid and in the statements contained in this affidavit is awarding the Contract for the said Project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such Contract upon an agreement of understanding, for commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by:

_____
Signature of Bidder

_____
Printed or Typed Name of Bidder

_____
Seal if Corporation

Sworn to before me this _____ day of _____, 2014, in the County of _____

_____, State of _____.

_____
Notary Public

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BIDDERS QUALIFICATION STATEMENTS

(Completion of this Statement is Required for Advance of Consideration for Award of Contract)

SUBMITTED BY:

Name:_____
(Print or Type Name of Bidder)

(A Corporation/A Partnership/An Individual/A Joint Venture)
([Bidder to strike out non-applicable terms])

Address: _____

_____

_____

Gentlemen:

The undersigned certifies under oath the truth and correctness of all statements and of all answers to questions made hereinafter.

(Note: Attach Separate Sheets as Required)

1.0 How many years has your organization been in business as a Contractor? _____
2.0 How many years has your organization been in business under its present name?_____
3.0 If a corporation, answer the following:
- 3.1 Date of incorporation_____
- 3.2 State of incorporation:_____
- 3.3 President's name:_____
- 3.4 Vice president's name(s):_____
- 3.5 Secretary or Clerk's name:_____
- 3.6 Treasurer's name:_____

4.0 If individual or partnership, answer the following:
- 4.1 Date of organization:_____
- 4.2 Name and address of all partners. (State whether general or limited partnership):

_____
_____
_____
_____

5.0 If other than corporation or partnership, describe organization and name principals: _____
_____

6.0 Do you plan to subcontract any part of this project? _____.
If yes, Bidder shall complete the List of Subcontractors Form provided herein along with any required applicable DBE subcontract forms provided herein.

7.0 Has any construction contract to which you have been a party been terminated by the owner; have you ever terminated a project prior to its completion for any reason; has any surety which issued a performance bond on your

behalf ever completed the work in its own name or financed such completion on your behalf; has any surety expended any monies in connection with a contact for which they furnished a bond on your behalf? If the answer to any portion of this question is "yes", please furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project.

_____
_____
_____

8.0 Has any officer or partner of your organization ever been an officer or partner of another organization that had any construction contract terminated by the owner; terminated work on a project prior to its completion for any reason; had any surety which issued a performance bond complete the work in its own name or financed such completion; or had any surety expend any monies in connection with a contract for which they furnished a bond? If the answer to any portion of this question is "yes", please furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project.

_____
_____
_____

9.0 List name of project, owner, architect or engineer, contract amount, percent complete and schedule completion of the major construction projects your organization has in process on this date.

_____
_____
_____

10.0 List name of project, owner, architect or engineer, contract amount, date of completion and percent of work completed with your own forces for project of the same general nature as this project that your organization has completed in the past seven years, (reference Article 3.2 on page I-2 for project qualification requirements).

_____
_____
_____

11.0 List name, address and telephone number of a reference for each project listed under Items 9.0 and 10.0, above. _____
_____
_____
_____

12.0 List name and construction experience of the principal individuals of your organization. _____
_____
_____
_____

13.0 List the states and categories of construction in which your organization is legally qualified to do business.

_____
_____
_____
_____

14.0 List name, address and telephone number of an individual who represents each of the following and whom OWNER may contact for a financial reference:

14.1 A Surety _____
14.2 A bank: _____
14.3 A major potential supplier:_____

15.0 Attach a financial statement, prepared on an accrual basis, in a form that clearly indicates Bidder's assets, liabilities and net worth. Evidence that Bidder has been prequalified with the Arizona State Highway Division and is on their current "Bidder's List" may not be submitted in lieu of the certified financial statement.

15.1 Date of financial statement_____

15.2 Name of firm preparing statement: _____

16.0 The Contractor shall provide to the Engineer, a list of all proposed electrical equipment, including the name of equipment and manufacture, specification item and/or model number and estimated time for delivery to the project site within (7) calendar days of the Notice of Intent to Award, see Article 12.6 for further information (page I-6).

17.0 Dated at _____this _____ day of _____, 202__.

(Print or Type Name of Bidder)

By_____

(Seal, if corporation) Title

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LIST OF SUBCONTRACTORS

Bidder must submit a completed Attachment A and B for EACH subcontractor listed below

This list shall be properly and legibly prepared and submitted with the bid proposal. Failure to provide complete and accurate information shall constitute reason for rejection of bid proposal. Subcontractors not named herein may not be employed on the project without the express written permission of the Owner. The Owner reserves the right to require additional Qualification Statements to be submitted for verification of subcontractor eligibility in accordance with Article 12 of the Instructions to Bidders.

SUBCONTACT TYPE	SUBCONTRACTOR NAME	SUBCONTRACTOR ADDRESS	SUBCONTRACTOR TOTAL BID	SUBCONTRACTOR LICENSE
Example:				
Paving	Joe's Paving Inc.	1234 Main St. Mesa, AZ	$10,000.00	C-11075555

All Contractors and Subcontractors shall comply with provisions of Arizona Revised Statute 34-241, entitled *Eligibility and Preference of Contractors and Subcontractors*, and no contract shall be sublet to a subcontractor who has not paid taxes as required therein.

Signed:_____
General Contractor Date

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BIDDER'S STATEMENT ON PREVIOUS CONTRACTS SUBJECT TO EEO CLAUSE

The Bidder shall complete the following statement by checking the appropriate boxes.

The Bidder has ___ has not ___ participated in a previous contract subject to the equal opportunity clause prescribed by Executive Order 11246, as amended, of September 24, 1965.

The Bidder has ___has not ___ submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that presentations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

If the Bidder has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under application filing requirements, the Bidder shall submit a compliance report on Standard Form 100, "Employee Information Report EEO-I" prior to award of contract.

_____	_____
Signature	Name of Bidder
_____	_____
Date	Name and Title of Signing Officer

Business Address: _____

_____

_____

NOTE: Failure to complete the blanks may be grounds for rejection of the bid.

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BIDDER'S STATEMENT ON PREVIOUS CONTRACTS SUBJECT TO EEO CLAUSE

The Bidder shall complete the following statement by checking the appropriate boxes.

The Bidder has ____ has not ____ participated in a previous contract subject to the equal opportunity clause prescribed by Executive Order 11246, as amended, of September 24, 1965.

The Bidder has ____ has not ____ submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that presentations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

If the Bidder has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under application filing requirements, the Bidder shall submit a compliance report on Standard Form 100, "Employee Information Report EEO-I" prior to award of contract.

See also Division III – *Federal Assurance Requirements.*

_____	_____
Signature	Name of Bidder
_____	_____
Date	Name and Title of Signing Officer

Business Address: _____

_____

_____

NOTE: Failure to complete the blanks may be grounds for rejection of the bid.

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BUY AMERICAN CERTIFICATION

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (✓) or the letter "X". See Division III, Federal Assurance Requirements for further information.

Certificate of Buy American Compliance for Manufactured Products

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (✓) or the letter "X".

☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101 by:

a) Only installing steel and manufactured products produced in the United States, or;
b) Installing manufactured products for which the FAA has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing, or;
c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
2. To faithfully comply with providing US domestic product
3. To furnish US domestic product for any waiver request that the FAA rejects
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

☐ The bidder or offeror hereby certifies it cannot comply with the 100% Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

1. To the submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that support the type of waiver being requested.
2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
3. To faithfully comply with providing US domestic products at or above the approved US domestic content percentage as approved by the FAA.
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver - The cost of the item components and subcomponents produced in the United States is more that 60% of the cost of all components and subcomponents of the "item". The required documentation for a type 3 waiver is:

a) Listing of all product components and subcomponents that are not comprised of 100% US domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers

Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).

b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.

c) Percentage of non-domestic component and subcomponent cost as compared to total "item" component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver – Total cost of project using US domestic source product exceeds the total project cost using non-domestic product by 25%. The required documentation for a type 4 of waiver is:

a) Detailed cost information for total project using US domestic product
b) Detailed cost information for total project using non-domestic product

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date	Signature
Company Name	Title

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BIDDER'S DBE IDENTIFICATION FORM

Owner is required to obtain the following information from each Bidder at time of bid submittal, creating an obligation for the Bidder to provide such information.

TO BE COMPLETED BY AND FOR BIDDER ONLY (NOT SUBCONTRACTORS)

Name of Bidder's Firm: _____

Bidder Address: _____

_____

_____

At time of IFB submittal, Bidder ☐ is OR ☐ is not a certified DBE
DBE is defined as a small business concern that has successfully completed a DBE certification process and been granted DBE status by the Arizona Unified Certification Program or by a U.S. Department of Transportation (USDOT) recognized agency who certifies DBE applicants pursuant to the criteria contained in 49 CFR Part 26.

Age of Bidder's Firm:
☐ Less than 1 year
☐ 1 – 3 years
☐ 4 – 7 years
☐ 8 – 10 years
☐ More than 10 years

Annual Gross Receipts of Bidder's Firm:
☐ Less than $500,000.00
☐ $500,000.00 - $1,000,000.00
☐ $1,000,001.00 - $2,000,000.00
☐ $2,000,001.00 - $5,000,000.00
☐ Greater than $5,000,000.00

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OF FEDERAL LAWS, THE STATEMENTS MADE ON THIS DOCUMENT ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

SIGNED AND DATED this _____ day of _____, 202__

_____ _____
Authorized Signature Print Name and Title

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TAX DELINQUENCY AND FELONY CONVICTION CERTIFICATION

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response.

The bidder agrees that, if awarded a contract resulting from this solicitation, it will incorporate this required provision for certification in all lower tier subcontracts

See Division III, Federal Assurance Requirements for Felony Conviction and Tax Delinquency definitions and further information.

1) The applicant represents that it is ☐ is not ☐ a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2) The applicant represents that it is ☐ is not ☐ a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

SIGNED AND DATED this_____day of_____, 202__

_____ __ _____
Authorized Signature Print Name and Title

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ATTACHMENT II
SPECS DIVISION V - TECHNICAL SPECIFICATIONS

P-209 CRUSHED AGGREGATE BASE COURSE

Item P-209 Crushed Aggregate Base Course

DESCRIPTION

209-1.1 This item consists of a base course composed of crushed aggregate base constructed on a prepared course in accordance with these specifications and in conformity to the dimensions and typical cross-sections shown on the plans.

MATERIALS

209-2.1 Crushed aggregate base. Crushed aggregate shall consist of clean, sound, durable particles of crushed stone, crushed gravel, and shall be free from coatings of clay, silt, organic material, clay lumps or balls or other deleterious materials or coatings. The method used to produce the crushed gravel shall result in the fractured particles in the finished product as consistent and uniform as practicable. Fine aggregate portion, defined as the portion passing the No. 4 (4.75 mm) sieve shall consist of fines from the coarse aggregate crushing operation. The fine aggregate shall be produced by crushing stone, gravel, that meet the coarse aggregate requirements for wear and soundness. Aggregate base material requirements are listed in the following table.

Crushed Aggregate Base Material Requirements

Material Test	Requirement	Standard
Coarse Aggregate		
Resistance to Degradation	Loss: 45% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Percentage of Fractured Particles	Minimum 90% by weight of particles with at least two fractured faces and 98% with at least one fractured face[1]	ASTM D5821
Flat Particles, Elongated Particles, or Flat and Elongated Particles	10% maximum, by weight, of flat, elongated, or flat and elongated particles [2]	ASTM D4791
Fine Aggregate		
Liquid limit	Less than or equal to 25	ASTM D4318
Plasticity Index	Not more than five (5)	ASTM D4318

[1] The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

[2] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

209-2.2 Gradation requirements. The gradation of the aggregate base material shall meet the requirements of the gradation given in the following table when tested per ASTM C117 and ASTM C136. The gradation shall be well graded from coarse to fine and shall not vary from the lower limit on one sieve to the high limit on an adjacent sieve or vice versa.

Gradation of Aggregate Base

Sieve Size	Design Range Percentage by Weight passing	Contractor's Final Gradation	Job Control Grading Band Tolerances[1] (Percent)
2 inch (50 mm)	100		0
1-1/2 inch (37.5 mm)	95-100		±5
1 inch (25.0 mm)	70-95		±8
3/4 inch (19.0 mm)	55-85		±8
No. 4 (4.75 mm)	30-60		±8
No. 40[2] (425 µm)	10-30		±5
No. 200[2] (75 µm)	0-10		±3

[1] The "Job Control Grading Band Tolerances for Contractor's Final Gradation" in the table shall be applied to "Contractor's Final Gradation" to establish a job control grading band. The full tolerance still applies if application of the tolerances results in a job control grading band outside the design range.

[2] The fraction of material passing the No 200 (75 µm) sieve shall not exceed two-thirds the fraction passing the No 40 (425 µm) sieve.

209-2.3 Sampling and Testing.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraph 209-2.1. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least two aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 209-2.2. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

209-2.4 Separation Geotextile. Not used.

CONSTRUCTION METHODS

209-3.1 Control strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted or removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved by the RPR.

209-3.2 Preparing underlying subgrade and/or subbase. The underlying subgrade and/or subbase shall be checked and accepted by the RPR before base course placing and spreading operations begin. Re-proof rolling of the subgrade or proof rolling of the subbase in accordance with Item P-152, at the Contractor's expense, may be required by the RPR if the Contractor fails to ensure proper drainage or protect the subgrade and/or subbase. Any ruts or soft, yielding areas due to improper drainage conditions, hauling, or any other cause, shall be corrected before the base course is placed. To ensure proper drainage, the spreading of the base shall begin along the centerline of the pavement on a crowned section or on the high side of the pavement with a one-way slope.

209-3.3 Production. The aggregate shall be uniformly blended and, when at a satisfactory moisture content per paragraph 209-3.5, the approved material may be transported directly to the placement.

209-3.4 Placement. The aggregate shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The aggregate shall meet gradation and moisture requirements prior to compaction. The base course shall be constructed in lifts as established in the control strip, but not less than 4 inches (100 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications at the Contractor's expense.

209-3.5 Compaction. Immediately after completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade.

The field density of each compacted lift of material shall be at least 100% of the maximum density of laboratory specimens prepared from samples of the base material delivered to the jobsite. The

laboratory specimens shall be compacted and tested in accordance with ASTM D1557. The moisture content of the material during placing operations shall be within ±2 percentage points of the optimum moisture content as determined by ASTM **D698**. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

209-3.6 Weather limitations. Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.

209-3.7 Maintenance. The base course shall be maintained in a condition that will meet all specification requirements. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at the Contractor's expense.

209-3.8 Surface tolerances. After the course has been compacted, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and recompacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.

a. Smoothness. The finished surface shall not vary more than 3/8-inch (9 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Grade. The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +0 and -1/2 inch (12 mm) of the specified grade.

209-3.9 Acceptance sampling and testing. Crushed aggregate base course shall be accepted for density and thickness on an area basis. Two tests shall be made for density and thickness for each 1200 square yds (1000 m^2). Sampling locations will be determined on a random basis per ASTM D3665

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM D698. The in-place field density shall be determined per ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. Depth tests shall be made by test holes at least 3 inches (75 mm) in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch (12 mm) of the

specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch (12 mm), the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches (75 mm), adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

209-4.1 The quantity of crushed aggregate base course will be determined by measurement of the number of cubic yards (cubic meters) of material actually constructed and accepted by the RPR as complying with the plans and specifications. Base materials shall not be included in any other excavation quantities.

BASIS OF PAYMENT

209-5.1 Payment shall be made at the contract unit price per cubic yard (cubic meter) for crushed aggregate base course. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-209-5.1 Crushed Aggregate Base Course - per cubic yard (cubic meter)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29 Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate

ASTM C88 Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate

ASTM C117 Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

ASTM C131 Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

ASTM C136 Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates

ASTM C142 Standard Test Method for Clay Lumps and Friable Particles in Aggregates

ASTM D75 Standard Practice for Sampling Aggregates

ASTM D698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))

ASTM D1556 Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

ASTM D1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))

ASTM D2167 Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method

ASTM D2419 Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate

ASTM D3665 Standard Practice for Random Sampling of Construction Materials

ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

ASTM D4491 Standard Test Methods for Water Permeability of Geotextiles by Permittivity

ASTM D4643 Standard Test Method for Determination of Water Content of Soil and Rock by Microwave Oven Heating

ASTM D4751 Standard Test Methods for Determining Apparent Opening Size of a Geotextile

ASTM D4791 Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate

ASTM D5821 Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

ASTM D6938 Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

ASTM D7928 Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis

American Association of State Highway and Transportation Officials (AASHTO)

M288 Standard Specification for Geosynthetic Specification for Highway Applications

END OF ITEM P-209

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ATTACHMENT III

PLAN SHEETS

GENERAL NOTES

1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULARS, STANDARDS AND RECOMMENDATIONS FOR AIRPORT DESIGN, INCLUDING: 150/5370, (LATEST EDITION) STANDARDS FOR SPECIFYING CONSTRUCTION FOR AIRPORTS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL COOLIDGE MUNICIPAL AIRPORT PROPERTY, AND SHALL PROTECT FROM DAMAGE OR DISTURBANCE, ALL LAND MONUMENTS AND PROPERTY MARKERS. IF DAMAGED OR INJURED DURING THE WORK, THE CONTRACTOR SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY TO A CONDITION EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIRING, REBUILDING OR RESTORING AS DIRECTED BY AND TO THE SATISFACTION OF THE ENGINEER.

3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE SURVEYOR PROVIDING THE CONSTRUCTION LAYOUT TO COMPARE THE SITE CONDITIONS WITH THE PLANS AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES OBSERVED. SHOULD ANY GRADE OR DESIGN INDICATED ON THE PLANS BE SUSPECT, THE ENGINEER SHALL BE NOTIFIED OF SAID AREA AT LEAST TWENTY-FOUR HOURS BEFORE CONSTRUCTION IS SCHEDULED TO BEGIN ON THE AFFECTED AREA. IF THE ENGINEER IS NOT NOTIFIED PRIOR TO THE START OF CONSTRUCTION OF THE AFFECTED AREA, ANY DISCREPANCIES SHALL BE DEEMED TO BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR SURVEYOR AND WILL NOT BE PAID FOR BY CHANGE ORDER.

4. ACCESS/HAUL ROUTES – HAUL ROUTES ON THE AIRPORT SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER OR ONSITE AIRPORT REPRESENTATIVE. ON-SITE HAUL ROUTES WILL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE. DRAINAGE, GRADING OR OTHER WORK NECESSARY TO CONSTRUCT HAUL ROUTES ON THE AIRPORT IS THE CONTRACTOR'S RESPONSIBILITY AND MUST BE APPROVED BY THE ENGINEER PRIOR TO ANY WORK. THE CONTRACTOR SHALL NOT ENTER ONTO ANY AREA OUTSIDE OF THE LIMITS OF GRADING, STAGING AREAS OR DESIGNATED ACCESS/HAUL ROUTES WITHOUT THE WRITTEN APPROVAL BY THE ENGINEER.

5. STAGING AREA – A CONTRACTORS STAGING AREA IS PROVIDED AS SHOWN ON THE PROJECT LAYOUT PLAN. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE WITH THE COOLIDGE MUNICIPAL AIRPORT ON THE PRECISE LOCATION AND LIMITS OF ANY ADDITIONAL STAGING AREAS IF NEEDED.

6. EXISTING UTILITY LOCATIONS, AS SHOWN ON THESE PLANS, WERE COMPILED BASED ON INFORMATION AVAILABLE TO THE ENGINEER. UTILITY LOCATIONS ARE APPROXIMATE AND ARE NOT INTENDED TO BE EXACT OR COMPLETE. THE CONTRACTOR SHALL NOTIFY THE BLUE STAKE CENTER (1-800-782-5348) AND THE CITY OF COOLIDGE AT LEAST 48 HOURS IN ADVANCE BEFORE DIGGING.

7. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL EXISTING UTILITIES AND THE PROTECTION AND REPAIR OF DAMAGE TO THEM. THE CONTRACTOR SHALL POTHOLE IF NECESSARY IN AREAS OF SHALLOW OR CONGESTED UTILITIES TO VERIFY EXACT LOCATIONS OF UTILITIES AS REQUIRED DURING CONSTRUCTION ACTIVITIES. ANY UTILITIES ENCOUNTERED WHICH ARE NOT SHOWN SHALL BE NOTED ON THE AS-BUILTS. COST OF POTHOLING IS INCIDENTAL TO THE CONTRACT.

8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE SURVEYOR PROVIDING THE CONSTRUCTION LAYOUT TO COMPARE THE SITE CONDITIONS WITH THE PLANS AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES OBSERVED. SHOULD ANY GRADE OR DESIGN INDICATED ON THE PLANS BE SUSPECT, THE ENGINEER SHALL BE NOTIFIED OF SAID AREA AT LEAST TWENTY-FOUR HOURS BEFORE CONSTRUCTION IS SCHEDULED TO BEGIN ON THE AFFECTED AREA. IF THE ENGINEER IS NOT NOTIFIED PRIOR TO THE START OF CONSTRUCTION OF THE AFFECTED AREA, ANY DISCREPANCIES SHALL BE DEEMED TO BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR SURVEYOR.

9. SAWCUTTING OF PAVEMENT SHALL BE REQUIRED FOR PAVEMENT REMOVAL IN EVERY LOCATION WHERE NEW PAVEMENT MUST MATCH EXISTING PAVEMENT.

10. LOCATION OF THE CONTRACTOR'S ENTRANCES, HAUL ROUTES AND STAGING AREA SHALL BE AS SHOWN ON SHEETS C1.4 – PROJECT LAYOUT.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY LIGHTING AND/OR JUMPER CABLES AS APPROVED BY CITY OF COOLIDGE PERSONNEL TO MAINTAIN LIGHTING ON AREAS NOT CLOSED FOR CONSTRUCTION. THIS WORK SHALL BE INCIDENTAL TO CONSTRUCTION. JUMPER CABLES SHALL BE INSTALLED IN SUCH A MANNER TO PREVENT VEHICLES OR AIRCRAFT FROM PASSING OVER THEM AND IN A MANNER APPROVED BY THE AIRPORT.

