Runway 18R Runway Extension and EMAS Demolition 30% Design Services

Version 1.0
September 30, 2025
Laredo International Airport
Laredo, TX

Prepared by *RS&H Inc.* at the direction of
Laredo International Airport

RS&H

I PROJECT DESCRIPTION

The City of Laredo owns and operates the Laredo International Airport (LRD or the Airport). LRD has selected RS&H Inc. (RS&H) to provide design phase services for a Runway 18R runway extension and EMAS demolition project. The existing EMAS on Runway 36L has reached the end of its life and is in poor condition. The proposed project will include demolition of the existing Engineered Material Arresting System (EMAS) bed, the existing EMAS support pavement rehabilitation, and a 497' extension of Runway 18R and Taxiway G.

The FAA certification inspector has indicated the EMAS will need to be removed within the next year, or the airport will have to take it out of service and use declared distances on the runway. The maintain the required length for the current aircraft fleet mix, a 497' extension to Runway 18R and TWY G is required to provide the runway length necessary for the loss of the EMAS system on Runway 36L. The ADO has advised the airport to begin design for construction in Federal Fiscal Year (FFY) '26 and FFY '27.

The final configuration will include a displaced threshold on Runway 18R, as well as a displaced threshold on Runway 36L. Future phases may include Reconstruction of TWY F and connecting taxiways to remove the relocated threshold.

