

BID DOCUMENTS FOR:



ITB #18-032

WICKERS FIELD MODULAR ATHLETIC TRAILERS

JULY 18, 2018

CITY OF KEY WEST

MAYOR: CITY CRAIG CATES

COMMISSIONERS:

JIMMY WEEKLEY

SAMUEL KAUFMAN

BILLY WARDLOW

RICHARD G. PAYNE

MARGARET ROMERO

CLAYTON LOPEZ

PREPARED BY:
Engineering Services

ITB DOCUMENTS

CITY OF KEY WEST
KEY WEST, FLORIDA
BID DOCUMENTS

for

WICKERS FIELD MODULAR ATHLETIC TRAILERS

CONSISTING OF:

BIDDING REQUIREMENTS
SUPPLEMENTAL INFORMATION

JULY 18, 2018

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PART 1

BIDDING REQUIREMENTS

INVITATION TO BID

Sealed Bids for City of Key West (CITY) Port & Marine Services “**WICKERS FIELD MODULAR ATHLETIC TRAILERS**,” addressed to the City of Key West, will be received at the office of the City Clerk, 1300 White Street, Key West, Florida until **3:30 p.m.**, local time, on **JULY 18, 2018**, and then will be publicly opened and read. Any bids received after the time and date specified will not be considered.

Please submit one (1) original bid package and two (2) electronic copies on USB drives with a single PDF file of the entire bid package. Bid package shall be enclosed in a sealed envelope, clearly marked on the outside “**ITB #18-032 WICKERS FIELD MODULAR ATHLETIC TRAILERS**” addressed and delivered to the City Clerk at the address noted above.

This ITB consists of the following:

- Purchase, delivery and installation/placement of two (2) 12’ X 56’ and one (1) 12’ X 44’ modular office trailers. See site construction documents in Part 3 for modular placement.

A Pre - Bid meeting will be held in the City Managers Conference Room at 2:00 p.m. on JULY 3, 2018 at Key West City Hall, 1300 White Street, Key West, Florida.

The full Invitation to Bid may be obtained from Demand Star by Onvia and The City of Key West website. Please contact Demand Star at www.demandstar.com or call 1-800-711-1712 or www.cityofkeywest-fl.gov

For information please contact Kreed Howell, Senior Construction Manager, Engineering Services by email at lhowell@cityofkeywest-fl.gov. Verbal communications, per the City’s “Cone of Silence” ordinance is not allowed.

The Bidder shall furnish documentation showing that he is in compliance with the licensing requirements of County, and City licenses as would be required within ten days of the award. The successful Bidder must also be able to satisfy the City Attorney as to such insurance coverage and legal requirements as may be demanded by the Proposal in question. The CITY may reject BID for any and/or all of the following reasons: (1) for budgetary reasons, (2) if the proposer misstates or conceals a material fact in its bid, (3) if the proposal does not strictly conform to the law or is non-responsive to the bid requirements, (4) if the proposal is conditional, or (5) if a change of circumstances occurs making the purpose of the proposal unnecessary to the CITY. (6) if such rejection is in the best interest of the CITY. The CITY may also waive any minor formalities or irregularities in any proposal.

The CITY retains the right to award bid to the bidder or bidders that best meet the needs of the City.

INSTRUCTIONS TO BIDDERS

1. CONTRACT DOCUMENTS

A. FORMAT

The Bid Documents are divided into parts, divisions, and sections for convenient organization and reference.

B. DOCUMENT INTERPRETATION

Should there be any doubt as to the meaning or intent of said Bid Documents, the Bidder should request interpretation from the CITY's Project Manager (lhowell@cityofkeywest-fl.gov) in writing at least four (7) calendar days prior to Bid opening. Any interpretation or change in said Bid Documents will be made only in writing in the form of Addenda to the Documents, which will be furnished to all registered holders of Bid Documents. Bidders shall submit with their Bids, or indicate receipt of, all Addenda. The Owner will not be responsible for any other explanation or interpretations of said Documents.

2. SCOPE OF SERVICES

Vendor shall provide, deliver and install (3) modular office trailers. Trailers must meet the specifications found in Part 2 of these documents.

3. REQUIRED QUALIFICATIONS

The prospective Bidder must meet the statutorily prescribed requirements before award of Contract by the CITY. Bidders must hold or obtain all licenses and/or certificates as required by the State and Local Statutes in order to bid and provide the product specified herein. Provide Vendor's local Business Tax Receipt.

4. TYPE OF BID

LUMP SUM

The Bid for the products is to be submitted on a lump sum basis. The Bidder agrees to accept as full payment for the products proposed herein, the amounts computed under the provisions of the Contract Documents.

5. PREPARATION OF BIDS

A. GENERAL

All blank spaces in the BID form must be filled in for all schedules and associated parts, as required, preferably in BLACK INK. All price information shall be clearly shown in both words and figures where required. No changes shall be made in the phraseology of the forms. Written amounts shall govern in case of discrepancy between the amounts stated in writing and the amounts stated in figures. In case of discrepancy between unit prices and extended totals, unit prices shall prevail.

Any BID shall be deemed informal which contains omissions, erasures, alterations, or additions of any kind, or prices uncalled for, or in which any of the prices are obviously unbalanced, or which in any manner shall fail to conform to the conditions of the published Invitation to BID.

Only one BID from any individual, firm, partnership, or corporation, under the same or different names, will be considered. Should it appear to the Owner that any Bidder is interested in more than one BID for work contemplated; all Bids in which such Bidder is interested will be rejected.

B. SIGNATURE

The Bidder shall sign his BID in the blank space provided therefor. If Bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign Contracts on behalf of the corporation. If Bidder is a partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign Contracts in behalf of the partnership. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a notarized power-of-attorney must be on file with the Owner prior to opening of Bids or submitted with the Bid otherwise the Bid will be regarded as not properly authorized.

C. ATTACHMENTS

Bidder shall complete and submit the following forms with his bid:

- Non-Collusion Affidavit
- Anti-Kickback Affidavit
- Sworn Statement under section 287.133(3)(a) Florida Statutes, on public entity crimes
- Indemnification Form
- Local Business License Tax Receipt
- Domestic Partnership Affidavit
- Cone of Silence Affidavit

6. MODIFICATION OR WITHDRAWAL OF BID

Prior to the time and date designated for receipt of Bids, any Bid submitted may be withdrawn by written notice to the party receiving Bids at the place designated for receipt of Bids. No Bid may be withdrawn after the time scheduled for opening of Bids unless the time specified in paragraph AWARD OF CONTRACT of these Instructions to Bidders shall have elapsed.

7. AWARD OF CONTRACT

Within SIXTY (60) calendar days after the opening of Bids, the CITY will accept one of the Bids or will act in accordance with the following paragraphs. The acceptance of the Bid will be by written notice of award, mailed to the office designated in the Bid, or delivered to the Bidder's representative. In the event of failure of the lowest responsive, responsible Bidder to sign the Contract and provide an acceptable insurance certificate(s) and evidence of holding required licenses and certificates, the Owner may award the Contract to the next

lowest responsive, responsible Bidder. Such award, if made, will be made within ninety (90) days after the opening of Proposals.

The CITY reserves the right to accept or reject any or all Bids and to waive any formalities and irregularities in said Bids.

8. BASIS OF AWARD

The award will be made by the Owner on the basis of the BID from the lowest, responsive, responsible BIDDER(s) which, in the Owner's sole and absolute judgment will best serve the interest of the Owner.

9. BIDDER'S DECLARATION AND UNDERSTANDING

The Bidder declares that he has carefully examined the Contract Documents and that this Bid is made according to the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Bid.

10. CERTIFICATES OF INSURANCE

The successful Bidder (VENDOR) is to secure, pay for, and file with the City of Key West, prior to commencing any work under the Contract, all certificates for workers' compensation, public liability, and property damage liability insurance, and such other insurance coverages as may be required by specifications and addenda thereto, in at least the following minimum amounts with specification amounts to prevail if greater than minimum amounts indicated. Notwithstanding any other provision of the Contract, the VENDOR shall provide the minimum limits of liability insurance coverage as follows:

Auto Liability: \$300,000 Combined Single Limit on all Owned; Non-owned;
and Hired Vehicles.

General Liability: Coverage shall be maintained throughout the life of the contract and
include, as a minimum:

- Premise Operations
- Products and Completed Operations
- Blanket Contractual Liability
- Personal Injury Liability
- Expanded Definition of Property Damage

Minimum limits acceptable shall be: \$300,000 Combined Single Limit (CSL)

VENDOR shall furnish an original Certificate of Insurance indicating, and such policy providing coverage to, City of Key West named as an additional insured on a PRIMARY and NON-CONTRIBUTORY basis utilizing an ISO standard endorsement at least as broad as CG 2010 (11/85) or its equivalent, (combination of CG 20 10 07 04 and CG 20 37 07 04, providing coverage for completed operations, is acceptable) including a waiver of subrogation clause in favor of City of Key West on all policies. VENDOR will maintain the General Liability and Umbrella Liability insurance coverages summarized above with

coverage continuing in full force including the additional insured endorsement until at least 3 years beyond completion and delivery of the work contracted herein.

Notwithstanding any other provision of the Contract, the VENDOR shall maintain complete workers' compensation coverage for each and every employee, principal, officer, representative, or agent of the VENDOR who is performing any labor, services, or material under the Contract. Further, VENDOR shall additionally maintain the following minimum limits of coverage:

Bodily Injury Each Accident	\$1,000,000
Bodily Injury by Disease Each Employee	\$1,000,000
Bodily Injury by Disease Policy Limit	\$1,000,000

VENDORS' insurance policies shall be endorsed to give 30 days written notice to the City of Key West in the event of cancellation or material change, using form CG 02 24, or its equivalent.

VENDOR will comply with any and all safety regulations required by any agency or regulatory body including but not limited to OSHA.

SURETY AND INSURER QUALIFICATIONS

All insurance contracts, and certificates of insurance shall be either executed by or countersigned by a licensed resident agent of the Surety or insurance company, having his place of business in the State of Florida, and in all ways complying with the insurance laws of the State of Florida. Further, the said Surety or insurance company shall be duly licensed and qualified to do business in the State of Florida.

11. ADDENDA

The Bidder hereby acknowledges that he has received Addenda No's. _____, _____, _____, and agrees that all addenda issued are hereby made part of the Contract Documents, and the Bidder further agrees that his Bid(s) includes all impacts resulting from said addenda.

12. BID SECURITY

BIDS must be accompanied by cash, a certified check, or cashier's check drawn on a bank in good standing, or a bid bond issued by a Surety authorized to issue such bonds in the state where the work is located, in the amount of five (5) percent of the total amount of the Bid submitted. This bid security shall be given as a guarantee that the Bidder will not withdraw his BID for a period of ninety (90) days after bid opening, and that if awarded the Contract, the successful Bidder will execute the attached Contract and furnish properly executed Performance and Payment Bonds, each in the full amount of the Contract price within the time specified. Agent and Surety phone numbers must be provided.

The Attorney-in-Fact who executes this bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond. Where State Statute requires, certification by a resident agent shall also be provided.

If the Bidder elects to furnish a Bid Bond, he shall use the Bid Bond form bound herewith, or one conforming substantially thereto in form and content.

13. RETURN OF BID SECURITY

Within 15 days after the award of the Contract, the CITY will return the bid securities to all Bidders whose BIDS are not to be further considered in awarding the Contract. Retained bid securities will be held until the Contract has been finally executed, after which all bid securities, other than Bidders' bonds and any guarantees, which have been forfeited, will be returned to the respective Bidders whose Bids they accompanied.

* * * * *

BID ALTERNATES WILL A BASIS OF EVALUATING LOW BIDDER AND BASIS OF AWARD.

BIDDER REPRESENTATION

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

I represent that this bid is submitted in compliance with all terms, conditions and specifications of the Invitation to Bid and that I am authorized by the owners/principals to execute and submit this proposal on behalf of the business identified below:

Company Name: _____

Address: _____

Contact Name: _____

Email: _____

Telephone: _____

Fax: _____

Signature: _____ *Date:* _____

SURETY

_____ whose address is

_____, _____, _____,
Street City State Zip

Phone Resident Agent

BIDDER

The name of the Bidder submitting this Bid is _____
_____ doing business
at
_____, _____, _____,
Street City State Zip

_____ email address

which is the address to which all communications concerned with this Bid and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Bid, or of the partnership, or of all persons interested in this Bid as principals are as follows:

Name	Title
_____	_____
_____	_____
_____	_____
_____	_____

If Sole Proprietor or Partnership

IN WITNESS hereto the undersigned has set his (its) hand this _____ day of _____ 20____.

Signature of Bidder

Title

If Corporation

IN WITNESS WHEREOF the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers this _____ day of _____ 20____.

(SEAL)

Name of Corporation

By _____

Title _____

Attest _____
Secretary

Sworn and subscribed before me this _____ day of _____ 20____.

NOTARY PUBLIC, State of _____, at Large

My Commission Expires:

ANTI-KICKBACK AFFIDAVIT

STATE OF _____)

: SS

COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By: _____

Sworn and subscribed before me this _____ day of _____ 20____.

NOTARY PUBLIC, State of Florida at Large

My Commission Expires:

* * * * *

**SWORN STATEMENT UNDER SECTION 287.133(3)(A)
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted with Bid or Proposal for _____

2. This sworn statement is submitted by _____
(name of entity submitting sworn statement)

whose business address is _____

and (if applicable) its Federal Employer Identification Number (FEIN) is _____

(If the entity has no FEIN, include the Social Security Number of the individual

signing this sworn statement _____

3. My name is _____
(please print name of individual signing)

and my relationship to the entity named above is _____

4. I understand that a “public entity crime” as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any bid or contract for goods or services to be provided to any public or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.

5. I understand that “convicted” or “conviction” as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an “affiliate” as defined in Paragraph 287.133(1)(a), Florida Statutes, means

1. A predecessor or successor of a person convicted of a public entity crime; or

2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term “affiliate” includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm’s length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies).

____Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

____There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

____The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

____The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)

(signature)

(date)

STATE OF _____

COUNTY OF _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

(name of individual signing) Who, after first being sworn by me, affixed his/her

signature in the space provided above on this _____ day of _____, 20____.

My commission expires:

NOTARY PUBLIC

* * * * *

CITY OF KEY WEST INDEMNIFICATION FORM

To the fullest extent permitted by law, the **VENDOR** expressly agrees to indemnify and hold harmless the City of Key West, their officers, directors, agents and employees (herein called the "indemnitees") from any and all liability for damages, including, if allowed by law, reasonable attorney's fees and court costs, such legal expenses to include costs incurred in establishing the indemnification and other rights agreed to in this Paragraph, to persons or property, caused in whole or in part by any act, omission, or default by **VENDOR** or its subcontractors, material men, or agents of any tier or their employees, arising out of this agreement or its performance, including any such damages caused in whole or in part by any act, omission or default of any indemnitee, but specifically excluding any claims of, or damages against an indemnitee resulting from such indemnitee's gross negligence, or the willful, wanton or intentional misconduct of such indemnitee or for statutory violation or punitive damages except and to the extent the statutory violation or punitive damages are caused by or result from the acts or omissions of the **VENDOR** or its subcontractors, material men or agents of any tier or their respective employees.

Indemnification by **VENDOR** for Professional Acts. **VENDOR** hereby agrees to indemnify the City of Key West and each of its parent and subsidiary companies and the directors, officers and employees of each of them (collectively, the "indemnitees"), and hold each of the indemnitees harmless, against all losses, liabilities, penalties (civil or criminal), fines and expenses (including reasonable attorneys' fees and expenses) (collectively, "Claims") to the extent resulting from the performance of **VENDOR's** negligent acts, errors or omissions or intentional acts in the performance of **VENDOR's** services, or any of their respective affiliates, under this Agreement. If claims, losses, damages, and judgments are found to be caused by the joint or concurrent negligence of the City of Key West and **VENDOR**, they shall be borne by each party in proportion to its negligence.

