

SUBMITTAL TO THE BOARD OF SUPERVISORS  
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA



ITEM: 3.30  
(ID # 15165)

MEETING DATE:  
Tuesday, May 25, 2021

FROM: TLMA - AVIATION:

SUBJECT: TRANSPORTATION AND LAND MANAGEMENT AGENCY/AVIATION:  
Rehabilitation of Taxiway B, Hangar Taxilanes, and East/West Apron Pavements-Design Services at the Hemet Ryan Airport; District 3. [\$363,700 Total Cost - Federal Aviation Administration Airport Improvement Grant funds 90%, Airport Budget Fund (22350) 10%]

RECOMMENDED MOTION: That the Board of Supervisors:

1. **Find** that the Hemet Ryan Airport's Taxiway B, Hanger Taxilanes and East/West Apron Pavements Project is exempt from the California Environmental Quality Act (CEQA) pursuant to the State CEQA Guidelines Section 15301, Class 1 Existing Facilities Exemption; Section 153 Replacement or Reconstruction; and Section 15061 (b)(3) "Common Sense" Exemption;
2. **Approve** and authorize the Chair of the Board to execute the attached work order agreement for \$342,400 between the County of Riverside and C&S Companies for the Rehabilitation of Taxiway B, Hanger Taxilanes, and East/West Apron Pavements-Design Services at Hemet Ryan Airport; and
3. **Delegate** Change Order authority to the Assistant County Executive Officer/TLMA or designee in accordance with Board Policy B-11.

ACTION: Policy

Charissa Leach, Interim TLMA Director

5/4/2021

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MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Perez, seconded by Supervisor Hewitt and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Jeffries, Spiegel, Washington, Perez, and Hewitt  
Nays: None  
Absent: None  
Date: May 25, 2021  
xc: Aviation

Kecia R. Harper  
Clerk of the Board

By:   
Deputy

**SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE,  
STATE OF CALIFORNIA**

<b>FINANCIAL DATA</b>	<b>Current Fiscal Year:</b>	<b>Next Fiscal Year:</b>	<b>Total Cost:</b>	<b>Ongoing Cost</b>
<b>COST</b>	\$ 0	\$ 363,700	\$ 363,700	\$ 0
<b>NET COUNTY COST</b>	\$ 0	\$ 0	\$ 0	\$ 0
<b>SOURCE OF FUNDS:</b> Federal Aviation Administration Airport Improvement Grant Funds 90%, Airport Budget Fund (22350) 10%			<b>Budget Adjustment:</b> No	
			<b>For Fiscal Year:</b> 21/22	

**C.E.O. RECOMMENDATION:** Approve

**BACKGROUND:**

**Summary**

On February 25, 2020, the Board of Supervisors approved the five-year design and engineering services agreement with C&S Companies for airport engineering, architectural, planning and environmental services which includes the design, construction administration, construction inspection of projects, planning and environmental services for the County's five airports. The attached work order is for design services for the Hemet Ryan Airport's Taxiway B, Hangar Taxilanes, and East/West Apron Pavements Project ("Project")

The purpose of this project is to design the rehabilitation of ageing pavement at the Hemet Ryan Airport's Taxiway B, Hangar Taxilanes, and East/West Apron Pavements Project. The pavements were visually inspected and it was found that currently it exhibits weathering and cracking (block, transverse, and alligator). The Project will include several elements. First, portions of the pavement included in the Project will be reconstructed and other areas will receive rehabilitation via mill/overlay, crack sealing, or surface area seal coat. No grading of shoulders or improvements outside of the existing pavement limits is anticipated. Following paving or sealing of pavement, all markings will be restored. Services to be provided by the consultant shall include civil and geotechnical engineering services, as required to accomplish the design of this rehabilitation project. The Design fee is a lump sum of \$342,400 as per the attached work order agreement, environmental studies will cost \$9,000 and the administration cost for this project will be \$12,300 which brings the total project cost to \$363,700. The construction project is anticipated to take place during the fourth quarter of 2022.