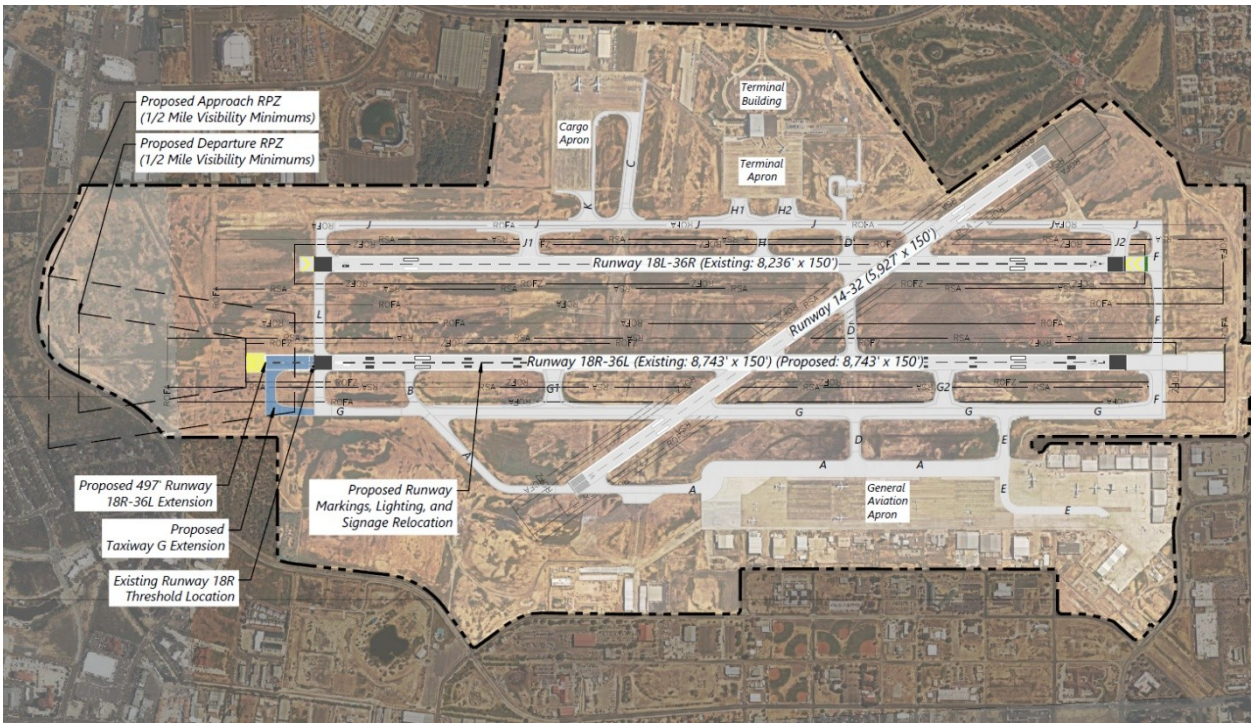

FIGURE 1 – RUNWAY 18R EXTENSTION AND SUPPORTING DEVELOPMENT

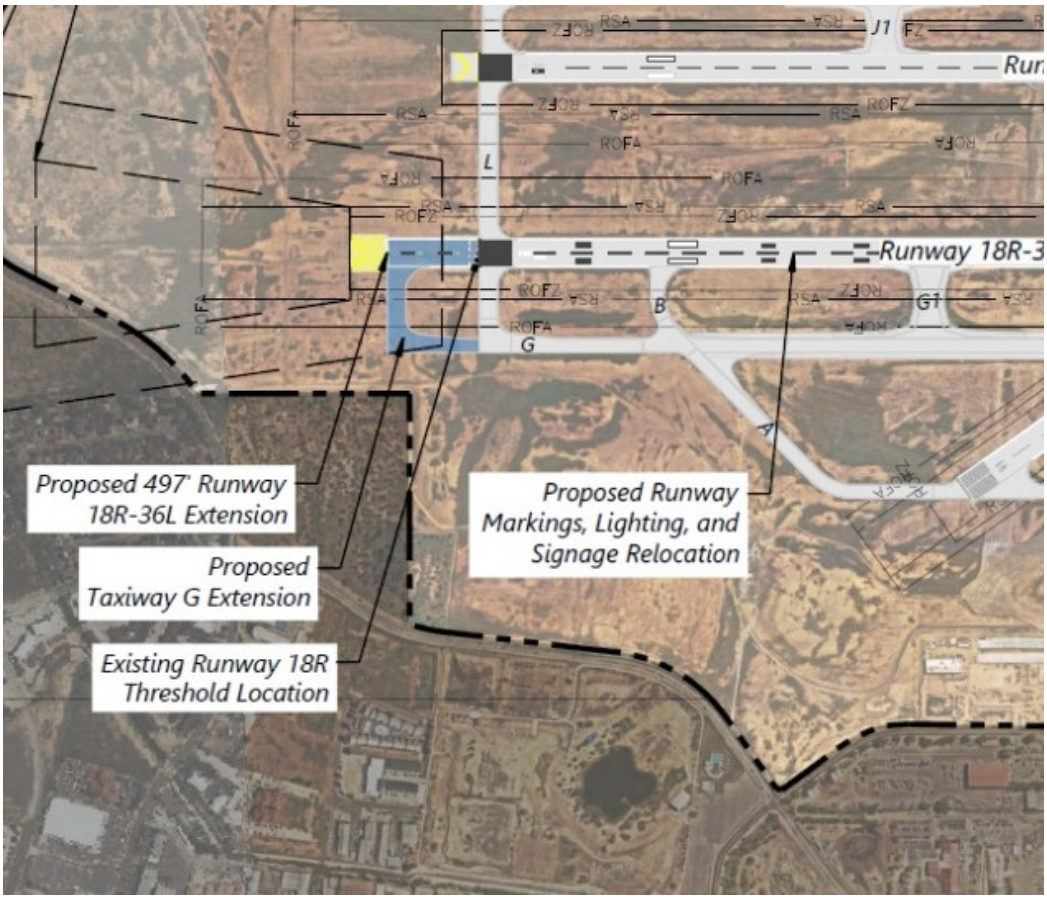

FIGURE 2 INSERT OF PROJECT LOCATION

The project phases consist of the following:

- Phase 1: Runway Extension
  - Construction of a 497' Runway 18R extension
  - Construction of a 497' TWY G extension
  - Construction of a new TWY L connecting taxiway
  - Relocation of the Runway 36L threshold
- Phase 2: EMAS demolition and site restoration.

The following bid schedules are anticipated at this time:

- Bid Schedule 1 – Runway 18R and TWY G construction
- Bid Schedule 2 – EMAS Deconstruction Additive Alternate

The following professional disciplines/services/specialties are expected to play a significant role in the development of the Project:

- Project Management
- Civil Engineering
  - Pavement Design
  - Grading
  - Pavement Construction
  - Pavement Markings
  - Erosion Control and Best Management Practices ("BMPs")
- Electrical Engineering
  - Power/Vault Assessment
  - Lightning Protection
  - Airfield Lighting and Signage
  - FAA-owned Navaids (Runway 18R MALSR only)
    - FAA coordination
    - Reimbursable Agreement Coordination
- Surveying
  - Topographical
- Geotechnical
- Engineer's Opinion of Probable Cost
- Phasing and Constructability

The Consultant design team is made up of the following professionals:

- RS&H – Civil, Electrical
- Crane Engineering – Topographic Survey, Drainage
- Castle – Geotechnical Survey

The Project consists of the following components:

- Project Management
- Geotechnical Investigation
- Topographical Survey
- Safety and Phasing
- Demolition of the existing EMAS system

- Runway Extension Pavement Construction
- Taxiway Extension Pavement Construction
- Stormwater Drainage Construction
- Runway NAVAID Construction (MALSR Only)
- Runway/Taxiway Lighting
- Runway/Taxiway Signage
- Pavement markings
- Erosion control and Stormwater Pollution Prevention (SWPPP)
- Site-specific Construction Safety Phasing Plan ("CSPP")
- National Environmental Policy Act (NEPA) documentation (Under separate work order)
- Permit Coordination
- FAA Coordination

There are no known utilities within the project limits, other than an existing storm sewer network and airfield lighting and signage circuits. It is anticipated that the project will not affect either current storm drainage or electrical networks.

The project will be evaluated and designed to the following FAA Advisory Circulars, as applicable, including (but not limited to):

- FAA AC 150/5220-22B Engineered Materials Arresting System (EMAS) for Aircraft Overruns
- FAA AC 150/5300-13B – Airport Design
- FAA AC 150/5320-12C Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces
- FAA AC 150/5340-1M Standards for Airport Markings
- FAA AC 150/5370-2G Operation Safety on Airports during Construction
- FAA AC 150/5370-12B Quality Control of Construction for Airport Grant Projects
- FAA AC 150/5370-13A Off-Peak Construction of Airport Pavements Using Hot-Mix Asphalt
- FAA AC 150/5370-14B Hot Mix Asphalt Paving Handbook
- FAA AC 150/5320-6G Airport Pavement Design and Evaluation
- FAA AC 150/5320-5D Surface Drainage Design
- FAA AC 150/5340-18H Standards for Airport Sign Systems
- FAA AC 150/5340-30J Design and Installation Details for Airport Visual Aids
- FAA AC 150/5345-44L Specification for Taxiway and Runway Signs
- FAA AC 150/5370-10H Standards for Specifying Construction of Airports

It is assumed for this scope of services that coordination with the City will be performed by Client staff and resulting direction will be provided to the Consultant. The Consultant will not directly contact the City without the Client present.

Design beyond the 30% design level, Bidding services, Construction Administration and Closeout Phase Services, Resident Project Representative ("RPR") Services, Construction Materials Acceptance Testing, Construction Staking, and/or any other construction-related services are not components of this proposal.

Project drawings will be prepared in AutoCAD format.

This scope of work assumes that all proposed project elements will be constructed in one (1) project. There is significant overlap between design items in each task, and the fee proposal reflects that. Any deviations from these assumptions once notice has been given to the Consultant to begin the work of this contract may require a change to the Project scope and additional fees.

Deletion of a task(s) or the requirement for additional work not specifically noted herein as part of the Consultant's scope will require re-evaluation of the proposed design fees.
This project is anticipated to be packaged as one bid package.

II PROJECT ELEMENTS

The following is a list of elements of the design project:

» Data Collection and Site Observation

- The Consultant will obtain and review record drawings associated with the project site, as may be available from the Client.
- The Consultant will obtain and review applicable design standards. For this project, FAA and City standards are anticipated to be the governing documents.
- The Consultant will conduct a topographic survey of the survey monuments and location of visible site elements. The Consultant will prepare a three-dimensional model of the existing ground elevations. Topographic survey is anticipated to be performed during daytime operations.
- The Consultant will conduct a geotechnical exploration program consisting of ten (10) borings to a depth of ten (10) feet within the proposed development area. Laboratory testing will be performed on recovered samples selected by the geotechnical engineer to aid in soil classification and to measure engineering properties. Laboratory testing is expected to consist of moisture content, Atterberg limits, fines content, soluble sulfate

content, and unconfined compression strength testing. The actual laboratory program will depend upon the type of soils encountered. The geotechnical exploration is anticipated to be performed during daytime operations.

