



Prescott Municipal Airport
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NOTICE TO OFFERORS
NOTICE OF INVITATION OF BID
PRC RW 3R-21L RSA Improvements Project
PRC Project No. 2010DB003
FAA AIP NO. 3-04-0030-032 & -033
ADOT Project No. E1F52 and E2F97
ADDENDUM #2
November 18, 2011

TO ALL PROSPECTIVE OFFERORS RESPONDING TO INVITATION OF BID FOR THE CONSTRUCTION OF **RUNWAY 3R-21L RSA IMPROVEMENTS** AT THE PRESCOTT MUNICIPAL AIRPORT, as outlined in the aforementioned Invitation of Bids (NIB) published in the Prescott Daily Courier and the Arizona Republic on October 31, November 1, November 9, and November 10 of 2011 and available via the internet at www.prescott-az.gov/business/bids.

This addendum is issued to clarify the aforementioned NIB issued by the Prescott Municipal Airport (PRC).

I. General

1. The meeting minutes and sign-in sheet from the Pre-Bid Conference held on November 14, 2011 at 11:00 am are attached.

II. Contract Documents

1. The attached pages B-3 through B-12 (**REVISED 11.18.11**) **SUPERSEDE** pages B-3 to B-12 contained in Division I – *BIDDING REQUIREMENTS AND AGREEMENT DOCUMENTS* of the Contract Documents, and must be completed and affixed in place and submitted with the Bid.

III. Contract Technical Specifications

1. Page P-201-6 of Division V – CIVIL TECHNICAL SPECIFICATIONS of the Contract Documents; **INSERT** the attached Specification *ITEM P-209 CRUSHED AGGREGATE BASE COURSE (FAA)*, pages P-209-1 through P-209-6, after Specification *ITEM P-201 CRUSHED AGGREGATE BASE COURSE (MAG)*.
2. Page L-100a-5 of Division V – ELECTRICAL TECHNICAL SPECIFICATIONS of the Contract Documents; **INSERT** the attached Specification *ITEM L-105 Temporary Lighting*, pages L-105-1 through L-105-4, after Specification *ITEM L-100a Fixture and Sign Testing*.
3. Pages L-880-1 to L-880-6, of Division V – ELECTRICAL TECHNICAL SPECIFICATIONS of the Contract Documents; **REMOVE** in its entirety and **REPLACE** with attached pages L-880-1 to L-880-6, *Item L-880 Installation of Precision Approach Path Indicator (PAPI) System, (REVISED 11.18.11)*.

IV. Construction Plan Sheets

1. **REMOVE** the following Construction Plan Sheets: G1.3, G1.4, G2.1, G2.7, G3.1, G3.2, C3.1; and **REPLACE** with the following Construction Plan Sheets (attached, Delta No. 1 revision date 11.18.11): G1.3, G1.4, G2.1, G2.7, G3.1, G3.2. Major changes include:
 - a. Revised Quantities.
 - b. Alternate Haul Route for Bottleneck Local Borrow Stock Pile identified.
 - c. Additional Temporary Lighting general note added for all phases.
 - d. Revised Typical Pavement Sections for Runways and Taxiways.
 - e. Revised Typical Pavement Section for the 24-hour pavement rehabilitation at the Runway Intersection.



By: 
PRESCOTT MUNICIPAL AIRPORT
Benjamin Vardiman, ACE Airport Manager



Runway 3R-21 Safety Area Improvements

PRE-BID CONFERENCE

PRC Project No. 2010DB003

FAA AIP No. 3-04-0030-032 & -033

ADOT Project No. E1F52 & E2F97



Pre-Bid Conference Meeting Minutes

Monday, November 14, 11:00 a.m.

Prescott Municipal Airport Administration Building Conference Room

1. Introductions

- a. PRC Project Manager/Staff:
Benjamin Vardiman, ACE – Airport Manager & Project Coordinator
Mary Catherine Tennant – Airport Management Specialist & Grants Coordinator
- b. Design Engineering (Dibble Engineering):
Ken Snyder, P.E. - Project Manager
Jared Bass, P.E. (CA) – Project Engineer
Ryan Toner, P.E – Project Engineer
- c. Construction Administrator (Oridian Construction Services):
Elliot Gappinger, P.E. - Resident Engineer
- d. Storm Drain Engineer
Rick Shroads, PE
- e. Electrical Engineer
Catherine Alcorn, PE

2. Bidding Process and Timeline

- a. Pre-Bid Conference: November 14, 2011, 11:00 a.m.
- b. Last Day for Contractor's Questions: November 21, 2011
 - i. *Written questions to Ken Snyder at Dibble Engineering via email or mail are acceptable.*
 - ii. *Responses to any questions will be provided via addendum only.*
 - iii. *Any questions received after November 21st will most likely not receive a response.*
- c. Last Addendum: November 25, 2011
- d. Bid Opening: November 30, 2011, 2:00 p.m.
 - i. *Bid Opening will occur at the City of Prescott City Hall at 201 South Cortez in the Council Chamber room.*
- e. Plans Available (**Order and Pick-up**): A&E Reprographics, Prescott
- f. Plans Available (**Pick-up Only**): ARC/ScottBlue, Phoenix
- g. Bid Format: Unit Price
- h. Bid Price Hold: 120 days after November 30, 2011

3. Project Description

This project will remove 411.04' of RW 3R End and add it to the RW 21L End to ensure a full 1,000 RSA at the 3R End, including modifications/relocations of existing NAVAIDS as required. The major items associated with this project include the following:

1. Re-grade RW 21L End Drainage Basin to remain outside of the Runway Safety Area (RSA).



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2. Provide paved shoulders on RW 3R-21L and portions of the connecting taxiways.
3. Adjust runway lights & signs, electrical handholes and junction boxes, & drainage catch basins within the new paved shoulders as needed.
4. Replace 7,000 feet of drainage ditch between RW 3R-21L and parallel TW D with SRMP storm drain pipe to eliminate steep infield slopes and regrade the infield as needed.
5. Demolition of RW 3R end and connecting TW's C1 and D1 and associated Run-Up Area, miscellaneous drainage components, and electrical components such as lighting, signage, handholes, junction boxes, etc.
6. Construction of realigned TW C, new connecting TW's C1 and D1, and Run-Up Area at TW D.
7. Construction of RW 21L End, realigned TW C, new connecting TW's C7 and D7, new TW G and associated Run-Up Area.
8. Replace miscellaneous runway and taxiway directional signage at several locations to enhance pilot direction.
9. Reconstruction of failed pavement at the intersection of RW 3R-21L and RW 12-30 and at TW E4.
10. New airfield electrical items such as runway and taxiway lighting and signage, lighted windsocks, new circuits and regulators in existing vault, relocation of PAPI's, salvaging of prototype LED MITL, and NAVAID infrastructure.
11. Removal of miscellaneous items penetrating the RW 3R-21L Part 77 and Threshold Siting Plane (TSP) surfaces.

4. Bid Schedule

- a. Base Bid - Schedule I: Unit Pricing
- b. Basis of Award: Lowest Responsive, Responsible Bidder

5. Schedule and Phasing (Construction Plan Sheets G2.1 – G2.8)

- | | |
|---|---|
| <p>a. <u>Phase 1 (RW 21L Basin Grading):</u></p> <ol style="list-style-type: none">i. Day workii. Must be completed prior to beginning Phase 3 <p>b. <u>Phase 2 (RW Shoulders and Infield):</u></p> <ol style="list-style-type: none">i. Night work (8:00 PM – 6:00 AM)ii. May be completed concurrently with Phases 3 and 4 <p>c. <u>Phase 3 (Storm Drain Installation):</u></p> <ol style="list-style-type: none">i. Day workii. May be completed concurrently with Phases 2 and 4 | <p>d. <u>Phase 4 (RW 3R End Construction):</u></p> <ol style="list-style-type: none">i. Day workii. May be completed concurrently with Phase 2 and 3iii. Must be completed prior to beginning Phase 5iv. 60-day construction duration <p>e. <u>Phase 5 (RW 21L End Construction):</u></p> <ol style="list-style-type: none">i. Day workii. 75-day construction duration |
|---|---|



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- f. Phase 6 (RW 3R-21L/12-30 Intersection):
 - i. Construction to begin on a Tuesday evening and end on a Wednesday evening
 - ii. 90-day advance notice required to PRC
 - iii. 24-hour construction duration (closure of runways)
- g. Phase 7 (Taxiway E4 Reconstruction):
 - i. Two sub-phases: 7A and 7B
 - ii. 7A – 8:00 PM – 6:00 AM
 - iii. 7B – requires RW 12-30 closure
 - iv. 3-day total construction duration

Phase 3: The Contractor will have to make sure that all underground utility relocations, (i.e. fiber optic, waterline, and gas line), have been completed before the installation of storm drain pipe can occur.

Phase 5: The FAA will relocate and install the Navigational Aids (NAVAIDS). The installation of the NAVAIDS is dependent on some of the Contractor's efforts such as grading, therefore the Contractor will have to coordinate the FAA installation of NAVAIDS into his construction activities and schedule.

Phase 8: PRC requires a minimum notice of 48-hours for any closures within the AOA, (i.e. runway, taxiway, or apron).

6. Liquidated Damages

Detailed specific language for liquidated damages can be found in the Contract Agreement (page CA-4) within the Contract Documents.

- a. \$1,500 per day in excess of the allotted total Contract Time (195 Calendar Days)
- b. \$2,000 per day in excess of the allotted time for the following phases:
 - i. Phase 4 – 60 days
 - ii. Phase 5 – 75 days
 - iii. Phase 7 – 3 days
- c. \$2,000 per hour in excess of the allotted closure time for Runway 3R-21L (measured in 30-minute increments).
- d. \$5,000 per hour in excess of the allotted concurrent closure time for Runways 3R-21L and 12-30 (measured in 30-minute increments).
- e. \$10,000 for a cancellation of runway closure activities with less than a 24-hour advance notice to PRC.

Proper security measures as outlined in the Construction Phasing and Safety Plan, (Appendix A in the Contract Documents), must be taken along any Contractor's Haul Route such as security guards or flaggers at locations crossing runways and taxiways at a minimum. The personnel must also be trained by PRC.

7. Access, Staging and Storage

- a. Contractor Staging Area and Borrow/Stockpile Area NW of Melville Drive along the eastern side of the Airport.



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- i. Based on analysis of the earthwork balance, the only portion of the project in "waste" is at the 3R end, (Phase 4). When import material is needed, it can be obtained from the Local Borrow located onsite.*
 - ii. The earthwork numbers assume all excavation material from the project is used as fill and all additional required borrow is obtained from the on-site local borrow stockpile. Earthwork will be measured in-place. Verification surveys will be performed on the borrow stockpile before and after the earthwork is completed by the Engineer.*
- b. Specific access/haul roads for individual phases of work are shown on the Airport & Project Site Plan in the Construction Plans.
- c. Contractor responsible for incidental grading and infrastructure necessary for temporary haul roads. Contractor to return any disturbed area to a condition better than previously disturbed.
 - i. During Phases 1 and 5 the Contractor's Haul Route may use a portion of the Forest Service Ramp. The Ramp must be continually maintained. During any time the Forest Service requires the usage of the Ramp, the Contractor shall immediately vacate the Ramp and use an alternate haul route. Once the haul route is no longer needed through the Forest Service Ramp, the Contract shall return the ramp to a better condition than what it is currently. Plans assume that the haul route across the ramp will be reconstructed by the contractor. The Ramp cannot be used after July 15, 2012. Any corrective actions necessary to replace the pavement to a better condition after being used as a Contractor's haul route must also be completed before July 15, 2012.*

8. Special Requirements

- a. Coordination with concurrent project – FAA will be responsible for construction activities related to the MALSR and Glide Slope and associated shelters. The FAA's Contractor is anticipated to be on-site during the construction project performing this work. The successful bidder will be required to coordinate and cooperate with the other Contractor.
- b. Special Notice to Bidders (page SNTB-1 in the Contract Documents) – Bid submittal requirements.
- c. DBE Requirements and goals – DBE Goal of 4.22%.
- d. Federally funded (FAA) – Davis-Bacon Wage Requirements
- e. *All underground utility relocation must be coordinated with the utility's owner, (i.e. APS, City of Prescott, Unisource, Century Link, etc.). All relocations must be completed before the installation of the SD pipe.*
- f. *Contractor's attention is directed to Section 100 of the General Provisions within the Contract Documents regarding the requirements within the Quality Control Program for this project. These requirements are generally more significant than are encountered on a non-FAA project and will be enforced.*



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9. Airfield Safety and Security & Construction Phasing and Safety Plan

Section 60 in the Special Provisions in the Contract Documents details the airfield safety and security requirements for this project.

PRC is a commercial air carrier airport under the Federal Regulations of Part 139. PRC also experiences high aircraft traffic volumes from Embry-Riddle Aeronautical School.

a. Badging

- i. All Contractor and subcontractor employees must be badged. Delivery truck drivers are not required to be badged but must be escorted by badged Contractor personnel.
- ii. Badging process, requirements and fees are outlined in Special Provision 60.02 Airport Security Requirements.
- iii. *A maximum group of approximately 50 can attend a class at a single time.*
- iv. *The Contractor can go to the Prescott Municipal Airport badging website to review the badging requirements and standard fees.*

b. Contractor Escorts, Security/Gate Guards, Flaggers/Crossing Guards

- i. Contractor is responsible for maintaining security of the airfield and maintaining safety for aircraft operations during construction. Requirements for escorts, security/gate guards, and flaggers/crossing guards are detailed in Section 60 in the Special Provisions.
- ii. *All Contractor's security personnel (i.e. gate guards, flaggers, etc.) must go through airport training.*

c. Schedule of Fines

DESCRIPTION OF FINES:	PER PERSON PER OCCURRENCE
Runway or Taxiway Safety Area Incursion	\$1,000
Taxiway Incursion	\$2,500
Runway Incursion	\$2,500
Security Violation	\$2,500
Level 1 Violation of Airport Rules and Regulations	\$250
Level 2 Violation of Airport Rules and Regulations	\$500
Level 3 Violation of Airport Rules and Regulations	\$1,000

- d. Construction Phasing and Safety Plan – The successful bidder will be required to adhere to the requirements in the Construction Phasing and Safety Plan (Appendix A in the Contract Documents).



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Dibble
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- e. *The Contractor is required to submit his own detailed Barricade, Phasing and Safety Plan. The Phasing and Safety Plans in the Contract Documents can be used as a starting point, and must be adhered to.*
- f. *The Contractor will have to maintain (2) lighted X's, provided by PRC, during a single runway closure. During the 24-hour closure of both runways, the Contractor will have to supply and maintain (2) additional lighted X's, (those not provided by PRC).*
- g. *This project includes the removal of trees around the airport. This work must be performed by a certified arborist contracted by the Contractor. The final approach to tree removal/replacement and/or structural pruning will be developed in consultation with the certified arborist, the City of Prescott, and Golf Course personnel.*
- h. *There are existing prototype LED MITL's on the airfield. The project calls for these lights to be removed and replaced with new MITL lights. The prototype LED MITL's belong to the FAA and must be packaged for safe shipping and to the location identified within the electrical technical specifications upon removal. The cost of this is considered incidental to the removal of the lights.*
- i. *All low-profile barricades must have 360° omni-directional lighting and the flags at all times.*

10. Miscellaneous/Questions/Site Visit

a. Questions:

- i. *Question: Is there a schedule of values for the project?*

Response: The majority of work is unit price. Major lump-sum bid items will require a schedule of values to be developed by the contractor to allow progress payment evaluation.

- ii. *Question: The typical section detail for where the proposed storm drain pipe crosses the connecting taxiways includes treated bases. This will take time for curing. Is there an alternate section proposed to reduce the amount of time required for closed of the affected taxiways?*

Response: The Engineer will review options and develop an alternative if warranted.

- iii. *Question: Can the typical sections of the shoulders be constructed in a manner to meet the FAA's requirement of no more than a 3-inch drop from the edge of structural runway and taxiway pavement?*

Response: Yes. The shoulders and Runway Safety Area adjacent to the runway must meet RSA grading standards at the end of each night shift.



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Dibble
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- iv. *Question: Is the FAA storm drain specification modified to address the SRMP called out in the plans?*

Response: Yes

- v. *Question: If unforeseen weather conditions affect the project within the 90-day notice of the simultaneous runway closure, how does the airport intend to address the situation?*

Response: Extensive, adverse weather conditions are beyond the control of the Contractor. If the weather conditions are severe enough to affect the 90-day closure, a re-coordination may be permitted between the Contractor and the Airport to allow for another revised noticed, (i.e. 30-day).

- vi. *Question: Is funding already in place?*

Response: Yes

- vii. *Question: When will the Notice to Proceed be issued?*

Response: A construction contract is anticipated for mid-December, with the awarding of the NTP around mid-January. The FAA has a target date for completion of the project of September 12, 2012.

- viii. *Question: Is the DBE goal a required goal?*

Response: The Contractors are asked to make good faith efforts in meeting the project goal of 4.22%. At a minimum the Contractors must contact the Civil Rights office of ADOT for the list of DBE firms and that would have experience on this type of project.

- ix. *Question: Will the Engineer provide the construction surveying and staking?*

Response: No. All bidders are directed to Section 50-06 of the General Provisions and Section 40.15 of the Special Provisions of the Contract Documents. Construction surveying and staking will not be a separate pay item, but shall be considered incidental the Contractor Quality Control Program.

- x. *Question: Who is the utility owner for the gas line?*

Response: Unisource

- xi. *Question: What size is the waterline at the 3R end identified to be realigned?*



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Response: The waterline crossing the 3R end RSA is a 4-Inch waterline as shown in the plans.

xii. *Question: Is the Contractor required to provide Record Drawings?*

Response: Yes. All bidders are directed to Section 40.17 of the Special Provisions of the Contract Documents. The Construction Administrator will review the completeness and accuracy of the contractor as-built redlines as part of the monthly Progress Payment review.

xiii. *Question: Is the Contractor providing all the trenching for the miscellaneous utility relocation identified in the plans?*

Response: At this point in time, yes. If the utility owners inform us other otherwise, we will inform the bidders.

xiv. *Question: Will Taxiway D be closed during the construction of the storm drain?*

Response: The bidders are directed to the phasing plans. The storm drain is to be installed in the gap between the Taxiway D TSA and the Runway RSA, with the intent that closure would not be required to install these items. Portions of Taxiway D may be closed as needed (i.e., where the storm drain crosses Taxiway D).

xv. *Question: Is there a dedicated water source?*

Response: Nothing has been dedicated. The Contractors will use what public water sources in proximity to the project (fire hydrants). The source(s) will have to be metered by the City.

xvi. *Question: Is the Trench Backfill Material FAA or MAG?*

Response: The bidders are directed to the typical sections provided in the plans. In general, all material is based on FAA specifications unless otherwise noted.

xvii. *Question: What is the Engineer's Estimate?*

Response: the project is estimated to cost between \$6 and \$9 million

xviii. *Question: Is the Contractor required to replace any damaged pavement used for haul routes?*

Response: Yes, at the Contractor's sole expense.



