FIRST AMENDMENT TO THE AGREEMENT

THIS FIRST AMENDMENT TO THE AGREEMENT, is made and entered into as of the date stated on the signature page ("Effective Date"), by and between the CITY AND COUNTY OF DENVER, a municipal corporation of the State of Colorado ("City"), and JACOBS ENGINEERING GROUP INC., a Delaware Corporation authorized to conduct business in the State of Colorado, ("Consultant").

WITNESSETH:

WHEREAS, the City owns and operates Denver International Airport ("DEN" or the "Airport"); and

WHEREAS, the City and Consultant entered into a written Agreement # 201630091 dated April 19, 2017 ("**Agreement**") wherein they agreed to provide professional on-call architectural, engineering, design, and construction administration services from the Consultant; and

WHEREAS, the City now wishes to add additional funds, term and clarification to the scope of work with this First Amendment; and

WHEREAS, Consultant is willing and able to perform the Work;

NOW, THEREFORE, for and in consideration of the premises and other good and valuable consideration, the parties hereto agree as follows:

1. Section 2, Scope of Work, subparagraph B titled Professional Responsibility, subsection (vii), is hereby amended as follows:

(vii) Any construction administration duties shall be outlined in the relevant Task Order and will set forth the engineering, architecture, construction administration, support staff and any other disciplines needed to complete the work outlined in the Task Order. Within the implementation of the Task Order, the Consultant shall take its day to day operational direction from the SVP, or his designee, and shall serve alongside the City's Project Management Team as a member of the City's Project Management Team for all aspects of the Project.

2. Section 4, Maximum Contract Amount: Funding, Paragraph A is hereby deleted in its entirety and replaced with the following:

A. Notwithstanding any other provision of this Agreement, in no event shall the City be liable for payment for services rendered and expenses incurred by Consultant under the terms of this Agreement for any amount in excess of the sum of **Fifty-Two Million Dollars** (**\$52,000,000.00**) (the "**Maximum Contract Amount**"). Consultant will be performing the services on a time and material basis, or with prior written consent of the SVP, a lump sum basis as set forth in each Task Order up to the Maximum Contract Amount. Consultant's fee in each Task Order shall be based on the time and

materials or identified services required by its professionals to complete the Work. The Consultant will notify DEN when the cumulative invoiced amount reaches 85% of the Maximum Contract Amount and request approval before proceeding with further work.

3. Section 5, Term, is hereby deleted in its entirety and replaced with the following:

The Term of this Agreement shall commence on Effective Date, and shall terminate on December 31, 2024, unless sooner terminated in accordance with the terms stated herein ("**Expiration Date**"). The Agreement term may be extended at its current terms and conditions for two additional one-year periods, but in no event shall the term be extended beyond December 31, 2026. These extensions, if exercised by the Airport, shall be exercised by providing written notice to the Consultant. Should for any reason the Term expire prior to the completion by Consultant of any outstanding work, which has previously been authorized, then in the CEO's sole discretion this Agreement shall remain in full force and effect to permit completion of any work that was commenced prior to the date that otherwise would have been the termination date.

4. Section 9, Key Personnel Assignments, is hereby deleted in its entirety and replaced with the following:

A. All key professional personnel identified in the Task Order will be assigned by Consultant or subconsultants to perform work under this Agreement for the entire Term of this Agreement ("**Key Personnel**"). The Consultant shall provide for each proposed Key Personnel complete resumes, billing category and other information describing their ability to perform the tasks assigned. It is the intent of the Parties that all Key Personnel be engaged to perform their specialty for all such services required by this Agreement and that Consultant's and any subconsultant's Key Personnel be retained for the life of this Agreement to the extent practicable and to the extent that such services maximize the quality of work performed.

B. If Consultant decides to replace any of its Key Personnel; it shall notify the Project Manager in writing of the changes it desires to make. No such replacement shall be made until a replacement is approved in writing by the CEO or the CEO's designee, which approval shall be made in her sole and absolute discretion.

C. If, during the term of this Agreement, the Project Manager determines that the performance of an approved Key Personnel is not acceptable, he shall notify Consultant, and the Consultant will have five (5) calendar days to correct the performance or provide a proposed replacement for the Key Personnel. If the Project Manager notifies Consultant that certain of its Key Personnel must be immediately reassigned, Consultant will immediately reassign the Key Personnel and use its best efforts to obtain adequate substitute personnel within ten days from the date of the notice.

5. Section 10, Subconsultants and Subcontractors, is hereby deleted in its entirety and replaced with the following:

A. All subconsultants shall be identified in the Task Order and will perform work under this Agreement for the entire duration of the Task Order ("Subconsultants"). It is the intent of the Parties that all Subconsultants be engaged to perform their specialty for all such services required by this Agreement and be retained for the life of this Agreement to the extent practicable.

B. Excluding any Subconsultants identified in the Task Order, no final agreement or contract with any additional or substitute subconsultant shall be entered into without the prior written consent of the CEO or the CEO's authorized representative. Requests for such approval must be made in writing and include a description of the nature and extent of the services to be provided, the name, address and professional experience of the proposed subconsultant, and any other information requested by the CEO. Any final agreement or contract with an approved subconsultant must contain a valid and binding provision whereby the subconsultant waives any and all rights to make any claim of payment against the City or to file or claim any lien or encumbrance against any City property arising out of the performance or non-performance of the contract.

C. Because Consultant's represented professional qualifications are consideration to the City in entering into this Agreement, the CEO (or the CEO's authorized representative) shall have the right to reject any proposed outside subconsultant or subcontractor for this work deemed by the CEO, in the CEO's sole discretion, to be unqualified or unsuitable for any reason to perform the proposed services, and the CEO shall have the right to limit the number of outside subconsultants or subcontractors or to limit the percentage of work to be performed by them, all in the CEO's sole and absolute discretion. The CEO shall exercise reasonableness in making such decisions regarding subconsultants or subcontractors.

D. Consultant is subject to D.R.M.C. §20-112 wherein Consultant is to pay its subconsultants in a timely fashion. A payment is timely if it is mailed to the subconsultant no later than seven days after receipt of any payment from City. Any late payments are subject to a late payment penalty as provided for in the prompt pay ordinance (§§ 20-107 through 20-118).

7. The following paragraph is hereby added in its entirety as Section 38:

38. City Minimum Wage. To the extent required by law, Consultant shall comply with and agrees to be bound by all requirements, conditions, and the City determinations regarding the City's Minimum Wage Ordinance, §§20-82 through 20-84 D.R.M.C., including, but not limited to, the requirement that every covered worker shall be paid no less than the City Minimum Wage in accordance with the City's Minimum Wage Ordinance. By executing this Agreement, Consultant expressly acknowledges that Consultant is aware of the requirements of the City's Minimum Wage Ordinance and that any failure by Consultant, or any other individual or entity acting subject to this Agreement, to strictly comply with the foregoing D.R.M.C. Sections shall result in the penalties and other remedies authorized therein.

8. Exhibit A-1 and A-2, attached hereto are incorporated into and become a part of

the original **Exhibit A**, **Scope of Work**, which is attached to Agreement.

9. Except as modified by this First Amendment, all of the terms and conditions of the Agreement shall remain in full force and effect.

10. This First Amendment to the Agreement shall not be effective or binding on the City until approved and fully executed by all signatories of the City and County of Denver.

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Contract Control Number:	PLANE-201952466-01/ Alfresco 201630091-01
Contractor Name:	JACOBS ENGINEERING GROUP INC

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of:

SEAL

CITY AND COUNTY OF DENVER:

REGISTERED AND COUNTERSIGNED:

ATTEST:

By:

APPROVED AS TO FORM:

Attorney for the City and County of Denver

By:

By:

By:

Contract Control Number: Contractor Name:

PLANE-201952466-01 / Alfresco 201630091-01 JACOBS ENGINEERING GROUP INC

DocuSigned by: Gng McIntyn _____ By:

Greg McIntyre
Name:

(please print)

Title: _______

(please print)

ATTEST: [if required]

By: _____

Name: _____

(please print)

Title: _____

(please print)

A. INTRODUCTION

The Special Projects Division of Denver International Airport (DEN) is charged with managing large, complex, multi-disciplinary programs from initiation to completion. To achieve that objective Special Projects will augment its staffing needs through the engagement of multi-disciplined on-call consultants to produce the safest, best quality, schedule and budget framework possible.