The Taxiway B, Hangar Taxilanes, and East/West Apron Pavements Rehabilitation Project is consistent with the Airport's Capital Improvement Program and Master Plan. C&S Companies was selected by Request for Qualification as the County's Airport Project Consultant, per the Federal Aviation Administration's (FAA) five-year consultant selection criteria.

The proposed Project is categorically exempt from the provisions of CEQA (California Environmental Quality Act) according to the State CEQA Guidelines Section 15300.2. The Project will not cause any impact to an environmental resource of hazardous or critical concern nor would the Project include unusual circumstances which would have a potentially significant

**SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE,  
STATE OF CALIFORNIA**

effect on the environment. The Project is limited to the replacement of existing transportation related infrastructure at an existing airport.

Staff proposes to have C&S Companies provide design engineering services and recommend that the Board of Supervisors approve the necessary design work order agreement for the project. County Counsel has reviewed and approved the attached documents as to legal form.

**Impact on Residents and Businesses**

The Taxiway B, Hangar Taxilanes, and East/West Apron Pavements Rehabilitation Project will improve the airport operations and enhance capacity and safety.

**Additional Fiscal Information**

There will be no impact to the County's general fund.

**ATTACHMENTS:**

Work Order Agreement



Jason Farin, Principal Management Analyst 5/18/2021



Gregory H. Priamos, Director County Counsel 5/6/2021

## Work Order Agreement

Hemet-Ryan Airport  
Taxiway B, Hangar Taxilanes, and East/West Apron Pavements Rehabilitation

1. **AUTHORIZATION REQUEST:**  
In accordance with the master Professional Service Agreement, dated February 25, 2020, between the County of Riverside (SPONSOR) and C&S Engineers, Inc. (CONSULTANT) for providing airport engineering architectural, planning, and environmental services, enclosed is work order agreement to furnish services in connection with the Hemet-Ryan Airport, Taxiway B, Hangar Taxilanes, and East/West Apron Pavements Rehabilitation Project (the "Project").
2. **DESCRIPTION OF SERVICES:**  
Scope of Services are defined in Schedule A attached hereto.
3. **SPONSOR'S RESPONSIBILITIES:**  
Sponsor's responsibilities shall be as described in of the Agreement and Schedule A.
4. **PERIOD OF SERVICES:**  
Services are to be completed in accordance with Schedule A
5. **PAYMENTS:**  
Payments shall be made in accordance with Section 3, Compensation, of the Agreement. The fee is defined in Schedule B, attached hereto. The total lump sum fee amount is \$342,400.00.
6. **GENERAL CONSIDERATIONS**  
The CONSULTANT designates Brian Saull as the person who will be responsible for coordinating the services rendered by the CONSULTANT for the Project.
7. **SPECIAL PROVISIONS:**  
None
8. **ATTACHMENTS:**  
Schedule A: Scope of Services  
Schedule B: Cost Summary & Work Summary

Execution of this work order agreement will signify approval of the terms and conditions of this request, which, together with the master Agreement and Attachments identified above will constitute the complete work order, as well as authorization to proceed with the work.

MAY 25 2021 3.30

**SPONSOR**

**County of Riverside**



Karen Spiegel, Chair  
Board of Supervisors

**ATTEST:**



Kecia R. Harper  
Clerk of the Board

**APPROVED AS TO FORM:**

Gregory P. Priamos  
County Counsel



By: \_\_\_\_\_  
Kristine Bell-Valdez  
Deputy County Counsel

**Date:** 5/4/2021

**CONSULTANT**

**C&S Engineers, Inc.**



\_\_\_\_\_  
Brian C. Saull, PE  
Managing Engineer

**Date:** April 28, 2021

**SCHEDULE A**  
**SCOPE OF SERVICES**

**Project Title:** Taxiway B, Hangar Taxilanes, and East/West Apron Pavements Rehabilitation  
**Airport Name:** Hemet-Ryan Airport  
**Services Provided:** Design

**Project Description:**

The CONSULTANT shall provide required services to design the Taxiway B, Hangar Taxilanes, and East/West Apron pavement rehabilitation project (the "Project"). The Project will be performed and constructed by the SPONSOR with grant assistance from the Federal Aviation Administration (FAA) Airport Improvement Program (AIP). It is assumed this project will be environmentally cleared with a categorical exclusion. If any additional environmental work is required, it would be outside the scope of work and handled under a separate contract.