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xix. *Question: What kind of waste material can be placed at the on-site Bottleneck Wash waste stockpile area?*

Response: Only material that can be used under airfield structural pavements can be placed at the on-site Local Borrow pit identified on the plans (broken up concrete, broken up asphalt, clean soil – no vegetation, rebar, etc). Materials not meeting these criteria are to be removed from the site.

xx. *Question: Does Phase I include any paving?*

Response: No, grading and embankment.

xxi. *Question: Is there a specific haul route to the Bottleneck stock pile?*

Response: Yes. The Contractor shall access the Bottleneck stockpile via Mac Curdy Dr. – Janine Pl - Ruger Road. There are two gates on this route, one will need to be manned.

xxii. *Question: Is Temporary Pavement Marking a separate pay item?*

Response: Yes. A separate payment line item is identified in Technical Specification P-620 in the Contract Documents.



Runway 21L – 3R Safety Area Improvements

PRC Project No. 2010DB003
 FAA AIP No. 3-04-0030-032 & -033
 ADOT Project No. E1F52 & E2F97



MANDATORY PRE-BID MEETING

Sign-In Sheet

Monday, November 14, 2011, 11:00 a.m.

NAME	Initial	REPRESENTING	PHONE	FAX	E-MAIL
<input checked="" type="checkbox"/> Ben Vardiman	<i>BV</i>	Prescott Airport	928.777.1114	928.771.5861	ben.vardiman@prescott-az.gov
<input checked="" type="checkbox"/> Ken Snyder		Dibble Engineering	602.957.1155	602.957.2838	ken.snyder@dibblecorp.com
<input checked="" type="checkbox"/> Jared Bass		Dibble Engineering	602.957.1133	602.957.2838	jared.bass@dibblecorp.com
<input checked="" type="checkbox"/> Rick Shroads		Civiltec Engineering	928.771.2376	928.771.2377	rshroads@civiltecengineering.com
<input type="checkbox"/> Andy Altman		Civiltec Engineering	928.771.2376	928.771.2377	aaltman@civiltecengineering.com
<input type="checkbox"/> Todd Hanke		Speedie & Assoc.	602.997.6391	602.943.5508	thanke@speedie.net
<input type="checkbox"/> Gregg Creaser		Speedie & Assoc.	602.997.6391	602.943.5508	gcreaser@speedie.net
<input checked="" type="checkbox"/> Cathy Alcorn	<i>CA</i>	CR Engineers	480.816.5541	480.816.5540	calcorn@creng.com
<input type="checkbox"/> Steve Nowaczyk		Ninyo & Moore	602.243.1600	602.243.2699	snowaczyk@ninyoandmoore.com
<input type="checkbox"/> Jeff Rodgers		Ninyo & Moore	602.243.1600	602.243.2699	jroddgers@ninyoandmoore.com
<input type="checkbox"/> Nick Pela		Nick J Pela & Assoc.	602.349.9967	602.778.5855	nicholaspela@nicholaspela.com
<input type="checkbox"/> Tom Norton	<i>TN</i>	CSW Contractors	602-266-7000	602-266-7070	estimating@cswcontractors.com
<input type="checkbox"/> Dick Sigler	<i>DS</i>	" "	" " "	" " "	DICKS@CSWCONTRACTORS.COM
<input type="checkbox"/> Mike Steg	<i>MS</i>	Combs Const	602-237-4009	602-237-1162	mike@combsaz.com
<input type="checkbox"/> Barry Smylie		Baniwki Const	602-376-0150	480-921-9456	bsmylie@baniwki.com
<input type="checkbox"/> Treason Nault	<i>TN</i>	NL Booth & Sons	928-772-0877	928-772-0034	treason@nlbooth.com
<input type="checkbox"/> RITCHIE COATS	<i>RC</i>	NL Booth & Sons	928-772-0071	928-772-0034	
<input type="checkbox"/> ALYSON AYRES	<i>AA</i>	Cemex LLC	928-772-3733	928-772-8073	aayres@cemexusa.com
<input type="checkbox"/> Jeff Baker	<i>JB</i>	Contech	480-215-1392	623-935-6100	BakerJ@Contech-cpi.com
<input type="checkbox"/> Ron Larson	<i>RL</i>	Asphalt Paving + Supply	928-772-6363	928-772-7313	rlarson@niand.com
<input type="checkbox"/> MICHAEL FANN	<i>MF</i>	FANN CONTRACTING	928-778-0170	928-778-5591	MFANN@FANNCONTRACTING.COM
<input type="checkbox"/> LARRY BISHOP	<i>LB</i>	TLL Electric	928-468-8552	928-468-8563	T.Bishop@TLLElectric.com
<input type="checkbox"/> JOZEF PAGANIK	<i>JP</i>	NJP ELECTRIC INC	602-944-5477	602-944-5784	jozef@njp.electric.com
<input type="checkbox"/> Chal Sarric	<i>CS</i>	Royal Southwest	(602)725-7556	602-926-8599	chals@royal-southwest.com
<input type="checkbox"/> ALEX TROYER	<i>AT</i>	ROYAL SOUTHWEST	602-725-2841	602-926-8599	troyer@royalsouthwest.com
<input type="checkbox"/> Randall Sondral	<i>RS</i>	ROYAL SOUTHWEST	602-725-6682		randys@royalelect.com
<input type="checkbox"/> PAUL WINSKI	<i>PW</i>	FAA TOWER	928-445-2160	928-777-0764	paul.winski@faa.gov
<input type="checkbox"/> GLENN VANICEK	<i>GV</i>	FAA TOWER	602-306-2516		GLENN.VANICEK@FAA.GOV
GARY BALLARD	<i>GB</i>	FAA TOWER	928-445-2160		GARY.BALLARD@FAA.GOV
Ryan Krasnosky	<i>RK</i>	FAA Tower	623-221-5811		ryan.kras@gmail.com
CHRIS DUSZA		CIVILTEC	623-826-4262		CDUSZA@CIVILTECENGINEERING.COM

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
CIVIL						
1	P-100-3.1	Contractor Quality Control	1	LS		
2	P-101-4.1	Mobilization	1	LS		
3	P-104-6.1	Sawcut Airfield Asphaltic Concrete Pavement (Full Depth)	3,462	LF		
4	P-104-6.2	Airfield Asphaltic Concrete Pavement Removal (Full Depth)	31,407	SY		
5	P-104-6.3	Airfield Asphaltic Concrete Pavement Removal (2-1/2 Inch Mill)	2,808	SY		
6	P-104-6.4	Perimeter Road Asphaltic Concrete Pavement Removal (Full Depth)	1,048	SY		
7	P-104-6.5	Key-In Section Asphaltic Concrete Pavement Removal (2-Inch Mill)	2,917	LF		
8	P-151-5.1	Remove & Plug Existing 12" PVC Storm Drain Pipe	40	LF		
9	P-151-5.2	Remove Existing 24" CMP Storm Drain Pipe	2,517	LF		
10	P-151-5.3	Remove Existing 24"x16" CMP Storm Drain Pipe	178	LF		
11	P-151-5.4	Remove Existing 24"x18" CMP Storm Drain Pipe	324	LF		
12	P-151-5.5	Remove Existing 16" CMP Storm Drain Pipe	30	LF		
13	P-151-5.6	Remove and Plug Existing 48" CMP Storm Drain Pipe	1,366	LF		
14	P-151-5.7	Remove and Plug Existing 54" CMP Storm Drain Pipe	1,374	LF		
15	P-151-5.8	Remove Existing Storm Drain Manhole	2	EA		
16	P-151-5.9	Remove Existing Storm Drain Headwall	20	EA		
17	P-151-5.10	Remove Existing Junction Structure	2	EA		
18	P-151-5.11	Remove Existing Sanitary Sewer Manhole	1	EA		
19	P-151-5.12	Remove Existing Concrete Grade Control Structure	6	EA		
20	P-151-5.13	Remove Existing Grouted Rip Rap	1,914	SY		
21	P-151-5.14	Remove Existing Aircraft Tie-down Assembly	33	EA		
22	P-151-5.15	Remove and Salvage Existing Vehicular Sign and Post	1	EA		
23	P-151-5.16	Remove Existing Airfield Perimeter Fence	436	LF		

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
CIVIL						
24	P-151-5.17	Remove Existing MALS Foundation	1	LS		
25	P-151-5.18	Remove Existing RAIL Foundation	1	LS		
26	P-151-5.19	Remove Existing Glide Slope Antenna Foundation	1	LS		
27	P-151-5.20	Remove Existing Glide Slope Shelter Foundation	1	LS		
28	P-151-5.21	Remove Existing PAPI System Foundations	1	LS		
29	P-151-5.22	Remove Existing Miscellaneous Electrical Foundations	1	LS		
30	P-151-5.23	Obliterate Existing Pavement Marking	89,452	SF		
31	P-151-5.24	Temporary Pavement Marking Obliteration	36,959	SF		
32	P-151-5.25	Remove Existing Taxiway Edge Markers	5	EA		
33	P-151-5.26	Remove Existing 36" CMP Storm Drain Pipe	25	LF		
34	P-151-5.27	Remove Existing 8" ACP Waterline	40	LF		
35	P-151-5.28	Remove Existing 6" HDPE Storm Drain Pipe	60	LF		
36	P-151-5.29	Remove Existing Storm Drain Catch Basin	1	EA		
37	P-151-5.30	Remove and Salvaged Existing No-Entry Taxiway Sign and Foundation	1	LS		
38	P-152-4.1	Subgrade Preparation (8-Inch Min)	61,005	SY		
39	P-152-4.2	Local Borrow	73,845	CY		
40	P-152-4.3	Unclassified Excavation	108,241	CY		
41	P-152-4.4	Drainage Excavation	16,653	CY		
42	P-152-4.5	Rock Excavation	100	CY		
43	P-152-4.6	Over-Excavation and Replacement of Unsuitable Material (Contingent Bid Item)	16,236	CY		
44	P-154-5.1	Subbase Course	9,909	CY		
45	P-155-10.1	Lime Treated Subgrade (8-Inch Depth)	42,557	SY		
46	P-201-6.1	Crushed Aggregate Base Course (MAG)	13,719	CY		
47	P-209-5.1	Crushed Aggregate Base Course (FAA)	345	CY		
48	P-304-8.1	Cement-Treated Base Course (6-Inch Depth)	42,466	SY		

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
CIVIL						
49	P-401-8.1	Bituminous Surface Course (3/4")	13,048	TON		
50	P-405-7.1	Bituminous Surface Course (MAG 3/4")	10,033	TON		
51	P-602-5.1	Bituminous Prime Coat (Contingent Bid Item)	47	TON		
52	P-603-5.1	Bituminous Tack Coat	20	TON		
53	P-620-5.1	Permanent Pavement Marking (Yellow)	22,643	SF		
54	P-620-5.2	Permanent Pavement Marking (White)	102,663	SF		
55	P-620-5.3	Permanent Pavement Marking (Green)	53,477	SF		
56	P-620-5.4	ILS Holding Positioning Marking	385	LF		
57	P-620-5.5	Surface Painted Holding Position Sign	21	EA		
58	P-620-5.6	Taxiway Shoulder Marking	19	EA		
59	P-620-5.7	Temporary Pavement Marking	36,959	SF		
60	D-701-5.1	12" SRMP Storm Drain Pipe	10	LF		
61	D-701-5.2	18" SRMP Storm Drain Pipe	1,078	LF		
62	D-701-5.3	24" SRMP Storm Drain Pipe	629	LF		
63	D-701-5.4	30" SRMP Storm Drain Pipe	14	LF		
64	D-701-5.5	36" SRMP Storm Drain Pipe	1,505	LF		
65	D-701-5.6	42" SRMP Storm Drain Pipe	275	LF		
66	D-701-5.7	48" SRMP Storm Drain Pipe	606	LF		
67	D-701-5.8	54" SRMP Storm Drain Pipe	113	LF		
68	D-701-5.9	60" SRMP Storm Drain Pipe	842	LF		
69	D-701-5.10	66" SRMP Storm Drain Pipe	1,786	LF		
70	D-701-5.11	72" SRMP Storm Drain Pipe	1,373	LF		
71	D-701-5.12	78" SRMP Storm Drain Pipe	1,572	LF		
72	D-701-5.13	6" HDPE Storm Drain Pipe	104	LF		
73	D-751-5.1	Concrete Catch Basin with Aircraft Traffic Rated Grate with Bolt-Down Lid (MAG Std Det 535 with Neenah Model # R-3475 or Approved Equal)	1	EA		

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
CIVIL						
74	D-751-5.2	Concrete Catch Basin with Concrete Apron (MAG Std Det 535 and ADOT Std Det C-15.80)	2	EA		
75	D-751-5.3	48-Inch Storm Drain Manhole with Bolt-Down Solid Lid (MAG Std Det 520 and 522 with Neenah Model # R-3491 – HL Bolt-Down Solid Lid or Approved Equal)	2	EA		
76	D-751-5.4	48-Inch Storm Drain Manhole with Bolt-Down Solid Lid (MAG Std Det 521 and 522 with Neenah Model # R-3491 – HL Bolt-Down Solid Lid or Approved Equal)	2	EA		
77	D-751-5.5	3.5' x 4.0' Junction Structure with Single Grate Bolt-Down Lid	4	EA		
78	D-751-5.6	5.0' x 4.0' Junction Structure with 48 Inch Diameter Pipe Lateral Connection and Single Grate Bolt-Down Lid	1	EA		
79	D-751-5.7	4.0' x 4.5' Junction Structure with 36 Inch Diameter Pipe Lateral Connection and Single Grate Bolt-Down Lid	1	EA		
80	D-751-5.8	3.5' x 5.0' Junction Structure with 24 Inch Diameter Pipe Lateral Connection and Single Grate Bolt-Down Lid	1	EA		
81	D-751-5.9	3.5' x 5.0' Junction Structure with Single Grate Bolt-Down Lid	1	EA		
82	D-751-5.10	3.5' x 6.0' Junction Structure with Single Grate Bolt-Down Lid	2	EA		
83	D-751-5.11	4.5' x 6.0' Junction Structure with 36 Inch Diameter Pipe Lateral Connection and Single Solid Bolt-Down Lid	1	EA		
84	D-751-5.12	3.5' x 6.0' Junction Structure with 24 Inch Diameter Pipe Lateral Connection and Single Solid Bolt-Down Lid	1	EA		
85	D-751-5.13	3.5' x 6.5' Junction Structure with Single Grate Bolt-Down Lid	4	EA		
86	D-751-5.14	4.5' x 6.5' Junction Structure with 24 Inch Diameter Pipe Lateral Connection and Single Solid Bolt-Down Lid	1	EA		
87	D-751-5.15	3.5' x 7.0' Junction Structure with Single Grate Bolt-Down Lid	4	EA		
88	D-751-5.16	3.5' x 7.0' Junction Structure with 30 Inch Diameter Pipe Lateral Connection and Single Solid Bolt-Down Lid	1	EA		

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
CIVIL						
89	D-751-5.17	3.5' x 7.5' Junction Structure with Double Grate Bolt-Down Lid	1	EA		
90	D-751-5.18	3.5' x 12.5' Junction Structure with Single Solid Bolt-Down Lid	1	EA		
91	D-751-5.19	3.5' x 14.0' Junction Structure with Double Grate Bolt-Down Lid	1	EA		
92	D-751-5.20	3.5' x 8.0' Junction Structure with Single Grate Bolt-Down	2	EA		
93	D-751-5.21	Riprap D50 = 18-Inch (36-Inch Depth) with Herbicide and Filter Fabric	74	CY		
94	D-751-5.22	Riprap D50 = 6-Inch (18-Inch Depth) with Herbicide and Filter Fabric	1,503	CY		
95	D-751-5.23	Concrete Apron on Existing Storm Drain Catch Basin	1	EA		
96	D-752-5.1	Storm Drain Transition Structure	2	EA		
97	D-752-5.2	Outlet Headwall and Access Barrier (MAG Std. Det. 503-1 mod.)	1	EA		
98	D-752-5.3	Concrete Storm Drain Headwall (YAG Std Det 501-1. Type 'U')	15	EA		
99	D-752-5.4	Aircraft Traffic Rated Trench Drain (Neenah Foundry R-4993 or Approved Equal)	20	LF		
100	F-162-5.1	Chain-Link Fence	543	LF		
101	U-200-5.1	Location of Underground Utilities (Allowance)	1	ALLOW	\$15,000	\$15,000
102	SP-60.05.1	Airfield Safety and Security	1	LS		
103	SP-60.06.1	Additional Airfield Security (Allowance)	1	ALLOW	\$15,000	\$15,000
104	SP-90.01.1	Survey Monument per MAG Std Det 120-1, Type B	10	EA		
105	SP-90.01.2	Survey Monument Frame and Cover per MAG Std Det 270	1	EA		
106	SP-90.02.1	Chain-Link Fence Screening	1,185	LF		
107	SP-90.03.1	Asphalt Pavement Crack Repair (Width 1-Inch or Less)	1,400	LF		
108	SP-90.03.2	Asphalt Pavement Crack Repair (Width Greater Than 1-Inch)	1,000	LF		
109	SP-90.04.1	Yield to Aircraft Vehicle Sign	5	EA		
110	SP-90.05.1	Adjust Catch Basin to Grade	3	EA		
111	SP-90.06.1	Adjust Sanitary Sewer Manhole to Grade	7	EA		

