• INTEGRITY • FISCAL RESPONSIBILITY • PROFESSIONAL EXCELLENCE • CARING ATTITUDE • ACCESSIBLE AND RESPONSIVE •

CITY OF BOULDER CITY, NEVADA

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

BOULDER CITY MUNICIPAL AIRPORT
FUEL FARM IMPROVEMENTS

BOULDER CITY PROJECT NO. 22-1140-MC
BID DATE: August 16, 2021

FORMAL BID No. B-2021-04

FUNDED BY:
THE CITY OF BOULDER CITY

TABLE OF CONTENTS

Description	Page
NOTICE INVITING BIDS	3
INSTRUCTIONS TO BIDDERS	4
OFFICIAL PROPOSAL	8
BID SCHEDULE I	10
BID BOND	12
INFORMATION REQUIRED OF BIDDER	13
CONTRACTOR'S GENERAL INFORMATION	17
5% SUBCONTRACTOR'S LIST	19
1% SUBCONTRACTOR'S LIST	20
EQUIPMENT /MATERIAL SOURCE INFORMATION	21
AGREEMENT	22
CERTIFICATE OF OWNER'S ATTORNEY	24
AGREEMENT FOR ARBITRATION	25
CORPORATE CERTIFICATE	27
PARTNERSHIP CERTIFICATE	28
FAITHFUL PERFORMANCE BOND	29
LABOR AND MATERIAL BOND	30
GUARANTEE BOND	31
DEFINITIONS AND ABBREVIATIONS	32
GENERAL CONDITIONS	34
SPECIAL PROVISIONS	58
PREVAILING WAGE RATES CLARK COUNTY	105
CONSTRUCTION SAFETY PHASING PLAN	107

NOTICE INVITING BIDS

DESCRIPTION OF WORK: All work known as the **FUEL FARM IMPROVEMENTS, BOULDER CITY PROJECT NO. 22-1140-MC** shall include furnishing all labor, material and equipment to complete the Fuel Farm Expansion Project, at the Boulder City Municipal Airport. Project will include, but not be limited to site work, grading, asphalt paving, Portland Cement Concrete pavement, storm drain improvements, pavement markings, electrical improvements, extension of the fire suppression system, installation of three (3) fuel dispensers, installation of new 12,000 gallon Avgas tank, and closure of two (2) fiberglass underground fuel storage tanks.

OBTAINING CONTRACT DOCUMENTS: The plans, specifications, and all contract documents may be obtained at https://www.ngemnv.com/. These items are constituted as part of the contract.

RECEIPT OF AND OPENING OF BIDS: Sealed proposals will be received electronically utilizing the Nevada Government E Market Place (NGEM) located at https://www.ngemnv.com/ until **September 16, 2021.**

The proposals will be opened promptly after 2:00 PM utilizing the Nevada Government E Marketplace (NGEM) electronic bid system. The bid tabulation document which can be obtained within NGEM will be publicly available after opening.

NRS 332.065 CERTIFICATION: Prospective bidders are notified that they shall make certification of conformance as required per subsection 2 of NRS 332.065.

INSTRUCTIONS TO BIDDERS

FORM OF PROPOSAL: The proposal shall be made utilizing the Nevada Government E Market Place (NGEM) electronic bidding system

WITHDRAWAL OF PROPOSAL: All proposals may be withdrawn via the Nevada Government E Market Place (NGEM) electronic bidding system prior to the closing of the bid.

OPENING OF PROPOSALS: The proposals will be opened electronically after the bid closing period and will be immediately available for public viewing via the Nevada Government E Market Place (NGEM) electronic bidding system.

LATE PROPOSALS: Late proposals will not be considered for any reason.

SITE OF WORK: The site of work is located within the city limits of Boulder City, Nevada.

COMPLETION OF WORK: All work including deficiency list items must be completed within sixty (60) calendar days after the date of the Notice to Proceed by the Owner. There shall be a one-hundred eighty (180) calendar day procurement period prior to construction. The Contractor shall provide a one-year warranty for the scope of work performed in this contract. The one-year warranty shall be from the date of the Notice of Completion.

DEFICIENCY LIST: The Contractor is required to request a deficiency list inspection to be completed prior to the final contract day. The Contractor shall provide a minimum of a five (5) calendar days' notice for the deficiency list inspection. During the deficiency list inspection, the Contractor shall generate the final deficiency list and distribute to all parties within two calendar days.

PROPOSAL GUARANTEE: Each proposal shall be accompanied by a certified or cashier's check or bid bond in an amount not less than ten percent (10%) of the total bid price, payable to the City of Boulder City as a guarantee that the bidder, if his proposal is accepted, will promptly execute the contract. Workman's Compensation Insurance, Faithful Performance Bond in the amount of one hundred percent (100%) of the total bid price, a Labor and Material Bond in the amount of one hundred percent (100%) of the total bid price, and a Guarantee Bond will be executed as part of the contract agreement.

If applicable, bidders shall provide documentation to meet requirements of NRS 338.147 as part of their bid proposal.

QUALIFICATION OF BIDDER: At the time of bidding, a bidder must hold a valid license of a class corresponding to the work performed, in accordance with the provisions of the Nevada State Contractor's License Law.

CLARK COUNTY PREVAILING WAGE RATES: Wage rates on the project shall meet Clark County Prevailing Wage Rates for Public Works, State of Nevada, dated 10/1/20 through 9/30/21. A Clark County Prevailing Wage Rate Number shall be issued to the Contractor awarded this Contract. This project is located approximately 21+ miles from the Las Vegas City Hall. The

Contractor is responsible for insuring that the correct prevailing wage rates, including any applicable zone pay, are used on this project.

ENGINEER'S ESTIMATE OF PROBABLE COST: $1,500,000

PRE-BID CONFERENCE: A pre-bid conference will not be held for this project.

PROJECT ADMINISTRATION: All questions relative to this project prior to the opening of bids shall be completed utilizing the NGEM question portal.

OWNER'S RIGHTS RESERVED: The Owner reserves the right to reject any or all bids, to waive any informality in a bid, and to make awards in the interest of the Owner.

MODIFICATIONS AND ALTERNATIVE PROPOSALS: Unauthorized conditions, limitations, or provisions attached to a proposal will render it informal and may cause its rejection. The completed proposal forms shall be without interlineations, alterations, or erasures. Alternative proposals will not be considered unless called for. Oral, telegraphic, telephonic, or emailed proposals or modifications will not be considered.

BIDDER'S EXAMINATION OF SITE: Before submitting a proposal, the bidder shall carefully examine the drawings, specifications, and other contract documents, and he shall visit the site of the work. It will be assumed that the bidder is familiar with existing site conditions and that he has a clear understanding of the requirements of the contract regarding the furnishing of materials and performance of work.

COMPETENCY OF BIDDERS: In selecting the lowest responsible bidder, consideration will be given not only to the financial standing, but also to the general competency of the bidder for the performance of the work covered by the proposal. To this end, each proposal shall be supported by a statement of the bidder's experience as of recent date on the form entitled "INFORMATION REQUIRED OF BIDDER", bound herein. Consideration will also be given to the bidder's performance on past projects as reported by references contacted by the Owner. Reports of poor, substandard, or adversarial past performance may be reason to not recommend the lowest bidder for award. No proposal for the work will be accepted from a contractor who is not licensed in accordance with applicable state and local law(s).

The successful bidder is required to obtain a City of Boulder City Business License prior to the issuance of the Notice to Proceed. All subcontractors, suppliers, deliveries, or any other associated business doing business in Boulder City are required to obtain a City of Boulder City Business License prior to performing any work on the project.

DISQUALIFICATION OF BIDDERS: More than one proposal from an individual, firm, partnership, corporation, or association under the same or different names will not be considered. Reasonable grounds for believing that any bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such bidder is interested. If there is a reason for believing that collusion exists among the bidders, all bids will be rejected and none of the participants in such collusion will be considered in future proposals.

AWARD OF CONTRACT: Award of a contract, if it be awarded, will be based primarily on the lowest overall cost to the Owner, and will be made to a responsible bidder whose proposal complies with all the requirements prescribed. Any such award will be made within forty-five (45) calendar days after opening of the proposals, unless a longer waiting period before award is expressly allowed in the Notice Inviting Bids. Unless otherwise indicated, a single award will not be made for less than all the bid items in an individual bidding schedule. In the event there is more than one bidding schedule, the Owner may award schedules individually or in combination.

EXECUTION OF CONTRACT: The bidder to whom award is made shall execute a written contract with the owner on the form of agreement provided, shall secure all insurance and shall furnish all certificates and bonds required by the specifications within ten (10) calendar days after receipt of the contract from the Owner. Failure or refusal to enter into a contract as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and the forfeiture of the proposal guarantee. If the successful bidder refuses or fails to execute the contract, the Owner may award the contract to the second lowest responsible bidder. If the second lowest responsible bidder refuses or fails to execute the contract, the Owner may award the contract to the third lowest responsible bidder. On the failure or refusal of such second or third lowest bidder to execute the contract, such bidder's guarantees shall be likewise forfeited to the Owner.

The Contractor shall comply with the Copeland "Anti-Kick Back" Act (18 U.S.C. 874) as supplemented in the Department of Labor Regulations (29 CFR Part 3). This act provides that each contractor or subcontractor shall be prohibited from inducing, by any means, any persons employed in the construction, completion or repair of public work, to give up any part of the compensation to which he is otherwise entitled.

The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following:

> Employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

The City of Boulder City, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d at 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-Discrimination in Federally Assisted Programs of the Department of Transportation issued pursuant to this advertisement, minority business enterprises, will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for any award.

The Contractor and his subcontractors shall comply with all provisions of Executive Order 11246 of September 24, 1965, including all amendments and the rules and regulations and relevant orders of the Secretary of Labor.

The Contractor and subcontractors shall be bound by and comply with all federal, state, and local laws with regard to minimum wages, overtime work, hiring and discrimination, including Chapter 338 of the Nevada Revised Statutes, which is entitled, "Public Works." All work necessary to be performed after regular working hours, on weekends, or legal holidays, shall be performed without additional expense to the City.

Laborers on this project shall be paid no less than the minimum wage rates established by the Nevada Labor Commissioner.

Any controversy or claim arising out of or relating to this contract, which cannot be resolved by mutual agreement, shall be settled by binding arbitration in accordance with the Agreement for Arbitration attached hereto. The Contractor by submitting a bid agrees to enter into the binding arbitration agreement, if needed, to resolve any controversy or claim.

PROJECT ADMINISTRATION: All questions relative to this project prior to the opening of bids shall be directed to the Boulder City Purchasing Manager in the project in via the NGEM website, or by email at Psikora@bcnv.org.

OWNER'S RIGHTS RESERVED: The Owner reserves the right to reject any or all bids, to waive any informality in a bid, and to make awards in the interest of the Owner.

CITY OF BOULDER CITY

BY: _____

Marissa Adou, ACE

Airport Manager

DATE: _____

Published:
Las Vegas Review Journal
Date August 20, 2021.

OFFICIAL PROPOSAL

FUEL FARM EXPANSION PROJECT
BOULDER CITY PROJECT NO. 22-1140-MC
DUE September 13, 2021 at 2:00pm

GRAND TOTAL BID AMOUNT IN WORDS*

***THIS AMOUNT MUST MATCH THE "TOTAL BID AMOUNT" ON PAGE 11.**

DOLLARS

_____

& CENTS

_____

NOTE: The lowest responsible proposal for each schedule or combination thereof shall be determined in part by the unit prices contained therein. The unit prices must be written legibly or typed. If the unit prices cannot be read, it may result in the bid being deemed non-responsive at the discretion of the City. In the case of a mathematical error in the bid schedule, the sum of the individual unit prices shall prevail; however, at the discretion of the City, a mathematical error may result in the bid being deemed non-responsive.

The undersigned bidder hereby proposes to furnish all labor, materials, equipment, tools, and services necessary to perform all work required under the bidding schedule(s) of the Owner's specifications entitled **FUEL FARM IMPROVEMENTS, BOULDER CITY PROJECT NO. 22-1140-MC** in accordance with the intent of said specifications, drawings, and all addenda issued by said Owner prior to opening of proposals.

Said bidder agrees that, within ten (10) calendar days after receipt of the contract from said Owner, he will execute said contract in the required form, of which the Notice inviting bids, Instructions to Bidders, Proposal, Information Required of Bidder, Specifications, and Drawings are a part, and will secure the required insurance and bonds and furnish the required insurance certificates; and that upon failure to do so within said time, then the proposal guarantee furnished by said bidder shall be forfeited to said owner as liquidated damages for such failure; provided, that if said bidder shall execute the contract, secure the required insurance and bonds, and furnish the required insurance certificates within said time, his check, if furnished, shall be returned to him within five (5) days thereafter, and the bid bond, if furnished, shall become void.

The bidder does acknowledge receipt of any Addendum by attaching it to the contract documents and by signing this proposal sheet.

Said bidder further agrees to complete all work required under the contract within the time stipulated in said specifications, and to accept the full payment therefore, the prices(s) named in the bidding schedule(s). Price(s) named in the bid proposal(s) must include all taxes and Contractor's overhead and profit.

_____

Contractor:

Address:

City, State, Zip Code:

Telephone Number:

Printed Name of Contractor Representative:

Title of Representative:

Contractor Representative Authorized Signature:

Date:

NOTE: The quantities shown on the bid schedule(s) are estimated quantities only, payment will be made on actual quantities performed, measured, and approved in the field.

NOTE: The City of Boulder City will only accept bonds from surety companies that are approved by the Department of Treasury Federal Register, latest edition.

BID SCHEDULE I

FUEL FARM IMPROVEMENTS
BOULDER CITY PROJECT NO. 22-1140-MC
DATE AND TIME T.B.D.

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENDED TOTAL AMOUNT
1	Mobilization/Demobilization (10% MAX)	1	LS	$	$
2	Airfield Construction Area Control	1	LS	$	$
3	Removal of Asphalt Pavement	225	SY	$	$
4	Removal of PCC Pavement	270	SY	$	$
5	Removal of PCC Island	1	LS	$	$
6	Removal of Bollards	1	LS	$	$
7	Removal of Deluge System	1	LS	$	$
8	Type II Aggregate Base (6 Inches)	225	SY	$	$
9	Plantmix Bituminous Pavement (3 Inches)	50	TON	$	$
10	Portland Cement Concrete Pavement (6-Inches)	1	LS	$	$
11	Portland Cement Concrete Island	1	LS	$	$
12	Bollards	20	EA	$	$
13	Permanent Pavement Markings	128	SF	$	$
14	Extend Existing Fire Deluge System	1	LS	$	$
15	Fuel Distribution and Storage Facilities	1	LS	$	$
16	OPTIONAL Canopy	1	LS		

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENDED TOTAL AMOUNT
17	OPTIONAL Secondary Avgas Self-Serve Cabinet	1	LS		
18	OPTIONAL Combination Safety Eye-Wash Safety Shower Assembly	1	LS		
GRAND-TOTAL AMOUNT					**$**

Legend: EA = Each; LF = Linear Foot; LS = Lump Sum; SF = Square Foot; SY = Square Yard

AREA LEFT BLANK INTENTIONALLY

BID BOND

KNOW ALL MEN BY THESE PRESENT,
That _____, as

Principal, and _____, as

Surety, are held and firmly bound unto CITY OF BOULDER CITY, NEVADA, hereinafter called

"Owner," in the sum of

_____
(not less than 10 percent of the total amount of bid)

Dollars, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

WHEREAS, said Principal has submitted a bid to said Owner to perform all work required under the bidding schedule(s) of the Owner's specifications entitled, **FUEL FARM IMPROVEMENTS, BOULDER CITY PROJECT NO. 22-1140-MC**

NOW THEREFORE, if said Principal is awarded a contract by said Owner and, within the time and in the manner required under the heading "Instructions to Bidders" bound with said specifications and furnishes the required bonds, payment for labor and materials, then this obligation shall be null and void; otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by said Owner and judgment is recovered, said Surety shall pay all costs incurred by said Owner in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this _____ day of _____,2021

_____ _____
(Principal) (Surety)

By: By:

_____ _____
(Signature) (Signature)

(SEAL) (SEAL)

(SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY)

INFORMATION REQUIRED OF BIDDER

AFFIDAVIT OF COMPLIANCE WITH NRS 338.147

The Bidder does hereby state under the penalty of perjury that the Bidder's firm (is _____, is not _____) eligible for the bid preference in accordance with the provisions of NRS 338.147, concerning preference given to certain contractors for the award of public works projects. Bidder understands that, pursuant to said statue, he must submit with his bid, proof of sales and use tax payment, or any combination of these taxes in accordance with NRS 338.147. Noncompliance with this statutory requirement could result in rejection of the bid.

_____
Authorized Signature

_____
Bidder's Firm Name

_____
Date

PER NRS 338.147
BIDDER MUST SUBMIT PROOF OF PAYMENT OF:

(1) The sales and use taxes imposed on materials used for construction of not less than $5,000 for each consecutive 12-month period for 60 months immediately preceding the submission of this bid; or

(2) The motor vehicle privilege tax imposed pursuant to chapter 371 of NRS on the vehicles used in the operation of his business of not less than $5,000 for each consecutive 12-month period for 60 months immediately preceding the submission of his bid; or

(3) Any combination of such sales and use taxes and motor vehicle privilege tax.

(4) The City of Boulder City, NV, will accept the following documentation as acceptable proof for the payment of sales and use taxes or motor vehicle privilege tax as follows:

(a) Bidder shall submit copies of its State of Nevada sales and use tax reports (either monthly or quarterly, whichever is applicable) along with copies of Bidder's canceled check showing payment of the sales and use tax for each consecutive 12-month period for 60 months immediately preceding the submission of the bid; or
(b) Submit copies of bidder's motor vehicle registration showing the amount of privilege tax paid on each vehicle used in the operation of his business along with the copy of the canceled check made out to the Department of Motor Vehicles as

proof of payment for the motor vehicle privilege tax for each consecutive 12-month period for 60 months immediately preceding the submission of the bid; or

(c) Submit copies noted above in (a) and (b) showing the payment in any combination of such sales and use taxes and motor vehicle privilege tax for each consecutive 12-month period of 60 months immediately preceding the submission of the bid; or

(d) Affidavit of Certified Public Accountant submitted as proof of contractor's compliance with the provisions of NRS 338.147. Certified Public Accountant must complete the affidavit at the end of this section; or

(e) Certificate of Eligibility issued by the Nevada State Contractors Board stating compliance with NRS 338.147.

BIDDER ATTESTS:

Pursuant to Subsection 2 of NRS 338.1389, Subsection 2 of NRS 338.147, Subsection 3 of NRS 338.1693, Subsection 3 of NRS 338.1727 or Subsection 2 of NRS 408.3886 for the duration of the project:

(a) At least 50 percent of all workers employed on the public work, including, without limitation, any employees of the contractor, applicant or design-build team, and of any subcontractor engaged on the public work, will hold a valid Driver's License or identification card issued by the Nevada Department of Motor Vehicles;

(b) All vehicles used primarily for the public work will be:

(1) Registered and partially apportioned to Nevada pursuant to the International Registration Plan, as adopted by the Nevada Department of Motor Vehicles pursuant to NRS 706.826; or

(2) Registered in Nevada;

(c) At least 50 percent of the design professionals working on the public work, including, without limitation, any employees of the contractor, applicant or design-build team, and of any subcontractor engaged on the public work, will have a valid Driver's License or identification card issued by the Nevada Department of Motor Vehicles;

(d) At least 25 percent of the suppliers of the materials used for the public work will be located in Nevada unless the public body requires the acquisition of materials or equipment that cannot be obtained from a supplier located in Nevada; and

(e) The contractor, applicant or design-build team, and any subcontractor engaged on the public work will maintain and make available for inspection within Nevada his or her records concerning payroll relating to the public work.

Failure to comply with any requirement of paragraphs (a) through (e) above is a material breach of the contract and entitles the City to liquidated damages in the amount of 1% of the cost of the contract.

Authorized Signature

Bidder's Firm Name

Date

AREA LEFT BLANK INTENTIONALLY

AFFIDAVIT OF CERTIFIED PUBLIC ACCOUNTANT SUBMITTED AS PROOF OF CONTRACTOR'S COMPLIANCE WITH THE PROVISIONS OF NRS 338.147

I, _____, being first duly sworn, deposes and says the following:

1. That affiant is a duly licensed certified public accountant within the State of Nevada.

2. That affiant has reviewed and examined the books and records of _____ (hereinafter the "Contractor").

3. That based upon that review and examination, affiant has verified, and hereby certifies, that the Contractor has:

   A. Paid sales and use taxes imposed on materials used for construction of not less than $5,000.00 for each consecutive 12-month period for 60 months immediately preceding the submission of the contractor's bid to the City of Boulder City; or

   B. Paid the motor vehicle privilege tax imposed pursuant to Chapter 371 of the Nevada Revised Statues on the vehicles used in the operation of the Contractor's business of not less than $5,000.00 for each consecutive 12-month period for 60 months immediately preceding the submission of his bid to the City of Boulder City; or

   C. Paid any combination of such sales and use taxes and motor vehicle privilege taxes for each consecutive 12-month period for 60 months immediately preceding the submission of his bid to the City of Boulder City.

4. Based upon that review and examination, affiant is of the opinion that the Contractor qualifies for the bid preference set forth in NRS 338.147.

Further affiant sayeth not.

Dated this _____ day of _____ 2021.

_____

Subscribed and sworn to before me this _____ day of _____ 2021.

_____

Notary Public, in and for said County and State

CONTRACTOR'S GENERAL INFORMATION

The bidder shall furnish the following information. Failure to comply with this requirement will render the proposal informal and may cause its rejection. Additional sheets shall be attached as required.

(1) Contractor's name and address:

_____

_____

(2) Contractor's telephone number: _____

(3) Contractor's Email address: _____

(4) a. Contractor's License: Primary Classification: _____

State License No.: _____

Supplemental classifications held, if any: _____

b. Bonding limit: _____

c. Boulder City Business License No.: _____

(5) Number of years as a contractor in construction work of this type: _____

(6) Names and titles of all officers of contractor's firm:

_____

_____

_____

_____

(7) Name of person who inspected site of proposed work for your firm:

Name: _____ Date of inspection: _____

(8) Name, address, and telephone number of surety company and agent who will

Provide the required bonds on this contract: _____

_____

_____

NOTE: THE FOLLOWING INFORMATION SHALL NOT BE PROVIDED WITH THIS BID PROPOSAL BUT MAY BE REQUESTED PRIOR TO AWARD:

(9) Individual experience resume of person who will be designated chief construction superintendent.

(10) A notarized and verified financial statement, references, and other information, sufficiently comprehensive to permit an appraisal of contractor's current financial condition.