VENDOR: _____

SEAL:

Address

Signature

Print Name

Title

DATE: _____

NOTARY PUBLIC, State of Florida at Large

My Commission Expires:

* * * * *

EQUAL BENEFITS FOR DOMESTIC PARTNERS AFFIDAVIT

STATE OF _____)

: SS

COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that the firm of _____

_____ provides benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses, per City of Key West Code of Ordinances Sec. 2-799.

By: _____

Sworn and subscribed before me this _____ day of _____ 20 ____.

NOTARY PUBLIC, State of Florida at Large

My Commission Expires:

* * * * *

CONE OF SILENCE AFFIDAVIT

STATE OF _____)

: SS

COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that all owner(s), partners, officers, directors, employees and agents representing the firm of _____ have read and understand the limitations and procedures regarding communications concerning City of Key West Code of Ordinances Sec. 2-773 Cone of Silence.

By: _____

Sworn and subscribed before me this

_____ day of _____ 20_____.

NOTARY PUBLIC, State of _____ at Large

My Commission Expires: _____

* * * * *

BIDDER'S CHECKLIST

(Note: The purpose of this checklist is to serve as a reminder of major items to be addressed in submitting a bid and is not intended to be all inclusive. It does not alleviate the Bidder from the responsibility of becoming familiar with all aspects of the Contract Documents and Proper completion and submission of his bid.)

1. All Bid Documents thoroughly read and understood
2. All blank spaces in Bid Proposal Form filled in black ink.
3. Total and lump sum prices added correctly.
4. Addenda acknowledged.
5. Bid signed by authorized officer.
6. Bidder familiar with federal, state, and local laws, ordinances, rules and regulations affecting the proposed purchase.
7. Bidder, if successful, able to obtain and/or demonstrate possession of required licenses and certificates within (10) ten days after receiving a Notice of Award.
8. Bid submitted intact with the volume containing the Bidding Requirements, Contract Forms and Conditions of the Contract, one (1) original, two (2) USB drives.
9. Anti-kickback Affidavit; Public Entity Crime Form; City of Key West Indemnification Equal Benefits for Domestic Partners Affidavit; Code of Silence, Non-Collusion Affidavit and Proof of Insurance
10. Read and Understand the City of Key West Purchase Order Terms & Conditions

CONTRACT

This Contract, made and entered into this _____ day of _____ 2018,

by and between the CITY OF KEY WEST, hereinafter called the "Owner", and _____

hereinafter called the "Contractor";

WITNESSETH:

The Contractor, in consideration of the sum to be paid him by the Owner and of the covenants and agreements herein contained, hereby agrees at his own proper cost and expense to do all the work and furnish all the materials, tools, labor, and all appliances, machinery, and appurtenances for **ITB 18-032 Procurement of Modular Athletic Trailers for the Wickers Field Complex**, Key West, Florida to the extent of the Bid made by the Contractor, dated the _____ th day of _____ 2018, all in full compliance with the Contract Documents referred to herein.

The CONTRACT DOCUMENTS, including the signed copy of the BID, BID BOND, CONTRACT FORM, SUMMARY OF WORK, SPECIFICATIONS, DRAWINGS, GENERAL & SUPPLEMENTARY CONDITIONS OF THE CONTRACT.

In consideration of the performance of the work as set forth in these Contract Documents, the Owner agrees to pay to the Contractor the amount bid in the Bid as adjusted in accordance with the Contract Documents, or as otherwise herein provided, and to make such payments in the manner and at the times provided in the Contract Documents.

The Contractor agrees to complete the work within **One hundred & eighty (180)** days and to accept as full payment hereunder the amounts computed as determined by the Contract Documents and based on the said BID.

The Contractor agrees to remedy all defects appearing in the work or developing in the materials furnished and the workmanship performed under this Contract during the warranty period after the date of final acceptance of the work by the Owner, and further agrees to indemnify and save the Owner harmless from any costs encountered in remedying such defects.

It is agreed that the Contract, based upon the BID, shall be fully complete within the stated number of consecutive calendar days from the date the Notice to Proceed is issued.

In the event the Contractor fails to complete the work within the time limit or extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be assessed by the reduction of the Contract Value at a rate of \$100.00 per day. Sundays and legal holidays shall be included in determining days in default.

This contract will automatically expire upon completion of the project. Contractors warranty obligations remain in effect.

IN WITNESS WHEREOF, we, the parties hereto, each herewith subscribe the same this

_____ Day of _____, A.D., 2018.

CITY OF KEY WEST

By _____

Title City Manager

CONTRACTOR

By _____

Title _____

CITY OF KEY WEST PURCHASE ORDER TERMS AND CONDITIONS

1. **AGREEMENT:** Except as provided in Paragraph 22 below, this purchase order, including these terms, conditions, the referenced bid package, and the specifications hereto, constitute the sole and entire agreement between the parties hereto (hereinafter "Agreement" or "Purchase Order"). Seller's acceptance of this Agreement is limited to the terms and conditions hereof and written confirmation, commencing performance, or making deliveries hereunder constitutes such acceptance, notwithstanding Seller's proposal or terms additional to or different from those set forth in this Agreement. The Seller's quotation is incorporated in and made a part of this Agreement only to the extent of specifying the nature and description of the goods and services ordered and then only to the extent that such items are consistent with the other terms of this Agreement. No course of prior dealings between the parties and no usage of the trade shall be relevant to supplement or explain any of the terms or conditions hereof. The Buyer is the City of Key West, Florida, (hereinafter referred to as the "City" or "Buyer").

2. **TIME IS OF THE ESSENCE:** Failure to perform services or deliver goods of the quality and quantity and within the time limit(s) specified by this Purchase Order shall, at the option of the City, relieve it of any obligation to accept and pay for such goods or services, including any undelivered shipments of goods. Upon failure to deliver as specified, the City may buy like goods or services elsewhere and charge the Seller with any increased cost or other loss incurred thereon, pursuant to applicable law, unless defective shipment of goods, or performance of defective services, as applicable, is agreed to by the City in writing. Any failure by the City to exercise its option with respect to any shipment of goods or performance of services shall not be deemed to constitute a waiver with respect to subsequent shipments of goods or performance of services. This provision is not in lieu of, and the City does not waive any remedies provided by law.

3. **WARRANTY:** With respect to services, Seller warrants unto the City that Seller has the competence and abilities to complete the services set forth herein. Seller will perform the services with due and reasonable diligence consistent with sound professional practices. With respect to goods, Seller warrants to City (a) that the goods shall be of the quality specified or of the test grade of their respective kinds if no quality is specified; shall conform to the specifications, drawings, samples and other descriptions contained herein, and to representations made by Seller or its representatives; be fit for City's particular purpose; and (b) that at the time the goods are accepted by the City, the goods shall have been produced, sold, delivered, and furnished in compliance with all applicable Federal and State laws, including but not limited to the Consumer Product Safety Act, the Federal Occupational Safety and Health Act, the Fair Employment Practices Act and the Equal Pay Act, and all applicable municipal ordinances, regulations, rules, labor agreements, and working conditions to which the goods are subject, (c) that the goods furnished hereunder are free of any claims or liens of whatever nature whether rightful or otherwise of any person, corporation, partnership or association.

4. **MODIFICATIONS:** Except as provided in Paragraph 22, this Agreement can be modified or rescinded only in writing and if signed by both parties, or their duly authorized agents.

5. **WAIVER:** The failure of the City to enforce any provision of this Agreement or exercise any right or privilege granted to the City hereunder shall not constitute or be construed as a waiver of any such provision or right and the same shall continue in full force.

6. **CITY OPTIONS:** City reserves the right to change specifications and delivery dates. Any difference in price required by such changes shall be equitably adjusted and the Agreement shall be modified in writing accordingly. City further reserves the right to terminate all or part of the work to be performed pursuant to this Agreement. In such event, City shall be liable only for materials or work done within the authorization of this Agreement. In no event shall City be liable for incidental or consequential damages by reason of such termination.

7. **INDEMNIFICATION:** Seller agrees to protect, indemnify, save and hold harmless City, its elected and appointed officials, officers, attorneys, and employees, from and against all losses, costs and expenses and from and against all claims, demands, suits and actions for damages, losses, costs, attorneys fees, expenses and from and against all liability awards, judgements, and decrees of whatsoever nature for any and all damages to property of the City or others of whatsoever nature and for any and all injury to any person (including death) arising out of or resulting from negligence of Seller, breach of this Purchase Order in the performance of services or the manufacture of goods, from any defect in materials or workmanship, from the failure of the goods to perform to its full capacity as specified in the Purchase Order, specifications of other data, or from the breach of any express or implied warranty.

8.PATENT INDEMNIFICATION: Seller represents and warrants that it has the right to use any and all intellectual property, either by licensure or ownership, that is supplied, indirectly or directly, under this Purchase Order. Further, the Seller agrees that the City is relying on this representation and warranty to issue this Purchase Order. Seller agrees to hold harmless and to defend City against any claims of patent or copyright infringement occasioned by the manufacturer, sale or use of material supplied under this Purchase Order and to indemnify City, and its elected and appointed officials, officers, attorneys, and employees, against any damages occasioned by such claims whether justified or unjustified.

9.INSPECTION: City shall have a reasonable time after delivery or performance within which to inspect the goods or services. Goods rejected will, at Seller's expense, be returned to Seller or otherwise disposed of as Seller shall reasonably request. The cost of inspection of goods or services rightfully rejected shall be charged to the Seller. If reasonable inspection disclosed that part of the goods received or services performed are defective or nonconforming, City shall have the right to cancel any unshipped portion of the order or unperformed portion of the services. Payment for the goods or services on this Purchase Order prior to inspection shall not constitute acceptance thereof, and is without prejudice to any and all claims that City may have against Seller. The making or failure to make any inspection of, or payment for acceptance of, the goods or services, shall in no way impair City's right to reject nonconforming goods or services, recover damages or exercise any other remedy to which City may be entitled, notwithstanding City's knowledge of the nonconformity, its substantiality or the ease of its discovery.

10.TAXES: The City government is a non-profit operation and not subject to tax.

11. CONTINGENCIES: Performance of any obligation under this Agreement may be suspended by either party without liability, to the extent that an act of God, war, riot, fire, explosion, accident, flood, sabotage, inability to obtain fuel or power, governmental laws, regulations, or orders, or any other cause beyond the reasonable control of such party, or labor trouble, strike, lockout or injunction (whether or not such labor event is within the reasonable control of such party) delays, prevents, restricts or limits the performance of this Agreement or the consumption, sale, use or end use of goods or services. The affected party shall invoke this provision by promptly notifying the other party in writing of the nature and estimated duration of the suspension period. At City's option, either the Agreement period shall be extended by the term of any such suspension, or the total Agreement quantity hereunder shall be reduced by the quantity not delivered or performed during the term of such suspension, and, in either event, the Agreement shall otherwise remain unaffected. In such event that Seller's performance is suspended for more than sixty (60) days during the term hereof, City may, at its option, terminate this Agreement upon written notice to the Seller.

12.PRICE PROTECTION: Seller warrants that the price(s) set forth herein are equal to the lowest net price, and the terms and conditions of sale as favorable as the price(s), terms and conditions afforded by the Seller to any other customer for goods or services of compatible grade or quality during the terms hereof. Should City be able to purchase goods or services of the same or comparable quality from another source at a lower delivered cost than in effect, there under, and City gives Seller written notice hereto, City may purchase such goods or services from such other sources at such lower delivered cost unless within fifteen days of receipt by Seller of said notice, Seller meets such lower delivered cost for such quantity of goods or services. Any quantity of goods or services so purchased from another source by City shall be deducted from the total quantity offered on this Agreement, but the Agreement shall otherwise remain unaffected.

13.PACKAGING AND CARTAGE: No charge will be allowed for packing, boxing or cartage unless agreed upon at the time of purchase, but damage to any goods not packed to insure proper protection to same will be charged to Seller. City's order number and quantity shipped will be marked or tagged on each package. City's count will be accepted as final and conclusive on any shipment not accompanied by itemized packing slip. Delay in or non-receipt of packing lists, statements or invoices in the number of copies specified or errors or omissions of any of these will be just cause for withholding payment.

14.HAZARD: Seller shall notify City of any inherent hazard and applicable precautions and protective measures and provide any additional relevant information, including but not limited to Material Data Safety Sheets, for the goods being purchased herein.

15.QUANTITY: The quantities of goods or duration of services as indicated on the face hereof, must not be exceeded without prior written authorization from City. Excess quantities may be returned to Seller at Seller's expense.

16.ASSIGNMENT: No right or interest in this Agreement shall be assigned by Seller without the prior written permission of the City and no delegation of any obligation owed by either City or Seller shall be made without the prior written permission of either party. Any attempted assignment or delegation shall be wholly void and totally ineffective for all purposes.

17. CHOICE OF LAW; VENUE: The validity, interpretation, and performance of this Agreement shall be governed and construed in accordance with the laws of the State of Florida. In the event of any dispute under this Purchase Order, venue shall be in Monroe County, Florida for any state action and Key West, Florida for any federal action.

18. PUBLIC RECORDS; RIGHT TO AUDIT RECORDS: Written documents prepared by either the Seller or City in furtherance of this Agreement shall constitute a public record. Any such instrument maintained by Seller hereunder shall be delivered to the City upon request. The City shall also be entitled to audit the books and records of the Seller to the extent that such books and records relate to the performance of this Agreement. Such books and records shall be maintained by the Seller for a period of three (3) years from the date of final payment under this Agreement unless a shorter period is otherwise authorized in writing by the City.

19. FISCAL YEAR FUNDING APPROPRIATION: (a) Specified Period. Unless otherwise provided by law, a purchase order for supplies or services may be entered into for any period of time deemed to be in the best interest of the City, provided the term of the purchase order and conditions of renewal or extension, if any, are included in the solicitation and funds are available for the initial fiscal period of the purchase order. Payment and performance obligations for succeeding fiscal periods shall be subject to the annual appropriation by City Commission. (b) Cancellation Due to Unavailability of Funds in Succeeding Fiscal Periods. When funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal year period, the purchase order shall be cancelled and the contractor shall be entitled to reimbursement for the reasonable value of any work performed to the date of cancellation.

20. FAILURE TO EXECUTE PURCHASE ORDER: Failure of the successful bidder to accept the Purchase Order as specified may be cause for cancellation of the award. In the event that the order is cancelled, the award may then be made to the second lowest responsive and responsible bidder, and such bidder shall fulfill every stipulation embraced herein as if he were the original party to whom the bid award was made, or all bids may be rejected and made void by the City.

21. INDEPENDENT CONTRACTOR. The Seller shall perform the obligations of this Purchase Order as an independent contractor and under no circumstances shall it be considered as agent or employee of the City.

22. OTHER RELATED AGREEMENTS. In conjunction with, or prior to issuing this Purchase Order, the City may require the Seller to execute a full written agreement that is approved by the City Manager or City of Key West Commission. to the extent there are any conflicting terms and conditions. Otherwise, the Master Agreement and this Purchase Order shall be deemed supplemental to each other.

23. SOVEREIGN IMMUNITY. Nothing contained in this Purchase Order shall be construed as a waiver of the City's right to sovereign immunity under section 768.28, Florida Statutes, or other limitations imposed on the City's potential liability under state or federal law. The provisions of *768 28, Florida Statutes, and any other limitations or restrictions in the City's liability shall be deemed incorporated herein by this reference.

24. INSURANCE. If this Purchase Order requires the Seller to perform services on the City's premises or at any place where the City conducts operations, or requires the Seller to perform professional consulting services, the Seller shall request insurance coverage requirements from the City's Purchasing Manager. In circumstances where insurance is required by the City, Seller shall provide proof of insurance or insurance certificates with the City listed as an additional named insured prior to performing under this Purchase Order. Noncompliance with this Paragraph shall place the Seller in default and subject this Purchase Order to immediate cancellation.