Taxiway B, adjacent hangar taxilanes, and East/West Apron areas currently exhibit weathering and cracking (block, transverse, and alligator). Portions of the project will be reconstructed, while others will receive rehabilitation via mill/overlay, crack sealing, or surface area seal coat. No grading of shoulders or improvements outside of the existing pavement limits is anticipated. No drainage improvements or BMP development is anticipated. Following paving or sealing of pavement, all markings will be restored.

Services to be provided by the CONSULTANT shall include civil and geotechnical engineering services, as applicable, required to accomplish the following items ("Basic Services"):

Assumptions used in preparation of this proposal are included on the last page.

**PROJECT MANAGEMENT PHASE**

The CONSULTANT shall aid the SPONSOR by acting as its liaison and Project coordinator with FAA during the Project's design. In addition, the CONSULTANT shall assist the SPONSOR in the preparation of paperwork required to secure funds for the Project. The specific services to be provided or furnished for this Phase of the Project are the following:

1. During the Design Phase, to aid the Sponsor by acting as its liaison and Project coordinator with the funding agencies.
2. The construction budget for the Project is \$3,430,000. The Consultant shall evaluate the feasibility of this budget, based upon the Consultant's experience as a design professional, and keep the Sponsor apprised during each phase of the Project of the results of such evaluation. The Consultant shall advise the Sponsor as to options available for reducing construction costs to stay within the budget, if it appears likely that contractor bid prices will exceed this budget.
3. Perform project management duties such as project planning, invoice preparation, schedule coordination and coordination of design team.
4. Provide to the SPONSOR monthly project status reports.
5. Schedule coordination- consultant shall provide continued coordination so that project schedules are met for each phase of work included in this contract. Particular phases of design may be delayed by the FAA review process.
6. The design schedule is anticipated to be as follows:

	<u>Time from Receipt of NTP</u>	<u>Anticipated Completion Date</u>
Contract Execution		May 1, 2021
Notice to Proceed (NTP)		May 1, 2021
Schematic Design (30%)	135 days	September 15, 2021
Preliminary Design (60%)	75 days	December 1, 2021
Draft Final Design (90%)	60 days	February 1, 2022
Final Design	45 days	March 15, 2022

### **GRANT ADMINISTRATION PHASE**

The CONSULTANT shall aid the SPONSOR by acting as its liaison and Project grant coordinator with FAA during the Project's design. In addition, the CONSULTANT shall assist the SPONSOR in the preparation of paperwork required to secure funds for the Project. The specific services to be provided or furnished for this Phase of the Project are the following:

1. Grant project set-up for Client, Federal Aviation Administration and State Agency.
2. Preparation of grant application packages for the single design phase of the project; coordination of their execution by the SPONSOR; and submission to the funding agencies.
3. Prepare quarterly progress reports for submission to the FAA.
4. Preparation of reimbursement request packages; coordination of their execution by the SPONSOR; and submission to the funding agencies.
5. Preparation of the FAA grant closeout package for the design portion this project.

### **SCHEMATIC DESIGN PHASE**

The Schematic Design Phase is intended to identify and evaluate alternatives to provide cost-effective and practical solutions for the work items identified. The CONSULTANT will evaluate alternatives through contacts with local authorities, review of the pre-application, field investigations, and a practical design approach. The Project's design will take advantage of local knowledge and experience and will utilize expertise from recent construction projects in an effort to design a cost-effective Project. The specific services to be provided or furnished for this Phase of the Project are the following:

1. Schedule and conduct a pre-design meeting with the SPONSOR, County stakeholders/operators, and FAA to review the scope of services and become familiar with the Project requirements and operational concerns during the Project's construction.
2. Acquire and review record documents (such as plans, specifications, reports, and studies) to become familiar with data that is available for the Project.
3. Perform a preliminary Project site inspection to further familiarize the design team with Project areas.
4. Prepare preliminary plans identifying required topographic field surveys, subsurface soils investigations, and other field investigative programs. Develop a schedule of completion of required surveys and investigations to minimize interference with airport and tenant operations. Coordinate schedule with SPONSOR and supervise programs at the Project site as necessary.
5. Acquire the necessary topographic survey of and utility data for, the Project site, including related office computations and drafting. The scope of services assumes that the survey will not be required to follow FAA AC 150/5300-16, 17 and 18. If it is determined by FAA to be necessary, the cost of these services is not included in the CONSULTANT's original Scope of Services and shall therefore be

an Additional Service.

6. Acquire the necessary soils and existing pavement investigation data, including borings, pavement cores, and test pits, as well as field and laboratory tests, to identify existing pavement conditions and subsurface soil characteristics. This project will have approximately 16 pavement cores, 8 borings at 10 feet, and moisture and color photographs. Samples collected from the borings will have the following tests performed: mechanical sieve analysis, natural moisture content, specific gravity atterberg limits, standard/modified proctor, and one-point laboratory CBR.
7. Analyze data obtained from subsurface soils and existing pavement investigation program and determine properties of existing pavement and soil materials. Document results of program, existing conditions, and recommendations in the design report.
8. Develop pavement design in accordance with FAA advisory circular 150/5320-6, latest edition. Pavement design to include no more than 2 alternatives for each of the full depth pavement, rehabilitation, and sealing options (6 total). Design will include documentation of traffic use of the pavement provided by the sponsor and extrapolated for the 20-year design period. CONSULTANT will use FAA software FAARFIELD to perform design analysis.
9. Prepare life-cycle cost analysis for pavement design alternatives.
10. Develop schematic designs, including preliminary pavement horizontal geometric layouts. Prepare roll plans displaying schematic designs.
11. Develop an outline list of general and technical specifications FAA AC 150/5370-10 or other sources as applicable.
12. Prepare preliminary opinion of probable construction costs for each major element of the Project.
13. Identify potential Modifications to FAA Standards as potentially applicable for specifications or other FAA Advisory Circulars.
14. Develop a draft construction safety phasing plan (CSPP) that endeavors to limit interference by the Project's construction with airport and tenant operations. The scope of services assumes that FAA will perform Safety Risk Management (SRM) review based on the draft CSPP, and that a Safety Risk Management Panel (SRMP) and safety risk mitigation will not be necessary. If SRMP is determined by FAA to be necessary, the cost of these services is not included in the CONSULTANT's original Scope of Services and shall therefore be an Additional Service.
15. Submit schematic design to the sponsor, FAA for their review.
16. Schedule and conduct a schematic design review meeting with the SPONSOR to review the schematic design and potential for Modifications to FAA Standards.

### **PRELIMINARY DESIGN**

The services to be performed during this Phase consist generally of services required to furnish the SPONSOR with a set of Preliminary Plans, Specifications, and Engineer's Report.

The specific services to be provided or furnished for this Phase of the Project are the following:

1. Using applicable forms or FAA ADIP tool, submit requests for Modifications to FAA Standards.
2. Conduct site inspections to verify topographic survey, to generally observe pavement distresses, document other existing physical features.
3. Finalize horizontal pavement geometrical layouts and place sufficient information on drawings to layout proposed pavements in field during construction.