- Subsurface utility engineering (SUE) services are not components of this proposal. The intent will be to locate utilities via review of record drawings and topographic survey of visible site elements. The Contract Documents will require the Contractor to perform recommended test hole verifications.
- The Consultant will visually observe the project limits of the site and document overall visible conditions within the project limits of the site as part of the design.
- The Consultant will provide an overview of existing conditions and required demolition in order to construct for the proposed development.

» General

- The Consultant will provide general plan sheets for the Project (Cover Sheet, Sheet Index, General Notes, Dimensional Control Plans, Boring Layout Plan) in accordance with the applicable design standards.

» Geometrics and Site Design

- The Consultant will provide the geometric design of the taxiway pavements. The Consultant will utilize *FAA AC 150/5300-13, Airport Design,* to establish criteria, latest published edition at time of contract execution.
- The Consultant will perform the grading design for the site.
- The Consultant will provide design pavement markings required for the site in accordance with *FAA AC 150/5340-1, Standards for Airport Markings*, latest published edition at time of contract execution.

» Pavement Design

- The Consultant will provide taxiway pavement strength and material design recommendations in accordance with the FAA's *FAARFIELD* standard thickness design software and *FAA AC 150/5320-6, Airport Pavement Design and Evaluation,* design guidelines, latest published edition at time of contract execution. The Consultant will coordinate with the Client's staff, FAA control tower personnel, and tenants to determine the appropriate aircraft fleet mix to be used in the taxiway pavement design. It is anticipated the Client will provide final approval of the aircraft fleet mix to be used.
- The Consultant will provide pavement profiles and cross sections for the affected pavements.
- The Consultant will design pavement grooving for the runway pavement.

- A joint layout plan will be provided for new concrete pavements.

» Airfield Electrical Improvements

- The Consultant will provide analysis and direction for the anticipated airfield lighting and signage modifications to accommodate the new airfield geometry resulting from this Project, in accordance with applicable FAA design guidelines.
- The Consultant will provide analysis and direction for the anticipated updates to the airfield electrical vault, as required. The Consultant will review regulator capacities and conditions for affected circuits.
- The Consultant will review impacts to the Runway 18R MALSR and other FAA-owned Navigational Aids (NAVAIDs) impacted by the scope of this Project. The Consultant will recommend solutions and assist with coordination of FAA Reimbursable Agreement. It is assumed meetings for this coordination will be held via teleconference and will not require travel by the Consultant.
- The Consultant will coordinate with the FAA SSC Manager regarding impact on FAA-owned facilities.

» Drainage Design

- The Consultant will perform the site-specific drainage design for the proposed development. Drainage design will be developed for the extent of the development boundary, limited to the infields directly upstream and downstream of the construction limits of the site and bound by surrounding pavements. The Consultant will develop storm sewer layouts, sizing, and calculations of pre- and post-development flows from the site. The Consultant will utilize *FAA AC 150/5320-5D, Surface Drainage Design* and the City's *Stormwater Management Guidance Manual,* to establish criteria. The design will consist of, as applicable, a drainage plan, profiles, details, and pre- and post-development drainage maps. Required upstream and/or downstream modifications or improvements beyond the limits of the site are excluded from this scope of services.
- Detention, aboveground, subsurface, or otherwise, is excluded from this scope of services.
- Drainage modeling is excluded from this scope of services.
- No underdrains are anticipated to be installed for new / rehabilitated pavements. Underdrain design is excluded from this scope of services.

» SWPPP / Erosion Controls

- The Consultant will prepare applicable SWPPP plan sheets for the Contractor to use in procurement of the stormwater construction permits. A detailed SWPPP report along

with Contractor preferred Best Management Practices ("BMPs"), the Notice of Intent ("NOI"), the Notice of Termination ("NOT"), and submission to the TCEQ will be prepared by others and is excluded from this scope of services.

» Phasing / Safety and Security

- The Consultant will review and analyze the following: potential impacts to safety and operational safety associated with aviation related areas in accordance with applicable professional standards; Airport Operations Area ("AOA") ingress/egress routes; aircraft movement areas; coordination; pavement markings; airfield lighting and signage; construction staging areas; vehicles crossing active pavements procedures; Notices to Airmen ("NOTAMs"); jet blast-prop-wash; night-time construction lighting; dust control; hauling of debris; and equipment parking. The analysis will not address the study of visibility, line of sight issues involving permanent structures, the analysis of interference with communications and surveillance equipment, or environmental studies.
- Preparation of a site-specific CSPP in general conformance with *FAA AC 150/5370-2, Operational Safety on Airports during Construction*, latest edition, is excluded from this scope of services.

» Utility Coordination and Design

- The Consultant will design utility relocations with the intent to reduce modifications without compromising design standards. Existing utility crossings to be modified are anticipated are FAA communication cables, FAA electrical, and airfield electrical.
- The Consultant will meet with affected utility companies to discuss the proposed design. Based on these coordination meetings and correspondence, the need and extent of relocations will be determined. If a dispute arises, the Consultant will schedule a meeting between the City Project Manager and the utility company to resolve the dispute.
- The Consultant will notify the City of utilities that will require relocation.
- Construction documents will clearly show existing and proposed utility lines and utility company contacts.
- The Consultant will obtain and submit utility clearance letters from each of the affected utility companies.

» Permitting

- National Environmental Policy Act ("NEPA") documentation is currently being prepared under a separate work order. This project will complete design up to the 30% design effort only. The remaining design will be completed once the NEPA process is complete.

- FAA airspacing and permitting requirements will be determined during the final design process of the project.

TASK 1 PREDESIGN SERVICES

Task 1.1 Perform Project Initiation / Setup

The Consultant will complete the necessary Project initiation and documentation setup in order to appropriately manage the Project.

Task 1.2 Predesign Meeting

RS&H shall coordinate and attend one (1) pre-design/kick-off meeting with LRD staff and various subconsultants to discuss and solidify (to the extent feasible) the project scope, budget, schedule, concept, coordination requirements, design features, design constraints, design parameters, local conditions, communication channels, submittals, responsibilities, and other related items.

The Consultant shall prepare minutes of the pre-design/kick-off meeting and distribute to all attendees within five (5) working days of the meeting. This meeting is anticipated to be held at LRD and will require travel by the Consultant.