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
CIVIL						
112	SP-90.07.1	New Sanitary Sewer Manhole	1	EA		
113	SP-90.09.1	CVID Irrigation Pipe Concrete Cap	454	LF		
114	SP-90.10.1	Seeding (Hydraulic)	375,802	SY		
115	SP-90.11.1	CVID Irrigation Stilling Basin Modifications	1	LS		
116	SP-90.12.1	Underground Utility (Allowance)	1	ALLOW	\$75,000	\$75,000
117	SP-90.13.1	8-Inch ACP Vertical Relocation	1	EA		
118	SP-90.14.1	Relocate Existing Fiber Optic Line (Allowance)	1	ALLOW	\$10,000	\$10,000
119	SP-90.15.1	Tree Removal, Structural Pruning and Tree Planting (Allowance)	1	ALLOW	\$40,000	\$40,000
120	SP-90.16.1	Waterline Realignment (Restrained Joints)	50	LF		
121	SP-90.17.1	Gas Line Realignment	50	LF		
122	SP-90.18.1	Concrete Cap Over Underground Utilities	1	ALLOW	\$3,000	\$3,000
123	SP-90.19.1	City of Prescott Fiber Optic Line Relocation	1	ALLOW	\$8,000	\$8,000
124	SP-90.20.1	New Frame and Cover on Existing Sewer Manhole	2	EA		
125	SP-90.21.1	8-Inch ACP Plug per MAG Std Det 427	4	EA		
126	SP-90.21.2	CLSM Pipe Abandonment	282	LF		
127	SP-100.09.1	SWPPP/Erosion Control	1	LS		
ELECTRICAL						
128	L-100-5.1	Remove and salvage runway edge light and isolation transformer, base can to remain	74	EA		
129	L-100-5.2	Remove and salvage taxiway edge light and isolation transformer, base can to remain	325	EA		
130	L-100-5.3	Remove and salvage displaced threshold light and isolation transformer, base can to remain	8	EA		
131	L-100-5.4	Remove and salvage elevated runway guard light and isolation transformer, base can to remain	14	EA		

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
ELECTRICAL						
132	L-100-5.5	Remove and salvage taxiway edge light and isolation transformer, demo base can	79	EA		
133	L-100-5.6	Remove and salvage runway edge light and isolation transformer, demo base can	4	EA		
134	L-100-5.7	Remove and salvage runway end light and isolation transformer, demo base can	16	EA		
135	L-100-5.8	Remove and salvage existing Runway End Identification Light (REIL)	4	EA		
136	L-100-5.9	Remove and salvage existing Precision Approach Path Indicator (PAPI)	1	LS		
137	L-100-5.10	Remove and salvage 100A metered pedestal	2	EA		
138	L-100-5.11	Remove and salvage existing airfield guidance sign and sign base	17	EA		
139	L-100-5.12	Remove and salvage existing airfield guidance sign, sign base to remain	1	EA		
140	L-100-5.13	Remove and salvage existing handhole	13	EA		
141	L-100-5.14	Remove and salvage existing wind cone	1	EA		
142	L-100-5.15	Remove and salvage existing L-853 taxiway marker	28	EA		
143	L-100-5.16	Excavate and remove existing ductbank	8,945	LF		
144	L-100-5.17	Remove existing conductor, conduit to remain	3,515	LF		
145	L-100-5.18	Remove and salvage existing constant current regulator	3	EA		
146	L-100-5.19	Flashing Alert Sign System, complete and tested	1	LS		
147	L-100a-2.1	Photometric Testing	1	LS		
148	L-108-5.1	L-824, Type C, 1/C #8 AWG, 5kV Cable	15,600	LF		
149	L-108-5.2	L-824, Type C, 2/C #8 AWG, 5kV Cable	14,100	LF		
150	L-109-5.1	New 4kW Ferroresonant Constant Current Regulator, installed and tested	1	EA		
151	L-109-5.2	New 15kW Ferroresonant Constant Current Regulator, installed and tested	1	EA		
152	L-109-5.3	Modifications to ALCMS by Crouse Hinds	1	LS		
153	L-110-5.1	Single-way, (1) - 2" Conduit, Slurry Encased	8,335	LF		
154	L-110-5.2	Single-way, (1) - 2" Conduit, Concrete Encased	3,610	LF		

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
ELECTRICAL						
155	L-110-5.3	Single-way, (1) - 2.5" Conduit, Slurry Encased (per APS standards)	15	LF		
156	L-110-5.4	Single-way, (1) - 3" Conduit, Slurry Encased (per APS standards)	320	LF		
157	L-110-5.5	Multiple-way, (2) - 2" Conduit, Slurry Encased	3,060	LF		
158	L-110-5.6	Multiple-way, (2) - 2" Conduit, Concrete Encased	805	LF		
159	L-110-5.7	Multiple-way, (3) - 2" Conduit, Concrete Encased	85	LF		
160	L-110-5.8	Multiple-way, (2) - 4" Conduit, Slurry Encased (per APS standards)	1,250	LF		
161	L-127-5.1	New Handhole, Prefabricated Concrete 2'x3', Furnished and Installed	5	EA		
162	L-127-5.2	Adjust existing handhole to new grade	4	EA		
163	L-127-5.3	Adjust existing junction box to new grade	22	EA		
164	L-140-5.1	6-Strand Fiber, Multi-Mode Fiber Optic Cable	840	LF		
165	L-804-4.1	New elevated LED L-804 Runway Guard Light on new L-867 base can	10	EA		
166	L-804-4.2	New elevated LED L-804 Runway Guard Light on existing L-867 base can	14	EA		
167	L-806-5.1	New L-806 LED wind cones, in Place	2	EA		
168	L-806-5.2	Adjust Existing Wind Cone to New Grade	1	EA		
169	L-849-5.1	Salvaged L-849 REIL, with new concrete foundations, installed complete and tested	1	LS		
170	L-852-4.1	New L-852T Taxiway Edge Light on New L-868 Base Can	6	EA		
171	L-852-4.2	New LED L-852T Taxiway Edge Light on New L-868 Base Can	11	EA		
172	L-858-5.1	New Size 1, 2 Module, Airfield Guidance Sign, on New Sign Base	9	EA		
173	L-858-5.2	New Size 1, 3 Module, Airfield Guidance Sign, on New Sign Base	5	EA		
174	L-858-5.3	New Size 1, 4 Module, Airfield Guidance Sign, on New Sign Base	1	EA		

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
ELECTRICAL						
175	L-858-5.4	New Size 1, 7 Module, Airfield Guidance Sign, on New Sign Base	1	EA		
176	L-858-5.5	New Size 2, 1 Module, Airfield Guidance Sign, on New Sign Base	3	EA		
177	L-858-5.6	New Size 2, 2 Module, Airfield Guidance Sign, on New Sign Base	7	EA		
178	L-858-5.7	New Size 2, 3 Module, Airfield Guidance Sign, on New Sign Base	2	EA		
179	L-858-5.8	New Size 2, 4 Module, Airfield Guidance Sign, on New Sign Base	2	EA		
180	L-858-5.9	New Size 2, 4 Module, Airfield Guidance Sign, on Existing Sign Base, Extended	1	EA		
181	L-858-5.10	Salvaged Size 1, 2 Module, Airfield Guidance Sign, on New Sign Base	1	EA		
182	L-858-5.11	Size 3, 1 Module, Airfield Guidance Sign, Provided by Airport, on New Sign Base	1	EA		
183	L-858-5.12	New Size 1, Airfield guidance sign panel	12	EA		
184	L-858-5.13	New Size 2, Airfield guidance sign panel	7	EA		
185	L-858-5.14	Adjust existing sign base to new grade	30	EA		
186	L-858-5.15	New cast in place sign base for existing signs (Contingency)	1	ALLOW	\$6,050	\$6,050
187	L-861-4.1	Salvaged L-861 Runway Edge Light and isolation transformer on existing L-867 base can	74	EA		
188	L-861-4.2	Salvaged L-861 Runway Edge Light and isolation transformer on new L-867 base can	4	EA		
189	L-861-4.3	Salvaged L-861T Taxiway Edge Light and isolation transformer on existing L-867 base can	67	EA		
190	L-861-4.4	New L-861T Taxiway Edge Light and isolation transformer on new L-867 base can	88	EA		
191	L-861-4.5	New LED L-861T Taxiway Edge Light and isolation transformer on new L-867 base can	97	EA		
192	L-861-4.6	New LED L-861T Taxiway Edge Light and isolation transformer on existing L-867 base can	259	EA		

CONTRACTOR NAME: _____

RUNWAY 3R-21L RSA IMPROVEMENTS – SCHEDULE I						
LINE NO.	ITEM NO.	DESCRIPTION	APPROX. QTY.	UNIT	UNIT PRICE	AMOUNT
ELECTRICAL						
193	L-861-4.7	Salvaged L-861E Runway End Light and isolation transformer on new L-867 base can	16	EA		
194	L-861-4.8	Salvaged L-861E Displaced Threshold Light and isolation transformer on existing L-867 base can	8	EA		
195	L-861-4.9	New L-853 Taxiway Edge Marker, installed	3	EA		
196	L-861-4.10	Reinstall Salvaged L-853 Taxiway edge marker	18	EA		
197	L-861-4.11	New LED Elevated Edge Light and Isolation Transformer (Spares)	5	EA		
198	L-861-4.12	New Elevated Edge Light and Isolation Transformer (Spares)	5	EA		
199	L-867/868-6.1	New L-867, Size D base can, installed	5	EA		
200	L-867/868-6.2	Adjust existing L-867 base can to new grade	134	EA		
201	L-867/868-6.3	New L-867 (replacement), Size B base can, installed (Contingency)	15	EA		
202	L-880-5.1	Salvaged PAPI and Controller, with new concrete foundations, installed complete and tested	1	LS		
203	L-ILS-5.1	FAA Glide Slope Equipment Shelter and MALSR Equipment Shelter Electrical Service	1	LS		
204	TOTAL AMOUNT OF (BASE BID), SCHEDULE I, ITEMS 1 THRU 203 INCLUSIVE				\$	
\$ _____						100 Dollars
Written Words						

NOTE TO BIDDERS: All unit prices and bid totals of extended prices include all applicable taxes, delivery, and freight charges. Bidders are required to fill in all blank spaces with an entry. Bids submitted with blank spaces shall be considered "non-responsive."

ITEM P-209 CRUSHED AGGREGATE BASE COURSE (FAA)

DESCRIPTION

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

P-209 Crushed Aggregate Base Course shall only be required for construction at the Runway 3R-21L and 12-30 intersection as shown in the typical section provided in the plans.

MATERIALS

209-2.1 AGGREGATE. Aggregates shall consist of clean, sound, durable particles of crushed stone, crushed gravel, or crushed slag and shall be free from coatings of clay, silt, vegetable matter, and other objectionable materials and shall contain no clay balls. Fine aggregate passing the No. 4 sieve shall consist of fines from the operation of crushing the coarse aggregate. If necessary, fine aggregate may be added to produce the correct gradation. The fine aggregate shall be produced by crushing stone, gravel, or slag that meets the requirements for wear and soundness specified for coarse aggregate.

The crushed slag shall be an air-cooled, blast furnace slag and shall have a unit weight of not less than 70 pounds per cubic foot (1.12 Mg/cubic meter) when tested in accordance with ASTM C 29.

The coarse aggregate portion, defined as the material retained on the No. 4 sieve and larger, shall contain not more than 15 percent, by weight, of flat or elongated pieces as defined in ASTM D 693 and shall have at least 90 percent by weight of particles with at least two fractured faces and 100 percent with at least one fractured face. The area of each face shall be equal to at least 75 percent 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 to count as two fractured faces.

The percentage of wear shall not be greater than 45 percent when tested in accordance with ASTM C 131. The sodium sulfate soundness loss shall not exceed 12 percent, after 5 cycles, when tested in accordance with ASTM C 88.

The fraction passing the No. 40 (0.42 mm) sieve shall have a liquid limit no greater than 25 and a plasticity index of not more than 4 when tested in accordance with ASTM D 4318. The fine aggregate shall have a minimum sand equivalent value of 35 when tested in accordance with ASTM D 2419.

a. Sampling and Testing. Aggregates for preliminary testing shall be furnished by the Contractor prior to the start of production. All tests for initial aggregate submittals necessary to determine compliance with the specification requirements will be made by the Resident Engineer at no expense to the Contractor.

Samples of aggregates shall be furnished by the Contractor at the start of production and at intervals during production. The sampling points and intervals will be designated by the Resident Engineer. The

samples will be the basis of approval of specific lots of aggregates from the standpoint of the quality requirements of this section.

In lieu of testing, the Resident Engineer may accept certified state test results indicating that the aggregate meets specification requirements. Certified test results shall be less than 6 months old.

Samples of aggregates to check gradation shall be taken by the Resident Engineer at least two per lot. The lot will be consistent with acceptable sampling for density. The samples shall be taken from the in-place, compacted material. Sampling shall be in accordance with ASTM D 75, and testing shall be in accordance with ASTM C 136 and ASTM C 117.

b. Gradation Requirements. The gradation (job mix) of the final mixture shall fall within the design range indicated in Table 1, when tested in accordance with ASTM C 117 and ASTM C 136. The final gradation shall be continuously well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on an adjacent sieve or vice versa.

TABLE 1. REQUIREMENTS FOR GRADATION OF AGGREGATE

Sieve Sizes (Square Openings)	Percentage by Weight Passing Sieve	Job Mix Tolerances (%)
2 in	100	0
1-1/2 in	95-100	±5
1 in	70-95	±8
3/4 in	55-85	±8
No. 4	30-60	±8
No. 30	12-30	±5
No. 200	0-8	±3

Where environmental conditions (temperature and availability of free moisture) indicate potential damage due to frost action, the maximum percent of material, by weight, of particles smaller than 0.02 mm shall be 3 percent when tested in accordance with ASTM D 422. It also may be necessary to have a lower percentage of material passing the No. 200 sieve to help control the percentage of particles smaller than 0.02 mm maximum limit of 5 percent is recommended.

The job mix tolerances in Table 1 shall be applied to the job mix gradation to establish a job control grading band. The full tolerance still will apply if application of the tolerances results in a job control grading band outside the design range.

The fraction of the final mixture that passes the No. 200 sieve shall not exceed 60 percent of the fraction passing the No. 30 (0.60 mm) sieve.

CONSTRUCTION METHODS

209-3.1 PREPARING UNDERLYING COURSE. The underlying course shall be checked and accepted by the Resident Engineer before placing and spreading operations are started. Any ruts or soft yielding places caused by improper drainage conditions, hauling, or any other cause shall be corrected at the Contractor's expense before the base course is placed thereon. Material shall not be placed on frozen subgrade.

209-3.2 MIXING. The aggregate shall be uniformly blended during crushing operations or mixed in a plant. The plant shall blend and mix the materials to meet the specifications and to secure the proper moisture content for compaction.

209-3.3 PLACING. The crushed aggregate base material shall be placed on the moistened subgrade in layers of uniform thickness with a mechanical spreader.

The maximum depth of a compacted layer shall be 6 inches. If the total depth of the compacted material is more than 6 inches it shall be constructed in two or more layers. In multi-layer construction, the base course shall be placed in approximately equal-depth layers.

The previously constructed layer should be cleaned of loose and foreign material prior to placing the next layer. The surface of the compacted material shall be kept moist until covered with the next layer.

209-3.4 COMPACTION. Immediately upon completion of the spreading operations, the crushed aggregate shall be thoroughly compacted. The number, type, and weight of rollers shall be sufficient to compact the material to the required density.

The moisture content of the material during placing operations shall not be below, nor more than 2 percentage points above, the optimum moisture content as determined by ASTM D 1557.

209-3.5 ACCEPTANCE SAMPLING AND TESTING FOR DENSITY. Aggregate base course shall be accepted for density on a lot basis. A lot will consist of one day's production where it is not expected to exceed 2400 square yards. A lot will consist of one-half day's production where a day's production is expected to consist of between 2400 and 4800 square yards.

Each lot shall be divided into two equal sublots. One test shall be made for each subplot. Sampling locations will be determined by the Resident Engineer on a random basis in accordance with statistical procedures contained in ASTM D 3665.

Each lot will be accepted for density when the field density is at least 100 percent of the maximum density of laboratory specimens prepared from samples of the base course material delivered to the job site. The specimens shall be compacted and tested in accordance with ASTM D 1557. The in-place field density shall be determined in accordance with ASTM D 1556 or D 2167. If the specified density is not attained, the entire lot shall be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached.

In lieu of the core method of field density determination, acceptance testing may be accomplished using a nuclear gage in accordance with ASTM D 2922 and ASTM D 3017. The gage should be field calibrated in

accordance with paragraph 4 of ASTM D 2922. Calibration tests shall be conducted on the first lot of material placed that meets the density requirements.

Use of ASTM D 2922 results in a wet unit weight, and when using this method, ASTM D 3017 shall be used to determine the moisture content of the material. Calibration and Standardization shall be conducted in accordance with ASTM standards.

If a nuclear gage is used for density determination, two random readings shall be made for each subplot.

209-3.6 FINISHING. The surface of the aggregate base course shall be finished by blading or with automated equipment especially designed for this purpose.

In no case will the addition of thin layers of material be added to the top layer of base course to meet grade. If the elevation of the top layer is 1/2 inch or more below grade, the top layer of base shall be scarified to a depth of at least 3 inches, new material added, and the layer shall be blended and recompact to bring it to grade. If the finished surface is above plan grade, it shall be cut back to grade and rerolled.

209-3.7 SURFACE TOLERANCES. The finished surface shall not vary more than 3/8 inch when tested with a 16-foot straightedge applied parallel with or at right angles to the centerline. Any deviation in excess of this amount shall be corrected by the Contractor at the Contractor's expense.

209-3.8 THICKNESS CONTROL. The completed thickness of the base course shall be within 1/2 inch of the design thickness. Four determinations of thickness shall be made for each lot of material placed. The lot size shall be consistent with that specified in paragraph 3.5. Each lot shall be divided into four equal sublots. One test shall be made for each subplot. Sampling locations will be determined by the Resident Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Where the thickness is deficient by more than 1/2 inch, the Contractor shall correct such areas at no additional cost by excavating to the required depth and replacing with new material. Additional test holes may be required to identify the limits of deficient areas.

209-3.9 MAINTENANCE. The base course shall be maintained in a condition that will meet all specification requirements until the work is accepted. Equipment used in the construction of an adjoining section may be routed over completed portions of the base course, provided no damage results and provided that the equipment is routed over the full width of the base course to avoid rutting or uneven compaction.

The Contractor shall remove all survey and grade hubs from the base courses prior to placing any bituminous surface course.

METHOD OF MEASUREMENT

209-4.1 The quantity of crushed aggregate base course to be paid for will be determined by measurement of the number of cubic yards of material actually constructed, compacted in-place to the thickness in conformity to the dimensions and typical cross-sections shown on the plans, and as accepted by the Resident Engineer as complying with the plans and specifications.