25. TAX EXEMPTION: The City's Florida State Sales Tax Exemption Number is 85-8012621608C5 and Federal tax ID Number is 59-6000346.

26. ORDER OF PRECEDENCE: When this PO is issued subsequent to the results of a request for quote, bid, or proposal, additional terms and conditions, if any, contained in the solicitation or resulting contract shall control.

27. SHIPPING INSTRUCTIONS: Unless otherwise specified, all goods are to be shipped prepaid, FOB destination. When shipping address indicates a room number and/or inside delivery, it is the Vendor's responsibility to make delivery to that location at no additional charge. Where specific authorization is granted to ship goods to FOB shipping point, Vendor agrees to prepay all shipping charges and route as instructed. No COD shipments will be accepted.

SPECIFICATIONS

12 x 40 Modular Building

- **BASE BUILDING** - 11'8"x40' (no interior partitions)
 - Nominal Size: 12'x40' - Square Ft: 480- Perimeter Ft: 104
 - Codes/States/Labels: IBC, FBC 6th Edition 2017
 - 180 MPH Wind Speed
 - Occupancy: Business

- **FRAME**
 - Outrigger Type (I-Beam Spacing - 95 1/2")
 - I-Beam Size 12"
 - Axle Quantity: 3 (minimum)
 - 8-PlyTires (new)
 - Detachable Hitch

- **FLOOR**
 - Nylon Impregnated Bottom Board
 - 2x6 Joists, 16" OC
 - 5/8" T & G Plywood Decking
 - 1/8" Vinyl Composite Block Tile

- **WALLS & PARTITIONS**
 - Wall Height: 8'-0"
 - No Interior Partition walls
 - 2x4 Studs on exterior walls
 - Double Top Plate
 - 2x6 Endwalls extended to roof decking
 - 5/8" "Type X" Vinyl Covered Gypsum Interior Wallboard
 - Standard Interior Trim Package
 - 216 LF of 4" Vinyl Cove Base
 - 4" VCB (vinyl cove base) thru-out

- **INTERIOR DOORS** – **Removed from scope**

- **ROOF**
 - Live Load: 30 psf (Florida)
 - Truss Spacing, 16" O.C.
 - Sheathing: 5/8" Plywood
 - Roof Covering: 45 Mil Black EPDM Rubber, w/1/2" Densdeck underlayment
 - Ceiling: pre-finished with Sea Spray Texture
 - Ceiling Height: 8'-0" AFF
 - No Roof Overhang/Projection
 - Attic Ventilation as Required

- **PLUMBING** – **Removed from scope**

- **ELECTRICAL**
 - (1) 100 Amp Panel 240 V
 - (6) Fluor. Lights: (2 bulbs) T-8 Bulbs (32w) & Electronic Ballasts & T-8 Bulbs
 - (2) Standard 60w Porch Light w/ Photo-Cell
 - (2) Combo Lighted Exit Sign/Emergency Light w/Battery
 - (6) Empty 2x4 J-Box w/1/2" Conduit Stubbed thru floor
 - Receptacles at approx. 12' OC
 - (1) Exterior GFI Receptacle
 - 12-2 Romex Wiring

- **HVAC**
 - (1) 2 Ton Wall Mount Unit w/10kw Heat
 - 36 LF Fiberglass Supply Duct w/Grilles
 - 30 LF of Fiberglass return Ducts with Grilles
 - 12 LF Plenum Wall
 - (1) Digital Thermostat

- **CABINETS & FURNISHINGS – Removed from scope**

- **EXTERIOR**
 - Hardipanel Siding, Stucco Embossed
 - Hardipanel Mansard (False Mansard)
 - 100% House Wrap
 - 100% 5/8" Plywood Sheathing

- **WINDOWS**
 - (6) 48"x28", Impact rated Horizontal Sliding
 - (6) Mini Blinds

- **EXTERIOR DOORS**
 - (2) 36"x80" Steel /Steel w/6"x30" VB Impact Rated
 - (2) Lever Hardware
 - (2) Dead bolts
 - (2) Closers

- **INSULATION**
 - Floor - R-19
 - Exterior Wall - R-13
 - Roof - R-30

See Site Construction Documents for final height of modular placement.

SPECIFICATIONS

12' x 56' Modular Building

- **BASE BUILDING** - 11'8"x56'
 - Nominal Size: 12'x56' - Square Ft: 672- Perimeter Ft: 136
 - Codes/States/Labels:
 - IBC, FBC 6th Edition 2017
 - 180 MPH Wind Speed
 - Occupancy: Business

- **FRAME**
 - Outrigger Type (I-Beam Spacing - 95 1/2")
 - I-Beam Size 12"
 - Axle Quantity: 3 (minimum)
 - 8-Ply Tires (new)
 - Detachable Hitch

- **FLOOR**
 - Nylon Impregnated Bottom Board
 - 2x6 Joists, 16" OC
 - 5/8" T & G Plywood Decking
 - 1/8" Vinyl Composite Block Tile

- **WALLS & PARTITIONS**
 - Wall Height: 8'-0"
 - 44 LF of Interior Partition walls
 - 2x4 Studs, 16" OC interior walls
 - 2x4 Studs on exterior walls
 - Double Top Plate
 - 2x6 Endwalls extended to roof decking
 - 5/8" "Type X" Vinyl Covered Gypsum Interior Wallboard
 - Standard Interior Trim Package
 - 4" VCB (vinyl cove base) thru-out

- **INTERIOR DOORS**
 - Qty.: 3 (36'x80") Painted, Hollow Core on Steel Frame
 - Passage and (2) privacy locksets

- **ROOF**
 - Live Load: 30 psf (Florida)
 - Truss Spacing, 16" O.C.
 - Sheathing: 5/8" Plywood
 - Roof Covering: 45 Mil Black EPDM Rubber, w/1/2" Densdeck underlayment
 - Ceiling: pre-finished with Sea Spray Texture
 - Ceiling Height: 8'-0" AFF
 - No Roof Overhang/Projection
 - Attic Ventilation as Required

- **PLUMBING**
 - Handicap accessible 1/2 bath
 - Wall-mount lavatory w/mirror & single lever faucet
 - HC water closet w/grab bars & t.p. holder
 - Instant Water Heater 6.5kw
 - CPVC Supply Lines
 - PVC Drain Lines (manifolding by others)

- **ELECTRICAL**
 - 100 Amp Panel 240 V
 - (9) Fluor. Lights: (2 bulbs) T-8 Bulbs (32w) & Electronic Ballasts & T-8 Bulbs
 - Standard 60w Porch Light w/ Photo-Cell
 - Combo Lighted Exit Sign/Emergency Light w/Battery
 - (6) Empty 2x4 J-Box w/1/2" Conduit Stubbed thru floor
 - Commercial grade 20 amp Receptacles at approx. 12' OC
 - Exterior GFI Receptacle
 - 12-2 Romex Wiring
 - Combo Light & 100 CFM Exhaust fan Ceiling-Mounted

- **HVAC**
 - 2 Ton Wall Mount Unit w/10kw Heat
 - 52 LF Fiberglass Supply Duct w/Grilles
 - 46 LF of Fiberglass return Ducts with Grilles
 - 12 LF Plenum Wall
 - Digital Thermostat

- **CABINETS & FURNISHINGS – Removed from scope**

- **EXTERIOR**
 - Hardipanel Siding, Stucco Embossed
 - Hardipanel Mansard (False Mansard)
 - 100% House Wrap
 - 100% 5/8" Plywood Sheathing

- **WINDOWS**
 - (8) 48"x28", Impact rated Horizontal Sliding
 - (8) Mini Blinds

- **EXTERIOR DOORS**
 - 36"x80" Steel /Steel w/6"x30" VB Impact Rated
 - Lever Hardware
 - Dead bolts
 - Closers

- **INSULATION**
 - Floor - R-19
 - Exterior Wall - R-13
 - Roof - R-30

See Site Construction Documents for final height of modular placement.

ADDITIVE ALTERNATE NO. 1 SPECIFICATIONS

SECTION 05 51 19 – METAL GRATING STAIR

Lack of ability to provide the alternate will not make the bidder “non-responsive”.

PART 1 – GENERAL

1.1 SUMMARY

- A. Provide industrial type aluminum stair structural framing, grating treads and risers as shown on the drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related Work:
 - 1. Section 05 50 00- Metal Fabrications
 - 2. Section 05 52 00- Metal Railings
 - 3. Section 05 53 00- Metal Gratings
 - 4. Section 09 90 00- Painting and Coating

1.2 SUBMITTALS

- A. Submit shop drawings, including:
 - 1. Manufacturer's specification and other data needed to prove compliance with the specified requirements.
 - 2. Fabrication, layout, installation, anchorage, and interface of the work of this section with the work of adjacent trades.
 - 3. Manufacture's recommended installation procedures.

1.3 QUANLITY ASSURANCE

- A. Comply with OSHA and local building codes.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with no less than three years of experience.
- C. Comply with recommendations of AWS, Structural Welding Code on Aluminum, D1.2 latest edition.
- D. Stair shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - 1. Uniform Load: 100 lbf/sq. (4.79kN/Sq. m)
 - 2. Concentrated Load: 300 lbf (1.33kN) applied on an area of 4 sq in. (2580 sq. mm.)
 - 3. Uniform and concentrated loads need not be assumed to act concurrently
 - 4. Stair Framing: Capable of withstanding stresses resulting from railing loads in addition to loads specified above.

5. Limit deflection of treads, platforms, and framing members to L/360 or ¼-inch (6.4mm), whichever is less.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials to job site properly marked to identify the structure for which they are intended and at such intervals to insure uninterrupted progress of the work. Marking shall correspond to markings indicated on the shop drawings.
- C. Store all members off the ground using pallets, platforms, or other supports.
- D. Do not store materials on the structure in a manner that might cause distortion or damage to the members of the supporting structure.

Part 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Aluminum Grate Stair by Breuer Metal Craftsmen Inc. phone: (920) 885-2828, fax: (920) 885-2822, email: craftsmen@breuermetal.com, or equal.

2.2 GENERAL REQUIREMENTS

- A. Fit and shop assemble stair in the largest practical sections for delivery to the job site.
- B. Miter the stringers at changes in direction with joints tightly fitted and secured by continuous welds and grind with #3 NOMMA Finish. Make exposed joints butt tight. Ease exposed edges to a small uniform radius.
- C. Close and fit the ends of stringers at the floor or landing to the floor surface. On the landings and platforms where they are part of the stair framing, carry the wall stringers around and above the finished level of the platform to form a base of the height as shown.
- D. Provide standard prefabricated aluminum grating treads and aluminum nosings with extruded re-enforced profile with non-slip ribs.
 1. Mechanically fasten grating treads with aluminum bearing angle to stringers.
 2. Grating bearing bars shall be spaced 1-3/16-inches on center and cross bars shall be spaced at 4-inches on center. Cross bars shall be flush at top with bearing bars
 3. All Grating edges shall be banded
 4. Unless noted other, all grating at treads and landings will not be welded to supports, provided saddle clips as required for attachment. Limit weight of each section to no more that 50-pounds.
 5. Provide aluminum riser plates welded to grating tread, unless drawings indicate other.

2.3 MATERIALS

- A. Aluminum
 1. Plate: Alloy 6061-T6, Mill Finish, Heat Treatable.
 2. Structural Shapes: Alloy 6061-T6, ASTM B 308

3. Sheet Aluminum: ASTM B209 (ASTM B209M), Alloy 5052, H32 or H22 Temper.
 4. Round Pipe: Alloy 6061-T6, ASTM B429
 5. Square Tubing: Alloy 6063-T52, Extruded
 6. Rectangular Tubing: Alloy 6063-T52, Extruded
 7. Aluminum- Alloy Bars: ASTM B211 (ASTM B211M), Alloy 6061-T6
- B. Grating- Aluminum
1. Material: ASTM B 211, Alloy 6061-T6 or 6063-T6
 2. Construction Type: Swage-Locked , Standard Rectangular Bar
 3. Surface: Serrated
- C. Fasteners- Stainless Steel
1. Interior: Bolts, Nuts, Washers and Anchors: 304 Stainless Steel
 2. Exterior: Bolts, Nuts, Washers and Anchors: 316 Stainless Steel

2.4 ALUMINUM FINISHES

- A. Grind weld joints smooth with adjacent finish surface.
- B. Coat aluminum in contact with dissimilar metals, masonry or lime products with one-coat of bituminous paint.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install metal stair in accordance with the manufacture's recommendations and approved shop drawings.
- B. Install components plumb and level, accurately fitted, free from distortion or defects.
- C. Securely bolt or anchors, plates, angles, hangers, and struts required for connecting stairs to structure.
- D. Provide welded field joints where specifically indicated or shop drawings. Perform field welding in accordance with the appropriate AWS Specification.
- E. Obtain approval prior to site cutting or creating adjustments not schedules.

ADDITIVE ALTERNATE NO.2 SPECIFICATIONS

SECTION 14 20 20 - VERTICAL WHEELCHAIR LIFT

Lack of ability to provide the alternate will not make the bidder “non-responsive”.

PART 1. GENERAL

1.1 SECTION INCLUDES

- A. Commercial wheelchair lifts.

1.2 RELATED SECTIONS

- A. Division 16 Sections for electrical service for elevators to and including disconnect and fused switches at machine room.
- B. Division 16 Sections for standby power source, transfer switch, and connection from auxiliary contacts in transfer switch to controller.
- C. Division 16 Section "Voice and Data Communication Cabling" for telephone service to elevators.
- D. Section 03300 - Cast-in-Place Concrete: Concrete for elevator machine foundation, and pit.
- E. Section 06100 - Rough Carpentry: Hoistway framing, building-in hoistway door frames and overhead hoist beams.
- F. Section 08210 - Wood Doors: Hoistway doors.
- G. Section 08710 - Door Hardware.
- H. Section 09260 - Gypsum Board Assemblies: Gypsum shaft walls.
- I. Section 09650 - Resilient Flooring: Floor finish in cab.
- J. Section 09686 - Carpet: Floor finish in cab.
- K. Section 09900 - Paints and Coatings: Interior transparent wood finish in cab.
- L. Section 13850 - Detection and Alarm: Fire and smoke detectors and interconnecting devices.

1.3 REFERENCES

- A. American National Standards Institute (ANSI) B-29.2 - Chain Standards for Inverted Tooth (Silent) Chains and Sprockets.
- B. American Society of Mechanical Engineers (ASME) A17.1 - Safety Code for Elevators and Escalators.
- C. American Society of Mechanical Engineers (ASME) A18.1 - Safety Standard for Platform and

Stairway Chair Lifts.

- D. CSA B44.1 - Elevator and Escalator Electrical Equipment.
- E. CSA B355 - Lifts for Persons with Physical Disabilities.
- F. CSA B613 - Private Residence Lifts for Persons with Physical Disabilities.
- G. U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)".
- H. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- I. NFPA 70 - National Electric Code.
- J. CSA - National Electric Code.

1.4 REQUIREMENTS OF REGULATORY AGENCIES:

- A. Fabricate and install work in compliance with applicable jurisdictional authorities.
- B. File shop drawings and submissions with local authorities as the information is made available. Company pre-inspection and jurisdictional authority inspections and permits are to be made on timely basis as required.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Provide a complete layout of lift equipment detailing dimensions and clearances as required.
- D. Selection Samples: For each finish product specified requiring selection of color or finish, two complete sets of color charts representing manufacturer's full range of available colors and patterns.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Skilled tradesmen shall be employees of the installing contractor approved by the manufacturer, with demonstrated ability to perform the work on a timely basis.
 - 2. Execute work of this section only by a company that has adequate product liability insurance.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install systems under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. Coverage - this warranty applies to the repair or replacement, at Manufacturer's option, of parts that fail due to defective material or workmanship. Manufacturer may, at its option, provide factory reconditioned parts. This warranty is provided to the Authorized Dealer on behalf of the final purchaser of the product and is not transferable. The Manufacturer's warranty does not cover labor charges for the removal, repair or replacement of warranty parts but such costs may be covered for a period of time by Authorized Dealer's warranty, which is provided to purchaser separately.