12. THE CONTRACTOR SHALL PROTECT ALL EXISTING HAUL ROUTES, STORM DRAINS, SEWERS, CATCH BASINS, ELECTRIC LINES, TELEPHONE LINES AND MISCELLANEOUS UTILITIES WITHIN THE WORK ZONE. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

13. THE CONTRACTOR SHALL SUBMIT A SAFETY PLAN TO THE AIRPORT AND THE ENGINEER AT LEAST 72 HOURS BEFORE THE CLOSURE OF ANY PAVEMENTS. BARRICADE PLACEMENT AND OPERATION SHALL BE INSPECTED EACH DAY AND INOPERATIVE LIGHTS OR DAMAGED BARRICADES SHALL IMMEDIATELY REPLACED.

14. TRESPASSING ON PROPERTIES NOT OWNED BY COOLIDGE MUNICIPAL AIRPORT OR ON COOLIDGE MUNICIPAL AIRPORT PROPERTIES OUTSIDE THE LIMITS OF WORK SHALL NOT BE ALLOWED.

15. THE CONTRACTOR SHALL PROTECT ALL EXISTING PAVEMENTS. AS DETERMINED BY THE ENGINEER AND/OR THE AIRPORT, PAVEMENTS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S OWN EXPENSE.

16. THE CONTRACTOR SHALL GIVE COOLIDGE MUNICIPAL AIRPORT 72 HOURS NOTICE BEFORE BEGINNING WORK IN ANY AREA.

17. THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM AIRFIELD PAVEMENTS BEFORE OPENING THE AREA TO AIRCRAFT. VACUUM SWEEPERS ARE REQUIRED.

18. THE CONTRACTOR SHALL PROVIDE 24 HOUR ACCESS TO EMERGENCY VEHICLES THROUGHOUT THE CONSTRUCTION AREA.

19. WORK OUTSIDE THE RUNWAY/TAXIWAY CLEAR ZONES MAY BE PERFORMED DURING DAYLIGHT HOURS AND WITHOUT RUNWAY/TAXIWAY CLOSURE UPON APPROVAL OF COOLIDGE MUNICIPAL AIRPORT.

20. CONSTRUCTION CREWS SHALL GIVE WAY TO AIRCRAFT. ACCESS TO INDICATED AREAS SHALL BE MAINTAINED AND ALL CLOSURES COORDINATED WITH ELOY MUNICIPAL AIRPORT A MINIMUM OF THREE WORKING DAYS PRIOR TO CLOSURE.

21. REFER TO ADVISORY CIRCULAR AC-150/5370-2 (LATEST EDITION) FOR OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.

22. REFER TO ADVISORY CIRCULAR AC-150/5210-5 (LATEST EDITION) FOR PAINTING, MARKING & LIGHTING OF VEHICLES ON AN AIRPORT.

23. THE CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, STORM DRAINS, SEWER, CATCH BASINS, ELECTRIC LINES, PULLBOXES, COMMUNICATION LINES, LIGHTS, SIGNS AND MISCELLANEOUS UTILITIES WITHIN THE WORK ZONE. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE.

24. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULARS, STANDARDS AND RECOMMENDATIONS FOR AIRPORT DESIGN, INCLUDING: 150/5370-10B, STANDARDS FOR SPECIFYING CONSTRUCTION OF AIRPORTS.

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL CITY OF COOLIDGE/COOLIDGE MUNICIPAL AIRPORT PROPERTY AND ADJACENT PROPERTIES AND SHALL PROTECT CAREFULLY FROM DAMAGE OR DISTURBANCE ALL LAND MONUMENTS AND PROPERTY MARKERS. IF DAMAGE OR INJURY TO PROPERTY DOES OCCUR DURING THE WORK, THE CONTRACTOR SHALL RESTORE, AT THE CONTRACTOR'S OWN EXPENSE, SUCH PROPERTY TO A CONDITION EQUAL TO OR BETTER THAN THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE BY REPAIRING, REBUILDING OR RESTORING AS DIRECTED.

LEGEND

CENTERLINE/SURVEY LINE	EXISTING TAXIWAY EDGE LIGHT AND BASE
PROPOSED EDGE OF STRUCTURAL PAVEMENT	PROPOSED TAXIWAY EDGE LIGHT AND BASE
EXISTING EDGE OF STRUCTURAL PAVEMENT	EXISTING FUEL PUMP
EXISTING CURB AND GUTTER	EXISTING MANHOLE
E — EXISTING ELECTRIC	PROPOSED MANHOLE
S — EXISTING SANITARY SEWER	EXISTING DRAINAGE INLET
EXISTING CULVERT/PIPE	PROPOSED DRAINAGE INLET
PROPOSED CULVERT/PIPE	EXISTING WATER METER
APPROXIMATE LIMIT OF GRADING	PROPOSED WATER METER
GRADE BREAK	EXISTING WATER VALVE
DRAINAGE DITCH/SWALE	PROPOSED WATER VALVE
X — EXISTING CHAIN LINK FENCE	PROPOSED DRYWELL
X — PROPOSED CHAIN LINK FENCE	EXISTING FIRE HYDRANT
75 — EXISTING CONTOUR	PROPOSED FIRE HYDRANT
75 — PROPOSED CONTOUR	EXISTING GUIDANCE SIGN
SURVEY MONUMENT	PROPOSED SILT BARRIER
5 — BORING LOG CORE LOCATION	PROPOSED STRAW BALE BARRIERS INSTALLED AT POINT DISCHARGE OUTLETS (SWALES AND DITCHES)
× 02.16 PROPOSED SPOT ELEVATION	
E — EXISTING ELECTRIC BOX/HANDHOLE	
T — EXISTING COMMUNICATIONS BOX	
PB — EXISTING CONCRETE HANDHOLE	

ABBREVIATIONS

ABAND	ABANDONED
ABC	AGGREGATE BASE COURSE
AC	ADVISORY CIRCULAR OR ASPHALTIC CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
AHD	AHEAD
AIP	AIRPORT IMPROVEMENT PROGRAM
ALP	AIRPORT LAYOUT PLAN
ALS	APPROACH LIGHT SYSTEM
AOA	AIR OPERATIONS AREA
APPROX	APPROXIMATE
APS	ARIZONA PUBLIC SERVICE
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
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
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
CMP	CORRUGATED METAL PIPE
CPT	CONTROL POINT
CY	CUBIC YARDS
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
E	EAST OR ELECTRICAL FEATURE
EA	ENVIRONMENTAL ASSESSMENT OR EACH
EL	ELEVATION
EOP	EDGE OF PAVEMENT
EVC	END VERTICAL CURVE
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX	EXISTING
EXIST	EXISTING
FAA	FEDERAL AVIATION AGENCY (ADMINISTRATION)
FAR	FEDERAL AVIATION REGULATION
FBO	FIXED BASE OPERATOR
FH	FIRE HYDRANT
FL	FLOWLINE
FOD	FOREIGN OBJECT DAMAGE/DEBRIS
FPS	FEET PER SECOND
GA	GENERAL AVIATION OR GAUGE
GB	GRADE BREAK
GALV	GALVANIZED
GR	GRATE ELEVATION
GT	GENERAL TRANSPORT
GU	GENERAL UTILITY
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
LF	LINEAR FEET
LS	LUMP SUM
LT	LEFT
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
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
N	NORTH
NE	NORTHEAST
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NPIAS	NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS
NAVAID	NAVIGATIONAL AID
NDB	NON-DIRECTIONAL BEACON
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NOTAM	NOTICE TO AIRMEN
NP	NON-PLASTIC
NPI	NON-PRECISION INSTRUMENT/NON-PAY ITEM
NTP	NOTICE TO PROCEED
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ACT
PAPI	PRECISION APPROACH PATH INDICATOR
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION OR PLASTICITY INDEX
PL	PROPERTY LINE
POC	POINT ON CURVE
PP	POWER POLE
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
RCP	REINFORCED CONCRETE PIPE
REIL	RUNWAY END IDENTIFIER LIGHTS
RGRCP	RUBBER GASKETED REINFORCED CONCRETE PIPE
RP	RADIUS POINT
RSA	RUNWAY SAFETY AREA
RW	RIGHT-OF-WAY
R/W	RUNWAY
RWY	RUNWAY
RT	RIGHT
S	SLOPE OR SOUTH
SD	STORM DRAIN
SE	SOUTHEAST
SEC	SECTION
SF	SEMI-FLUSH OR SQUARE FEET
SHT	SHEET
SPA	SPACING
SPEC	SPECIFICATIONS
SRP	SALT RIVER PROJECT
STA	STATION
STD	STANDARD
SW	SOUTHWEST
SY	SQUARE YARD
TSA	TAXIWAY SAFETY AREA
T/W	TAXIWAY
TWY	TAXIWAY
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UTIL	UTILITY
VAR	VARIES
VASI	VISUAL APPROACH SLOPE INDICATOR
VC	VERTICAL CURVE
VERT	VERTICAL
VFR	VISUAL FLIGHT RULES
VPI	VERTICAL POINT OF INTERSECTION
W	WEST
W	WELDED
WF	WIRE FABRIC
WV	WATER VALVE

SHEET LIST

SHEET NUMBER	SHEET TITLE
BASE BID	
C1.1	COVER SHEET
C1.2	GENERAL NOTES
C1.3	GENERAL NOTES
C1.4	PROJECT LAYOUT
C1.5	CONSTRUCTION SAFETY AND PHASING PLAN
C1.6	CONSTRUCTION SAFETY AND PHASING PLAN
C1.7	STORMWATER POLLUTION PREVENTION PLAN
C2.1	DEMOLITION PLAN
C3.1	TYPICAL SECTIONS
C3.2	TYPICAL SECTIONS
C4.1	GEOMETRIC LAYOUT PLAN
C5.1	GRADING AND DRAINAGE
C5.2	STORM DRAIN PLAN AND PROFILE
C5.3	STORM DRAIN DETAILS
C6.1	PLAN AND PROFILE
C6.2	PLAN AND PROFILE
C6.3	PLAN AND PROFILE
C7.1	PAVEMENT MARKING PLAN
C7.2	PAVEMENT MARKING DETAILS
E1.0	ELECTRICAL SCOPE OF WORK
E1.1	ELECTRICAL LAYOUT PLAN
E2.1	ELECTRICAL DETAILS
E2.2	ELECTRICAL DETAILS
E2.3	ELECTRICAL DETAILS
E2.4	ELECTRICAL DETAILS
E2.5	ELECTRICAL DETAILS
E3.1	ELECTRICAL CIRCUIT MAP
ALTERNATIVE 1	
C2.2	DEMOLITION PLAN
C3.3	TYPICAL SECTIONS
C4.2	GEOMETRIC LAYOUT PLAN
C5.3	GRADING AND DRAINAGE
C5.4	STORM DRAIN PLAN AND PROFILE
C5.5	STORM DRAIN DETAILS
C6.4	PLAN AND PROFILE
C7.3	PAVEMENT MARKING PLAN
E1.2	ELECTRICAL LAYOUT PLAN
E3.2	ELECTRICAL CIRCUIT MAP
ALTERNATIVE 2	
C3.4	TYPICAL SECTIONS
C4.3	GEOMETRIC LAYOUT PLAN
C5.6	GRADING AND DRAINAGE
C5.7	STORM DRAIN DETAILS
C5.8	STORM DRAIN DETAILS
C7.4	PAVEMENT MARKING PLAN
E2.6	ELECTRICAL DETAILS

1

Call at least two full working days before you begin excavation. ARIZONA811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

Kimley»Horn

7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

Registered Professional Engineer (Civil) CERTIFICATE NO. 69243 BRANDON L. ROBINSON Date Signed 04/30/25 ARIZONA, USA Expires 09/30/2025

SCALE (H): N/A
SCALE (V): N/A

DESIGNED BY: BLR
DRAWN BY: SQR
CHECKED BY: BLR

DATE: 04/30/25

CITY OF COOLIDGE ARIZONA

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C GENERAL NOTES

PROJECT NO. 191593014

DRAWING NAME 191593014NT.dwg

C1.2

SHEET NO. 2 OF 43

K:\PHX_Aviation\191593014 Coolidge OnCall 04 Task 5\CADD\191593014NT.dwg Jun 02, 2025 brandon.robinson
XREFS: x191593014TB

BASE BID QUANTITIES

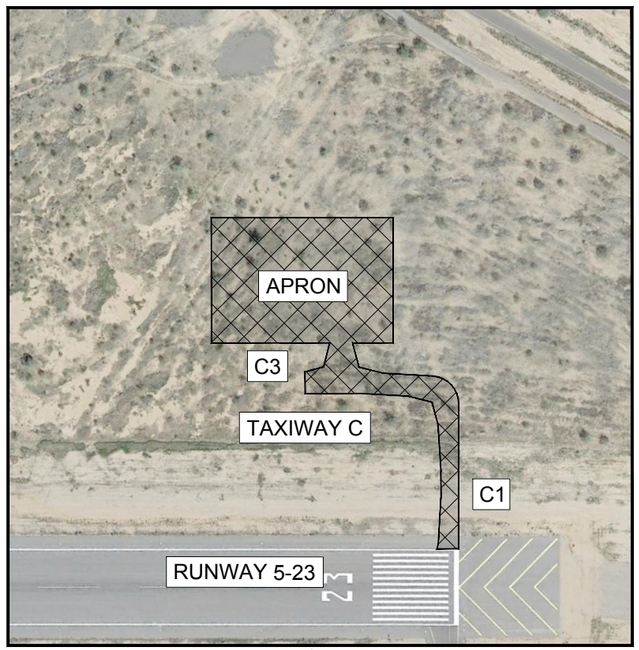
Item No.	Specification Number	Bid Item Description	Quantity	Unit
1	C-100	Contractor Quality Control	1	LS
2	C-102-5.1	Storm Water Pollution Prevention	1	LS
3	C-105	Mobilization/Demobilization (Maximum of 5%)	1	LS
4	SP-60.1	Airside Safety and Security / Traffic Control	1	LS
5	P-101-5.1	Bituminous Pavement Removal (4 In. Depth)	130	SY
6	P-151-4.1	Clearing and Grubbing	5	AC
7	P-152-4.1	Unclassified Excavation	990	CY
8	P-152-4.2	Fill with Select Material	5,670	CY
9	P-152-5.1	Compacted Subgrade (10 In. Depth)	14,690	SY
10	P-208.1	Aggregate Base Course (Stabilized Shoulder) (6")	300	CY
11	P-209.1	Crushed Aggregate Base Course (6")	2,450	CY
13	P-401-8.1	Asphalt Mix Pavement	2,550	TONS
15	P-610	Aircraft Tie-Down	36	EA
16	P-620.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	880	SF
17	P-620.2	Reflective White Runway Pavement Markings, Waterborne	140	SF
18	P-620.3	Black Taxiway Pavement Markings, Waterborne	450	SF
19	D-701-5.1	18-inch Concrete Pipe RGRCP, Class V	130	LF
20	D-751-5.2	Storm Drain Inlet	2	EA
21	D-751-5.3	Storm Drain Apron	2	EA
22	MAG 220.5	Ungrouted Rip Rap, D50=9", with Geosynthetic Fabric	150	SY
23	L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank, or Conduit	2,310	LF
24	L-108-5.2	No. 6 AWG, Bare CU Counterpoise Installed in Trench	1,670	LF
25	L-110-5.1	Non-Encased Conduit, 1-Way 2"	1,190	LF
26	L-110-5.2	Concrete Encased Conduit, 1-Way 2"	170	LF
27	L-110-5.3	Concrete Encased Conduit, 2-Way 2"	90	LF
28	L-110-5.4	Directional Bored Duct Bank, 4-Way 2"	220	LF
29	L-115-5.1	Concrete H-20 Load Rated Electrical Handhole	3	EA
30	L-125-5.1	NEW L-861T Elevated Taxiway Edge Light Installed on L-867 Base Can including Isolation Transformer, stem, plate and splice kit	30	EA
31	L-125-5.2	NEW L-861T Elevated Taxiway Edge Light Installed on L-868(B) Base Can including Isolation Transformer, stem, plate and splice kit	1	EA
32	L-125-5.3	New 2 Module Size 1 LED Airfield Sign with Concrete Base	2	EA
33	L-125-5.4	New 3 Module Size 1 LED Airfield Sign with Concrete Base	2	EA
34	L-125-5.5	New 4 Module Size 1 LED Airfield Sign with Concrete Base	1	EA

ALTERNATE 1 BID QUANTITIES

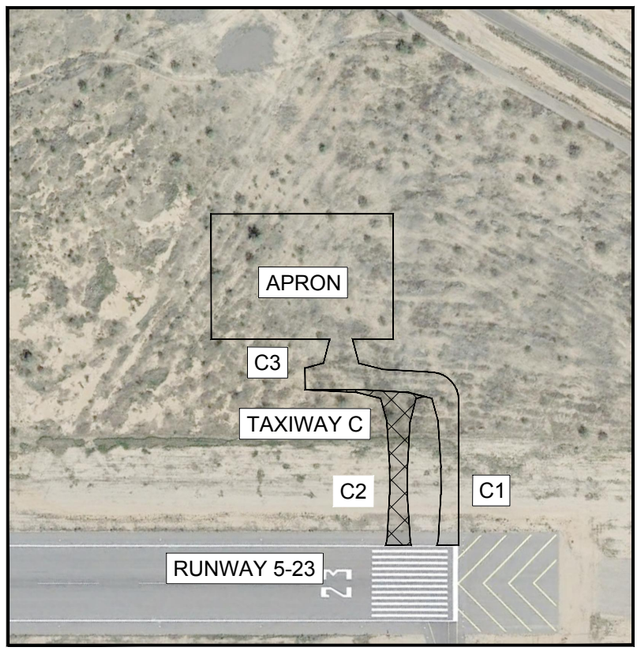
Item No.	Specification Number	Bid Item Description	Quantity	Unit
1	C-100	Contractor Quality Control	1	LS
2	C-102-5.1	Storm Water Pollution Prevention	1	LS
3	C-105	Mobilization/Demobilization (Maximum of 5%)	1	LS
4	SP-60.1	Airside Safety and Security / Traffic Control	1	LS
5	P-101-5.1	Bituminous Pavement Removal (4 In. Depth)	140	SY
6	P-151-4.1	Clearing and Grubbing	1	AC
7	P-152-4.1	Unclassified Excavation	290	CY
8	P-152-4.2	Fill with Select Material	270	CY
9	P-152-5.1	Compacted Subgrade (10 In. Depth)	1,790	SY
10	P-208.1	Aggregate Base Course (Stabilized Shoulder) (6")	140	CY
11	P-209.1	Crushed Aggregate Base Course (6")	300	CY
13	P-401-8.1	Asphalt Mix Pavement	400	TONS
15	P-620.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	450	SF
16	P-620.2	Reflective White Runway Pavement Markings, Waterborne	180	SF
17	P-620.3	Black Taxiway Pavement Markings, Waterborne	410	SF
18	D-701-5.1	24-inch Concrete Pipe RGRCP, Class V	110	LF
19	D-751-5.2	Storm Drain Inlet	2	EA
20	D-751-5.3	Storm Drain Apron	2	EA
21	MAG 220.5	Ungrouted Rip Rap, D50=9", with Geosynthetic Fabric	50	CY
22	L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank, or Conduit	1,275	LF
23	L-108-5.2	No. 6 AWG, Bare CU Counterpoise Installed in Trench	855	LF
24	L-110-5.1	Non-Encased Conduit, 1-Way 2"	750	LF
25	L-110-5.3	Concrete Encased Conduit, 2-Way 2"	105	LF
26	L-115-5.1	Concrete H-20 Load Rated Electrical Handhole	1	EA
27	L-125-5.1	NEW L-861T Elevated Taxiway Edge Light Installed on L-867 Base Can including Isolation Transformer, stem, plate and splice kit	18	EA
28	L-125-5.3	New 2 Module Size 1 LED Airfield Sign with Concrete Base	1	EA
29	L-125-5.5	New 4 Module Size 1 LED Airfield Sign with Concrete Base	1	EA

ALTERNATE 2 BID QUANTITIES

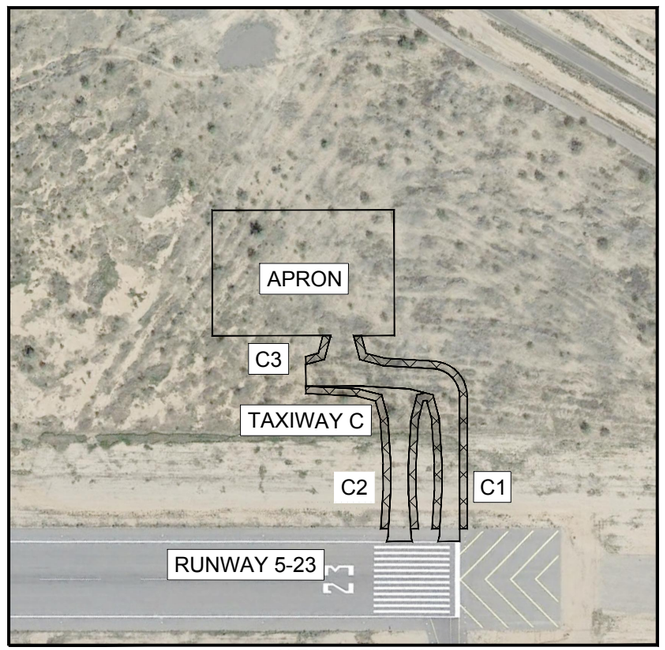
Item No.	Specification Number	Bid Item Description	Quantity	Unit
1	C-100	Contractor Quality Control	1	LS
2	C-102-5.1	Storm Water Pollution Prevention	1	LS
3	C-105	Mobilization/Demobilization (Maximum of 5%)	1	LS
4	SP-60.1	Airside Safety and Security / Traffic Control	1	LS
5	P-152-4.1	Unclassified Excavation	470	CY
6	P-152-4.2	Fill with Select Material	40	CY
7	P-152-5.1	Compacted Subgrade (10 In. Depth)	3,060	SY
8	MAG 702-4.1	Crushed Aggregate Base Course (6") (Not FAA AIP Eligible)	510	CY
9	MAG 710-5.1	Asphalt Concrete (4") (Not FAA AIP Eligible)	510	TONS
10	P-620.1	Reflective Yellow Taxiway Pavement Markings, Waterborne	1,740	SF
11	L-125-5.6	NEW L-861T Elevated Taxiway Edge Light Installed on L-867 Base Can with Base Can Extension including Isolation Transformer, stem, plate and splice kit (price differential from Taxiway Edge Lights specified per Base Bid and Alternate 1)	48	EA



BASE BID
SCALE: 1"=150'



ALTERNATIVE #1
SCALE: 1"=150'



ALTERNATIVE #2
SCALE: 1"=150'

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

Kimley»Horn
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7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

Registered Professional Engineer (Civil) CERTIFICATE NO. 69923 BRANDON L. ROBINSON Date Signed 05/30/25 ARIZONA, U.S.A.