BASIS OF PAYMENT

209-5.1 Payment shall be made at the contract unit price per cubic yards for crushed aggregate base course. This price shall be full compensation for furnishing all materials, for preparing, compacting, 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 (FAA) —per cubic yard

TESTING REQUIREMENTS

ASTM C 29	Unit Weight of Aggregate
ASTM C 88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 117	Materials Finer than 75 μ m (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 131	Resistance to Degradation of Small-Size Coarse Aggregate by abrasion and impact in the Los Angeles Machine
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM D 75	Sampling Aggregate
ASTM D 422	Particle Size Analysis of Soils
ASTM D 693	Crushed Aggregate for Macadam Pavements
ASTM D 698	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb (2.49-kg) Rammer and 12-in (305mm) Drop
ASTM D 1556	Density of Soil in Place by the Sand-Cone Method
ASTM D 1557	Test for Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D 2167	Density and Unit Weight of Soil in Place by the Rubber Ballon Method

ASTM D 2419 Sand Equivalent Value of Soils and Fine Aggregate

ASTM D 2922 Density of Soil and Soil-Aggregate in Place by Nuclear Methods

ASTM D 3017 Water Content of Soil and Rock in Place by Nuclear Methods

ASTM D 3665 Random Sampling of Construction Materials

ASTM D 4318 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

END OF ITEM P-209

ITEM L-105 TEMPORARY LIGHTING

DESCRIPTION

105-1.1 RELATED DOCUMENTS. The General Provisions, Special Provisions and Supplementary Conditions apply to work specified in this Item.

105-1.2 GENERAL. This work shall include but is not limited to the following:

- a. Installing, protecting and maintaining temporary airfield lighting.
- b. Coordinating with the FAA and APS to maintain their systems during construction.
- c. Maintaining existing and proposed edge lighting and sign circuits.
- d. Removal, disposal and/or salvage of temporary airfield lighting.

105-1.3 APPLICABLE DOCUMENTS. The publications listed at the end of this Item are incorporated herein by reference and form a part of this Item to the extent indicated by the references thereto. Except where a specific date is given, the issue in effect (including amendments, addenda, revisions, supplements, and errata) on the date of this solicitation shall be applicable. In the text of this Item, such publications are referred to by basic designation only. Additional details and specifications pertaining to a specific system are contained in these documents are to be considered a part of this Item. Perform all work in accordance with these documents except as specified herein. In the event of a conflict between contract documents and the referenced documents, the more stringent rule shall be applied.

EQUIPMENT AND MATERIALS

105-2.1 GENERAL. Airport lighting equipment and materials covered by FAA specifications shall have the prior approval of the Federal Aviation Administration, Airports Service, Washington, D.C. 20590. Do not exceed the manufacturers' recommendation rating on any component. Any plastic components exposed to sunlight shall be made of UV stabilized material. All fasteners shall have corrosion protection. Copper bearing hardware in contact with aluminum shall be plated with cadmium, nickel, and zinc. All hardware used for access for maintenance shall be stainless steel.

105-2.2 SHOP DRAWINGS AND MATERIAL LISTS. Shop drawings and material list requirements for equipment and materials for this Item shall be in accordance with their respective specification sections.

105-2.3 LIGHT BASE. L867/L-868, meeting the requirements of FAA AC 150/5345-42.

105-2.4 ISOLATION TRANSFORMER. Meeting the requirements of FAA AC 150/5345-47.

105-2.5 HARDWARE. All bolts, nuts, washers and lock-washers shall be stainless steel.

105-2.6 PLUG AND RECEPTACLE CABLE CONNECTORS. L-823, TYPE I, class A, meeting the requirements of FAA AC 150/5345-26.

105-2.7 UNDERGROUND ELECTRICAL CONDUIT AND DUCT. Equipment and materials shall be in accordance with Item L-110.

105-2.8 CABLE. Equipment and materials shall be in accordance with Item L-108. The Contractor has the option to reuse cable for temporary circuit use only. Any cable to be reused must have been initially installed as temporary cable on this project. This cable is to be used within the cable rating requirements and in accordance with Item L-108.

105-2.9 GROUNDING. Equipment and materials shall be in accordance with Item L-100.

105-2.10 BLANK COVERS. Equipment and materials shall be in accordance with Item L-867/868, Paragraph 867/868-2.8.

105-2.11 FLANGE RINGS, EXTENSION RINGS AND SHIMS. Equipment and materials shall be in accordance with Item L-867/868, Paragraph 867/868-2.5.

105-2.12 RUNWAY/TAXIWAY EDGE LIGHTS. L-861/ L-861T, meeting the requirements of FAA AC 150/5345-46.

105-2.13 CONCRETE. Concrete used for any item under this specification shall meet Item P-610.

CONSTRUCTION METHODS

105-3.1 EXISTING UTILITIES. Refer to Item L-100, Section 100-3.1 for protection of existing utilities.

105-3.2 NOTIFICATION OF TESTING. Refer to Item L-100, Section 100-3.9.

105-3.3 TESTING. Refer to Item L-100, Section 100-3.8 for applicable testing of equipment.

105-3.4 GROUNDING. Refer to Item L-100, Section 100-3.4.

105-3.5 MOUNTING THE TRANSFORMER AND DISCONNECT SWITCH. Install in accordance with manufacturer's instructions and as shown on the plans.

105-3.6 TEMPORARY CABLE REMOVAL. Once a temporary circuit or portion thereof is no longer required, the cable for that circuit shall be removed for reuse or disposal. All cables in a single conduit shall be removed in a single pull.

105-3.7 REUSED TEMPORARY CABLE. Cable previously installed under this project as temporary cable may be reused for other temporary circuits only. All cables shall be inspected for damage before reuse. The cable shall be installed and tested in accordance with Item L-108. If for any reason the reused cable fails, it shall be replaced at the Contractor's expense.

105-3.8 ELECTRICAL REQUIREMENTS. Conform to applicable sections of the NEC and local codes. All electrical connections shall be made via watertight plugs and receptacles to allow the unit to pull free in the event it is struck by aircraft. Install all underground cable in accordance with Item L-108. Use splices or appropriate plugs for cable connections as specified in Item L-108.

105-3.9 TEMPORARY RUNWAY/TAXIWAY EDGE LIGHT. This Item shall consist of installing temporary edge light and involves the following work:

Testing and assembly, including a temporary light base as detailed in the plans, installing the light fixture, isolation transformer, connectors, Type C, 1/C #8 AWG, 5 kV temporary lighting cable and 2 in. PVC Schedule 40, conduit, supplying 10 conduit straps and securing the entire assembly and removing, relocating, reconnecting and securing any temporary fixture and its appurtenances for phasing changes

105-3.10 PHASING, INTERRUPTIONS AND TEMPORARY CABLES. Airfield power cables shall be kept in service to maintain runway and taxiway lighting as required for airfield operations. Temporary lighting and power cable may be run to maintain circuits to keep lighting operational. Temporary cable shall be placed above ground in temporary conduit or below ground in shallow buried conduit or existing conduit and shall be burial-type cable. The surface mounted conduit and cable shall be secured in place by use of sandbags placed at 5-foot intervals. The use of temporary cable shall be approved by the Owner prior to installation and shall be promptly removed when the permanent construction is able to be used.

METHOD OF MEASUREMENT

105-4.1 TEMPORARY RUNWAY/TAXIWAY EDGE LIGHT. No measurement for the use of temporary runway/taxiway edge lighting shall be made, as the temporary lighting is incidental to the Airport safety and security.

BASIS OF PAYMENT

105-5.1 TEMPORARY RUNWAY/TAXIWAY EDGE LIGHT. No payment for the use of temporary runway/taxiway edge lighting shall be made, as the temporary lighting is incidental to the Airport safety and security.

FEDERAL AVIATION ADMINISTRATION (FAA) SPECIFICATIONS APPLICABLE TO ITEM L-105.

All references are current edition.

AC 150/5345-7	Specification for L-824 Underground Cables for airport Lighting Circuits.
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors (including Changes 1 & 2)
AC 150/5340-28	Low Visibility Taxiway Lighting Systems

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes and Accessories (including Change 1)
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Isolation Transformers for Airport Lighting Systems
AC 150/5345-42	Specification for Light Base and Transformer Housing, Junction Boxes and Accessories (including Change 1)

END OF ITEM L-105

SECTION L-880 INSTALLATION OF PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM

DESCRIPTION

880-1.1 RELATED DOCUMENTS. The General Provisions of the Contract, including General and Special Conditions and Compensation Conditions, apply to work specified in this Item.

880-1.2 GENERAL. This Item shall consist of the following and be as detailed in the Drawings

- a. Install salvaged PAPI, PAPI control and remote monitoring equipment at the PAPI location.
- b. Providing concrete bases for PAPI system control equipment and light housing units.
- c. Providing conduit systems between control equipment base and light unit bases, including new 2'x3' concrete handhole.
- d. Installing PAPI and related equipment. Installation shall be on the bases provided as part of this item. Included shall be all required conduit, conductors, connections and testing.
- e. Using Contractor-furnished aiming and calibration equipment for this type of PAPI system, providing initial aiming and calibration preparatory to Airport acceptance.

880-1.3 APPLICABLE DOCUMENTS. The publications listed at the end of this Item are incorporated herein by reference and form a part of this Item to the extent indicated by the references thereto. Except where a specific date is given, the issue in effect (including amendments, addenda, revisions, supplements, and errata) on the date of this solicitation shall be applicable. In the text of this Item, such publications are referred to by basic designation only. Additional details and specifications pertaining to a specific system are contained in these documents and are to be considered as part of this Item. Perform all work in accordance with these documents except as specified herein. In the event of a conflict between contract documents and the referenced documents, the more stringent rule shall be applied.

MATERIALS

880-2.1 CONCRETE. Concrete shall be structural grade as specified in Item P-610.

880-2.2 CONDUIT. Rigid galvanized steel (RGS) and plastic (PVC Schedule 40) conduit shall be as specified in Item L-110.

880-2.3 CONDUCTORS. Conductors shall be Type THWN or THW as specified in Item L-108.

880-2.4 HANDHOLES. Precast concrete handholes shall be as specified in Item L-127.

880-2.5 GROUNDING RODS. Grounding rods shall be as specified in Item L-100 and installed as detailed on the drawings, in accordance with FAA STD-19B.

CONSTRUCTION METHODS

880-3.1 FIELD INSPECTION. Prior to placing any concrete in forms, the ENGINEER will inspect the reinforcing and formwork, and the Contractor at his expense shall correct any discrepancies found. The Contractor shall give the CM at least 24 hours advance notice for such inspection. All concrete shall be placed in the presence of the CM.

When excavations are completed, notify Engineer for his inspection and approval prior to installation of cables, ducts, or piping.

After foundations have been constructed and have reached adequate set, trenches and excavations shall be backfilled. Backfill shall be placed on both sides of foundations at the same time and both sides tamped prior to placing of the next layer of material. Special care shall be taken to prevent any uneven wedging action against the structure. The CM shall inspect all installations prior to placement of backfill. Placement of backfill shall be in 6-inch layers. Base material under concrete bases shall be 12 inches of 3/4-inch aggregate base compacted to 95% in accordance with ASTM D 1557.

880-3.2 INSTALLATION DETAILS.

- a. Foundations for mounting light boxes shall be made of concrete and designed to prevent frost heave or other displacement. The foundation shall be constructed as detailed on drawings. Foundation shall not be more than 2 inches above grade, and no less than 12 inches below the frost line. All light boxes shall be frangibly mounted to the foundation as detailed on the plans.
- b. Electrical. The installation shall conform to the applicable sections of the National Electrical Code and local codes. All electrical connections to the light unit shall be made via plugs and receptacles to allow the unit to pull free in the event an aircraft strikes it. Any extra control circuitry shall be housed in an enclosure to protect it from the environment. All underground cable shall be installed in accordance with Item L-108. Any underground connections shall be made via splices or appropriately rated plugs.

880-3.3 GENERAL SITING CONSIDERATIONS. When viewed from the approach end, the PAPI systems shall be located on the left side of the runway or at the locations indicated on the plans.

- a. The PAPI's for Runway 21L have been sited to provide a minimum threshold crossing height (TCH) of 55 feet.
- b. Threshold Crossing Height (TCH). The TCH is the height of the lowest on-course signal at a point directly above the intersection of the runway centerline and the threshold. The minimum allowable TCH varies according to the height group of aircraft that uses the runway and is shown in Table 1. The PAPI approach path must provide the proper TCH for the most demanding height group that uses the runway.
- c. Glide Path Angle. The visual glide path angle is the center of the on-course zone and is normally 3 degrees when measured from the horizontal.

d. The PAPI Obstacle Clearance Surface. The PAPI obstacle clearance surface is established to provide the pilot with a minimum clearance over obstacles during approach. The PAPI must be positioned and aimed so that no obstacles penetrate this surface. The surface begins 300 feet (90 m) in front of the PAPI system (closer to the threshold) and proceeds outward into the approach zone at an angle 1 degree less than the aiming angle of the third light unit from the runway. For an L-880 with a 3° glide path and 20 minutes separation between light units, the third light unit from the runway would be aimed at 2° 50' elevation. The surface extends 10 degrees on either side of the runway centerline extended, and extends 4 statute miles from its point of origin.

e.

TABLE 1. VISUAL THRESHOLD CROSSING HEIGHTS			
REPRESENTATIVE AIRCRAFT TYPE	APPROXIMATE COCKPIT-TO-WHEEL HEIGHT	VISUAL THRESHOLD CROSSING HEIGHT	REMARKS
<u>Height Group 1:</u> General Aviation Small Commuters Corporate Turbo Jets	10 feet or less	40 feet +5, -20	Many runways less than 6,000 feet long with reduced widths and/or restricted weight bearing, which would normally prohibit landings by larger aircraft.
<u>Height Group 2:</u> F-28, CV340/440/580, A-737, DC-9, DC-8	15 feet	45 feet +5, -20 12 meters +2, -6	Regional airport with limited air carrier service.
<u>Height Group 3:</u> B- 727/707/720/757	20 feet	50 feet +5, -15 15 meters +2, -6	Primary runways not normally used by aircraft with ILS glide-path-to-wheel heights exceeding 20 feet.
<u>Height Group 4:</u> B-747/767, L-1011, DC-10, A-300	Over 25 feet	75 feet +5, -15 22 meters +2, -4	Most primary runways at major airports

880-3.4 AIMING. The PAPI units are aimed to define the visual glide path angle. The aiming angles for Type L-880 systems are shown in Table 2.

Light Unit	Aiming Angle (in minutes of arc)	
	Standard Installation	Ht group 4 aircraft on runway with ILS
Unit nearest runway	30' above glide path	35' above glide path
Next adjacent unit	10' above glide path	15' above glide path
Next adjacent unit	10' below glide path	15' below glide path
Next adjacent unit	30' below glide path	35' below glide path

880-3.5 OTHER SITING DIMENSIONS AND TOLERANCES.

- a. Distance from Runway Edge. The inboard light unit shall be approximately 50 feet from the runway edge and 125' from the runway centerline, as scheduled on the drawings.
- b. Separation between Light Units. The PAPI units shall have a lateral separation of 30 feet as detailed on the drawings.
- c. Azimuthal Aiming. Each light unit shall be aimed outward into the approach zone on a line parallel to the runway centerline within a tolerance of $\pm\frac{1}{2}$ degree.
- d. Mounting Height Tolerances. The beam centers of all light units shall be within ± 1 inch of a horizontal plane. This horizontal plane shall be within ± 1 foot (0.3 m) of the elevation of the runway centerline at the intercept point of the visual glide path with the runway.
- e. Tolerance along Line Perpendicular to Runway. The front face of each light unit in a bar shall be located on a line perpendicular to the runway centerline within ± 6 inches.

880-3.6 POWER AND CONTROL DESIGN.

- a. Feeder Circuit, Style A Systems. The PAPI shall operate from the standard utility voltage indicated on the plans. The cable for the feeder circuit shall be as sized on the plans and as specified in Item L-108.
- b. Wiring the Light Boxes. All PAPI light boxes have a tilt switch and provision for grounding. All wiring, which enters the PAPI box, must be through plugs and receptacles, which will separate if the box is struck by an aircraft. The receptacles are located and held at the frangible point on the breakable couplings. A length of flexible watertight conduit conveys the wire between the breakable coupling and the PAPI box. The flexible conduit is required so that the PAPI box may be aimed. All underground connections shall be made with either splices or plugs and receptacles intended for that purpose.

880-3.7 AIMING.

- a. The light housing assemblies shall be aimed at the vertical angles indicated on the criteria schedule on the drawings. Light assembly aiming equipment shall be provided with each PAPI installation and shall become the property of the Prescott Municipal Airport. Aiming angles shall be verified by the ENGINEER.
- b. The light units shall be provided with integral adjustments to permit accurate vertical positioning of the center of the light beam at any elevation between 2 and 8 degrees. The center of the light beam is defined as the transition band between red and white light. An aiming device shall be provided that will indicate the vertical angle of the light beam center within an accuracy of ± 3 minutes of arc. The aiming device shall indicate minutes of arc and shall have at least 1 division every 10 minutes. Alternatively, the units may be factory calibrated to a fixed vertical angle (to an angle specified by the purchaser) where means are provided to permit field installation at the desired angle within accuracy

of ± 3 minutes. The manufacturer shall provide a procedure to check the calibration of the aiming system in the field. This testing shall be witnessed by the ENGINEER.

- c. Install on individual light housing assemblies a one-inch-wide rigid, laminated plastic tag with 3/8-inch engraved lettering, which indicates the vertical aiming angles. These tags shall be attached with pop rivets in a conspicuous place as designated by the OWNER.

880-3.8 PRELIMINARY FLIGHT CHECKING. The Contractor shall provide preliminary flight checking of the operational system to assure a minimum of complications City of Prescott Municipal Airport acceptance procedure. The Contractor shall coordinate with and assist the owner in scheduling for the flight check and acceptance tests and shall do so early in the project to assure that the construction completion date is not impacted.

880-3.9 QUALITY ASSURANCE - INSPECTION. The ENGINEER will inspect all work specified in this section before acceptance of the work. Operational test burn of PAPI units for a minimum of thirty (30) minutes is required.

880.3-10 COMMISSIONING NOTICE TO AIRMEN (NOTAM). The Flight Service Station (FSS), which has jurisdiction over the airport where the PAPI is installed, shall be notified when the system is ready to be commissioned. The following items shall be reported in writing to the City of Prescott Municipal Airport in order to notify FSS.

- a. Airport name and location.
- b. Runway number and location of PAPI (left or right side of runway).
- c. Type of PAPI (4-box).
- d. Glide slope angle.
- e. Threshold crossing height.
- f. Date of commissioning.