1. The manufacturer shall offer a 36-month limited warranty on parts from date of shipment.

PART 2. PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer that maintains the standards outlined in these specifications.

2.2 COMMERCIAL WHEELCHAIR LIFT

- A. Screw drive Vertical Platform Lifts
- B. A vertical platform lift consisting of a tower with a lifting platform. The platform is made to accommodate a wheelchair user or a person with impaired mobility. The lift can be used indoor or outdoor and in commercial and residential applications.
- C. Work described in this section includes providing equipment, incidental material and labor required for a complete, operable screw drive wheelchair lift installation. Lifts shall be erected, installed, adjusted, tested and placed in operation by lift system manufacturer, or manufacturer's authorized installer.
 - 1) Lifts shall be in accordance:
 - a. ASME A18.1 and ADAAG compliant (USA)
 - b. ASME A18.1 and A117.1 compliant (USA)
 - c. ASME A18.1 only (USA)
- D. The following preparatory work to receive the lifts specified in this section is part of the work of other sections:
 1. Permanent 120 VAC, 20 amp single phase power to operate lift to be provided from a lockable fused/cartridge type disconnect switch with auxiliary contacts for battery operation. Refer to drawings for permanent power specifications and location of disconnects. Temporary power may be provided to expedite installation of lift.
 2. Provide a plumb and square hoistway with smooth interior surfaces, including fascias.
 3. Provide rough openings per lift contractor's shop drawings.
 4. Provide substantial, level pit floor slab as indicated on the lift contractor's shop drawings.
- E. Characteristics:
 1. Rated Load: 750 lb (340 kg).
 2. Rated Speed: 8 fpm (0.04 m/s).
 3. Car Dimensions:

- a. 36 inches W by 48 inches D (914 mm by 1219 mm).
 - b. 36 inches W by 54 inches D (914 mm by 1372 mm)
 - c. 36 inches W by 60 inches D (914 mm by 1524 mm)
 - 4. Levels Serviced: 2.
 - 5. Car Configuration:
 - a. Front/rear exit
 - b. 90 degree exit
 - 6. Travel: _____ inches. (Maximum travel per code is 60")
 - 7. Pit Depth: 0" (Automatic fold up ramp provided)
 - 8. Powder Coat Finish
 - a. Almond beige – Standard
 - b. Optional color – From manufactures color chart
 - c. Custom color – Provide color sample to manufacturer
 - 9. Operation: Constant pressure.
 - 10. Power Supply: 120 volt, 20 amp, 1 phase, 60 Hz.
 - 11. Drive System: screw and back-up nut
 - 12. Manual Emergency Operation: A manual hand crank is provided to lower or raise the platform in case of emergency.
 - 13. Emergency Power:
 - a. No battery backup – Standard.
 - b. 24 VDC Battery raising and lowering
 - 14. Controller: Relay logic based controller
- F. Car Enclosure: Side Guards of platform shall have a steel frame with a powder coat finish and steel panel inserts to a minimum of 42 inches (1067 mm) high.
- G. Gates:
- 1. Lower landing platform gate:
 - a. 42" high platform gate with a concealed electro/mechanical interlock.
 - b. Operation
 - 1) Manual
 - 2) Automatic – Surface mounted gate opener for platform gate.
 - c. Gate Width: 36 inches (889 mm)
 - 2. Upper landing gate:
 - a. 42" low profile aluminum gate with a concealed electro/mechanical interlock.
 - b. Flush closing operation with hoistway side.
 - c. Operation
 - 1) Manual – with hydraulic closer
 - 2) Automatic – Surface mounted gate opener for low profile aluminum gate.
 - d. Gate Width
 - 1) 36 inches (889 mm)
 - 2) 42 inches (1067 mm)
- H. Call Stations: Provide a surface, flush, or doorframe mounted call/send station.
- 1. Call stations will be:
 - a. Keyless
 - b. Keyed (removable in off position)
 - c. Keyed (removable in on/off position)

- I. Car Operation:
 - 1. Car operating panel shall consist of constant pressure buttons, an emergency stop button and an on/off key switch (when applicable).
 - 2. Auxiliary lighting: The car shall be equipped with a battery operated light. The battery shall be the rechargeable type with an automatic recharging system.
- J. Screw Drive: The screw should have a diameter of 1 inch (25 mm) and a back-up nut shall be installed.
- K. Stopping Device: All limit switches shall be located in a position to be inaccessible to unauthorized persons. They shall be located behind the mast wall and be accessible through removable panels.
- L. Terminal Stopping Device: Normal terminal stopping devices shall be provided at top and bottom of runway to stop the car positively and automatically.
- M. Guide Rails and Bracket: Guide rails and brackets shall be used to guide the platform and sling. Guide rails shall form part of the structural integrity of the unit and be integral to the mast enclosure, ensuring stability and minimum platform deflection when loaded.
- N. Car Sling: Car sling shall be fabricated from steel tubing 42 inches high (1070 mm) with adequate bracing to support the platform and car enclosure. Roller guide shoes shall be mounted on the top and bottom of the car sling to engage the guide rails. Guide shoes to be roller type with 3 inches (76 mm) diameter wheels. Roller guide shoes shall be used for better ride quality and durability.
- O. Wiring: All wiring and electrical connections shall comply with applicable codes. Insulated wiring shall have flame-retardant and moisture proof outer covering and shall be run in conduit, or electrical wire ways.

PART 3. EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until hoistway and machine room has been properly prepared.
- B. Site dimensions shall be taken to verify that tolerances and clearances have been maintained and meet local regulations.
- C. If substrate preparation is the responsibility of another installer, notify Owner of unsatisfactory preparation before proceeding.

3.3 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.4 ELEVATOR INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install the components of the elevator system that are required and that are required by jurisdictional authorities to license the elevator.

- A. Trained employees of the elevator contractor shall perform installation work.
- B. Adjust elevator for proper operation and clean unit thoroughly.
- C. Instruct users in operating procedures and owner's maintenance person in trouble-shooting and maintenance procedures.

3.5 LIFT INSTALLATION

- A. Install all the components of the lift system that are specified in this section to be provided, and that are required by jurisdictional authorities to license the lift.
- B. Trained employees of the lift contractor shall perform all installation work of this section.
- C. Adjust lift for proper operation and clean unit thoroughly.
- D. Instruct users in operation procedures and Owner's maintenance person in trouble-shooting and maintenance procedures.

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SYMBOLS

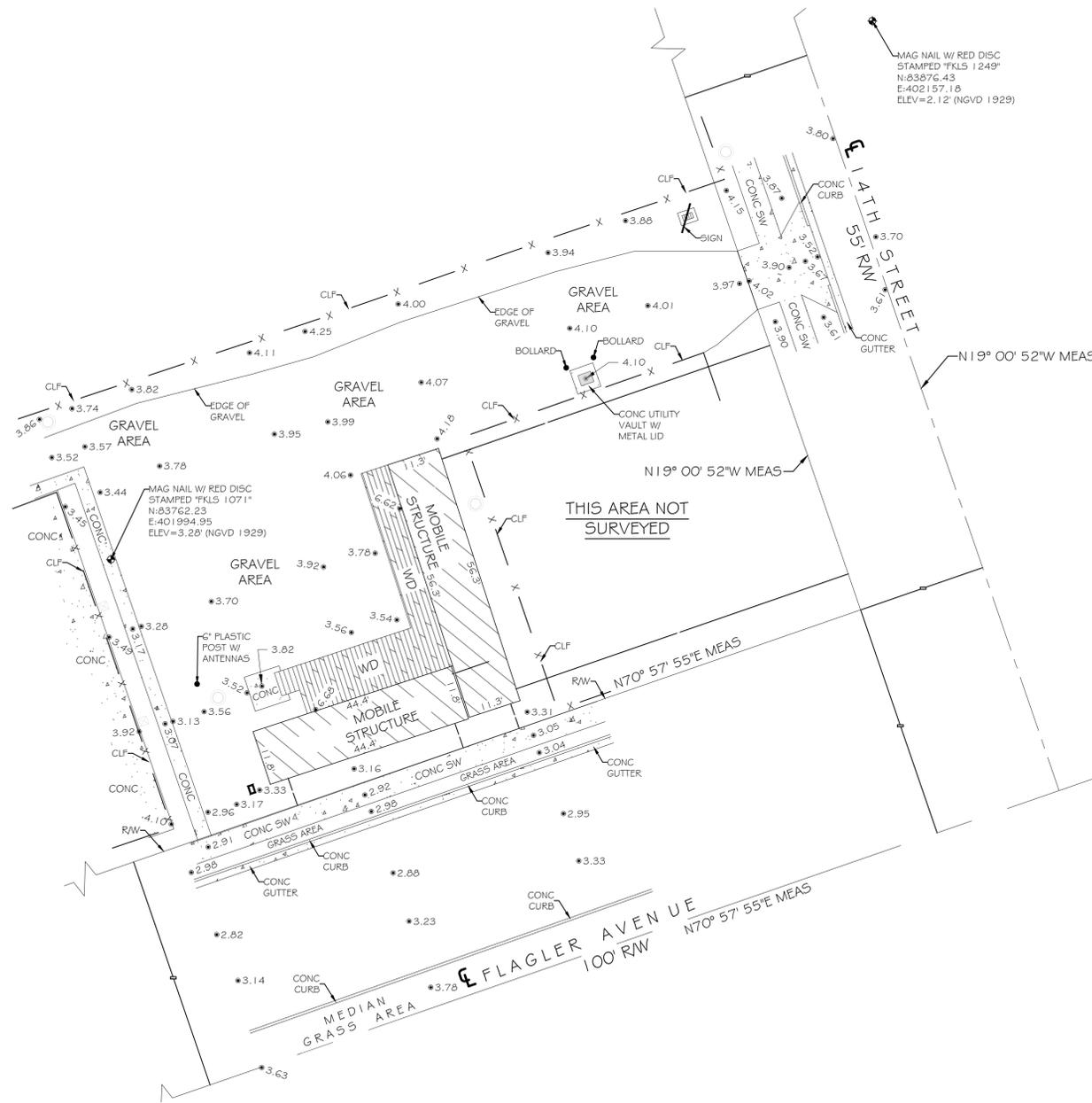
	WINDOW NUMBER	\pm	PLUS OR MINUS LAST INDICATED UNIT
	WALL TYPES		CENTER LINE
	DOOR NUMBER	\emptyset	DIAMETER OR ROUND
	REVISION NUMBER	\sphericalangle	ANGLE
	ROOM/SPACE NUMBER	\lfloor	CHANNEL
			COLUMN LINE
			EXTERIOR ELEVATION NO. DWG. REF. NO.
			WALL SECTION NO. DWG. REF. NO.
			DETAIL NO. DWG. REF. NO.
			INTERIOR ELEVATION NO. DWG. REF. NO.

LOCATION MAP



PROJECT LOCATION ★

SITE PLAN



CITY OF KEY WEST - WICKER'S FIELD ATHLETIC TRAILERS

1435 KENNEDY DRIVE;
KEY WEST, FL 33040

PROJECT DESCRIPTION REVIEW SET

ARCHITECT:
K2M DESIGN
Architecture, Engineering,
Interior Design,
Asset Management,
Specialty Consulting
1150 Virginia Street
Key West, FL 33040
Tel: 305-292-7722
Fax: 305-292-2162
Email: info@k2mdesign.com
URL: www.k2mdesign.com
PROF. REG. AA26001059
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Consultants:

Submissions:

2018.04.19 - ISSUED PERMIT SET

CITY OF KEY WEST -
WICKER'S FIELD ATHLETIC TRAILERS
1435 KENNEDY DRIVE;
KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:36 PM

Drawing Size | Project #:
24x36 | 18038

Drawn By: | Checked By:
NC | AA

Title:

COVER SHEET

Sheet Number:

G0.0.1

Date: 04/19/2018

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CODE INFORMATION

APPLICABLE CODES
ALL WORK SHALL BE IN CONFORMANCE, BUT NOT LIMITED TO THE REQUIREMENTS OF THE FOLLOWING AND ANY OTHER STATE OR LOCAL CODES HAVING JURISDICTION.
FLORIDA BUILDING CODE 2017 6TH EDITION
NFPA NATIONAL ELECTRIC CODE 2017
CITY OF KEY WEST CODES AND ORDINANCES

CONTRACTOR GENERAL NOTES:
- ALL WORK TO BE IN ACCORDANCE WITH APPLICABLE CODES.
- WORKMANSHIP TO MEET OR EXCEED ACCEPTED STANDARDS OF RESPECTIVE TRADES.
- VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS BEFORE START OF CONSTRUCTION. NOTIFY ARCHITECT IF ANY CONFLICTS EXIST PRIOR TO COMMENCEMENT OF WORK.

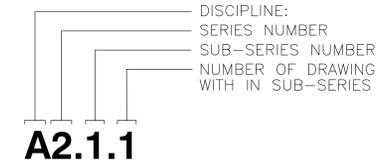
FIRE EXTINGUISHERS WILL BE PROVIDED AS REQUIRED BY AUTHORITY HAVING JURISDICTION OR AS DIRECTED BY THE LOCAL FIRE DEPARTMENT.

WALL R-VALUE = 19
ROOF R-VALUE = 29.

DRAWING INDEX

ISSUED FOR:	GENERAL
ISSUED PERMIT SET	<input checked="" type="checkbox"/> G0.0.1 COVER SHEET
ARCHITECTURAL	<input checked="" type="checkbox"/> A1.1.1 ARCHITECTURAL SITE PLAN <input checked="" type="checkbox"/> A2.1.1 FIRST FLOOR PLAN
STRUCTURAL	<input checked="" type="checkbox"/> S0.1.1 GENERAL NOTES <input checked="" type="checkbox"/> S2.1.0 FOUNDATION PLAN <input checked="" type="checkbox"/> S5.1.1 FOUNDATION & STRUCTURAL DETAILS <input checked="" type="checkbox"/> S7.1.1 ENLARGED STAIR PLANS & DETAILS
MECHANICAL	<input checked="" type="checkbox"/> M0.1.1 MECHANICAL NOTES AND SPECIFICATIONS
PLUMBING	<input checked="" type="checkbox"/> P0.1.1 PLUMBING NOTES AND SPECIFICATIONS <input checked="" type="checkbox"/> P2.1.1 GROUND FLOOR PLUMBING PLAN
ELECTRICAL	<input checked="" type="checkbox"/> E0.1.1 ELECTRICAL NOTES AND DETAILS