4. Develop preliminary three-dimensional design in order to develop pavement centerline profiles, typical sections, and other grading details for the proposed work.
5. Develop preliminary airfield marking layouts.
6. Update draft CSPP based on preliminary design.
7. Develop a general draft of soil erosion control items that encompasses all phases of the project. These items will be used by others to develop a construction Storm Water Pollution Prevention Plan.
8. Prepare preliminary Contract Drawings (approximately 60% complete) providing sufficient detail for review of design concepts by the SPONSOR, and FAA.
9. Develop general specifications using FAA standards from FAA AC 150/5370-10.
10. Develop technical specifications expected to be required for the proposed work using FAA standards from FAA AC 150/5370-10.
11. Update opinion of probable construction cost to reflect the outcomes of preliminary Project design.
12. Prepare written design report documenting items such as design concepts, assumptions, and alternative designs. Identify conflicts with or deviations from FAA standards for design items, and request a waiver from the FAA if necessary.
13. Perform an internal quality control review on all design documents.
14. Submit sufficient copies of preliminary design documents to the SPONSOR, and FAA for their review and comment.
15. Schedule and conduct a preliminary design review meeting to discuss and resolve SPONSOR and FAA comments.

#### **DRAFT FINAL AND FINAL DESIGN PHASE**

The services included under this Phase shall generally consist of services required to furnish the SPONSOR with a complete set of Contract Documents for the Project, including Final Plans, Specifications, Engineer's Design Report, and opinion of probable construction costs. Services to be performed or furnished during this Phase may include revising the preliminary submittal information to comply with SPONSOR and FAA comments and then completion of the final design. Plans and Specifications, suitable for unit price bidding, will be completed; final design will be coordinated with the SPONSOR and FAA and a complete set of bid documents will be furnished to the SPONSOR and FAA. A final opinion of probable construction cost and the final Design Report will also be prepared and submitted. A final Construction Safety and Phasing Plan will be included as part of the Contract Documents.

The specific services to be provided or furnished for this Phase of the Project are the following:

1. Finalize three-dimensional design in order to finalize pavement centerline profiles, typical sections, and other grading details for the proposed work.
2. Finalize pavement designs.
3. Detail and finalize pavement keyways, rehabilitation details and pavement sections.
4. Finalize pavement marking layouts, and detail installations.
5. Prepare final Contract Drawings on 22" x 34" or 11" x 17" Paper. It is anticipated that the final drawings include approximately 20 to 30 plan sheets, and will consist of the following:

<b>Approx. Sheet Number</b>	<b>Name</b>
1	Title Sheet
2	Quantities for Canvass of Bids and Sheet Index
3	General Notes and Legend
4	General Plan
5-9	Construction Safety Phasing Plans
10	Construction Safety Phasing Details
11-12	Demolition Plans
13-14	Soil Erosion and Sediment Control Plans
15-18	Geometry Plans
19-22	Grading Plans
23	Typical Sections
24	Pavement Details
25	Soil Erosion and Sediment Control Details
26-29	Marking Plans
30	Marking Details

6. Perform a detailed quantity takeoff of all bid items to be included on the Contract Drawings and in the General Specifications of the Contract Documents.
7. Finalize General Specifications
8. Finalize written Technical Specifications for all construction materials and installations. FAA standard technical specifications shall be used whenever possible, with supplemental specifications developed by the consultant.]
9. Finalize CSPP and include in Specifications and on the Contract Drawings.
10. Prepare final opinion of probable construction costs based upon the actual bid items and quantity takeoffs.
11. Finalize design report to be consistent with the final design.
12. Submit both the construction safety phasing plan and 7460 form electronically to the FAA.
13. Perform final internal quality control review on all design documents.
14. Submit draft final documents to the SPONSOR, and FAA for final review and comment.
15. Schedule and conduct draft final review meeting with the SPONSOR and FAA to discuss and resolve final comments.
16. Reproduce and submit sufficient copies of bid documents to SPONSOR for bidding purposes. Bid documents shall consist of the Contract Drawings and Specifications.

### **BID PHASE**

The Bid Phase is that time frame between completion of the design process and beginning of actual construction when the SPONSOR publicly advertises and receives bids, awards contracts to the lowest responsible bidder, and executes a construction contract to perform the work with the successful contractor(s). The CONSULTANT shall assist the SPONSOR during this Phase as required.