The services of this contract will be for, but not limited to, on-call professional, technical, and support personnel to perform project management and support services for the Special Projects Division as designated by the airport.

B. GENERAL CONTRACT REQUIREMENTS

1. The Consultant, as deemed necessary by the Senior Vice President of Special Programs (SVP), will provide professional, technical and support staff to fill various positions within the organization to perform or assist with the management of Initiation / Definition, Planning / Design, Execution / Construction and Closeout project management support services as required.

2. Additional staff support may be requested for support or management of, but not limited to; Project Communications, Project Controls, Code Compliance, Environmental, and Risk Management.

3. Typical examples of positions to be filled under this contract may include, but are not limited to, Project Managers, Contract Administrators, Specialty Engineers and Architects, Schedulers, Estimators, and Inspectors.

4. This will be an on-call contract. While there will be a limited number of staff support positions that will span the entire duration of the contract, the emphasis should be on the ability to provide subject matter experts as required for limited duration.

5. The number of staff is expected to fluctuate depending on the number, size, and type of projects assigned to the Special Projects Division. There is no guarantee in the number or type of personnel to be provided by this contract. All personnel assigned to a project and any changes in personnel must be approved by the SVP.

6. DEN currently uses a variety of software, including Oracle's Primavera, Unifier Project Controls, Primavera P6 EPPM and Professional, Aconex, Microsoft SharePoint applications, Textura, Revit, and BIM 360 Field for its project management software applications. The consultant's personnel will be required to become proficient in the use of these programs as needed.

C. PROJECT SUPPORT SERVICES

Services required by the Consultant's personnel may include, but are not limited to:

INITIATION/DEFINITION

1. The Consultant shall review planning and programming studies, which may include special engineering studies and reports such as condition assessments, geotechnical investigations, etc. for applicability to the Project.

2. Prepare Documents for Management Review & Approval – Prepare documentation and presentation materials for CPC (Capital Planning Committee), Executive Committee and for presentation to the City Council. Presentations may be managed by the Consultant.

3. The Consultant shall coordinate with all relevant stakeholders as identified by Special Projects leadership to refine programming requirements and scope of work.

4. Strategic Advice & Planning - Provide advice when requested on issues involved in the planning, design and construction of capital improvement projects. Determine the extent of potential problems and recommend a course of action to clear all obstacles and to obtain required approvals and permits.

5. Process Coordination and Development - As part of an ongoing process, review and make recommendations on improvements to existing program procedures. This would include the capital improvement program, construction contract administration, quality assurance/quality control, construction safety and security, design reviews, cost estimating, scheduling, permit requirements, etc. Assist in the implementation of any recommendations that may be approved.

6. Oversight of Other Consultants -To manage other consultants with various areas of expertise as a representative of Special Projects. To provide guidance and review the findings of consultants working on projects for DEN.

7. Site Investigation - Coordinate and schedule comprehensive site investigation services. Identify and report on constraints.

8. Outside Agencies- Provide assistance as requested regarding interactions with state, federal and local regulatory agencies, such as:

- a. Interpretation of regulations
- b. Reviews of pending legislation and/or regulations

- c. Scheduling of actions necessary to receive approvals
- d. Preparation of permit applications
- e. Follow-up to obtain prompt approvals
- f. Preparation of all necessary correspondence

PLANNING/DESIGN

1. Cost Estimating - Provide and/or review detailed cost estimates for project alternatives, extra work or other specific estimates as requested by the Special Projects leadership.

2. Construction Management Plan - Develop and/or assist with preparing a written, projectspecific quality control/quality assurance plan detailing all the specific measurable goals to be achieved.

3. Scheduling - Review schedule and milestones prepared by others and assist in developing a final schedule.

4. Value Engineering/Constructability Reviews - Provide constructability and value engineering reviews at the request of Special Projects leadership.

5. Permit Compliance - Review permit requirements for the project and coordinate with other airport and City personnel to be sure all specific requirements are being met and are in place to allow projects to meet their designated schedule dates.

EXECUTION/CONSTRUCTION

1. Project Oversight - Monitor and assure compliance of the contractor's work and assist in the coordination of the work with the day to day operations of DEN, airport tenants, affected agencies, utilities, construction contractors on other DEN projects, and other parties as necessary without assuming the contractor's obligations pertaining to means, methods, quality control and progress of work or safety.

2. Scheduling - Review and comment on contractors' submitted schedules and updates. Manage consolidated program schedules when necessary, and coordinate with and assist project controls staff in maintaining up-to-date schedule information.

3. Reports - Keep accurate and detailed project records using designated electronic systems and prepare reports as requested.

4. Cost Control - Maintain the project budget, incorporating approved change orders as they occur. Identify variances between actual and estimated costs and maintain an estimate at completion to inform the project budget status.

5. Requests for Information/Design Revisions/Contract Change Orders - Using designated project management electronic system, track, review and process RFI's, design changes and CO's. Construction documents will be reviewed and responded to in a timely manner.

6. Contractor Payments - Review and evaluate contractors' requests for payment. Ensure that all approved pay applications are processed per DEN standard procedures and contract requirements.

7. Permits- Ensure that all required permits are obtained for projects assigned to them. Including permits required for DEN or the contractor. Monitor contractors' conformance to permit requirements. Identify permit activities in the project schedule.

8. Airport Security- Coordinate and review with Airport Security existing terminal and airfield construction security procedures and ensure adherence from Consultants and construction contractors' personnel.

9. Inspection and Special Inspections - Ensure adequate coverage for meeting special inspection requirements as well as overall inspection requirements to be assured projects are completed per contract documents.

10. Submittals/Shop Drawing Review- Track submittals, shop drawings and material samples and assure that all are being processed expeditiously.

11. Commissioning- Oversee the contractor(s)' final testing and start-up of utilities, operational systems and equipment.

12. Punch List - Upon substantial completion of the contractors' work, monitor the correction and completion of punch list work. Assist the Special Projects leadership in conducting inspections to determine if work is substantially complete and outstanding work is remediated.

13. Completion- Consultant Personnel will secure and transmit to DEN warranties and similar submittals required by the contract. Deliver all keys, manuals, and overstock materials where designated by DEN.

14. Document Management - Monitor the maintenance of record drawings by the contractors. Determine that record drawings are complete and accurate and transmit approved record drawings as required for preparation of as-built drawings. Monitor finalization of as-built plans from the record drawings, for DEN's acceptance and approval.

CLOSEOUT

1. Asset management – Coordinate the transfer of data from the project to DEN's Asset Management section.

2. Closeout Support - Monitor contract closeouts to ensure receipt of all deliverables, finalization of all contract modifications and determine final quantities for final payment. Prepare and process certificates of final inspection/acceptance, certificates of completion where required, and final payment releases. Recommend closeout of the contract and final payment after determining that all contract requirements have been satisfied.

3. Assist in the execution of warranty work.

4. Assist in the completion of commissioning work.

D. GENERAL COORDINATION AND ADMINISTRATION OF CONSULTANT'S WORK

1. Work under this contract will be authorized on a Task Order basis only. Upon request, the Consultant will submit a proposal for requested duties and resources that will be reviewed and approved by Special Projects leadership.

2. The Consultant agrees that they shall provide no services until directed by the SVP of Special Projects, and that he or she may in such direction specify a project or projects for which the services are to be performed, whether the said services are to be performed using full-time or part-time employment of one or more persons or crews, and whether the said services are to be performed with respect to the entire project or projects or specified parts thereof.

3. Consultant shall follow any established direction and procedures for coordinating and administering its services under the terms of this Agreement.

4. Following receipt of a fully executed Agreement, the Consultant shall meet with the Special Projects leadership team in order that the appropriate employees and/or Sub-consultants of the Consultant obtain an adequate and complete understanding of project goals, needs, and requirements for all assigned tasks, and therefore may properly execute task(s). At this time, the Special Projects leadership team points of contact will be designated for this contract.

5. The Consultant shall maintain adequate staff. It is the Consultant's responsibility to provide and maintain competent on-call part-time or full-time staff on an as-needed basis.