SCALE (H):1"=150'
SCALE (V): N/A
DESIGNED BY: BLR
DRAWN BY: SOR
CHECKED BY: BLR
DATE: 04/30/25

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

CITY OF COOLIDGE ARIZONA

COOLIDGE MUNICIPAL AIRPORT
GA APRON AND TAXIWAY C
GENERAL NOTES

PROJECT NO.
191593014

DRAWING NAME
191593014NT02.dwg

C1.3

SHEET NO. 3 OF 43

SURVEY CONTROL NOTES:

THE FIELD PORTION OF THIS SURVEY WAS PERFORMED DURING THE MONTH OF JULY, 2024.

SURVEY CONTROL POINT

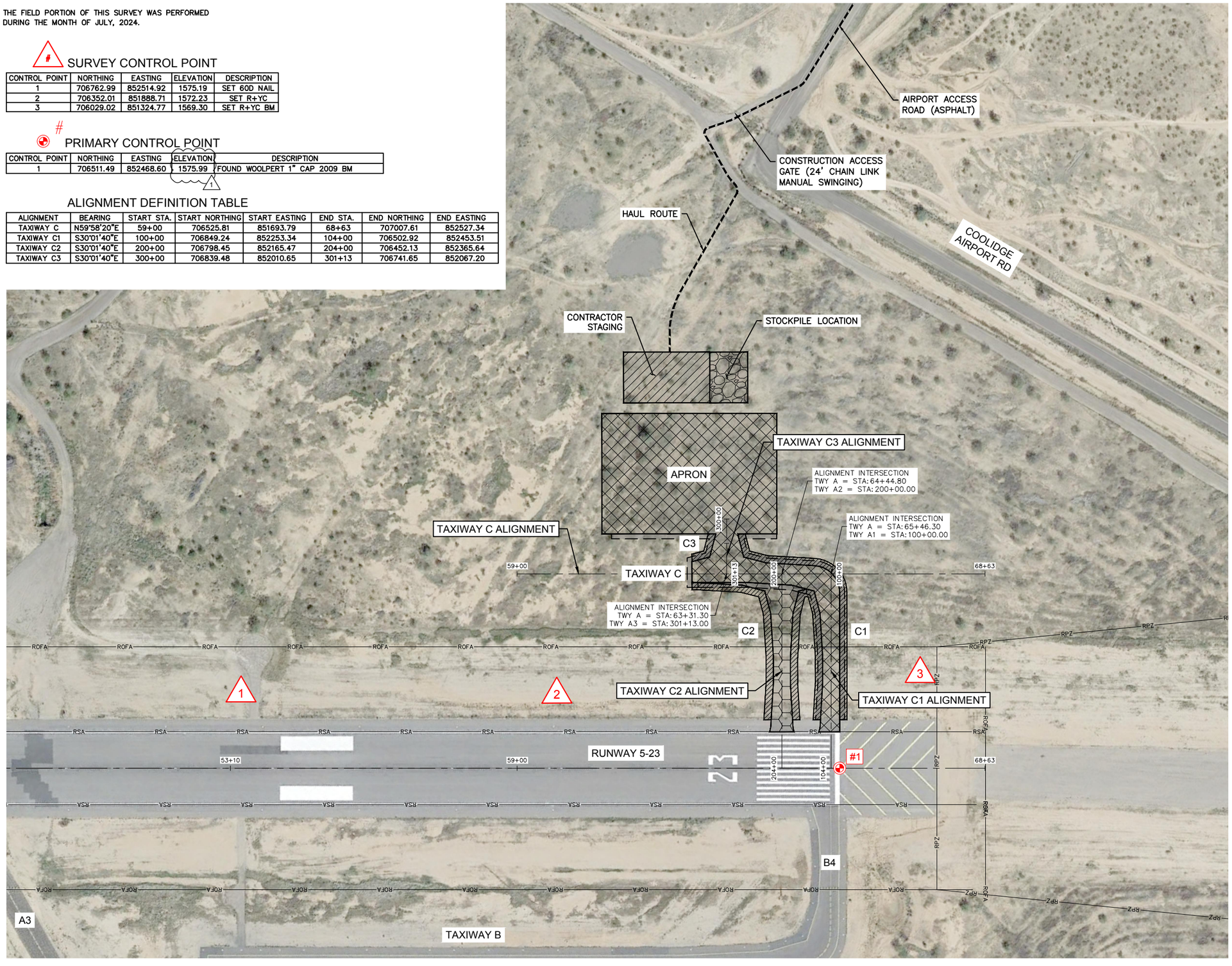
CONTROL POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	706762.99	852514.92	1575.19	SET 60D NAIL
2	706352.01	851888.71	1572.23	SET R+YC
3	706029.02	851324.77	1569.30	SET R+YC BM

PRIMARY CONTROL POINT

CONTROL POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	706511.49	852468.60	1575.99	FOUND WOOLPERT 1" CAP 2009 BM

ALIGNMENT DEFINITION TABLE

ALIGNMENT	BEARING	START STA.	START NORTHING	START EASTING	END STA.	END NORTHING	END EASTING
TAXIWAY C	N59°58'20"E	59+00	706525.81	851693.79	68+63	707007.61	852527.34
TAXIWAY C1	S30°01'40"E	100+00	706849.24	852253.34	104+00	706502.92	852453.51
TAXIWAY C2	S30°01'40"E	200+00	706798.45	852165.47	204+00	706452.13	852365.64
TAXIWAY C3	S30°01'40"E	300+00	706839.48	852010.65	301+13	706741.65	852067.20



LEGEND

- PROJECT LIMITS (BASE BID)
- PROJECT LIMITS (ALTERNATE BID 1)
- PROJECT LIMITS (ALTERNATE BID 2)
- STOCKPILE AREA
- CONTRACTOR'S STAGING AREA (CONTRACTOR TO COORDINATE ACTUAL LOCATION WITH AIRPORT PRIOR TO STARTING CONSTRUCTION)
- PRIMARY CONTROL POINT
- SURVEY CONTROL POINT
- HAUL ROUTE / SITE ACCESS
- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- RPZ — RUNWAY PROTECTION ZONE

GENERAL NOTES:

1. THE CONTRACTOR SHALL COORDINATE ANY NECESSARY CLOSURES WITH THE AIRPORT, PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL VERIFY THE BARRICADES FOR EACH PHASE OF THE PROJECT ARE IN THE CORRECT LOCATION, ARE PROPERLY SECURED, AND ARE IN PROPER WORKING ORDER PRIOR TO STARTING WORK EACH DAY/NIGHT OF THE PROJECT.
3. THE CONTRACTOR SHALL NOT STRAY FROM THE HAUL ROUTE / SITE ACCESS DESIGNATED ON THE PROJECT LAYOUT PLAN.
4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE HAUL ROUTE / SITE ACCESS DURING THE PROJECT. THE CONTRACTOR WILL REPAIR THE HAUL ROUTE / SITE ACCESS AS NECESSARY AT THE END OF THE PROJECT (AT THE CONTRACTOR'S EXPENSE).
5. CONTRACTOR SHALL COORDINATE WITH AND OBTAIN APPROVAL FROM AIRPORT OPERATIONS REGARDING USE OF ANY AIRPORT GATE. AIRPORT OPERATIONS MAY ALLOW ACCESS FROM OTHER GATES BASED ON AVAILABILITY OF SECURITY STAFF.
6. CONTRACTOR TO ENSURE THAT NO CONSTRUCTION TRAFFIC ENTERING SITE BACKS UP ON OR BLOCKS ANY PUBLIC STREET.
7. ANY EXISTING PAVEMENT AREA ALONG ANY HAUL ROUTE SHALL BE ADEQUATELY PLATED, UNLESS APPROVED OTHERWISE PRIOR TO HAULING ACTIVITIES.

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF CONSTRUCTING A GENERAL AVIATION APRON WITH A PARTIAL PARALLEL TAXIWAY C AND CONNECTOR TAXIWAYS C1, C2 AND C3 AT THE COOLIDGE MUNICIPAL AIRPORT IN COOLIDGE, AZ. THIS PROJECT WILL INCLUDE THE SAWCUTTING AND REMOVAL OF EXISTING AC PAVEMENT, EXCAVATION AND INSTALLATION OF DRAINAGE AND ELECTRICAL INFRASTRUCTURE, GRADING, AGGREGATE BASE COURSE, CONSTRUCTION OF NEW AC PAVEMENT AND PAVEMENT MARKINGS.

NORTH

GRAPHIC SCALE IN FEET
0 50 100 200

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NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

Kimley»Horn
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7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

Registered Professional Engineer (Civil) CERTIFICATE NO. 69543 BRANDON L. ROBINSON Date Signed ARIZONA U.S.A. Expires 09/30/2026

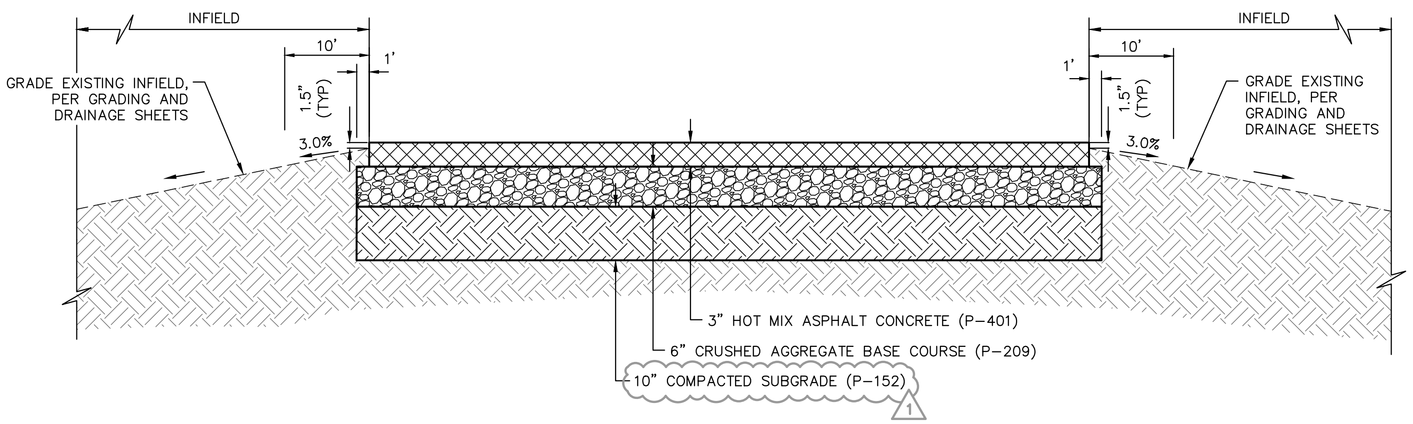
SCALE (H):1"=100'
SCALE (V):N/A
DESIGNED BY: BLR
DRAWN BY: SOR
CHECKED BY: BLR
DATE: 04/30/25

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

COOLIDGE MUNICIPAL AIRPORT
GA APRON AND TAXIWAY C
PROJECT LAYOUT

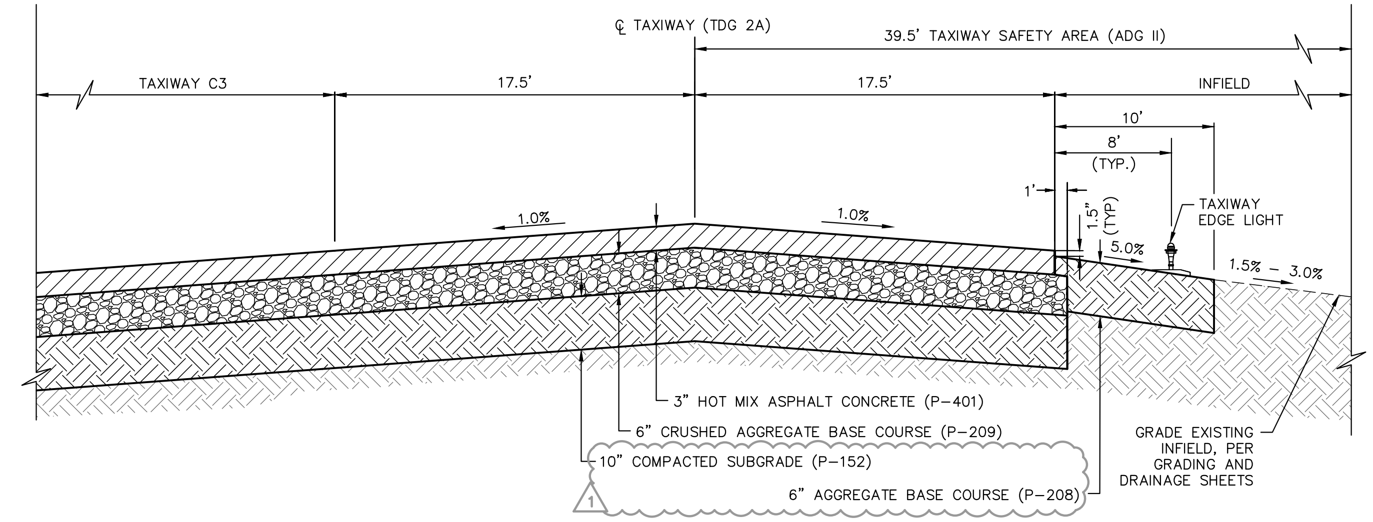
PROJECT NO. 191593014
DRAWING NAME 191593014PL.dwg
C1.4
SHEET NO. 4 OF 43

K:\PHX_Aviation\191593014 Coolidge On-Call 04 Task 5\CADD\191593014PL.dwg May 30, 2025 brandon.robinson
XREFS: x191593014SM x191593014AE x191593014TB x191593014BM-ALT 1 x191593014BM-ALT 2



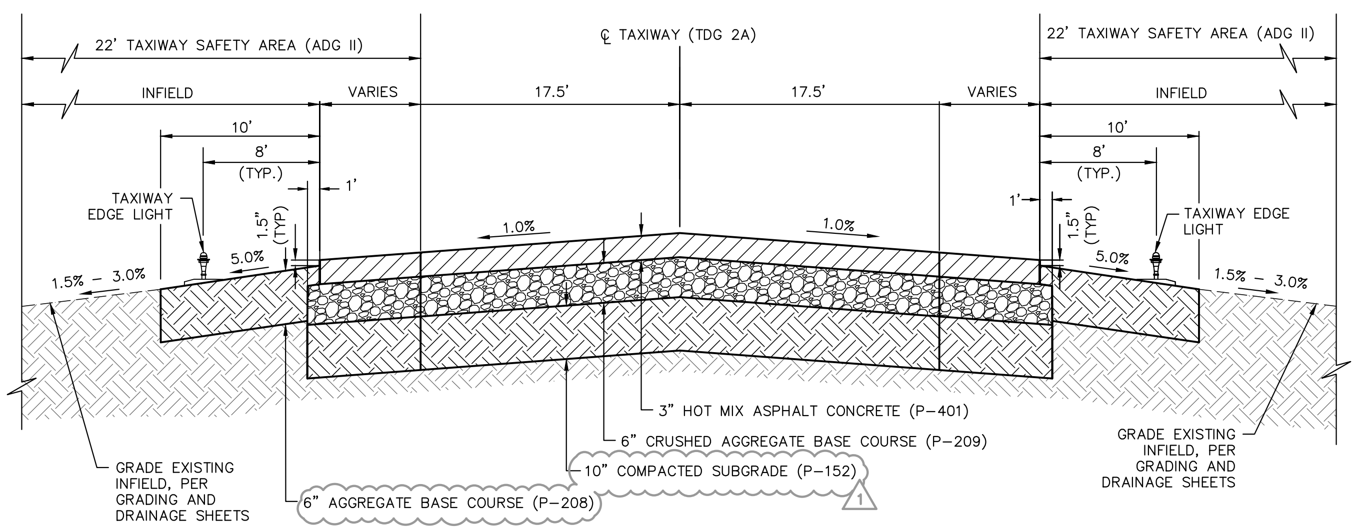
1 C3.1 APRON TYPICAL SECTION

N.T.S.



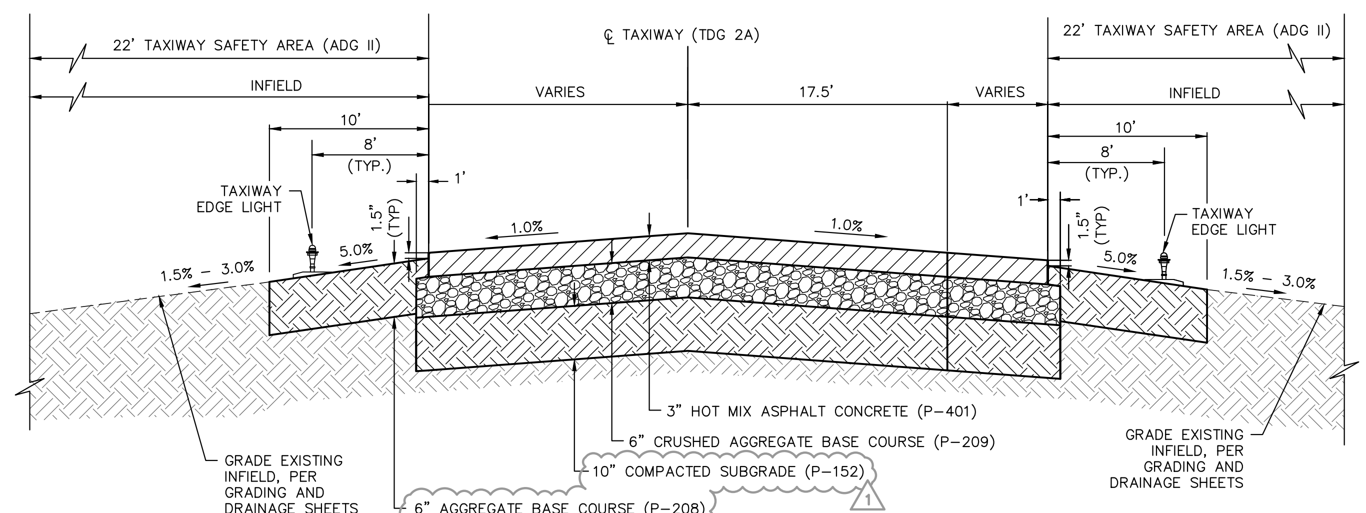
2 C3.1 TAXIWAY C TYPICAL SECTION (TAXIWAY C ALIGNMENT - STA: 62+59.80 TO STA: 63+74.30)

N.T.S.



3 C3.1 TAXIWAY C TYPICAL SECTION (TAXIWAY C ALIGNMENT - STA: 63+74.30 TO STA: 65+03.30)

N.T.S.



4 C3.1 TAXIWAY C TYPICAL SECTION (TAXIWAY C ALIGNMENT - STA: 65+03.30 TO STA: 65+49.32)

N.T.S.

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

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7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

Registered Professional Engineer (Civil) 65413 BRANDON L. ROBINSON ARIZONA, U.S.A.