The specific services to be provided or furnished for this Phase of the Project are the following:

1. Receive and respond as required to questions from potential bidders regarding the Contract Documents.

2. Schedule and facilitate a pre-bid conference by the SPONSOR and advise the SPONSOR on matters relating to design. SPONSOR to prepare any items not directly related to the plans and technical specifications. Prepare draft meeting minutes of the pre-bid conference(s).
3. Prepare addenda to the bid documents after advertisement and prior to bidding as required upon the SPONSOR's approval.
4. Upon receipt of bids, perform bid reviews. The bid review shall include items such as a check of the contractor's bid extensions, bid security, execution of bid, non-collusive bidding certificate, EEO certification, statement of surety's intent, addenda receipt, "Buy American" certificate, subcontractors and suppliers list, Disadvantaged Business Enterprise (DBE) certification, eligibility certification, corporate bidder's certification, non-discrimination statement and nonsegregated facilities certificate. Request evidence of competency and evidence of financial responsibility from the contractor. Review contractor's list of personnel, list of equipment, and financial statement. Formal contact of the contractor's references shall be made upon SPONSOR's request or if the contractor has no past working relationship with the CONSULTANT, the SPONSOR, or FAA.
5. Prepare final bid tabulation, recommendation/rejection of award to the SPONSOR, and a sample award letter. Request concurrence of award from FAA.
6. Upon award of contract, prepare conformed copies of contracts; coordinate contractor's execution of contract; review contractor's bonds, insurance certificates, and DBE plan; review contractor's submission with SPONSOR; coordinate SPONSOR's execution of the contract; and assist in distributing electronic copies of executed contracts to the contractor, and FAA.

#### **DESIGN ASSUMPTIONS (CIVIL/AIRFIELD)**

The conditions and considerations in developing the scope and fee for the project described above include:

1. SPONSOR will supply any deeds, maps, recorded and unrecorded information and an up-to-date abstract of title that will assist in the progress of this project.
2. As-built drawings and/or CAD files are available and will be provided prior to field visit.
3. Adjacent ongoing project(s) drawings and/or CAD files will be provided by the SPONSOR.
4. Previous survey and as-built 3D elevations (provided by others) will be transmitted to CONSULTANT.
5. The airport will provide access to the FAA ADIP website.
6. Access to the site for inspection, survey, and geotechnical investigation can be performed during normal daylight business hours and will be coordinated by the SPONSOR. SPONSOR will coordinate the necessary escort for the CONSULTANT and subcontractors to access the restricted areas located within "movement" areas of the airport. No-fee access to the site is provided.
7. The scope of services assumes that FAA will perform Safety Risk Management (SRM) review based on the draft CSPP, and that a Safety Risk Management Panel (SRMP) and safety risk mitigation will not be necessary. If SRMP is determined by FAA to be necessary, the cost of these services is not included in the CONSULTANT's original Scope of Services and shall therefore be an Additional Service.
8. The scope of services assumes that the topographic survey will not be required to follow FAA AC 150/5300-16, 17 and 18. If it is determined by FAA to be necessary, the cost of these services is not included in the CONSULTANT's original Scope of Services and shall therefore be an Additional Service.
9. Cost evaluations will be based on bid prices from recent project at the airport and other similar regional airports.
10. SPONSOR will advertise the Project and issuance of electronic bid documents.

11. Advertisement, public bidding and award services will not be required of CONSULTANT.
12. Government agency fees for processing and permits are to be provided by SPONSOR.
13. Airport staff will confirm that the proposed boring locations are not in conflict with underground utilities.
14. The site is accessible to truck-mounted field equipment during normal working hours. No limitation on drill rig mast height.
15. Prevailing wage rules apply to field work.
16. Soil and groundwater are not contaminated.
17. Borings are backfilled with cuttings.
18. This proposal has been prepared under the assumption that necessary studies by others under separate contracts such as environmental, biological, traffic, survey, and geological studies shall be provided by the SPONSOR for CONSULTANT's use when needed.
19. No additional pavement repair work shall be designed outside the footprint of the proposed project limits.
20. Construction support services including construction administration, materials testing, quality assurance services, and record drawings including mylar reproduction, will be provided under a separate task for additional fee.
21. Post construction design, including site-specific control measures, site design measures, and treatment measures (Low Impact Development techniques) will not be required. The project will be classified as a maintenance project, not requiring drainage quantity or quality treatment.
22. Any services not specifically identified in this scope of work are not anticipated and excluded.