Task 1.3 Data Collection

The Consultant will collect and review available data related to the project limits of the site and the proposed improvements. The Consultant will review the Client's files and records to determine relevant information for the Client's staff to provide such as the airport master plan, airport layout plan, pavement evaluation reports, aerial photogrammetry, previous design drawings, existing permits, boundary surveys, development concepts and drawings, surveys, and geotechnical study reports. The Client will provide copies of all pertinent documents including CAD drawings, when available, to the Consultant in a timely manner to allow the project to move ahead efficiently. It is anticipated that the following information will be provided for review:

- Runway 18R/36L Record Drawings
- EMAS Record Drawings
- Airport Drainage Model

The Consultant will also identify and analyze requirements of governmental authorities having jurisdiction to approve the design of the Project and participate in consultations with such authorities, as required.

Task 1.4 Site Review

RS&H will conduct a detailed visual observation of the site to determine the conditions of the project area. This activity is expected to be completed during an on-site visit concurrent with the kick-off meeting. RS&H will photograph the current visible site conditions, record the general condition and extent of EMAS blocks and support pavement, and other associated elements (such as grading, tie in elevations, haul route & contractor logistics, drainage, utilities, signage, markings, etc.). The findings of the visual observation will be documented in the Preliminary Engineer's Report. The site review will be held concurrently with the kickoff meeting.

Task 1.5 Topographic Survey

The Consultant will review available land survey and topographic survey data and develop a site survey scope of services. The Consultant will coordinate and review with the survey subconsultant such items as: specific surveying limits; geometric criteria required for topography, profiles and cross-sectional survey of existing project limits of the site, above and below ground utilities and existing site improvements; airfield access/security requirements and surveying schedule.
The following survey efforts will be captured and / or are anticipated:

- Horizontal data will be based on Global Positioning Satellite (GPS) Systems observations. Horizontal data will be based on the North American Datum of 1983 (NAD '83), Texas State Plane Coordinate System, South Zone (4205).
- Vertical data will be tied to existing benchmarks (to be provided by the Client)
- Where appropriate the following control points (minimum of three) will be set:
  - 5/8-inch capped iron rod, 18-inches in length set in the ground.
  - Mag Nails set in asphalt.
  - 'X' cut in concrete
- Cross section / topographic survey of the existing pavement limits of the site on an approximately 25' x 25' grid. Surrounding areas (unpaved) will be obtained on an approximately 50' x 50' grid.
  - Ties to the edges of existing pavement
  - Ties to underground electrical ductbanks with details on size and identification of what the cables serve
  - Natural ground shot at edge of existing pavement
  - Where the survey limits are crossing concrete paving, a tie will be provided on the concrete, at the edge of the limits and the approximate center point.
- Locate existing underground utilities (marking by others). Texas811 (an underground utility locator service) will be utilized.
- Panel linework at every joint in existing concrete pavement limits of the project site.
- Adjacent buildings and improvements.

- Ties to above ground visible utilities.
- Ties to signs and marks indicating the location of an underground utility.
- Ties to wastewater manholes, providing a tie to the center of the manhole rim, flowline elevation, pipe sizes, direction of flow and material of construction.
- Ties to storm drain manholes, providing a tie to the center of the manhole rim, flowline elevation, pipe sizes, direction of flow and material of construction.
- Ties to water line appurtenances, fire hydrants, water valves, water meters, irrigation control valves, air release valves, blow-off valves, and other related items.
- Ties to traffic control signs.
- Ties to existing pavement markings.
- Other points of interest within the limits of the project site.
- A 3D CAD file will be produced in AutoCAD C3D 2020 along with a .csv file containing points tied and a .xml file

The Consultant will compile the existing survey, utility, and record drawing information and develop existing conditions CAD base sheets of the limits of the project site. The data will be layered onto different drawings as required for the construction drawings.

Topographic survey services are anticipated to be performed during daytime operations

Task 1.6 Geotechnical Investigation

RS&H will review available geotechnical data. RS&H has developed a written geotechnical scope of services in accordance with FAA requirements detailed in *AC 150/5320-6G, Airport Pavement Design and Evaluation*. All geotechnical investigation activities will be coordinated with the Airport staff prior to mobilization. RS&H will coordinate and review with the geotechnical subconsultant specific requirements with respect to existing utilities, backfill, and mobilization/demobilization. All geotechnical data will be provided to the Airport in PDF format.

The Consultant will conduct a geotechnical exploration program, consisting of:

- A preliminary summary of the proposed borings is as follows:

Proposed Structure	No. of Borings	Boring Depth (ft)
Airfield Pavement	15	20
EMAS Demolition	5	10

- Ten (10) pavement cores will be performed using the wet-rotary method where required.
- If groundwater is encountered, the groundwater levels within the open boreholes will be recorded at the time of drilling and just after drilling. The boreholes will be backfilled with auger cuttings, bentonite, and patch/grout as applicable.

- Laboratory testing will be performed on recovered samples selected by the geotechnical engineer to aid in soil/material classification and to measure engineering properties. Laboratory testing is expected to consist of moisture content, Atterberg limits, fines content, unconfined compression strength of soil and rock material, swell potential, sulfate content, organic content, and corrosion testing. The actual laboratory program will depend upon the type of soils/materials encountered.
- Bulk samples will be collected from four (4) select locations. California Bearing Ration (CBR) and Lime Series tests will be performed on the collected bulk samples.
- A geotechnical report will be provided with the following general items:
  - Description of the field exploration program
  - Description of the laboratory testing program
  - Soil boring plan that depicts borehole locations on a base map
  - Soil boring logs with soil classifications based on the Unified Soil Classification System (ASTM D 2487)
  - Description of site geology based on location of the site on the Geologic Atlas of Texas
  - Depth where groundwater was encountered during drilling and its potential impact on construction
  - Preliminary axial and lateral design parameters for drilled shaft foundations, and installation recommendations
  - OSHA Soil classifications and OSHA trenching and shoring recommendations
  - Preliminary subgrade improvement recommendations for the pavement design
  - Preliminary recommendations on select fill (i.e., material type and compaction) for the pavement and non-structural general fill.

The Consultant will provide a pavement design recommendation following FAA pavement design guidelines. The Consultant will coordinate with the Client's staff, FAA control tower personnel, and tenants to determine the appropriate aircraft fleet mix to be used in the pavement design.

Geotechnical field services are anticipated to be performed during daytime operations.