(11) The bidder must demonstrate the ability to perform at least twenty-five percent of the work without subcontracting. Information on the bidder's ability to directly supply major construction equipment to the project shall be submitted for review with the bidder's proposal.

(12) A list of the five most current construction contracts completed by the Contractor during the last 10 years which had a total contract price in excess of 25 percent of the total bid price on this project. The list shall include the following information as a minimum: This information, if requested, shall be provided at no cost to the Owner or Engineer.

- Name, address, and telephone number of owner
- Name of project
- Location of project
- Brief description of the work involved
- Contract amount
- Date of completion of contract
- Name, address, and telephone of architect or engineer

This information, if requested, shall be provided at no cost to the Owner or Engineer.

5% SUBCONTRACTOR'S LIST

The bidder shall list below the name and business address of each subcontractor who will perform work under this contract in excess of **five percent (5%)** of the total bid price and shall also list the portion of the work which will be done by such subcontractor. After the opening of proposals, no changes or substitutions will be allowed without the written approval of the Owner.

	Work to be Performed	Subcontractor's Name & Address
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

1% SUBCONTRACTOR'S LIST

The bidder shall list below the name and business address of each subcontractor who will perform work under this contract in excess of **one percent (1%)** of the total bid price and shall also list the portion of the work which will be done by such subcontractor. After the opening of proposals, no changes or substitutions will be allowed without the written approval of the Owner.

	Work to be Performed	Subcontractor's Name & Address
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

EQUIPMENT /MATERIAL SOURCE INFORMATION

FOR GENERAL AND SUBCONTRACTORS

The bidder shall indicate opposite each item of equipment or material listed below, the name of the manufacturer or supplier of the equipment or material proposed to be furnished under the bid. Failure to comply with this requirement will render the proposal informal and may cause its rejection. Awarding of a contract under this bid will not imply approval by the Owner of the manufacturers or suppliers listed by the bidder. After the opening of proposals, no changes or substitutions will be allowed without written approval of the Owner.

Equipment/Material	Manufacturer/Supplier

AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____,

2021, by and between City of Boulder City, Nevada, hereinafter called "Owner," and

_____, hereafter called "Contractor".

WITNESSETH, that the parties hereto do mutually agree as follows:

ARTICLE I: For and in consideration of the payments and agreements hereinafter mentioned to be made and performed by said Owner, said Contractor agrees with said Owner to perform and complete in a workmanlike manner all work required under the bidding schedule(s) of said Owner's specifications entitled, **FUEL FARM IMPROVEMENTS, BOULDER CITY PROJECT NO. 22-1140-MC**, in accordance with the specifications and drawings therefore, to furnish at his own expense all labor, materials, equipment, tools, and services necessary therefore, except such materials, equipment, and services as may be stipulated in said specifications to be furnished by said Owner, and to do everything required by this agreement and said specifications and drawings.

ARTICLE II: Said Contractor agrees with said Owner to furnish all labor, materials, equipment, tools, and services, furnish and remove all plants, temporary structures, tools, and equipment, and doing everything required by this agreement and the said specifications and drawings; also for all loss and damage arising out of the nature of the work aforesaid, or from the action of the elements, or from any unforeseen difficulties which may arise during the prosecution of the work until its acceptance by said Owner; and for all risks of every description connected with the work; also for all expenses resulting from the suspension or discontinuance of work, except as in the said specifications are expressly stipulated to be borne by said Owner; and for completing the work in accordance with the requirements of said specifications and drawings, said Owner will pay and said contractor shall receive, in full compensation therefore, the prices(s) named in the above-mentioned bidding schedule(s).

ARTICLE III: The Owner hereby employs said Contractor to perform the work according to the terms of this agreement for the above-mentioned price(s), and agrees to pay the same time, in the manner, and upon the conditions stipulated in the said specifications; and the said parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to the full performance of the covenants herein contained.

ARTICLE IV: The Notice Inviting Bids, Instructions to Bidders, Proposal, Information Required of Bidder, Specifications, Drawings, and all addenda issued by the owner with respect to the foregoing prior to the opening of bids, are hereby incorporated in and made part of this Agreement.

ARTICLE V: This Agreement shall be construed under the Laws of the State of Nevada and the site of contract shall be Boulder City, Clark County, Nevada.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be executed the day and year first above written.

By:

(Contractor)

Taylour Tedder, City Manager

By:

ATTEST:

By:

Secretary

Tami McKay, City Clerk

(SEAL)

APPROVED AS TO FORM :

Brittany Lee Walker Esq.,
City Attorney

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned, Brittany Walker Esq., the duly authorized and acting legal representative of the City of Boulder City, Nevada, do hereby certify as follows:

I have examined the attached contract(s) and the manner of execution thereof, and I am of the opinion that the aforesaid agreement has been duly executed by the duly authorized representatives of the City of Boulder City; that said representatives have full power and authority to execute said agreement on behalf of the City of Boulder City; and that the foregoing agreement constitute valid and legally binding obligations upon the City of Boulder City executing the same in accordance with terms, conditions and provisions thereof.

_____

Brittany Lee Walker Esq., City Attorney

_____

Date

AGREEMENT FOR BINDING ARBITRATION

Dispute Resolution. If any controversy or claim between the Parties arises out of this Agreement and if the Parties are unable to resolve such controversy or claim by direct negotiations within thirty (30) days after such controversy or claim arises, the Parties shall promptly mediate any such disagreement or dispute. Mediation shall be initiated by either party serving the other a written notice of election to mediate pursuant to this provision, and the Mediation costs shall be borne equally by the Parties. The mediator will be mutually selected by the Parties, by selecting from a list of six individuals (three candidates proposed by each party). If the Parties are unable to resolve such disagreement or dispute through mediation within forty-five (45) days after the first written notice of an election to mediate, then such disagreement or dispute upon the written request of either Party, shall be resolved by binding arbitration under the Nevada Uniform Arbitration Act, NRS 38.206-.248, *inclusive* (the "NUAA"). Neither Party shall initiate arbitration until after the conclusion of the mediation process or the expiration of the forty-five (45) day period referenced in the prior sentence. Notwithstanding the foregoing, if the resolution of any controversy or claim requires the participation of a third party who is not required and who declines to participate in an arbitration proceeding, the Parties shall not be required to proceed with an arbitration of such controversy or claim.

All disputes will be resolved by a single neutral arbitrator ("Arbitrator") under the rules of the NUAA. The Arbitrator will be mutually selected by the Parties, from individuals identified as former judges or practicing attorneys having a minimum of fifteen (15) years' experience in the area of construction contracts and litigation, if practicable. Upon selection, the Arbitrator shall set an appropriate time, date and place for the arbitration, after conferring with the parties.

The Arbitrator appointed shall have the discretion to award or apportion the costs of the arbitration and the arbitrator's fees, including attorneys' fees incurred by the prevailing party, as he or she may deem appropriate. Judgment upon the award entered by the Arbitrator may be entered in any court having jurisdiction thereof. The Arbitrator shall make his/her award in accordance with applicable law and this Contract and based upon the evidence presented by the Parties. At the request of either Party at the start of the arbitration, findings of fact and conclusions of law shall be prepared in support of the Arbitrator's award.

Notwithstanding the Parties' agreement to mediate or arbitrate their disputes as provided herein, any Party may seek emergency relief in a court of law without waiving the right to arbitrate. Nothing contained herein is intended to, nor shall the same limit, City's right to pursue any action for injunctive relief.

Specific Agreement to Arbitration Provisions. By initialing below, City and Contractor each grant and confirm their specific authorization to submit disputes arising under this Contract to arbitration upon, and subject to the terms and conditions of, this Section. City and Contractor each specifically acknowledge that such Party has thoroughly reviewed this Section with counsel of its choosing, and each of City and Contractor voluntarily grant such Party's specific authorization to these arbitration provisions through this paragraph, which serves to confirm that such Party has affirmatively agreed to the arbitration provisions set forth in this Section. For the

purpose of clarity, each Party has affirmatively agreed to the arbitration provisions set forth in this Section, and each Party intends that this paragraph, and the specific acknowledgements below, satisfy the requirements of NRS 597.995(1).

City's Acknowledgement:	Contractor's Acknowledgement:
_____	_____

CORPORATE CERTIFICATE

(if applicable)

I, _____ certify that I am the _____, of the Corporation named as Contractor in the _____ foregoing contract; that _____, who signed the said Contract on behalf of the Contractor was then _____ of the said Corporation; that said Contract _____ was duly signed for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

_____
Signature

_____
Date

Corporate SEAL

PARTNERSHIP CERTIFICATE

(if applicable)

STATE OF NEVADA)
)ss
COUNTY OF CLARK)

_____, being first duly sworn, deposes and says;

that he is a member of the partnership firm designated as

_____ and named in the Contract.

That he has been duly vested with authority to make and sign instruments for the partnership

by _____

who constitute the other members of the partnership.

_____
Signature

IN WITNESS WHEREOF:
I have hereunto set my hand and affixed my official seal this _____ day of _____, 2021.

_____
NOTARY PUBLIC IN AND FOR THE COUNTY OF CLARK,
STATE OF NEVADA

FAITHFUL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS,
That _____, as

Contractor, and _____, as

Surety, are held and firmly bound unto CITY OF BOULDER CITY, NEVADA, hereinafter called

"Owner," in the sum of

_____

Dollars, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

WHEREAS, said Contractor has been awarded and is about to enter into the annexed contract with said Owner to perform all work required under the bidding schedule(s) of the Owner's specifications entitled, **FUEL FARM IMPROVEMENTS, BOULDER CITY PROJECT NO. 22-1140-MC**

NOW THEREFORE, if said Contractor shall perform all the requirements of said contract required to be performed on his part, at the times and in the manner specified therein, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

PROVIDED, that any alterations in the work to be done or the materials to be furnished, or changes in the time of completion, which may be made pursuant to the terms of said contract, shall not in any way release said Contractor or said Surety thereunder, nor shall any extensions of time granted under the provisions of said contract release either said Contractor or said Surety, and notice of such alterations or extensions of the contract is hereby waived by said Surety.

SIGNED AND SEALED, this _____ day of _____ ,2021

_____	_____
(Contractor)	(Surety)
By:	By:
_____	_____
(Signature)	(Signature)
(SEAL)	(SEAL)

(SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY)

LABOR AND MATERIAL BOND

KNOW ALL MEN BY THESE PRESENTS,
That _____, as

Contractor, and _____, as

Surety, are held and firmly bound unto CITY OF BOULDER CITY, NEVADA, hereinafter called

"Owner," in the sum of

_____

Dollars, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

WHEREAS, said Contractor has been awarded and is about to enter into the annexed contract with said Owner to perform all work required under the bidding schedule(s) of the Owner's specifications entitled, **FUEL FARM IMPROVEMENTS, BOULDER CITY PROJECT NO. 22-1140-MC**

NOW THEREFORE, if said Contractor, or subcontractor, fails to pay any materials, equipment, or other supplies, or for rental of same, used in connection with the performance of work contracted to be done, or for amounts due under applicable State law(s) for any work or labor thereon, said Surety will pay for the same in an amount not exceeding the sum specified above; and in the event suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of any persons, companies, or corporations entitled to file claims under applicable State law(s).

PROVIDED, that any alterations in the work to be done or the materials to be furnished, or changes in the time of completion, which may be made pursuant to the terms of said contract, shall not in any way release said Contractor or said Surety thereunder, nor shall any extensions of time granted under the provisions of said contract release either said Contractor or said Surety, and notice of such alterations or extensions of the contract is hereby waived by said Surety.

SIGNED AND SEALED, this _____ day of _____ ,2021

_____	_____
(Contractor)	(Surety)
By:	By:
_____	_____
(Signature)	(Signature)
(SEAL)	(SEAL)

(SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY)

GUARANTEE BOND

FORM OF GUARANTEE

GUARANTEE for

_____

_____

(Name & Address for Prime Contractor)

We hereby guarantee that the **FUEL FARM IMPROVEMENTS, BOULDER CITY PROJECT NO. 22-1140-MC**, which we have constructed, has been done in accordance with the plans and specifications and the work as constructed WILL FULFILL THE REQUIREMENTS OF THE GUARANTEE INCLUDED IN THE SPECIFICATIONS. We agree to repair or replace any or all of our work, together with any other adjacent work which may be damaged in so doing, that may prove to be defective in workmanship or materials within a period of one year from the date of filing Notice of Completion on the above named work by Boulder City, State of Nevada, without any expense whatsoever to the City of Boulder City, State of Nevada, ordinary wear and unusual abuse or neglect excepted.

In the event of our failure to comply with the above mentioned conditions within five (5) calendar days after being notified in writing by the City Council, City of Boulder City, State of Nevada, we collectively or separately, do hereby authorize the Owner to proceed to have said defects repaired and made good at our expense and we will honor and pay the costs and charges therefore UPON demand. When correction work is started, it shall be carried through to completion.

DATED: NOTIFIED BY:

_____ _____

Notice of Completion Date Designated City Representative

(SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY)

Countersigned by resident agent in Nevada:

_____

CONTRACTOR

By:

_____

(SEAL)

_____ _____

AGENT SURETY

BY: BY:

_____ _____

(SEAL) (SEAL)

DEFINITIONS AND ABBREVIATIONS

Wherever the following abbreviations are used they shall have the meanings indicated:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron & Steel Institute
ANSI	American National Standards Institute
API	American Petroleum Institute
ASA	American Standards Association, Inc.
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials International
AWS	American Welding Society
AWWA	American Water Works Society
CRSI	Concrete Reinforcement and Steel Institute
FHWA	Federal Highway Administration
IEEE	Institute of Electrical & Electronics Engineers
IPCEA	Insulated Power Cable Engineers' Association

ISO	Insurance Services Office
NDOT	Nevada Department of Transportation
NGEM	Nevada Government E Market Place
NEMA	National Electrical Manufacturers Association
OSHA	Occupational Safety and Health Act of 1970
PCA	Portland Cement Association
RTCSN	Regional Transportation Commission of Southern Nevada
SNWA	Southern Nevada Water Authority
SSPC	Steel Structures Painting Council
IBC	International Building Code, International Conference of Building Officials
UDACS	Uniform Design and Construction Standards for Potable Water Systems
U/L	Underwriters' Laboratories, Inc.

GENERAL CONDITIONS

SECTION 100

100.01 REFERENCE SPECIFICATIONS AND DRAWINGS

(a) As published by the Regional Transportation Commission of Southern Nevada, Streets and Highway Division, the "Uniform Standard Specifications for Public Works Construction Off-Site Improvements, Clark County Area, Nevada, Third Edition," and all revisions through date of advertisement constitute the Standard Specifications for this Project, is an integral part of the contract, and is hereby incorporated herein by reference. All requirements and provisions of said specifications shall be adhered to in the performance of this contract, except where otherwise provided herein or otherwise shown on the Contract drawings, and are herein referred to as the "Standard Specifications."

Likewise, the "Uniform Standard Drawings for Public Works' Construction, Offsite Improvements, Clark County Area, Nevada," dated January 1, 2014, as revised, constitute the Standard Drawings for this Project. Said Standard Drawings shall be adhered to in the performance of this contract, except where otherwise provided herein or otherwise shown on the Contract drawings, and are herein referred to as the "Standard Drawings." The current revision must be used at the time of the bid date and can be verified through the Regional Transportation Commission at (702) 676-1500 or through the internet at www.rtcsnv.com.

NOTE: It is the bidder's responsibility to acquire the latest revisions to the "Standard Specifications" and "Standard Drawings."

(b) The Standard Specifications and Drawings may be viewed and downloaded from the internet at http://www.rtcsnv.com/planning-engineering/streets-highways/.

(c) All work shown on the Contract Drawings which refer to the State of Nevada Standard Plans shall be constructed in accordance with the Nevada Department of Transportation, "Standard Plans for Road and Bridge Construction," latest edition, on the internet at http://www.nevadadot.com.

(d) The "Manual on Uniform Traffic Control Devices" (MUTCD), latest edition, is also an integral part of this contract and is hereby incorporated therein by reference. The current edition of the MUTCD can be viewed at http://mutcd.fhwa.dot.gov/index.htm.

(e) All work on water distribution facilities shall be in accordance with the "Uniform Design and Construction Standards for Water Distribution Systems," (UDACS) latest edition, as published by the Las Vegas Valley Water District. These standards are in an integral part of this contract and are hereby incorporated therein by reference. The UDACS can be viewed at http://www.lvvwd.com/eng/references_udacs.html.

(f) Work on any public utilities shall be performed in accordance with the standard Specifications except where modified by the utilities' own standards.

(g) The "Design and Construction Standards for Wastewater Collections Systems," latest edition, published by the Clark County Water reclamation District (702) 434-6600, http://www.cleanwaterteam.com, is an integral part of this contract and hereby incorporated therein by reference.

100.02 CONTRACT DRAWINGS AND SPECIFICATIONS

Contract Drawings applicable to the work to be performed under the contract are bound separately.

The Engineer will furnish to the Contractor two (2) bound sets of specifications and two (2) sets of full-size Drawings, if requested in writing by the Contractor. Additional sets of Specifications or Drawings will be furnished at reproduction cost.

100.03 CONFLICT IN SPECIFICATIONS

The Notice Inviting Bids, Instructions to Bidders, Proposal, Information Required of Bidder, Specifications, Plans, Addenda, and all Reference Specifications constitute the Contract Documents. In case of conflict in the documents, the following precedence will govern:

1. Permits from other agencies as may be required by law.
2. Executed Change Orders
3. Addenda
4. Special Provisions
5. Plans including Plan Details
6. Reference Specifications

100.04 COMMENCEMENT AND COMPLETION OF WORK

The Contractor shall be required to commence work under this contract within fifteen (15) calendar days after the date of the "Notice to Proceed" unless otherwise agreed to and stated in the "Notice to Proceed." Final Completion is completion of all work included in the contract. Final Completion including all deficiency list items shall be achieved by the Completion Date specified in the "Notice to Proceed."

100.05 LIQUIDATED DAMAGES FOR DELAY

The Contractor shall, as provided for in the General Conditions pay to the City as fixed and agreed liquidated damages, the amount of $1,500 for each calendar day delay in completion of the work beyond the date specified in the "Notice to Proceed" for the completion of the contract. In addition, liquidated damages shall be $500 per hour that the fuel system is not operational outside of the daily hours of 7:00 AM – 3:00 PM. The Contractor shall be required to achieve completion of the work sufficiently in advance of the Completion Date to complete/correct all deficient items to achieve Final Completion by or before the Completion Date as specified in the "Notice to Proceed." Beneficial use of the improvements by the Owner does not cease the accrual of liquidated damages nor change the daily amount of liquidated damages withheld for each calendar day delay in completion of the work beyond the date specified in the "Notice to Proceed."

100.06 LOCATION AND SCOPE

The Contractor shall furnish, in accordance with the Contract documents, all labor, equipment, and materials required for the construction of the project per the plans and specifications.

FUEL FARM IMPROVEMENTS consists of but is not limited to the following main components:

This work shall include furnishing all labor, material and equipment to complete the Fuel Farm Expansion Project, at the Boulder City Municipal Airport. Project will include, but not be limited to site work, grading, asphalt paving, Portland Cement Concrete pavement, storm drain improvements, pavement markings, electrical improvements, extension of the fire suppression system, and installation of fuel system including new above ground tank, dispensers, and fuel lines.

All work shown on the plans and in the specifications must be included in the Contractor's Bid proposal. Any work not listed as an item on the Bid Proposal shall be considered subsidiary to other items in the Bid Proposal and the Contractor must include the cost of subsidiary items in his bid.

100.07 WORK HOURS

The Contractor is advised that the normal work day will be within the time period from 6:00 AM to 4:00 PM, Monday through Friday except the following holidays: New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Nevada Day, Veteran's Day, Thanksgiving Day, Day after Thanksgiving, Christmas Day, on which no work will be allowed unless prior approval is given by the City.

The normal workday shall be ten (10) hours or less, unless prior approval by the City is given. The fuel system shall be only closed from 7:00 AM – 3:00 PM and will be completely functional when open so that refuelers will be able to obtain clean dry fuel during this time. If necessary a Quality Control inspection and leak inspection will need to be coordinated with Airport Operations prior to system being used by the tenants/customers.

There will be no work allowed on weekends (Friday through Sunday) unless the Contractor requests such work, the City approves the weekend work, and the Contractor pays the required overtime inspection / observation fees prior to the work being performed. See Subsection 110.01.C for overtime inspection fees.

100.08 ACCESS TO WORK

The Contractor shall provide the Owner and any agent working for the Owner, access to the work in preparation and progress wherever located.

100.09 PREVAILING WAGE REQUIREMENTS

A. This a prevailing wage project and the Contractor and Subcontractors shall be bound by and comply with all Federal, State and local laws with regard to minimum wages,

overtime work, hiring and discrimination. The Contractor shall conform to the provisions of Nevada Revised Statues (NRS) Chapter 338 relative to workmen employed on Public Works projects, except that the Contractor shall pay prevailing wage rates established by the Nevada State Labor Commissioner to workmen engaged in the performance of this project. The Contractor is responsible to identify and use the correct prevailing wage rates, including any addenda, as well as all forms needed to comply, as specified on the State of Nevada Labor Commissioner's website: www.labor.nv.gov or by calling (702) 486-2650. A copy of Chapter 338 is also on file in the office of the Public Works Director, City of Boulder City. Per NRS 338.020(1), a copy of prevailing wage rates is included as part of this contract. Per NAC 338.040, after a contract has been awarded, the prevailing rate of wages in effect at the time of opening of bids remains in effect for the duration of the project.

In accordance with NRS 338.013.3, the Contractor shall report to the Labor Commissioner and the City, the name and address of each Subcontractor performing work on the project within ten (10) days after the Subcontractor commences work on the project and the identifying number for public work.

NRS 338.060 Forfeitures when workmen are paid less than designated rates or willfully reported in inaccurate or incomplete manner or not reported to public body; forfeiture clause in contracts; regulation establishing sliding scale for penalties; recovery of investigative costs and attorney's fees; waiver or reduction of penalty.

1. Except as otherwise provided in Subsection 8, a Contractor engaged on public work shall forfeit, as a penalty to the public body on behalf of which the contract has been made and awarded to the Contractor, not less than $20 nor more than $50 for each calendar day or portion thereof that each workman employed on the public work is paid less than the designated rate for any work done under the contract, by the Contractor or any Subcontractor engaged on the public work.
2. Except as otherwise provided in Subsection 8, a Contractor engaged on public work shall forfeit, as a penalty to the public body on behalf of which the contract has been made and awarded to the Contractor, not less than $20 nor more than $50 for each calendar day or portion thereof that each workmen employed on the public work for which the Contractor or Subcontractor willfully include inaccurate or incomplete information in the monthly record required to be submitted to the public body pursuant to Subsection 5 of NRS 338.070.
3. Except as otherwise provided in Subsection 8, a Contractor engaged on public work shall forfeit, as a penalty to the public body on behalf of which the contract has been made and awarded to the Contractor, not less than $20 nor more than $50 for each calendar day or portion thereof that each workman employed on the public work is not reported to the public body awarding the contract by the Contractor or any Subcontractor engaged on the public work as required pursuant to Subsection 5 of NRS 338.070, up to a maximum of:
    a. For the first failure to comply during the term of the project for public work, $1,000; and
    b. For each subsequent failure to comply during the contract for the public work, $5,000.