# ARCHITECTURAL/ENGINEERING COST SUMMARY SCHEDULE "B" DESIGN PHASE

PROJECT NAME: TAXIWAY B, HANGAR TAXILANES, AND EAST-WEST APRONS  
 PROJ DESCRIPTION: PAVEMENT REHAB  
 CLIENT: COUNTY OF RIVERSIDE  
 CLIENT MANAGER: MAGGIE ROFAEIL

DATE: 21-Jan-21  
 A/E: C & S ENGINEERS, INC.  
 PROJECT NO: K45.PRO  
 C&S CONTACT: BRIAN SAULL

**I. ESTIMATE OF DIRECT SALARY COSTS:**

	TITLE	AVERAGE RATE (\$/HR)	@	ESTIMATED HOURS		ESTIMATED COST
A.	DEPARTMENT MANAGER	\$245.78	X	80	=	\$19,662.40
B.	PROJECT MANAGING ENGINEER	\$216.52	X	176	=	\$38,107.52
C.	PROJECT ENG	\$161.52	X	496	=	\$80,113.92
D.	ENGINEER	\$142.64	X	450	=	\$64,188.00
E.	CAD SENIOR DESIGNER	\$122.89	X	490	=	\$60,216.10
F.	GRANTS ADMINISTRATOR	\$108.99	X	44	=	\$4,795.56
G.	ASST ADMIN	\$108.99	X	74	=	\$8,065.26
						<b>\$275,148.76</b>

**II. ESTIMATE OF DIRECT EXPENSES:**

A.	TRAVEL, BY AUTO:				
	5 TRIPS @	160 MILES @	\$0.575	=	\$460.00
B.	MISCELLANEOUS:			=	\$1,791.24
	(Plan Printing, Field Supplies, Additional Requests)				
<b>\$2,251.24</b>					

**III. SUBCONTRACTS:**

A.	ESTIMATE OF TOPOGRAPHICAL SURVEYS:	\$25,000.00
B.	ESTIMATE OF SUBSURFACE INVESTIGATION & TESTS:	\$40,000.00
TOTAL ESTIMATED SUBSURFACE INVESTIGATION & TESTS:		<b>\$65,000.00</b>

**IV. TOTALS:**

A.	TOTAL COST FOR DESIGN SERVICES:	<b>\$342,400.00</b>
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**C&S ENGINEERS, INC.  
ENGINEERING DESIGN  
WORK SUMMARY**

PROJECT: TAXIWAY B, HANGAR TAXILANES, AND EAST-WEST APRONS  
 SERVICES: DESIGN  
 CLIENT: COUNTY OF RIVERSIDE  
 CLIENT MGR: MAGGIE ROFAEIL

Date: 1/21/21  
 Service Group Mgr: LANCE MCINTOSH  
 Facility Manager: BRIAN SAULL  
 Project Manager: BRIAN SAULL  
 Project Number: K45.PRO