METHOD OF MEASUREMENT

880-4.1 RELOCATED PAPI. The quantity to be measured shall be a lump sum for installation of the salvaged PAPI system including new concrete bases and conduit system (as detailed on plans), completed in accordance with plans and specifications and when accepted by the OWNER.

BASIS OF PAYMENT

880-5.1 RELOCATED PAPI. Payment shall be made at the contract price for the installation and flight-testing of the PAPI equipment in place and accepted by the OWNER. Under Bid Item in proposal, the unit price shall be full compensation for furnishing all materials and for all preparation, erection installation and testing of these materials to complete the Item.

Payment will be made under:

Item L-880-5.1	Salvaged PAPI and Controller, with new concrete foundations, installed complete and tested—per each
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REFERENCED PUBLICATIONS

880-6.1 FAA SPECIFICATIONS REFERENCED IN ITEM L-880.

AC 150/5300-4	Utility Airports - Air Access to National Transportation.
AC 150/5300-12	Airport Design Standards - Transport Airports.
AC 150/5345-28F	Precision Approach Path Indicator (PAPI) Systems.
AC 150/5345-53A	Airport Lighting Equipment Certification Program.
AC 150/5370-10	Standards for Specifying Construction of Airports.
FAA-C-1391b	Installation and Splicing of Underground Cables.
FAA-C-2042	Electrical Work, Exterior.

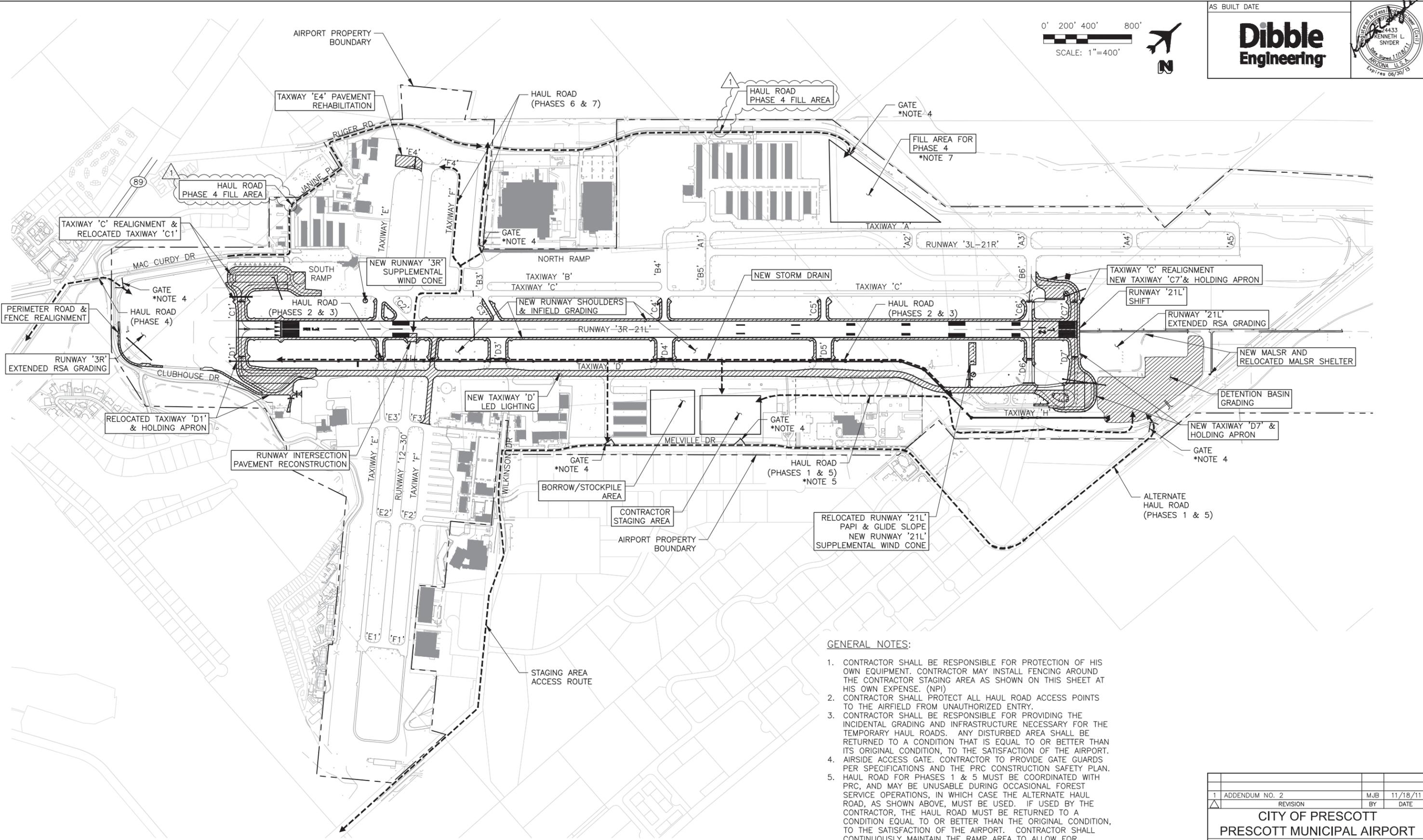
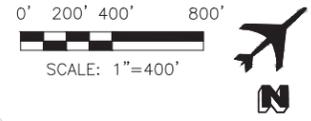
880-6.2 FAA STANDARDS AND DRAWINGS REFERENCED IN ITEM L-880.

FAA-STD-019b	Lightning Protection, Grounding, Bonding and Shielding Requirements for Facilities.
FAA-STD-020	Transient Protection, Grounding, Bonding, and Shielding.
Drawing C-6046	Frangible Coupling, Type 1 and 1A, Details.

880-6.3 OTHER FEDERAL AVIATION ADMINISTRATION (FAA) PUBLICATION REFERENCED IN ITEM L-880.

FAA Standard Order 6850.2A 9/13/95	Visual Guidance Lighting Systems.
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END OF ITEM L-880



GENERAL NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF HIS OWN EQUIPMENT. CONTRACTOR MAY INSTALL FENCING AROUND THE CONTRACTOR STAGING AREA AS SHOWN ON THIS SHEET AT HIS OWN EXPENSE. (NPI)
- CONTRACTOR SHALL PROTECT ALL HAUL ROAD ACCESS POINTS TO THE AIRFIELD FROM UNAUTHORIZED ENTRY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE INCIDENTAL GRADING AND INFRASTRUCTURE NECESSARY FOR THE TEMPORARY HAUL ROADS. ANY DISTURBED AREA SHALL BE RETURNED TO A CONDITION THAT IS EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION, TO THE SATISFACTION OF THE AIRPORT.
- AIRSIDE ACCESS GATE. CONTRACTOR TO PROVIDE GATE GUARDS PER SPECIFICATIONS AND THE PRC CONSTRUCTION SAFETY PLAN.
- HAUL ROAD FOR PHASES 1 & 5 MUST BE COORDINATED WITH PRC, AND MAY BE UNUSABLE DURING OCCASIONAL FOREST SERVICE OPERATIONS, IN WHICH CASE THE ALTERNATE HAUL ROAD, AS SHOWN ABOVE, MUST BE USED. IF USED BY THE CONTRACTOR, THE HAUL ROAD MUST BE RETURNED TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION, TO THE SATISFACTION OF THE AIRPORT. CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THE RAMP AREA TO ALLOW FOR AIRCRAFT USAGE. THE PRIMARY HAUL ROAD WILL BE UNAVAILABLE AFTER JULY 15, 2012.
- CONTRACTOR TO PROVIDE CROSSING GUARD AT ALL ACTIVE TAXIWAY/RUNWAY CROSSINGS PER THE PROJECT SPECIFICATIONS AND THE PRC CONSTRUCTION SAFETY PLAN.
- THE FILL AREA NOTED FOR PHASE 4 MAY BE USED FOR DISPOSAL OF EXCESS SOIL FROM RUNWAY '3R' GRADING IN EXCESS OF THE QUANTITY USED FOR BORROW IN OTHER CONCURRENT PHASES OF WORK SUBJECT TO THE PAYMENT LIMITATIONS IN THE SPECIFICATIONS (SEE PHASING PLANS).



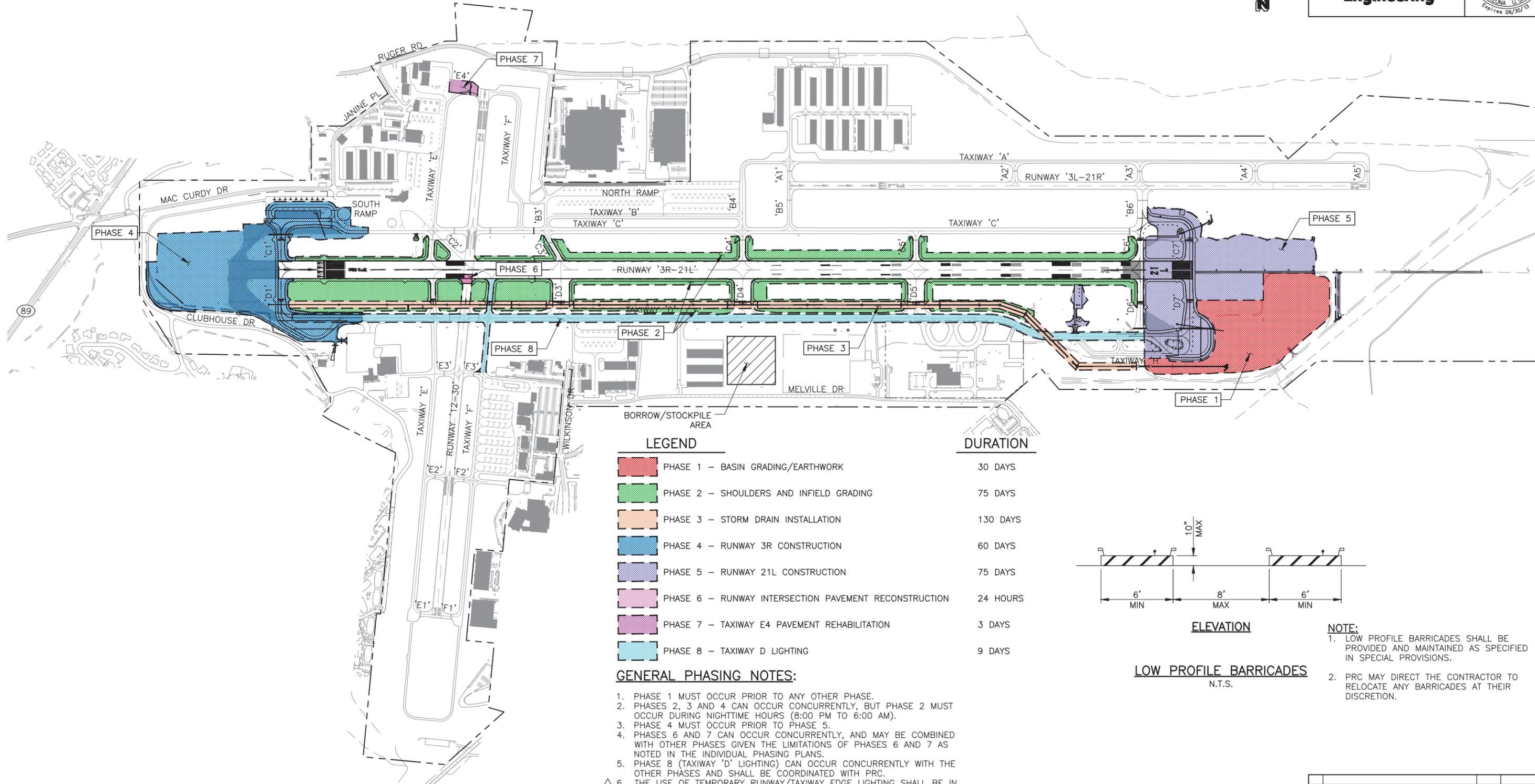
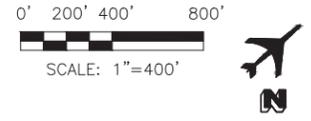
1	ADDENDUM NO. 2	MJB	11/18/11
Δ	REVISION	BY	DATE
CITY OF PRESCOTT			
PRESCOTT MUNICIPAL AIRPORT			
PRC PROJECT NO 2010DB003 DIBBLE PROJECT NO 101034.01			
RUNWAY '3R-21L'			
SAFETY AREA IMPROVEMENTS			
AIRPORT & PROJECT SITE PLAN			
DRN: DSO	DES: MJB	CK: KLS	DRAWING
DATE: 11.18.11	DATE: 11.18.11	DATE: 11.18.11	SHEET
SCALE:	HORIZONTAL	G1.3	3 OF 139
	VERTICAL		

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QUANTITIES - BASE BID (SCHEDULE I)					
LINE No.	ITEM No.	DESCRIPTION	APPROX. QTY.	UNIT	AS-BUILT QTY.
1	P-100-3.1	Contractor Quality Control	1	LS	
2	P-101-4.1	Mobilization	1	LS	
3	P-104-6.1	Sawcut Airfield Asphaltic Concrete Pavement (Full Depth)	3,462	LF	
4	P-104-6.2	Airfield Asphaltic Concrete Pavement Removal (Full Depth)	31,407	SY	
5	P-104-6.3	Airfield Asphaltic Concrete Pavement Removal (2-1/2 Inch Mill)	2,808	SY	
6	P-104-6.4	Perimeter Road Asphaltic Concrete Pavement Removal (Full Depth)	1,048	SY	
7	P-104-6.5	Key-In Section Asphaltic Concrete Pavement Removal (2-Inch Mill)	2,917	LF	
8	P-151-5.1	Remove & Plug Existing 12" PVC Storm Drain Pipe	40	LF	
9	P-151-5.2	Remove Existing 24" CMP Storm Drain Pipe	2,517	LF	
10	P-151-5.3	Remove Existing 24"x16" CMP Storm Drain Pipe	178	LF	
11	P-151-5.4	Remove Existing 24"x18" CMP Storm Drain Pipe	324	LF	
12	P-151-5.5	Remove Existing 16" CMP Storm Drain Pipe	30	LF	
13	P-151-5.6	Remove and Plug Existing 48" CMP Storm Drain Pipe	1,366	LF	
14	P-151-5.7	Remove and Plug Existing 54" CMP Storm Drain Pipe	1,374	LF	
15	P-151-5.8	Remove Existing Storm Drain Manhole	2	EA	
16	P-151-5.9	Remove Existing Storm Drain Headwall	20	EA	
17	P-151-5.10	Remove Existing Junction Structure	2	EA	
18	P-151-5.11	Remove Existing Sanitary Sewer Manhole	1	EA	
19	P-151-5.12	Remove Existing Concrete Grade Control Structure	6	EA	
20	P-151-5.13	Remove Existing Grouted Rip Rap	1,914	SY	
21	P-151-5.14	Remove Existing Aircraft Tie-down Assembly	33	EA	
22	P-151-5.15	Remove and Salvage Existing Vehicular Sign and Post	1	EA	
23	P-151-5.16	Remove Existing Airfield Perimeter Fence	436	LF	
24	P-151-5.17	Remove Existing MALS Foundation	1	LS	
25	P-151-5.18	Remove Existing RAIL Foundation	1	LS	
26	P-151-5.19	Remove Existing Glide Slope Antenna Foundation	1	LS	
27	P-151-5.20	Remove Existing Glide Slope Shelter Foundation	1	LS	
28	P-151-5.21	Remove Existing PAPI System Foundations	1	LS	
29	P-151-5.22	Remove Existing Miscellaneous Electrical Foundations	1	LS	
30	P-151-5.23	Obliterate Existing Pavement Marking	89,452	SF	
31	P-151-5.24	Temporary Pavement Marking Obliteration	36,959	SF	
32	P-151-5.25	Remove Existing Taxiway Edge Markers	5	EA	
33	P-151-5.26	Remove Existing 36" CMP Storm Drain Pipe	25	LF	
34	P-151-5.27	Remove Existing 8" ACP Waterline	40	LF	
35	P-151-5.28	Remove Existing 6" HDPE Storm Drain Pipe	60	LF	
36	P-151-5.29	Remove Existing Storm Drain Catch Basin	1	EA	
37	P-151-5.30	Remove and Salvaged Existing No-Entry Taxiway Sign and Foundation	1	LS	
38	P-152-4.1	Subgrade Preparation (8-Inch Min)	61,005	SY	
39	P-152-4.2	Local Borrow	73,845	CY	
40	P-152-4.3	Unclassified Excavation	108,241	CY	
41	P-152-4.4	Drainage Excavation	16,653	CY	
42	P-152-4.5	Rock Excavation	100	CY	
43	P-152-4.6	Over-Excavation and Replacement of Unsuitable Material (Contingent Bid Item)	16,236	CY	
44	P-154-5.1	Subbase Course	9,909	SY	
45	P-155-10.1	Lime Treated Subgrade (8-Inch Depth)	42,557	CY	
46	P-201-6.1	Crushed Aggregate Base Course (MAG)	13,719	CY	
47	P-209-5.1	Crushed Aggregate Base Course (FAA)	345	CY	
48	P-304-8.1	Cement-Treated Base Course (6-Inch Depth)	42,466	SY	
49	P-401-8.1	Bituminous Surface Course (3/4")	13,048	TON	
50	P-405-7.1	Bituminous Surface Course (MAG 3/4")	10,033	TON	
51	P-602-5.1	Bituminous Prime Coat (Contingent Bid Item)	47	TON	
52	P-603-5.1	Bituminous Tack Coat	20	TON	
53	P-620-5.1	Permanent Pavement Marking (Yellow)	22,643	SF	
54	P-620-5.2	Permanent Pavement Marking (White)	102,663	SF	
55	P-620-5.3	Permanent Pavement Marking (Green)	53,477	SF	
56	P-620-5.4	ILS Holding Positioning Marking	385	LF	
57	P-620-5.5	Surface Painted Holding Position Sign	21	EA	
58	P-620-5.6	Taxiway Shoulder Marking	19	EA	
59	P-620-5.7	Temporary Pavement Marking	36,959	SF	
60	D-701-5.1	12" SRMP Storm Drain Pipe	10	LF	
61	D-701-5.2	18" SRMP Storm Drain Pipe	1,078	LF	
62	D-701-5.3	24" SRMP Storm Drain Pipe	629	LF	
63	D-701-5.4	30" SRMP Storm Drain Pipe	14	LF	
64	D-701-5.5	36" SRMP Storm Drain Pipe	1,505	LF	
65	D-701-5.6	42" SRMP Storm Drain Pipe	275	LF	
66	D-701-5.7	48" SRMP Storm Drain Pipe	606	LF	
67	D-701-5.8	54" SRMP Storm Drain Pipe	113	LF	
68	D-701-5.9	60" SRMP Storm Drain Pipe	842	LF	
69	D-701-5.10	66" SRMP Storm Drain Pipe	1786	LF	
70	D-701-5.11	72" SRMP Storm Drain Pipe	1373	LF	