SCALE (H): N/A
SCALE (V): N/A
DESIGNED BY: BLR
DRAWN BY: SQR
CHECKED BY: BLR
DATE: 04/30/25

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

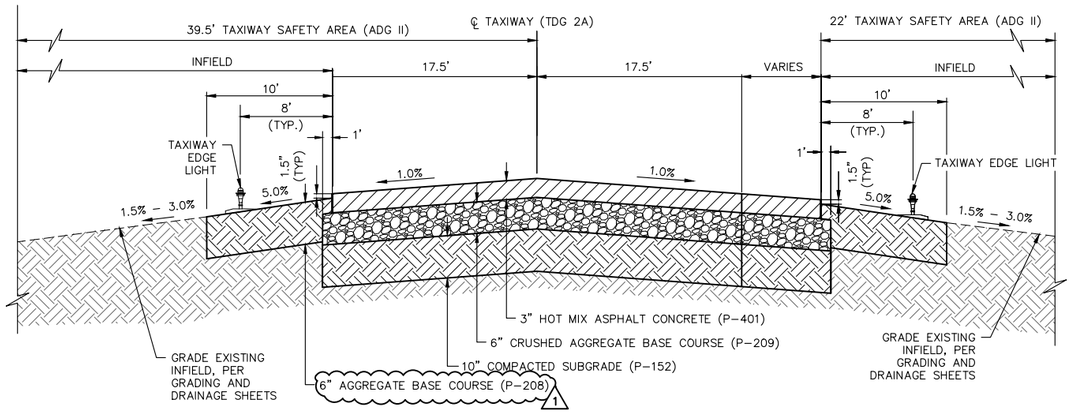
COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C TYPICAL SECTIONS (BASE BID)

PROJECT NO. 191593014

DRAWING NAME 191593014TS.dwg

C3.1

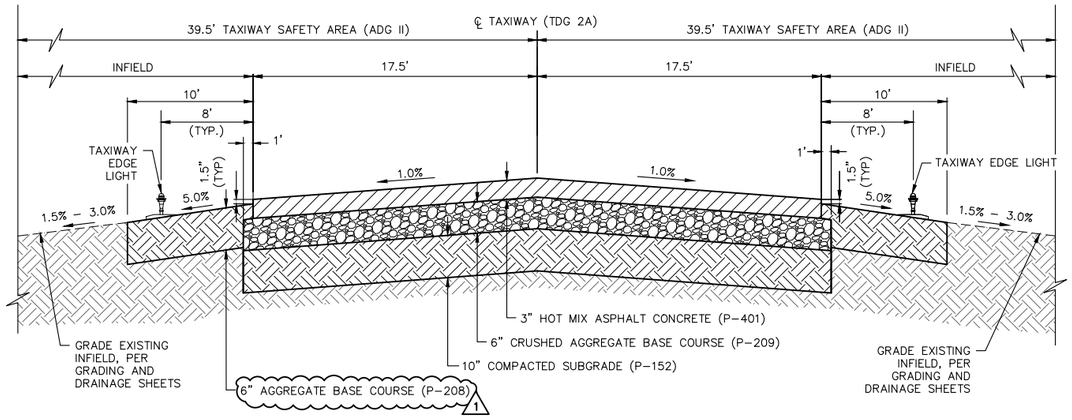
SHEET NO. 9 OF 43



TAXIWAY C1 TYPICAL SECTION
(TAXIWAY C1 ALIGNMENT - STA: 100+00.00 TO STA: 101+72.00 AND STA:102+25.00 TO 103+25.00)

5 / C3.2

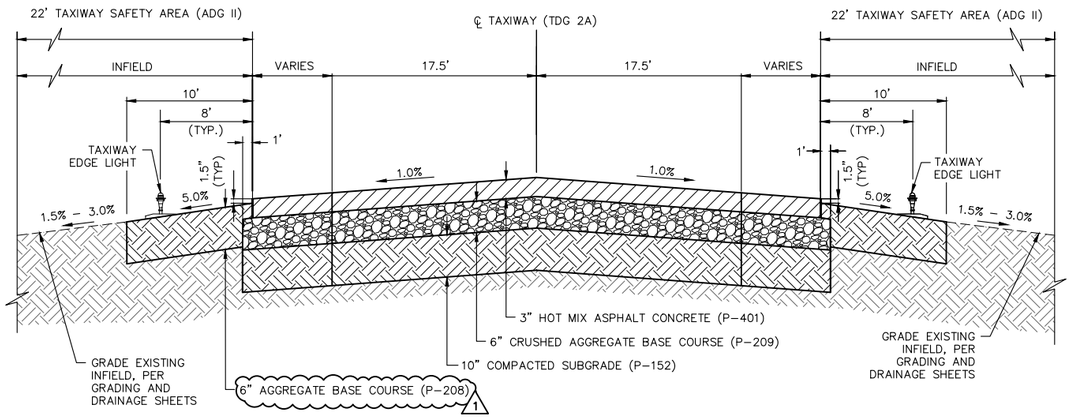
N.T.S.



TAXIWAY C1 TYPICAL SECTION
(TAXIWAY C1 ALIGNMENT - STA: 101+72.00 TO STA: 102+25.00)

6 / C3.2

N.T.S.



TAXIWAY C3 TYPICAL SECTION
(TAXIWAY C3 ALIGNMENT - STA: 300+30.50 TO STA: 300+95.50)

7 / C3.2

N.T.S.

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

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Phoenix, Arizona 85020 (602) 944–5500

Registered Professional Engineer (Civil) — CERTIFICATE NO. 69923 — BRANDON L. ROBINSON — Date Signed 05/30/25 — ARIZONA

SCALE (H): N/A
SCALE (V): N/A
DESIGNED BY: BLR
DRAWN BY: SOR
CHECKED BY: BLR
DATE: 04/30/25

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

COOLIDGE MUNICIPAL AIRPORT
GA APRON AND TAXIWAY C
TYPICAL SECTIONS
(BASE BID)

PROJECT NO.
191593014

DRAWING NAME
191593014TS_2.dwg

C3.2

SHEET NO. 10 OF 43

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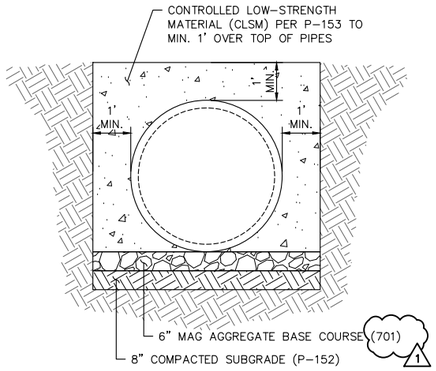
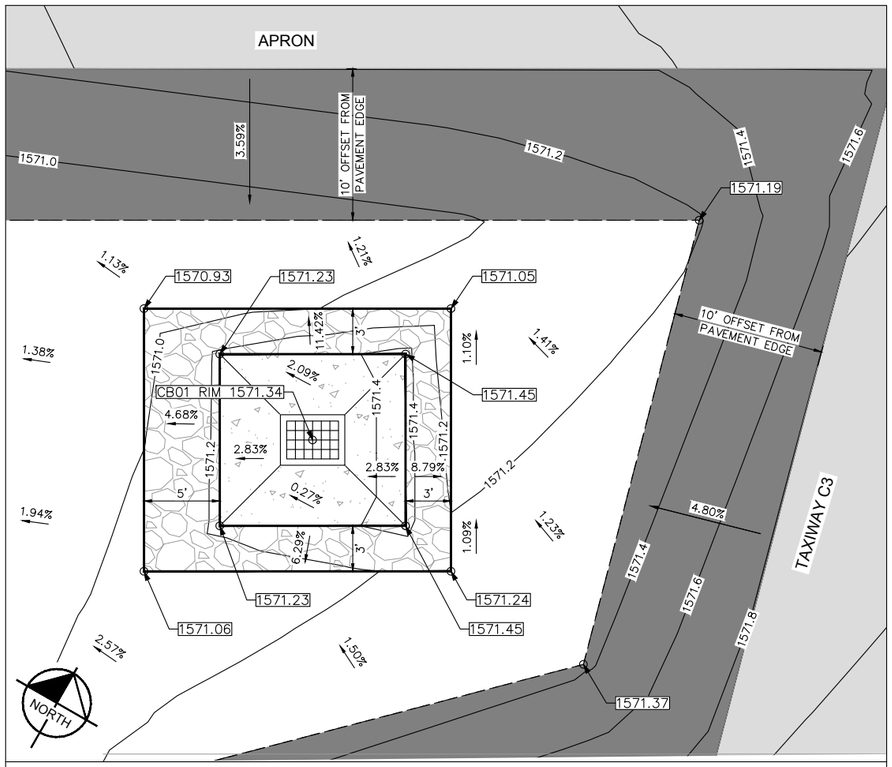
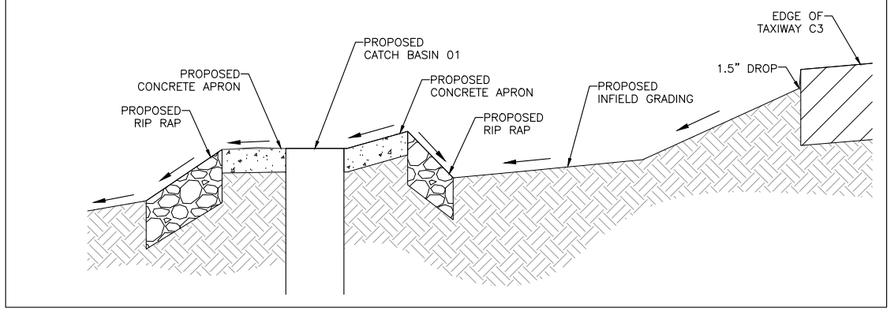
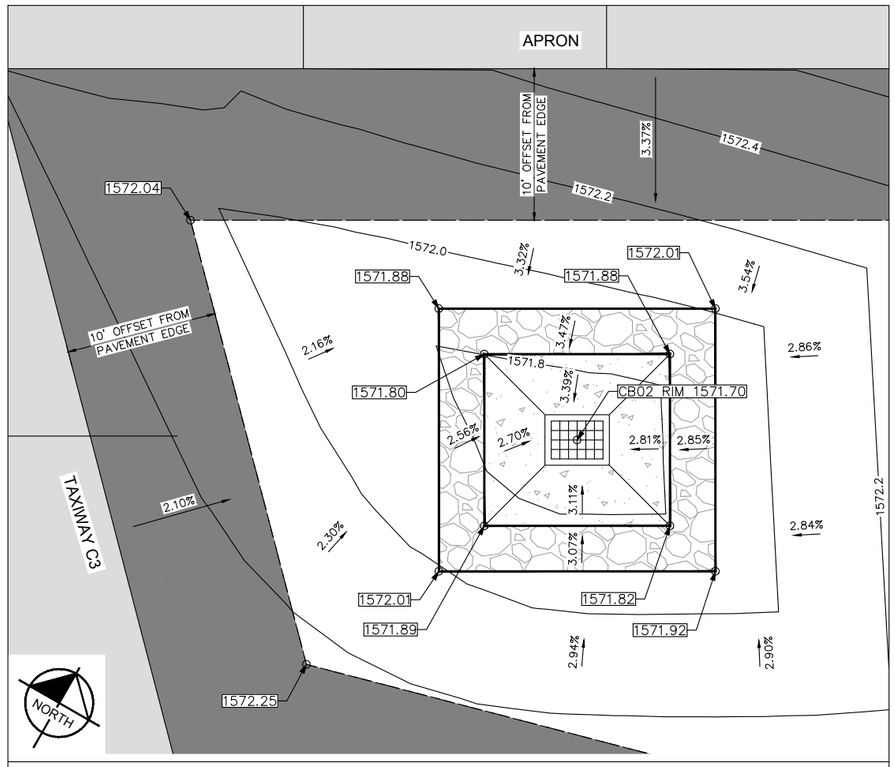


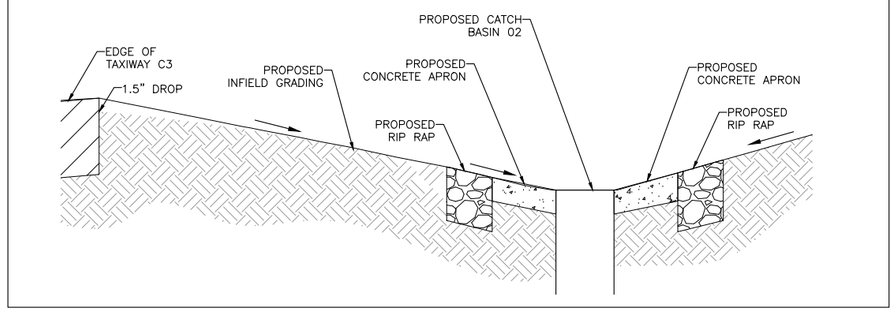
1 C5.3 TRENCH DETAIL
N.T.S.





2 C5.3 CATCH BASIN 01 APRON AND RIP RAP DETAIL
1"=5'





3 C5.3 CATCH BASIN 02 APRON AND RIP RAP DETAIL
1"=5'

Call at least two full working days before you begin excavation.
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Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County (602) 263-1100

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

Kimley»Horn

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Phoenix, Arizona 85020 (602) 944-5500

Registered Professional Engineer (Civil) — CERTIFICATE NO. 69923 — BRANDON L. ROBINSON — Date Signed 05/30/25 — ARIZONA, U.S.A.

SCALE (H): N/A
SCALE (V): N/A
DESIGNED BY: BLR
DRAWN BY: SOR
CHECKED BY: BLR
DATE: 04/30/25

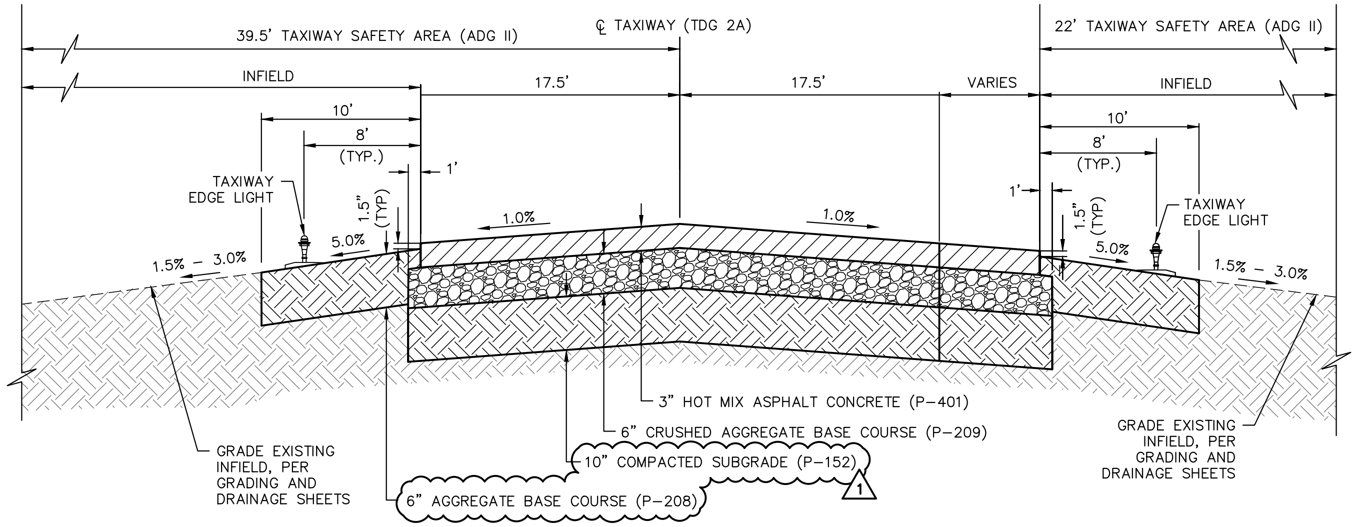
COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

COOLIDGE MUNICIPAL AIRPORT
GA APRON AND TAXIWAY C
STORM DRAIN DETAILS
(BASE BID)

PROJECT NO.
191593014

DRAWING NAME
191593014SDDT.dwg

C5.3
SHEET NO. 14 OF 43



1 / C3.3 TAXIWAY C2 TYPICAL SECTION

N.T.S.

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

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Phoenix, Arizona 85020 (602) 944-5500

SCALE (H): N/A
SCALE (V): N/A
DESIGNED BY: BLR
DRAWN BY: SQR
CHECKED BY: BLR
DATE: 04/30/25

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85128

COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C TYPICAL SECTIONS (ALTERNATIVE 1)

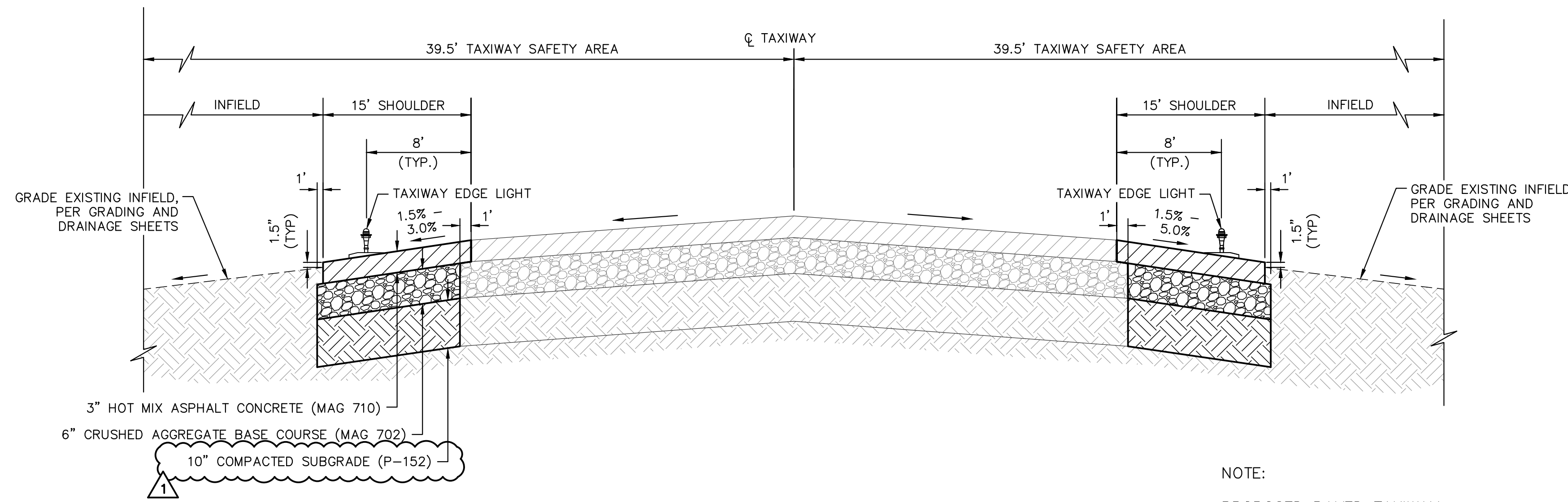
PROJECT NO. 191593014

DRAWING NAME 191593014TS_ALT1.dwg

C3.3

SHEET NO. 29 OF 43

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100



1 / C3.4 TAXIWAY SHOULDER TYPICAL SECTION

N.T.S.

NOTE:

PROPOSED PAVED TAXIWAY SHOULDERS EXCEED FAA STANDARDS AND ARE NOT ELIGIBLE FOR FAA FUNDING.

K:\PHX_Aviation\191593014 Coolidge OnCall 04 Task 5\CADD\191593014TS -02.dwg May 30, 2025 brandon.robinson
XREFS: x191593014TB _ALT2

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

Kimley»Horn

7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

Registered Professional Engineer (Civil)
CERTIFICATE NO. 69243
BRANDON L. ROBINSON
Date Signed: 04/30/25
ARIZONA, U.S.A.
Expires 09/30/2025

SCALE (H): N/A
SCALE (V): N/A
DESIGNED BY: BLR
DRAWN BY: SQR
CHECKED BY: BLR
DATE: 04/30/25

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

CITY OF COOLIDGE ARIZONA

COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C TYPICAL SECTIONS (ALTERNATIVE 2)

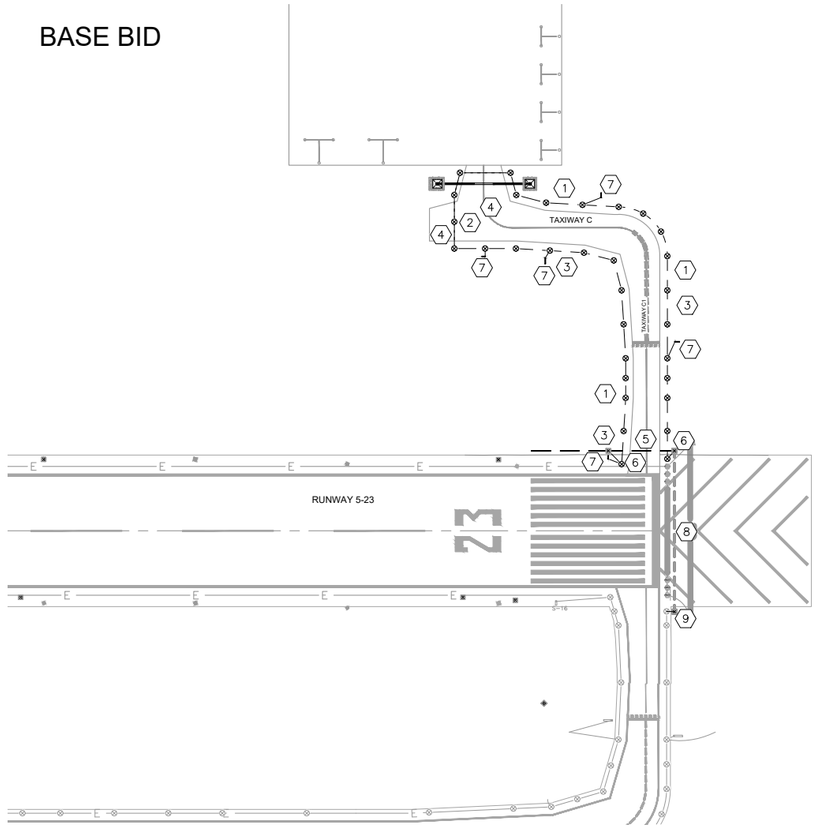
Call at least two full working days before you begin excavation.
ARIZONA 811 Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