6. The Consultant agrees that all personnel whom it assigns to any project or projects under this Agreement shall be approved in writing by Special Projects leadership prior to commencing their duties under this Agreement, and Special Projects reserves the right to accept or reject any proposed personnel and to require the removal, reassignment, or addition of personnel, as discretion directs.

7. Prior to permitting any person to commence work, the Consultant shall submit the names and qualifications of each person including their proposed hourly wage, for approval to Special Projects leadership. At the leadership's discretion, the proposed person shall be made available for an interview.

8. The Consultant shall not remove or reassign any approved personnel assigned to DEN and performing work under the Agreement without the express written approval of the SVP of Special Projects.

E. QUALIFICATIONS OF CONSULTANT'S PERSONNEL

1. The successful Consultant and Sub-consultants shall provide qualified personnel for all the disciplines required to fill necessary positions or complete assigned projects through the term of the Agreement. All personnel provided by the Consultant will report directly to a member of the Special Projects leadership team, or their designee and will not be represented by a full-time onsite operational point of contact.

2. The Consultant agrees that all personnel provided by it to perform services under this Agreement shall be, and shall remain during the time of their employment, competent and completely and fully

qualified for the duties to which they are assigned. Consultant employees shall meet minimum industry standard qualifications for their assignment. These qualification set out are not intended as limitations on the maximum qualifications for each such position or function. Special Projects leadership reserves the right to require the Consultant to provide personnel with additional qualifications for additional types of duties to be performed by the Consultant's personnel assigned to DEN.

F. WAGES OF CONSULTANT'S PERSONNEL AND SUBCONSULTANTS

1. The Consultant shall only charge the actual wage rate. Said rates are considered base hourly rates and do not include fringe benefits which are included in the Multiplier Factor. Payment in excess of these rates shall not be considered in determining the base compensation allowances provided for in Section G CONSULTANT'S MULTIPLIER of this Agreement unless authorized by the SVP.

2. Sub-Consultants – The City will not allow mark-up on sub-consultant invoices. The Multiplier Factors for all Sub-consultants accepted by the City at the time of execution of this Agreement are set out on Submittal 2 and Exhibit E attached hereto and incorporated herein.

3. Reimbursable expenses. In addition to the compensation for hours worked as provided above, the City agrees to pay, and the Consultant agrees to accept as full and complete reimbursement for its expenses incurred in performing this Agreement, amounts properly and timely invoiced and in accordance with the following:

a. The City shall provide reimbursement for the Consultant's employee's automobile travel expenses, when such travel has been specifically directed by the SVP or his authorized representative and when a vehicle has not been furnished by the City, is payable at the federal rate in affect at the time of the expense. DEN shall be the point or origin for mileage calculation; mileage shall not be paid for commuting to DEN.

b. The City shall reimburse the Consultant at cost for the Consultant's reasonable and necessary expenses incurred in obtaining DEN access badges, vehicle permits, and office parking for its employees and all sub-consultant employees who perform services under this Agreement. Consultant's and sub-consultants' employees assigned to work at DEN shall be provided regular employee parking. DEN will not reimburse the Consultant or its employees for parking in airport terminal paid parking lots.

c. The City shall reimburse the Consultant for actual, reasonable premiums paid for insurance as required.

d. The City **may** reimburse the Consultant for special and unusual costs incurred in the performance of services which were requested in writing by the City under this Agreement utilizing a Reimbursable Expense Authorization. However, such reimbursement shall be made

only if the amounts to be reimbursed were approved in advance in writing by the SVP, and only if the SVP determines that the costs incurred were a necessary part of the services rendered and that such costs could not have been reasonably anticipated and provided for in the Multiplier Factor. **These costs shall be reimbursed to the Consultant at cost.**

4. Authorized Tasks. For other certain planning, programming, design and/or construction related services authorized by the City to be performed under this Agreement on a task order basis, the City agrees to pay and Consultant agrees to accept as full and complete compensation therefore, a sum negotiated and agreed by the parties prior to the commencement of the services. The City may make changes to the scope of any authorized task. Upon receiving a change in the scope of the task, the Consultant shall provide a written proposal within fifteen (15) days of the occurrence of the event giving rise to the change. The amount of the change in compensation shall be determined utilizing the same basis as the compensation for the original task.

G. EQUIPMENT / VEHICLES & CARTS / SMART PHONES

1. The City will provide all equipment deemed necessary by the SVP for the Consultant's personnel to perform their job duties with the exception of vehicles, electric powered carts, steel toed safety boots, and smart phones.

a. The City provided equipment will include standard PPE (including hard hats, vests, eye protection and hearing protection. It excludes steel toed safety boots and any personnel PPE such as but not limited to prescription eye protection or hearing protection.) DEN may provide computers, tablets, and hand tools, testing equipment, and fax and copy machines on an as needed basis as determined by Special Projects leadership.

2. Mileage incurred on DEN property shall be considered incidental to the monthly costs. Mileage off DEN property shall be approved, in advanced by the SVP and shall be reimbursed at the current federal rate per mile.

3. The Consultant shall insure that all employees that are assigned work that requires steel toed safety boots per OSHA regulations possess such boots. This cost shall be included in the multiplier. In addition, it shall be a requirement of continued work at DEN that these employees wear these boots in every instance which is required.

4. The Consultant shall provide, for each employee assigned to this contract, a Smart Phone with service for voice communications, text messaging, and email. This cost shall be included in the multiplier.

H. CONSULTANT'S MULTIPLIER FACTOR

1. It is the City's intention that the selected Consultant's direct labor multiplier factor (MF) will be adjusted accordingly for this contract. Moreover, upon selection, the City will require the submittal of supporting documentation as identified below that is used to derive the proposed MF. Each MF will be determined and expressed under the following formula:

Base Hourly Salary 1.00 / Overtime Hourly Salary

- + Payroll Labor Burden x.xx / x.xx
- + Indirect Personnel Expense x.xx / x.xx
- = Subtotal x.xx / x.xx
- + Profit (% of Subtotal) x.xx / x.xx
- + Other Overhead Costs x.xx / x.xx
- = Total Direct Labor Multiplier Factor (MF) x.xx / x.xx

2. Payroll Labor Burden will be based on the net actual cost of the mandatory or customary items enumerated as follows: The selected Consultant will furnish a detailed breakdown of the Labor Burden covering the enumerated components.

- i. payroll taxes;
- ii. worker's compensation insurance;
- iii. group insurance (health and disability);
- iv. sick leave, holidays and vacations; and,
- v. pension plans excluding profit sharing or items related to profitability.

3. Indirect Personnel Expense will be based on the net actual wages and associated mandatory or customary payroll benefits and liabilities, as above, of people whose salaries are not directly chargeable to a particular project.

4. Other Overhead costs are to be based on a recent statement prepared in accordance with Defense Contractors Audit Agency (DCAA) guidelines by a Certified Public Accountant (CPA) or a government agency.

5. Pay periods shall match the City and County of Denver's.

I. INVOICING

1. TIME RECORDS

a. Submittal of time sheets will be required concurrent with the submittal of each invoice.

b. Time sheets shall be organized and submitted based on directions from the City's SVP. The Consultant shall maintain time sheets and expense statements for each task. The City shall have a right to examine and audit these during regular business hours.

c. The Consultant shall maintain accumulated cost information, including work hours, for each project that personnel are assigned.

2. PAYROLL RECORDS a. The Consultant shall maintain and keep accurate and complete hourly payroll records on forms to be submitted by the Consultant and approved by the City. The Consultant shall at all times make said records available for inspection or audit by authorized representative(s) of the City. Such records must include, but not necessarily be limited to, the name, address, personnel classification, hourly wage rate for such classification (as hereinafter provided), hours worked each day, actual hourly wage rate or other salary paid (or to be paid), items of payroll withholding, items of fringe benefits accrued or paid, shift worked, shift scheduled to work and a description of the job or duty assignment for each of the Consultant's personnel rendering work or services under the provisions of this Agreement during any monthly payroll period. The Consultant shall submit electronic copy on CD-ROM or via email to contractadmininvoices@flydenver.com of such payroll records to the SVP or his designated representative at the end of each monthly payroll period.