4. Except as otherwise provided in Subsection 8, if a violation of more than one provision of Subsections 1, 2, and 3 involves the same workman, the Contractor shall forfeit the penalty set forth in each Subsection that was violated.
5. A public body awarding a contract for public work shall cause a stipulation setting forth the penalties specified in Subsections 1 to 4, inclusive, to be inserted in the contract.
6. The Labor Commissioner shall, by regulation, establish a sliding scale based on the size of the business of a Contractor engaged on public work to determine the amount of the penalty to be imposed pursuant to Subsections 1 and 2.
7. If a penalty is imposed pursuant to this section, the cost of proceeding, including investigative costs, and attorney's fees, may be recovered by the Labor Commissioner and governing body.
8. The Labor Commissioner may, for good cause shown, waive or reduce any penalty imposed to this section. [6.139:1937; A 1941, 389; 1931 NCL § 6179.56]-(NRS A 1993, 896; 1997, 335; 2001, 1148; 2003, 1862, 2415) NAC 338.120 Sliding Scale of Penalties. (NRS 338.012, 338.060)

B. If the State Contractors Board has established a monetary limit on the license of a Contractor pursuant to NRS 624.220, the amount of any penalty imposed against the Contractor pursuant to NAC 338.120 must be:
    a. If the monetary limit is less than $250,000, $20 for each calendar day or portion thereof.
    b. If the monetary limit is $250,000 or more but less than $500,000, $30 for each calendar day or portion thereof.
    c. If the monetary limit is $500,000 or more but less than $750,000, $40 for each calendar day or portion thereof.
    d. If the monetary limit is $750,000 or more, $50 for each calendar day or portion thereof.

C. If the Contractors Board has not established a monetary limit on the license of a Contactor or has removed a monetary limit established on his license, the amount of the penalty imposed upon the Contractor pursuant to NRS 338.060 must be $50 for each calendar day or portion thereof. (Added to NAC by Labor Commissioner by R096-97, eff. 5-3-99; And by R115-01, 4-5-2002)-(Substituted in revision for NAC 338.080)

Any Contractor or Subcontractor, or agent or representative thereof, performing work on the project, who neglects to comply with the prevailing wage provisions, is guilty of a misdemeanor. If a penalty is imposed, in addition to any penalties allowed by NRS 338.060, the prime Contractor shall reimburse the City for all costs associated with wage complaint investigations for the project, including but not limited to, actual staff time, materials used, and attorney's fees.

The Contractor shall comply with the requirements of NRS 338.020 and post in a generally visible place to the workmen, the Nevada Prevailing Wage Rates and all addenda.

<u>100.09.1 CERTIFIED PAYROLL REPORTS</u>

The Contractor and each Subcontractor are required to keep an accurate record showing the name, the occupation, if the worker has a driver's license or identification card, an indication of the state or other jurisdiction that issued the license or card; and the actual per diem, wages and benefits paid to the worker, and additional accurate record showing, for each worker employed by the Contactor or Subcontractor in connection with this project who has a driver's license or identification card: the name of the worker, the drivers' license number or identification card number of the worker; and the state or other jurisdiction that issued the license or the card.

Payroll records of the Contractor shall be open to examination by representatives of the City at all reasonable hours. The Contractor and each Subcontractor are required to submit a copy of the record for each calendar month to the City no later than fifteen (15) calendar days after the end of the month for the purposes of public inspection in accordance with NRS 239.010, except that the copy of the record showing the name, driver's license number or identification card number and the state of issue of the license or card is confidential and not open to public inspection. The Contractor, Subcontractor, or agent or representative thereof, doing work on the project that neglects to comply with the provisions of this section is guilty of a misdemeanor. The Contractor shall be responsible for coordinating the submittal of all the certified payroll reports for the project, including its reports and the reports of all Subcontractors who are performing work on the project.

If the Contractor submitted the Affidavit for preference, they shall be responsible for submitting any additional reporting requirements pursuant to the requirements of NRS 338.0117.

The Contractor and Subcontractors shall submit to the governing agency prevailing wage reports as required by the Nevada Administrative Code and the Nevada Revised Statutes.

The Contractor and Subcontractors shall submit these reports in hard copy form to the following address:

ATTN: Boulder City Public Works
Certified Payroll Reports
401 California Avenue
Boulder City, NV 89005

All reports shall be in landscape format and shall be the original report, not a duplicate. The report submitted to the Contracting Agency shall be in accordance with NRS 338.070.5. The Contractor shall also maintain all additional reports in accordance with NRS 338.070.5.b that will be accessible and available to the Contracting Agency upon request.

100.09.2 PREVAILING WAGE RATE POSTING

The Contractor shall post the prevailing wage rates in accordance with the Office of the Labor Commissioner's requirements.

Information regarding prevailing wage rates shall be minimum three-inch (3") lettering. The required verbiage shall be as shown below.

THIS IS A PREVAILING WAGE PROJECT

The hourly labor rates for this Project are determined by the State of Nevada. Information on the rates can be obtained by calling the Office of the Labor Commissioner at (702) 486 2650; reference PWP# CL-2021-XXX

ESTE ES UN PROJECTO DE SALARIOS DETERMINADOS

El salario laboral correspondiente por hora es determinado por El Estado de Nevada. Información acerca de los salarios puede ser obtenida llamando a la Comisión Laboral al (702) 486-2650. Numero PWP de referencia CL-2021-XXX

The Contractor's cost for furnishing, installing and maintaining the posted wage rates shall be included in the lump sum bid item for mobilization and will not be measured or paid for separately.

100.09.3 APPRENTICESHIP UTILIZATION ACT OF 2019

Effective January 1, 2020, Nevada Senate Bill 207 (2019) requires all contractors and subcontractors engaged on a public work to employ one or more apprentices for a certain percentage of the total hours of labor performed on the public work, depending on the type of work performed. This requirement applies to any and all public works projects where prevailing wage requirements apply and where bids are opened after January 1, 2020. Senate Bill 207 requires that a contractor or subcontractor engaged in vertical construction who employs workers on a public work, as defined in NRS 338.040, shall use one or more apprentices for at least 10% of the total hours of labor worked for each apprenticed craft or type of work to be performed on the public work for which more than three workers are employed. The bill further requires that a contractor or subcontractor engaged in horizontal construction who employs workers on a public work, as defined in NRS 338.040, shall use one or more apprentices for at least 3% of the total hours of labor worked for each apprenticed craft or type of work to be performed on the public work when more than three workers are employed.

All contractors and subcontractors shall comply with Nevada Senate Bill 207 and the apprenticeship utilization provisions of NRS338. For more information, please refer to the State of Nevada Labor Commission at http://labor.nv.gov.

The Contractor and all subcontractors shall be required to provide sufficient documentation with their certified payroll reports for the City to verify that the Contractor and all subcontractors are meeting the apprenticeship requirements of Senate Bill 207, unless a Waiver has been granted by the Office of the Labor Commissioner.

100.10 CONTRACT PRICE BREAKDOWN AND PROGRESS SCHEDULES

Prior to the commencement of work, the Contractor shall submit to the Designated City Project Representative a detailed price breakdown (Schedule of Values) for all items of work that were made part of the total bid price. The price breakdown shall include quantities, unit price, and any other information required, in sufficient detail, to enable it to be used by the Designated City Project Representative in preparing monthly progress estimates and evaluating the cost of deleted work or extra work.

The Contractor shall update the project schedule on a monthly basis. This update must accompany monthly project invoicing. The Contractor must submit a written two (2) week look-ahead schedule at every weekly meeting. If a weekly meeting is not held, the Contractor shall still submit a weekly two week look-ahead schedule.

If the Contractor does not submit a two week look-ahead schedule, the Contractor will be charged $500.00 per occurrence.

After three (3) occurrences on a project, the Contractor will be charged $1,000.00 per occurrence thereafter and shall be subject to immediate contract termination.

Project schedules and two week look-ahead schedules are considered subsidiary to the Contract items in the Bid Proposal. No separate payment will be made for project schedules or two week look-ahead schedules.

100.11 ITEMS REFERENCED AS INCIDENTALS

Incidentals to bid items have no minimum or maximum value and may exceed $50,000.00 or more based on the incidental. All incidental costs shall be associated to the bid item they are referenced within.

100.12 SHOP DRAWINGS AND SUBMITTALS

The Contractor shall submit Shop Drawings or descriptive literature for all materials used on the project. The Owner or its authorized agent shall have the authority to reject any product upon completion of his review of the suppliers' submittals in regard to proof of acceptability of the product. The Contractor must take the time frame for shop drawings and submittals preparation, submittal, and review(s) into consideration when preparing his project schedule. It is the Contractor's responsibility to ensure all shop drawings and submittals are in compliance with the contract documents and all Federal, State, and local laws. Acceptance of a shop drawing or submittal by the Owner or Designated City Project Representative does NOT relieve the Contractor of any responsibility in this regard.

After award of contract, the contractor shall submit a submittal log that includes all shop drawings and submittals the contractor intends on submitting for this project for acceptance by the Owner prior to the first submittal taking place. The Owner or its authorized agent has fourteen (14) calendar days for processing of all shop drawings and submittals. Any submittals that are returned rejected, when said submittal is re-submitted it shall be submitted under the original submittal number with a corresponding revision number after it. Example: first submittal is 57, after rejection, the first re-submittal is 57-1; second re-submittal is 57-2, etc. The re-submittal begins another fourteen (14) calendar day processing time frame from the receipt of the re-submittal.

All submittals shall be received in electronic form or on a disk with all submittals in PDF electronic format.

The Owner or its authorized agent will review all submittals and one re-submittal at no cost to the Contractor. For each revision or re-submittal of the same or similar item after the first re-submittal the Contractor will be charged $100.00 per occurrence. If the Contractor adds unnecessary or un-required submittals to the log after the original submittal log has been approved, the Contractor will be charged $100.00 per addition.

Any submittals that are returned "Approved as Noted" do not require a re-submittal. If a re-submittal is submitted on an "Approved as Noted" submittal, a $100.00 charge per occurrence will be charged to the Contractor.

Any submittals that are not returned within fourteen (14) calendar days by the City on the fifteenth (15^{th}) day said submittal is automatically approved for use on the project as long as it is in compliance with the contract documents.

Shop Drawings and submittals are considered subsidiary work to the Contract Items in the Bid Proposal. No separate payment will be made for Shop Drawings and Submittals. The Contractor shall include all costs for furnishing all Shop Drawings and Submittals in their bid proposal.

PRELIMINARY SHOP DRAWING / SUBMITTAL LIST

1. Contractor Shop Drawing / Submittal List
2. Contractor Organizational Chart with Escalation Scale and 24 Hour Contact Information
3. Baseline Schedule
4. 5-Day Notice
5. 24-Hour Notice
6. Traffic Control Plan(s)
7. ADDITIONAL INFO PERTAINING TO FUEL FARM IMPROVEMENTS

This list is not all inclusive; however, is to be used as a minimum and as an example of the shop drawings / submittals required for this project.

100.13 CONTROVERSY OR CLAIM

Any controversy or claim arising out of or relating to this contract, which cannot be resolved by mutual agreement, shall be settled by binding arbitration in accordance with the City of Boulder City Agreement for Arbitration included in these contract documents.

100.14 ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of patent rights and shall hold the Owner harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents. However, if the Contractor has reason to believe that the required design, process, or product is an infringement of a patent; the Contractor shall be responsible for such loss unless information is promptly furnished to the Designated City Project Representative.

100.15 INDEMNIFICATION

The Contractor shall protect, indemnify, and hold the City of Boulder City, its officers, employees, agents, consulting engineers, architects, and other retained consultants harmless from and against any and all claims, damages, losses, suits, actions, decrees, judgments, attorney's fees, court costs, and other expenses of any kind or character which the City of Boulder City, its officers, employees, agents, consulting engineers or other retained consultants may suffer, or which may be sought against, recovered from, or obtainable against the City, its officers, employees, agents, consulting engineers, architects, or other retained consultants:

(i) as a result of, or by reason of, or arising out of, or on account of, or in consequence of the operations of the Contractor, is subcontractors or agents, or anyone directly or indirectly employed by a subcontractor or agent, in the fulfillment or performance of the terms, conditions or covenants of the contract, regardless of whether or not the occurrence which gave rise to such claim, damage, loss, suit, action, judgment, or expense was caused, in part, by the party indemnified hereunder; or

(ii) as a result of, or by reason of, or arising out of, or on account of, or in consequence of, any neglect in safeguarding the Work; or

(iii) through the use of unacceptable materials; or

(iv) because of any claim or amount recovered under the "Nevada Industrial Insurance Act", or any other law, ordinance, order, or decree. Any money due the successful bidder under and by virtue of the contract which is considered necessary by the Owner for its protection, may be retained by the City.

In case no money is due, the successful bidders' surety may be held until all such claims, damages, losses, suits, actions, decrees, judgments, attorney's fees, court costs, and other expenses of any kind or character as foresaid shall have been settled and suitable evidence to that effect furnished to the Owner; provided, however, that money due the successful bidder will not be withheld when the successful bidder produces satisfactory evidence that it is adequately protected by public liability and property damage insurance if required.

In this connection, it is expressly agreed that the successful bidder, shall at its own expense, defend the Owner, its officers, employees, agents, consulting engineers, architects, and other retained consultants, against any and all claims, suits, or actions which may be brought against them, or any of them, as a result of, or by reason of, or arising out of, or on account of, or in consequence of any act or omission against which the Contractor has indemnified the Owner. If the Contractor shall fail to do so, the Owner shall have the right, but not the obligation, to defend the same and to charge all direct and incidental costs of such defense to the successful bidder including attorney's fees and court costs.

The Contractor guarantees the payment of all just claims for materials, supplies, and labor, and all other just claims against it or any subcontractor, in connection with the contract.

100.16 CONTRACTOR EXPERTISE AND SUPERINTENDENCE

The Contractor shall be experienced and competent in the interpretation and use of the specifications and design drawings, and in the use of materials, equipment, and construction techniques as are required to successfully complete the Project. He shall employ and have on site at all times any work is being performed, an experienced Superintendent during the progress of this Project. The dedicated Superintendent shall be responsible for managing and maintaining all work on the project. The dedicated Superintendent cannot be a working Superintendent, and

must be available to monitor all work being performed on the project.

The City reserves the right, at any time during the project, to require the removal of any employee of the Contractor, or his sub-contractors, or any other employee at its sole discretion without cause. There shall be no costs, delays, or extra time considered by the City or requested by the Contractor when a request to remove an employee is made. Any requests shall be made in writing from the City or the Designated City Project Representative and shall be effective immediately.

The Contractor shall maintain mobile (cellular) telephones for the duration of the contract, where the Contractor or Contractor's authorized representatives may be reached twenty-four (24) hours per day, seven (7) days per week to respond to the worksite to address any issues related to the work. The Superintendent shall have a communication device(s) capable of sending and receiving voice, text, and email communications 24 hours per day, 7 seven days a week. The Contractor is responsible for the communication service for the communication device(s). City facilities, including wireless networking, are not available for the Contractor's use. All costs associated with this item shall be the responsibility of the Contractor.

100.17 SUBCONTRACTORS AND SUPPLIERS

All subcontractors and principal suppliers of materials, performing work or providing materials in excess of one percent (1%) of the total bid price, shall be listed in the space provided on the Information Required of Bidder sheets contained in the contract documents. No change shall be made after submission of a bid without being requested in writing by the Contractor and approved by the Owner in writing. A bid will be considered irregular if it does not include this information. The Owner encourages all bidders to seek and consider proposals from several subcontractors and suppliers, including minority subcontractors. All subcontractors must obtain a City of Boulder City business license prior to performing any work on the project.

100.18 CONSTRUCTION SURVEYS

The Contractor shall provide all construction surveying for the project via a professional land surveyor as licensed by the state of Nevada. The Contractor shall also locate all water valves, manholes, and survey monuments, and provide geo spatial data back to the City prior to removal water valves, manholes, and monuments.

The Contractor shall submit detailed pdf exhibits created by a professional land surveyor that reflects actual constructed items with each pay application incorporated on the construction plans for the project.

All data, work books, and cut sheets shall be given to the City in digital format at final completion of the project.

100.19 QUALITY CONTROL

The Contractor is responsible for all quality control on the project in accordance with the Uniform Standard Specifications for Public Works Off-Site Improvements, Clark County, Nevada, latest edition or as determined by the City. All quality control testing shall be performed in compliance

with Table 1, CCPW Materials Testing and Sampling Frequencies most recent edition. The Contractor shall employ a third party quality control firm and provide the Designated City Project Representative test results to prove that their work meets the contract documents. A quality control plan shall be submitted by the Contractor to the Designated City Project Representative for review and approval at the pre-construction meeting.
The contractor shall provide the City with a final report of all Quality Control tests performed at final completion of the project.

The City will call for and pay for quality acceptance/assurance testing if required. All quality acceptance/assurance testing shall be in accordance with the Uniform Standard Specifications for Public Works Off-Site Improvements, Clark County, Nevada, latest edition or as determined by the City.

Retesting for failing tests will be paid for by the Contractor.

100.20 EXISTING UTILITY LOCATION

The Contractor shall be responsible for calling Underground Service Alert of Northern/Central California and Nevada – USA North (811 OR 1-800-227-2600) **a minimum of 14 calendar days prior to the commencement of work**. Numerous utilities exist throughout the project site. The Contractor is responsible for safeguarding all existing utilities and repairing any damage done during his construction.

The Contractor shall at his own expense locate all overhead interferences which may affect his operation during construction and shall take all necessary precaution to avoid damage to same. The Contractor shall use extreme caution when working near overhead or underground power and/or telephone facilities so as to safely protect all personnel and equipment, and shall be responsible for all costs and liability in connection therewith.

The contractor is required to follow and comply with USA North's Nevada Excavation Manual.

All utilities marked in the field or shown on the plans shall be found by non-destructive excavation means a minimum of 48 hours prior to excavating with construction equipment.

100.21 CONTRACTOR'S UTILITIES

A. In accordance with Section 210 of the "Standard Specifications," the Contractor shall furnish all water and facilities necessary for the construction under the contract at his own expense. The Contractor shall provide his own telephone, electric power, and any other utility service fees or charges required in performance of the work under the contract and shall pay all installation charges and monthly bills in connection therewith.
B. The City will install a metered connection at an existing fire hydrant, the location of which will be determined at the pre-construction meeting. The Contractor will be responsible for getting the water to the Project site. The Contractor shall obtain the meter at the Utility Office (702-293-9244) and be subject to all fees. This water meter shall only be used for this Project.

100.22 CONTRACTOR PERSONNEL POLICY

Dress Code

1. Shoes – Closed toe shoes only. Work boots are preferred but thick soled shoes will be allowed unless work requires safety boots per OSHA guidelines. Boots must be in a clean and in a well maintained condition.

2. Pants – Pants are required on all projects. Pants must fit correctly and not be too tight or too loose. Pants must be free from holes and must cover top of boot. A belt must be worn at all times. The belt cannot be a handmade or homemade belt unless it is of professional quality.

3. No shorts, skirts, or dresses allowed.

4. Shirts – either long sleeve, or short sleeve shirts and t-shirts are allowed. No sleeveless shirts inclusive of tank tops or torn shirts will be allowed. All shirts must either be plain with no markings, advertisements, images, or words, unless the images and/or words are of the company that the employee works for. No suggestive or profane sayings are allowed on any shirt. Skin must not be exposed in the torso area at any time.

5. Any form of clothing that is tight fitting and/or suggestive is not allowed.

6. Piercings – No visible piercings of any kind are allowed except non-dangle earrings.

7. Jewelry – Dangling and bulky jewelry of any type is not allowed.

8. Hats – Hats are allowed, all hats must be plain with no markings, advertisements, images, or words, unless the images and/or words are of the company that the employee works for. No suggestive or profane sayings are allowed on any hat.

9. Hard Hats – Hard Hats are allowed and preferred on all projects. Hard Hats must be plain with no markings, advertisements, images, or words, unless the images and or words are of the company that the employee works for. No suggestive or profane sayings are allowed on any hat. No sports teams, stickers, or any other markings shall be on the Hard Hats. Professional organization and safety markings will be allowed but must be in kempt order.

10. Safety Vests and any other personal clothing shall be plain with no markings, advertisements, images, or words, unless the images and/or words are of the company that the employee works for. No suggestive or profane sayings are allowed on any vest. No sports teams, stickers, or any other markings shall be on the safety vests. Professional organization and safety markings will be allowed but must be in a kempt order.

11. All clothing including hats and hard hats must meet or exceed OSHA requirements and any other safety requirements for the job being performed. Clothing that has other company names or information on it other than the company the contractor is working for is not allowed.

12. If clothing does not clearly identify who the contractor personnel works for, some form of identification must be present and in plain view, i.e. identification badge.

Personal Grooming

1. Hair length and facial hair shall not interfere with the performance of job functions, or the wearing of any protective gear or devices.

2. Hair shall be neat and trimmed appropriate for the work being performed.

3. Facial hair shall be neatly trimmed and maintained.

4. Contractor Personnel shall shave adequately to maintain a clean appearance.

Daily Contractor Personnel Conduct

1. Contractor Personnel shall always act in a professional and respectful manner to all citizens, other employees, other contractor's and City Staff.

2. All obscenities shall be refrained from being spoken on the job site.

3. Smoking will not be allowed on the job-site. All employees must leave the job-site during breaks to smoke in necessary.

4. No whistling and yelling shall be permitted on any job-sites. Use electronic devices to communicate and/or speak in person.

5. Breaks shall be taken in the public right-of-way and not on private property.

6. Any trash generated by the contractor personnel shall be picked up immediately and disposed of properly.

7. Music shall not be played in any form.

8. A supervisor or foremen must be present on the job at all times that can properly communicate with the City staff, citizens, or other personnel.