SHEET NUMBERING SYSTEM



SCOPE OF WORK

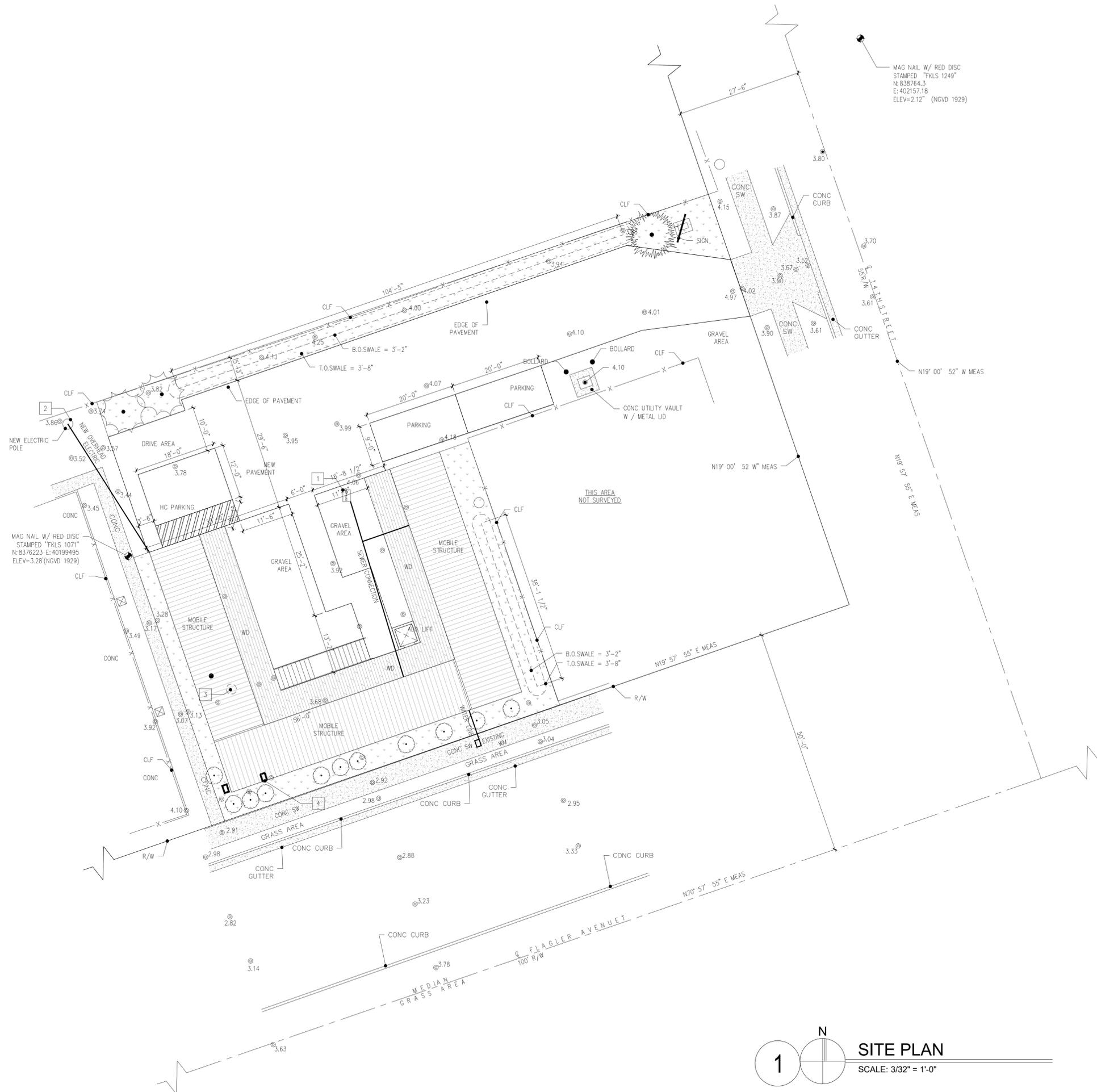
(3) NEW IMPACT RATED TRAILERS ON CONC. COLUMNS WITH AUGER PILE FOUNDATION. NEW WOOD DECK WITH WOOD STAIR AND ADA LIFT

DESIGN TEAM INFORMATION

ENGINEER:
K2M Design, Inc.
Steve Grasley
1150 Virginia Street
Key West, FL 33040
tel: 216.357.2794

MECH/ELEC/PLUMBING ENGINEER:

I:\2018\18038 - City of Key West - Wickers Field Athletic Trainers\18038\18038.dwg, 4/19/2018 4:37 PM, User: j11, Plot: 1'-0" = 1'-0", auto plot



1 **SITE PLAN**
 SCALE: 3/32" = 1'-0"

SITE NOTES

ZONING: PS-PUBLIC SERVICE
 MH=25'
 40% MAX LOT COVERAGE
 20% REQUIRED OPEN SPACE
 FLOOD ZONE: AEB

PARKING PROVIDED THROUGHOUT THE SITE. ALL PARKING ON THIS SITE PLAN IS SUPPLEMENTAL.

(1) HANDICAP PARKING SPACE
 (1) STANDARD PARKING SPACE
 (2) PARALLEL PARKING SPACES

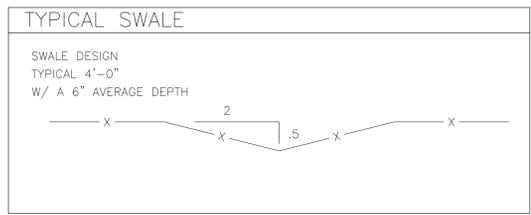
EQUIPMENT PARKING IS LOCATED BELOW TRAILERS (FENCING TBD BY CITY)

PARKING TO BE LINED. WHEEL STOPS TO BE PROVIDED (NOT @ PARALLEL SPOT)

NO PROPOSED CURB CUT MODIFICATIONS.

CODED NOTES

1 SEWER (EXISTING)
 2 POWER POLE (EXISTING)
 3 DEMO POLE
 4 RELOCATE MAIL BOX



STORMWATER RETENTION

EXISTING LOT COVERAGE
 TRAILERS/DECK/STEPS - 1,779 SF
 PROPOSED LOT COVERAGE
 TRAILERS/DECK/STEPS - 2,686 SF
 PAVEMENT/(4) VEHICLES SPACES/PATHS - 3,784 SF
 PROPOSED - EXISTING LOT COVERAGE = 4,691 SF

A) ONE INCH OF RUNOFF FROM PROJECT AREA = 391 CF
 50% CREDIT FOR SWALE TREATMENT VOLUME = 195.5 CF

SWALE DIMENSIONS = 4FT WIDE BY 6" DEEP (EXCAVATE EXTRA 6" FOR PLANT MATERIALS)
 VOLUME = AREA X LENGTH
 SWALE VOLUME = 1CF PER LF
 SWALE LENGTH REQUIRED = 195.5 LF

SWALE LENGTH PROVIDED = 136 LF
 SWALE A (38' - 1 1/2')
 SWALE B (104'-5')

SWALE PLANTINGS

SWALE A - GRASS
 SWALE B - GRASS

NOTE: GRASS SPECIES TO MATCH EXISTING ON SITE - CITY TO VERIFY

GRASS
 BUCCANEER PALM - 1 NEW
 PIGEON PLUM - 2 NEW
 JAMAICA CAPER - 11 EXISTING



ARCHITECT:

K2M DESIGN

Architecture, Engineering,
 Interior Design,
 Asset Management,
 Specialty Consulting

1150 Virginia Street
 Key West, FL 33040
 Tel: 305-292-7722
 Fax: 305-292-2162
 Email: info@k2mdesign.com
 URL: www.k2mdesign.com
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Consultants:

Submissions:

DATE PHASE
 2018.04.19 - ISSUED PERMIT SET

CITY OF KEY WEST -
WICKER'S FIELD ATHLETIC TRAILERS
 1435 KENNEDY DRIVE,
 KEY WEST, FL 33040

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 Drawing Size 24x36 Project #: 18038
 Drawn By: NC Checked By: AA

Title:
ARCHITECTURAL SITE PLAN

Sheet Number:
A1.1.1
 Date: 04/19/2018
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GENERAL NOTES

- EXISTING SEWER TO REMAIN
- CONNECT SANITARY TO FIXTURE PROVIDE BY MANUFACTURE.
- (2) NEW HOSE BIBBS
- DRINKING FOUNTAIN TBD BY CLIENT



Consultants:

CODED NOTES [X]

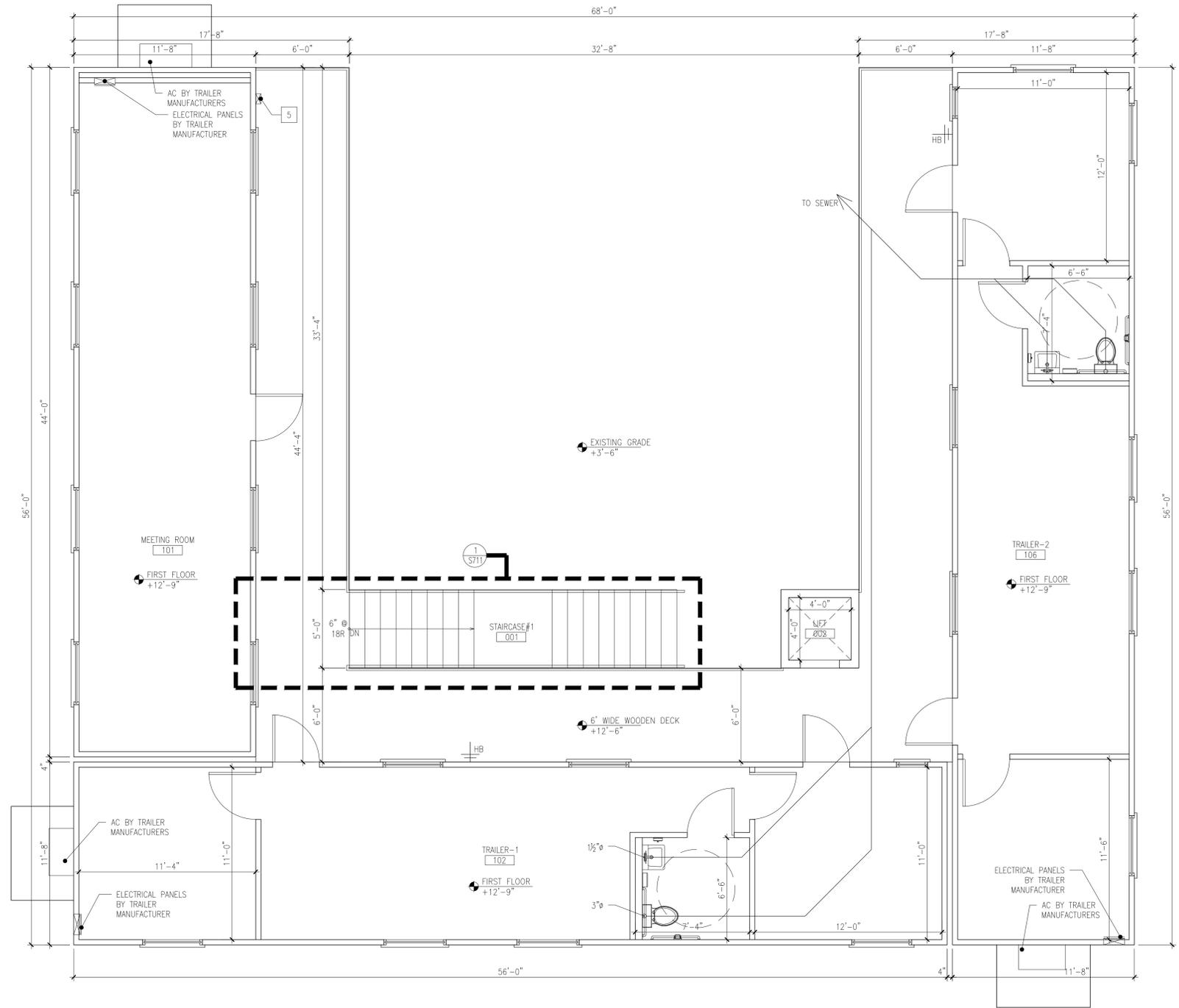
- NEW TRAILER
- NEW LIFT
- NEW WOOD FRAME STAIRS
- NEW WOOD DECK
- NEW ELECTRICAL METER LOCATED ABOVE FLOOD

Submissions:
 DATE: PHASE
 2018.04.19 - ISSUED PERMIT SET

PLAN LEGEND:

- EXISTING ITEMS TO REMAIN
- NEW PARTIAL HEIGHT WALL. REFER TO WALL TYPES
- NEW CYP. BD. WALL. REFER TO WALL TYPES
- REFER TO WALL TYPES ON A9.1.1
- EXISTING DOOR TO REMAIN
- NEW DOOR. REFER TO DOOR SCHEDULE

NOTE: DIMENSIONS ARE FROM FACE OF FINISHED WALL TO FACE OF FINISHED WALL UNLESS OTHERWISE NOTED



1 FIRST FLOOR PLAN
 SCALE: 1/4"=1'-0"



**CITY OF KEY WEST -
 WICKER'S FIELD ATHLETIC TRAILERS**
 1435 KENNEDY DRIVE,
 KEY WEST, FL 33040

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Title:
FIRST FLOOR PLAN

Sheet Number:
A2.1.1
 Date: 04/19/2018
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ELECTRICAL SPECIFICATIONS

DIVISION 26 - ELECTRICAL

I. GENERAL PROVISIONS

A. GENERAL CONDITIONS, CODES & STANDARDS

- GENERAL CONDITIONS OF THE CONTRACT FOUND IN THE ARCHITECTURAL DRAWINGS, GENERAL AND SPECIAL CONDITIONS OF THE AMERICAN INSTITUTE OF ARCHITECTS (AIA) AND ANY OF THE OWNER'S GENERAL REQUIREMENTS SHALL APPLY UNLESS NOTED OTHERWISE.
- REFER TO THE GENERAL CONDITIONS ON THE ARCHITECTURAL DOCUMENTS AND THE GENERAL AND SPECIAL CONDITIONS OF THE AIA FOR ADDITIONAL REQUIREMENTS REGARDING; SAFETY, COORDINATION & COOPERATION, WORKMANSHIP, PROTECTION, CUTTING AND PATCHING, DAMAGE TO OTHER WORK, PRELIMINARY OPERATIONS, STORAGE, ADJUSTMENTS, CLEANING, ETC.
- ALL WORK SHALL BE IN CONFORMANCE WITH ALL LOCALLY ENFORCED, FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES INCLUDING ANY SPECIAL THE OWNER REQUIREMENTS IN ADDITION TO THOSE SPECIFIED. NFPA 70 (NEC) SHALL BE THE MINIMUM STANDARD OF CODE COMPLIANCE.
- CONTRACTOR SHALL PAY FOR AND OBTAIN ALL NECESSARY LICENSES, PERMITS AND INSPECTIONS REQUIRED TO PROCEED WITH THE WORK. THIS SHALL INCLUDE ALL REQUIRED COORDINATION WITH THE LOCAL UTILITY COMPANIES AND THEIR ASSOCIATED FEES OR COSTS.