PROJECT NO. 191593014

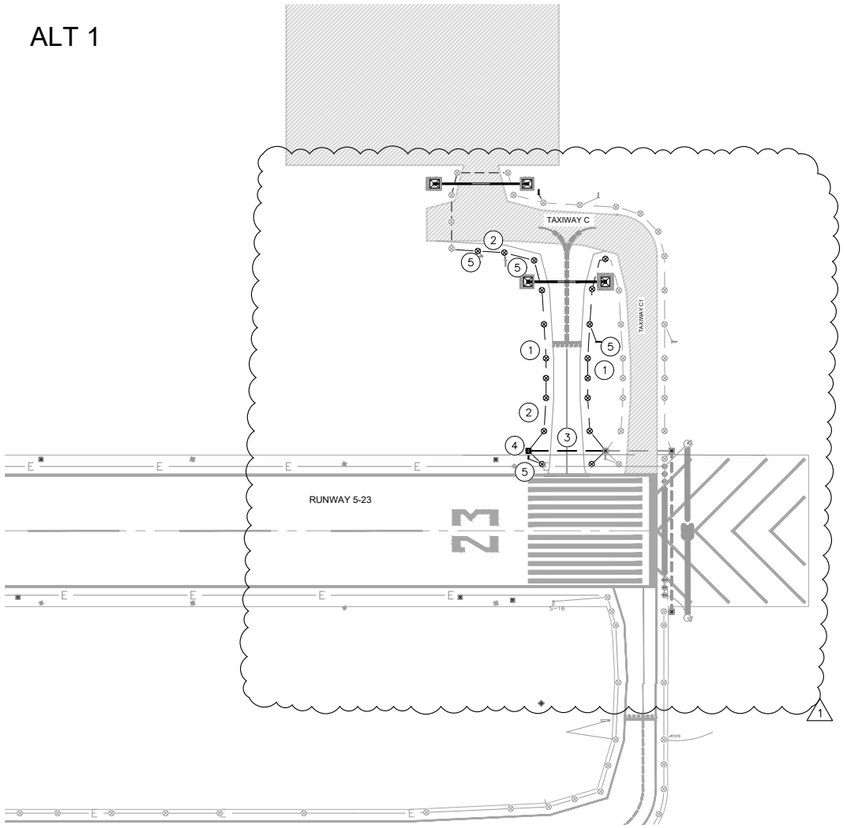
DRAWING NAME 191593014TS -02.dwg

C3.4

BASE BID



ALT 1



ABBREVIATIONS

ALV	AIRFIELD LIGHTING VAULT
ATCT	AIR TRAFFIC CONTROL TOWER
A.T.S.	AUTOMATIC TRANSFER SWITCH
AWOS	AUTOMATED WEATHER OBSERVATION SYSTEM
C, CNDT	CONDUIT
CCR	CONSTANT CURRENT REGULATOR
C.E.	CONCRETE ENCASED
CLSM	CONTROLLED LOW STRENGTH MATERIAL
D.B.	DIRECT EARTH BURIAL
(E)	EXISTING EQUIPMENT OR FACILITY
FAA	FEDERAL AVIATION ADMINISTRATION
HH	HANDHOLE
HIRL	HIGH INTENSITY RUNWAY LIGHTS
ILS	INSTRUMENT LANDING SYSTEM
MALSR	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS
(L)	LED (LIGHT EMITTING DIODE)
(N)	NEW EQUIPMENT OR FACILITY
PAPI	PRECISION APPROACH PATH INDICATOR
P.O.C.	POINT OF CONNECTION (WITH EXISTING CONDUIT OR DUCT)
PVC	POLYVINYLCHLORIDE: CONDUIT MATERIAL
(R)	REMOVE EQUIPMENT OR FACILITY
(RR)	REMOVE AND REPLACE EQUIPMENT OR FACILITY
RDR	RUNWAY DISTANCE REMAINING
REIL	RUNWAY END INDICATOR LIGHT
RSA	RUNWAY SAFETY AREA
R/W, RWY	RUNWAY
SCH	SCHEDULE
TSA	TAXIWAY SAFETY AREA
T/W, TWY	TAXIWAY
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED

LEGEND

- EXISTING CONDUIT OR DUCT BANK TO REMAIN
- PROPOSED 1–2" SCH. 40 PVC DIRECT BURIED CONDUIT
- PROPOSED 1–2" SCH. 40 PVC CONCRETE ENCASED CONDUIT
- PROPOSED 2–2" SCH. 40 PVC CONCRETE ENCASED CONDUIT
- PROPOSED 4–2" SCH. 80 HDPE DIRECTIONAL BORE
- EXISTING HANDHOLE TO REMAIN, PROTECT IN PLACE
- EXISTING RUNWAY EDGE/END LIGHT TO REMAIN
- EXISTING L–861T TAXIWAY EDGE LIGHT TO REMAIN
- EXISTING AIRFIELD GUIDANCE SIGN TO REMAIN
- EXISTING REIL TO REMAIN
- PROPOSED L–861T TAXIWAY EDGE LIGHT
- PROPOSED AIRFIELD GUIDANCE SIGN ON NEW BASE
- PROPOSED H–20 LOAD RATED HANDHOLE

ELECTRICAL SCOPE OF WORK- BASE BID

1. INSTALL NEW L–861(T) LED ELEVATED TAXIWAY EDGE LIGHT, ISOLATION TRANSFORMER, AND L–824 #8 5KV AIRFIELD CABLING ON NEW L–867 BASE CAN
2. INSTALL NEW L–861(T) LED ELEVATED TAXIWAY EDGE LIGHT, ISOLATION TRANSFORMER, AND L–824 #8 5KV AIRFIELD CABLING ON NEW L–868(B) BASE CAN
3. INSTALL NEW 1–2" SCH 40 PVC DIRECT BURIED CONDUIT AND L–824 #8 5KV AIRFIELD CABLING.
4. INSTALL NEW 1–2" SCH 40 PVC CONCRETE ENCASED CONDUIT AND L–824 #8 5KV AIRFIELD CABLING.
5. INSTALL NEW 2–2" SCH 40 PVC CONCRETE ENCASED CONDUIT AND L–824 #8 5KV AIRFIELD CABLING.
6. INSTALL NEW AIRCRAFT LOAD RATED CONCRETE HANDHOLE.
7. INSTALL NEW L–858(L) LED, SIZE 1, AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW CONCRETE FOUNDATION.
8. INSTALL NEW 4–2" SCH 80 HDPE DIRECTIONAL BORE AND L–824 #8 5KV AIRFIELD CABLING.
9. TIE IN TO EXISTING TAXIWAY B EDGE LIGHT CIRCUIT AT NEW HANDHOLE.

ELECTRICAL SCOPE OF WORK- ALT 1

1. INSTALL NEW L–861(T) LED ELEVATED TAXIWAY EDGE LIGHT, ISOLATION TRANSFORMER, AND L–824 #8 5KV AIRFIELD CABLING ON NEW L–867 BASE CAN
2. INSTALL NEW 1–2" SCH 40 PVC DIRECT BURIED CONDUIT AND L–824 #8 5KV AIRFIELD CABLING.
3. INSTALL NEW 2–2" SCH 40 PVC CONCRETE ENCASED CONDUIT AND L–824 #8 5KV AIRFIELD CABLING.
4. INSTALL NEW AIRCRAFT LOAD RATED CONCRETE HANDHOLE.
5. INSTALL NEW L–858(L) LED, SIZE 1, AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW CONCRETE FOUNDATION.

NORTH

GRAPHIC SCALE IN FEET
0 50 100 200

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

Kimley»Horn
© 2025 KIMLEY–HORN AND ASSOCIATES, INC.
7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944–5500

63843
JOSEPH D. BRADSHAW
EXPIRES 3/31/26

SCALE (H):1"=100'
SCALE (V): N/A
DESIGNED BY: JPT
DRAWN BY: DKP
CHECKED BY: JDB
DATE: 04/30/25

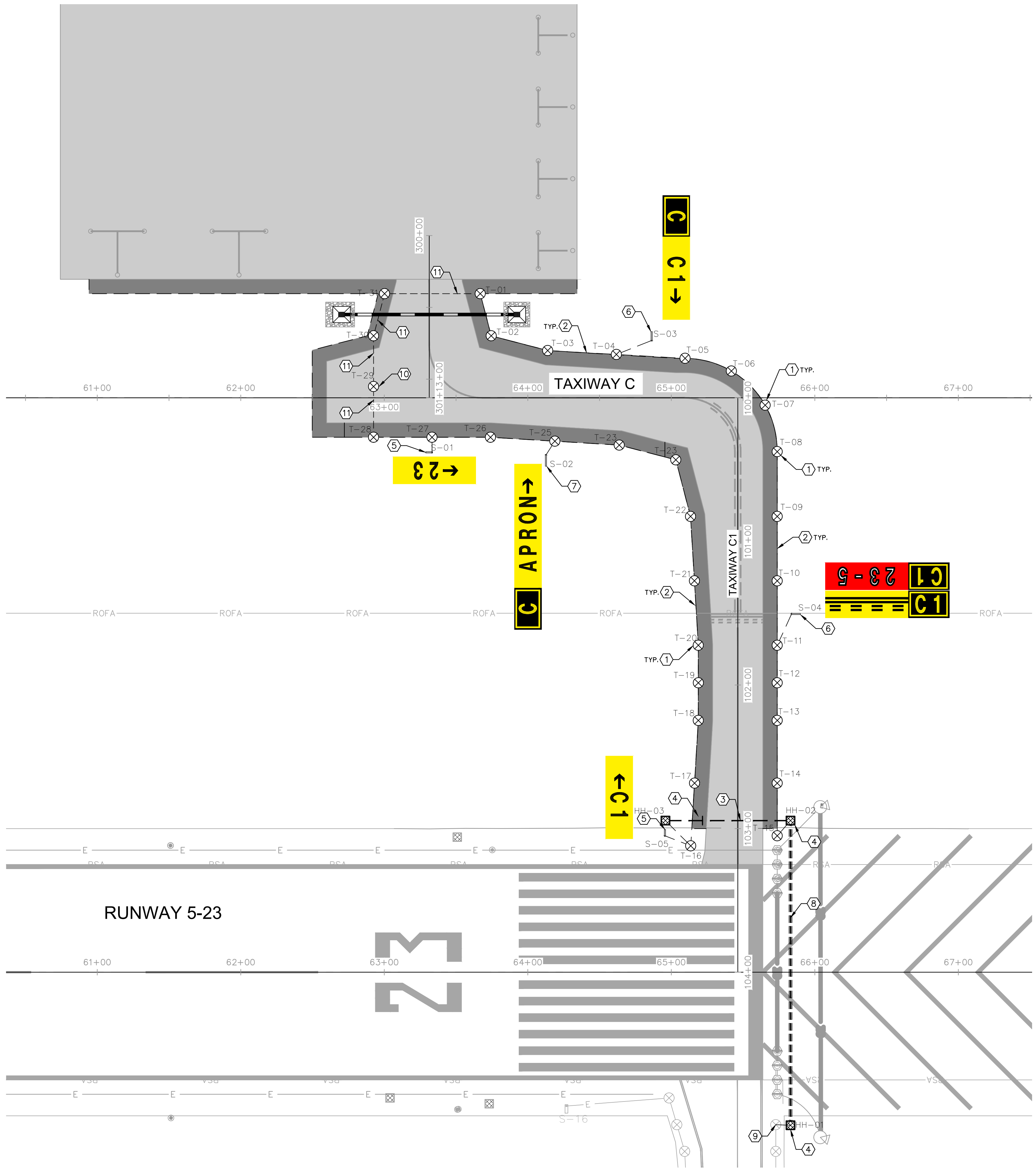
COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

COOLIDGE MUNICIPAL AIRPORT
GA APRON AND TAXIWAY C
ELECTRICAL SCOPE OF WORK
(BASE BID)

PROJECT NO.
191593014

DRAWING NAME
191593014ESOW.dwg

E1.0
SHEET NO. 20 OF 43



HANDHOLE DATA TABLE			
HH-NUM	STA	OFF	DETAIL
HH-01	'Taxiway C Alignment' 65+83.06	506.59' RT.	E2.4
HH-02	'Taxiway C Alignment' 65+83.06	294.40' RT.	E2.4
HH-03	'Taxiway C Alignment' 64+95.92	294.40' RT.	E2.4

SIGN DATA TABLE					
SIGN-NUM	STA	OFF	DETAIL	CIRCUIT	# OF MODULES
S-01	'Taxiway C Alignment' 63+33.24	38.00' RT.	E2.1	TWY C	2
S-02	'Taxiway C Alignment' 64+12.67	39.82' RT.	E2.1	TWY C	4
S-03	'Taxiway C Alignment' 64+86.30	39.90' LT.	E2.1	TWY C	3
S-04	'Taxiway C Alignment' 65+83.80	150.50' RT.	E2.1	TWY C	3
S-05	'Taxiway C Alignment' 64+95.55	305.00' RT.	E2.1	TWY C	2

L-861T DATA TABLE						
FIXT-NUM	STA	OFF	BASE	CIRCUIT	Lens	DETAIL
T-01	'Taxiway C Alignment' 63+66.86	72.50' LT.	L-867B	TWY C	BLU	E2.2
T-02	'Taxiway C Alignment' 63+74.50	43.20' LT.	L-867B	TWY C	BLU	E2.2
T-03	'Taxiway C Alignment' 64+13.86	32.93' LT.	L-867B	TWY C	BLU	E2.2
T-04	'Taxiway C Alignment' 64+61.73	30.21' LT.	L-867B	TWY C	BLU	E2.2
T-05	'Taxiway C Alignment' 65+09.60	27.50' LT.	L-867B	TWY C	BLU	E2.2
T-06	'Taxiway C Alignment' 65+41.87	18.68' LT.	L-867B	TWY C	BLU	E2.2
T-07	'Taxiway C Alignment' 65+65.38	5.13' RT.	L-867B	TWY C	BLU	E2.2
T-08	'Taxiway C Alignment' 65+73.80	37.50' RT.	L-867B	TWY C	BLU	E2.2
T-09	'Taxiway C Alignment' 65+73.79	82.60' RT.	L-867B	TWY C	BLU	E2.2
T-10	'Taxiway C Alignment' 65+73.79	127.46' RT.	L-867B	TWY C	BLU	E2.2
T-11	'Taxiway C Alignment' 65+73.80	172.30' RT.	L-867B	TWY C	BLU	E2.2
T-12	'Taxiway C Alignment' 65+73.80	198.46' RT.	L-867B	TWY C	BLU	E2.2
T-13	'Taxiway C Alignment' 65+73.82	224.68' RT.	L-867B	TWY C	BLU	E2.2
T-14	'Taxiway C Alignment' 65+73.80	268.35' RT.	L-867B	TWY C	BLU	E2.2
T-15	'Taxiway C Alignment' 65+73.80	305.00' RT.	L-867B	TWY C	BLU	E2.2
T-16	'Taxiway C Alignment' 65+13.53	312.00' RT.	L-867B	TWY C	BLU	E2.2
T-17	'Taxiway C Alignment' 65+16.18	268.35' RT.	L-867B	TWY C	BLU	E2.2
T-18	'Taxiway C Alignment' 65+18.82	224.68' RT.	L-867B	TWY C	BLU	E2.2
T-19	'Taxiway C Alignment' 65+18.83	198.48' RT.	L-867B	TWY C	BLU	E2.2
T-20	'Taxiway C Alignment' 65+18.82	172.30' RT.	L-867B	TWY C	BLU	E2.2
T-21	'Taxiway C Alignment' 65+16.10	127.44' RT.	L-867B	TWY C	BLU	E2.2
T-22	'Taxiway C Alignment' 65+13.38	82.58' RT.	L-867B	TWY C	BLU	E2.2
T-23	'Taxiway C Alignment' 65+03.11	43.20' RT.	L-867B	TWY C	BLU	E2.2
T-23	'Taxiway C Alignment' 64+63.73	32.92' RT.	L-867B	TWY C	BLU	E2.2
T-25	'Taxiway C Alignment' 64+18.86	30.21' RT.	L-867B	TWY C	BLU	E2.2
T-26	'Taxiway C Alignment' 63+74.00	27.50' RT.	L-867B	TWY C	BLU	E2.2
T-27	'Taxiway C Alignment' 63+33.28	27.50' RT.	L-867B	TWY C	BLU	E2.2
T-28	'Taxiway C Alignment' 62+92.55	27.50' RT.	L-867B	TWY C	BLU	E2.2
T-29	'Taxiway C Alignment' 62+92.55	7.84' LT.	L-868B	TWY C	BLU	E2.5
T-30	'Taxiway C Alignment' 62+92.55	43.19' LT.	L-867B	TWY C	BLU	E2.2
T-31	'Taxiway C Alignment' 63+00.20	72.50' LT.	L-867B	TWY C	BLU	E2.2

LEGEND

- 1-2" SCH. 40 PVC CONDUIT, DIRECT BURIED
- 1-2" SCH. 40 PVC CONDUIT, CONCRETE ENCASED
- 2-2" SCH. 40 PVC CONDUIT, CONCRETE ENCASED
- 4-2" SCH. 40 PVC CONDUIT, DIRECTIONAL BORE
- L-861T(L) LED ELEVATED TAXIWAY EDGE LIGHT
- L-858 LED AIRFIELD GUIDANCE SIGN ON NEW CONCRETE FOUNDATION
- H-20 LOAD RATED CONCRETE HANDHOLE

ELECTRICAL CONSTRUCTION NOTES:

1. INSTALL NEW L-861(T) LED ELEVATED TAXIWAY EDGE LIGHT, ISOLATION TRANSFORMER, AND L-824 #8 5KV AIRFIELD CABLING ON NEW L-867 BASE CAN. SEE DETAIL 1 ON SHEET E2.2.
2. INSTALL NEW 1-2" SCH 40 PVC DIRECT BURIED CONDUIT AND L-824 #8 5KV AIRFIELD CABLING.
3. INSTALL NEW 2-2" SCH 40 PVC CONCRETE ENCASED CONDUIT AND L-824 #8 5KV AIRFIELD CABLING.
4. INSTALL NEW H-20 LOAD RATED CONCRETE HANDHOLE. SEE DETAIL 1 ON SHEET E2.5.
5. INSTALL NEW L-858(L) LED, SIZE 1, 2-MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW CONCRETE FOUNDATION. SEE SHEET E2.1.
6. INSTALL NEW L-858(L) LED, SIZE 1, 3-MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW CONCRETE FOUNDATION. SEE SHEET E2.1.
7. INSTALL NEW L-858(L) LED, SIZE 1, 4-MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW CONCRETE FOUNDATION. SEE SHEET E2.1.
8. INSTALL NEW 4-2" SCH 80 HDPE DIRECTIONAL BORE AND L-824 #8 5KV AIRFIELD CABLING.
9. TIE IN TO EXISTING TAXIWAY B EDGE LIGHT CIRCUIT AT NEW HANDHOLE.
10. INSTALL NEW L-861(T) LED ELEVATED TAXIWAY EDGE LIGHT, ISOLATION TRANSFORMER, AND L-824 #8 5KV AIRFIELD CABLING ON NEW L-868(B) BASE CAN. SEE DETAIL 1 ON SHEET E2.5.
11. INSTALL NEW 1-2" SCH 40 PVC CONCRETE ENCASED CONDUIT AND L-824 #8 5KV AIRFIELD CABLING.

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

Kimley»Horn
7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

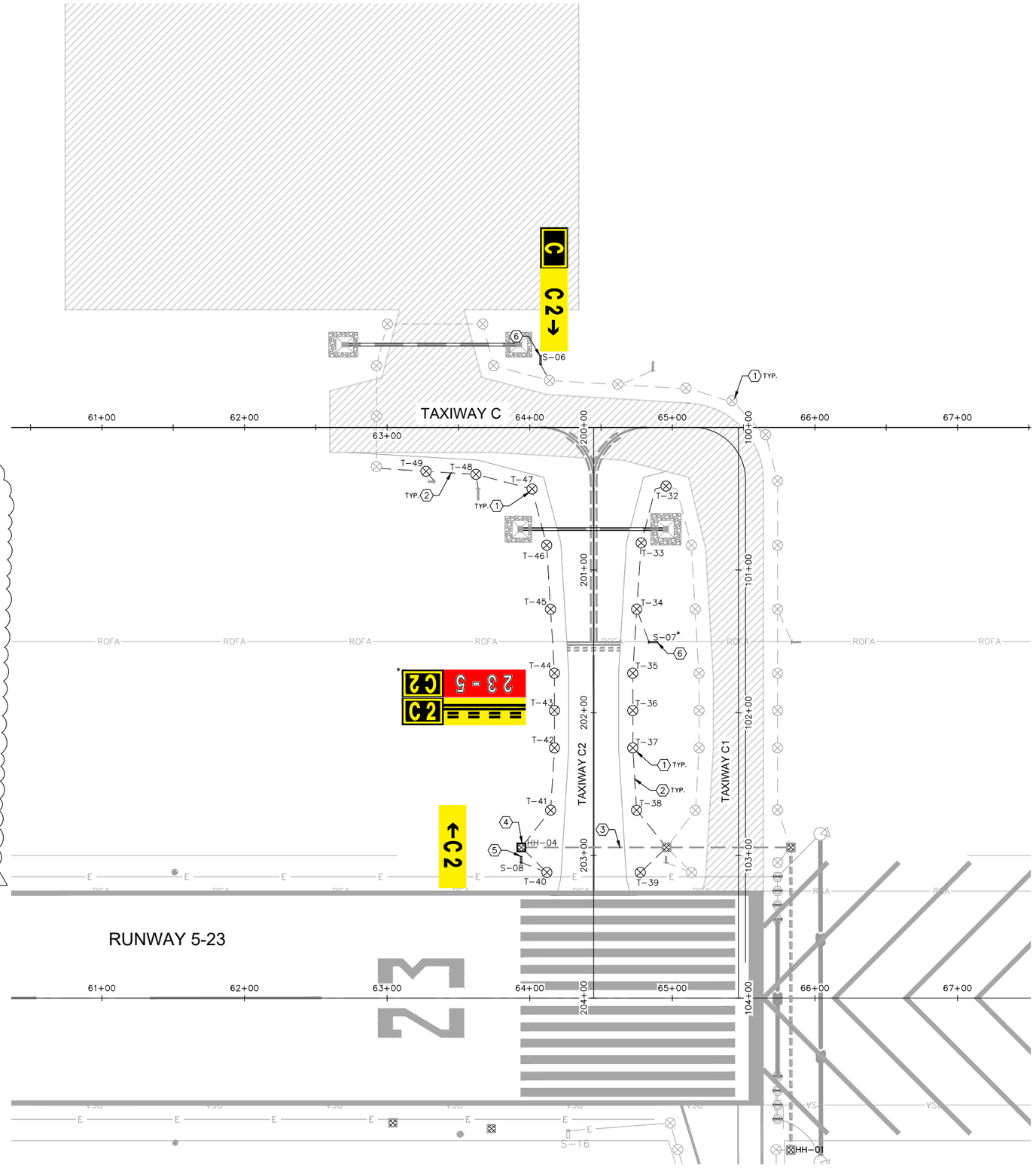
63843 JOSEPH D. BRADSHAW — EXPIRES 3/31/26

SCALE (H): 1"=40'
SCALE (V): N/A
DESIGNED BY: JPT
DRAWN BY: DKP
CHECKED BY: JDB
DATE: 04/30/25

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C ELECTRICAL LAYOUT PLAN (BASE BID)