Task 1.7 FAA Coordination/Evaluate FAA Reimbursable Agreement (RA)

RS&H will explore the potential need for a FAA Reimbursable Agreement (RA) during the runway extension and EMAS demolition project. Due to reconstruction of a portion of the Runway 18R MALSR and due to the localizer being turned off during construction, the FAA may require a RA to provide FAA staff to deactivate the Localizer during construction. If FAA cables or utilities are discovered within the Project Site, RS&H will coordinate with FAA to determine the necessary steps to relocate the utilities. Estimated costs and timelines will be obtained and incorporated into the overall project schedule.

RS&H will assist the Airport in coordination with the FAA during the duration of the project to provide information requested by the FAA to provide program direction, funding, and schedule updates as necessary. RS&H will attend up to five (5) Airport/FAA coordination meetings (virtually) and will also prepare necessary grant forms such as ODOs, project sketches, and updated CIPs to allow the FAA to program the project.

Task 1.8 Reimbursable Agreement/Approach Procedure Development

RS&H will coordinate with the FAA and Airport staff to develop the Reimbursable Agreement (RA) for NAVAIDs relocation and flight checks for runway approaches. The project will include relocation and installation of a new Runway 13 localizer. Depending on which localizer is used will determine if a new glideslope is necessary. The concepts will include possible future project phases including the relocation of TWY F and elimination of the displaced threshold on Runway 36L.

RS&H will coordinate with the FAA and Airport staff to initiate development of new approach procedures for Runway 36L. New approaches will need to be developed for all approaches to Runway 36L due to relocation of the threshold.

Task 1.9 Development of Final Concept

The Consultant will incorporate the facility requirements and the input from the Client and FAA to refine the concept alternative solution for the Project. The concept will reflect the approved runway extension and EMAS design option.

Task 1.10 Prepare Draft Preliminary Engineer's Report ("PER")

The Consultant will prepare a PER generally consisting of a description of the scope of the project, evaluation of design elements, evaluation of design standards, evaluation of applicable requirements of governmental authorities having jurisdiction, evaluation of conceptual schematic layouts and geometric requirements, evaluation of environmental concerns, pavement design recommendations, analysis of the geotechnical study, evaluation of preliminary safety and phasing concepts in accordance with applicable professional standards, the Consultant's (Engineer's) Opinion of Probable Construction Cost ("EOPC"), preparation of a preliminary construction schedule, relevant exhibits to clearly indicate the considerations involved, alternatives available to the Client, and the Consultant's findings and recommendations.

The design will evaluate and identify specific elements of the Project for a technically and economically sound project. Additive alternates will be developed for bidding to correspond to available budgets and flexibility in construction award. The EOPC will be Class 4 (as described in

the American Association of Cost Engineers (AACE) International Recommended Practice No. 18R-97) of the probable project construction and will carry a 35% contingency.

Adjacent, out-of-scope deficiencies noticed during the evaluation, particularly within the NAVAID scope, will be noted in the Engineer's report, as a point of reference. If deficiencies are found in such related items, an amendment to the scope, schedule, and fee may be required to provide a more detailed evaluation.

Task 1.11 Perform In-House Quality Control Review – Draft PER

The Consultant will conduct an in-house quality control (QC) review of the draft PER prior to submittal to the Client, the City, and FAA. The review will cover the design deliverables prior to submittal to the Client. The QC review will be performed as follows:

- Independent QC Review – An independent Architect/Engineer not actively involved in the Project will review for readability, suitability for bidding, appearance, and acceptability
- Independent Technical Peer Review – For each discipline associated with the Project, an independent Engineer not actively involved in the Project will review the documents for alignment with design methodologies, calculations, and code compliance
- Constructability Review – a comprehensive look at the Project to attempt to verify alignment between plans and specifications, phasing impacts, and potential conflicts
- Discipline Coordination Review – an interdisciplinary review to attempt to verify coordination of elements between disciplines

Task 1.12 Submit Draft PER

The Consultant will review the in-house quality control review of the draft PER and incorporate applicable comments into the draft PER. The Consultant will then submit and distribute copies of the draft PER to the Client, the City, and FAA (if required) for review, comment, and approval to proceed with preparation of Design Documents. Distribution quantities of the draft PER will be as noted in the DELIVERABLES section of this Proposal.

Task 1.13 Prepare Final PER

The Consultant will review draft PER review comments received from Client's authorized representative(s) and incorporate applicable comments into the final PER. The Consultant will provide a written response for each comment on how it will be incorporated into the final PER or why the comment was not applicable. Comments that require a significant change in scope from the previous direction provided may require an additional scope and fee.

Task 1.14 Perform In-House Quality Control Review – Final PER

The Consultant will conduct an in-house quality control review of the final PER prior to submittal to the Client, the City, and FAA (if required). The review will cover the design deliverables prior to submittal to the Client. The QC review will be performed as follows:

- Independent QC Review – An independent Architect/Engineer not actively involved in the Project will review for readability, suitability for bidding, appearance, and acceptability
- Independent Technical Peer Review – For each discipline associated with the Project, an independent Engineer not actively involved in the Project will review the documents for alignment with design methodologies, calculations, and code compliance
- Constructability Review – a comprehensive look at the Project to attempt to verify alignment between plans and specifications, phasing impacts, and potential conflicts
- Discipline Coordination Review – an interdisciplinary review to attempt to verify coordination of elements between disciplines

Task 1.15 Submit Final PER

The Consultant will review the in-house quality control review of the final PER and incorporate applicable comments into the final PER. The Consultant will then submit and distribute copies of the final PER. Distribution quantities of the final PER will be as noted in the DELIVERABLES section of this Proposal. Comments requesting changes to the final PER after this submittal will be performed under a change order for additional time and cost, unless due to an error or omission by the Consultant.

Task 1.16 Project Management

RS&H will manage the Project in a professional manner, assign and manage qualified individuals or subconsultants to the Project, and complete the efforts within the proposed time frame. This task will include scheduling, resource allocation, monitoring, oversight, direction, and control for all aspects of the team's efforts including assembly and coordination of all documentation. RS&H will complete meeting preparation activities, prepare and distribute meeting minutes, and assign appropriate follow-up activities. RS&H will make monthly progress reports to the Airport during the entire duration of the project. Project management also includes monthly project and budget reporting to senior leadership to provide regular updates and to confirm RS&H Standard Operating Procedures (SOPs) are incorporated.

TASK 2 30% DESIGN PHASE

Task 2.1 Prepare 30% Design Documents

RS&H will prepare 30% drawings, specification list, engineer's opinion of probable construction cost (EOPC), and Preliminary Engineer's Report. The 30% Complete Design will identify,

evaluate, and resolve specific elements of the project for a technically sound and economically complete project.