SECTION 101

DEFINITIONS AND TERMS

101.15 CONTRACT ITEM (PAY ITEM)

101.15.A Shall be modified to read:

A. An item of work specifically described and for which a price, either Unit or Lump Sum, is provided. It includes the performance of all work and the furnishing of all labor, equipment, and materials described in the text of a specific item included in the contract or described in the Standard Specifications, Supplemental Specifications, Special Provisions, or shown on the plans of the contract. Contract items are numbered so that the first three digits of the item number correspond to the section of the same number. Thus, in Item No. 203.02, which is the number for roadway excavation, the number 203 is the section number and corresponds to Section 203 Excavation and Embankment of the Standard Specifications, Supplemental Specifications, and Special Provisions.

Add the following:

C. Work described in the Standard Specifications, Supplemental Specifications, Special Provisions, or shown on the plans of the contract that is not a Contract Item on the Bid Proposal shall be considered subsidiary to the Contract items in the Bid Proposal. The cost for all work must be included in the Contract Items in the Bid Proposal.

SECTION 103

AWARD AND EXECUTION OF CONTRACT

103.08 AWARD OF CONTRACT AND NOTICE TO PROCEED

Award of the contract, if the contract is awarded, will be made by the Owner within forty-five (45) days after the opening of the proposals. After an award of the contract, three copies of the contract documents will be transmitted to the Contractor for execution. The contract documents shall be returned to the Owner within ten (10) calendar days after notification of award. Following execution of the contract and the receipt of the proper certificates of insurance and bonds, a "Notice to Proceed" will be transmitted to the contractor along with a fully executed copy of the contract which formally notifies the contractor to begin work on the contract.

SECTION 104

SCOPE OF THE WORK

104.03 EXTRA WORK

Add the following:

B. Any additional work by the Contractor, above and beyond the contract, shall be done as Force Account Work, as described in the Special Provisions, unless approved in advanced by the Designated City Project Representative. No work above and beyond the contract shall be performed without written approval from the Designated City Project Representative.

104.04 MAINTENANCE OF TRAFFIC

Add the following:

The Contractor shall be responsible for complying with Subsection 104.04 of the Standard Specifications. These specifications shall apply to all roadways and sidewalks impacted by the project.

All control devices shall be in accordance with the "Manual of Uniform Traffic Control Devices, Part VI," the most recent edition.

At all non-work times two (2) 12' all weather travel lanes must be maintained. No road closures will be allowed except as approved by the Designated City Project Representative in writing on a case by case request from the Contractor. There is NO guarantee that a road closure will be approved. The contractor must bid to keep the road open at all times. The driving surface must be hot mix asphalt, cold mix asphalt, steel plates, or another approved surface.

During working hours 1 lane must be maintained with appropriate flaggers in place and an approved traffic control plan.

No parking signs shall only be utilized when work requires no parking in certain areas. No parking signs shall be removed when work is not scheduled to be performed in the area affected by the no parking signs.

SECTION 105

CONTROL OF WORK

105.01 GENERAL

Add the following:

Unless otherwise noted on the plans and specifications when a Contractor is issued written notice of non-compliance with the contract the Contractor will incur a $250.00 per calendar day penalty until the item is brought into compliance.

105.07 COOPERATION BETWEEN CONTRACTORS

Add the following:

E. During construction, utility crews and other contractors may also be performing work. This may include B.C. Waste Free, telephone, gas, cable, and Boulder City Public Works. It is the responsibility of the Contractor to notify the Designated City Project Representative and all involved utilities and other contractors in advanced when the area will be ready so proper coordination can be scheduled. The required pre-work "Progress Schedule" shall show this scheduling. Some trenches may house two or more utility lines.

105.14 MAINTENANCE DURING CONSTRUCTION

Add the following:

E. During construction the Contractor is responsible to maintain public and private property in a uniform and orderly way. Any private property shall be restored to its original condition within 72 hours of disturbance. For each written notice of non-compliance of this item the Contractor will be assessed $250.00 per day penalty for failure to comply.

F. During construction an ADA accessible route shall be maintained on one side of a street and intersection at all times. For each written notice of non-compliance of this item the contractor will be assessed $250.00 per day penalty for failure to comply.

SECTION 107

LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.02 PERMITS, LICENSES, AND TAXES

Add the following:

B. The Contractor shall, as provided for in the General Conditions of these specifications, submit to the Designated City Project Representative one copy of each permit necessary for the prosecution of the work. The Contractor shall not include in the proposal any separate costs for such permits. The Contractor shall acquire a Boulder City Business License prior to beginning any work. All subcontractors must acquire a Boulder City Business License prior to beginning any work on the site.

107.09 LIABILITY INSURANCE

Add the following:

C. The Contractor shall maintain public liability and property damage insurance in the amount of not less than $1,000,000 for one person injured in one accident, and not less than $2,000,000 for more than one person injured in one accident, and not less than $1,000,000 with respect to any property damage involved.

The Contractor's public liability and property damage insurance shall name, the Owner and Engineer, and their officers, agents, and employees as "also insured" under the policies. Written notice of cancellation shall be provided to both Owner and Engineer at least thirty (30) calendar days prior to cancellation date.

All insurance certificates and bonds as required by the General Conditions shall be submitted to the Designated City Project Representative along with the signed contract documents within ten (10) calendar days from the date of the award of contract. The contract documents will not be executed by the City until all insurance certificates and bonds have been submitted to the Designated City Project Representative.

107.12 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

Add the following:

J. During all construction activities, all utilities, structures, signs, etc. will be protected from damage and remain in operation. Any damage will be immediately repaired by the Contractor and at his expense.

SECTION 108

PROSECUTION AND PROGRESS

108.07 PRE-CONSTRUCTION CONFERENCE

Shall be modified to read:

Following award of contract, but prior to commencement of work at the site, the Contractor shall meet with the Designated City Project Representative and Owner at the Owner's office for a conference to discuss the project.

108.08 DETERMINATION AND EXTENSION OF CONTRACT TIME

Add the following:

If the Contractor is unable to prosecute the portion of the work which is the currently controlling operation or the portion of the work which is the currently controlling operation is suspended due to unsuitable weather or to such conditions as are considered unfavorable to the suitable prosecution of the work, an excusable, non-compensable time extension may be awarded if the following conditions are satisfied:

(1) The weather must actually cause a delay to the completion of the project and the delay must be beyond the control and without the fault or negligence of the Contractor; or

(2) The Designated City Project Representative orders the suspension of the work in the interest of public safety or health or due to specification requirements.

The Contractor is to provide written notification to the Designated City Project Representative of the occurrence of adverse weather delay days that had an impact to the currently controlling operation within ten (10) calendar days of each occurrence, when such weather prevents work on critical activities for fifty (50) percent or more of the Contractor's scheduled work day.

The Contractor shall assume 2 working days per 30 days may be impacted by adverse weather and no time impact will be considered unless more than 2 days per 30-day period are affected. When the project exceeds 1-month duration the adverse weather days not used each month shall be added to the next 30-day period and accumulate through the end of the project.

No compensation will be made for re-work, traffic control, delay impact costs, or other monetary damages due to adverse weather delay(s)

The time extension will only be valid for the work day that weather impacted the work. The time extension does not include non-working days that follow a requested working day extension.

SECTION 109

MEASUREMENT AND PAYMENT

109.06 PARTIAL PAYMENT

Shall be modified to read:

From each progress bill submittal, five (5) percent will be deducted and retained by the Contracting Agency, and the remainder less the amount of all previous payment(s) will be paid to the Contractor. After fifty (50) percent of the work has been completed and, in the sole opinion of the Designated City Project Representative, if progress on the work is and remains satisfactory, the deduction to be made from the remaining progress billing submittals and from the final payment may be reduced to two and one-half percent (2.5%) or eliminated by the Contracting Agency.

Payment applications shall be submitted on the 1st of each month for the prior month activities. There shall be one (1) progress payment application request for each contract month. The progress payment will not be rendered until the Contracting Agency has received the prevailing wage reports for the prior month activities and has received the updated baseline schedule.

109.07 ACCEPTANCE AND FINAL PAYMENT

Add the following:

Prior to final payment, the Contractor shall submit to the Designated City Project representative the following:

A. Certified Warranty for a one-year warranty of the project.
B. Unconditional lien releases from his subcontractors and material suppliers that all bills have been paid and that Boulder City is not responsible for any labor, materials, etc. on this project.
C. Record drawings for the project.

Final payment may require the acceptance of the project by the City Council for the City of Boulder City. This process can take up to 45 calendar days.

SECTION 110

WAGES, HOURS AND CONDITIONS OF EMPLOYMENT

110.01 WAGES, HOURS AND EMPLOYMENT PRACTICES

110.01.C Add the following:

The Contractor will be required to pay an overtime inspection fee of $87.13 for each hour or each portion of each hour thereof, to provide for an inspector to be present should the Contractor work outside the working hours established in Subsection 100.07 Work Hours or as approved by the Owner. Overtime outside of normal work hours will be charged a minimum of two (2) hours overtime. The Contractor will also be required to pay overtime charges for any City approved holidays. Overtime must be requested in writing and approved by the Designated City Project Representative. Overtime requests must be received 48 hours in advance of the requested time, these overtime fees must also be paid for by the end of the work day prior to the overtime.

110.02 SAFETY

Add the Following:

B. The Contractor is responsible for all jobsite safety for the duration of the contract.

SECTION 202

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03.06 DISPOSING OF MATERIALS:

Add the following:

Construction Waste Management: The City's goal is to reduce the amount of waste placed in any landfill. To this end, the contractor shall minimize the creation of construction and demolition waste on the Project site and to the extent practical shall recycle and/or salvage non-hazardous construction and demolition debris to divert waste from the Boulder City Municipal Landfill. Contractor shall reuse (if in compliance with these standards), salvage, or recycle as much of the non-hazardous waste materials generated at the project site as is economically feasible. For day to day recyclables such as employee plastic water bottles, a recycling cart can be borrowed from B.C. Waste Free, or recyclables can be delivered to the Boulder City Municipal Landfill Residential Drop-off Area. The Contractor is directed to www.bcwastefree.org to determine what materials are accepted by the City's free recycling program. In cases where there is little to no cost difference between recycling/salvaging and land-filling of items not required to be recycled or salvaged, the Contractor is directed to recycle/salvage.

Materials that are unsuitable for recycling shall be properly disposed of in the Boulder City Municipal Landfill. The Contractor shall pay all fees. No other public or private property in the Boulder City limits shall be designated as a disposal site for this type of material unless otherwise approved by the Designated City Project Representative.

The Contractor shall be responsible for contacting B.C. Waste Free to determine appropriate costs and scheduling. Excess clean fill material, D_{100} = 6", may be hauled to the Boulder City Municipal Landfill, however the acceptance of the materials is at the discretion of the Landfill operator. Boulder City Municipal Landfill operator, B.C. Waste Free, may accept excess clean fill material that can be utilized as landfill daily cover at no cost to the Contractor. Clean fill material is pulverized asphalt and soil that is 6" minus. Clean fill material must be free of all deleterious materials including reinforcing bars, wood, vegetation, trash or other debris, etc. The Contractor is responsible for paying all fees for all other disposal materials hauled to the Boulder City Municipal Landfill. Material hauled to the Boulder City Municipal Landfill determined not to clean fill material or acceptable for use as landfill daily cover by the landfill operator will be considered waste disposal and the Contractor will be responsible for all fees for disposal. Note: B.C. Waste Free has exclusive rights for the rental of waste/trash containers within Boulder City limits. No waste/trash containers from other waste collection or debris hauling firms are allowed in Boulder City unless they are providing recycling services not offered by B.C. Waste Free.

Any hazardous material shall be removed from Boulder City and disposed of in accordance with OSHA regulations and requirements and in accordance with the Clark County Air Quality and Health regulations and requirements. The Boulder City Municipal Landfill does not accept hazardous materials.

SECTION 208

TRENCH EXCAVATION AND BACKFILL

208.01.01 GENERAL

Add the following:

There will be no extra payment for excavation that takes place in uncontrolled fill or sandy/loose material. When this type of material is encountered the Contractor shall employ means and methods that provide the best method for installation that causes least disruption to surrounding area and residents. Contractor is responsible for appropriate trench protection and maintenance based on the soil conditions encountered.

END OF GENERAL CONDITIONS

SPECIAL PROVISIONS

MODIFICATIONS TO REFERENCE SPECIFICATIONS

These Special Provisions supplement and modify the "Uniform Standard Specifications for Public Works Construction Off-Site Improvements, Clark County Area, Nevada, Third Edition," and all revisions through date of advertisement. All of the requirements and provisions of said Standard Specifications shall apply except where modified by the plans and these Special Provisions.

_____

T. Heath Hildebrandt, P.E.
Project Manager

Kimley-Horn
6671 Las Vegas Boulevard South
Suite 320
Las Vegas NV 89119

NV Registered Civil Engineer #018207
Expiration Date: June 30, 2023

SECTION 100

MOBILIZATION/DEMOBILIZATION

100-1.1 GENERAL. Mobilization/demobilization shall consist of preparatory work, furnishing required submittals and operations including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site and other facilities necessary for Work on the Project including providing a staging area for the CONTRACTOR's operation; material storage; for premiums on bonds and insurance for the Project; for other work and operations which the CONTRACTOR must perform or costs incurred before beginning Work on the Project; for the establishment of temporary offices, buildings, safety equipment and first aid supplies, sanitary, and other facilities, as required by the Contract Documents, State and local laws and regulations; and for necessary Work and costs in completing the construction and demobilizing from the site.

100-1.2 CONSTRUCTION ADMINISTRATION VEHICLE. Not Used

100-1.3 STAGING AREA. A proposed staging area is shown on the Drawings. This area shall be used for the CONTRACTOR's operations, the storage of materials and equipment. The area shall also be used for CONTRACTOR's trailer employee parking.

The staging area shall be kept in a neat and orderly condition. Equipment shall only be parked in retracted and lowered condition. The OWNER reserves the right to direct the CONTRACTOR to correct any deficiencies in the maintenance of the staging yard and the CONTRACTOR shall promptly comply with the directives of the OWNER. At the completion of the project the CONTRACTOR shall apply a dust palliative to the staging areas used.

100-1.4 HAUL ROUTES. The CONTRACTOR haul routes are designated on the Drawings. The CONTRACTOR will be limited to these haul routes and shall not deviate from the identified haul routes unless instructed by the ENGINEER. CONTRACTOR access points to the Airport are shown on the Drawings. The CONTRACTOR will provide a gate guard at the AOA Gate when that gate is in use. At all other times the access gates shall be locked.

100-1.5 STAGING AREA/HAUL ROUTE RESTORATIONS. The CONTRACTOR shall restore any and all areas used for staging worker's, materials, and equipment in the performance of this Work to a condition equaling its original condition. At the completion of the project the CONTRACTOR shall apply a dust palliative to the all staging areas and haul routes used that are not stabilized with AC millings.

100-1.6 FINAL CLEANUP. Upon completion of the work and before acceptance and final payment will be made, the CONTRACTOR shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The CONTRACTOR shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the CONTRACTOR has obtained the written permission of such property OWNER.

Cost of staging area and haul route restoration and Final Cleanup shall be included in the bid price for Mobilization/Demobilization as part of demobilization.

100-1.7 PERMITS. This item shall be used to process permit application and reviews with other government agencies that may require a separate permit. The CONTRACTOR is advised that naturally occurring asbestos has been found in the native soils at the Airport. Therefore the CONTRACTOR is required to have proper personal, protective equipment and instruments for detection and safety on-site. If hazardous materials are encountered the CONTRACTOR shall dispose of the material in accordance with local regulation and the project specifications.

100-2.1 MEASUREMENT. Measurement is lump sum.

100-3.1 PAYMENT. Payment for the performance of the Mobilization/Demobilization work as above specified will be made at the contract lump sum price for the Item Mobilization/Demobilization. For the purpose of payment in accordance with this Item, (reference Items 1 and 2 below), Mobilization/Demobilization exceeding seven (7) percent of the total amount bid, shall be paid upon substantial completion of the Contract per item 3 below.

The amounts to be allowed for Mobilization/Demobilization in the partial payment to be made under the Contract will be made as follows:

1. When five (5) percent of the total original Contract amount is earned from other bid items, fifty (50) percent of the amount bid for Mobilization/Demobilization (up to 7 percent of the total bid), will be paid.

2. When ten (10) percent of the total original Contract amount is earned from other bid items, the remaining fifty (50) percent of the amount bid for Mobilization/Demobilization (up to 7 percent of the total bid), will be paid.

3. Should the amount bid for Mobilization/Demobilization be in excess of seven (7) percent of the total bid price, said differential amount shall be paid upon substantial completion of the Contract.

The above schedule of partial payments for Mobilization/Demobilization shall not be construed to limit or preclude partial payments otherwise provided by the agreement.

A. Payment will be made under:

PAY ITEM	**PAY UNIT**
MOBILIZATION/DEMOBILIZATION (10% MAX)	LUMP SUM

END OF SECTION 100

SECTION 100.5

AIRFIELD CONSTRUCTION AREA CONTROL

DESCRIPTION

100.5-1.1 GENERAL. This item shall consist of furnishing, installing, maintaining, adjusting, and removing construction signs, barricades, warning lights, and furnishing gate guards, crossing guards, escorts, furnishing, operating and maintaining sweepers and FOD Control, managing and providing all labor, equipment, and materials required to close the runways, taxiways, taxilanes and aprons as required, and providing items as requested for safety and security at locations shown on the Drawings, as specified in these Specifications, and as directed by the OWNER.

MATERIALS AND CONSTRUCTION REQUIREMENTS

100.5-2.1 BARRICADES. Low profile barricades shall be placed at the locations shown on the Drawings and as directed by the OWNER. Prior to starting work on each phase of the project, the CONTRACTOR shall prepare and submit a proposed barricade layout plan, barricade placement and removal schedule, and temporary storage location(s) for approval by the OWNER.

Low profile barricades shall be provided by the CONTRACTOR and removed at the end of the project. All barricades that are damaged during the project shall be replaced immediately. In addition, the CONTRACTOR shall provide LED barricade flashers for all barricades that are used by the CONTRACTOR.

These additional requirements shall be followed:

A. Low profile barricades required on all phases of the project shall be installed, maintained and repositioned as needed and as directed by the OWNER. Barricades shall only be in place while construction activities are underway and a portion of the runway, taxiway, taxilane or apron that is closed to traffic other than construction activities. All Low profile barricades must be removed from traffic areas prior to opening those areas to traffic.

B. Low profile barricades shall be positioned outside of the area of construction as shown on the Drawings unless otherwise directed by the OWNER.

C. Low profile barricades shall be properly secured and inspected regularly by the CONTRACTOR to ensure that the low profile barricades remain in-place and that all lights are operational. Inspections shall be conducted daily prior to the end of each shift allowing enough time for all low profile barricades and lights to be repaired and fully operational at the end of the shift.

D. Low profile barricades shall be spaced as outlined on the Drawings or as directed by the OWNER.

E. The CONTRACTOR shall maintain a 15 percent reserve in the number of barricades maintained at the project site. These reserve barricades shall be used by the CONTRACTOR only when and as directed by the ENGINEER or Airport Operations. No additional measurement or payment will be made for the maintenance and use of reserve barricades on the project site.

F. All maintenance work required to keep barricades, warning lights/ batteries, etc. in good operating condition shall be provided by the CONTRACTOR at the CONTRACTOR's sole expense.

G. CONTRACTOR shall maintain barricades 24 hours a day and over non work periods. If more than two adjacent lights on the barricades fail the CONTRACTOR shall immediately repair or replace the lights with operational units. Response times to calls concerning barricade maintenance shall be less than 20 minutes.

H. All unused barricade lights shall be turned off during daylight hours. Lights on barricades used during weekend closures shall be operating.

100.5-2.2 BARRICADE LIGHTS. Flashing barricade lights (two (2) per barricade) shall be placed on each barricade. Barricade lights shall be in accordance with the current requirements of ITE Standards for Flashing Warning Lights, Type A, as shown below:

Warning Lights	Type A Low Intensity
Flashing Rate Per Minute	55 to 75
Flash Duration[1]	10%
Minimum Effective Intensity[2]	5 Candles
Minimum Beam Candle Power[2]	-----
Hours of Operations	Dusk to Dawn

[1] Length of time that instantaneous intensity shall be equal to or greater than effective intensity.

[2] These values shall be maintained within an angle of 9 degrees on each side of the vertical axis and 5 degrees above and below the horizontal axis.

Barricade lights shall be solar or battery-operated and be housed in a weatherproof enclosure. Lights shall be equipped with a solar switch which shall turn the light on at dusk and off at dawn. All barricade lights shall be red.

Barricade lights shall be secured to the constructed signs, barricade or support by tamper-proof bolts.

100.5-2.3 MARKERS. Temporary closed Taxiway markers shall be yellow, sized in accordance with the detail in the Drawings and sufficiently weighted. They shall be placed in locations shown on the Drawings. Taxiway markers shall consist of two 30’ x 5’ pieces placed to form an “X”. No separate payment for these markers shall be made but shall be considered incidental to Airfield Construction Area Control.

The CONTRACTOR shall clearly mark the TOFA in all work areas using survey lath spaced no more than fifty (50) feet apart. These markers shall remain in place throughout the duration of construction and the CONTRACOTR shall remove and dispose of all markers as part of their final clean-up.

100.5-2.4 CONTRACTOR HAUL ROUTES. All CONTRACTOR's haul routes shall be clearly marked with traffic cones, signs, and other traffic control devices, as shown on the Drawings and as directed by the OWNER to clearly control the flow of CONTRACTOR personnel within work areas. Prior to starting work on each phase of the project, the CONTRACTOR shall prepare and submit a proposed haul route layout and marking plan for approval by the ENGINEER. All haul routes must be approved by the ENGINEER prior to use by the CONTRACTOR. Haul route cones shall only be in place while construction activities are underway. The CONTRACTOR shall set up the cones at the beginning of each work period and take them down prior to the end that period.

100.5-2.5 RADIOS. Radios shall be Icom IC-A6 or equal. No separate payment for these radios shall be made but shall be considered incidental to Airfield Construction Area Control.

100.5-2.6 GATE GUARDS. The CONTRACTOR shall furnish trained personnel, trained by the OWNER, at the entrances to secure areas whenever these entrances are in use. Gate Guards shall be in 2 way communication with the project superintendent at all times that the gate is accessible.

All Airport perimeter gates that are used by the CONTRACTOR for operations shall require gate guard at all times the gate is in use. The gate shall be closed and locked (with a lock provided by the CONTRACTOR) during off-hours, when construction is not in progress, and when the gate guards are not at the station. The CONTRACTOR shall be responsible for controlling access through the gate. All gate guards shall have communications equipment capable of contacting CONTRACTOR management staff should any problems or questions arise.

100.5-2.7 CROSSING GUARDS. The CONTRACTOR shall furnish trained and adequately equipped crossing guard personnel during construction working hours to maintain a safe flow of construction and non-construction traffic. Crossing guards shall be positioned at each side of any active aircraft movement area (runway, taxiway, taxilanes, and aprons) to clear equipment across the taxiway when no aircraft traffic is present. Aircraft traffic shall be given priority at all times.