PROJECT NO. 191593014
DRAWING NAME 191593014EL.dwg
E1.1
SHEET NO. 21 OF 43



HANDHOLE DATA TABLE

HH-NUM	STA	OFF	DETAIL
HH-04	'Taxiway C Alignment' 63+94.13	294.40' RT.	E2.4

SIGN DATA TABLE

SIGN-NUM	STA	OFF	DETAIL	CIRCUIT	# OF MODULES
S-06	'Taxiway C Alignment' 64+07.56	44.20' LT.	E2.1	TWY C	3
S-07	'Taxiway C Alignment' 64+83.60	150.50' RT.	E2.1	TWY C	3
S-08	'Taxiway C Alignment' 63+94.05	305.00' RT.	E2.1	TWY C	2

L-861T DATA TABLE

FIXT-NUM	STA	OFF	BASE	CIRCUIT	Lens	DETAIL
T-32	'Taxiway C Alignment' 64+95.63	41.19' RT.	L-867B	TWY C	BLU	E2.2
T-33	'Taxiway C Alignment' 64+78.20	81.00' RT.	L-867B	TWY C	BLU	E2.2
T-34	'Taxiway C Alignment' 64+75.03	127.43' RT.	L-867B	TWY C	BLU	E2.2
T-35	'Taxiway C Alignment' 64+72.29	172.29' RT.	L-867B	TWY C	BLU	E2.2
T-36	'Taxiway C Alignment' 64+72.29	198.49' RT.	L-867B	TWY C	BLU	E2.2
T-37	'Taxiway C Alignment' 64+72.29	224.68' RT.	L-867B	TWY C	BLU	E2.2
T-38	'Taxiway C Alignment' 64+74.93	268.33' RT.	L-867B	TWY C	BLU	E2.2
T-39	'Taxiway C Alignment' 64+77.57	311.98' RT.	L-867B	TWY C	BLU	E2.2
T-40	'Taxiway C Alignment' 64+12.05	311.97' RT.	L-867B	TWY C	BLU	E2.2
T-41	'Taxiway C Alignment' 64+14.69	268.32' RT.	L-867B	TWY C	BLU	E2.2
T-42	'Taxiway C Alignment' 64+17.33	224.67' RT.	L-867B	TWY C	BLU	E2.2
T-43	'Taxiway C Alignment' 64+17.33	198.47' RT.	L-867B	TWY C	BLU	E2.2
T-44	'Taxiway C Alignment' 64+17.33	172.28' RT.	L-867B	TWY C	BLU	E2.2
T-45	'Taxiway C Alignment' 64+14.62	127.42' RT.	L-867B	TWY C	BLU	E2.2
T-46	'Taxiway C Alignment' 64+11.91	82.55' RT.	L-867B	TWY C	BLU	E2.2
T-47	'Taxiway C Alignment' 64+01.63	43.17' RT.	L-867B	TWY C	BLU	E2.2
T-48	'Taxiway C Alignment' 63+62.26	32.90' RT.	L-867B	TWY C	BLU	E2.2
T-49	'Taxiway C Alignment' 63+27.35	30.77' RT.	L-867B	TWY C	BLU	E2.2

LEGEND

- 1-2" SCH. 40 PVC CONDUIT, DIRECT BURIED
- 2-2" SCH. 40 PVC CONDUIT, CONCRETE ENCASED
- L-861T(L) LED ELEVATED TAXIWAY EDGE LIGHT
- L-858 LED AIRFIELD GUIDANCE SIGN ON NEW CONCRETE FOUNDATION
- H-20 LOAD RATED CONCRETE HANDHOLE

ELECTRICAL CONSTRUCTION NOTES:

1. INSTALL NEW L-861(T) LED ELEVATED TAXIWAY EDGE LIGHT, ISOLATION TRANSFORMER, AND L-824 #8 5KV AIRFIELD CABLING ON NEW L-867 BASE CAN. SEE DETAIL 1 ON SHEET E2.2.
2. INSTALL NEW 1-2" SCH 40 PVC DIRECT BURIED CONDUIT AND L-824 #8 5KV AIRFIELD CABLING.
3. INSTALL NEW 2-2" SCH 40 PVC CONCRETE ENCASED CONDUIT AND L-824 #8 5KV AIRFIELD CABLING.
4. INSTALL NEW H-20 LOAD RATED CONCRETE HANDHOLE. SEE DETAIL 1 ON SHEET E2.5.
5. INSTALL NEW L-858(L) LED, SIZE 1, 2-MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW CONCRETE FOUNDATION. SEE SHEET E2.1.
6. INSTALL NEW L-858(L) LED, SIZE 1, 3-MODULE AIRFIELD GUIDANCE SIGN AND ISOLATION TRANSFORMER ON NEW CONCRETE FOUNDATION. SEE SHEET E2.1.

GENERAL NOTES:

1) IF ALTERNATIVE 1 WORK IS SELECTED, THE PAVEMENT GEOMETRY CHANGES WILL REMOVE THE FOLLOWING LIGHTS FROM THE BASE BID DESIGN: T-05, T-06, T-07, T-08, T-09

GRAPHIC SCALE IN FEET
0 20 40 80

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

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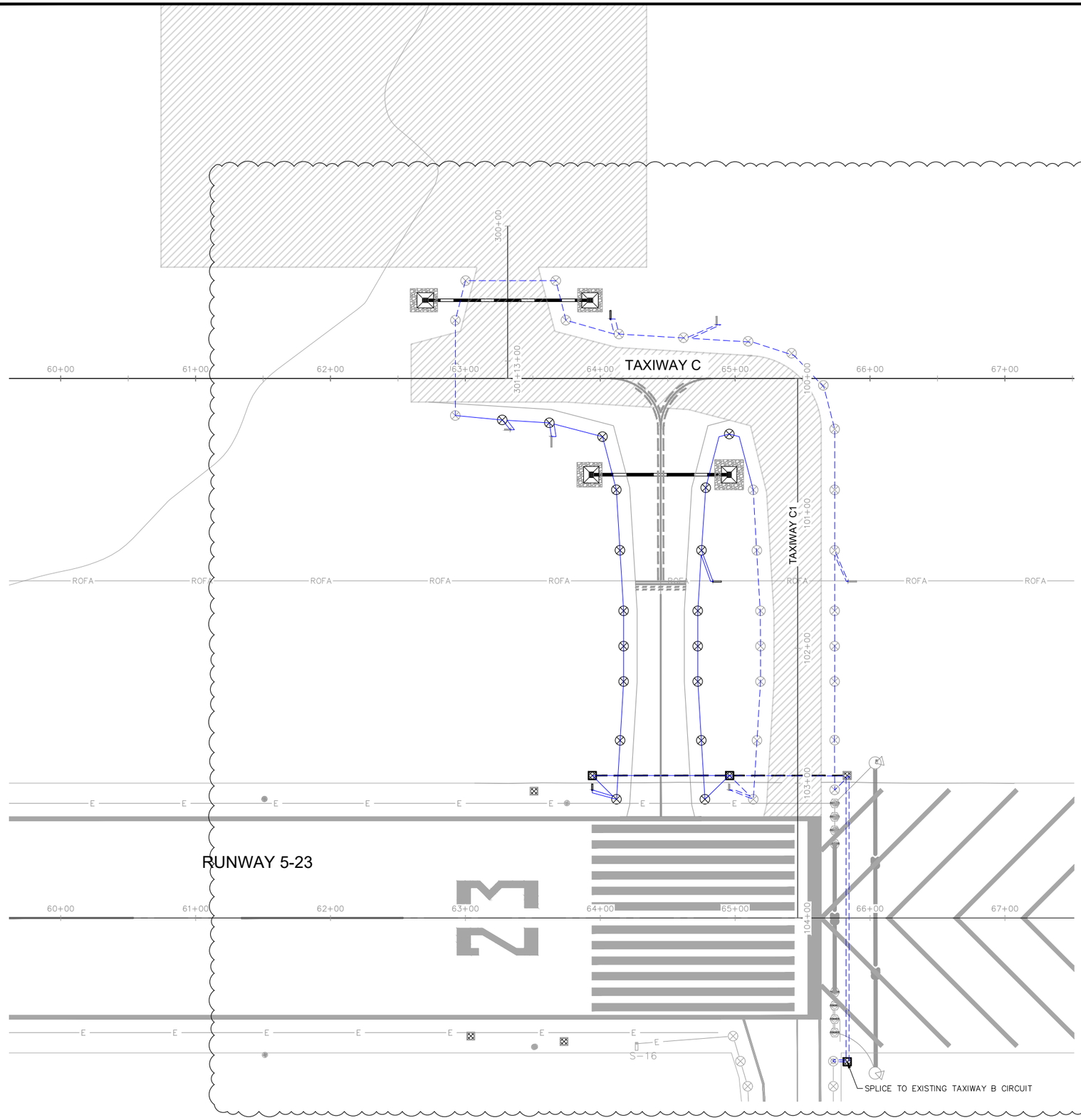
ARIZONA STATE BOARD OF TECHNICAL REGISTRATION
62843
JOSEPH D. BRADSHAW
Signed 3/31/26
EXPIRES 3/31/26

SCALE (H): 1"=40'
SCALE (V): N/A
DESIGNED BY: JPT
DRAWN BY: DKP
CHECKED BY: JDB
DATE: 04/30/25

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C ELECTRICAL LAYOUT PLAN (ALTERNATIVE 1)

PROJECT NO. 191593014
DRAWING NAME 191593014EL - ALT1.dwg
E1.2
SHEET NO. 36 OF 43



CIRCUIT TWY C DATA TABLE					
QUANTITY	ITEM DESC.	FT./ITEM *		TOTAL LENGTH	
1	HANDHOLE	x 25'	=	25 '	
18	TWY LIGHTS	x 10'	=	180 '	
5	SIGNS	x 10'	=	100 '	
* SLACK CABLE PER SPECS					
	ITEM TOTAL LENGTH		=	305 '	
	+ PLAN CIRCUIT LENGTH		=	970 '	
	TOTAL CIRCUIT LENGTH			1275'	
	INSTALLED IN THIS PROJECT			1275 '	

CONTRACTOR SHALL REPAIR OR PULL NEW CABLE AS NECESSARY TO MAINTAIN ALL OTHER EXISTING AIRFIELD CIRCUITS WHICH ARE DISTURBED AS A RESULT OF MULTIPLE CIRCUIT CABLES SHARING ONE CONDUIT IF THIS CONDITION EXISTS IN THE FIELD.

Call at least two full working days before you begin excavation. Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County (602) 263-1100

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

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Phoenix, Arizona 85020 (602) 944-5500

63843
JOSEPH D. BRADSHAW
EXPIRES 3/31/26

SCALE (H): 1"=40'
SCALE (V): N/A
DESIGNED BY: JPT
DRAWN BY: DKP
CHECKED BY: JDB
DATE: 04/30/25

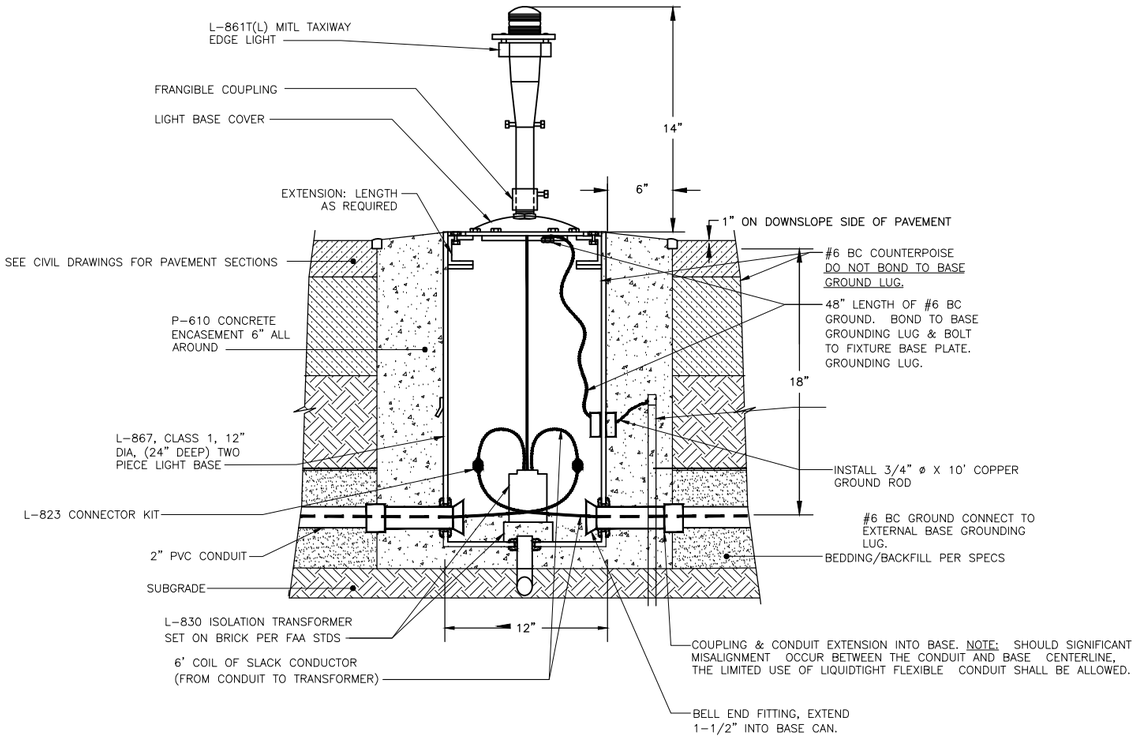
COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

COOLIDGE MUNICIPAL AIRPORT
GA APRON AND TAXIWAY C
ELECTRICAL CIRCUIT MAP
(ALTERNATIVE 1)

PROJECT NO.
191593014

DRAWING NAME
191593014EC – ALT1.dwg

E3.2
SHEET NO. 37 OF 43



1 ELEVATED TAXIWAY FIXTURE DETAIL – ON NEW L-867 BASECAN IN PAVED SHOULDER

SCALE: NTS

1

NO.	REVISION	DATE
1	ADDENDUM 01	5/30/25

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Phoenix, Arizona 85020 (602) 944-5500

SCALE (H): N/A
SCALE (V): N/A
DESIGNED BY: MNK
DRAWN BY: MNK
CHECKED BY: JPT
DATE: 04/30/25

COOLIDGE MUNICIPAL AIRPORT
CITY OF COOLIDGE
GROWTH MANAGEMENT
131 W PINKLEY AVE
COOLIDGE, AZ 85228

COOLIDGE MUNICIPAL AIRPORT
GA APRON AND TAXIWAY C
ELECTRICAL DETAILS
(ALTERNATIVE 2)

PROJECT NO.
191593014

DRAWING NAME
191593014EL - ALT2.dwg

E2.6

SHEET NO. 44 OF 44

ATTACHMENT IV

GEOTECHNICAL REPORT

Western Technologies
An RMA Company

GEOTECHNICAL EVALUATION REPORT

COOLIDGE MUNICIPAL AIRPORT
GENERAL AVIATION APRON AND TAXIWAY C

6300 North Coolidge Airport Road
Coolidge, Arizona
WT Job No. 29-224083-0, Revision 1

PREPARED FOR:
Kimley-Horn and Associates, Inc.
1001 West Southern Avenue, Suite 131
Mesa, Arizona 85210
Attn: Brandon Robinson, P.E.

November 19, 2024

DRAFT

DRAFT

Justin M. Heinecke, P.E., R.G.
Senior Geotechnical Engineer

Randall D. Harris, P.E.
Senior Geotechnical Engineer

TABLE OF CONTENTS

GEOTECHNICAL EVALUATION
COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C
6300 NORTH COOLIDGE AIRPORT ROAD
COOLIDGE, ARIZONA
JOB NO. 29-224083-0
REVISION 1

1.0 PURPOSE

This report contains the results of our geotechnical evaluation for a proposed apron and taxiway to be located in Coolidge, Arizona. The purpose of these services is to provide information and recommendations regarding:

- Subsurface conditions
- Earthwork guidelines
- Pavement sections
- Drainage
- Groundwater
- Corrosivity (soil to concrete)
- Seismic conditions
- Excavation conditions

Results of the field exploration, field tests, and laboratory testing program are presented in the Appendices.

2.0 PROJECT DESCRIPTION

The project consists of the construction of an approximately 400-foot by 200-foot apron and approximately 1,000 feet of taxiway. We anticipate that final grades will be within 2 feet of the existing grade. Should this information not be correct, we should be notified immediately.

3.0 SCOPE OF SERVICES

3.1 Field Exploration

Eleven borings were drilled to depths ranging from about 8.5 to 11 feet below existing site grade in the proposed apron and taxiway areas. The borings were at the approximate locations shown on the attached Boring Location Diagram. A field log was prepared for each boring. These logs contain visual classifications of the materials encountered during drilling

as well as interpolation of the subsurface conditions between samples. Final logs, included in Appendix A, represent our interpretation of the field logs and may include modifications based on laboratory observations and tests of the field samples. The final logs describe the materials encountered, their thickness, and the locations where samples were obtained.

The Unified Soil Classification System was used to classify soils. The soil classification symbols appear on the boring logs and are briefly described in Appendix A. Local and regional geologic characteristics were used to estimate the seismic design criteria.

3.2 Laboratory Analyses

Laboratory analyses were performed on representative soil samples to aid in material classification and to estimate pertinent engineering properties of the on-site soils for preparation of this report. Testing was performed in general accordance with applicable standard test methods. The following tests were performed, and the results are presented in Appendix B.

- Water content
- Dry density
- Compression
- Expansion
- Plasticity
- Minus #200 sieve
- Soil pH
- Minimum electrical resistivity
- California bearing ratio (CBR)
- Moisture-density relationship (proctor)
- Soluble sulfate and chloride content

3.3 Analyses and Report

This geotechnical engineering report includes a description of the project, a discussion of the field and laboratory testing programs, a discussion of the subsurface conditions, and design recommendations as appropriate to its purpose. The scope of services for this project does not include, either specifically or by implication, any environmental assessment of the site, discovery of underground storage tanks or other underground structures, or identification of contaminated or hazardous materials or conditions. If there is concern about the potential for such contamination, other studies should be undertaken. We are available to discuss the scope of such studies with you.

4.0 SITE CONDITIONS

4.1 Surface

At the time of our exploration, the site was an undeveloped area of Coolidge Municipal Airport on the north side of Runway 5-23 near its east end. The ground surface was relatively flat and contained a sparse to moderate growth of trees, brush, and grasses. Site drainage trended to the northeast as sheet surface flow. The site is bound by Runway 5-23 to the southeast, undeveloped land to the southwest , and undeveloped land followed by North Coolidge Airport Road to the northeast and northwest.

4.2 Subsurface

As presented on the Boring Logs, surface soils to the full depth of exploration consisted of loose to very dense Clayey SAND. Near surface soils are of medium plasticity. No apparent zones of carbonate cementation were encountered. Groundwater was not encountered in any boring at the time of exploration. A detailed description of the soils encountered can be found on the boring logs in Appendix A.

5.0 GEOTECHNICAL PROPERTIES & ANALYSIS

5.1 Laboratory Tests

Laboratory test results (see Appendix B) indicate that near-surface soils exhibit low compressibility at existing water contents. Low to high additional compression occurs when the water content is increased.

Near-surface soils are of medium plasticity. These soils exhibit low expansion potential when recompacted, confined by loads approximating pavement loads and saturated. Slabs-on-grade supported on recompacted on-site soils have a low potential for heaving if the water content of the soil increases.

Chemical tests were performed on representative samples of on-site soils to determine the amount of water-soluble sulfates and chlorides. The test results indicate that the soils classify as negligibly corrosive to concrete according to Table 19.3.1.1 of ACI 318-19. The tests were performed by Motzz Laboratories, Inc. and the test results are presented in Appendix B.

Minimum electrical resistivity and hydrogen ion concentration (pH) were performed on representative samples to aid in assessing, by others, the potential for corrosion of buried metals. The test results are presented in Appendix B.

5.2 Field Tests

Existing subsoils near shallow foundation level exhibited low to moderate resistance to penetration using test method ASTM D3550. This corresponds to a moderate bearing capacity for existing soils in their present condition. However, penetration resistance values exhibited some variability between test locations. This represents a potential for differential settlements within structures supported on the existing soils in their present condition.

6.0 RECOMMENDATIONS

6.1 General

Recommendations contained in this report are based on our understanding of the project criteria described in Section 2.0 and the assumption that the soil and subsurface conditions are those disclosed by the explorations. Others may change the plans, final elevations, number and type of structures, foundation loads, and floor levels during design or construction. Substantially different subsurface conditions from those described herein may be encountered or become known. Any changes in the project criteria or subsurface conditions shall be brought to our attention in writing. This report does not encompass the effects, if any, of underlying geologic hazards or regional groundwater withdrawal and expresses no opinion regarding their effects on surface movements at the project site.

6.2 Apron and Taxiway Pavements

Apron and taxiway pavements are being designed to accommodate a mix of commercial and general aviation aircraft (see Tables 1 and 2, below). FAA pavement design software (FAARFIELD) has an internal library of aircraft, but does not include all of the aircraft in the table. Therefore, substitutions are noted.

Table 1: Design Fleet Mix A

Aircraft	Weight (pounds)	Annual Departures [1]
Lockheed C-130	155,000	240
Transall C-160[2]	112,435	80
Shorts C-23 Sherpa[3]	22,900	2,448
General Aviation	12,500	6,000

Table 2: Design Fleet Mix B

Aircraft	Weight (pounds)	Annual Departures [1]
Shorts C-23 Sherpa[3]	22,900	2,448
General Aviation	12,500	6,000

Recommended pavement sections presented below were designed in accordance with FAA (Federal Aviation Administration) advisory circular AC 150-5320-6G. Pavement designs were calculated using the FAARFIELD computer program (v2.1.1) associated with this FAA advisory circular. A design CBR of 22 was used for untreated site soils.