The plan development at the 30% level will include preliminary development of all horizontal geometry, contractor staging and access, demolition, and preliminary pavement rehabilitation options. Vertical profiles, grading and sections, for instance, will be preliminary for this deliverable, but will include the entire project site. The development of the 30% complete design will be in coordination with the Airport and the FAA for their input. The following list of drawings (with the anticipated progress) will be included with the 30% design submittal:

NO Sheets	Sheet Title	Development Level
1	Cover	Preliminary
2	Index of Sheets, Quantities	Preliminary
2	General Notes/Abbreviations	Preliminary
1	Contract Layout Plan	Preliminary
4	Geotechnical Borings	Preliminary
1	Horizontal & Vertical Control	Preliminary
3	Safety and Security Notes and Details	Preliminary
1	Temporary Haul Road Plan	Preliminary
2	Overall Phasing Plan	Preliminary
8	Phasing Plans, Notes and Details	Preliminary
4	Preliminary Runway Threshold Plans	Preliminary
2	Preliminary Threshold Marking and Lighting Details	Preliminary
8	Existing Conditions	Preliminary
8	Existing Typical Sections	Preliminary
	Demolition Plans	Preliminary
	Temporary Approach Surfaces	Preliminary
8	Geometry & Paving Plans	Preliminary
2	Typical Pavement Sections	Preliminary
4	Grading and Drainage Plans	Preliminary
10	Pavement Marking Plans	Preliminary
4	Pavement Marking Details	Preliminary
4	Electrical Legend, Notes & Abbreviations	Preliminary
10	Electrical Demolition Plan	Preliminary
10	Electrical Plans	Preliminary
	MALSR Demolition Plan	Preliminary
	MALSR Electrical Plan	Preliminary
	Total Drawings	

The design will evaluate and identify specific elements of the Project for a technically and economically sound project. Additive alternates will be developed for bidding to correspond to available budgets and flexibility in construction award. The EOPC will be Class 4 (as described in the American Association of Cost Engineers (AACE) International Recommended Practice No. 18R-97) of the probable project construction and will carry a 35% contingency.

The specifications will be reviewed, and a list of all specifications will be included in the deliverable.

Task 2.2 30% Design Coordination Meeting

RS&H will coordinate and attend a coordination meeting with the Airport to coordinate design issues related to the project. The meeting will occur at the Airport. It is anticipated that there will be one meeting with two people in attendance.

Task 2.3 Quality Control Review

RS&H will conduct in-house quality control review of the 30% Complete Design plans, specifications outline, opinion of probable construction cost, and Preliminary Engineer's Design Report prior to submittal to the Airport and FAA.

The QC review will be performed as follows:

- Independent QC Review – An independent Architect/Engineer not actively involved in the Project will review for readability, accuracy, appearance, and acceptability
- Independent Technical Peer Review – For each discipline associated with the Project, an independent Engineer not actively involved in the Project will review the documents for alignment with design methodologies, calculations, and code compliance
- Constructability Review – a comprehensive look at the Project to ensure alignment between plans and specifications, phasing impacts, potential conflicts, etc.
- Discipline Coordination Review – an interdisciplinary review to ensure coordination of elements between disciplines

Task 2.4 Submittal of 30% Documents

RS&H will submit the 30% design plans, specifications outline, preliminary EOPC, and preliminary Engineer's Design Report to the Airport for review, comment, and approval to proceed to 60% design. See Section III Deliverables for additional submittal information. The review will cover the design deliverables prior to submittal to the Client.

Task 2.5 30% Design Review Meeting

RS&H will prepare for and attend one (1) meeting at the Airport to review the 30% Design submittal. RS&H will provide written minutes of the meeting and distribute to all attendees. The

Airport and the FAA will provide any additional written comments to RS&H within two weeks of the design review meeting that may affect the direction of the project. The meeting will occur at the Airport. It is anticipated that there will be one meeting with two people in attendance.

Task 2.6 Project Management

RS&H will manage the Project in a professional manner, assign and manage qualified individuals or subconsultants to the Project, and complete the efforts within the proposed time frame. This task will include scheduling, resource allocation, monitoring, oversight, direction, and control for all aspects of the team's efforts including assembly and coordination of all documentation. RS&H will complete meeting preparation activities, prepare and distribute meeting minutes, and assign appropriate follow-up activities. RS&H will make monthly progress reports to the Airport during the entire duration of the project. Project management also includes monthly project and budget reporting to senior leadership to provide regular updates and to confirm RS&H Standard Operating Procedures (SOPs) are incorporated.

Design Development beyond the 30% design level is not included in this scope of work. Detailed design development, bidding and construction phases services will be included in subsequent amendments to this work order.

III MEETINGS

RS&H will prepare for and attend the following meetings:

- FAA Coordination Meetings (5) - Virtual
- Predesign Meeting/Site Review
- 30% Design Coordination Meeting
- 30% Design Review Meeting

IV DELIVERABLES

RS&H will provide the following deliverables:

- Preliminary Engineer's Report (PER) – 3 Sets
- 30% Design Submittal – 3 Sets of Plans, Outline Specifications, Engineer's Design Report, and EOPC

All deliverables will also be provided in electronic format.

V PROJECT SCHEDULE

RS&H will provide the above-referenced services within the following schedule (or as mutually agreed upon by the Airport and RS&H). This schedule is developed to meet a bid opening date of ~July 2026 for possible FY '26 discretionary funding and is based on RS&H receiving an NTP

on October 30, 2025. It is anticipated that the NEPA (Catex) is completed in December of 2025, and full design can start in January of 2026.

	Date
NTP	October, 2025
PER Submittal	January, 2026
30% Design Submittal	March 2026

VI ASSUMPTIONS AND EXCLUSIONS

The following assumptions have been made for this Scope of Work:

- The Airport will provide current operational data (type of aircraft and number of operations) for pavement design purposes.
- Preferred Site Plan will not change significantly from what is currently shown in the Conceptual Site Layout (Figure 1). Changes due to multiple iterations of site plans or edits to the site plan will incur additional design fees.
- Escort for topographic survey and geotechnical analyses and topographical survey will be provided by the Client. No badging will be required.
- Existing airfield utilities will be marked out by the Airport and/or FAA.
- All utilities are available at the site and no offsite improvements are required.
- Project will be bid as a one bid packages with one additive alternate to account for high bids or lack of FAA funding.