3. OVERTIME PAY a. The standard work week will be comprised of 40 hours. The Consultant shall plan and schedule its resources such that the services to be provided under the terms of this Agreement are effectively implemented without causing overtime to its assigned staff unless specifically requested and preauthorized in writing by the City. If authorized in writing by the City, the Consultant's personnel may be required to work overtime hours, Saturdays, Sundays, or the holidays listed in this Section

b. The Consultant's charges for personnel so authorized to work at these times will be based on the following:

i. At the time of authorization, each person approved by the City to work on this contract will be categorized as either hourly (non-exempt) or salaried (exempt), based on such person's full-time or part-time status, length of assignment, and federal and state regulations.

ii. All full-time exempt personnel shall be paid at straight time rates for all overtime hours worked for weekly overtime when authorized.

iii. All full-time hourly (non-exempt) personnel will receive 150% of their straight time rate for weekly overtime when authorized.

iv. Holidays shall include only New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and one floating holiday to be scheduled by the Consultant and approved by the SVP. Each holiday, whether or not worked, shall be credited against the cumulative hourly requirements for payment of overtime rate for the week in which the holiday falls, if the person is regularly scheduled to work the standard work days which immediately precede and follow the holiday.

4. SPECIAL MAXIMUM HOURLY WAGE RATES a. During the term of this Agreement, if the City determines that a particular project requires the service of a person having a personnel classification not included in the categories provided in the Agreement, or if the City requires the services of a person having unusual experience or expertise in a personnel classification included in the Agreement, the City may, in its sole and absolute discretion, authorize in writing the assignment of such person(s) at a billing rate to be mutually agreed upon prior to assignment.

5. HOURLY RATE ADJUSTMENTS a. Hourly wage rates are subject to escalation, on an annual basis on the anniversary date of the contract NTP, for the Consultant staff provided in the categories stated; wage rate adjustments are not to exceed the Published Career Service Board's annual Classification and Pay Plan Review as adopted by the mayor and city council and that is in effect at the time of said adjustments. Any increase of the maximum hourly wage rate is not to be construed by the Consultant as an approval to increase the hourly wage or billing rate of any employee.

6. ACCOMMODATIONS a. The City shall provide office space, office furnishings and equipment, desk telephones, vehicles, office supplies and tools at DEN for use by the Consultant's personnel in performing most duties under this Agreement. For personnel assignments that are not full time, DEN will not provide office space and appurtenances or when identified on the task order.

7. INVOICES AND PROGRESS PAYMENTS

a. The City will provide the Consultant with the outline invoice format. The Consultant shall provide to the City's SVP a complete invoice format for SVP review and approval no later than fourteen (14) days after the Notice to Proceed. All invoice correspondence shall be shall be labeled with the Contract Number, Invoice Number, date, and file name Invoicing shall be submitted in an agreed upon format on CD-ROM or DVD disk and via email to: **contractadmininvoices@flydenver.com**

b. By the 10th of each month in which an invoice is submitted, the Consultant shall invoice the City for its costs on each task during the previous month.

c. The City's SVP will review all invoices and in the event of a disagreement with the invoice, he will notify the Consultant. The Consultant and SVP will meet by the 25th of the month to discuss the reasons for the disagreement and whether a portion of the payment for the task should be deferred. The SVP shall have the authority in his sole and absolute discretion to withhold portions of any progress payment request if he determines that the progress

claimed for any task in the invoices has not been achieved or any discrepancies of any portion of the invoice cannot be substantiated.

d. In accordance with requirements set forth in this Agreement the Consultant must have provided the City with the following documentation before, any payments will be made to the Consultant:

i. Certificate of Insurance

ii. Sub-consultant Agreement(s)

iii. Original signed Authorization Forms for any Key Professional Personnel Assignment who are not already approved in this Agreement

iv. Certifications of M/WBE Sub-consultants with date of expiration noted

v. Name and title for Authorized Signatures

8. INVOICING PROCEDURES

a. All invoices submitted for payment shall include the following items, or as directed by the SVP.

i. Documentation to support all invoices, where applicable, shall include the following:

ii. Copies of all time sheets, certified payrolls and other records, which highlight total hours invoiced. The Consultant's personnel must maintain daily time records and must prepare time sheets which must be signed and verified by the Consultant's on-site supervisor and the City's designated representatives.

iii. Copies of the City representative's authorization to provide overtime for the invoice period, as applicable.

iv. Copies of approved Reimbursable Expense Authorizations for additional services relative to the invoice period, as applicable.

v. Copies of approved Task Authorizations with all relative backup including any schedules of value, cost estimates and/or sub consultant proposals.

vi. Copies of receipts of all reimbursable charges and mileage logs detailing trips, along with signed authorizations.

vii. Adequate documentation from subconsultants, such as the item enumerated above.

b. Other documentation as may be required by the City. i. Signature from an officer of the Consultant's organization shall appear on all invoices certifying that the pay request has been examined and has been found to be correct.

c. The Consultant shall submit with each invoice, except the first invoice, signed Partial Releases from each sub-consultant detailing payments received by the sub-consultant for services performed under this contract.

Introduction

The primary role of the Program Management Partner is to provide services in the following areas as requested by DEN:

- 1.0 Program Set-up
- 2.0 Program Controls
- 3.0 Program Assurance Functions
- 4.0 Delivery Systems
- 5.0 Program Support Services

This SOW presents key tasks necessary for successful Program delivery based on our lessons learned and best practices and represents services available to DEN. Specific services, scope and levels of effort will be determined on a yearly basis and during major gate reviews in collaboration with DEN and adjusted throughout the year as requirements are identified and refined.

The need for additional services such as master planning, innovation, contractor data integration, customer systems integration, etc. shall be assessed yearly or more frequently and added to the SOW as needed.

This SOW is written for the program management of the GREAT HALL Program. Tasks described in this SOW may be applied to other DEN projects and programs to establish consistent management, monitoring and reporting, and delivery across DEN's portfolio of capital work. The need for these tasks and expansion of services onto other projects and programs will be reviewed on a periodic basis.

1.0 Program Set-Up

1.1 Mobilization Plan

Program Management Partner will develop and implement the mobilization plan for the GREAT HALL Program, including a detailed schedule identifying all tasks required to set up the GREAT HALL Program, including Program management and control systems to support successful Program delivery. The plan will include the milestones and deliverables required to launch the Program.

1.2 Establish an Integrated Program Office

It is the intent for the DEN team to integrate with the Program Management Partner in a common location. DEN will be responsible for providing all office facilities, network accessibility, as well as office furnishings.

1.3 Establish Governance

Program governance includes the functions, processes, procedures, and responsibilities that define how the GREAT HALL Program will be setup, managed, and controlled. It provides the backdrop for all activities of managing the Program and achieving the Program's outcomes. The Program Management Partner will review existing governance structures for the GREAT HALL Program and produce a draft governance handbook for the Program that will include:

Management controls such as roles and responsibilities, authority levels, and reporting

- Organizational controls to facilitate issue resolution and decision making
- Program stage gates for managing and controlling minimum requirements for progress at each stage of project and program evolution
- Work authorization, responsibility assignment by WBS, Baseline Change Controls, and Integrated Performance Management
- Change management requirements, procedures, and management controls

1.4 Establish Program Procedures and Tools

1.4.1 Program Management Procedures

The Program Management Partner will be responsible for reviewing existing DEN procedures, before enhancing, amending and/or creating, in partnership with DEN, a suite of GREAT HALL Program-specific Program management procedures that will be hosted in an electronic Program Management Plan (ePMP). These procedures would include the following:

- Cost and Schedule Management / Earned Value Management
- Risk Management
- Scope and Change Management
- Contract Management
- Performance Measurement, Analysis, and Reporting
- Document Controls
- Assurance Functions Health & Safety, Environment, Sustainability, Security, Diversity and Inclusion and Quality
- Stakeholder Management
- Communications
- Technology Management
- IT Management
- Capacity Building / Knowledge Transfer
- Invoicing and accounting
- Delivery Functions Planning, Design Management, Construction Management, Commercial Project Management Oversight, Operational Readiness and Airport Transition, Operations and Maintenance, Closeout, and Organizational Development
- Any others required for Program success such as Resource Management, Interface Management, etc.