The following pavement sections were determined to be applicable to the project:

Table 3: Alternate Pavement Sections for Aprons and Taxiways – Design Fleet Mix A

Option	P-401 Hot Mix Asphalt Concrete (inches)	P-304 Cement-Treated Base Course (inches)	P-209 Crushed Aggregate Base Course (inches)	P-152 Subgrade (Inches)
1A	4	5	--	10
2A	4	--	6	10

[1] An annual growth rate of 1.0 percent was used for all aircraft.
[2] Modeled in FAARFIELD as a "C-130" aircraft at the stated weight.
[3] Modeled in FAARFIELD as a "Shorts 330-200" aircraft at the stated weight.

Table 4: Alternate Pavement Sections for Aprons and Taxiways – Design Fleet Mix B

Option	P-401 Hot Mix Asphalt Concrete (inches)	P-304 Cement-Treated Base Course (inches)	P-208 Aggregate Base Course (inches)	P-152 Subgrade (Inches)
1B	3	4	--	10
2B	3	--	6	10

The "design life" (20 years) of a pavement is defined as the expected life at the end of which reconstruction of the pavement will need to occur. Normal maintenance, including crack sealing, slurry sealing, and/or chip sealing, should be performed during the life of the pavement.

Material and compaction requirements should conform to recommendations presented under **EARTHWORK**. The gradient of paved surfaces should ensure positive drainage. Water should not pond in areas directly adjoining paved sections.

After removing the existing pavements and excavating to the final subgrade elevation, the exposed subgrade should be proof-rolled to identify any zones of loose/soft or unstable soil. Proof-rolling may be accomplished with a loaded water truck or dump truck. Areas where soil movement is observed more than 6 inches away from the truck's rear tires should be considered unstable. In general, loose/soft or unstable soils should be removed to their full depth and replaced with properly compacted, engineered fill (Item P-152). Alternative methods to mitigate loose/soft or unstable soils may be appropriate depending upon the soil conditions observed at the time of construction. General alternatives that have been used successfully on previous projects are presented Section **7.7, Wet Subgrade Soils**, below.

6.3 Pavements For Shoulder Areas

Shoulder sections will support emergency and maintenance equipment and 15 fully loaded passes of the most demanding aircraft. Shoulder and blast pad pavement thickness design was performed in accordance with Chapter 6 in AC 150/5320-6G. Evaluations of the design fleet mix aircraft revealed that the most demanding aircraft in the mix is the Lockheed C-130 for Design Fleet Mix A and Shorts C-23 Sherpa for Design Fleet Mix B. Based on 15

operations of these aircraft, the recommended sections presented in Table 5, below, were calculated using FAARFIELD.

Table 5: Shoulder Pavement Sections

Option	Design Fleet Mix	MAG [4] 710 Asphalt Concrete (inches)	P-304 Cement-Treated Base Course (inches)	MAG [4] 702 Crushed Aggregate Base (inches)	P-152 Subgrade (Inches)
1	A	4	5	--	10
2	A	4	--	6	10
3	B	3	4	--	10
4	B	3	--	6	10

Material and compaction requirements should conform to recommendations presented under **EARTHWORK**. The gradient of paved surfaces should ensure positive drainage. Water should not pond in areas directly adjoining paved sections.

After removing the existing pavements and excavating to the final subgrade elevation, the exposed subgrade should be proof-rolled to identify any zones of loose/soft or unstable soil. Proof-rolling may be accomplished with a loaded water truck or dump truck. Areas where soil movement is observed more than 6 inches away from the truck's rear tires should be considered unstable. In general, loose/soft or unstable soils should be removed to their full depth and replaced with properly compacted, engineered fill (Item P-152). Alternative methods to mitigate loose/soft or unstable soils may be appropriate depending upon the soil conditions observed at the time of construction. General alternatives that have been used successfully on previous projects are presented Section **7.7, Wet Subgrade Soils**, below.

6.4 Drainage

The major cause of soil-related foundation and slab-on-ground problems is moisture increase in soils below structures. Properly functioning conventional foundations and floor slabs-on-ground require appropriately constructed and maintained site drainage

[4] *Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction,* latest edition. Local bituminous and aggregate mixes may be utilized in shoulder areas in lieu of FAA mixes P-401/403 and P208/209.

conditions. Therefore, it is extremely important that positive drainage be provided during construction and maintained throughout the life of each structure. It is also important that proper planning and control of landscape and irrigation practices be performed.

6.5 Corrosivity to Concrete

The chemical test results indicate that the soils at the site classify as Class S0 in accordance with Table 19.3.1.1 of ACI 318-19. However, in order to be consistent with standard local practice and for reasons of material availability, we recommend that Type II Portland cement be used for all concrete on and below grade.

7.0 EARTHWORK

7.1 General

The conclusions contained in this report for the proposed construction are contingent upon compliance with recommendations presented in this section. Any excavating, trenching, or disturbance that occurs after completion of the earthwork must be backfilled, compacted and tested in accordance with the recommendations contained herein. It is not reasonable to rely upon our conclusions and recommendations if any future unobserved and untested trenching, earthwork activities or backfilling occurs.

Although fills or underground facilities such as septic tanks, cesspools, basements, utilities, and dry wells were not observed, such features might be encountered during construction. These features should be demolished in accordance with the recommendations of the geotechnical engineer. Any loose or disturbed soils resulting from demolition should be removed or recompacted as engineered fill and any excavations should be backfilled in accordance with recommendations presented herein.

7.2 Site Clearing

Strip and remove any existing fill material, vegetation, debris, and any other deleterious materials from the pavement areas. All exposed surfaces should be free of mounds and depressions that could prevent uniform compaction.

7.3 Excavation

We anticipate that excavations for shallow utility trenches for the proposed construction can be accomplished with conventional equipment.

On-site soils clayey soils may pump or become unworkable at high water contents. Workability may be improved by scarifying and drying. Over-excavation of wet zones and replacement with granular materials may be necessary. The use of lightweight excavation and compaction equipment may be required to minimize subgrade pumping.

Our soil classifications are based solely on the materials encountered in widely spaced exploratory test borings. The contractor should verify that similar conditions exist throughout the proposed area of excavation. If different subsurface conditions are found at the time of construction, we should be contacted immediately to evaluate the conditions encountered.

7.3.1 Temporary Excavations and Slopes

Temporary, non-surcharged construction excavations should be sloped or shored. The individual contractor should be made responsible for designing and constructing stable, temporary excavations as required to maintain stability of both the excavation sides and bottom. All excavations should be sloped or shored in the interest of safety following local and federal regulations, including current OSHA excavation and trench safety standards. OSHA recommends a maximum slope inclination of ¾:1 (horizontal:vertical) for Type A soils, 1:1 for Type B soils, and 1½:1 for Type C soils.

As a safety measure, it is recommended that all vehicles and soil piles be kept a minimum lateral distance back from the crest of the slope at least equal to the slope height. The exposed slope face should be protected against the elements.

7.4 Pavement Preparation

Earthwork to be performed for pavement support should comply with the requirements of Item P-152 “Excavation and Embankment” of FAA AC No. 150/5370-10G (or the latest edition available at the time of construction document preparation).

Where finished subgrade elevation is higher than existing site grade, existing soils should be scarified, moistened as required, and recompacted for a minimum depth of 8 inches prior to placement of fill.

7.5 Earthwork and Pavement Materials

Pavement subgrade and any fill required to obtain finished subgrade elevation, should be uniformly moisturized and compacted to at least 95 percent of the ASTM D 1557 dry-density value. Soils should be compacted within a water content range of 1 percent below to 3 percent above optimum and compacted to 95 percent of the maximum density as determined by ASTM D 1557. Uncompacted lift thicknesses should not to exceed 10 inches. Clean, on-site native soils or imported materials of equal or better pavement support quality may be used as fill material for the pavement areas.

Specifications for use during construction of the taxiway and apron would include:

- Item P-101, Surface Preparation
- Item P-151, Clearing and Grubbing
- Item P-152, Excavation, Subgrade, and Embankment
- Item P-155, Lime Treated Subgrade
- Item P-208, Aggregate Base Course
- Item P-209, Crushed Aggregate Base Course
- Item P-304, Cement-Treated Base Course
- Item P-401, Hot Mix Asphalt (HMA) Pavements
- Item P-403, Hot Mix Asphalt (HMA) Pavements (Base, Leveling or Surface Course)
- Item P-603, Bituminous Tack Coat
- MAG [5] 702, Crushed Aggregate Base
- MAG [5] 710, Asphalt Concrete

Item P-152 should specify the use of a modified proctor (ASTM D 1557) and 95 percent relative compaction. Measurement of in-place density should reference ASTM D6938 using Procedure A with direct transmission and a frequency of at least one test per 1,000 square yards. Proof-rolling after compaction should be specified using a 20-ton truck with tires inflated to at least 80 psi.

[5] Asphalt concrete should conform to *Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction* (MAG), Current Edition.

Item P-209 should specify the use of a modified proctor (ASTM D 1557) and 100 percent relative compaction. Measurement of in-place density should reference ASTM D6938 using Procedure A with direct transmission and a frequency of at least one test per 1,000 square yards. Proof-rolling after compaction should be specified using a 20-ton truck with tires inflated to at least 80 psi.

Item P-304 should reference ASTM D6938 to evaluate relative compaction. Cement should conform to ASTM C150 Type I or II. A bond breaker should be required between P-304 and P-401 or P-403 to reduce the potential for reflective cracking.

Items P-401 and P-403 should specify the Marshall Design Criteria corresponding to 75 blows and Gradation 3 for the aggregate. It is our understanding that PG 76-22 and PG 70-22 bituminous material have been specified and used recently for other airports in Arizona and that, AC 150/5370-10G recommends against the use of binders with a rating above a -22 on the low end. Therefore, PG 76-22 or PG 70-22 should be specified.

Item P-403 is similar to P-401, but should specify its use as a base layer.

MAG 710 Asphalt Concrete should be specified as 1/2-inch, Low Traffic.

7.6 Compliance

Recommendations for pavements supported on compacted fills or prepared subgrade depend upon compliance with the **EARTHWORK** recommendations. To assess compliance, observation and testing should be performed under the direction of a WT geotechnical engineer. Please contact us to provide these observation and testing services.

8.0 ADDITIONAL SERVICES

The recommendations provided in this report are based on the assumption that a sufficient schedule of tests and observations will be performed during construction to verify compliance. At a minimum, these tests and observations should be comprised of the following:

- Observations and testing during site preparation and earthwork,
- Observation of foundation excavations, and
- Consultation as may be required during construction.

Retaining the geotechnical engineer who developed your report to provide construction observation is the best way to verify compliance and to help you manage the risks associated with unanticipated conditions.

9.0 LIMITATIONS

This report has been prepared assuming the project criteria described in **2.0 PROJECT DESCRIPTION**. If changes in the project criteria occur, or if different subsurface conditions are encountered or become known, the conclusions and recommendations presented herein shall become invalid. In any such event, WT should be contacted in order to assess the effect that such variations may have on our conclusions and recommendations. If WT is not retained for the construction observation and testing services to determine compliance with this report, our professional responsibility is accordingly limited.

The recommendations presented are based entirely upon data derived from a limited number of samples obtained from widely spaced explorations. The attached logs are indicators of subsurface conditions only at the specific locations and times noted. This report assumes the uniformity of the geology and soil structure between explorations, however variations can and often do exist. Whenever any deviation, difference, or change is encountered or becomes known, WT should be contacted.

This report is for the exclusive benefit of our client alone. There are no intended third-party beneficiaries of our contract with the client or this report, and nothing contained in the contract or this report shall create any express or implied contractual or any other relationship with, or claim or cause of action for, any third party against WT.

This report is valid for the earlier of one year from the date of issuance, a change in circumstances, or discovered variations. After expiration, no person or entity shall rely on this report without the express written authorization of WT.

10.0 CLOSURE

We prepared this report as an aid to the designers of the proposed project. The comments, statements, recommendations and conclusions set forth in this report reflect the opinions of the authors. These opinions are based upon data obtained at the location of the explorations, and from laboratory tests. Work on your project was performed in accordance with generally accepted standards and practices utilized by professionals providing similar services in this locality. No other warranty, express or implied, is made.

NOT TO SCALE: FOR REFERENCE ONLY

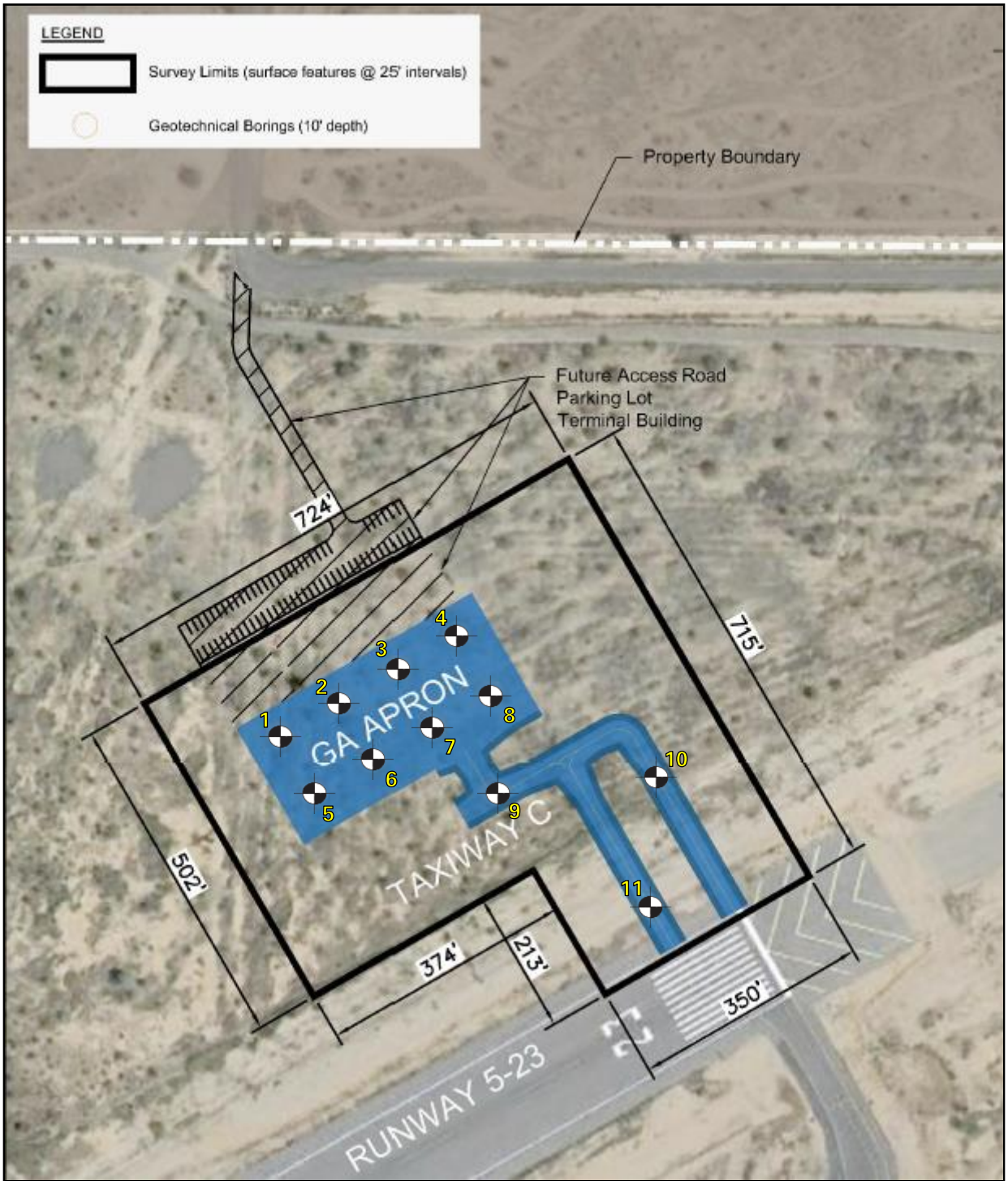
NORTH

Western Technologies
An RMA Company

PROJECT: COOLIDGE MUNICIPAL AIRPORT
GA APRON AND TAXIWAY C
JOB NO.: 29-224083-0

VICINITY MAP

PLATE
1



LEGEND

APPROXIMATE BORING LOCATION

NOT TO SCALE: FOR REFERENCE ONLY

NORTH

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PROJECT: COOLIDGE MUNICIPAL AIRPORT
GA APRON AND TAXIWAY C
JOB NO.: 29-224083-0

BORING LOCATION DIAGRAM

PLATE
2

Allowable Soil Bearing Capacity	The recommended maximum contact stress developed at the interface of the foundation element and the supporting material.
Backfill	A specified material placed and compacted in a confined area.
Base Course	A layer of specified aggregate material placed on a subgrade or subbase.
Base Course Grade	Top of base course.
Bench	A horizontal surface in a sloped deposit.
Caisson/Drilled Shaft	A concrete foundation element cast in a circular excavation which may have an enlarged base (or belled caisson).
Concrete Slabs-On-Grade	A concrete surface layer cast directly upon base course, subbase or subgrade.
Crushed Rock Base Course	A base course composed of crushed rock of a specified gradation.
Differential Settlement	Unequal settlement between or within foundation elements of a structure.
Engineered Fill	Specified soil or aggregate material placed and compacted to specified density and/or moisture conditions under observations of a representative of a soil engineer.
Existing Fill	Materials deposited through the action of man prior to exploration of the site.
Existing Grade	The ground surface at the time of field exploration.
Expansive Potential	The potential of a soil to expand (increase in volume) due to absorption of moisture.
Fill	Materials deposited by the actions of man.
Finished Grade	The final grade created as a part of the project.
Gravel Base Course	A base course composed of naturally occurring gravel with a specified gradation.
Heave	Upward movement.
Native Grade	The naturally occurring ground surface.
Native Soil	Naturally occurring on-site soil.
Rock	A natural aggregate of mineral grains connected by strong and permanent cohesive forces. Usually requires drilling, wedging, blasting or other methods of extraordinary force for excavation.
Sand and Gravel Base Course	A base course of sand and gravel of a specified gradation.
Sand Base Course	A base course composed primarily of sand of a specified gradation.
Scarify	To mechanically loosen soil or break down existing soil structure.
Settlement	Downward movement.
Soil	Any unconsolidated material composed of discrete solid particles, derived from the physical and/or chemical disintegration of vegetable or mineral matter, which can be separated by gentle mechanical means such as agitation in water.
Strip	To remove from present location.
Subbase	A layer of specified material placed to form a layer between the subgrade and base course.
Subbase Grade	Top of subbase.
Subgrade	Prepared native soil surface.

COARSE-GRAINED SOILS

LESS THAN 50% FINES

GROUP SYMBOLS	DESCRIPTION	MAJOR DIVISIONS
GW	WELL-GRADED GRAVEL OR WELL-GRADED GRAVEL WITH SAND, LESS THAN 5% FINES	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE
GP	POORLY-GRADED GRAVEL OR POORLY-GRADED GRAVEL WITH SAND, LESS THAN 5% FINES	
GM	SILTY GRAVEL OR SILTY GRAVEL WITH SAND, MORE THAN 12% FINES	
GC	CLAYEY GRAVEL OR CLAYEY GRAVEL WITH SAND, MORE THAN 12% FINES	
SW	WELL-GRADED SAND OR WELL-GRADED SAND WITH GRAVEL, LESS THAN 5% FINES	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE
SP	POORLY-GRADED SAND OR POORLY-GRADED SAND WITH GRAVEL, LESS THAN 5% FINES	
SM	SILTY SAND OR SILTY SAND WITH GRAVEL, MORE THAN 12% FINES	
SC	CLAYEY SAND OR CLAYEY SAND WITH GRAVEL, MORE THAN 12% FINES	

NOTE: Coarse-grained soils receive dual symbols if they contain 5% to 12% fines (e.g., SW-SM, GP-GC).

FINE-GRAINED SOILS

MORE THAN 50% FINES

GROUP SYMBOLS	DESCRIPTION	MAJOR DIVISIONS
ML	SILT, SILT WITH SAND OR GRAVEL, SANDY SILT, OR GRAVELLY SILT	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50
CL	LEAN CLAY OF LOW TO MEDIUM PLASTICITY, SANDY CLAY, OR GRAVELLY CLAY	
OL	ORGANIC SILT OR ORGANIC CLAY OF LOW TO MEDIUM PLASTICITY	
MH	ELASTIC SILT, SANDY ELASTIC SILT, OR GRAVELLY ELASTIC SILT	SILTS AND CLAYS LIQUID LIMIT MORE THAN 50
CH	FAT CLAY OF HIGH PLASTICITY, SANDY FAT CLAY, OR GRAVELLY FAT CLAY	
OH	ORGANIC SILT OR ORGANIC CLAY OF HIGH PLASTICITY	
PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	HIGHLY ORGANIC SOILS

NOTE: Fine-grained soils may receive dual classification based upon plasticity characteristics (e.g. CL-ML).

SOIL SIZES

COMPONENT	SIZE RANGE
BOULDERS	Above 12 in.
COBBLES	3 in. – 12 in.
GRAVEL	No. 4 – 3 in.
Coarse	¾ in. – 3 in.
Fine	No. 4 – ¾ in.
SAND	No. 200 – No. 4
Coarse	No. 10 – No. 4
Medium	No. 40 – No. 10
Fine	No. 200 – No. 40
Fines (Silt or Clay)	Below No. 200

NOTE: Only sizes smaller than three inches are used to classify soils

CONSISTENCY

CLAYS & SILTS	BLOWS PER FOOT
VERY SOFT	0 – 2
SOFT	3 – 4
FIRM	5 – 8
STIFF	9 – 15
VERY STIFF	16 – 30
HARD	OVER 30

RELATIVE DENSITY

SANDS & GRAVELS	BLOWS PER FOOT
VERY LOOSE	0 – 4
LOOSE	5 – 10
MEDIUM DENSE	11 – 30
DENSE	31 – 50
VERY DENSE	OVER 50

NOTE: Number of blows using 140-pound hammer falling 30 inches to drive a 2-inch-OD (1⅜-inch ID) split-barrel sampler (ASTM D1586).