The following items are excluded from this Scope of Work:

- 60%/90%/100% Design Documents
- Bid Phase Services
- Construction Phase Services
- Funding coordination
- Environmental remediation (wetlands, soil contamination, etc.)
- Boundary surveys
- Obstruction surveys
- Subsurface Utility Explorations (SUE)
- Stormwater / drainage improvements beyond basic site grading, including drainage calculations, drainage modeling, stormwater detention, etc.
- Flood plain analysis and Conditional Letter of Map Revision ("CLOMR") application
- Construction Management Plan ("CMP")

- Updates to Airport Layout Plan
- Permits and Permit Fees
- Construction and closeout phase services, RPR services, construction materials acceptance testing, construction staking, and/or any other construction-related services
- Construction verification surveys (Construction Documents will require Contractor to perform and submit for approval)
- As-built survey
- Drainage Study
- Safety Risk Management (SRM) and Safety Assessment Documentation
- Subsurface Utility Engineering
- Survey Site Platting
- As-Built Surveys
- Trench safety plan
- Confined space plan
- Design for Leadership in Energy and Environmental Design ("LEED") or Envision™ certification
- FAA Form 7460-1 and submittal
- FAA Form 7480-1 and submittal
- Airport Layout Plan (ALP) Update
- Additional meetings other than those identified in Section II
- No Americans with Disabilities Act (ADA) design or Texas Accessibility Standards (TAS) design is included with this proposal.
- No TDLR review is included in this proposal.
- Additional travel to the Airport, FAA offices, or any other requested travel, beyond those meetings explicitly noted herein
- Aerial survey
- The Consultant will only perform services related to Per- and Polyfluoroalkyl chemicals (PFAS) or substances possibly containing PFAS, including but not limited to sampling, handling and remediating, to the extent the Client specifically directs, in writing, the Consultant to perform such services. The Client will indemnify, defend, and hold harmless RS&H and its directors, officers, employees, affiliates, subsidiaries and consultants from any and all claims, suits, actions, demands, damages, judgments, liabilities, costs, and expenses (including attorney's fees), relating to or arising out of the nonperformance of services related to PFAS to the extent the Client did not provide specific written direction to the Consultant to perform such services.

VII PROFESSIONAL SERVICES FEE AND FEE TYPE

RS&H will provide the above-mentioned services for a Fixed Lump Sum Fee of $523,400.72. See Attachment A for a breakdown of costs.

ATTACHMENT A
Fee Breakdown Schedule

RS&H

ATTACHMENT - SUMMARY OF PROFESSIONAL FEES

Runway 18R Runway Extension and EMAS Demolition 30% Design Services
Laredo International Airport
Laredo, Texas
30% Design Services

PROJECT COST SUMMARY

		Labor/ Professional Services	Reimbursable Expenses	Total
Task 1	Predesign Services	$231,594.00	$3,133.00	$234,727.00
Task 2	30% Design Phase	$282,274.72	$6,399.00	$288,673.72
Task 3	60% Design Phase NOT IN SCOPE			
Task 4	90% Design Submittal NOT IN SCOPE			
Task 5	100% Design Phase (Bid Documents) NOT IN SCOPE			
Task 6	Bidding Phase Services NOT IN SCOPE			
GRAND TOTAL PROPOSED FEE		**$513,868.72**	**$9,532.00**	**$523,400.72**

PROJECT COST BY CONSULTING FIRM

Consultant	Labor/ Professional Services	Reimbursable Expenses	Total
RS&H	$423,182.00	$9,532.00	$432,714.00
Crane	$33,686.72	$0.00	$33,686.72
Castle	$57,000.00	$0.00	$57,000.00
	$513,868.72	**$9,532.00**	**$523,400.72**

RS&H

ATTACHMENT - SUMMARY OF PROFESSIONAL FEES

Runway 18R Runway Extension and EMAS Demolition 30% Design Services

Laredo International Airport
Laredo, Texas

30% Design Services

SCOPE / TASK TITLE	PROJECT OFFICER	PROJECT MANAGER	Aviation Engineer IV	Aviation ENGINEER III	Aviation Engineer II	Aviation Eng I	SR Electrical Engineer	ELECTRICAL ENGINEER	ADMIN ASST.	TOTAL
Task 1 Predesign Services										
Task 1.1 Perform Project Initiation / Setup	4	8		8	16	16			8	60
Task 1.2 Predesign Meeting		12		8	8	8				36
Task 1.3 Data Collection				8	8	8		8		32
Task 1.4 Site Review		12		8	8	8				36
Task 1.5 Topographic Survey		4		4	8	8				24
Task 1.6 Geotechnical Investigation		4		4						8
Task 1.7 FAA Coordination/Eveluate FAA (RA)	20	40	20	8	40					128
Task 1.8 Reimburseable Agreement/Approach Procedure Development		4	20		6	6				36
Task 1.9 Development of Final Concept		8	8	20		40	8	8		92
Task 1.10 Prepare Draft PER		8	8	20	40	40	4	16		136
Task 1.11 Perform In-House QC - Draft PER		8	8	8			8			32
Task 1.12 Submit Draft PER		4		4	4	4				16
Task 1.13 Prepare Final PER			8		20	20				48
Task 1.14 Perform In-House QC - Final PER		8	8	8			8			32
Task 1.15 Submit Final PER					4	4				8
Task 1.16 Project Management	20	40							8	68
										0
TOTAL HOURS	44	160	80	108	162	162	28	32	16	792
RATE	$ 366.00	$ 302.00	$ 255.00	$ 225.00	$ 148.00	$ 115.00	$ 400.00	$ 273.00	$ 183.00	
TOTAL LABOR $	$ 16,104.00	$ 48,320.00	$ 20,400.00	$ 24,300.00	$ 23,976.00	$ 18,630.00	$ 11,200.00	$ 8,736.00	$ 2,928.00	**$ 174,594.00**

OTHER DIRECT NON-SALARY COSTS

	# PLANS	#PAGES	#SETS	
	@	@	3	
REPRODUCTION	$ 1.10	$ 0.15		
Plans				$ -
Reports/Specifications		200		$ 90.00
TOTAL REPRODUCTION				$ 90.00
POSTAGE / DELIVERY	# PLANS	# SPECS		
	@	@		
	$ 15.00	$ 10.00		
Plans				$ -
Reports/Specifications				$ -
TOTAL POSTAGE / DELIVERY				$ -