1.4.2 Program Management System

The Program Management Partner will review existing DEN management tools, practices and processes, before making recommendations in partnership with DEN, on enhancements and additions that will support the successful delivery of GREAT HALL Program vision, desired benefits and objectives.

The Program management system is an integrated set of policies, processes, systems, practices and tools for enabling an integrated Program management and delivery governance framework.

As part of the solution, the Program Management Partner will propose a web-based Program Management Information System (PMIS), which generally will include a document control system, an integrated risk management system, change management platform, contract administration package,

Program dashboards, and Program controls system founded on earned value management principles, along with any other tools or supporting processes required for successful delivery of the Program. Once approved by DEN, the Program Management Partner will implement the agreed Program management system.

The resulting Program management system will function as a platform for communications, collaboration, document storage and distribution, reporting, contract and Program management. Using a hierarchy of different security levels, the system information will be accessed through the PMIS and used by DEN, Program Management Partner, its consultants, key stakeholders, and contractors.

Provision of the PMIS and Program Controls software and databases and hosting options will be explored to consider the most effective solution which may include hosting by the Program Management Partner, cloud-based hosting, and/or hosting on DENS's own server.

Program management system set-up will include:

- Conduct review of existing Program management tools and prepare recommendations for enhancement, including possible interface with the web-based PMIS solution.
- Develop a detailed IT implementation schedule for the web-based PMIS proposed for the GREAT HALL Program, along with a description of any requirements for IT hardware and software proposed to be procured for the system enhancements agreed in the review.
- Develop and implement the web-based PMIS (including performance dashboards) for the GREAT HALL Program and manage system operations, including software licenses and hardware. (Procurement will be done by DEN with flow down requirements to the designer and contractor who will provide for their own application licensing).
- As a function of the PMIS, work in partnership with DEN to develop and provide accurate and timely reports in the agreed electronic and/or hard copy format.
- Implement an electronic document control system to safeguard GREAT HALL Program related documents access and for future reference as defined in a document control plan agreed to with DEN for the GREAT HALL Program

More information relating to Program Controls is provided in Section 2.0 below.

1.4.3 External GREAT HALL Public Web-site

The Program Management Partner will assist DEN with the creation, development and ongoing maintenance of a separate public facing website that integrates information from the Program dashboard and other sources to keep the public informed on GREAT HALL progress.

1.5 Develop Program Execution Plan

Using the Program information developed to date by DEN and its consultants, the Program Management Partner will review, validate and amend if needed the Program cost estimate and schedules for each project/phase, preparing budgets and cash flows for their integrated implementation. Each schedule will include key milestones in each delivery phase e.g. design, construction etc. From these the Program Management Partner will prepare the Master Schedule as an integrated time plan showing the interfaces between projects for successful delivery to be achieved in line with the GREAT HALL Program.

Similarly, the Program Management Partner will work with DEN to create a plan that align to the DEN Master Budget. The Program Management Partner will coordinate with the designer and general contractor to establish a time phased performance baseline for the program to fit within the master budget constraints. Together these will form the Program Integrated Performance Measurement Baseline (IPMB) plan for GREAT HALL Program.

The Program Execution Plan will also include details of the work break down structure (WBS), contract packaging strategy, organization, delivery strategy etc. When completed and approved, this will become a working feature of the PMIS, with the integrated master schedule, IPMB and WBS providing the baseline for the Program Controls system for schedule management, budget management, performance analysis, and change management. See Task 2 below.

2.0 Program Controls

Program controls is a key functional practice of the Program management methodology. Program Controls integrates the programmatic technical scope objectives, schedule, cost, technical scope, quality and programmatic risk into a baseline plan against which progress is objectively measured in an earned value framework to provide metrics and performance trends used for making timely informed management decisions. Program controls integrates program management policies procedures, practices, and tools into a comprehensive Program baseline plan that drives Program delivery performance within and aligned to Program management governance principles.

The Program Integrated Performance Measurement Baseline (IPMB) plan is established through a formal IPMB review and approval with DEN and top tier contractors. Once the IPMB is approved, performance against the IPMB shall be reviewed monthly with DEN in a recurring monthly Program Management Review (PMR) meeting where key strategic decisions and direction shall be provided to address programmatic priorities. The IPMB represents the agreed measuring stick of successful program performance and as such requires documented change control decisions and baseline change discipline process to provide integrity and alignment to DEN GREAT HALL Program objectives.

Program controls includes the functions of planning, scheduling, budgeting, and measurement of performance. As such they are key to supporting successful Program delivery. As detailed under Task 1.4.2, the Program Management Partner will develop and implement a Program controls plan and corresponding systems to provide integrated processes, methods, procedures, in an automated software Program that effectively develops, manages, and reports on the Program IPMB schedule and cost performance aligned with the Program technical scope of work as defined and detailed by a master Program work breakdown structure (WBS).

The Program Controls systems developed by the Program Management Partner for the GREAT HALL Program will include tools that can support the following functional areas:

- Integrated cost/schedule management and forecasting
- Earned Value Management
- Risk Management
- Scope and Change Management
- Performance Monitoring and Reporting
- Document Management Control
- Estimating

2.1 Integrated Cost and Schedule Management / Forecasting/Earned Value Management

The Program Management Partner will develop the Program Work Breakdown Structure (WBS). The WBS shall represent all work on the program including by the Designer and General contractor. The WBS shall be the basis for performance reporting, variance analysis, earned value progress measurement, and invoicing. All performance shall be measured against the most current approved IPMB. The IMPB shall be organized by the WBS and both the IPMB and the WBS shall be managed under formal change control for IPMB integrity. Reporting Program performance and updating of progress or baseline change itself will be coordinated across the GREAT HALL Program in accordance with a master Program business rhythm calendar aligned generally around agreed monthly financial reporting requirements of DEN and authorized financial system for the Program. Performance variances shall be analyzed for root cause and used in developing cost and schedule completion forecasts and corrective action recommendations.

2.1.1 Schedule Management

The Program Management Partner will:

- Maintain the Program Master Schedule at various levels of detail for management reporting.
- Control changes to the integrated master schedule (MS) in accordance with formal, approved change management processes (see below).
- Monitor consultants and contractors for inclusion of sufficient and meaningful deliverables and milestones and integration of progress against the IMS. Any proposed schedule updates to the IMS shall be documented and processed through change management process for authorization prior to implementing work sequence or scope changes.
- Confirm that consultant and contractor schedules include details of the main highlights and key
 decision points, plus details of any other Program obligations at all stages of the Program.
- Review consultant and contractors' practices to confirm application of baseline, baseline change, and generally overall schedule quality.
- Monitor and report on the perceived viability of the consultant and contractor schedule based on realistic assessments of schedule risks and prepare alternatives to correct or avoid schedule variances.
- Identify and report out on any perceived issues with consultant and contractor planning and scheduling processes.

2.1.2 Cost Management

The Program Management Partner will:

- Support overall cost management against an agreed IPBM maintained for the life of the program.
- Create a Cost Breakdown Structure (CBS) which will include the overall Program CBS and the CBS of each subordinate project to be delivered.
- Establish the agreed IPBM which results from the cost loaded schedule to establish a time phased cost plan organized by programmatic WBS and applies to the overall program and to each individual project to be delivered.
- Prepare periodic cash flow forecasts of capital requirements for the program.

- Review estimates and forecasts, code of accounts and cost distribution criteria for the Program on a regular basis.
- Confirm design submissions include cost estimates organized by program WBS and other required cost breakdown structure to enable DEN to make the best decisions for approvals.
- Establish procedures for preparation of budget re-forecasts and updated cash flow.

2.1.3 Earned Value Management

The Program Management Partner will:

- Establish earned value reporting requirements and disseminate information to DEN, contractors and stakeholders as appropriate.
- Calculate and report earned value metrics along with root cause variance analysis and corrective action recommendations.
- Provide monthly updates to Program cost and schedule at-completion forecasts and associated variances with corrective action recommendations.
- Confirm that project teams and the associated contractors provide the agreed schedule, cost, variance analysis, forecasting, progress updates, and related information following programmatic standards and systems necessary for integration into the Program IPMB and controls reporting systems.
- Establish requirements for invoicing, cost, schedule, change requests, and other progress or reporting in alignment with the programmatic monthly business rhythm/cadence requirements.