100.5-2.8 VEHICLE ESCORTS. All vehicles must be properly marked, lighted, and equipped with a properly trained driver. Any vehicles operating on the Airport without a properly trained driver shall be under the observation of a vehicle monitor. Vehicle escorts shall move about the project site to make sure that all construction traffic is operating within designated areas. Vehicle escorts shall comply with the following criteria:

- Possess a valid State of Nevada driver's license,
- Monitor's vehicle shall be clearly marked with the company name and logo,
- Attend operations and communications training provided by Airport Operations,
- Attend all pre-phase meetings.

The CONTRACTOR shall provide the number of escorts required to adequately monitor areas under construction and all haul routes. The CONTRACTOR should also note that the more spread-out the construction activities are, the more escorts will be necessary to provide adequate coverage. If at any time, at the ENGINEER's sole determination, the CONTRACTOR is not providing sufficient monitoring of the work areas, the ENGINEER shall require that additional escorts be provided by the CONTRACTOR at the CONTRACTOR's sole expense. Adequate, sufficient monitoring shall be considered control maintained of all workers within the designated work areas with zero infractions of open airfield surfaces.

If the United States Department of Homeland Security raises the security threat level to “Orange” or higher, or if required by the OWNER, FAA, or Transportation Security Administration, at any time during the course of the Work, additional escorts or vehicle escorts shall be provided by the CONTRACTOR at a rate of up to 1 escort or monitor per each vehicle entering the Work site as directed by the ENGINEER. The additional escorts or escorts shall be provided by the CONTRACTOR at the CONTRACTOR’s sole expense.

100.5-2.9 FOD CONTROL AND SWEEPERS. CONTRACTOR shall maintain a clean work site at all times within the active runway/taxiway/taxilane/apron areas and CONTRACTOR yards. CONTRACTOR shall, as shown on the Drawings, provide for the number of operational sweepers at all times as specified. Back up sweepers of similar type should be provided in case a sweeper is taken out of service due to maintenance issues. Sweepers shall maintain all paved haul routes in a clean condition with no tracking of material onto or around the paved haul route. A sweeper shall be stationed and operating at all active taxiway/taxilane/apron crossings and shall be in radio communication with the crossing guard at this crossing.

Foreign Object Debris (FOD) is a major concern on an active airfield. As such the CONTRACTOR shall minimize the potential for FOD by maintaining a clean work area and patrolling the complete area and removing anything that could cause FOD. Loose trash, construction debris, small pebbles, etc. are unacceptable within the airfield area. The Contractor will be on call and be required to work nights and weekends if needed due to the wind and un-stabilized construction areas. In addition the CONTRACTOR shall be responsible to sweep/clean the area of the Airport that accumulate dust and debris that results from the construction activities. This area may include, but is not limited to runways, taxiways, taxilanes, aprons, and areas around hangars, aprons, building, parking lot and airport access road.

100.5-2.10 SAFETY. The CONTRACTOR shall follow the guidelines and procedures contained in Federal Aviation Administration Advisory Circular 150/5370-2G “Operational Safety on Airports During Construction”; the attached Construction Safety Phasing Plan (CSPP) and other applicable Sections of these Specifications.

The CONTRACTOR shall acquaint its supervisors and employees of the Airport activity and operations that are inherent to this Airport and shall conduct its construction activities to conform to all routine requirements and emergency air traffic requirements and guidelines on safety specified in these Specifications.

All vehicles that are authorized to operate on the Airport shall display in full view above the vehicle a 3'x3' or larger orange and white checkerboard flag, each checkerboard color being 1' square. Any vehicle operating during the hours of darkness shall be equipped with a flashing amber (yellow) dome light, mounted on top of the vehicle and of such intensity to conform to local codes for maintenance and emergency vehicles.

All vehicles that are required to cross active runways, taxiways, taxilanes, aprons, instrument or approach clear zones shall do so under the direct control of the crossing guard or shall be escorted by a vehicle in contact with the crossing guard. All aircraft traffic shall have priority over the CONTRACTOR’s traffic.

No runway, taxiway, taxilane, apron or Airport roadway shall be closed without written approval of the Airport. The Airport will issue "Notices to Airmen" (NOTAM) and other necessary advisories to Airport services or tenants. The CONTRACTOR shall provide a minimum of 72 hours' notice of the requested closing to the ENGINEER, who will coordinate the request with Airport Operations.

Open-flame welding or torch-cutting operations shall be prohibited. All vehicles are to be parked and serviced in the staging area or in an area designed by the ENGINEER.

Open trenches, excavations, and stockpiled material at the construction site shall be prominently marked with low level barricades, acceptable to the Airport and the FAA, during hours of restricted visibility/darkness. Under no circumstances are flare pots to be used.

Stockpiled material shall be constrained in a manner to prevent movement resulting from aircraft blast or wind conditions. Material should not be stored near aircraft turning areas or movement areas.

Debris, waste and loose material capable of causing damage to aircraft or being ingested in jet engines are not allowed on active aircraft movement areas. The CONTRACTOR shall remove it immediately and continuously during construction.

100.5-2.11 SECURITY. CONTRACTOR shall comply with all security requirements specified herein, the CSPP, and comply with all applicable Federal safety and security regulations. The CONTRACTOR shall appoint and designate to the ENGINEER in writing the name of its Chief of Security. The Chief of Security shall represent the CONTRACTOR on the safety and security requirements of the project.

The CONTRACTOR shall comply with all security requirements specified herein:

Access to the Site. The CONTRACTOR's access to the site shall be as shown on the Drawings. No other access points shall be allowed unless approved by the ENGINEER. All access points shall be secured (i.e. locked gate) or manned by a guard. All manned access points shall have a physical barrier that must be moved or otherwise operated by the guard to allow vehicles to pass through the access point. CONTRACTOR traffic authorized to enter the site shall be escorted by CONTRACTOR personnel in accordance with these Specifications. The CONTRACTOR shall maintain traffic control to and from the various areas of the Work. The CONTRACTOR shall immediately clean any debris deposited along any route used as a result of its construction traffic. Directional signing at the access point and along the delivery route to the storage area or Work site shall be as directed by the ENGINEER.

Materials Delivered to the Site. Delivery vehicles for CONTRACTOR's material orders shall be escorted by the CONTRACTOR to the delivery site.

Inspection. If the United States Department of Homeland Security raises the security threat level to "Orange" or higher, or if required by the Airport, FAA, or Transportation Security Administration, at any time during the course of the Work, trained CONTRACTOR supplied personnel shall search all vehicles associated with the project entering the AOA or Work site.

The CONTRACTOR shall provide a sufficient quantity of inspection staff as to cause no delay in the through put of materials and deliveries to the project site.

Identification – Personnel. The CONTRACTOR shall maintain a master list of personnel and it shall be available for the Airport's examination during construction hours.

CONTRACTOR's personnel operating vehicles on active areas shall complete a driver training class presented to familiarize them of the allowable haul routes, speed limits, and open airfield areas.

Identification – Vehicles. The CONTRACTOR, through the Chief of Security, shall establish and maintain a list of vehicles authorized to operate on the Airport. Vehicles delivering materials to the construction site shall sign in with the CONTRACTOR's gate security personnel. The personal vehicles of CONTRACTOR's employees are not allowed on the airfield at any time, adequate off-site parking is available.

Continuous Contact with Crews. CONTRACTOR shall be in continuous contact with all work crews at all times. If crews are working remotely then 2-way radio contact shall be maintained. Positive control of delivery vehicles shall be maintained at all times.

METHOD OF MEASUREMENT

100.5-3.1 Airfield Construction Area Control shall be measured by the lump sum and shall include furnishing installing, removing, storage, maintenance, and reinstalling, as needed, barricades, cones, radios, barricade lights, flags, beacons, placards, badging, providing trained vehicle escorts, crossing guards, gate guards, Chief of Security, temporary vehicle traffic control pavement markings, signs, and all other trained personnel to provide the requirements of this item. Multiple removals and installations may be required for this project. Measurement shall be made only for the initial installation. Subsequent removals and installations are incidental to the contract.

100.5-3.2 Sweepers and FOD Control shall be measured by the lump sum and shall include furnishings, maintaining, and operating sweepers and conducting regular FOD checks.

BASIS OF PAYMENT

100.5-4.1 Payment for airfield construction area control, including furnishing installing, removing, storage, maintenance, and reinstalling, as needed, barricades, taxiway closure markings, cones, barricade lights, providing trained vehicle escorts, crossing guards, gate guards, Chief of Security, temporary vehicle traffic control pavement markings, and all other trained personnel to provide the requirements of this item shall be made at the lump sum price bid. The price bid shall be full compensation for furnishing all materials, and for all labor, equipment, tools, and incidentals necessary to complete construction safety and security. Partial payments for construction safety and security under this item will be made in accordance with the following provisions:

a. The first partial payment for airfield traffic control will be made at 25-percent of the lump sum price bid, at such time that: (1) the project submittals required are provided to the satisfaction of the ENGINEER; (2) the barricades have been delivered to the Work Site; and (3) CONTRACTOR's personnel have received badges and all necessary security driver and operations training as defined in these Specifications.

b. The remaining partial payments for construction safety and security will be made on each monthly progress pay at a rate of 75-percent of the lump sum price bid divided by the number of months established for the duration of the Work.

100.5-4.2 Sweepers and FOD Control shall be paid for per the contract unit price per lump sum and shall include furnishing, maintaining, operating the required number of operational sweepers plus any backups and conducting regular FOD checks. Payment shall be based on satisfactory compliance and paid on a prorated monthly basis of the lump sum amount evenly distributed over the construction duration. Failure to maintain the required number of sweepers and adequately clean the area may cause a month's payment to be withheld. This cost shall include any night or weekend efforts that may be required.

A. Payment will be made under:

PAY ITEM	**PAY UNIT**
AIRFIELD CONSTRUCTION AREA CONTROL	LUMP SUM

END OF SECTION 100.5

SECTION 202

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

METHOD OF MEASUREMENT

202.04.01 MEASUREMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The quantity of REMOVAL OF ASPHALT PAVEMENT will be measured per SQUARE YARD, measured in the original position.

The quantity of REMOVAL OF PCC PAVEMENT will be measured per SQUARE YARD, measured in the original position.

The quantity of REMOVAL OF PCC ISLAND will be measured per LUMP SUM.

BASIS OF PAYMENT

202.05.01 PAYMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The accepted quantity of REMOVAL OF ASPHALT PAVEMENT will be paid for at the contract unit price of SQUARE YARD and shall include all materials, equipment, labor and disposal required to perform this work and all work as shown on the plans, as specified herein and as directed by the engineer. The above payment shall also include, sawcutting and removal of existing asphalt concrete pavement; removal and disposal.

The accepted quantity of REMOVAL OF PCC PAVEMENT will be paid for at the contract unit price of SQUARE YARD and shall include all materials, equipment, labor and disposal required to perform this work and all work as shown on the plans, as specified herein and as directed by the engineer. The above payment shall also include, sawcutting and removal of existing asphalt concrete pavement; removal and disposal.

The accepted quantity of REMOVAL OF PCC ISLAND will be paid for at the contract unit price of LUMP SUM and shall include all materials, equipment and labor required to perform this work, and all work as shown on the Plans, as specified herein and as directed by the Engineer. The above payment shall also include, sawcutting, removal of concrete to nearest joint where feasible; removal and disposal of concrete, reinforcing steel; protection and restoration, if damaged, of all existing facilities.

The accepted quantity of REMOVAL OF BOLLARDS will be paid for at the contract unit price of LUMP SUM and shall include all materials, equipment and labor required to perform this work, and all work as shown on the Plans, as specified herein and as directed by the Engineer. The above payment shall also include, disposal, sawcutting, removal of concrete foundations, reinforcing steel; backfill, protection and restoration, if damaged, of all existing facilities.

The accepted quantity of REMOVAL OF DELUGE SYSTEM will be paid for at the contract unit price of LUMP SUM and shall include all materials, equipment and labor required to perform this work, and all work as shown on the Plans, as specified herein and as directed by the Engineer.

The above payment shall also include, disposal, sawcutting, removal of concrete foundations, piping and appurtenances, protection and restoration, if damaged, of all existing facilities.

B. Payment will be made under:

PAY ITEM	PAY UNIT
REMOVAL OF ASPHALT PAVEMENT	SQUARE YARD
REMOVAL OF PCC PAVEMENT	SQUARE YARD
REMOVAL OF PCC ISLAND	LUMP SUM
REMOVAL OF BOLLARDS	LUMP SUM
REMOVAL OF DELUGE SYSTEM	LUMP SUM

END OF SECTION 202

SECTION 302

AGGREGATE BASE COURSES

METHOD OF MEASUREMENT

302.04.01 MEASUREMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The quantity of TYPE II AGGREGATE BASE (6-INCHES) will be measured per SQUARE YARD.

BASIS OF PAYMENT

302.05.01 PAYMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The accepted quantity unit price bid for TYPE II AGGREGATE BASE (6-INCHES) will be paid for at the contract unit price of SQUARE YARD and shall include all labor, tools, equipment, materials and all incidentals necessary to construct the aggregate base course per the structural section(s) indicated on the plans. Work shall include, but not be limited to subgrade preparation, import of materials, placement, preparation, compaction, and incidentals as necessary to accommodate the lines and grades shown on the plans.

C. Payment will be made under:

PAY ITEM	PAY UNIT
TYPE II AGGREGATE BASE (6-INCHES)	SQUARE YARD

END OF SECTION 302

SECTION 401

PLANT MIX BITUMINOUS PAVEMENTS

METHOD OF MEASUREMENT

401.04.01 MEASUREMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The quantity of PLANT MIX BITUMIINOUS PAVEMENT (3-INCHES) will be measured per TON.

BASIS OF PAYMENT

401.05.01 PAYMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The accepted quantity unit price bid for PLANTMIX BITUMINOUS PAVEMENT (3-INCHES) will be paid for at the contract unit price of TON and shall include all labor, tools, equipment, materials and all incidentals necessary to construct the aggregate base course per the structural section(s) indicated on the plans. Work shall include, but not be limited to import of materials, placement, preparation, compaction, tack coat, prime coat, and incidentals as necessary to accommodate the lines and grades shown on the plans.

D. Payment will be made under:

PAY ITEM	**PAY UNIT**
PLANTMIX BITUMINOUS PAVEMENT (3-INCHES).....	TON

END OF SECTION 401

SECTION 501

PORTLAND CEMENT CONCRETE

METHOD OF MEASUREMENT

501.04.01 MEASUREMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The quantity for PORTLAND CEMENT CONCRETE PAVEMENT *will be measured per LUMP SUM.*

The quantity for PORTLAND CEMENT CONCRETE ISLAND *will be measured per LUMP SUM.*

BASIS OF PAYMENT

501.05.01 PAYMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The accepted quantity unit price bid for PORTLAND CEMENT CONCRETE PAVEMENT (6-INCHES) will be paid for at the contract unit price of LUMP SUM and shall include all labor, tools, equipment, materials and all incidentals necessary to excavate and construct the PCC Pavement. Work shall include, but not be limited to excavation, offsite disposal of excess materials, import of materials, subgrade preparation, aggregate base, placement and compaction, PCC material, mixing, placement, sawcutting, joint preparation, joint materials, reinforcing steel, hardware, PCC curb, forms, curing material, and incidentals necessary for a complete installation.

The accepted quantity unit price bid for PORTLAND CEMENT CONCRETE ISLAND will be paid for at the contract unit price of LUMP SUM and shall include all labor, tools, equipment, materials and all incidentals necessary to excavate and construct the PCC Island. Work shall include, but not be limited to excavation, offsite disposal of excess materials, import of materials, subgrade preparation, aggregate base, placement and compaction, PCC material, mixing, placement, sawcutting, joint preparation, joint materials, reinforcing steel, hardware, PCC curb, forms, curing material, and incidentals necessary for a complete installation.

The accepted quantity unit price bid for BOLLARDS will be paid for at the contract unit price of EACH and shall include all labor, tools, equipment, materials and all incidentals necessary to excavate and construct bollards as indicated on the plans. Work shall include, but not be limited to, coring, sawcutting, excavation, removals, import of materials, offsite disposal of excess materials, subgrade preparation, aggregate base, placement, and compaction, PCC material, mixing, placement, bollards, yellow plastic bollard covers with reflective tape, forms, curing material, and any incidentals necessary for a complete installation.

A. Payment will be made under:

PAY ITEM	PAY UNIT
PORTLAND CEMENT CONCRETE PAVEMENT (6-INCHES)	LUMP SUM
PORTLAND CEMENT CONCRETE ISLAND	LUMP SUM
BOLLARDS	EACH

END OF SECTION 501

SECTION 628

TRAFFIC STRIPING, PAVEMENT MARKINGS, AND CURB MARKINGS

REPLACE THIS SPECIFICATION WITH THE FOLLOWING:

DESCRIPTION

628-1.1 **GENERAL.** This Item shall consist of the removal of markings and preparation and painting of markings on the surface of airfield pavements in accordance with these Specifications and at the locations shown on the Drawings or as directed by the OWNER. The terms "paint" and "marking material" as well as "painting" and "application of markings" are interchangeable throughout this specification. **All permanent markings except black paint shall receive two coats of paint.** This item shall also cover the installation of the tie-down anchors and chains.

Temporary markings on existing pavement to be removed shall be single coat paint per section 628-2.2. Temporary markings on new pavement or existing pavement to be remain shall be marking tape per section 628-3.4.

MATERIALS

628-2.1 MATERIALS ACCEPTANCE. The CONTRACTOR shall furnish manufacturer's certified test reports for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The CONTRACTOR shall notify the ENGINEER upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers 55 gallons or smaller for inspection by the ENGINEER. Material shall not be loaded into the equipment until inspected by the ENGINEER.

628 -2.2 PAINT. Paint shall be Waterborne in accordance with the requirements of paragraph 628-2.2a. Paint shall be furnished in White-37925, Yellow-33538 or 33655, Black-37038, or Red-31136 in accordance with Federal Standard No 595.

a. WATERBORNE. Paint shall meet the requirements of Federal Specification TT-P-1952E, Type I.

628-2.3 REFLECTIVE MEDIA. Glass beads shall meet the requirements of Fed. Spec. TT-B-1325D, Type III. Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

CONSTRUCTION METHODS

628-3.1 WEATHER LIMITATIONS. The painting shall be performed only when the surface is dry and when the surface temperature is at least 45º F and rising and the pavement surface temperature is at least 5ºF above the dew point or meets the manufacturer's recommendations. Painting operations shall be discontinued when the surface temperature exceeds 100ºF. Markings shall not be applied when the pavement temperature is greater than 120 °F. Markings shall not

be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns.

628-3.2 EQUIPMENT. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead and/or silica sand dispensing machine and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless-type marking machine suitable for application of traffic paint. It shall produce an even and uniform film thickness at the required coverage and shall apply markings of uniform cross sections and clear-cut edges without running or spattering and without over spray.

628-3.3 PREPARATION OF SURFACE. Immediately before application of the paint the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. The area to be painted shall be cleaned by water blasting or sand blasting (if directed by OWNER) or by other methods as required to remove all dirt, laitance, loose materials, and other contaminants without damage to the pavement surface. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the OWNER. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

Paint shall not be applied to Portland cement concrete pavement until the areas to be painted are clean of curing material. High-pressure water or micro grinding methods shall be used to remove curing materials.

Prior to the initial application of markings, the CONTRACTOR shall certify in writing that the surface has been prepared in accordance with the paint manufacturer's requirements, that the application equipment is appropriate for the type of marking paint and that environmental conditions are appropriate for the material being applied. This certification along with a copy of the paint manufacturer's surface preparation and application requirements must be submitted and approved by the OWNER prior to the initial application of markings.

628-3.4 LAYOUT OF MARKINGS. The proposed markings shall be laid out in advance of the paint application.

628-3.5 APPLICATION. Paint shall be applied at the locations and to the dimensions and spacing shown on the Drawings. Paint shall not be applied until the layout and condition of the surface has been approved by the OWNER.

The edges of the markings shall not vary from a straight line more than ½-inch in 50-feet and marking dimensions and spacings shall be within the following tolerances:

Dimension and Spacing	Tolerance
36 in or less	±1/2 in
greater than 36 in to 6 ft	± 1 in
greater than 6 ft to 60 ft	± 2 in
greater than 60 ft	± 3 in

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate(s) shown in Table 1. The addition of thinner will not be permitted.

A period of 30 days shall elapse between placement of a bituminous surface course or seal coat and application of the final layer of paint.

Prior to the initial application of markings, the CONTRACTOR shall certify in writing that the surface has been prepared in accordance with the paint manufacturer's requirements, that the application equipment is appropriate for the marking paint and that environmental conditions are appropriate for the material being applied. This certification along with a copy of the paint manufacturers application and surface preparation requirements must be submitted to the Engineer prior to the initial application of markings.

TABLE 1

APPLICATION RATES FOR PAINT, GLASS BEADS

Paint Type	Paint Square feet per Gallon, ft^2/gal	Glass Beads, Type III Pounds per Gallon of Paint--lb./gal.
Waterborne	115 ft2/gal. Maximum	10 lb./gal. Minimum

Glass beads shall be placed upon all permanent markings (second coat only) and all temporary markings (first coat) immediately after application of the paint **except the black, green and red painted areas**. A dispenser shall be furnished which is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate(s) shown in Table 1. Glass beads shall not be applied to black paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made.

All emptied containers shall be returned to the paint storage area for checking by the OWNER. The containers shall not be removed from the airport or destroyed until authorized by the OWNER.

628-3.6 TEST STRIP. Prior to the full application of airfield markings, the CONTRACTOR shall produce a test strip in the presence of the OWNER. The test strip shall include the application of a minimum of 5 gallons of paint and application of 50 lbs of Type III glass beads. The test strip shall be used to establish thickness/darkness standard for all markings. The test strip shall cover no more than the maximum area prescribed in Table 1 (e.g., for 5 gallons of waterborne paint shall cover no more than 575 square feet).

628-3.7 PROTECTION AND CLEANUP. After application of the paint all markings shall be protected from damage until the paint is dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings of paint. The CONTRACTOR shall remove from the work area all debris, waste, loose or unadhered reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the OWNER. The CONTRACTOR shall dispose of these wastes in strict compliance with all applicable state, local, and Federal environmental statutes and regulations

METHOD OF MEASUREMENT

628-4.1 Measurement for Permanent Pavement Markings shall be measured by the square foot (**for each coat of paint applied to the pavement where two coats are required**) performed in accordance with the specifications and accepted by the OWNER**.**

BASIS OF PAYMENT

628-5.1 Payment for Permanent Pavement Markings shall be made at the Contract Unit price per square foot which price shall be full compensation for all layout and for furnishing all labor, materials, tools, equipment, templates, and incidentals necessary to complete this item. Glass beads shall be applied to the final coat of paint and the cost of the glass beads shall be included in the Contract Unit Price for Permanent Pavement Markings.