B. SCOPE OF WORK

- THIS CONTRACT SHALL INCLUDE THE FURNISHING, INSTALLING, CONNECTING, AND OPERATION OF ALL EQUIPMENT WHICH IS A PART OF THE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY SIMILAR INSTALLATIONS. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK AND WHICH IS USUALLY INCLUDED IN WORK OF A SIMILAR CHARACTER SHALL BE FURNISHED AND INSTALLED UNDER THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS REQUIRED TO PROVIDE THE OWNER A COMPLETE, CODE APPROVED AND OPERATIONAL ELECTRICAL SYSTEM.
- CAREFULLY READ SPECIFICATION FOR ALL PARTS OF THE WORK SO AS TO BECOME FAMILIAR WITH ALL TRADES' WORK SCOPE. CONSULT WITH OTHER TRADES TO INSURE PROPER LOCATIONS AND AVOID INTERFERENCES. ANY CONFLICT SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE WORK IS COMMENCED.
- CONTRACTORS SHALL BE HELD TO HAVE EXAMINED THE PREMISES AND SITE SO AS TO BE AWARE OF ALL UTILITIES, EXISTING CONDITIONS AND SPECIFICATIONS, NOTE THE EXISTING CONDITIONS AND OTHER WORK THAT WILL BE REQUIRED, AND THE NATURE OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. NO ALLOWANCE SHALL BE MADE TO THE CONTRACTOR BY REASON OF THIS FAILURE TO HAVE MADE SUCH EXAMINATION OR OF ANY ERROR ON HIS PART.
- ALL EXISTING UTILITY AND ELECTRICAL SYSTEMS SHALL BE FIELD VERIFIED. CORRECTIONS TO THE DESIGN AND INSTALLATION SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
- PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF ELECTRICAL WORK. ALL CORE DRILLING OR CUTTING OF FIRE RATED FLOORS, SHAFTS, AND WALLS SHALL BE FIREFSTOPPED PRIOR TO FINISH PATCHING. ALL PENETRATIONS SHALL BE FIRE STOPPED TO MATCH THE FIRE RATING OF THE FLOORS, SHAFTS, AND WALLS PENETRATED.
- TEMPORARY ELECTRICAL SERVICE, LIGHTING, AND RELATED WIRING SHALL BE PROVIDED TO OSHA REQUIREMENTS FOR THE USE OF ALL TRADES DURING CONSTRUCTION.
- TEMPERATURE AND INTERLOCK CONTROL COMPONENTS AND ALL RELATED WIRING AND CONDUIT SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- THIS CONTRACT SHALL ALSO INCLUDE ALL LABOR, MATERIALS AND MISCELLANEOUS EXPENSES REQUIRED FOR ALL REQUIRED ELECTRICAL DEMOLITION OF THE EXISTING AREAS BEING RENOVATED.
 - THE DEMOLITION SHALL CONSIST OF THE COMPLETE REMOVAL (PROPERLY DISPOSED OFF SITE UNLESS OTHERWISE NOTED) OF ALL ELECTRICAL EQUIPMENT, WIRING, CONDUIT, MATERIALS, ETC. NOT REQUIRED IN THE FINAL DESIGN AND INSTALLATION OF THE ELECTRICAL SYSTEMS FOR THE NEW RENOVATED AREAS.
 - ALL UNDERGROUND SERVICES NOT BEING REUSED SHALL BE CAPPED BELOW THE FLOOR, WIRING REMOVED, AND FLOOR PENETRATIONS REPAIRED TO MATCH ADJACENT SURFACES.
 - ALL ABOVE GROUND CIRCUITS SHALL BE REMOVED BACK TO THE SOURCE UNLESS INDICATED OTHERWISE.
 - COORDINATE ALL DEMOLITION WITH THE ARCHITECTURAL DOCUMENTS, THE ARCHITECT, AND THE OWNER'S GENERAL REQUIREMENTS.
- THE GENERAL CONTRACTOR SHALL VERIFY SITE LIGHTING BASE DETAILS WITH STRUCTURAL ENGINEER TO VERIFY APPLICABILITY OF POLE/FIXTURE BASE WITH LOCAL SOIL CONDITIONS.
- ALL WORK INCLUDING, BUT NOT LIMITED TO PARTS, MATERIAL, EQUIPMENT AND LABOR SHALL BE GUARANTEED FOR ONE YEAR AFTER ACCEPTANCE BY THE ENGINEER AND OWNER. WHERE AN EQUIPMENT MANUFACTURER HAS A WARRANTY THAT EXCEEDS ONE YEAR, THAT WARRANTY PERIOD SHALL APPLY TO THIS PROJECT.

C. DOCUMENTS

- THE DRAWINGS ARE DIAGRAMMATIC; ALL WORK SHALL BE PERFORMED AS INDICATED ON THE DRAWINGS UNLESS EXISTING CONDITIONS OR COORDINATION ISSUES REQUIRE CHANGES. THESE CHANGES SHALL BE MADE WITH NO ADDITIONAL COST TO THE OWNER.
- ANY INCIDENTAL ITEMS OR LABOR, ETC. NOT INCLUDED IN THE SPECIFICATIONS OR THE DRAWINGS BUT REASONABLY IMPLIED AS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL APPARATUS SHALL BE INCLUDING IN BID.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED EVEN THOUGH NOT MENTIONED IN BOTH.
- IF ERRORS ARE FOUND IN THE DRAWINGS OR SPECIFICATIONS OR DISCREPANCIES OCCUR BETWEEN THE SAME, OR BETWEEN THE FIGURES ON THE DRAWINGS, AND THE SCALE OF SAME OR BETWEEN THE LARGER AND SMALLER DRAWINGS, OR IN THE DESCRIPTIVE MATTER ON THE DRAWINGS SHALL BE REFERRED TO THE OWNER FOR REVIEW AND FINAL DECISION PRIOR TO THE BID DUE DATE.
- THE BIDDING OF THIS WORK WILL COMPLEMENT THE USE OF EQUIPMENT AND MATERIALS EXACTLY AS SPECIFIED HEREIN. WHERE MORE THAN ONE MANUFACTURER IS MENTIONED ANY ONE MAY BE UTILIZED. SUBSTITUTE MANUFACTURERS MAY BE OFFERED ONLY AS AN ALTERNATE TO THE SPECIFIED EQUIPMENT AND MATERIAL AND MUST BE SUBMITTED AS SPECIFIED IN THE ARCHITECTURAL DOCUMENTS.
- MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THE SYSTEMS CAN BE OF ANY RECOGNIZED MANUFACTURE PROVIDED THE ITEMS MEET MINIMUM STANDARDS AS SET IN THESE SPECIFICATIONS. REFER TO EACH SECTION FOR ANY SPECIFIC REQUIREMENTS.

D. COORDINATION

- CONTRACTOR SHALL LOCATE, IDENTIFY AND PROTECT ANY EXISTING SERVICES WHICH ARE REQUIRED TO BE MAINTAINED OPERATIONAL AND SHALL EXERCISE EXTRA CAUTION IN THE PERFORMANCE OF ALL WORK TO AVOID DISTURBING SUCH FACILITIES. ALL COSTS FOR REPAIR OF DAMAGES TO SUCH SERVICES SHALL BE PAID BY THE CONTRACTOR

NOTE- EXISTING ELECTRICAL PANEL TO REMAIN-NO ADDITIONAL LOADING TO PANEL. ALL NEW FIXTURES ARE REPLACEMENT/RELOCATION

- CAUSING THE DAMAGE.
- EACH CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGE TO OTHER WORK CAUSED BY HIS WORK OR THROUGH THE NEGLIGENCE OF HIS, OR HIS SUB-TRADE'S PERSONNEL. ALL PATCHING, REPAIRING, REPLACEMENT AND PAINTING, ETC. SHALL BE DONE AS DIRECTED BY THE OWNER BY THE CRAFTSMEN OF THE TRADES INVOLVED. THE COSTS OF SUCH WORK SHALL BE PAID BY THE CONTRACTOR CAUSING THE DAMAGE.
- IT IS ESSENTIAL THAT ALL WORK AT THE PROJECT BE DONE AT SUCH TIME AND IN SUCH MANNER AS NOT TO INTERFERE WITH THE OPERATIONS OF THE SPACE, ADJACENT SPACES, OR FACILITY. A WORK SCHEDULE SHALL BE ARRANGED WITH THE OWNER, INCLUDING PREMIUM TIME WORK TO FACILITATE WORK WITH A MINIMUM OF INTERFERENCE TO THE OWNER'S OPERATIONS.

E. METHODS

- EXCAVATIONS SHALL BE MADE IN OPEN TRENCHES. FLOORS SHALL BE SAWN CUT. CONDUIT SHALL BE LAID ON AN APPROPRIATELY GRADED 6" BED OF CLEAN AND DRY SAND. ENGINEERED FILL SHALL BE USED TO BACKFILL TO 6" ABOVE THE CONDUIT. BACKFILL THE REMAINDER OF THE TRENCH UTILIZING THE EXCAVATED MATERIAL IF APPROVED BY THE ARCHITECT OR THE OWNER. IF THE EXCAVATED MATERIALS ARE NOT ACCEPTABLE, ENGINEERED FILL ACCEPTABLE TO THE ARCHITECT SHALL BE UTILIZED TO BACKFILL THE REMAINDER OF THE TRENCH. BACKFILL SHALL BE ACCOMPLISHED IN 8" LIFTS MAINTAINED, COMPACTED TO 95% PROCTOR. PATCH FLOOR TO MATCH EXISTING EQUIPMENT, CONDUIT, ETC. SHALL NOT BE SUPPORTED FROM ANY CEILINGS, OTHER PIPING, OTHER CONDUIT OR DUCTWORK, ROOF DECK, OR JOIST BRIDGING. ITEMS SHALL BE SUPPORTED FROM ACCEPTABLE STRUCTURAL BUILDING COMPONENTS AS DETERMINED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
- ALL ROOF PENETRATIONS, FLASHINGS AND COUNTER FLASHINGS SHALL BE PERFORMED BY THE OWNER'S ROOFING CONTRACTOR AT THE REQUESTING CONTRACTORS COST.

F. SUBMITTALS

- SHOP DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT OF ALL EQUIPMENT AND ACCESSORIES PROVIDED FOR THE PROJECT WHETHER SPECIFIED HERE-IN OR ON THE DRAWINGS. REVIEW OF THE SHOP DRAWINGS SHALL BE FOR GENERAL DESIGN CONCEPT AND ADHERENCE WITH THE SPECIFICATIONS. QUANTITY OF SHOP DRAWINGS SUBMITTED SHALL BE AS SPECIFIED BY THE ARCHITECT. SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR SHOWING LOCATIONS AND MEASUREMENTS FROM COLUMNS OF ALL CONCEALED AND EXPOSED PIPING, DUCTWORK, CONDUIT, EQUIPMENT, ACCESSORIES, ETC., AND SUBMITTED PRIOR TO INSTALLATION. THE OWNER MAY MAKE REPRODUCIBLE COPIES OF THEIR DRAWINGS AVAILABLE FOR USE IN PREPARATION OF SHOP DRAWINGS. HOWEVER THE OWNER SHALL NOT BE HELD RESPONSIBLE FOR NOT CONFIRMING ALL INFORMATION ON THE DRAWINGS PRIOR TO FABRICATION AND/OR INSTALLATION.
- PROJECT RECORD DOCUMENTS - MAINTAIN AT THE JOBSITE ONE COPY OF ALL CONTRACT DOCUMENTS CLEARLY MARKED AS "PROJECT RECORD COPY". THE RECORD DOCUMENTS SHALL BE IN GOOD CONDITION, UPDATED DAILY FOR CHANGES ENCOUNTERED AND AVAILABLE AT ALL TIMES FOR INSPECTION BY THE OWNER. DO NOT USE FOR FIELD CONSTRUCTION! PROJECT RECORD DOCUMENTS ARE TO BE KEPT CURRENT WITH EXACT DIMENSIONS OF ALL WORK, EQUIPMENT, DISTRIBUTION CONDUIT, CIRCUITS, ETC. MARK ALL INFORMATION IN RED LINES AND NOTES SO AS TO BE EASILY IDENTIFIED FROM THE BASE DRAWING. UPON COMPLETION OF THE WORK, ONE SET OF THESE DOCUMENTS SHALL BE TURNED OVER TO THE OWNER AS ONE QUALIFICATION FOR FINAL PAYMENT.
- THREE COMPLETE SETS OF AS-BUILT DOCUMENTATION SHALL BE PROVIDED. IT SHALL INCLUDE, BUT NOT BE LIMITED TO ACCURATE PLAN DRAWINGS, WIRING DIAGRAMS AND OPERATION AND MAINTENANCE MANUALS.

II. PRODUCTS

A. CONDUIT

- CONDUIT SHALL BE HEAVY WALL RIGID GALVANIZED STEEL WHERE EXPOSED AND SUBJECT TO DAMAGE. 8"-0" AFF AND BELOW, AND IN WET LOCATIONS WHERE INDICATED ON THE DRAWINGS. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC AND SHALL BE CONCRETE ENCASED (3" MINIMUM) WHERE INDICATED ON THE DRAWINGS. A TRANSITION SHALL BE MADE TO HEAVY WALL RIGID GALVANIZED STEEL BEFORE PVC CONDUITS PENETRATE THE FLOOR SLAB. INTERIOR CONDUITS SHALL BE ELECTRICAL METALLIC TUBING (EMT), METAL CLAD (MC) CABLE MAY BE USED IF APPROVED BY THE OWNER, AND INSTALLED IN LOCATIONS PERMITTED BY CODE.
- FLEXIBLE METAL CONDUIT SHALL BE USED FROM OUTLET BOX TO INDIVIDUAL RECESSED LIGHT FIXTURES, AND FOR FINAL CONNECTIONS TO MOTORS AND OTHER DEVICES SUBJECT TO VIBRATION.

B. CONDUIT FITTINGS AND BOXES

- INTERIOR OUTLET BOXES SHALL BE STANDARD GALVANIZED SHEET STEEL TYPE, NOT LESS THAN 14 GAUGE IN THICKNESS, WITH KNOCKOUT OPENINGS, EXTENSIONS, PLASTER RINGS AND COVER PLATES TO ACCOMMODATE THE DEVICES INSTALLED. COVER PLATES SHALL BE SMOOTH PLASTIC TO MATCH DEVICE COLOR. USE STEEL PLATES WITH ROUNDED CORNERS FOR SURFACE BOXES. OUTDOOR (WET LOCATION) OUTLET BOXES SHALL BE CAST ALUMINUM TYPE WITH DEVICE COVERS TO SUIT.
- OUTLET BOXES SHALL NOT BE LESS THAN 4 INCHES SQUARE, 1-1/2 INCHES DEEP.
- COUPLINGS AND CONNECTORS FOR EMT SHALL BE DIE CAST ZINC OR STEEL. BUSHING SHALL BE GROUNDING TYPE WITH INSULATING PLASTIC INSERT.

C. WIRE AND CABLE

- CONDUCTORS FOR POWER AND LIGHTING SHALL BE NEW 600-VOLT, 90°C, TYPE XHHW, THHN, OR THWN INSULATION, MINIMUM SIZE #12-AWG, EXCEPT FOR CONTROL WIRING WHICH MAY BE #14-AWG. OTHER SIZES SHALL BE AS NOTED ON THE DRAWINGS. CONDUCTORS SHALL BE COPPER, UNLESS OTHERWISE APPROVED BY THE OWNER.
- BRANCH CIRCUIT RUNS EXCEEDING 100 FEET IN TOTAL LENGTH FROM THE PANELBOARD TO THE LAST DEVICE, SHALL BE #10-AWG CONDUCTORS UNLESS OTHERWISE NOTED.
- CONDUIT AND CABLE TYPE LUGS AND CONNECTORS SHALL BE USED FOR ALL TERMINATIONS AND SPLICES.
- ALL LOW VOLTAGE COMMUNICATIONS, FIRE ALARM, DATA, SECURITY, TELEPHONE AND ALL OTHER MISCELLANEOUS LOW VOLTAGE WIRING INSTALLED IN CEILING SHALL BE PLENUM RATED. USE CAT6 CABLE FOR ETHERNET COMMUNICATIONS.

D. WIRING DEVICES

- DUPLEX RECEPTACLES SHALL BE GROUNDING TYPE, NEMA 5-20R, RATED FOR 20 AMPS, 125 VOLTS, WITH PROVISIONS FOR BACK AND SIDE WIRING.
- GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLES SHALL BE PROVIDED WHERE INDICATED.
- SWITCHES SHALL BE TOGGLE OPERATED, QUIET TYPE, RATED FOR 20 AMPS, 120/277 VOLTS, WITH PROVISIONS FOR BACK AND SIDE WIRING. THREE WAY AND FOUR WAY SWITCHES SHALL BE PROVIDED WHERE

INDICATED.

- DIMMERS SHALL BE LUTRON "NOVA T-STAR" SERIES, OF A RATING, VOLTAGE AND WATTAGE SUITABLE FOR LOAD SERVED.
- COLORS OF DEVICES SHALL BE SELECTED BY ARCHITECT.
- WIRING DEVICES SHALL BE SPECIFICATION GRADE, AS MANUFACTURED BY HUBBELL, PASS & SEYMOUR, ARROW HART, LEVITON AND GENERAL ELECTRIC.