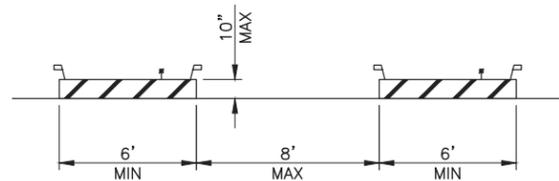
QUANTITIES - BASE BID (SCHEDULE I)					
LINE No.	ITEM No.	DESCRIPTION	APPROX. QTY.	UNIT	AS-BUILT QTY.
71	D-701-5.12	78" SRMP Storm Drain Pipe	1572	LF	
72	D-701-5.13	6" HDPE Storm Drain Pipe	104	LF	
73	D-751-5.1	Concrete Catch Basin with Aircraft Traffic Rated Grate with Bolt-Down Lid (MAG Std Det 535 with Neenah Model # R-3475 or Approved Equal)	1	EA	
74	D-751-5.2	Concrete Catch Basin with Concrete Apron (MAG Std Det 535 and ADOT Std Det C-15.80)	2	EA	
75	D-751-5.3	48-Inch Storm Drain Manhole with Bolt-Down Solid Lid (MAG Std Det 520 and 522 with Neenah Model # R-3491 - HL Bolt-Down Solid Lid or Approved Equal)	2	EA	
76	D-751-5.4	48-Inch Storm Drain Manhole with Bolt-Down Solid Lid (MAG Std Det 521 and 522 with Neenah Model # R-3491 - HL Bolt-Down Solid Lid or Approved Equal)	2	EA	
77	D-751-5.5	3.5' x 4.0' Junction Structure with Single Grate Bolt-Down Lid	4	EA	
78	D-751-5.6	5.0' x 4.0' Junction Structure with 48 Inch Diameter Pipe Lateral Connection and Single Grate Bolt-Down Lid	1	EA	
79	D-751-5.7	4.0' x 4.5' Junction Structure with 36 Inch Diameter Pipe Lateral Connection and Single Grate Bolt-Down Lid	1	EA	
80	D-751-5.8	3.5' x 5.0' Junction Structure with 24 Inch Diameter Pipe Lateral Connection and Single Grate Bolt-Down Lid	1	EA	
81	D-751-5.9	3.5' x 5.0' Junction Structure with Single Grate Bolt-Down Lid	1	EA	
82	D-751-5.10	3.5' x 6.0' Junction Structure with Single Grate Bolt-Down Lid	2	EA	
83	D-751-5.11	4.5' x 6.0' Junction Structure with 36 Inch Diameter Pipe Lateral Connection and Single Solid Bolt-Down Lid	1	EA	
84	D-751-5.12	3.5' x 6.0' Junction Structure with 24 Inch Diameter Pipe Lateral Connection and Single Solid Bolt-Down Lid	1	EA	
85	D-751-5.13	3.5' x 6.5' Junction Structure with Single Grate Bolt-Down Lid	4	EA	
86	D-751-5.14	4.5' x 6.5' Junction Structure with 24 Inch Diameter Pipe Lateral Connection and Single Solid Bolt-Down Lid	1	EA	
87	D-751-5.15	3.5' x 7.0' Junction Structure with Single Grate Bolt-Down Lid	4	EA	
88	D-751-5.16	3.5' x 7.0' Junction Structure with 30 Inch Diameter Pipe Lateral Connection and Single Solid Bolt-Down Lid	1	EA	
89	D-751-5.17	3.5' x 7.5' Junction Structure with Double Grate Bolt-Down Lid	1	EA	
90	D-751-5.18	3.5' x 12.5' Junction Structure with Single Solid Bolt-Down Lid	1	EA	
91	D-751-5.19	3.5' x 14.0' Junction Structure with Double Grate Bolt-Down Lid	1	EA	
92	D-751-5.20	3.5' x 8.0' Junction Structure with Single Grate Bolt-Down	2	EA	
93	D-751-5.21	Riprap D50 = 18-Inch (36-Inch Depth) with Herbicide and Filter Fabric	74	CY	
94	D-751-5.22	Riprap D50 = 6-Inch (18-Inch Depth) with Herbicide and Filter Fabric	1503	CY	
95	D-751-5.23	Concrete Apron on Existing Storm Drain Catch Basin	1	EA	
96	D-752-5.1	Storm Drain Transition Structure	2	EA	
97	D-752-5.2	Outlet Headwall and Access Barrier (MAG Std. Det. 503-1 mod.)	1	EA	
98	D-752-5.3	Concrete Storm Drain Headwall (YAG Std Det 501-1. Type "U")	15	EA	
99	D-752-5.4	Aircraft Traffic Rated Trench Drain (Neenah Foundry R-4993 or Approved Equal)	20	LF	
100	F-162-5.1	Chain-Link Fence	543	LF	
101	U-200-5.1	Location of Underground Utilities (Allowance)	1	ALLOW	
102	SP-60.05.1	Airfield Safety and Security	1	LS	
103	SP-60.06.1	Additional Airfield Security (Allowance)	1	ALLOW	
104	SP-90.01.1	Survey Monument per MAG Std Det 120-1, Type B	10	EA	
105	SP-90.01.2	Survey Monument Frame and Cover per MAG Std Det 270	1	EA	
106	SP-90.02.1	Chain-Link Fence Screening	1185	LF	
107	SP-90.03.1	Asphalt Pavement Crack Repair (Width 1-Inch or Less)	1400	LF	
108	SP-90.03.2	Asphalt Pavement Crack Repair (Width Greater Than 1-Inch)	1000	LF	
109	SP-90.04.1	Yield to Aircraft Vehicle Sign	5	EA	
110	SP-90.05.1	Adjust Catch Basin to Grade	3	EA	
111	SP-90.06.1	Adjust Sanitary Sewer Manhole to Grade	7	EA	
112	SP-90.07.1	New Sanitary Sewer Manhole	1	EA	
113	SP-90.09.1	CVID Irrigation Pipe Concrete Cap	454	LF	
114	SP-90.10.1	Seeding (Hydraulic)	375802	SY	
115	SP-90.11.1	CVID Irrigation Stilling Basin Modifications	1	LS	
116	SP-90.12.1	Underground Utility (Allowance)	1	ALLOW	
117	SP-90.13.1	8-Inch ACP Vertical Relocation	1	EA	
118	SP-90.14.1	Relocate Existing Fiber Optic Line (Allowance)	1	ALLOW	
119	SP-90.15.1	Tree Removal, Structural Pruning and Tree Planting (Allowance)	1	ALLOW	
120	SP-90.16.1	Waterline Realignment (Restrained Joints)	50	LF	
121	SP-90.17.1	Gas Line Realignment	50	LF	
122	SP-90.18.1	Concrete Cap Over Underground Utilities	1	ALLOW	
123	SP-90.19.1	City of Prescott Fiber Optic Line Relocation	1	ALLOW	
124	SP-90.20.1	New Frame and Cover on Existing Sewer Manhole	2	EA	
125	SP-90.21.1	8-Inch ACP Plug per MAG Std Det 427	4	EA	
126	SP-90.21.2	CLSM Pipe Abandonment	282	LF	
127	SP-100.09.1	SWPPP/Erosion Control	1	LS	
128	L-100-5.1	Remove and salvage runway edge light and isolation transformer, base can to remain	74	EA	
129	L-100-5.2	Remove and salvage taxiway edge light and isolation transformer, base can to remain	325	EA	
130	L-100-5.3	Remove and salvage displaced threshold light and isolation transformer, base can to remain	8	EA	
131	L-100-5.4	Remove and salvage elevated runway guard light and isolation transformer, base can to remain	14	EA	
132	L-100-5.5	Remove and salvage taxiway edge light and isolation transformer, demo base can	79	EA	
133	L-100-5.6	Remove and salvage runway edge light and isolation transformer, demo base can	4	EA	
134	L-100-5.7	Remove and salvage runway end light and isolation transformer, demo base can	16	EA	
135	L-100-5.8	Remove and salvage existing Runway End Identification Light (REIL)	4	EA	
136	L-100-5.9	Remove and salvage existing Precision Approach Path Indicator (PAPI)	1	LS	
137	L-100-5.10	Remove and salvage 100A metered pedestal	2	EA	

QUANTITIES - BASE BID (SCHEDULE I)					
LINE No.	ITEM No.	DESCRIPTION	APPROX. QTY.	UNIT	AS-BUILT QTY.
138	L-100-5.11	Remove and salvage existing airfield guidance sign and sign base	17	EA	
139	L-100-5.12	Remove and salvage existing airfield guidance sign, sign base to remain	1	EA	
140	L-100-5.13	Remove and salvage existing handhole	13	EA	
141	L-100-5.14	Remove and salvage existing wind cone	1	EA	
142	L-100-5.15	Remove and salvage existing L-853 taxiway marker	28	EA	
143	L-100-5.16	Excavate and remove existing ductbank	8,945	LF	
144	L-100-5.17	Remove existing conductor, conduit to remain	3,515	LF	
145	L-100-5.18	Remove and salvage existing constant current regulator	3	EA	
146	L-100-5.19	Flashing Alert Sign System, complete and tested	1	LS	
147	L-100a-2.1	Photometric Testing	1	LS	
148	L-108-5.1	L-824, Type C, 1/C #8 AWG, 5kV Cable	15,600	LF	
149	L-108-5.2	L-824, Type C, 2/C #8 AWG, 5kV Cable	14,100	LF	
150	L-109-5.1	New 4kW Ferroresonant Constant Current Regulator, installed and tested	1	EA	
151	L-109-5.2	New 15kW Ferroresonant Constant Current Regulator, installed and tested	1	EA	
152	L-109-5.3	Modifications to ALCMS by Crouse Hinds	1	LS	
153	L-110-5.1	Single-way, (1) - 2" Conduit, Slurry Encased	8,335	LF	
154	L-110-5.2	Single-way, (1) - 2" Conduit, Concrete Encased	3,610	LF	
155	L-110-5.3	Single-way, (1) - 2.5" Conduit, Slurry Encased (per APS standards)	15	LF	
156	L-110-5.4	Single-way, (1) - 3" Conduit, Slurry Encased (per APS standards)	320	LF	
157	L-110-5.5	Multiple-way, (2) - 2" Conduit, Slurry Encased	3,060	LF	
158	L-110-5.6	Multiple-way, (2) - 2" Conduit, Concrete Encased	805	LF	
159	L-110-5.7	Multiple-way, (3) - 2" Conduit, Concrete Encased	85	LF	
160	L-110-5.8	Multiple-way, (2) - 4" Conduit, Slurry Encased (per APS standards)	1,250	LF	
161	L-127-5.1	New Handhole, Prefabricated Concrete 2'x3', Furnished and Installed	5	EA	
162	L-127-5.2	Adjust existing handhole to new grade	4	EA	
163	L-127-5.3	Adjust existing junction box to new grade	22	EA	
164	L-140-5.1	6-Strand Fiber, Multi-Mode Fiber Optic Cable	840	LF	
165	L-804-4.1	New elevated LED L-804 Runway Guard Light on new L-867 base can	10	EA	
166	L-804-4.2	New elevated LED L-804 Runway Guard Light on existing L-867 base can	14	EA	
167	L-806-5.1	New L-806 LED wind cones, in Place	2	EA	
168	L-806-5.2	Adjust Existing Wind Cone to New Grade	1	EA	
169	L-849-5.1	Salvaged L-849 REIL, with new concrete foundations, installed complete and tested	1	LS	
170	L-852-4.1	New LED L-852 Taxiway Edge Light on New L-868 Base Can	6	EA	
171	L-852-4.2	New LED L-852 Taxiway Edge Light on New L-868 Base Can	11	EA	
172	L-858-5.1	New Size 1, 2 Module, Airfield Guidance Sign, on New Sign Base	9	EA	
173	L-858-5.2	New Size 1, 3 Module, Airfield Guidance Sign, on New Sign Base	5	EA	
174	L-858-5.3	New Size 1, 4 Module, Airfield Guidance Sign, on New Sign Base	1	EA	
175	L-858-5.4	New Size 1, 7 Module, Airfield Guidance Sign, on New Sign Base	1	EA	
176	L-858-5.5	New Size 2, 1 Module, Airfield Guidance Sign, on New Sign Base	3	EA	
177	L-858-5.6	New Size 2, 2 Module, Airfield Guidance Sign, on New Sign Base	7	EA	
178	L-858-5.7	New Size 2, 3 Module, Airfield Guidance Sign, on New Sign Base	2	EA	
179	L-858-5.8	New Size 2, 4 Module, Airfield Guidance Sign, on New Sign Base	2	EA	
180	L-858-5.9	New Size 2, 4 Module, Airfield Guidance Sign, on Existing Sign Base, Extended	1	EA	
181	L-858-5.10	Salvaged Size 1, 2 Module, Airfield Guidance Sign, on New Sign Base	1	EA	
182	L-858-5.11	Size 3, 1 Module, Airfield Guidance Sign, Provided by Airport, on New Sign Base	1	EA	
183	L-858-5.12	New Size 1, Airfield guidance sign panel	12	EA	
184	L-858-5.13	New Size 2, Airfield guidance sign panel	7	EA	
185	L-858-5.14	Adjust existing sign base to new grade	30	EA	
186	L-858-5.15	New cast in place sign base for existing signs (Contingency)	1	ALLOW	
187	L-861-4.1	Salvaged L-861 Runway Edge Light and isolation transformer on existing L-867 base can	74	EA	
188	L-861-4.2	Salvaged L-861 Runway Edge Light and isolation transformer on new L-867 base can	4	EA	
189	L-861-4.3	Salvaged L-861 Taxiway Edge Light and isolation transformer on existing L-867 base can	67	EA	
190	L-861-4.4	New L-861T Taxiway Edge Light and isolation transformer on new L-867 base can	88	EA	
191	L-861-4.5	New LED L-861T Taxiway Edge Light and isolation transformer on new L-867 base can	97	EA	
192	L-861-4.6	New LED L-861T Taxiway Edge Light and isolation transformer on existing L-867 base can	259	EA	
193	L-861-4.7	Salvaged L-861E Runway End Light and isolation transformer on new L-867 base can	16	EA	
194	L-861-4.8	Salvaged L-861			



LEGEND	DURATION
 PHASE 1 - BASIN GRADING/EARTHWORK	30 DAYS
 PHASE 2 - SHOULDERS AND INFIELD GRADING	75 DAYS
 PHASE 3 - STORM DRAIN INSTALLATION	130 DAYS
 PHASE 4 - RUNWAY 3R CONSTRUCTION	60 DAYS
 PHASE 5 - RUNWAY 21L CONSTRUCTION	75 DAYS
 PHASE 6 - RUNWAY INTERSECTION PAVEMENT RECONSTRUCTION	24 HOURS
 PHASE 7 - TAXIWAY E4 PAVEMENT REHABILITATION	3 DAYS
 PHASE 8 - TAXIWAY D LIGHTING	9 DAYS

- GENERAL PHASING NOTES:**
- PHASE 1 MUST OCCUR PRIOR TO ANY OTHER PHASE.
 - PHASES 2, 3 AND 4 CAN OCCUR CONCURRENTLY, BUT PHASE 2 MUST OCCUR DURING NIGHTTIME HOURS (8:00 PM TO 6:00 AM).
 - PHASE 4 MUST OCCUR PRIOR TO PHASE 5.
 - PHASES 6 AND 7 CAN OCCUR CONCURRENTLY, AND MAY BE COMBINED WITH OTHER PHASES GIVEN THE LIMITATIONS OF PHASES 6 AND 7 AS NOTED IN THE INDIVIDUAL PHASING PLANS.
 - PHASE 8 (TAXIWAY 'D' LIGHTING) CAN OCCUR CONCURRENTLY WITH THE OTHER PHASES AND SHALL BE COORDINATED WITH PRC.
 - THE USE OF TEMPORARY RUNWAY/TAXIWAY EDGE LIGHTING SHALL BE IN ALL AREAS OF THE AIRPORT, WHICH ARE TO REMAIN ACTIVE DURING CONSTRUCTION. TEMPORARY RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE LOCATED ON A LINE PARALLEL TO THE RUNWAY CENTERLINE, AT LEAST 2 FEET, BUT NO MORE THAN 10 FEET, FROM THE EDGE OF FULL STRENGTH PAVEMENT DESIGNATED FOR RUNWAY USE. THE TEMPORARY EDGE LIGHTS ARE TO BE UNIFORMLY SPACED AND SYMMETRICAL ABOUT THE RUNWAY CENTERLINE, SUCH THAT A LINE BETWEEN LIGHT UNITS ON OPPOSITE SIDES OF THE RUNWAY ARE PERPENDICULAR TO THE RUNWAY CENTERLINE. LONGITUDINAL SPACING BETWEEN TEMPORARY LIGHT UNITS MUST NOT EXCEED 200 FEET. FOR INTERSECTIONS THAT DOES NOT ALLOW FOR THE MATCHING OF THE EDGE LIGHTS ON OPPOSITE SIDES OF THE RUNWAY/TAXIWAY TO BE MAINTAINED, THE DISTANCE BETWEEN LIGHT UNITS ON THE SAME SIDE OF THE RUNWAY/TAXIWAY MUST NOT EXCEED 400 FEET. TEMPORARY RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION L-105 TEMPORARY LIGHTING AND FAA ADVISORY CIRCULAR 150/5340-30F, CHAPTER 2 RUNWAY AND TAXIWAY EDGE LIGHTING SYSTEMS.