CONT NO.	PHASE NO.	TASK	DEPT MAN	PROJ MAN ENG	PROJ ENG	ENG	CAD/ SEN DES	GRANT ADMIN	ASST ADMIN	DIRECT COSTS	SERVICES BY OTHERS	TOTALS	TOTAL HOURS PER TASK
<b>100 Project Management Phase</b>													
		Project Management	12	40					40			\$15,969.76	92
		Project Status Reports		12	24				8			\$7,346.64	44
<b>200 Administration Phase</b>													
		Prepare Grant Applications		2				16	4			\$2,612.84	22
		Prepare FAA Quarterly Reporting and Grant Process		4				8				\$1,738.00	12
		Prepare Reimbursement Requests						12	8			\$2,179.80	20
		Coordination with Sponsor & FAA	4	8	20			8	4			\$7,253.56	44
<b>300 Schematic Design Phase (30%)</b>													
		Pre-design Meeting with Sponsor and FAA	4	4	4							\$2,495.28	12
		Acquire and Review Record Documents			4	8						\$1,787.20	12
		Site Inspection			8	8						\$2,433.28	16
		Acquire topographic survey			4		4					\$1,137.64	8
		Acquire geotechnical investigation			4		4					\$1,137.64	8
		Analyze subsurface investigation data		4	8							\$2,158.24	12
		Develop Pavement Designs			20	8						\$4,371.52	28
		Schematic Plans (30%)		8	16	20	40					\$12,084.88	84
		Schematic Quantities and Probable Costs		4	4	8						\$2,653.28	16
		Develop Construction Phasing & Safety Plan (CSPP)		4	16	8	8					\$5,574.64	36
		Submit CSPP to FAA		2		2			2			\$936.30	6
		Quality Assurance/Quality Control & Revisions	8	4	4	8	16					\$6,585.76	40
		Schematic Design Review Meeting	4	4	4							\$2,495.28	12
<b>400 Preliminary Design Phase (60%)</b>													
		Site Inspection to Verify Topo			8	8						\$2,433.28	16
		Preliminary Horizontal & Vertical Geometric Layout			12	8	12					\$4,554.04	32
		Preliminary Marking Layout Design			2	8	16					\$3,430.40	26
		CSPP Upload to FAA OE/AAA System			4		2					\$891.86	6
		7460 Development and Submit to FAA OE/AAA System		4	4	4	16					\$4,048.96	28
		Preliminary Plans (60%)		12	60	60	120					\$35,594.64	252
		Preliminary Specifications		8	24	16						\$7,890.88	48
		Preliminary Opinion of Probable Construction Cost			8	16						\$3,574.40	24
		Preliminary Design Report		16	32	20						\$11,485.76	68
		Quality Assurance/Quality Control & Revisions	20		8	20	40					\$13,976.16	88
		Preliminary Design Review Meeting	4	4	4							\$2,495.28	12
<b>500 Draft Final Design Phase (90%)</b>													
		Final Grading Design & Details			40	12						\$8,172.48	52
		Final Pavement Design & Details			2	4	8					\$1,876.72	14
		Final Marking Layout Design & Details			2	4	8					\$1,876.72	14
		Draft Final Plans			16	40	80					\$18,121.12	136
		Final Specifications			8	16						\$3,574.40	24
		Final Opinion of Probable Construction Cost			8	16						\$3,574.40	24
		Final Design Report			20	20						\$6,083.20	40
		Quality Assurance/Quality Control & Revisions	12	8	8	20	40					\$13,742.08	88
		Final Design Review Meeting	4		4							\$1,629.20	8
<b>510 Final Design Phase (Bid Docs)</b>													
		Incorporate Final Plan Comments	2	2	16	20	40					\$11,277.32	80
		Incorporate Final Specification Comments	2	2	16	20						\$6,361.72	40
		Incorporate Final Probable Cost Comments	2	2	4	8						\$2,711.80	16
<b>520 Bid Phase</b>													
		Respond as Required to Bidder Questions		8	16	16						\$6,598.72	40
		Attend Pre-bid Conference		4	4							\$1,512.16	8
		Prepare Addenda to the Bid Documents		4	12	12	16					\$6,482.24	44
		Review Apparent Low Bidder Documents	2		4	4			8			\$2,580.12	18
		Prepare Conformed Contract Documents		2	4	8	20					\$4,678.04	34
		Prepare final DTM for Bidder			6							\$969.12	6
<b>Direct Expenses</b>													
		600 C&S								\$2,251.24		\$2,251.24	
		701 Topographical Survey									\$25,000.00	\$25,000.00	
		702 Subsurface Investigation & Tests (Geotechnical)									\$40,000.00	\$40,000.00	
			80	176	496	450	490	44	74	\$2,251.24	\$65,000.00	\$342,400.00	1810