E. LIGHTING AND RECEPTACLE PANELBOARDS

- BRANCH CIRCUIT PANELBOARDS SHALL BE DEAD FRONT TYPE, WITH MAIN LUGS OR MAIN OVERCURRENT DEVICE AS INDICATED. BRANCH OVERCURRENT DEVICES AS NOTED AND AN EQUIPMENT GROUND BAR, ALL IN A SURFACE OR FLUSH MOUNTED SHEET STEEL ENCLOSURE. MINIMUM SHORT CIRCUIT CAPACITY SHALL BE 10,000 AMPS SYMMETRICAL FOR 120/208V, AND 18,000 AMPS SYMMETRICAL FOR 277/480V APPLICATION UNLESS NOTED OTHERWISE.
- CIRCUIT BREAKERS SHALL BE BOLT ON TYPE, WITH MOLDED PLASTIC CASE, 1, 2, OR 3 POLE AS INDICATED, QUICK-MAKE, QUICK-BREAK; AND THERMAL-MAGNETIC TRIP DEVICE.
- ALL BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR RATED, UNLESS OTHERWISE NOTED.
- ALL BREAKERS IN RESIDENTIAL OCCUPANCIES SHALL BE ARC-FAULT TYPE, UNLESS OTHERWISE NOTED.
- PANELBOARDS SHALL BE AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, SIEMENS, AND CUTLER HAMMER.

F. DISTRIBUTION TRANSFORMERS

- TRANSFORMERS SHALL BE ENERGY SAVING TYPE, DRY TYPE, 115 DEGREE RISE WITH 2 TAPS ABOVE AND 4 TAPS BELOW NORMAL VOLTAGE. TRANSFORMERS SHALL BE AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, SIEMENS, CUTLER HAMMER, AND ACME.

G. SAFETY SWITCHES AND MOTOR STARTERS

- SAFETY SWITCHES SHALL BE FUSIBLE OR NON-FUSIBLE AS INDICATED ON THE DRAWINGS. SWITCHES SHALL BE QUICK-MAKE, QUICK-BREAK, HEAVY DUTY VISIBLE BLADE TYPE. ENCLOSURES SHALL BE NEMA 1 TYPE UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FUSES SHALL BE DUAL ELEMENT - TIME DELAY TYPE.
- MAGNETIC MOTOR STARTERS SHALL BE COMBINATION TYPE WITH THERMAL OVERLOAD, INTEGRAL FUSED SAFETY SWITCH, H-O-A SELECTOR SWITCH, CONTROL TRANSFORMER, RUNNING PILOT LIGHT, NEMA TYPE 1 ENCLOSURE, AND (2) NORMALLY OPEN AND (2) NORMALLY CLOSED AUXILIARY CONTACTS.
- ALL MOTORS OVER 1/8 HP SHALL BE PROVIDED WITH THERMAL OVERLOAD PROTECTION. OVERLOAD PROTECTION SHALL BE PROVIDED INTEGRAL WITH THE MOTOR WINDINGS AND/OR MOTOR CONTROLLER (PROVIDED BY OTHERS) UNLESS OTHERWISE INDICATED ON DRAWINGS.

H. LUMINAIRES AND LAMPS

- ALL LUMINAIRES SHALL BE SPECIFIED ON THE LUMINAIRE SCHEDULE. BALLASTS SHALL BE INSTANT START, ELECTRONIC TYPE, CLASS P, "A" RECORD COPY". THE MAXIMUM HARMONIC CONTENT OF 10% DIMMING BALLASTS SHALL BE 3-WIRE TYPE, WITH DIMMING CAPABILITY TO 10% OF RATED FULL OUTPUT.
- RECESSED LUMINAIRES WITH INCANDESCENT LAMPS SHALL BE PROVIDED WITH THERMAL PROTECTION.
- FLUORESCENT LAMPS SHALL BE 3500 K UNLESS NOTED OTHERWISE. INCANDESCENT LAMPS SHALL BE 130 VOLT, HIGH INTENSITY DISCHARGE LAMPS SHALL BE COATED.
- EMERGENCY LIGHTING AS INDICATED, SHALL PROVIDE A MINIMUM OF ONE FOOTCANDLE ALONG THE PATH OF EGRESS. EMERGENCY FIXTURE SUPPLIER SHALL PROVIDE FOOTCANDLE PRINTOUT TO VERIFY EMERGENCY LIGHT LEVELS.
- FIXTURE SUPPORTS SHALL BE IN ACCORDANCE WITH ARTICLE 410-30 OF THE NATIONAL ELECTRICAL CODE, OR ANY LOCAL CODES WHICH MY APPLY.
- EMERGENCY BALLAST / LAMP COMBINATIONS SHALL BE ENERGY SAVING TYPE.

III. EXECUTION

A. GENERAL MISCELLANEOUS

- ALL CONDUIT RUN IN FINISHED AREAS SHALL BE CONCEALED. CONDUIT SMALLER THAN 3/4" SHALL NOT BE USED FOR ANY CIRCUIT HOMERUNS.
- RACEWAYS EXPOSED TO DIFFERENT TEMPERATURES SHALL BE FILLED WITH AN APPROVED MATERIAL IN ACCORDANCE WITH ARTICLE 300.7 OF THE NATIONAL ELECTRICAL CODE.
- HANGERS, SUPPORTS, OR FASTENINGS SHALL BE PROVIDED AT EACH ELBOW, AT THE ENDS OF STRAIGHT RUNS TERMINATING AT BOXES OR CABINETS, AND AT INTERMEDIATE POINTS AS REQUIRED BY CODE. CONDUITS OR BOXES SHALL NOT BE SUPPORTED BY CEILING SUPPORT WIRES OR OTHER CEILING SUPPORTING HARDWARE.
- FIXTURE SUPPORTS SHALL BE IN ACCORDANCE WITH ARTICLE 410-30 OF THE NATIONAL ELECTRICAL CODE, OR ANY LOCAL CODES WHICH MY APPLY.
- PROVIDE PERMANENT NAMEPLATES WITH DESIGNATIONS FOR PANELBOARDS, FEEDER DEVICES, DISTRIBUTION EQUIPMENT AND STARTERS.
- PROVIDE PREWRITTEN DIRECTORY CARDS WITH BRANCH CIRCUIT IDENTIFICATION FOR BRANCH CIRCUIT PANELBOARDS, PANELBOARDS, FEEDER DEVICES, DISTRIBUTION EQUIPMENT AND STARTERS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS IN ACCORDANCE WITH NEC 110.16.
- INSTALL HANDLE GUARDS ON ALL BREAKERS FOR NIGHT LIGHTING, EMERGENCY AND SIMILAR CIRCUITS.
- THE ELECTRICAL CONTRACTOR SHALL BALANCE PANELBOARD LOADING TO WITHIN 10% ON EACH PHASE BASED ON INSTALLED CONDITIONS. LOAD BALANCING CIRCUIT CHANGES SHALL BE PERFORMED OUTSIDE THE NORMAL OCCUPANCY WORKING SCHEDULE AND AT A TIME DIRECTED BY LANDLORD.
- ALL FLUSH MOUNTED PANELBOARDS SHALL HAVE (3) 3/4" EMPTY CONDUITS INSTALLED TO ABOVE ACCESSIBLE CEILING FOR FUTURE USE.
- THE FINAL LOCATIONS OF ALL EQUIPMENT, OUTLETS, ETC. SHALL BE SUBJECT TO REASONABLE CHANGES IN LOCATION UP TO THE TIME OF ROUGHING-IN, AT NO ADDITIONAL COST TO THE OWNER.
- CONTACT ELECTRIC POWER COMPANY AND MAKE NECESSARY ARRANGEMENTS FOR ELECTRIC SERVICE.
- CONTACT TELEPHONE COMPANY AND MAKE NECESSARY ARRANGEMENTS FOR TELEPHONE SERVICE.
- AT ALL TIMES KEEP PREMISES AND BUILDING IN A NEAT AND ORDERLY CONDITION, FOLLOWING OWNER'S INSTRUCTION IN REGARD TO STORAGE OF MATERIALS, PROTECTIVE MEASURES AND DISPOSING OF DEBRIS.
- RACEWAYS BELOW DRIVEWAYS, PARKING LOTS, AND ANY RACEWAYS INSTALLED BELOW GRADE SHALL BE INSTALLED A MINIMUM OF 24" BELOW FINISHED GRADE PER NEC 300-5.

B. GROUNDING

- GROUND ALL CONDUITS, CABINETS, MOTORS, PANELS, AND OTHER EXPOSED NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC ARTICLE 250.
- BOND METAL WATER PIPING AND OTHER METAL PIPING (INCLUDING GAS PIPING) AND EXPOSED STRUCTURAL METAL IN ACCORDANCE WITH NEC ARTICLE 250.
- GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE BY MEANS OF AN INSULATED GROUNDING CONDUCTOR INSTALLED WITH ALL FEEDERS AND BRANCH CIRCUIT CONDUCTORS IN ALL CONDUITS.

GENERAL NOTES

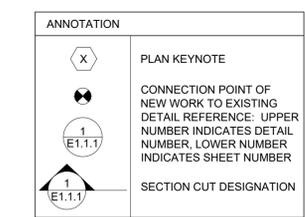
- PROVIDE SEALS AT RACEWAY PENETRATIONS TO THE EXTERIOR. REFER TO ARCHITECTURAL DOCUMENTS FOR SEALING REQUIREMENTS AT ALL ENCLOSURES AND RACEWAY PENETRATIONS.
- PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR (SIZE PER NEC) IN PVC TYPE CONDUIT, POWER CIRCUITS, ISOLATED GROUND CIRCUITS, OR AS SHOWN ON PLANS. CONDUIT SHALL BE SIZED PER NEC BASED ON THWN 600 VOLT COPPER SINGLE CONDUCTORS, PLUS THE EQUIPMENT GROUNDING CONDUCTOR.
- WIRING DEVICES: DEVICE MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF OUTLET BOX UNLESS NOTED OTHERWISE ON PLANS. COORDINATE THE STANDARD MOUNTING HEIGHTS WITH MASONRY:
 - SWITCHES +48"
 - RECEPTACLES +20"
 - VOICE/DATA +20"
- WIRING SHALL INCLUDE FINAL CONNECTION TO ALL EQUIPMENT IN CONFORMANCE WITH EQUIPMENT SUPPLIER WIRING DIAGRAMS.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE PANELBOARD IDENTIFICATION SCHEDULES. SCHEDULES SHALL IDENTIFY THE USE OF LOAD SERVED FOR EACH CIRCUIT AND THE DEVICE OR EQUIPMENT THE PANEL IS FED FROM.
- BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG UNLESS NOTED OTHERWISE IN SCHEDULES. WHERE 20A BRANCH CIRCUITS HAVE #8 AND LARGER WIRE SPECIFIED, #10 AWG WIRE SHALL BE USED FOR THE FINAL CONNECTION (15-FT MAXIMUM).
- WHERE BRANCH CIRCUITS ARE GROUPED, SIZE CONDUIT AND DERATE CURRENT CARRYING CONDUCTORS PER NEC.
- PROVIDE HANDLE TIES ON ALL MULTIWIRE BRANCH CIRCUITS TO MEET NEC REQUIREMENTS.
- CONDUITS EXTENDING BEYOND EXTERIOR WALL: STUB OUT 2'-0" BELOW GRADE TO 5'-0" BEYOND EXTERIOR WALLS UNLESS NOTED OTHERWISE. COORDINATE LOCATION AND PROVIDE CONNECTION TO SITE CONDUITS.
- SUPPORTS FROM STRUCTURE: NO ATTACHMENT OF ANY TYPE SHALL BE MADE TO BRIDGING OR JOIST WEB MEMBERS. UTILIZE ONLY THE TOP AND BOTTOM CHORDS FOR SUPPORTING THE ELECTRICAL SYSTEM INSTALLATIONS.
- ALL ATTACHMENTS TO STRUCTURE ARE TO BE MADE IN CONFORMANCE WITH LOCAL REQUIREMENTS. NO ATTACHMENT TO THE METAL DECOR OR CONCRETE SHALL BE ALLOWED.
- PROVIDE LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND WIRING FROM DISCONNECT SWITCH OR JUNCTION BOX TO EQUIPMENT KNOCKOUT OR ELECTRICAL CONNECTION POINT.
- UPON COMPLETION OF ELECTRICAL INSTALLATION AND PRIOR TO ENERGIZING CIRCUIT, INSPECT WIRE AND CABLE FOR PHYSICAL DAMAGE, PHYSICAL DAMAGE.

GROUND WIRE SIZING CHART

BRKR AMPS	WIRE SIZE			
	12	10	8	6
15-20	12	10	8	6
25-30	10	8	6	4
35-50	8	6	4	3
60	6	4	3	2
70	6	4	3	2
80-90	4	3	2	1/0
100	3	2	1	2/0
PER NEC 250.122(B)				

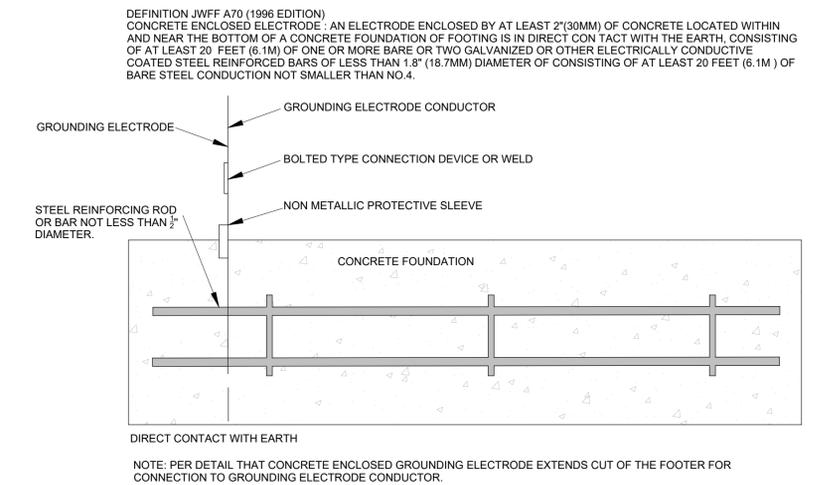
KEYNOTES

- CONNECT EXHAUST FAN TO LIGHT SWITCH CONTROLLING ROOM LIGHTING. ONLY CONNECT TO MOTOR RATED SWITCH.
- INSTALL JUNCTION BOX FOR WATER HEATER PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE FINAL LOCATION WITH PLUMBING PLANS.