TRAVEL	#People	#Days	Flight @ $ 1,000.00	Car @ $ 100.00	Lodging @ $ 200.00	Per Diem @ $ 65.00	Tolls @	No. of Times	
Pre-Design/Project Kick-off Meeting/Site Review	2	2	$ 2,000.00	$ 200.00	$ 400.00	$ 260.00	$0	1	$ 2,860.00
									$ -
									$ -
									$ 2,860.00

MILEAGE	365	Miles @ $ 0.50	$ 183.00
SUM OF ODC's			**$ 3,133.00**

Total Proposed Fee for:	**Task 1 Predesign Services**	**$ 177,727.00**

Task 2 30% Design Phase

Task 2.1 Prepare 30% Design Documents										
Cover				2	4	4				10
Index of Sheets, Quantities				4	8	8				20
General Notes/Abbreviations				8	16	16				40
Contract Layout Plan				8	16	16				40
Geotechnical Borings				4	12	12				28
Horizontal & Vertical Control				8	12	12				32
Safety and Security Notes and Details				16	20	20				56
Temporary Haul Road Plan				8	16	16				40
Overall Phasing Plan				4	16	16				36
Phasing Plans, Notes and Details				4	8	8				20
Preliminary Runway Threshold Plans				4	16	16				36
Preliminary Threshold Marking and Lighting Details				4	12	12	4	8		40
Existing Conditions				4	20	20		16		60
Existing Typical Sections				16	20	20				56
Demolition Plans					20	20				40
Temporary Approach Surfaces			30		8	8				46
Geometry & Paving Plans					20	20				40
Typical Pavement Sections					16	16				32
Grading and Drainage Plans			40		20	20				80
Pavement Marking Plans					20	20				40
Pavement Marking Details					12	12				24
Electrical Legend, Notes & Abbreviations							8	16		24
Electrical Demolition Plan							8	16		24
Electrical Plans							8	16		24
MALSR Demolition Plan							4	16		20
MALSR Electrical Plan							4	16		20
EOPC		8	20	12	8	8	4	8		68
Engineer's Report		8	20	24	20	20		8		100
Task 2.2 30% Design Coordination Meetings		16	8	8						32
Task 2.3 Quality Control Review		8	8	8			8	8		40
Task 2.4 Submittal of 30% Documents			4	8						12
Task 2.5 30% Design Review Meeting		16	8	8						32
Task 2.6 Project Management	8	40							8	56
TOTAL HOURS	8	96	138	162	340	340	48	128	8	1,268
RATE	$ 366.00	$ 302.00	$ 255.00	$ 225.00	$ 148.00	$ 115.00	$ 400.00	$ 273.00	$ 183.00	
TOTAL LABOR $	$ 2,928.00	$ 28,992.00	$ 35,190.00	$ 36,450.00	$ 50,320.00	$ 39,100.00	$ 19,200.00	$ 34,944.00	$ 1,464.00	**$ 248,588.00**

OTHER DIRECT NON-SALARY COSTS

	# PLANS	#PAGES	#SETS	
	@	@	3	
REPRODUCTION	$ 1.10	$ 0.15		
Plans	45			$ 149.00
Reports/Specifications		200		$ 90.00
TOTAL REPRODUCTION				$ 239.00
POSTAGE / DELIVERY	# PLANS	# SPECS		
	@	@		
	$ 15.00	$ 10.00		
Plans	3			$ 45.00
Reports/Specifications		3		$ 30.00
TOTAL POSTAGE / DELIVERY				$ 75.00

TRAVEL	#People	#Days	Flight @ $ 1,000.00	Car @ $ 100.00	Lodging @ $ 200.00	Per Diem @ $ 65.00	Tolls @	No. of Times	

ATTACHMENT - SUMMARY OF PROFESSIONAL FEES

Runway 18R Runway Extension and EMAS Demolition 30% Design Services

Laredo International Airport
Laredo, Texas

30% Design Services

SCOPE / TASK TITLE	PROJECT OFFICER	PROJECT MANAGER	Aviation Engineer IV	Aviation ENGINEER III	Aviation Engineer II	Aviation Eng I	SR Electrical Engineer	ELECTRICAL ENGINEER	ADMIN ASST.	TOTAL
30% Design Coordination Meeting	2	2	$ 2,000.00	$ 200.00		$ 400.00	$ 260.00		1	$ 2,860.00
30% Design Review Meeting	2	2	$ 2,000.00	$ 200.00		$ 400.00	$ 260.00	$0	1	$ 2,860.00
										$ -
										$ 5,720.00
MILEAGE	730	Miles @ $ 0.50								$ 365.00
SUM OF ODC's										**$ 6,399.00**
Total Proposed Fee for:	**Task 2**	**30% Design Phase**								**$ 254,987.00**
Total Proposed Fee for all services:										**$ 432,714.00**

Upd. 9/23/2025
9/18/2025

CITY OF LAREDO
GENERAL ON-CALL SERVICES CONTACT
PROJECT COST BREAKDOWN
Laredo International Airport

LRD EMAS Reconstruction Project

	EDG	FM	RG	CADD	ADMIN	SURVEY	
SCOPE / TASK TITLE	PM	Sr. PE	ENG	CADD	ADMIN	SURVEY	TOTAL
Raw Rate	$ 103.00	$75.00	$ 52.00	$40.00	$ 31.00	$ 64.00	
SURVEYING / MAPPING							
Topographic Survey / Provide two (2) horizontal and vertical control points for project	3.0	6.0			4.0	40.0	53.00
Mapping	3.0	6.0		48.0			57.00
DRAINAGE STUDY							
Watershed Maps	1.0	2.0	16.0	16.0			35.00
Assessment	2.0	4.0	24.0				30.00
Schematic Design	2.0	4.0	16.0	24.0			46.00
Cost Estimate		1.0	4.0		4.0		9.00
Deliverables Coordination with RS&H	1.0	3.0		1.0	2.0		7.00
TOTAL HOURS	**12.0**	**26.0**	**60.0**	**89.0**	**10.0**	**40.0**	**237.00**
TOTAL DIRECT LABOR $	$1,236.00	$1,950.00	$3,120.00	$3,560.00	$310.00	$2,560.00	$12,736.00
OVERHEAD @	130%						$16,556.80
PROFIT @	15%						$4,393.92
TOTAL BURDENED LABOR @	2.58						**$33,686.72**
TOTAL PROPOSED FEE FOR: CRANE							**$ 33,686.72**