ELEVATION

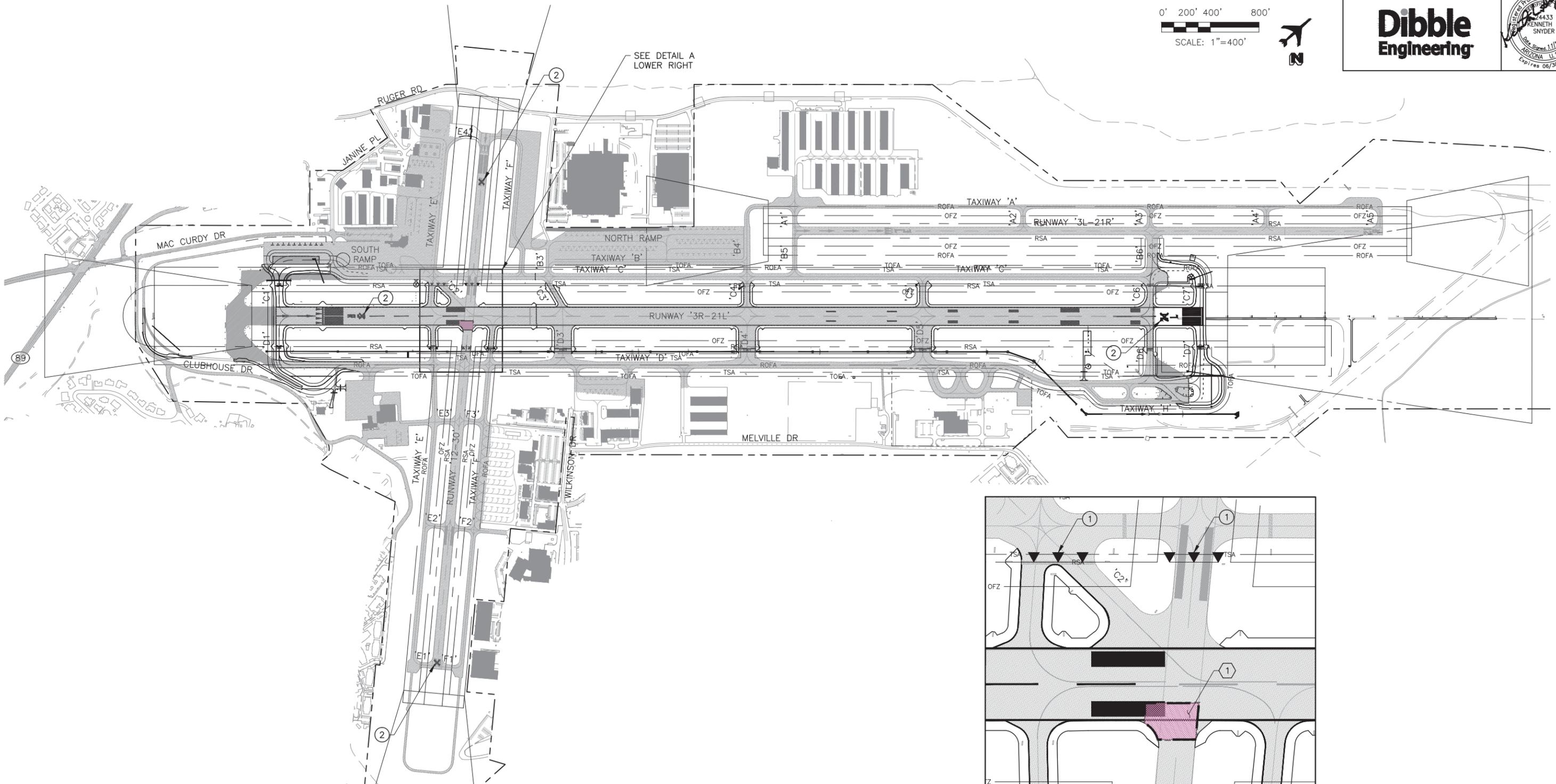
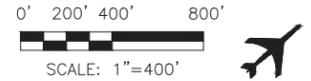
LOW PROFILE BARRICADES
N.T.S.

- NOTE:**
- LOW PROFILE BARRICADES SHALL BE PROVIDED AND MAINTAINED AS SPECIFIED IN SPECIAL PROVISIONS.
 - PRC MAY DIRECT THE CONTRACTOR TO RELOCATE ANY BARRICADES AT THEIR DISCRETION.

1	ADDENDUM NO. 2	MJB	11/18/11
Δ	REVISION	BY	DATE
CITY OF PRESCOTT			
PRESCOTT MUNICIPAL AIRPORT			
PRC PROJECT NO 2010DB003 DIBBLE PROJECT NO 101034.01			
RUNWAY '3R-21L'			
SAFETY AREA IMPROVEMENTS			
OVERALL PHASING PLAN			
DRN: DSO	DES: MJB	CK: KLS	DRAWING
DATE: 11.18.11	DATE: 11.18.11	DATE: 11.18.11	SHEET
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- LEGEND**
- PHASE 7 LIMITS
 - ▲▲▲** LOW PROFILE BARRICADES

PHASE 6 GENERAL CONSTRUCTION ITEMS
(24-HOUR MAXIMUM PHASE DURATION)

- CLOSE RUNWAY 3R-21L AND RUNWAY 12-30 BY TURNING OFF RUNWAY LIGHTING AND PLACING LIGHTED X'S ON RUNWAY 3R-21L AND RUNWAY 12-30
- RECONSTRUCT RUNWAY 3R-21L/12-30 INTERSECTION
- REPLACE PAVEMENT MARKINGS
- REMOVE RUNWAY CLOSURE MARKERS AND LIGHTED X'S
- REOPEN RUNWAYS 3R-21L AND 12-30

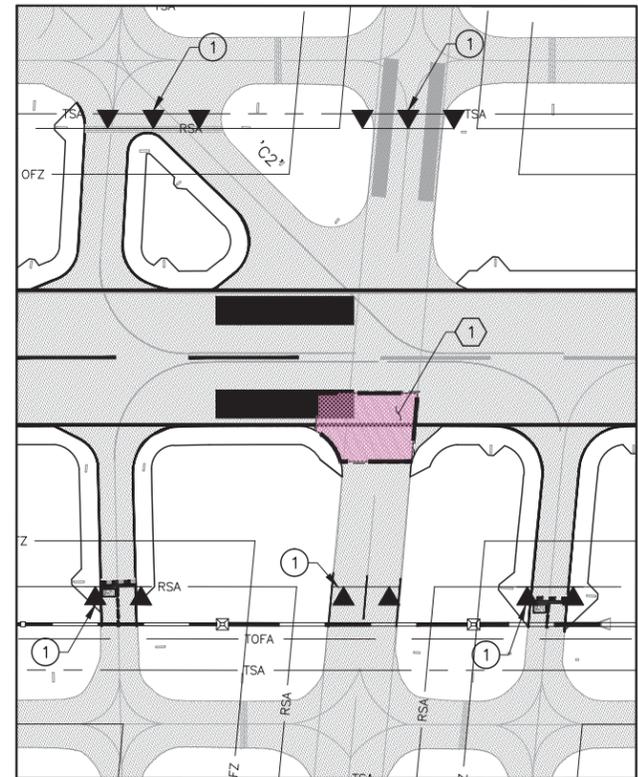
CONSTRUCTION NOTES

- ① PLACE LOW-PROFILE BARRICADES
- ② INSTALL LIGHTED 'X' OVER RUNWAY DESIGNATION MARKING

REFERENCE NOTES

- ① SEE SHEET C3.1 FOR THE RECONSTRUCTION OF THIS AREA

NOTE:
CONSTRUCTION FOR THIS PHASE SHALL BEGIN ON A (MONDAY) EVENING AND SHALL END ON A (TUESDAY) EVENING (24 HOURS AFTER RUNWAYS CLOSE AND CONSTRUCTION BEGINS), AND SHALL BE COORDINATED WITH PRC AT LEAST 90 DAYS IN ADVANCE OF THE ANTICIPATED CONSTRUCTION DATES. PRC MAY, AT ITS DISCRETION, MODIFY THIS SCHEDULE TO ACCOMMODATE AIRCRAFT OPERATIONS.

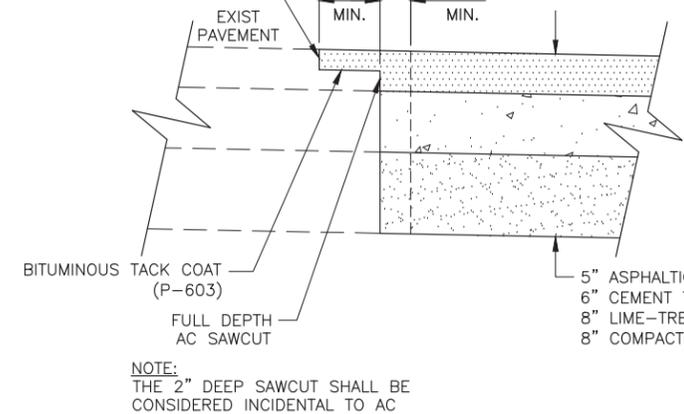
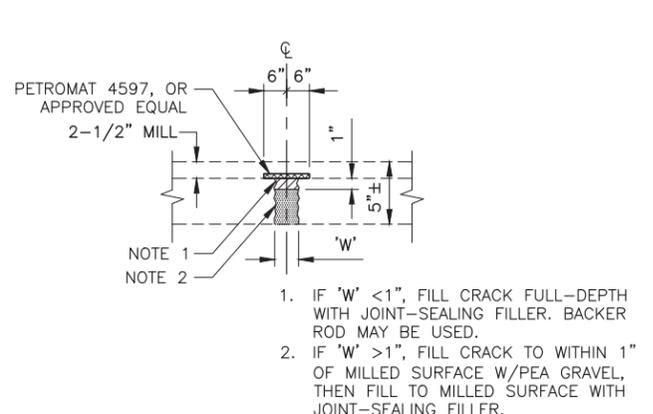
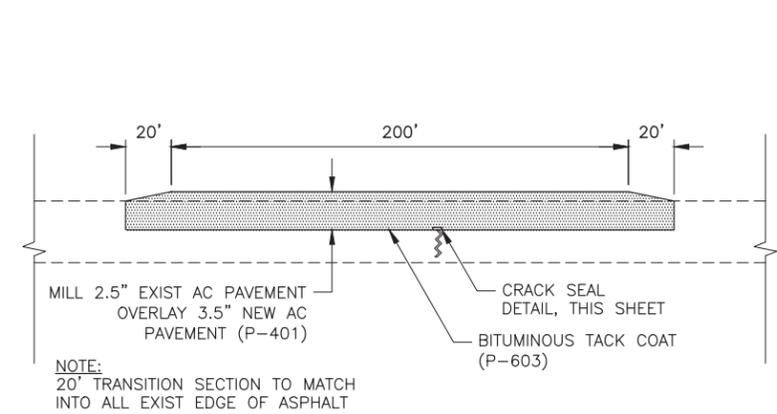
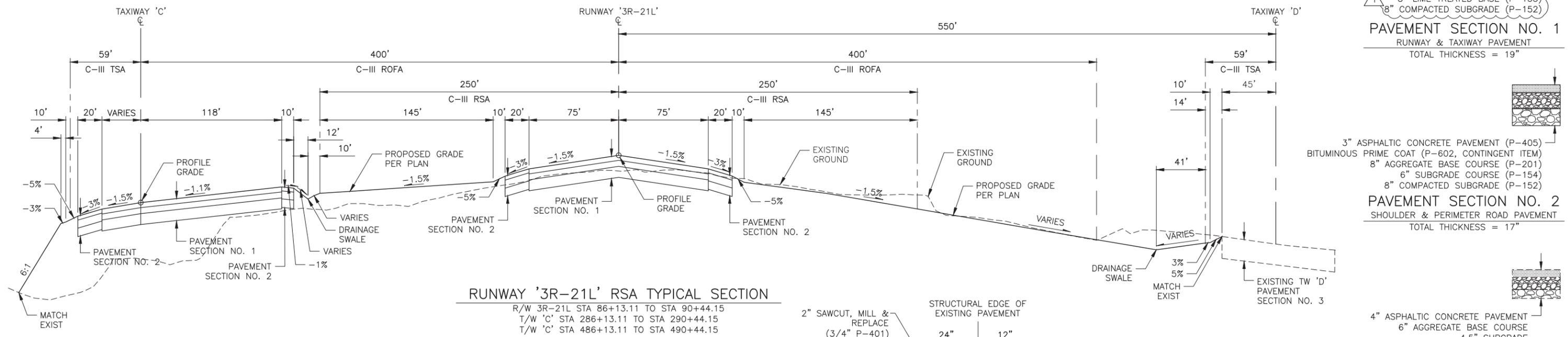
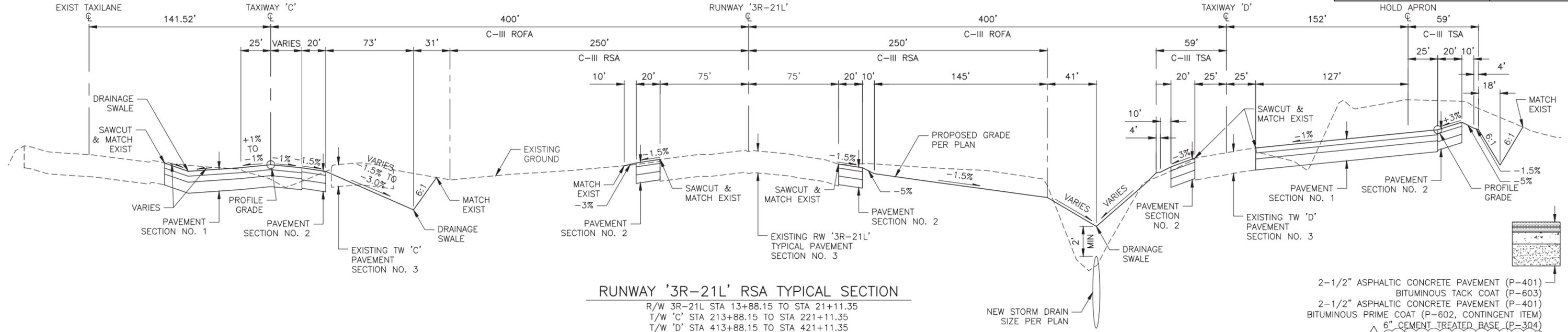


DETAIL A
SCALE: 1"=100'

1	ADDENDUM NO. 2	MJB	11/18/11
△	REVISION	BY	DATE
CITY OF PRESCOTT PRESCOTT MUNICIPAL AIRPORT			
PRC PROJECT NO 2010DB003 DIBBLE PROJECT NO 101034.01			
RUNWAY '3R-21L' SAFETY AREA IMPROVEMENTS			
PHASE 6 PHASING PLAN			
DRN: DSO	DES: MJB	CK: KLS	DRAWING
DATE: 11.18.11	DATE: 11.18.11	DATE: 11.18.11	SHEET
SCALE: 1" = 400' HORIZONTAL		G2.7	
SCALE: 1" = 100' VERTICAL		13 OF 139	



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- 2-1/2" ASPHALTIC CONCRETE PAVEMENT (P-401)
 BITUMINOUS TACK COAT (P-603)
 2-1/2" ASPHALTIC CONCRETE PAVEMENT (P-401)
 BITUMINOUS PRIME COAT (P-602, CONTINGENT ITEM)
 6" CEMENT TREATED BASE (P-304)
 8" LIME TREATED BASE (P-155)
 8" COMPACTED SUBGRADE (P-152)

PAVEMENT SECTION NO. 1
 RUNWAY & TAXIWAY PAVEMENT
 TOTAL THICKNESS = 19"

- 3" ASPHALTIC CONCRETE PAVEMENT (P-405)
 BITUMINOUS PRIME COAT (P-602, CONTINGENT ITEM)
 8" AGGREGATE BASE COURSE (P-201)
 6" SUBGRADE COURSE (P-154)
 8" COMPACTED SUBGRADE (P-152)