A. Payment will be made under:

PAY ITEM	**PAY UNIT**
PERMANENT PAVEMENT MARKINGS	SQUARE FOOT

END OF SECTION 628

SECTION 629

WATER DISTRIBUTION FACILITIES

METHOD OF MEASUREMENT

629.04.01 MEASUREMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The quantity for EXTEND EXISTING FIRE DELUGE SYSTEM *will be measured per LUMP SUM.*

BASIS OF PAYMENT

629.05.01 PAYMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The accepted quantity unit price bid for EXTEND EXISTING FIRE DELUGE SYSTEM will be paid for at the contract unit price of LUMP SUM and shall include all labor, tools, equipment, materials and all incidentals necessary to excavate, construct, and extend the existing deluge system as indicated on the plans. Work shall include, but not be limited to excavation, offsite disposal of excess materials, import of materials, aggregate base, PCC material, mixing, placement, sawcutting, joint preparation, joint materials, reinforcing steel, hardware, forms, curing material, trenching, bedding, backfill, steel pipe, brackets, pipe connections, sprayers, nozzles, risers, compaction efforts, and incidentals necessary for a complete installation.

A. Payment will be made under:

PAY ITEM	**PAY UNIT**
EXTEND EXISTING FIRE DELUGE SYSTEM	LUMP SUM

END OF SECTION 629

SECTION 629.5

FUEL DISTRIBUTION AND STORAGE FACILITIES

629.5-1 GENERAL

629.5-1.1 PROJECT OVERVIEW (IN ORDER OF COMPLETION)

NOTE: Several of the items listed below must be completed before following items to ensure minimizing impact to the operations.

1) Provide complete engineering drawings of the fuel systems described herein.

2) Obtain all necessary permits. Boulder City permits are as follows:

   a) The fuel tank abandonment will require a separate fire permit and submittal. Along with this, fire will inspect and verify proper inert procedures and removal of any existing fuel piping.
   b) The new fuel tank storage and area, the new underground piping, the new fuel dispensing operations will be one permit identified as a flammable liquids storage and fuel dispensing installation.
   c) The new fire water protection system will be a separate fire permit submitted by the fire sprinkler contractor.

3) Provide and install a new 12,000-gallon Avgas tank, concrete pad with curb (see Avgas 100LL Technical Specification for cabinet details). The new tank will be located to the east of the existing Jet A tanks. Bidder shall ensure all setbacks are met. (See Section 7.0)

4) Install QT Pod M4000 for both bulk fuel pumping systems. Ensure existing Jet A meter is tested and functional along with the AvGas 100LL Meter. Owner to provide QT Pod M4000. Contractor shall coordinate 2 weeks in advance with QT Pod Customer Support 303-444-3590 option 3 to make an appointment so QT Pod Tech Support can provide assistance during the installation process.

5) Design and install a canopy to cover both the new bulk Avgas pumping skid and the area in front of the Jet tanks, including the Jet pumping skid. Design may require modification to current lighting. The design and construction shall be robust and capable of withstanding high velocity air blast from prop/jet blast. OPTIONAL – Price separately

6) Expand the fire suppression (dry pipe) to include the new 12,000-gallon Avgas tank and extend fire department connection out 179 feet from current location. Testing shall include the entire system.

7) Underground Storage Tank Closure: Two (2) fiberglass underground storage tanks to be closed in place and filled with sand, removal and disposal of existing cabinets. This process will include, or the following will be necessary:
   a. Transfer of clean AvGas to the new 12,000 Avgas Tank.
   b. Disposal of waste (to include fuel and mechanical waste)
   c. The existing QT Pod M4000 will be retained to be reinstalled on the new island and should be stored in a secure manner so that it is not damaged in anyway.
   d. Closure of the USTs require a Tank Handler, Certified Environmental Manager, and soil testing. Note: if contaminated soils are present removal of such shall be handled under a separate contract.

e. Tank Closure must be done in compliance with the State of Nevada Environmental Protection Agency, EPA, Southern Nevada Health District and local agencies.

8) Backfill, compact and pave area that the prior underground tanks were removed. Install a new self-serve island with trenching for the below ground utilities and piping. The self-serve island will hold one QT Pod M4000 (existing), one (1) low profile Jet A cabinet shall face westerly, one (1) low profile Avgas 100LL cabinet. Provide space for one (1) optional, second low profile Avgas 100LL cabinet. One cabinet will face easterly and the optional second cabinet facing westerly. Note: Trauma posts shall only be as high as the cabinets.

9) Provide and install one (1) new Jet A pumping system and low profile self-serve fuel cabinet system (see Jet A Technical Specification for cabinet details). (See Section 8.0)

10) Provide and install one (1) new Avgas self-serve fuel cabinet system. (see Avgas 100LL Technical Specification for cabinet details).

11) Optional Secondary Avgas Self-Serve Cabinet: Provide and install one (1) new Avgas self-serve fuel cabinet system. (see Avgas 100LL Technical Specification for cabinet details).

12) Reinstall QT Pod M4000 for cabinet control.

13) Utilize the existing Veeder Root TLS 350 for the new Avgas 100LL tank and provide and install any required underground double wall piping and sumps probes. Ensure all systems function as required. NOTE: Sumps and sump coverings shall be watertight. Provision(s) shall be provided to allow for all future testing of all underground piping and sumps, without the need to perform or add testing fixtures.

14) Install new 4-inch, inlet and outlet isolation valves on existing Jet A filter separator.

15) Remove and replace the existing 3- & 4-inch tank isolation valves on tanks #3 and #4. Valve handles and extension(s) shall be provided for ease of operation.

16) Remove and replace the pressure relief valves and air eliminators on both the existing filter separator and the static relaxation chamber. Install check valves on the outlet of the air eliminators. Install visi flow gauges downstream of each vessel so to view fluid and/or air moving out of the pressure reliefs and air eliminators. Route the outlet piping back to one tank. Include a check valve at the top of the tank to act as an anti-syphon valve. Tubing shall be routed through the tank top to 3 inches above the tank floor.

17) Remove and replace the existing Jet A receiving line 4-inch isolation valve and site glass. Install with new gaskets and hardware.

18) Remove and replace the existing control valve located downstream of the filter separator. Control valve shall be operated by the deadman and water defense system.

19) Optional provide and install a combination safety eye-wash safety shower assembly. The shower shall be installed and protected from sunlight to ensure the contained water does not get hot.

20) Provide an extended (4 feet in length) spout for the Jet A OPW SAJ nozzle to reach the bottom of a refueler tank. To allow for emergency top loading of a Jet A refueler.

21) Provide and install area lighting for the self-serve fueling area. Two (2) lights (LED Design) one mounted on each corner of the fueling building facing the fueling area shall be designed and installed for the location they are being used. Beside normal shut-off switch the lights shall have a photocell light detection sensor.

All these elements must comply with all relevant regulations and the drawings provided. Details shall be submitted for approval with the bid documents.

629.5-1.2 INDUSTRY STANDARDS

The following industry standards are listed for reference and shall govern all applicable aspects of this project component. Should conflicts between standards arise, that which is the most stringent or restrictive shall apply.

a. Air Transport Association (ATA) Specification 103 – *Standards for Jet Fuel Quality Control at Airports*

b. American Society for Testing and Materials (ASTM):
   (1) A182 – *Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings and Valves and Parts for High Temperature Service*
   (2) A312/A312M – *Seamless and Welded Austenitic Stainless-Steel Pipe*
   (3) A403/A403M - *Wrought Austenitic Stainless-Steel Piping Fittings*
   (4) A193 - *Alloy Steel and Stainless-Steel Bolting Materials for High Temperature Service*
   (5) A194/A194M – *Carbon Steel. Alloy Steel, and Stainless-Steel Nuts for Bolts for High Pressure or High Temperature Service*
   (6) D1655 - *Specification for Aviation Turbine Fuels*
   (7) D2276 – *Test Methods for Particulate Contaminants in Aviation Turbine Fuels*
   (8) D3830 - *Standard Practice for Filter Membrane Color Ratings for Aviation Turbine Fuels*
   (9) D4176 - *Standard Test Method for Free Water and Particulate Contamination in Distillate Fuels (Visual Inspection Procedures)*

c. American National Standards Institute (ANSI):
   (1) B16.25 - *Buttwelding Ends*, ANSI/ASME
   (2) B16.5 – *Pipe Flanges and Flanged Fittings*, ANSI/ASME
   (3) B16.20 - *Metallic Gaskets for Piping, Double-Jacketed Corrugated and Spiral Wound*
   (4) A13.1.- *Scheme for the Identification of Piping Systems*, ANSI
   (5) B31.3. – *Process Piping*, ASME

d. American Petroleum Institute (API):
   (1) 5L - *Line Pipe*

e. Energy Institute (EI)
   1529 - *Aviation Fueling Hose*
   1540 – *Design, Construction, Operation and Maintenance of Aviation Fueling Facilities*
   1542 - *Airport Equipment Marking for Fuel Identification*
   1581 - *Specifications and Qualification Procedures for Aviation Jet Fuel Filter/Separator*

f. Military Specification, MIL-C-4556 - *Coating, Kit, Epoxy for Interior of Steel Fuel Tanks*

g. National Fire Protection Association (NFPA):
   (1) 30 - *Flammable and Combustible Liquids Code*
   (2) 30A - *Automobile and Marine Service Station Code*
   (3) 70 - *National Electrical Code*
   (4) 407 - *Standard for Aircraft Fuel Servicing*

h. International Fire Code, Latest Edition, with amendments, additions and deletions.

i Steel Structures Painting Council (SSPC):
(1) SP-5 - *White Metal Blast Cleaning*
(2) SP-6 - *Commercial Blast Cleaning*
(3) SP-10 – *Near-White Metal Blast Cleaning*

j Underwriters Laboratories (UL) 2085 - *Steel Aboveground Tanks for Flammable and Combustible Liquids*

k Petroleum Equipment Institute (PEI)
(1) PEI/RP 1300-13 Recommended Practices for the Design, Installation, Service, Repair and maintenance of Aviation Fueling Systems
(2) PEI/RP 200 -13 Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling

l. State of Nevada & City of Boulder City & Federal Aviation Administration
Regarding -
(1) Airport backfill, paving and marking
(2) Underground petroleum piping
(3) State of Nevada / City of Boulder City standards for “dry pipe” fire suppression.

629.5-2 SUBMITTALS

629.5-2.1 SUBMITTALS DURING MANUFACTURE AND INSTALLATION

Prior to ordering storage tanks and components, the following submittals and approvals are required.

a. Project Schedule. The entire project must be completely constructed and operational within sixty (60) calendar days of construction Notice to Proceed. A separate Procurement Notice to Proceed will be provided; the procurement period shall be one-hundred eighty (180) calendar days in duration. Prior to construction, the Owner must receive and approve a project schedule that identifies all milestones associated with the design, fabrication, delivery, installation, soak testing and commissioning of all storage systems components, including factory-certified training of personnel. This project schedule also should incorporate all dates for the items below. The project shall be complete and operational by June 1, 2022.

The system must be completely operational at each end of day. The system shall be only closed from 0700-1500 and shall be completely functional when open so that refuelers will be able to obtain clean, dry fuel during this time. If necessary, a QC inspection and leak inspection will need to be coordinated with Airport Operations prior to system being used by the tenants/customers.

b. Inspection Visit Schedule. The Contractor shall submit an inspection visit schedule for the Owner and Owner representatives to visit the fabrication facility, with key dates at key points during the fabrication and testing processes.

c. The Contractor shall submit two (2) electronic copies of drawings illustrating the items listed below. The electronic copies shall also be produced in AutoCAD and delivered on two (2) flash drive media.

(1) Plan view and all elevation views of the tank with internals, and the related pumping/filtering system

(2) All site-related requirements, including foundation and structural support requirements, and utility and electrical stub-out locations
(3) Dimensions and illustrations of all tank components
(4) Piping schematic and flow diagrams that illustrate component and system relationships, such as flow directions, control sequences, etc.
(5) Confirmation by the tank manufacturer of the date of completion for the tanks
(6) Valve matrices with valve numbers and purposes
(7) Detailed drawings showing all civil and environmental works
(8) Fusible link fire safety valve
(9) Pump(s) (including certified pump curves)
(10) Filter(s)
(11) Meter (including registers)
(12) Emergency fuel shut-off system
(13) Sump separator
(14) Pumping skid system, including piping, plans and sections; flow diagram(s); and control diagram(s)
(15) Control panels
(16) Deadman system
(17) Water defense system
(18) Air elimination system/components
(19) Self-service cabinet (including hose reels)

d. Pressure Tests – Tanks. Prior to coating the tanks the Contractor shall submit four (4) paper copies of the certified test results of tank pressure tests.

e. Pressure Tests – Piping. Prior to shipping tanks and equipment, the Contractor shall submit four (4) paper copies of the certified test results of piping pressure tests.

f. Coating Tests. Prior to shipping tanks and equipment the Contractor shall submit two (2) dated paper copies of the test results measuring dry film thickness of all coatings to tank interiors, exteriors and equipment surfaces.

g. Operational Tests. Prior to shipping tanks and equipment the Contractor shall submit four (4) paper copies of the test data sheets certifying completion of operational tests for all system components.

h. Static Relaxation. Prior to shipping tanks and equipment the Contractor shall submit supporting design data for static relaxation of the Jet-A fueling system.

i. Operations and Maintenance (O&M) Manual – Draft Copy. Prior to system installation, the Contractor shall provide one (1) draft paper copy of the System O&M Manual to the Owner. Owner shall review this draft and return it to the Contractor with written comments for revision, as required.

j. Location of Terminal Blocks. Prior to shipping the Contractor shall submit the proposed locations of terminal blocks and arrangements of external conduit for control panel(s) and system circuitry.

629.5-2.2 SUBMITTALS – SYSTEM TESTING.

During the system testing and flushing process, the following submittals are required.

a. System Testing Procedures. Before beginning the testing process, the Contractor shall provide detailed procedures, sequences and schedules outlining the proposed testing process. Owner must receive this information from the Contractor not less than four (4) weeks prior to the scheduled system flushing date(s).

b. Notice of Test Schedule. Seven days prior to any proposed test date, the Contractor shall submit written notification of any such proposed test date, followed by not less than 48-hours advance notice of the actual or planned test schedule.

c. System Testing Procedures. Before starting the system testing and flushing process the Contractor shall provide detailed procedures, sequences and schedules outlining the proposed testing and flushing processes, including identification of laboratory-provided temperature and recording instruments. Owner must receive and approve these procedures not less than four (4) weeks prior to the scheduled test date(s).

d. Documentation – System Soak Test and Flush. Prior to final acceptance by the Owner, the Contractor shall receive and approve four (4) copies of all 4 days soak test (see attachment 1 and 2) and flushing operations and procedures documented by an independent test laboratory. Such documentation shall include a written report that describes the soak test results (comparison between pre-soak and after soak test fuel samples).

629.5-2.3 FINAL SUBMITTALS

Prior to the Owner accepting receipt of the complete fuel storage system, the Contractor shall submit the following items for Owner approval:

a. Qualification Reports. The Contractor shall submit all qualification reports for all welding processes and operators associated with the system piping. Provide these in the format suggested in Appendix B of Section IX of the ASME Boiler and Pressure Vessel Code and incorporate them within the system O&M manual.

b. Quality Control Certification. The Contractor shall submit written certification of quality control procedures used and results thereof during application of both internal and external coatings. This certification shall include surface preparation, film thickness per coat, curing procedures and testing, and be incorporated into the system O&M manual.

c. Test Logs. The Contractor shall submit all copies of test logs used to record all system testing data. Incorporate these test logs within the system O&M manual.

d. O&M Manual – Final Copy. The Owner must receive and approve four (4) paper copies of the final (revised) system O&M manual.

e. Final Approval. Upon the satisfactory completion of the project and receipt and approval of all required submittals, the Owner will provide the Contractor a written Statement of Approval and Final Acceptance of the completed fuel storage system.

629.5-3 QUALITY ASSURANCE

To assist the Owner in obtaining a quality and maintainable product, the Contractor shall provide the Owner with assurances pertinent to final system design, fabrication, delivery and installation.

629.5-4 FABRICATION AND INSTALLATION

The following criteria apply to the Contractor for all related aspects of system fabrications and installation:

a. Fabrication
   (1) All equipment and material used or employed within or as part of this project shall be the latest design, new and the highest quality standard product of manufacturers regularly engaged in the production of such equipment and material.

(2) When two or more units of the same class of equipment are required, they shall be the products of a single manufacturer.
(3) All items, material, components, coatings and equipment shall be compatible for use with the fuel stored.
(4) Where UL certifies, tests or lists a component type used for this system, the product furnished shall be UL-listed or approved and bear the UL label.
(5) Tanks shall be built in strict accordance with NFPA 30 and shall be labeled by UL.
(6) Contractors shall qualify welding processes and operators (for piping) in accordance with ASME Boiler and Pressure Vessel Code, Section IX. Qualification reports are to be prepared in the formal suggested in Appendix B of Section IX and incorporated into the system Operations and Maintenance (O&M) manual.
(7) Galvanized metals, zinc, copper, copper alloys or cadmium components are not permitted for products coming into direct contact with aviation fuels. No "red/yellow metal" use is permitted. The only exception is the vapor recovery piping that can be galvanized steel.

b. Installation
(1) Payment for all freight, express trucking, transportation, cartage and handling for equipment and materials. Moreover, Contractor shall pay for extra handling and shipping expenses incurred to expedite materials, etc., to preclude any interruption of the overall job process or schedule.
(2) Acceptance of responsibility for protecting internal and external parts of the storage system against rust or corrosion and the ingress of water or dirt; packing items with factory-applied end caps or seals; and protecting internal components against damage from rattling, shifting and moving during the system transport process.
(3) Spot-painting all equipment, where the shop paint has been damaged or flaked off.
(4) Payment for all demurrage and claims for damages to vehicles resulting from the unloading operation at Owner's reassembly site.
(5) Acceptance of responsibility for the safety and protection of all equipment and material from loss or damage until the system is completed and accepted by the Owner.

629.5-5 WARRANTY PERIOD

The Contractor shall warranty the tank system and all components for a period of not less than one (1) year. That one (1) year warranty period shall not commence until the system is installed, tested and accepted by the Owner, and factory training of the Owner's personnel has been completed.

629.5-5.1 GENERAL

All products provided must be suitable for the application intended; that is, a fuel system for combustible and flammable aviation fuels in a critical application where failure of the control system could seriously compromise the use of the fuel system or cause bodily harm. Where appropriate, electrical components shall be located outside the hazardous area to minimize cost. Additional thought shall be given to this facility being in a hot dusty environment.

629.5-6 AVGAS 100LL - STORAGE SYSTEM AND SELF-SERVE

Components include one (1) above ground, UL 2085, cylindrical, saddle - mount, fuel storage tank, with a nominal capacity of 12,000 gallons, and one (1) complete bulk refueler loading and transport receipt skid. Tank shall be provided with a pumping system awning. This tank will also be used to supply the remote self-serve island cabinet(s)

- Aircraft fueling (flow rate shall be not less than 30 gallons per minute (gpm) +/- 5 gpm, as calculated at the aircraft fueling nozzle.

- Refueler loading flow rates shall be not less than 200 gallons per minute (gpm) +/- 10 gpm, as calculated at the hose bottom loading nozzle.
- Delivery transport unloading flow rate shall be not less than 200 gallons per minute (gpm).

All assemblies and equipment shall be configured for receiving fuel from delivery transport, dispensing fuel into bottom-loading aircraft fuel service vehicles, and servicing aircraft via a remote self-service cabinet. Further, assemblies and system piping shall be designed for ease of maintenance and repair by providing an adequate number of isolation valves throughout. Piping, valves and equipment shall also be protected with thermal pressure relief valves and discharge piping from these valves routed back to storage tanks via a fail-safe system.