2.2 Risk Management

The Program Management Partner will develop a systematic risk management plan / strategy to be applied to the Program and its component projects that clearly identifies potential risks to the Program. The risk management plan needs to be comprehensive to cover all potential risks faced by the Program throughout the duration of the Services, identify probabilities of risk occurrence and allocate weighting systems to monitor risk. The risk management plan needs to include early warning systems and trend analyses and other methodologies that assist in early discovery of risk items.

The Program Management Partner will:

- Develop a risk management plan to manage Program risks.
- Develop Program level risk management plans for the preparation and maintenance of a risk register for the Program, identifying programmatic and project related risks, (e.g. schedule, cost, escalation, market conditions) associated with the Program, the mitigating strategies, likelihood of failure, and cost of each level of risk. Contractors will be required to prepare project risk management plans.
- Develop and implement the process and tools for identification of Program and project risks and opportunities. Each project will be evaluated for specific risks and opportunities (equipment delivery, limited shutdowns, permit compliance, market and supply chain risk, etc.). A risk register will be developed for each project that includes: identification of risks and opportunities, calculation of impacts, and approach to mitigation.

2.3 Scope and Change Management

Scope and change management are two of the most critical functions of any Program. Control mechanisms must be in place to identify and manage activities and issues that might ultimately alter the delivery of the GREAT HALL Program's objectives.

The Program Management Partner will:

- Create and implement an internal Change Management Plan, Change Log, and associated governance processes.
- Review DEN's existing change management system and procedures, and work in partnership with DEN to enhance and develop the change management system and procedures so that they capture complete, accurate and consistent baseline documents, and confirm changes in design and construction and any other change are controlled in accordance with the contract documents and/or Program controls procedures.
- Establish the procedures for changes to Program criteria to create uniformity of application across all existing contracts of the Program and the projects for design details, material approvals and other related items.
- All changes to the agreed and approved Integrated Maser Program Baseline shall be implemented only after assessment and authorization under the formal baseline change control process for the program.
- Assess any change request in terms of the impact on time, cost and quality and recommend mitigation and management strategies.
- Monitor changes and potential changes across the Program against the contractual and scope baselines.
- Monitor the processing of changes which require contractual variations.
- Evaluate financial implications of changes to contracts that are determined as necessary to implement.
- Advise DEN on matters affecting the program budget, schedule, and scope to provide timely
 updates that reflect funds received, funds obligated through contract awards and approved
 change orders, and projected obligations.

2.4 Performance Monitoring and Reporting

The Program Management Partner will collect, coordinate and report out on the performance management information required for setting objectives, planning Program activities to accomplish these objectives, monitoring and evaluating results to determine if progress is being made toward achieving the goals and objectives, and identifying opportunities for improvement. It will do this through the development and implementation of a comprehensive performance management system for the Program. This will include a review and recommendations for enhancement of the existing DEN system.

The Program Management Partner will:

 Develop a web-based reporting tool and dashboards that will provide timely information and can be customized to facilitate communication between DEN and various stakeholders. This will include information flow from the contractors, suppliers and other consultants to major Program stakeholders

- Integrate the Performance Management System with sources of information collected from across the Program to automate the performance measurement process
- Collect, analyze, and report on Program-wide Key Performance Indicators (KPIs)
- Collect, analyze, track, monitor, and report Program cost, schedule and budget information on an agreed basis consistent with the master Program business rhythm calendar. The report should include all encumbrances, commitments, and actual expenditures and develop earned value, trends, forecasts and variance information.
- Conduct regular Program performance review meetings and other related meetings.
- Prepare and submit monthly performance reports to DEN within mutually agreed timeframe and format
- Participate in regular Program progress review meetings, and other one-off Program performance-related meetings as appropriate, and follow up on corrective/control measures where required
- Assist DEN in preparing periodic Program status reports to issue to higher authorities and/or other relevant stakeholders

The Program Management Partner will establish and manage the reporting process to enable the communication of project- and Program-level status to involved stakeholders. This information will be integrated into the Program-wide reporting processes, providing key information to populate key status reports which communicate vital information concerning project and Program performance, including actual versus planned costs, schedule performance, and updated forecasts.

2.5 Document Management Control

The Program Management Partner will implement an electronic document system to safeguard related documents for future reference for the Program. This will be implemented following a review and recommendations for enhancement of the existing DEN system.

The Program Management Partner will:

- Develop and implement policies, processes, procedures and systems for the collection, storage, protection and dissemination of Program documentation.
- Create document management workflow, coding structure, filing system and formal process requirements for use by all Program Management, stakeholder, and contractor staff working or contracted on the program.
- Train Program staff and set-up procedures for departments to receive, record, file, retrieve, duplicate, store and issue documents.
- Compile and manage the document repository to include Program standards, policies, procedures, plans, specifications, schedule, acceptance certificates, transmittal letters, photos, videos, electronic media, meeting minutes and reports, and any other information relevant to the Program.

2.6 Estimating

The Program Management Partner will provide cost estimating to support cost management on the GREAT HALL Program. Discipline specific expertise will be provided through reach back support on an as needed basis. The Program Management Partner will:

- Review and assess existing estimating policies, processes, and procedures
- Revise and/or develop estimating policies, processes, and procedures to ensure consistent estimates are provided throughout the life of the Program
- Develop independent estimates at key milestones and deliverables
- Assess the completeness of designer and contractor provided estimates and provide recommendations to DEN to address any gaps identified

3.0 Program Assurance Functions

The Program Assurance functions include health and safety, security, environment, sustainability, quality, and diversity and inclusion. The Program Management Partner will review and enhance existing DEN Assurance processes, procedures and standards for all assurance elements, and work in partnership with DEN to develop an Assurance Management framework that meets all the necessary requirements for DEN to achieve its Program wide goals.

3.1 Health and Safety

The Program Management Partner will:

- Develop a Program-wide strategic health, safety, as well as requirements for project-specific plans, to enable the standardization of health and safety practices and results across the Program. Contractors will develop their own H&S plans which will be reviewed for compliance to program and contract requirement.
- Develop plans for the communication of requirements and assessment of performance against these
- Implement a Program to monitor and evaluate health, safety practices and performance across all Program participants.
- Set a schedule for review and improvement of practices, and work with DEN to determine an appropriate schedule to report on Program-wide performance.

3.2 Quality

The Program Management Partner will:

- Prepare a Quality Management System (QMS) approach that describes the anticipated steps and requirements.
- Provide quality assurance services to verify that the procedures and Program plan are being implemented according to the developed standards. Where requirements are burdensome, or not implementable, they will be streamlined and reflected as modified in the Program Management Plan.
- Include quality assurance in all phases of the Program, so that deficiencies are identified and addressed.
- Perform pre-scheduled and/or random quality assurance reviews.
- Prepare a Quality Management Plan outlining all independent reviews required and specifying milestones regarding when the reviews are to take place.

3.3 Environment

The Program Management Partner will:

- Develop and implement a framework that enables the GREAT HALL Program to define its environmental goals and strategy, as well as Program- and project-level approaches and performance criteria to reach these goals.
- Monitor progress against these goals both at the project and Program levels, and to communicate these results to the appropriate stakeholders.

3.4 Sustainability

The Program Management Partner will prepare a Sustainability Strategy and Implementation Plan for the Program. The sustainable development strategies will be defined in conjunction with DEN. For sustainable strategies, the Program Management Partner will develop a detailed integration and operations plan around specific system integration designs. Infrastructure and utilities should be sustainable in terms of utilization of water, usage of energy, generation and re-use of waste. A sustainable Master System Integration Plan should be developed to provide steps for continuous improvement in efficiency and monitoring of the same.

The Program Management Partner will:

- Develop and implement a framework that enables the Program to define its sustainability goals and strategy, as well as Program- and project-level approaches and performance criteria to reach these goals.
- Monitor progress against these goals both at the project and Program levels, and to communicate these results to the appropriate stakeholders.
- Recommend and initiate remedial action plans to address performance shortfalls in project and Program sustainability goals.