PLASTICITY OF FINE GRAINED SOILS

PLASTICITY INDEX	TERM
0	NON-PLASTIC
1 – 7	LOW
8 – 20	MEDIUM
Over 20	HIGH

DEFINITION OF WATER CONTENT

DRY
SLIGHTLY DAMP
DAMP
MOIST
WET
SATURATED

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METHOD OF CLASSIFICATION

PLATE

A-2

The number shown in **"BORING NO."** refers to the approximate location of the same number indicated on the "Boring Location Diagram" as positioned in the field by pacing or measurement from property lines and/or existing features, or through the use of Global Positioning System (GPS) devices. The accuracy of GPS devices is somewhat variable.

"DRILLING TYPE" refers to the exploratory equipment used in the boring wherein **HSA = hollow stem auger**, and the dimension presented is the outside diameter of the HSA used.

"N" in "BLOW COUNTS" refers to a 2-inch outside diameter split-barrel sampler driven into the ground with a 140 pound drop-hammer dropped 30 inches repeatedly until a penetration of 18 inches is achieved or until refusal. The number of blows, or "blow count", of the hammer is recorded for each of three 6-inch increments totaling 18 inches. The number of blows required for advancing the sampler for the last 12 inches (2^{nd} and 3^{rd} increments) is defined as the Standard Penetration Test (SPT) "**N**"-Value. Refusal to penetration is considered more than 50 blows per 6 inches. (Ref. ASTM D1586).

"R" in "BLOW COUNTS" refers to a 3-inch outside diameter ring-lined split barrel sampler driven into the ground with a 140 pound drop-hammer dropped 30 inches repeatedly until a penetration of 12 inches is achieved or until refusal. The number of blows required to advance the sampler 12 inches is defined as the "**R**" blow count. The "**R**" blow count requires an engineered conversion to an equivalent SPT N-Value. Refusal to penetration is considered more than 50 blows per foot. (Ref. ASTM D3550).

"CS" in "BLOWS/FT." refers to a 2½-in. outside diameter California style split-barrel sampler, lined with brass sleeves, driven into the ground with a 140-pound hammer dropped 30 inches repeatedly until a penetration of 18 inches is achieved or until refusal. The number of blows of the hammer is recorded for each of the three 6-inch increments totaling 18 inches. The number of blows required for advancing the sampler for the last 12 inches (2^{nd} and 3^{rd} increments) is defined as the "CS" blow count. The "CS" blow count requires an engineered conversion to an equivalent SPT N-Value. Refusal to penetration is considered more than 50 blows for a 6-inch increment. (Ref. ASTM D 3550)

"SAMPLE TYPE" refers to the form of sample recovery, in which **N** = Split-barrel sample, **R** = Ring-lined sample, **"CS"** = California style split-barrel sample, **G** = Grab sample, **B** = Bucket sample, **C** = Core sample (ex. diamond bit rock coring).

"DRY DENSITY (LBS/CU FT)" refers to the laboratory-determined dry density in pounds per cubic foot. The symbol **"NR"** indicates that no sample was recovered.

"WATER (MOISTURE) CONTENT" (% of Dry Wt.) refers to the laboratory-determined water content in percent using the standard test method ASTM D2216.

"USCS" refers to the "Unified Soil Classification System" Group Symbol for the soil type as defined by ASTM D2487 and D2488. The soils were classified visually in the field, and where appropriate, classifications were modified by visual examination of samples in the laboratory and/or by appropriate tests.

These notes and boring logs are intended for use in conjunction with the purposes of our services defined in the text. Boring log data should not be construed as part of the construction plans nor as defining construction conditions.

Boring logs depict our interpretations of subsurface conditions at the locations and on the date(s) noted. Variations in subsurface conditions and characteristics may occur between borings. Groundwater levels may fluctuate due to seasonal variations and other factors.

The stratification lines shown on the boring logs represent our interpretation of the approximate boundary between soil or rock types based upon visual field classification at the boring location. The transition between materials is approximate and may be more or less gradual than indicated.

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 1**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **11 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0	5.2	99	R		8	SC		Clayey SAND; light brown, loose, slightly damp	
			G						
5			R		56			becomes dense	
10			R		30 50/5"			becomes very dense	
								BORING STOPPED AT 11 FEET	
15									

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PLATE NO. A-4

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 2**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **8.5 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0						SC		Clayey SAND; light brown, medium dense, slightly damp	
			G						
	5.5	95	R		44				
5									
			R		36 50/5"			becomes very dense	
								BORING STOPPED AT 8.5 FEET	
10									
15									

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PLATE NO. A-5

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 3**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **10 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			SC		Clayey SAND; light brown, medium dense, slightly damp	
	6.6	101	R		33				
5								becomes very dense	
	5.3	110	R		31 50/6"				
			R		50			becomes dense	
10								BORING STOPPED AT 10 FEET	
15									

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PLATE NO. A-6

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 4**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **11 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			R		11	SC		Clayey SAND; light brown, loose, slightly damp	
			G						
5	3.2	116	R		32			becomes medium dense	
10			R		20 50/5"			becomes very dense	
								BORING STOPPED AT 11 FEET	
15									

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PLATE NO. A-7

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 5**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **8.5 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0						SC		Clayey SAND; light brown, medium dense, slightly damp	
			G						
	3.7	103	R		20				
5									
			R		68			becomes dense	
								BORING STOPPED AT 8.5 FEET	
10									
15									

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PLATE NO. A-8

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 6**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **10 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			SC		Clayey SAND; light brown, loose, slightly damp	
	4.0	99	R		14				
5			R		11 50/4"			becomes very dense	
			R		72			becomes dense	
10								BORING STOPPED AT 10 FEET	
15									

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PLATE NO. A-9

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 7**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **11 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			R		14	SC		Clayey SAND; light brown, loose, slightly damp	
			G						
5	4.7	106	R		19			becomes medium dense	
10			R		37			BORING STOPPED AT 11 FEET	
15									

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PLATE NO. A-10

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 8**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **8.5 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0						SC		Clayey SAND; light brown, medium dense, slightly damp	
			G						
	6.6	99	R		22				
5									
			R		34 50/5"			becomes very dense	
								BORING STOPPED AT 8.5 FEET	
10									
15									

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PLATE NO. A-11

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 9**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **10 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0			G			SC		Clayey SAND; light brown, medium dense, slightly damp	
	5.0	96	R		25				
5			R		44				
			R		26 50/5"			becomes very dense	
10								BORING STOPPED AT 10 FEET	
15									

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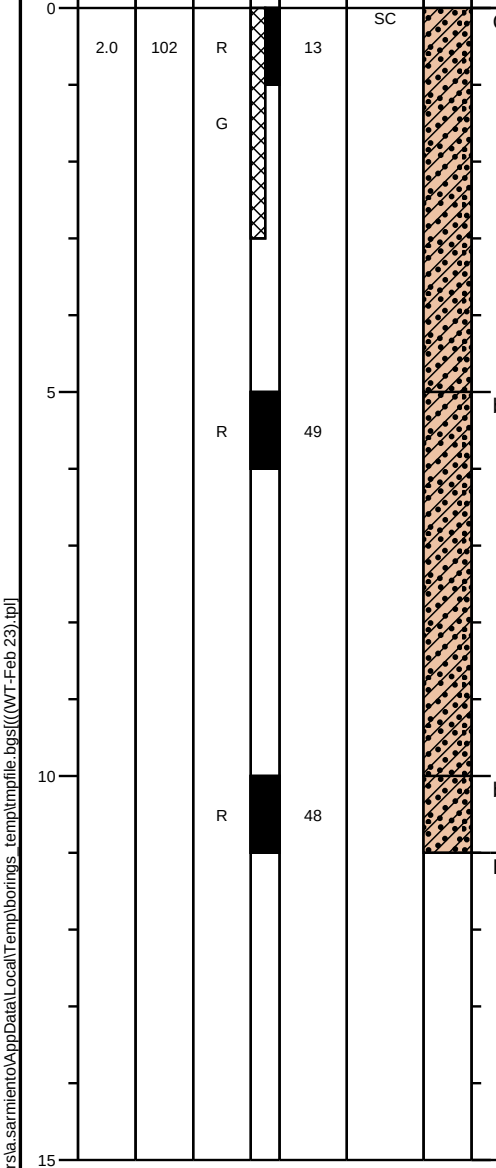
PLATE NO. A-12

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 10**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **11 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	



SOIL DESCRIPTION	REMARKS AND OTHER TESTS
Clayey SAND; light brown, loose, slightly damp	
becomes dense	
becomes medium dense	
BORING STOPPED AT 11 FEET	

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PLATE NO. A-13

Project: COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C Project Number: 29-224083-0	**BORING NO. 11**	Western Technologies An RMA Company

Date(s) Drilled **10/18/2024**	Logged By **T. DOMINGUEZ**	Checked By **J. HEINECKE**
Drilling Method **HSA**	Drill Bit Size/Type **7"**	Total Depth of Borehole **8.5 FT**
Drill Rig Type **CME-75**	Drilling Contractor **GSI**	Approximate Surface Elevation **NOT DETERMINED**
Groundwater Level and Date Measured **NOT ENCOUNTERED**	Sampling Method(s) **Bulk, Ring**	Hammer Data **140-LB AUTOHAMMER**
Borehole Backfill **AUGER CUTTINGS**	Location **SEE LOCATION DIAGRAM**	

DEPTH (FEET)	MOISTURE CONTENT	DRY DENSITY (LBS/CU FT)	SAMPLE TYPE	SAMPLE	BLOW COUNTS	USCS	GRAPHIC	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0						SC		Clayey SAND; light brown, medium dense, slightly damp	
			G						
	5.6	109	R		31				
5									
			R		46				
10								BORING STOPPED AT 8.5 FEET	
15									

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PLATE NO. A-14

Boring No.	Sample Depth (ft)	USCS Class.	Percent Passing #200	Atterberg Limits		Initial Dry Density (pcf)	Initial Water Content (%)	Compression Properties			Moisture-Density Relationship			Expansion Properties			Soluble Sulfates (ppm)	Soluble Chlorides (ppm)	Remarks
				LL	PI			Surcharge (ksf)	Total Compression (%)		Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Method	Surcharge (ksf)	Expansion (%)	Expansion Index (EI)			
									In-Situ	After Saturation									
1,3,6,8	0-3	SC	37	26	10	*116.3*	*9.0*				128.3	8.0	C	0.1	0.7				1,2,12,13
9,10,11	0-3	SC	36	23	8	*116.0*	*9.2*				133.9	7.1	C	0.1	0.8				1,2,12,13
1	0-1	SC				99	5.2												11
2	0-3	SC															8	37	6,7,11,15
2	2.5-3.5	SC				95	5.5												11
3	1-2	SC				101	6.6	0.5	1.3										11
								1.0	2.2	4.2									2
								1.5		5.4									2
								2.5		7.6									2
3	6-7	SC				110	5.3												11
4	5-6	SC				116	3.2												11
5	2.5-3.5	SC				103	3.7												11
6	1-2	SC				99	4.0	0.5	0.9										11
								1.0	1.8	9.1									2
								1.5		10.6									2
								2.5		12.2									2
7	5-6	SC				106	4.7												11
8	2.5-3.5	SC				99	6.6												11
9	1-2	SC				96	5.0												11
10	0-1	SC				102	2.0												11
11	2.5-3.5	SC				109	5.6												11

Remarks

1. Compacted density is approximately 95% of ASTM D698 maximum density at a moisture content slightly below optimum.
2. **2.** Submerged to approximate saturation.
3. **3.** Slight rebound after saturation.
4. **4.** Sample disturbance observed.
5. **5.** Expansion Index (EI) test in accordance with ASTM D4829.
6. **6.** Chloride (ARIZ 736a) by Motzz Laboratory Inc.
7. **7.** Sulfate (ARIZ 733a) by Motzz Laboratory Inc.
8. **8.** pH (ARIZ 237b).
9. **9.** Minimum Resistivity (ARIZ 236c).
10. **10.** Test Method ASTM D698 / AASHTO T99.
11. **11.** Field Visual Classification (ASTM D 2488).
12. **12.** Laboratory Soil Classification (ASTM D 2487).
13. **13.** Test Method ASTM D1557 / AASHTO T180.
14. **14.** From the ADOT Family of Curves for Maricopa County.
15. **15.** See Corrosion Plate.
16. **16.** Initial Dry Density and Initial Water Content from Remolded Swell.

Notes: Initial Dry Density and Initial Water Content are in-situ values unless otherwise noted.
NP = Non-Plastic **NV =** No Value

Western Technologies
An RMA Company

PROJECT: **COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C**

JOB NO.: **29-224083-0**

PLATE

B-1

SOIL PROPERTIES

Boring No.	Sample Depth (ft)	USCS Class.	Soluble		pH	Minimum Resistivity (Ohm-Cm)	Remarks
			Sulfate (ppm)	Chloride (ppm)			
2	0-3	SC	8	37	7.5	2055	1,2,3,4,5

REMARKS

1. Chloride Content (ARIZ 736a).
2. Sulfate Content (ARIZ 733a).
3. pH (ARIZ 237b).
4. Minimum Resistivity (ARIZ 236c).
5. Field Visual Classification (ASTM D2488).
6. Laboratory Soil Classification (ASTM D 2487).

NOTES: Initial Dry Density and Initial Water Content are in-situ values unless otherwise noted. Sulfate and Chloride contents by Motzz Laboratory Inc.

NP = Non-plastic **NV =** No Value

Western Technologies
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PROJECT: **COOLIDGE MUNIPAL AIRPORT**
JOB NO.: **29-224083-0**

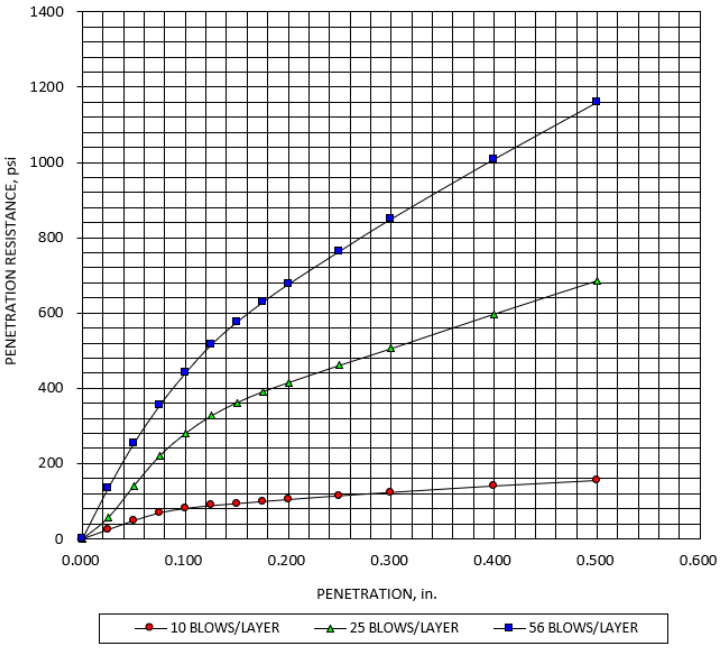
SOIL PROPERTIES

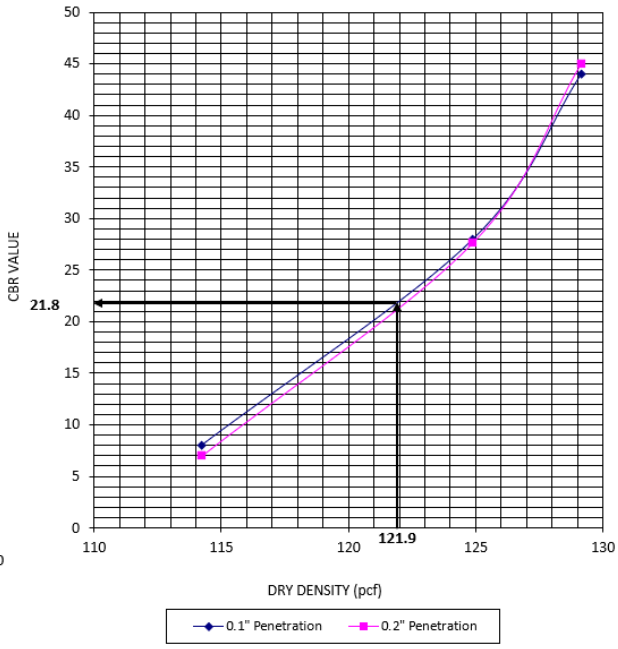
PLATE

B-2

CALIFORNIA BEARING RATIO (CBR)
Borings 1-8[1] (0'-3')

Compacted Specimen Results	Procedure: ASTM D1883		
Compactive Effort (Blows per Layer):	10	30	60
Dry Density at Compaction, pcf:	114.2	124.9	129.2
Percent of Maximum Dry Density:	89.0	97.3	100.7
Percent Moisture Before Compaction:	8.0	8.5	8.2
Percent Moisture After Compaction:	8.7	9.4	8.8
Percent Moisture after Soaking (Avg. of Total Sample):	14.8	11.4	10.4
Dry Density after Soaking, pcf:	114.0	124.9	128.8
Percent Moisture after Soaking (Top 1 in.):	16.5	12.9	11.8
Swell, %:	0.2	0.1	0.1
Corrected CBR at 0.100 in. Penetration:	8	28	44
Corrected CBR at 0.200 in. Penetration:	7	28	45
Surcharge Weight, lbs.:	10	10	10
California Bearing Ratio (CBR) at 95% Relative Compaction:		**22**	





[1] Tested sample is composite material of boreholes 1, 3, 6, and 8.

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PROJECT: **COOLIDGE MUNICIPAL AIRPORT**
GA APRON AND TAXIWAY C

JOB NO.: **29-224083-0**

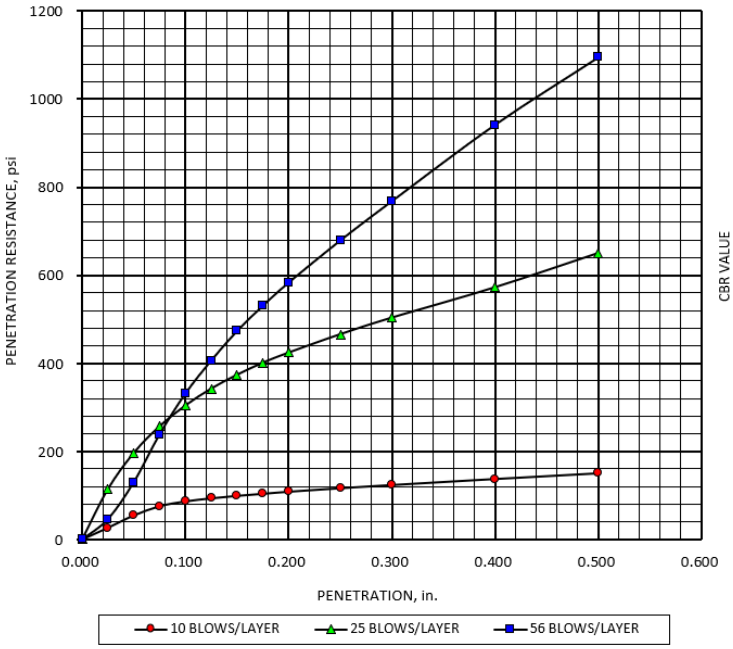
CALIFORNIA BEARING RATIO

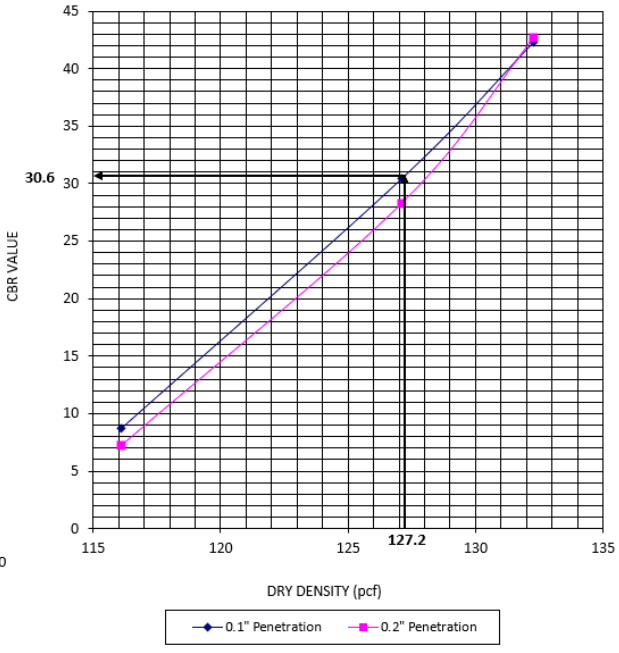
PLATE

B-3

CALIFORNIA BEARING RATIO (CBR)
Borings 9-11[1] (0'-3')

Compacted Specimen Results	Procedure: ASTM D1883		
Compactive Effort (Blows per Layer):	10	30	60
Dry Density at Compaction, pcf:	116.1	127.1	132.3
Percent of Maximum Dry Density:	86.7	94.9	98.8
Percent Moisture Before Compaction:	7.6	7.5	7.4
Percent Moisture After Compaction:	7.9	7.6	7.6
Percent Moisture after Soaking (Avg. of Total Sample):	13.7	10.5	9.4
Dry Density after Soaking, pcf:	116.1	127.1	132.0
Percent Moisture after Soaking (Top 1 in.):	14.4	11.5	11.6
Swell, %:	0.1	0.1	0.2
Corrected CBR at 0.100 in. Penetration:	9	30	42
Corrected CBR at 0.200 in. Penetration:	7	28	43
Surcharge Weight, lbs.:	10	10	10
California Bearing Ratio (CBR) at 95% Relative Compaction:		**31**	





[1] Tested sample is composite material of boreholes 9, 10, and 11.

Western Technologies
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PROJECT: **COOLIDGE MUNICIPAL AIRPORT GA APRON AND TAXIWAY C**

JOB NO.: **29-224083-0**

PLATE **B-4**

CALIFORNIA BEARING RATIO