629.5-6.1 AVGAS TANK & EQUIPMENT

a. Storage Tank Requirements
   (1) The 12,000-gallon tank shall be above ground, double wall, fire protected, cylindrical steel construction, conforming to UL 2085 standards for horizontal atmospheric aviation fuel storage tanks**.** The tank shall have a nominal capacity of 12,000 U.S. gallons. The Contractor's cut sheet shall identify the thickness of the tank walls and heads.
   (2) The tank shall have vapor recovery installed.
   (3) The tank shall be mounted on saddles provided by the Contractor. Tank pitch shall be accommodated by these supports, at a minimum of 2%.
   (4) The tank shall be internally coated and externally painted in accordance with Section 7.0. All mild steel internal tank surfaces in contact with fuel *(e.g., internal ladders, etc.)* shall be coated and meet EI 1541 "Performance requirements for protective coating systems used in aviation fuel storage tanks and piping".
   (5) Shell and head joints shall be butt joints with full penetration welds. "Lap" welds and welds on one side only are prohibited. Welds located on tank interior floor for 1 foot either side of the bottom center line shall be ground smooth to accommodate internal drainage.
   (6) Tanks and all appurtenances shall be pre-wired and tested at the factory for proper operation. Contractor certification of completion of operational tests for all elements is required and test data sheets shall be provided to the Owner ahead of tank shipment *(per Section 2.3. h.)*.
   (7) One (1) 36-inch man-way shall be provided at the top/high end (as close as possible to the head) of the tank for internal access, and one (1) man-way shall be provided for internal access of the piping, at a point above the safe fill level towards the low end. Installation of the emergency vent, and vent in the 36-inch manhole cover, is recommended and preferred to facilitate easier access for maintenance and inspection.
   (8) Provide and install a tank top access meeting OSHA requirement.
   (9) All piping connections shall enter tanks above the highest liquid level.
      (a) Suction piping shall allow for placement of a fusible link fire safety valve.
      (b) Fill piping inside the tank shall be installed with the outlet no higher than four (4) inches from the tank floor and fitted with a flow diffuser.
      (c) Provide a sump pump with OPW anti-siphon valve and an Apollo spring return ball valve, for the low end sumping of the tank. The drainage pipe shall be one (1) inch stainless steel and shall clear the sump bowl bottom by ¾ inch. The Apollo ball valve shall be protected from damage and have the ability to be locked. The hose on the pump shall be replaced with pipe and shall reach 10 inches from the ground. Pipe end shall be ¾ inch stainless steel and have a ¾ inch cam-lock cap with an attached lanyard or chain.
   (10) An additional bung for future use shall be provided.
   (11) Provide normal and emergency venting in accordance with NFPA 30 and UL 142 guidelines. The normal vent shall be a pressure/vacuum vent with a course wire mesh screen with minimum ¼ inch holes. The Contractor shall determine the size of the vents based on the flow rate of 200 gpm in and out.

b. Fusible Link Fire Safety Valve
   (1) Provide a fusible link fire safety valve assembly designed to melt at 165 degrees F on *suction* valve connections. Provide Owner with one additional fusible link for each valve. Check valves are appropriate for fill connections.
   (2) The valve body shall be ductile iron with stainless steel stem valves and seat ring.

c. Tank Accessories
   (1) *Floating suction*s
      (a) Provide a floating suction assembly for refueler loading, sized to suit a flow rate 200 gpm.
      (b) Provide a floating suction assembly for aircraft refueling, sized to suit a flow rate 100 gpm.
      (c) Buoyancy for the floating suction assembly shall be based upon the specific gravity of Aviation Gasoline, Avgas 100LL. Swivel assemblies will be for immersion service and be greaseless with seals appropriate for use with Aviation Gasoline, Avgas 100LL.
      (d) The internal floating suction assembly shall incorporate a clock gauge style position indicator, so the floating suction level can be viewed from the ground.
   (2) *Tank gauging and overfill protection*
      (a) A Morrison tank gauge with alarm shall be provided to monitor the tank.
      (b) A positive high-level valve with a testable float shall be installed as well.
   (3) *Tank gauging and overfill protection* (Existing)
      The Owner has an existing Veeder-Root TLS 350 Tank Gauging System in place (TLS 350). The Contractor shall protect in place this system and all current connections and the following added to the AvGas and Equipment:
      (a) Volume and Water Probe: The tank gauging system shall be the alarm for the 90% of capacity. This system shall trigger a warning light and be audible to the operator. A separate “low”-level warning light (flashing RED) and sound an audible alarm signifying that a storage tank’s volume has been reduced to within ten (10) inches of the appropriate loss of suction level. The selected/operating pump shall automatically shut down when volumes reach this level.
      (b) Annular Sensor: The interstitial Sensor or annular sensor is non-discriminating and detects the presence of liquid between the double walls of the tank. This shall trigger an alarm on the TLS 350 with a visual red light flashing and an audible alarm signifying a problem exists.
   (4) Tank anti siphon valve
      (a) The tank suction line shall have an anti-siphon valve installed. This valve will open only when pump(s) is on. It shall be closed when the pump(s) is off and/or emergency shut off is activated.
      (b) Design should allow for this valve to open before pump starts to run, to prevent any suction build up.

d. Product Pump
   (1) The actual flow rate at the refueler loading nozzle shall be 200-gpm, +/-10-gpm, throughout loading.
      The actual flow rate for the delivery tanker offloading pump shall be 200-gpm.
      The actual flow rate for the aircraft refueling pump shall be 30-gpm +/- 5-gpm.
      Overall efficiency of design conditions of pump and driver, connected, shall be a minimum of 60 percent (%). Certified pump curves that validate pump performance shall be incorporated into the system O&M manual prior to system completion.
   (2) The pump for aircraft refueling assembly shall be submersible in design, meet all pertinent regulatory standards.
   (3) The pump for refueler loading and transport unloading assembly shall be either positive displacement or centrifugal in design, meet all pertinent regulatory standards.

(4) The pump service manual/documentation shall include, or nameplates *(other than standard pump identification nameplates)* shall be stamped with, the information listed below. These additional pump service nameplates, if used, shall be made of type 18-8 stainless steel *(or Monel)* and be securely attached to the pump housing by stainless steel pins at easily accessible points on each pump.
   (a) Manufacturer's name
   (b) Serial number of the pump
   (c) Pump capacity (gpm)
   (d) Revolutions per minute (rpm)

(5) Exterior surfaces of pumps and baseplates shall be primed, and surface cleaning must adhere to requirements of SSPC SP-5. Metal primer shall be zinc rich paint conforming to specification MIL-P-24441 Type 1, Class 3, dry film thickness shall be two (2) to four (4) mils. Exterior topcoat shall be factory-applied and WHITE in color.

(6) Pump motors shall be:
   (a) Class I, Division I, Group D explosion-proof for location within a hazardous area as defined by the NEC, and capable of operating the pumps from zero (0) to 120 percent (%) of design conditions with a combined pump and motor efficiency of not less than 60 percent.
   (b) Rated for 220 volts, 3-phase, 60-hertz capable of operating under a ten (10) percent (%) variation in voltage. Design shall be NEMA-B squirrel cage induction type suitable for across-the-line starting. Insulation shall be non-hydroscopic 60-degrees C rise. The motor assembly shall include a terminal hose and lifting lugs. Electrical connections to motors shall be with flexible conduit suitable for exterior installations.
   (c) Appropriately sized to ensure achievement of required flowage rates.

e. <u>Filtration</u>

(1) Filter-separator shall be Velcon, Facet or pre-approved equal. Vessels shall be capable of removing free and entrained water and solid contaminants in conformance to EI 1581. The vessels shall have two-stage coalesce and separator cartridges capable of operation at flow rates of at least 200 gpm, for the refueler loading system and 30 gpm, for the aircraft fueling. Coalescer cartridges shall be inside-to-outside flow.

(2) All wet-able surfaces and components inside the vessel, other than those made from aluminum or stainless steel shall be epoxy coated EI 1541 "Performance requirements for protective coating systems used in aviation fuel storage tanks and piping".

(3) Piping connections shall be sized appropriately with 150-pound ANSI raised-face, weld-neck flanges.

(4) <u>Water Detection</u>
   (a) Water detection shall be via a water detection probe. Detection of water shall stop the pump. Provide test bulb and/or other equipment necessary to test probe operation on a continuing basis. *NOTE: Periodic system testing must be able to be accomplished without injecting water into the filter vessel.*

(5) The filter vessel shall have an air eliminator with carbon steel body and cover, stainless steel float and Buna-N seat to provide for a closed-loop system. "Spit" lines shall be routed to the pump skid sump separator with a sight flow indicator for each vessel ("propeller" or "flapper" style preferred) incorporated to monitor those lines. A GTP-1294 or equivalent check valve shall be installed above the air eliminator. A manual air vent shall be provided between the air eliminator and filter vessel.

(6) Provide a Gammon GTP – 534-PB-PH-15-A , 0-15 psi, Gammon Gauge, direct-reading differential pressure gauge assembly, mounted so as to be clearly visible to the operator. A 2-inch pressure gauge shall be installed on top of the Gammon Gauge.

(7) Provide a manual, spring-return sump drain ball valve (Apollo or equivalent). This valve shall be lockable with a cam-lock end and cover attached by a lanyard or chain. Ensure 14-inches clearance between the cam-lock and the ground.

(8) Provide one (1) extra set of filter media for each vessel after flushing and turnover.

f. <u>Delivery Tanker Offloading Strainer and Connection</u>

(1) The transport connection assembly shall include a strainer, check valve and isolation. The 60 mesh strainer shall be top opening and shall be installed so that it can be easily removed and inspected.
(2) The unloading connection shall be a 3-inch male camlock fitting with a lockable cap on a lanyard.
(3) The transport connection shall be enclosed in a lockable spill containment box. The box will be fitted with a drain.

g. Vapor Recovery
Provide vapor recovery piping and poppeted hose connection and cover on a lanyard. The connection shall be installed where it will not interfere with normal operations.

h. Meters and Registers
(1) A meter shall be provided and shall be aviation rated. The meter shall be manufactured by Liquid Controls (LC) or Total Control System (TCS) and incorporate an integral strainer. The meter shall be rated for a minimum of 200 gpm.
(2) An electronic meter pulsar shall be installed on the register. The register shall display in whole gallons.
(3) The system shall be connected to a QT Pod M4000 (See Overview Specification).

i. Sump Separator
(1) Incorporate and provide one (1) 30-gallon, stainless steel sump separator Including lid w/gasket and p/v vent; suggest Martin Metal Fab, one (1) for the pumping skid area. Unit shall be self-contained and designed to separate water and dirt from the fuel. Mount units in such a manner as to facilitate pouring fuel samples into the separator *(top not to exceed 4-feet above the ground)* and to enable draining water from separator with a bucket under the drain valve piping.
(2) The cover shall be lockable.
(3) Separator shall be piped to allow water to be drained by gravity via a ¾ inch spring return ball valve with cam-lock and cap into a bucket – allow 18 inches clearance for the bucket. The clean suction line shall have a check valve and spring-return ball valve.

j. System Accessories
(1) *Static Bonding Reel*
Provide an American, GTP or Hannay static bonding reel with 25-feet of 3/16-inch diameter, safety orange, plastic-coated cable with a GTP-9654 Super Clamp for the refueler loading skid. Reel shall meet MIL-R-83325 standards.

(2) *Hoses I Bottom Loading*
Provide hose assemblies complete with hose parking.
(a) A 2-inch loading hose shall be provided for dispensing/refueler loading operations. The loading hose shall meet EI/API 1529. Fuel loading coupler shall be a 2 ½ inch bottom load nozzle with matching dust cap.
(b) The nozzle shall be able to be stowed in a “holster”.
(c) The Hose Certificate shall be provided in the O&M manual.

(3) *Hose Storage*
Refueler Hose: Provide hose storage for the vapor recovery hose. Consider using transport hose carriers fitted with latching covers. Consider placing the tubes partially under the tank to take advantage of the shade from the tank.

(4) *Valves*
(a) All valves shall be fire rated per API 607.
(b) Tank valves shall be ball valves.
(c) All valves shall be mounted between ANSI Class 150 flanges with rated working pressure of the valve to be not less than 275 psi.

(d) Butterfly valves shall have a ductile iron, full lug body, with drilled and tapped lugs, 316 ASTM stainless steel disc, stainless steel stem and 316 ASTM stainless steel trim.
(e) Ball valves shall have a ductile iron, full port for suction side, 316 ASTM stainless steel ball, stainless steel trim.

(5) *Fire Extinguishers*
Provide and mount and label fire extinguishers in accordance with Fire Department requirements.

(6) *Relief Valves*
Each shall be the fully closed, spring-loaded, angle-pattern, single-pot, hydraulically operated type with plain caps, labeled in accordance with Section VIII, ASME Boiler and Pressure Code. Valve stems shall be factory-set to open at the set pressure indicated on the Contractor's drawings. The valves shall have a minimum capacity of 20 gpm at 10 percent overpressure and operate at rated capacity with a backpressure not exceeding 50 psi. Valve bodies shall be bronze construction with stainless steel springs and trim.

629.5-6.2 AVGAS SELF-SERVE CABINET

Provide two (2) low profile Avgas self-serve cabinets facing opposite sides of each other. A submersible pump with floating suction will be installed in a manway of the newly installed above ground Avgas Tank for 12,000 gallons. Contractor shall provide piping and electrical for entire installation. Both cabinets will be utilizing the previously existing M4000 that was in place at the Self-Serve Island and be connected so that they may be used simultaneously.

The project components defined in this specification concern the design, fabrication, delivery and installation of the low profile Avgas 100LL self-serve cabinet and all necessary components.

(a) Self-serve fueling Cabinets: The cabinets will be low profile and used for housing the entire system for self-serve Avgas 100LL fueling (less the QT Pod M4000). The design and construction shall be robust and capable of withstanding high velocity air blast from prop/jet blast. All material, latches, hinges, etc. shall be designed for outdoor use and be extra heavy duty. Space for preforming maintenance shall be provided. A lockable and balanced access door shall be provided. The door shall be fitted with a lock device as well as a lock open device. Hose rollers shall be installed to prevent the hose from coming in contact with the internal components when the hose is pulled out or returned.

(b) *Hose reel:* Provide a reel that shall be sized to hold 50 feet of 1-inch hose plus 20%. The internals shall be aluminum. Hose reel motor shall be fitted with drains. Hose reel shall be fitted with a brake or drag device to prevent unwanted unreeling of the hose. Hose rollers shall be installed to allow the hose to be reeled in from extreme angles and prevent the hose from contacting the cabinet and/or hose reel. Hose reel rewind speed may not exceed a fast walk.

The hose reel rewind button shall be installed in a location that is easy to reach while guiding the hose back into the reel. The operator shall not need to reach over the rewinding hose to use the rewind button.

If the optional Avgas cabinet is not installed the island will be plumbed in such a way that an additional terminal can be installed at a future date.

Aircraft Fueling Hoses: Provide hose assemblies complete with hose parking.
(a) A 1 *inch by 50 foot in length* shall be provided for *aircraft fueling operations*. The refueling hose shall meet EI/API 1529.

(b) The Hose Certificate shall be provided in the O&M manual.
(c) The hose reel and nozzle holster shall be under a covered area.

Lighting: The cabinet operating controls shall be easily viewed/observed at night. Light and light controls shall be placed so not to be damaged. Components shall be explosion proof and low voltage lighting is preferred. Motion detection switch will control the lighting.

Hose Stop Ball: The nozzle shall be protected from being drawn into the hose reel / holster using a hose stop ball.

Overwing Nozzle: Provide an aircraft refueling nozzle, OPW 295 100-mesh screen, swivel, and matching dust cap. The nozzle shall be able to be stowed in a "holster" that permits the dust cover to remain in place. Nozzle shall be stored in a shaded position. Storage location shall provide protection from blowing sand.

Hose reel isolation valve: Provide an isolation valve ahead of the hose reel as well as the hose connection for the refueler loading hose. Refer to section 5 for details.

Filter Separator: The filter shall be sized to handle a minimum of 30 GPM. The vessel shall be fitted with a spring return valve for sampling. Filter sampling shall be lockable. Access to the sample point shall be easy for the operator to reach without having to remove panels. The vessel shall be fitted with water defense that is testable.

Provide a Gammon GTP – 534-PB-PH-15-A, 0-15 psi, Gammon Gauge, direct-reading differential pressure gauge assembly, mounted so as to be clearly visible to the operator. A 2-inch pressure gauge shall be installed on top of the Gammon Gauge.

Provide one (1) extra set of filter media for each vessel after flushing and turnover.

Meters and Registers

(1) A meter shall be provided on the refueler loading skid. The meter shall be manufactured by Liquid Controls (LC) or Total Control System (TCS) and incorporate an integral strainer. The meter shall be rated for a minimum of 50 gpm.
(2) An electronic meter pulsar shall be installed on the register. The register shall display in tenths 0.0.
(3) The system shall be connected to the existing QT Pod M4000.
(4) Contractor shall coordinate the inspection and certification of the Meter prior to use by the customer. Coordination shall be made with the Nevada Department of Agriculture Division of Consumer Equitability 2300 E. St. Louis Ave Las Vegas NV 89104 PH 775-353-3782 for inspection. The contractor shall be responsible for the coordination and any associated fees with testing.

Static Bonding Reel: Provide two (2) American, GTP or Hannay static bonding reel with 100-feet of 3/16-inch diameter, safety orange, plastic-coated cable with a GTP-9654 Super Clamp for aircraft refueling. The reel shall meet MIL-R-83325 standards.

Pipe and Fittings

(1) *Piping drains*
To facilitate maintenance activities, low point pipe drains shall be installed where practical. Each drain shall incorporate a ¾ inch half-coupling with ¾ inch pipe plug.
(2) *Component design*
The following are provided to indicate the basic design condition for components within this section of the specification.

Service	Symbol	Pressure	Temperature	API Gravity
Avgas 100LL	100LL	150 psig.	0 – 130 degrees F.	64 - 75

(3) *Material design*.
The following tables are provided to indicate the various materials of construction for the design service required by this specification.

Item	**1-inch and smaller**	**1 ½-inch and larger**
Carrier Pipe	Stainless steel tubing with compression fittings For filter and tank sumps Use ASTM 312 Type 304L Seamless Schedule 40S	ASTM 312 Type 304L Seamless only Suction pipe only: Schedule 10S All other pipe: Schedule 10S
NOTE: Where applicable, use double random lengths to minimize number of required welds. Stainless steel pipe to be used downstream of the filter vessel.		

Item	**1-inch and smaller**	**1 ½-inch and larger**
Joints	Threaded/Swagelock	Butt-weld

Item	**1-inch and smaller**	**1 ½-inch and larger**
Flanges		150 lb. ANSI B16.5, Type 304L Stainless Steel, ASTM A-181 Class 70, Weld Neck Raised Face
NOTE: Flange face to be compatible with corresponding component.		

Item	**1-inch and smaller**	**1 ½-inch and larger**
Fittings		Butt-weld, ANSI B16.9 Stainless Steel per ASTM A403, Class WP-5 Grade WP 304L, Seamless only (wall thickness to match pipe)
NOTE: Bushings shall not be used. Also, belled fittings are not acceptable alternatives to welding. Stainless steel fittings to be used downstream of the filter vessel.		

Item	**1-inch and smaller**	**1 ½-inch and larger**
Bolts	Carbon Steel, Cadmium-plated Machine Bolts per ASTM A193, Class 1, Grade B8	

Item	**1-inch and smaller**	**1 ½-inch and larger**
Nuts	Nuts to be heavy hexagon ASTM A194, Grade 8, Cadmium-plated	
NOTE: Nuts shall be properly torqued to manufacturer's specifications/recommendations.		

Item	**1-inch and smaller**	**1 ½-inch and larger**
Washers	Washers to be ASTM F436, Flat, circular, stainless steel	

Item	**1-inch and smaller**	**1 ½-inch and larger**
Gaskets		Flexitallic

(1) The exterior coating for all pipe and piping materials shall be as specified in Section 7.0.
(2) All piping shall be protected with thermal pressure relief.

629.5-7 JET A: EQUIPMENT AND SELF-SERVE CABINET - ADDITION TO THE EXISTING TANK (NUMBER 3)

629.5-7.1 PROJECT DESCRIPTION

This specification outlines the requirements for the Jet A self-service fueling system and associated equipment and/or components of this project. Fuel for the cabinet will be provided by a submersible pump that shall be installed in an existing Jet A tank, Number 3.

The project components defined in this specification concern the design, fabrication, delivery and installation of the Jet A self-serve cabinet and all necessary components.

- Aircraft fueling flow rate shall be not less than 30 gallons per minute (gpm) +/- 5 gpm, as calculated at the aircraft fueling nozzle.

629.5-7.2 JET A SELF-SERVE

One (1) low profile self-serve cabinet for Jet A will be provided by Contractor with cabinet to be mounted so that the reel pulls out towards the West or away from the tank farm. A submersible pump with floating suction will be installed in a manway of the nearest tank, Tank number 3. Contractor shall provide piping and electrical for entire installation.

629.5-7.3 SELF-SERVE CABINET SYSTEM

Self-serve fueling Cabinet: The cabinet will be low profile and used for housing the entire system for self-serve Jet A fueling (less the QT Pod M4000). The design and construction shall be robust and capable of withstanding high velocity air blast from prop/jet blast. All material, latches, hinges, etc. shall be designed for outdoor use and be extra heavy duty. Space for preforming maintenance shall be provided. A lockable and balanced access door shall be provided. The door shall be fitted with a lock device as well as a lock open device. Hose rollers shall be installed to prevent the hose from coming in contact with the internal components when the hose is pulled out or returned. Cabinet shall be mounted so that the hose pulls out to the west of the self-serve island.

Hose reel: Provide a reel that shall be sized to hold 50 feet of 1-inch hose plus 20%. The internals shall be aluminum. Hose reel motor shall be fitted with drains. Hose reel shall be fitted with a brake or drag device to prevent unwanted unreeling of the hose. Hose rollers shall be installed to allow the hose to be reeled in from extreme angles and prevent the hose from contacting the cabinet and/or hose reel. Hose reel rewind speed may not exceed a fast walk.

Hose: Provide a hose to install in self-serve cabinet.

The hose reel rewind button shall be installed in a location that is easy to reach while guiding the hose back into the reel. The operator shall not need to reach over the rewinding hose to use the rewind button.

Lighting: The cabinet operating controls shall be easily viewed/observed at night. Light and light controls shall be placed so not to be damaged. Components shall be explosion proof and low voltage lighting is preferred. Motion detection switch will control the lighting.

Hose Stop Ball: The nozzle shall be protected from being drawn into the hose reel / holster using a hose stop ball.

Tank anti siphon valve:

(a) The pumping system shall have an anti-siphon valve installed. This valve will open only when pump is on. It shall be closed when the pump is off and/or emergency shut off is activated.
(b) Design should allow for this valve to open before pump starts to run, to prevent any suction build up.

Fusible Link Fire Safety Valve

(1) Provide a fusible link fire safety valve assembly designed to melt at 165 degrees F on *suction* valve connections. Provide Owner with one additional fusible link for each valve. Check valves are appropriate for *fill* connections.
(2) The valve body shall be ductile iron with stainless steel stem valves and seat ring.

Product Pump:

(1) Aircraft fueling flow rate shall be not less than 30 gallons per minute (gpm) +/- 5 gpm, as calculated at the aircraft fueling nozzle. Overall efficiency of design conditions of pump and driver, connected, shall be a minimum of 60 percent (%). Certified pump curves that validate pump performance shall be incorporated into the system O&M manual prior to system completion.
(2) Pump assembly shall be submersible in design, meet all pertinent regulatory standards
(3) The pump service manual/documentation shall include, or nameplates *(other than standard pump identification nameplates)* shall be stamped with, the information listed below. These additional pump service nameplates, if used, shall be made of type 18-8 stainless steel *(or Monel)* and be securely attached to the pump housing by stainless steel pins at easily accessible points on each pump.
    (a) Manufacturer's name
    (b) Serial number of pumps
    (c) Pump capacity (gpm)
    (d) Revolutions per minute (rpm)
(4) Exterior surfaces of pumps and baseplates shall be primed, and surface cleaning must adhere to requirements of SSPC SP-5. Metal primer shall be zinc rich paint conforming to specification MIL-P-24441 Type 1, Class 3, dry film thickness shall be two (2) to four (4) mils. Exterior topcoat shall be factory-applied and WHITE in color.
(5) Pump motors shall be:
    (a) Class I, Division I, Group D explosion-proof for location within a hazardous area as defined by the NEC, and capable of operating the pumps from zero (0) to 120 percent (%) of design conditions with a combined pump and motor efficiency of not less than 60 percent.
    (b) Rated for 220 volts, 3-phase, 60-hertz capable of operating under a ten (10) percent (%) variation in voltage. Design shall be NEMA-B squirrel cage induction type suitable for across-the-line starting. Insulation shall be non-hydroscopic 60-degrees C rise. The motor assembly shall include a terminal hose and lifting lugs. Electrical connections to motors shall be with flexible conduit suitable for exterior installations.
    (c) Appropriately sized to ensure achievement of required flowage rates.