3.5 Security

The Program Management Partner will develop and implement a risk/threat assessment process and security/asset protection strategy, processes, and plan which includes:

- Crisis management response
- Business continuity
- Employee protection
- Information security
- Program office security
- Facilities and job-site security
- Coordination with Transportation Security Administration (TSA)

3.6 Diversity and Inclusion

DEN and the Program Management Partner are committed to increasing the opportunities to involve minority-, and women-owned firms in the GREAT HALL Program. The Program Management Partner will work with the Division of Small Business Opportunities (DSBO) to ensure that certified Minority and Women Business Enterprises (MWBE) participate in the delivery of the GREAT HALL Program. The Program Management Partner will

- Achieve a minimum MWBE participation rate in the Program Management Partner team of twenty percent (20%)
- Monitor and report on the MWBE participation rates of the GREAT HALL Program designers, contractors, and their sub-contractors

4.0 Delivery Systems

The Program delivery systems functions define the manner in which the overarching delivery systems strategy and plan will be prepared, consistent with DEN's vision and governances for executing the work. The strategy and plan must align with the overall Program strategy and provide the critical delivery systems objectives and the corresponding framework for why, how, when, and by whom the different delivery systems areas will be managed within the Program. The delivery systems comprise the following functional teams:

- Planning
- Design Management
- Commercial
- Construction Management
- Asset Management
- Project Management Oversight
- Operational Readiness and Airport Transition
- Operations and Maintenance
- Closeout
- Organizational Development

4.1 Planning

From the master planning work that has been conducted to date, the Program Management Partner will review the master plan, make any recommendations on enhancements, and build them into the Program Execution Plan. A draft of the IPMB will be created to reflect the master plan and approved through an integrated baseline review to include DEN, Program Management Partner, Designer and Contractor.

4.2 Design Management

During design, a primary focus for the Program Management Partner will be the establishment, integration, and monitoring application of Program-wide design principles and standards to drive quality and development success.

4.2.1 Design Standards

The Program Management Partner will:

 Collaborate with the designer who will be responsible for the creation of a set of design guidelines and standards that will form a coherent destination brand and identity for the development.

4.2.2 Master Plan Integration

The Program Management Partner will:

- Analyze the master plan to identify risks to the development, identify opportunities to improve the master plan.
- Analyze GREAT HALL existing and planning projects to verify integration in the master plan.
- Analyze GREAT HALL existing and planning projects to determine master plan interfaces with external projects and ongoing operations.
- Collaborate with stakeholders for assessment of proposed design changes to the master plan. Potential dependencies or influences from external sources will be included in the documentation for review and approval following formal change control process prior to changing the master plan or IPMB.
- Analyze the existing and planning utility infrastructure to identify risks and opportunities to adequately support the development.

4.2.3 Design Management

The Program Management Partner will:

- Prepare the design briefs for detail design consultants
- Review and update design basis, criteria and standards to fit Program requirements and concepts
- Review the constructability of the proposed designs
- Review the constructability and value engineering ideas put forward in order to accomplish time or cost savings
- Carry out reviews where dictated by process or regulatory requirements. Coordinate and manage any required technical reviews.
- Provide design coordination between project related consultants, government agencies, and all relevant stakeholders involved in the Program.
- Coordinate design and design issues between contractors at interface points to align systems and schedules
- Oversee the work of all bidders, contractors, vendors, suppliers and assist in coordination and conflict resolution
- Monitor the design schedule and manage changes or delays
- Initiate and conduct design value engineering workshops throughout the design process
- Implement a Design Stage Review Process to optimize control of quality, cost, and schedule

In performing this role, the Program Management Partner will verify the following city elements are taken into account:

- Purpose, intent, applicability, functionality, technology, schedule and cost for each base infrastructure project recommended in the Master Plan
- Applicability of technologies to satisfy program objectives e.g. sustainability and smart technology
- Interfaces with other projects (sequencing)
- Critical risk areas and assumptions
- Permissions/approval requirements and durations

4.3 Commercial

Commercial management can be a critical feature of the Program Management. The Program Management Partner will provide commercial management as requested by DEN.

If needed, the Program Management Partner will provide services to support effective engagement of the supply chain in a way that aligns all participants with the objectives of this Program.

4.3.1 Procurement and Supply Chain Management

If requested by DEN, the Program Management Partner will:

- Lead, coordinate and manage procurement-related activities in hiring project support, technical resources, and specialty consultants.
- Prepare and distribute Pre-qualification Questionnaires (PQQ) and Requests for Proposals (RFPs) associated with procurements and maintain and update all tender and contract documentation in liaison with DEN.
- Evaluate bids, manage procurement approvals process and operate the procurement system.
- Manage the supply chain and initiate supplier focused activities and communications.
- Identify and execute opportunities for strategic horizontal supply chain integration and communicate supply-side initiatives for execution in advance of Program demands.

4.3.2 Contract Management

The Program Management Partner will:

- Assist DEN with compliance with contract administration standards, procedures and tools.
- Assist with a standard invoice summary and approval process if requested.
- Review invoices and pay applications and make recommendations to DEN as appropriate.
- Assist DEN with its contract management system to provide visibility to the management in the following areas: changes, invoicing, claims, valuations and payments, notices, early warnings, approvals, compliances, breaches, terminations, extensions, entitlements, disputes and reconciliations, insurances, warranties, collaterals, securities and bonds.
- Evaluate contract packaging against the capacity and capabilities of the potential contractors as well as any special contract requirements that might dictate recommendations to modify contracts.
- Assist with the development of procurement and contracting strategy for the delivery of the various projects within the Program.
- Alert DEN of any actual, perceived or expected departure from contractual requirements and prepare analysis of potential issues, resolution options and related recommendations.
- Assess any potential changes or change requests in terms of their impact on the contract, impact on the Program, and any potential contract variations required.
- Monitor Program cost, schedules and plans for compliance with the contract and advise on the impact of any non-compliance.
- Proactively supervise all aspects of project contracts within the Program including, but not limited to:
 - Monitoring contract compliance and terms and conditions
 - Supervising and reviewing overall performance of service level agreements

- Managing receipt and documentation of change requests
- o Coordinating the review process by appropriate Program stakeholders
- Coordinating the communication of contract related changes / variations to appropriate stakeholders
- Delivery of contract deliverables
- Monitoring payment procedures
- Supporting management reporting.
- Assist with the claims management process as requested that includes evaluation of responsibility, impact, and costs and includes a dispute resolution process.
- Create documentation that may be required for claims defense.
- Review and evaluate regularly the status of all existing bidders and construction contracts.
- Perform reviews of the PMs, bidders, contractors and suppliers' deliverables for contract compliance and performance.

4.4 Construction Management

This function guides the development of the strategy and plan for monitoring performance and the delivery of construction parties' contractual obligations. Construction Management will follow the Construction Management Association of America's *Construction Management Standards of Practice*.

- Support the oversight described in Section 4.7 Project Management Oversight as well as Quality oversight
 - Perform oversight of quality inspections and testing
 - Review inspection reports and forms
 - Provide oversight of environmental and permit monitoring
 - o Monitor contractor materials testing procedures
 - o Review documentation
- Develop Construction Management Team roles and responsibilities
- Develop and provide oversight of a Construction Management plan, processes, and tools to be followed by the contractors in construction project delivery
- Monitor contractor compliance with their contract documents, plans, and specifications
- Monitor the contractor's Construction Administration practices are in compliance with the contract (Health and safety; Communications and meetings; RFI and submittals; Cost and schedule controls; Change management; Progress payment applications; Documentation and document control)
- Monitor contractor performance against sustainability goals
- Monitor commissioning
- Support resolution of construction related issues and disputes
- Support claims management and administration
- Support construction progress reporting
- Review recommendations made to contract modifications through the change management process
- Review contractor requests for payment
- Validate construction close-out
- Monitor post-construction activities

4.5 Asset Management

The Program Management Partner will coordinate with current Master Planning and Asset Management efforts to facilitate DEN's development of the ability to prioritize projects, activities, and expenditures using a consistent and rational process. The asset management services task will be performed on an asneeded basis. As-needed tasks may include but not be limited to:

- Assist with asset data collection and analysis.
- Assist with the refinement and adoption of DEN's asset management policy, including updated levels of service.
- Facilitate further development and use of a Stakeholder input tracking system to identify asset challenges and needs for improvement.