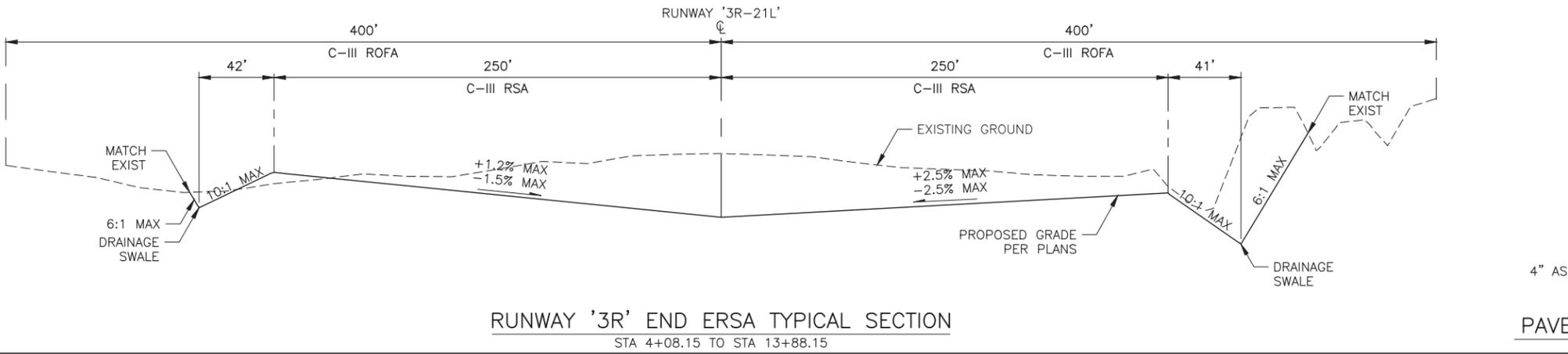
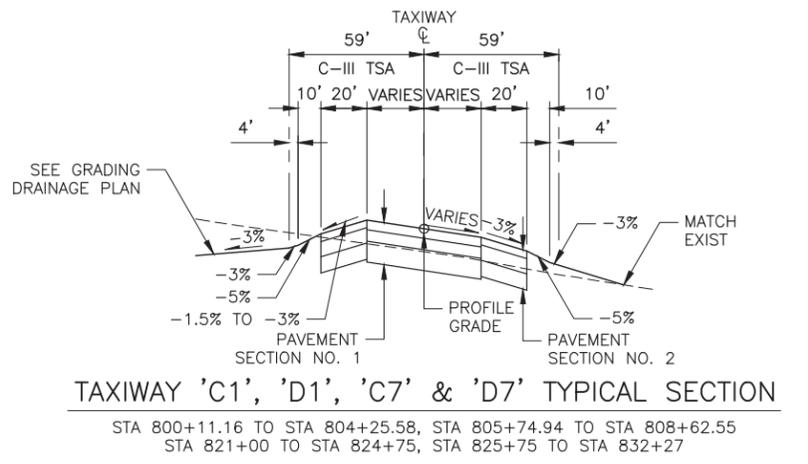
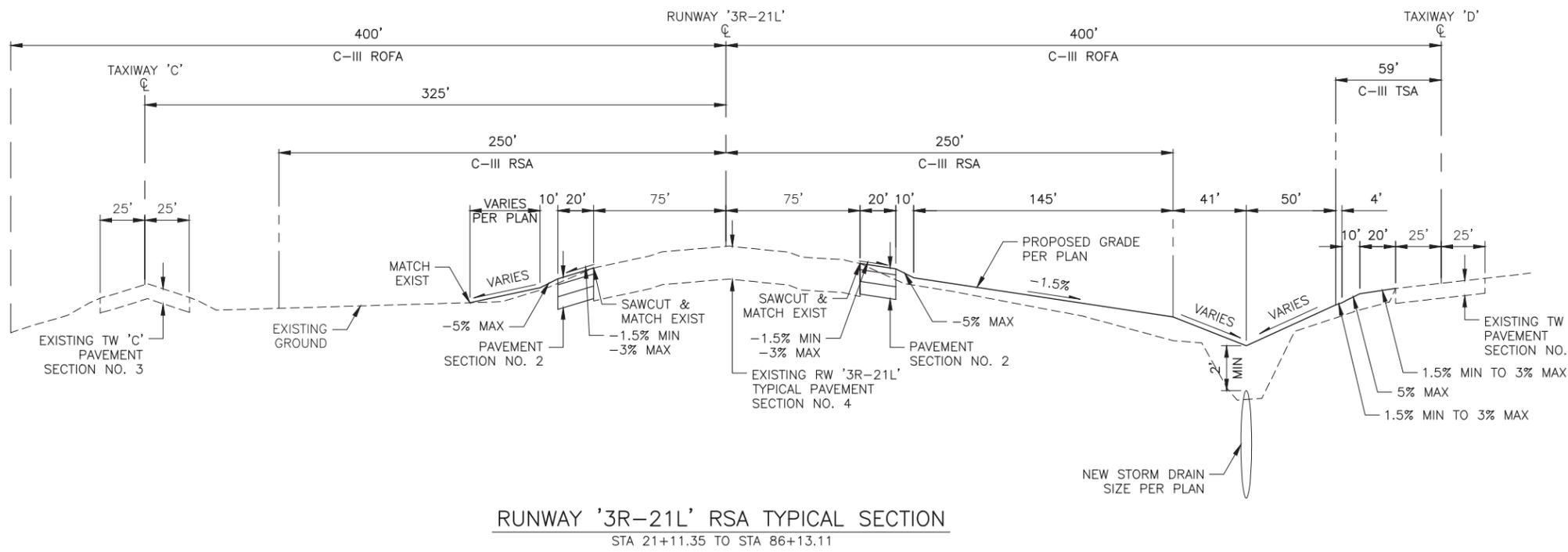
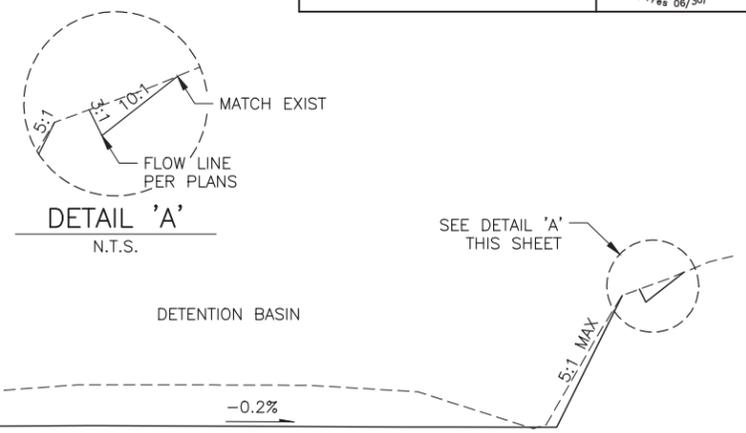
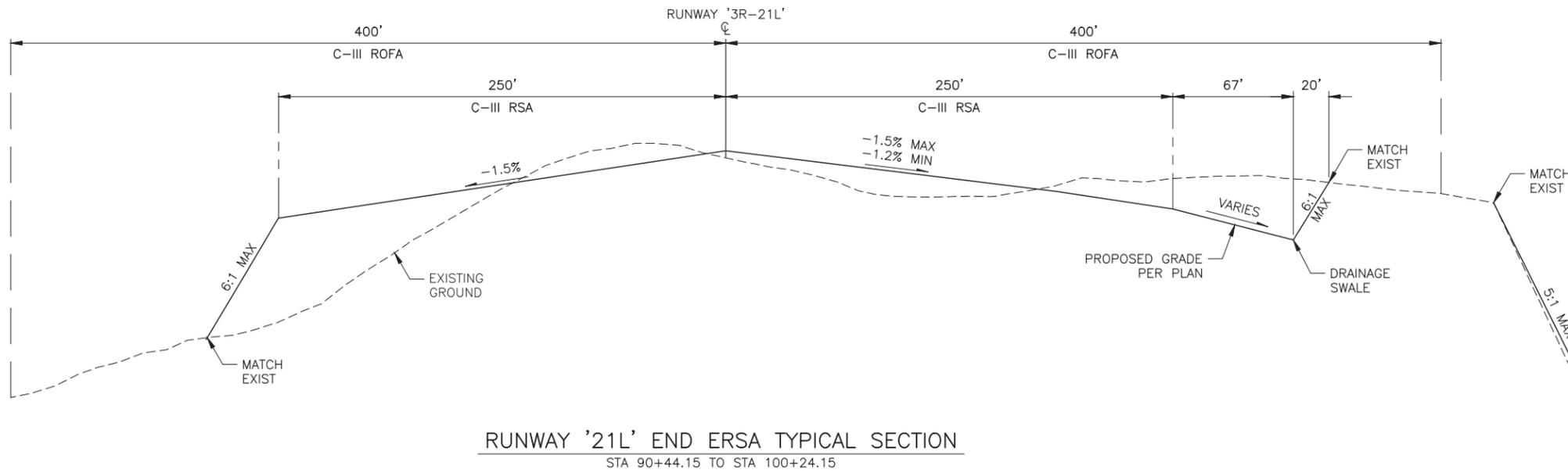
PAVEMENT SECTION NO. 2
 SHOULDER & PERIMETER ROAD PAVEMENT
 TOTAL THICKNESS = 17"

- 4" ASPHALTIC CONCRETE PAVEMENT
 6" AGGREGATE BASE COURSE
 4.5" SUBGRADE

PAVEMENT SECTION NO. 3
 EXISTING TAXIWAY & RUNWAY SECTION

1	ADDENDUM NO. 2	MJB	11/18/11
Δ	REVISION	BY	DATE
CITY OF PRESCOTT			
PRESCOTT MUNICIPAL AIRPORT			
PRC PROJECT NO 2010DB003 DIBBLE PROJECT NO 101034.01			
RUNWAY '3R-21L'			
SAFETY AREA IMPROVEMENTS			
TYPICAL SECTIONS			
DRN: DSO	DES: MJB	CK: KLS	DRAWING
DATE: 11.18.11	DATE: 11.18.11	DATE: 11.18.11	SHEET
SCALE:	HORIZONTAL	G3.1	15 OF 139
	VERTICAL		

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PAVEMENT SECTION NO. 1
RUNWAY & TAXIWAY PAVEMENT
TOTAL THICKNESS = 19"

- 2-1/2" ASPHALTIC CONCRETE PAVEMENT (P-401)
- BITUMINOUS TACK COAT (P-603)
- 2-1/2" ASPHALTIC CONCRETE PAVEMENT (P-401)
- BITUMINOUS PRIME COAT (P-602, CONTINGENT ITEM)
- 6" CEMENT TREATED BASE (P-304)
- 8" LIME TREATED BASE (P-155)
- 8" COMPACTED SUBGRADE (P-152)

PAVEMENT SECTION NO. 2
SHOULDER & PERIMETER ROAD PAVEMENT
TOTAL THICKNESS = 17"

- 3" ASPHALTIC CONCRETE PAVEMENT (P-405)
- BITUMINOUS PRIME COAT (P-602, CONTINGENT ITEM)
- 8" AGGREGATE BASE COURSE (P-201)
- 6" SUBGRADE COURSE (P-154)
- 8" COMPACTED SUBGRADE (P-152)

PAVEMENT SECTION NO. 3
EXISTING TAXIWAY 'C'

- 4" ASPHALTIC CONCRETE PAVEMENT
- 6" AGGREGATE BASE COURSE
- 4.5" SUBGRADE

PAVEMENT SECTION NO. 4
EXISTING RUNWAY '3R-21L'

- 4" ASPHALTIC CONCRETE PAVEMENT
- 6" AGGREGATE BASE COURSE
- 4.5" SUBGRADE

PAVEMENT SECTION NO. 5
EXISTING TAXIWAY 'D'

- 4" ASPHALTIC CONCRETE PAVEMENT
- 6" AGGREGATE BASE COURSE
- 4.5" SUBGRADE

1	ADDENDUM NO. 2	MJB	11/18/11
Δ	REVISION	BY	DATE

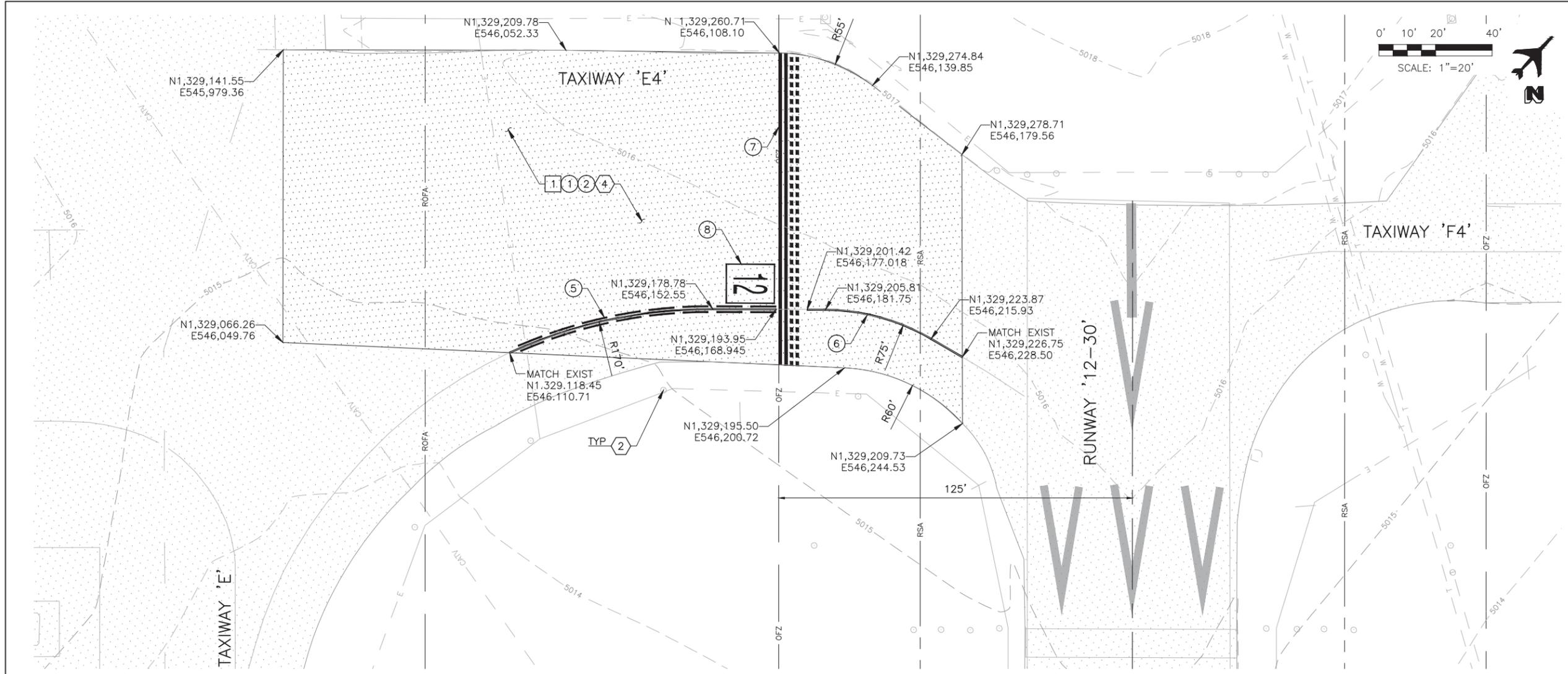
**CITY OF PRESCOTT
PRESCOTT MUNICIPAL AIRPORT**
PRC PROJECT NO 2010DB003 | DIBBLE PROJECT NO 101034.01

**RUNWAY '3R-21L'
SAFETY AREA IMPROVEMENTS**

TYPICAL SECTIONS

DRN: DSO	DES: MJB	CK: KLS	DRAWING	SHEET
DATE: 11.18.11	DATE: 11.18.11	DATE: 11.18.11	G3.2	16 OF 139
SCALE:	HORIZONTAL	VERTICAL		

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AS BUILT DATE

REMOVAL NOTE

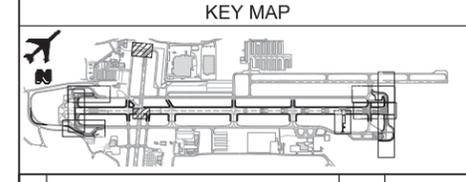
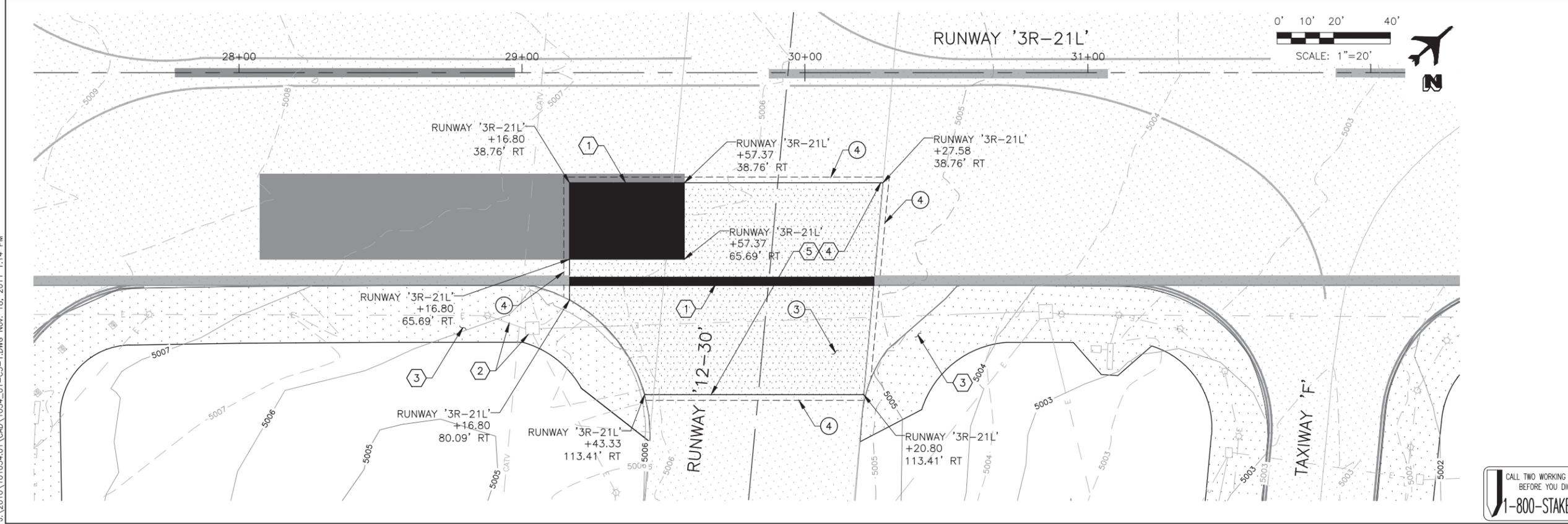
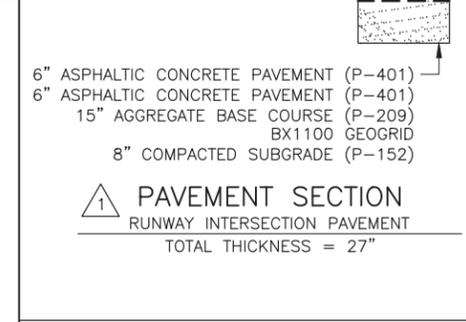
1	MILL 2-1/2" EXIST AC PAVEMENT	2,808 SY
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CONSTRUCTION NOTE

1	CRACK SEAL & INSTALL GEOCOMPOSITE MEMBRANE SEE DETAIL, SHEET G3.1	2,400 LF
2	AC TAXIWAY PAVEMENT	2,808 SY
3	AC RUNWAY PAVEMENT, PAVEMENT SECTION SEE BELOW	828 SY
4	AC KEY-IN DETAIL SHEET G3.1	305 LF
5	ENHANCED TAXIWAY CENTERLINE DETAIL 5, SHEET C5.6	96 LF
6	TAXIWAY CENTERLINE DETAIL 1, SHEET C5.6	58 LF
7	RUNWAY HOLDING POSITION MARKING DETAIL 5, SHEET C5.6	110 LF
8	SURFACE PAINTED HOLDING POSITION SIGN DETAIL 4, SHEET C5.6	1 EA

REFERENCE NOTE

1	REFER TO SHEET C5.2 FOR MARKING PLAN
2	PROTECT IN PLACE
3	REFER TO SHEETS C4.2 & C4.3 FOR SHOULDER PAVEMENT
4	REFER TO SHEETS G2.7 & G2.8 FOR PHASING OF THIS CONSTRUCTION
5	REFER TO SHEET C1.4 FOR PAVEMENT REMOVAL



1	ADDENDUM NO. 2	MJB	11/18/11
△	REVISION	BY	DATE
CITY OF PRESCOTT			
PRESCOTT MUNICIPAL AIRPORT			
PRC PROJECT NO 2010DB003 DIBBLE PROJECT NO 101034.01			
RUNWAY '3R-21L'			
SAFETY AREA IMPROVEMENTS			
TAXIWAY 'E4' & RUNWAY INTERSECTION PAVEMENT RECONSTRUCTION			
DRN: DSO	DES: MJB	CK: KLS	DRAWING
DATE: 11.18.11	DATE: 11.18.11	DATE: 11.18.11	SHEET
SCALE: 1"=20'		HORIZONTAL	
		VERTICAL	
		C3.1	33 OF 139



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