Floating suction

(a) Provide a floating suction assembly, sized to suit a flow rate 100 (gpm). Buoyancy for the floating suction assembly shall be based upon the specific gravity of Jet A. Swivel assemblies will be for immersion service and be greaseless with seals appropriate for use with Jet A. Ensure the "new" floating suction does not interfere with existing tank components.
(b) The internal floating suction assembly shall incorporate a clock gauge style position indicator, so the floating suction level can be viewed from the ground.

Aircraft Fueling Hose: Provide hose assemblies complete with hose parking.

(a) A 1 inch by 50 foot in length shall be provided for aircraft fueling operations. The refueling hose and shall meet EI/API 1529.
(b) The Hose Certificate shall be provided in the O&M manual.
(c) The hose reel and nozzle holster shall be under a covered area.

Overwing Nozzle: Provide an aircraft refueling nozzle, An OPW 295SAJ Jet Fuel over wing nozzle, 100-mesh screen, swivel, and matching dust cap. The nozzle shall be able to be stowed in a "holster" that permits the dust cover to remain in place.

Hose reel isolation valve: Provide an isolation valve ahead of the hose reel. Refer to section 5 for details.

Filter Separator: The filter shall be sized to handle a minimum of 30 GPM. The vessel shall be fitted with a spring return valve for sampling. Filter sampling shall be lockable. Access to the sample point shall be easy for the operator to reach without having to remove panels. The vessel shall be fitted with water defense that is testable.
Provide a Gammon GTP – 534-PB-PH-15-A, 0-15 psi, Gammon Gauge, direct-reading differential pressure gauge assembly, mounted so as to be clearly visible to the operator. A 2-inch pressure gauge shall be installed on top of the Gammon Gauge.
Provide one (1) extra set of filter media for each vessel after flushing and turnover.

Meter and Register: A meter shall be provided and shall be aviation rated. The meter shall be manufactured by Liquid Controls (LC) or Total Control System (TCS) and incorporate an integral strainer. The meter shall be rated for a minimum of 50 gpm.

(a) An electronic meter pulsar shall be installed on the register. The register shall display in tenths 0.0.
(b) The system shall be connected to an existing QT Pod M4000.

Static Bonding Reel: Provide an American, GTP or Hannay static bonding reel with 100-feet of 3/16-inch diameter, safety orange, plastic-coated cable with a GTP-9654 Super Clamp for aircraft refueling. The reel shall meet MIL-R-83325 standards.

Lighting: The cabinet operating controls shall be easily viewed/observed at night. Light and light controls shall be placed so not to be damaged. Components shall be explosion proof and low voltage lighting is preferred. Motion detection switch will control the lighting.

Pipe and Fittings

(1) Piping drains
To facilitate maintenance activities, low point pipe drains shall be installed where practical. Each drain shall incorporate a ¾ inch half-coupling with ¾ inch pipe plug.

(2) Component design
The following are provided to indicate the basic design condition for components within this section of the specification.

Service	Symbol	Pressure	Temperature	API Gravity
Jet A	JF / UN 1863	150 psig.	0 – 130 degrees F.	37 - 51

(3) Material design the following tables are provided to indicate the various materials of construction for the design service required by this specification.

Item	1-inch and smaller	1 ½-inch and larger
Carrier Pipe	Stainless steel tubing with compression fittings For filter and tank sumps Use ASTM 312 Type 304L Seamless Schedule 40S	ASTM 312 Type 304L Seamless only Suction pipe only: Schedule 10S All other pipe: Schedule 10S
NOTE: Where applicable, use double random lengths to minimize number of required welds. Stainless steel pipe to be used downstream of the filter vessel.		

Item	1-inch and smaller	1 ½-inch and larger
Joints	Threaded/Swagelock	Butt-weld

Item	1-inch and smaller	1 ½-inch and larger
Flanges		150 lb. ANSI B16.5, Type 304L Stainless Steel, ASTM A-181 Class 70, Weld Neck Raised Face
NOTE: Flange face to be compatible with corresponding component.		

Item	1-inch and smaller	1 ½-inch and larger
Fittings		Butt-weld, ANSI B16.9 Stainless Steel per ASTM A403, Class WP-5 Grade WP 304L, Seamless only (wall thickness to match pipe)
NOTE: Bushings shall not be used. Also, belled fittings are not acceptable alternatives to welding. Stainless steel fittings to be used downstream of the filter vessel.		

Item	1-inch and smaller	1 ½-inch and larger
Bolts	Carbon Steel, Cadmium-plated Machine Bolts per ASTM A193, Class 1, Grade B8	

Item	1-inch and smaller	1 ½-inch and larger
Nuts	Nuts to be heavy hexagon ASTM A194, Grade 8, Cadmium-plated	
NOTE: Nuts shall be properly torqued to manufacturer's specifications/recommendations.		

Item	1-inch and smaller	1 ½-inch and larger
Washers	Washers to be ASTM F436, Flat, circular, stainless steel	

Item	1-inch and smaller	1 ½-inch and larger
Gaskets		Flexitallic

(4) The exterior coating for all pipe and piping materials shall be as specified.
(5) All piping shall be protected with thermal pressure relief.

629.5-8 ELECTRICAL

NOTE: Supply and communication conduits will be installed to the Jet A and Avgas self-service cabinet locations as well as conduit between the self-service cabinet and the M-4000. A spare

communications conduit shall be provided between the M4000 and the fuel building indoor fuel control section.

629.5-8.1 GENERAL

a. Code Requirements
All furnished equipment or materials, and all installation methods, shall comply with National Electrical Code requirements for Classified Hazardous Locations. Licensed electricians will be required for this project.

b. Single Point-of-Service (Existing)
(1) All devices and equipment installed as part of the assembly that requires electrical power shall be served from this location.
(2) Provide trenching, conduit, wiring meter box, from the existing vault.
(3) Provide a main over-current and disconnecting means for the unit with a transient voltage protective device.
(4) Provide over-current protection for each branch circuit serving individual equipment loads.

c. Bonding and Grounding
(1) The Contractor shall propose a grounding system for the facility. Two grounding points per tank are to be provided. Tanks must be connected directly to the grounding system – not via the pipe work. Ground reels are to be electrically bonded to the ground system. It is not necessary to bond around pipe flanges.
(2) All equipment shall be electrically bonded.

629.5-8.2 BASIC MATERIALS

a. Power Circuit Conductors
All conductors for power circuits shall be stranded copper, 90 degrees THHN/THWN 600 volt insulation.

b. Raceway System
(1) All conduits shall be 1-inch minimum, galvanized rigid steel (GRS). Fittings include threaded couplings, locknuts, bushings and elbows. All materials shall be steel or malleable iron only. Setscrew or non-thread fittings are not permitted. Bushings shall be metallic insulating-type consisting of insulating insert molded or locked into the metal body of the fitting. Erickson-type couplings may be used to complete a conduit run. Support all conduits within 3-feet of each termination point and 10-feet maximum on-centers.
(2) In-line raceway seals shall be cast alloy with conduit hubs, as appropriate for the raceway installation. Seal bodies shall have expanded fill area and be UL-listed for 40 percent conductor fill. Install drain and inspection fittings in seals that are at a low point in the conduit run and all seals installed vertically. Seal fittings shall be Crouse Hinds EYS-Series or approved equal.
(3) Boxes in hazardous locations shall be suitable for exterior installations and shall be cast copper-free aluminum alloy or zinc-phased iron alloy. Boxes shall be furnished with mounting lugs, cast in hubs or drilled and tapped conduit openings for GRS conduits and cover to match box.
(4) Flexible conduits shall be used for connection to all vibrating and rotating equipment. Flexible conduits installed in Class I, Division 1 or 2 hazardous locations shall be UL-listed for the application, liquid tight for wet locations, bronze brand covering and flexible brass core, integral threaded brass or bronze male or female end fittings with a flexible length of a nominal 12-inches.

c. Distribution Equipment

(1) Acceptable manufacturers: Square D, Westinghouse (Cutler-Hammer), and General Electric.
(2) Disconnect switches shall be a minimum of 30- amp, 250v or 600v-rated, as appropriate for voltage level of system, heavy-duty type, 3-pole with solid neutral, unless otherwise noted. Switches shall be NEMA 3R for exterior applications and NEMA 7-D for hazardous locations.
(3) Manual and magnetic starters shall be SOFT START minimum NEMA Size 0, the combination-type with fused switch disconnecting/over-current means.
(4) Each magnetic starter shall have three (3) overload relays, and ground fault protection where required. Control voltage shall be 120v, provided from a control power transformer built into the starter. Furnish auxiliary contacts in magnetic starters to provide interlocking for overload relays, as indicated on the drawings or specified herein. Provide one (1) N.O. and one (1) N.C. spare auxiliary contact in each starter. On the starter enclosure door, provide: H-O-A selector switch, "ON" pilot lamp, "OVERLOAD" pilot lamp and "OVERLOAD RESET" push button. Enclosures shall be NEMA 3R for exterior applications and NEMA 7-D for hazardous locations.

629.5-8.3 EMERGENCY FUEL SHUT-OFF SYSTEM

a. Provide an explosion-proof, red, mushroom head-style *Emergency Stop* push button at, or in proximity to, each pumping/filtering skid and one on the main electrical panel. The button shall be labeled EMERGENCY STOP - PUSH on signage located 7 feet above ground level that contains 2-inch high WHITE lettering on a RED background. The emergency shut-off, when activated, shall shut-off all electrical power to the pumping systems, but not affect area lighting. (407 requires more than 25', less than 100' from dispensers)

b. The emergency shut off shall only be reset able with a key.

c. At a minimum there will be an emergency shut off installed on each QT Pod M4000.

629.5-8.4 DEADMAN CONTROL SYSTEM

a. Provide a GTP-1750A (or equivalent) deadman control system for refueler loading only. This system shall include a control handle and sufficient cable length (coiled cable is preferred) to permit operators to view differential pressure and other gauges at the pumping/filtering skid. The entire system shall be intrinsically safe.

b. Provide an on/off switch for transport unloading.

629.5-8.5 VEEDER ROOT TLS 350 (EXISTING)

(1) Provide and install the required probes and/or sensors for the underground piping and sumps. These probes and/or sensors shall be made part of the existing TLS 350.

(2) The probes and/or sensors shall be discriminating to detect only hydrocarbons and not water.

(3) Provide any necessary circuit board(s).

629.5-9 FINISHES

629.5-9.1 EXTERIOR – TANKS, PIPING, FITTINGS AND EQUIPMENT

a. Surfaces to be painted shall be sandblasted or shot-blasted immediately before applying the primer coat. Blasting shall be in strict accordance with Steel Structures Painting Council (SSPC) Surface Preparation (SP) Specification. Tank exterior surfaces shall be

blasted per SSPC SP5. Care shall be taken to prevent grease, oil or other organic matter from contacting the blasted surface prior to application of the primer coat. Blasting shall be coordinated with primer application that shall be applied as soon as possible after blasting. If the blasted surface remains un-coated overnight, it shall be re-blasted.

b. All pipe, fittings and equipment that are installed above ground shall be given a reflective protective covering that has been applied with equipment especially designed for this purpose. Before the coating is applied, the surface of the pipe, fittings and equipment shall be thoroughly cleaned of all rust, scale, oil, grease and other matter that will interfere with the proper adhesion of the primer coat.

c. Contractor shall propose a long life, low chalking, fuel resistant exterior coating system in the bid for approval.

d. Isolation valve painting, the primary isolation valves shall be painted with the grade appropriate colors:
Jet A valves – Gloss black body and handles/operators
Avgas 100LL – Gloss blue body and handles/operators

629.5-10 PIPE LABELING AND MARKING

Piping shall be labeled and marked using a combination of pressure sensitive labels, bands and flow arrows, as manufactured by W.H. Brady, Seton Corp. *(or pre-approved equal)*, and shall conform to EI/API 1542. All decals must be fuel-/chemical-resistant.

a. Legend designations for Jet A Fuel shall be 4-inch high lettering, WHITE letters on a BLACK background; banding and flow direction arrows also shall be BLACK.
b. Avgas 100LL shall be 4-inch high lettering, WHITE letters on a BLUE background; banding shall be BLUE; banding and flow direction arrows also shall be BLUE.
c. The facility shall be labeled with the standard “1863” diamond on the Jet A tank and AVGAS 100LL and the standard “1203” diamond on the Avgas tank.
d. The filter vessel shall have a decal stating “FILTER CHANGE DUE” with a space for filling in the dates.

629.5-11 SIGNAGE – IDENTIFICATION OF OPERATIONS

All signage shall meet or exceed API 1542, and OSHA requirements.

The materials and items addressed in this section of specification concern the identification of operational areas and conditions within the facility.

a. Signs shall be constructed of two (2) color laminated, fiberglass stock, ¼ inch thickness with contrasting color for the engraved color shall be used. The signs shall come complete with self-tapping metal screws for attachment.
b. Lettering on signs shall be two (2) inch high Eurostile Bold Extended in WHITE for standard RED backgrounds for the “EMERGENCY FUEL SHUT-OFF” and “NO SMOKING” signs, and those specifying operational procedures for loading, unloading, emergency response, etc. Said lettering shall be WHITE for standard BLACK backgrounds for “JET A ” or “AVGAS 100LL” signs.
c. Provide a graphic display *(flow diagram)* and operating instructions to depict the process and components of the system. The process schematic shall utilize conventional symbols of the system. The process schematic shall utilize conventional symbols, when possible. Symbols, valve numbers and flow lines shall be sized and spaced so as to provide a clear representation of the system process. Graphics shall be adhered to permanent aluminum substrate. All background colors, lettering and detail colors shall

be laminate sealed with a clear epoxy coating that is scratch-, chemical- and ultraviolet-resistant. Lettering shall have a minimum height of 3/16-inch and a schematic will have to be submitted for Owner approval *(per Section 2.3.I)*. Mount display on a pumping/filtering skid in a convenient location near the central control panel.

d. Provide custom valve and equipment tags. Signs shall be made of two (2) color-laminated fiberglass, with contrasting color for the engraved color. Signs shall be laminate sealed with a clear epoxy coating that is scratch-, chemical- and ultraviolet-resistant. Lettering shall have a minimum height of ½-inch. Provide an aluminum bracket to securely hold sign. Bracket shall be mounted to valve or equipment on a bolt, flange, cap or other feature that will allow a secure attachment. Locate tag so it is easily visible.

629.5-12 TRAINING

a. Before final inspection, the Owner's designated personnel shall be trained by the Contractor's factory-trained representative in the operation, adjustment and maintenance of products, equipment and systems at agreed upon times. As a result of this training, Owner's personnel are to gain a thorough knowledge and understanding of all products, equipment and systems and be capable of conducting all phases of safe operation, control, adjustment and maintenance of the complete system.

b. O&M manuals and "As-Built" drawings shall be of the entire system(s) and shall be used as the basis for all instruction provided to Owner's personnel. Further and upon completion of system installation and testing, but prior to Owner acceptance, the Contractor shall provide the Owner two (2) paper and electronic copies of a DRAFT O&M manual and "As-Built" that:
   (1) Has a hard cover and incorporates tabbed dividers for each separate product and system, a detailed table of contents and typed instruction sheets with large drawings and/or schematics (not reduced in-size) folded in with reinforced margins. All sheets and drawings shall incorporate a post binder system so sheets easily can be substituted, as required.
   (2) Is organized into sections (by-system) and contains the Contractor's or manufacturer's complete, detailed operating and maintenance instructions, with data sheets for each piece of equipment furnished under this project.
   (3) Includes a spare parts list for each major piece of equipment furnished for the project, including (but not limited to) control valves, controls, pumps, motors, accessories, etc.
   (4) Provides a comprehensive list of maintenance procedures for preventive maintenance and troubleshooting, repair and reassembly, aligning and adjusting, and disassembly.
   (5) Reflects the following:
      (a) System and/or equipment descriptions and component parts, including each item's function, normal operating characteristics and limiting conditions, performance curves with engineering data and tests (if appropriate), and the complete nomenclature and commercial number of replacement parts.
      (b) Panel circuit directories, including electrical service characteristics, controls and communications.
      (c) As-installed, color-coded wiring diagrams.
      (d) Operating procedures concerning system (or item) start-up, break-in and all normal operating instructions and sequences under normal, emergency and seasonal conditions.
      (e) Maintenance procedures, including routine procedures and guides for troubleshooting, disassembly, repair, reassembly, alignment, adjustment, balancing, etc.
      (f) System/item servicing and lubrication schedules and a detailed list of lubricants required.
      (g) Manufacturer's printed operation and maintenance instructions for each system/item, including parts lists, illustrations, assembly drawings and diagrams, control diagrams, as-installed color-coded piping diagrams, and charts of valve tag numbers (with location and function of each valve keyed to the flow and control diagrams).

(h) Test and start-up reports.
(i) System/item service, coating and test certification reports.

The Owner will review the DRAFT O&M manual and "As-Built" drawings and return one (1) copy to the Contractor with comments. Thereafter, the Contractor shall revise the content of the O&M manual and "As-Built" drawings, as required, and submit two (2) paper copies and two (2) "editable" electronic copies of the revised FINAL O&M manual and "As-Built" drawings to the Owner within ten (10) days of substantial work completion, but prior to final Owner acceptance of all project work.

629.5-13 ADDITIONAL CONSIDERATIONS

- The Contractor shall allow for the following additional considerations in the bid:
- Ensure appropriate NOTAM (Notice to Airmen) is issued.
- When temporary construction equipment if used could exceed the notice requirements of Federal Aviation Regulation Part 77, will require separate notice to the FAA
- It will be the responsibility of the Contractor to complete the detailed design, gain approval for this from the owner and procure all necessary permits
- Confirm adequate power supply for the project exists at the existing power supply vault.
- In all phases of design and construction OSHA standards must be applied.
- Ensure during all phases of the project that at all time protection for the general public is provided.
- Ensure that safe access is provided to all operational areas, particularly the tank valves by provision of walkways and steps to OSHA standards.
- The Contractor will be responsible for ensuring all site activities are conducted in accordance with safe working practices and shall attend a pre-construction site meeting with the owner to determine detailed requirements. Provide a set of "as-built" drawings for the project. It is expected that the Contractor will be using a "work permit system". This system will be reviewed prior to the commencement of work on the project.

METHOD OF MEASUREMENT

629.04.01 MEASUREMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The quantity for FUEL DISTRIBUTION AND STORAGE FACILITIES *will be measured per LUMP SUM.*

BASIS OF PAYMENT

629.05.01 PAYMENT

ADD THE FOLLOWING TO THIS SUBSECTION:

The accepted quantity unit price bid for FUEL DISTRIBUTION AND STORAGE FACILITIES will be paid for at the contract unit price of LUMP SUM and shall include all labor, tools, equipment, materials and all incidentals necessary to furnish and install the Fuel Distribution and Storage Facilities as indicated on the plans and specifications. Work shall include, but not be limited to decommissioning the existing underground tanks, removing and salvaging the existing Jet A self-serve cabinet, testing for soil contaminants, remediation of soil contaminants, offsite disposal of excess materials, import of materials, aggregate base, PCC material, mixing, placement, sawcutting, joint preparation, joint materials, reinforcing steel, hardware, forms, curing material, compaction efforts, submittals, quality assurance, fabrication, new above ground tank, self-serve

cabinets, electrical including new wall pack fixture on existing building, finishes, pipe labeling, signage, training, and incidentals necessary for a complete installation.

A. Payment will be made under:

PAY ITEM	PAY UNIT
FUEL DISTRIBUTION AND STORAGE FACILITIES	LUMP SUM
OPTIONAL CANOPY	LUMP SUM
OPTIONAL SECONDARY AVGAS SELF-SERVE CABINET	LUMP SUM
OPTIONAL COMBINATION SAFETY EYE-WASH SAFETY SHOWER ASSEMBLY	LUMP SUM

(Attachment 1)

AVGAS COMMISSIONING CHECKLIST

FBO	_____	Contractor	_____
Address	_____	Address	_____
	_____		_____
Airport/IATA	_____		_____
Inspector	_____	Commissioning Date	_____

Indicate the completion of an item by marking the date performed. Fill in the indicated information and attach copies of all test results, pertinent certificates, approvals, etc. Explain all justifications for elimination of any tests or approvals.

CONSTRUCTION

_____ Tank Specifications- attached
_____ Epoxy Approval (type epoxy _____)
_____ Epoxy Cure (_____ days)

TESTING

_____ Pressure Test System (_____ psi)
_____ Circulate Fuel (through fuel filter vessel where appl. w/ filters installed)
(2 * ____tank capacity* _____ gpm pump = _____ min. to circulate) for >100 gpm discharge systems,
or
_____ Circulate Fuel (through fuel filter vessel where appl. w/ filters installed)
(1 * ____tank capacity* _____ gpm pump = _____ min. to circulate) for ≤100 gpm discharge systems.
_____ Soak Test Tank
_____ Fuel Spec “Before” -attached
_____ Fuel Spec “After” - attached
_____ Soak Test Piping (if applicable)
_____ Soak Test product hoses for a minimum of 8 hours drain and waste the soak fuel.
_____ Hose End Sample full acceptance
_____ Correct Service Filter Elements
(type _____)

_____ List Additional Support Material - attached (if none- N/A)
_____
_____

COMPLETE AND SUPPORTED:

Signed _____ Date _____
Title _____

Signed _____ Date _____
Title _____

(Attachment 2)

JET A COMMISSIONING CHECKLIST

FBO _____ Contractor _____
Address _____ Address _____
_____ _____
Airport/IATA _____ _____
Inspector _____ Commissioning Date _____

Indicate the completion of an item by marking the date performed. Fill in the indicated information and attach copies of all test results, pertinent certificates, approvals, etc. Explain all justifications for elimination of any tests or approvals.

TESTING

_____ Pressure Test System (____ psi)
_____ Circulate Fuel (through fuel filter vessel where appl. w/ filters installed)
(2 * ____tank capacity* _____ gpm pump = _____ min. to circulate) for >100 gpm discharge systems,
or
_____ Circulate Fuel (through fuel filter vessel where appl. w/ filters installed)
(1 * ____tank capacity* _____ gpm pump = _____ min. to circulate) for ≤100 gpm discharge systems.
_____ Soak Test Piping (if applicable)
_____ Correct Service Filter Elements
(type _____)
_____ Final Millipore (Jet fuel only)
_____ Upstream Rating (Before Filter Vessel)
_____ Downstream Rating (After Filter Vessel)
_____ Soak Test product hoses for a minimum of 8 hours drain and waste the soak fuel.
_____ Hose End Sample full acceptance
_____ List Additional Support Material - attached (if none- N/A)

_____
_____

COMPLETE AND SUPPORTED:

Signed _____ Date _____
Title _____

Signed _____ Date _____
Title _____

END OF SPECIAL PROVISIONS

PREVAILING WAGE RATES CLARK COUNTY

To be inserted with the bid set.

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CONSTRUCTION SAFETY PHASING PLAN

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