4.6 Project Management Oversight

The Program Management Partner will provide overall coordination of all project activities through the inclusion of Project Managers to oversee the work being conducted for individual projects or groupings of projects, and the work being conducted by consultants and contractors, as appropriate.

The Program Management Partner will:

- Oversee site assurance health, safety, welfare, environment, quality, security, accessibility.
- Monitor performance to budget and schedule.
- Manage claims resolution/mitigation.
- Manage change orders.
- Conduct risk analysis.
- Manage progress payment reviews and recommendations.
- Complete required reporting (expenditures, forecasting, schedules, problems, potential claims, photos, etc.).
- Obtain as-built and maintenance manuals.
- Oversee commissioning and activation of facilities.

4.7 Operational Readiness and Airport Transition (ORAT)

The Program Management Partner will work with DEN on Operational Readiness and Airport Transfer (ORAT) requirements including:

- Facilities As-built/ installed Infrastructure/ Equipment.
- Information Procedures & Manuals.
- Systems Airport Information Management System (AIMS), Building Management System (BMS), Baggage Handling System (BHS), Flight Information Display System (FIDS), etc
- Human Resources Organization; acquisition, training and certification of staff.
- Trials and Testing Commissioning of systems and equipment, pre-opening trials and checks.

Specific process support will include:

- Guide the design and planning teams in consideration of trial and opening day concerns.
- Liaison between key parties including Airport Operations, Maintenance, Security, Airlines and Stakeholders to develop plans for commissioning and activation.
- Monitor the development of training manuals and transfer documentation to prepare the operations and associated departments for the new facilities and systems.

 Coordinate the trial operations process to test and practice operational implementation in the new facility.

4.8 Operations and Maintenance

The Program Management Partner will

- Assist in the development and implementation of DEN's Operations and Management model that will provide DEN with the most efficient, effective and economical means of providing required services to their passengers and businesses, as well as to best protect and maintain the assets.
- Monitor contractor compliance for provision of required Operation & Maintenance (O&M) manuals for all assets developed during the Program.

4.9 Closeout

Closeout is the systematic approach for ensuring successful completion of the program and must be taken into consideration from the very start of the Program. The Program Management Partner will:

- Review and assess existing project/program closeout policies, processes, and procedures
- Revise and/or develop project/program closeout policies, processes, and procedures to ensure best practices are applied for the closeout of the GREAT HALL Program
- Monitor and report on the status of program close out

4.10 Organizational Development

Organizational development is designed to support improvements and change within the delivery organization and associated support groups. The improvements and change will ensure that the needed capabilities are in place and that the organization is operating in a way to effectively and efficiently deliver the GREAT HALL Program. Organizational development is not a separate initiative from the delivery of the GREAT HALL Program but an integral part that is necessary to ensure successful delivery. This may involve

- Enhancing and building new capabilities
- Changing aspects of the way DEN works
- Building an agile and high performance team
- Enabling change while maintaining a focus on delivery

To support successful organizational development, the Program Management Partner will

- Perform a structured, quantified, and analytical gap analysis and maturity assessment
- Develop with DEN leadership the vision and goals of the delivery organization through interviews, workshops, and chartering sessions
- Develop an organizational development plan to implement the improvements and changes
- Support leadership in the implementation of the necessary improvements and changes

5.0 Program Support Services

5.1 Stakeholder Management

While DEN will maintain overall responsibility for stakeholder management, the Program Management Partner will focus on delivery of stakeholder requirements through each of the program components. This will enable DEN to focus on incorporating stakeholder input, serving as a liaison to all levels of government, and managing the flow of funding in a transparent and proactive manner.

The Program Management Partner will:

- Define stakeholders with the assistance of DEN.
- Develop and implement a stakeholder management and coordination strategy.
- Coordinate with the regulatory agencies and other stakeholders that have an interest or are participants in the Program for the provision of any required permits.
- Prepare engagement strategies for key stakeholders.

5.2 Communications

DEN will maintain responsibility for the public-facing communications. The Program Management Partner will work in support of DEN in the provision of Program information as requested.

The Program Management Partner will also develop a Program Communication Plan which addresses the following elements:

- Roles and responsibilities of Program participants, including Program Management Partner, contractors, consultants, suppliers and other stakeholders.
- Procedures and flow charts that detail the communications among Program participants, including Program Management Partner, contractors, consultants, suppliers and other stakeholders.
- Delivery and distribution of different forms of information or communications to relevant appropriate stakeholders.
- Contractual and functional communication requirements and inclusion of DEN in communication between the Program Management Partner and the Program participants and other entities relating to the Program.
- For each of the participants identified, the Program Management Partner, working with DEN public relations department, will identify appropriate stages of the Program in which public involvement and meetings would be appropriate, and in conjunction with DEN, assist in developing appropriate materials.
- Assist DEN with prompt responses to public queries and comments on the Program when required.
- Schedule status review meetings at all levels (DEN, Contractors, and Government Agencies).
- Document meetings and decisions.
- Development of the public facing GREAT HALL web page and process for validation and approval of the information on the web page.

5.3 Technology Management

Technology management will be a key component. However, technology management should encompass those technologies required for the development including sustainable technologies.

The Program Management Partner will:

- Establish technology innovations and integration initiatives into all aspects of the development from cradle and throughout each development phase to capture current, pending, and future technology-related innovations that will meet objectives of the GREAT HALL Program.
- Technologies should be scalable and transferrable and should be economically viable at the time of implementation.
- Work with DEN and other consultants engaged by them in implementing its vision by allowing for technology and ICT innovations to be incorporated into the program.

5.4 Information Technology (IT) Management

This function includes Program, project and information management tools and applications for the Program Management Partner to monitor and assess progress and deliverables with respect to project planning and scheduling, risk management, resource management, procurement and contract management, administration, and management reporting functions. Information management systems e.g. servers, software, licenses, etc. may be provided and hosted by the Program Management Partner subject to the approval of DEN as applicable. The ultimate goal is to establish the IT hardware infrastructure platform needed to host requisite software applications required for the Program Management Partner scope of work. Insufficient IT management and resources will jeopardize the capability for successful program management. Failure to approve and fund needed IT management and infrastructure will necessitate revision of the Program Delivery Partner scope of work.

The Program Management Partner will:

- Develop a detailed IT implementation schedule for the web-based Program Management Information System (PMIS) proposed for the Program, along with a description of any requirements for IT hardware and software proposed to be procured. This would be finalized based on the approval of DEN as applicable.
- Develop and implement a web-based PMIS (including a dashboard) for the Program and manage the system operation, including software licenses and hardware maintenance. The system will be accessed and used by DEN, its consultants, PMs, stakeholders, bidders, suppliers and contractors. The software, servers and database can be provided by the Program Management Partner and can be located in the consultant 's home office or the field Program Management Partner.
- Coordinate information flow to transmit up-to-date and timely information and knowledge to the Program team and DEN, PMs, contractors, suppliers and stakeholders using the web-based tools.
- Develop and implement a PMIS which will provide accurate and timely reports to DEN and stakeholders in electronic and hard copy format.

5.5 Capacity Building / Knowledge Management

Capacity building and capability strengthening within DEN organization, and across the supply chain as appropriate, will be an important part of the Program Management Partner role.

The Program Management Partner will:

- Develop a capacity building strategy in conjunction with DEN that will anticipate employment needs during the Program implementation phase.
- Identify gaps in the skills or capacity of the local staff, and work with DEN to respond to evolving
 employment needs by developing capacity and implementing specific training required to
 facilitate successful delivery.
- Identify opportunities to develop local companies, build partnerships with community
 organizations and stakeholders to successfully transition to a comprehensive service delivery
 organization.
- Develop and implement a training Program for DEN personnel to continue to support the Program-delivered capability after the contract period and provide an effective handover of such activities.
- Develop and maintain a lessons learned (knowledge management) system that will be used in implementing future development.

5.6 Program Administration

The Program Management Partner will coordinate with DEN's administrative services so that program management administrative requirements are met. Additional administration services can be provided as required.