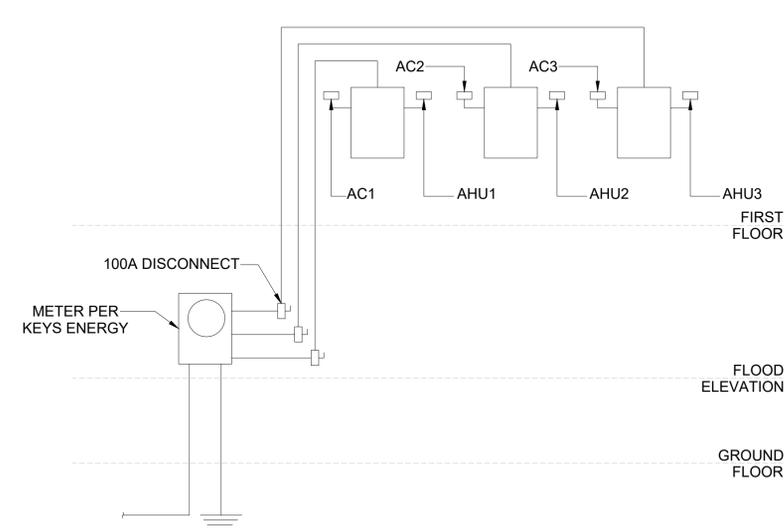
ABBREVIATIONS

AC	ABOVE COUNTER ABOVE FINISHED FLOOR
AFF	ABOVE FINISHED GRADE
AFG	AUTHORITY HAVING JURISDICTION
AHJ	AIR HANDLING UNIT
AHU	ALUMINUM
AL	BUILDING AUTOMATION SYSTEM
BAS	BELOW FINISHED FLOOR
BFF	COPPER
CU	DIRECT DIGITAL CONTROL
DDC	ELECTRICAL CONTRACTOR
EC	EXHAUST FAN
EF	EMERGENCY LIGHTING
EM	EXISTING TO REMAIN
ETR	ELECTRIC WATER COOLER
EWC	GENERAL CONTRACTOR
GC	GROUND FAULT CIRCUIT INTERRUPTER
GFCI/GFI	GROUND
GR	ISOLATED GROUND
IG	HAND DRYER
HD	LIGHTING
LTG	MAXIMUM
MAX	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUG ONLY
NL	NIGHT LIGHT
PC	PLUMBING CONTRACTOR
PNLBD	PANELBOARD
RC	REFRIGERATION CONTRACTOR
RCPTS	RECEPTACLES
REF	REFERENCE
RH	RADIANT HEATER
RTU	ROOF TOP UNIT
SEC	SECURITY CAMERA
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
WH	WATER HEATER
WP	WEATHER PROOF COVERPLATE
WR	WEATHER RESISTANT RECEPTACLE
XFMR	TRANSFORMER



2 GROUNDING DETAIL

SCALE: 1'-0" = 1'-0"



1 RISER DIAGRAM

SCALE: 6" = 1'-0"

ARCHITECT:

K2M DESIGN

Architecture, Engineering, Interior Design, Asset Management, Specialty Consulting

1150 Virginia Street
Key West, FL 33040
Tel: 305-292-7722
Fax: 305-292-2162
Email: info@k2mdesign.com
URL: www.k2mdesign.com
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No. 73110
FLORIDA
LIC. NO. 73110
COL. 30495

Consultants:

Submissions:

DATE: _____

2018.04.19 - ISSUED PERMIT SET

CITY OF KEY WEST -
WICKER'S FIELD ATHLETIC TRAILERS

1435 KENNEDY DRIVE,
KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:37 PM

Drawing Size | Project #:
18038

Drawn By: | Checked By:
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Title: ELECTRICAL NOTES, SPECIFICATIONS AND DETAILS

Sheet Number: **E0.1.1**

Date: 04/19/2018

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MECHANICAL SPECIFICATIONS

1: GENERAL

1.1 GENERAL REQUIREMENTS

REQUIREMENTS UNDER DIVISION ONE AND THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE A PART OF THIS SECTION. THE CONTRACTOR SHALL BECOME THOROUGHLY ACQUAINTED WITH ITS CONTENTS AS TO REQUIREMENTS THAT AFFECT THIS DIVISION OR SECTION. THE WORK REQUIRED UNDER THIS SECTION INCLUDES MATERIAL, EQUIPMENT, APPLIANCES, TRANSPORTATION, SERVICES, AND LABOR REQUIRED TO COMPLETE THE ENTIRE SYSTEM AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECTS ARE COMPLEMENTARY, AND PORTIONS OF THE WORK DESCRIBED IN ONE, SHALL BE PROVIDED AS IF DESCRIBED IN BOTH. IN THE EVENT OF DISCREPANCIES, NOTIFY THE ENGINEER AND/OR OWNER AND REQUEST CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK INVOLVED.

1.2 INSPECTION OF SITE

PRIOR TO SUBMITTING BID, VISIT THE SITE OF THE PROPOSED WORK AND BECOME FULLY INFORMED AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT PRICE.

1.3 MATERIAL AND WORKMANSHIP

PROVIDE NEW MATERIAL, EQUIPMENT, AND APPARATUS UNDER THIS CONTRACT UNLESS OTHERWISE STATED HEREIN, OF BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE, AND FREE FROM ANY DEFECTS. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT NECESSARILY INTENDED TO DESIGNATE THE REQUIRED TRIM, WRITTEN DESCRIPTIONS OF THE TRIM GOVERN MODEL NUMBERS.

WORK PERFORMED UNDER THIS CONTRACT SHALL PROVIDE A NEAT AND "WORKMANLIKE" APPEARANCE WHEN COMPLETED, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER. WORKMANSHIP SHALL BE THE FINEST POSSIBLE BY EXPERIENCED MECHANICS. INSTALLATIONS SHALL COMPLY WITH APPLICABLE CODES AND LAWS.

THE COMPLETE INSTALLATION SHALL FUNCTION AS DESIGNED AND INTENDED WITH RESPECT TO EFFICIENCY, CAPACITY, NOISE LEVEL, ETC. ABNORMAL NOISE CAUSED BY RATTLING EQUIPMENT, PIPING, DUCTS, AIR DEVICES, AND SQUEAKS IN ROTATING COMPONENTS WILL NOT BE ACCEPTABLE. IN GENERAL, MATERIALS AND EQUIPMENT SHALL BE OF COMMERCIAL SPECIFICATION GRADE IN QUALITY. LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE ACCEPTED.

REMOVE FROM THE PREMISES WASTE MATERIAL PRESENT AS A RESULT OF WORK, INCLUDING CARTONS, CRATING, PAPER, STICKERS, AND/OR EXCAVATION MATERIAL NOT USED IN BACKFILLING, ETC. CLEAN EQUIPMENT INSTALLED UNDER THIS CONTRACT TO PRESENT A NEAT AND CLEAN INSTALLATION AT THE TERMINATION OF THE WORK.

REPAIR OR REPLACE PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT TO THE SATISFACTION OF AUTHORITIES AND REGULATIONS HAVING JURISDICTION.

1.4 COORDINATION

COORDINATE WORK WITH THAT OF OTHER TRADES SO THAT THE VARIOUS COMPONENTS OF THE SYSTEMS WILL BE INSTALLED AT THE PROPER TIME, WILL FIT THE AVAILABLE SPACE, AND WILL ALLOW PROPER SERVICE ACCESS TO THOSE ITEMS REQUIRING MAINTENANCE. COMPONENTS WHICH ARE INSTALLED WITHOUT REGARD TO THE ABOVE SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER.

UNLESS OTHERWISE INDICATED, THE GENERAL CONTRACTOR WILL PROVIDE CHASES AND OPENINGS IN BUILDING CONSTRUCTION REQUIRED FOR INSTALLATION OF THE SYSTEMS SPECIFIED HEREIN. THE CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH INFORMATION WHERE CHASES AND OPENINGS ARE REQUIRED, KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT, AND EXECUTE WORK IN A MANNER AS TO NOT INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALE DIMENSIONS. CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AT THE BUILDING, AS VARIATIONS MAY OCCUR. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS THAT COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION.

PROVIDE MATERIALS WITH TRIM THAT WILL PROPERLY FIT THE TYPES OF CEILING, WALL, OR FLOOR FINISHES ACTUALLY INSTALLED. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT INTENDED TO DESIGNATE THE REQUIRED TRIM.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR DUCTWORK LAYOUT TO THE CONSTRUCTION MANAGER FOR OWNER APPROVAL PRIOR TO INSTALLATION.

1.5 ORDINANCES AND CODES

WORK PERFORMED UNDER THIS CONTRACT SHALL, AT A MINIMUM, BE IN CONFORMANCE WITH APPLICABLE NATIONAL, STATE, AND LOCAL CODES HAVING JURISDICTION. EQUIPMENT FURNISHED AND ASSOCIATED INSTALLATION WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN STRICT COMPLIANCE WITH CURRENT APPLICABLE CODES ADOPTED BY THE LOCAL AHJ INCLUDING ANY AMENDMENTS AND STANDARDS AS SET FORTH BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (UL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM), AND OTHER NATIONAL STANDARDS AND CODES WHERE APPLICABLE. WHERE THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THEIR REFERENCED CODES, STANDARDS, ETC., THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.

PROCURE AND PAY FOR PERMITS AND LICENSES REQUIRED FOR THE ACCOMPLISHMENT OF THE WORK HEREIN DESCRIBED. WHERE REQUIRED, OBTAIN, PAY FOR, AND FURNISH CERTIFICATES OF INSPECTION TO THE OWNER. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR VIOLATIONS OF THE LAW.

1.6 PROTECTION OF EQUIPMENT AND MATERIALS

STORE AND PROTECT FROM DAMAGE EQUIPMENT AND MATERIALS DELIVERED TO JOB SITE. COVER WITH WATERPROOF TEAR-RESISTANT POLYETHYLENE PLASTIC AS REQUIRED TO PROTECT FROM PLASTER, DIRT, PAINT, WATER, OR PHYSICAL DAMAGE. EQUIPMENT AND MATERIAL THAT HAS BEEN DAMAGED BY CONSTRUCTION ACTIVITIES WILL BE REJECTED, AND CONTRACTOR IS OBLIGATED TO FURNISH NEW EQUIPMENT AND MATERIAL OF A LIKE KIND AS APPROVED BY OWNER.

KEEP PREMISES CLEAN FROM FOREIGN MATERIAL CREATED DURING WORK PERFORMED UNDER THIS CONTRACT. PIPING, EQUIPMENT, ETC., SHALL HAVE A NEAT AND CLEAN APPEARANCE AT THE TERMINATION OF THE WORK.

PLUG OR CAP OPEN ENDS OF DUCTWORK AND PIPING SYSTEMS WHILE STORED OR INSTALLED DURING CONSTRUCTION WHEN NOT IN USE TO PREVENT THE ENTRANCE OF DEBRIS INTO THE SYSTEMS.

1.7 SUBSTITUTIONS

THE BASE BID SHALL INCLUDE ONLY THE PRODUCTS FROM MANUFACTURERS SPECIFICALLY NAMED IN THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTION WILL BE CONSIDERED PRIOR TO RECEIPT OF BIDS UNLESS WRITTEN REQUEST FOR APPROVAL TO BID HAS BEEN RECEIVED BY THE ENGINEER AT LEAST TEN CALENDAR DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS. EACH SUCH REQUEST SHALL INCLUDE THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED AND A COMPLETE DESCRIPTION OF THE PROPOSED SUBSTITUTE INCLUDING DRAWINGS, CUTS, PERFORMANCE AND TEST DATA AND OTHER INFORMATION NECESSARY FOR AN EVALUATION. A STATEMENT SETTING FORTH CHANGES IN OTHER MATERIALS, EQUIPMENT OR OTHER WORK THAT INCORPORATION OF THE SUBSTITUTE WOULD REQUIRE, SHALL BE INCLUDED. THE BURDEN OF PROOF OF THE MERIT OF THE PROPOSED SUBSTITUTE IS UPON THE PROPOSER. THE ENGINEER'S DECISION OF APPROVAL OR DISAPPROVAL TO BID OF A PROPOSED SUBSTITUTION SHALL BE FINAL.

THE TERMS "APPROVED", "APPROVED EQUAL", AND "EQUAL" REFER TO APPROVAL BY THE ENGINEER AS AN ACCEPTABLE ALTERNATE BID. NO SUBSTITUTIONS WILL BE CONSIDERED THAT ARE NOT BID AS AN ALTERNATE. NO MATERIAL SUBSTITUTIONS SHALL BE CONSIDERED FOR APPROVAL PRIOR TO AWARD OF CONTRACT.

COORDINATE AND VERIFY WITH OTHER TRADES WHETHER OR NOT THE SUBSTITUTED EQUIPMENT CAN BE INSTALLED AS SHOWN ON THE CONSTRUCTION DRAWINGS WITHOUT MODIFICATION TO ASSOCIATED SYSTEMS OR ARCHITECTURAL OR ENGINEERING DESIGN. INCLUDE ADDITIONAL COSTS FOR ARCHITECTURAL AND ENGINEERING DESIGN FEES IN BID IF DRAWING MODIFICATIONS ARE REQUIRED BECAUSE OF SUBSTITUTED EQUIPMENT.

1.8 OPERATION AND MAINTENANCE INSTRUCTIONS

COLLECT AND COMPILE A COMPLETE BROCHURE OF FIXTURES, MATERIALS, AND EQUIPMENT FURNISHED AND INSTALLED ON THIS PROJECT. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, MANUFACTURER'S CATALOG SHEETS, WIRING DIAGRAMS, PARTS LISTS, APPROVED SHOP DRAWINGS, AND DESCRIPTIVE LITERATURE FURNISHED BY THE MANUFACTURER. INCLUDE AN INSIDE COVER SHEET THAT LISTS THE PROJECT NAME, DATE, OWNER, ARCHITECT, ENGINEER, GENERAL CONTRACTOR, SUBCONTRACTOR, AND AN INDEX OF CONTENTS.

SUBMIT COPIES OF LITERATURE BOUND IN APPROVED BINDERS TO THE ARCHITECT AND OWNER AT THE TERMINATION OF THE WORK. PAPER CLIPS, STAPLES, RUBBER BANDS, AND MAILING ENVELOPES ARE NOT CONSIDERED APPROVED BINDERS. FINAL APPROVAL OF MECHANICAL SYSTEMS WILL BE WITHHELD UNTIL THIS EQUIPMENT BROCHURE IS DEEMED COMPLETE BY THE ARCHITECT, ENGINEER, AND OWNER.

1.9 SPARE PARTS

FURNISH TO OWNER, WITH RECEIPT, THE FOLLOWING SPARE PARTS FOR THE EQUIPMENT FURNISHED FOR THIS PROJECT:

ONE SET OF SPARE FILTERS OF EACH TYPE REQUIRED FOR EACH UNIT. IN ADDITION TO THE SPARE SET OF FILTERS, INSTALL NEW FILTERS PRIOR TO TESTING, ADJUSTING, AND BALANCING WORK AND BEFORE TURNING SYSTEM OVER TO OWNER.

FURNISH ONE COMPLETE SET OF BELTS FOR EACH FAN.

FURNISH THREE OPERATING KEYS FOR EACH TYPE OF AIR OUTLET AND INLET THAT REQUIRES THEM.

1.10 WARRANTIES

WARRANT EACH SYSTEM AND EACH ELEMENT THEREOF AGAINST ALL DEFECTS DUE TO FAULTY WORKMANSHIP, DESIGN, OR MATERIAL FOR A PERIOD OF 12 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS SPECIFIC ITEMS ARE NOTED TO CARRY A LONGER WARRANTY IN THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S STANDARD WARRANTY EXCEEDS 12 MONTHS. REMEDY ALL DEFECTS, OCCURRING WITHIN THE WARRANTY PERIOD(S), AS STATED IN THE GENERAL CONDITIONS AND DIVISION 1.

WARRANTIES SHALL INCLUDE LABOR AND MATERIAL. MAKE REPAIRS OR REPLACEMENTS WITHOUT ANY ADDITIONAL COSTS TO THE OWNER.

PERFORM THE REMEDIAL WORK PROMPTLY, UPON WRITTEN NOTICE FROM THE ENGINEER OR OWNER.

AT THE TIME OF SUBSTANTIAL COMPLETION, DELIVER TO THE OWNER ALL WARRANTIES, IN WRITING AND PROPERLY EXECUTED, INCLUDING TERM LIMITS FOR WARRANTIES EXTENDING BEYOND THE ONE YEAR PERIOD, EACH WARRANTY INSTRUMENT BEING ADDRESSED TO THE OWNER AND STATING THE COMMENCEMENT DATE AND TERM.

1.11 CUTTING AND PATCHING

PERFORM CUTTING OF WALLS, FLOORS, CEILINGS, ETC. AS REQUIRED TO INSTALL WORK UNDER THIS SECTION. OBTAIN PERMISSION FROM THE ARCHITECT PRIOR TO CUTTING. DO NO CUT OR DISTURB STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT. CUT HOLES AS SMALL AS POSSIBLE. GENERAL CONTRACTOR SHALL PATCH WALLS, FLOORS, ETC. AS REQUIRED BY WORK UNDER THIS SECTION. PATCHING SHALL MATCH THE ORIGINAL MATERIAL AND CONSTRUCTION. REPAIR AND REFINISH AREAS DISTURBED BY WORK TO THE CONDITION OF ADJOINING SURFACES IN A MANNER SATISFACTORY TO THE ARCHITECT.

1.12 ROUGH-IN

COORDINATE WITHOUT DELAY ROUGHING-IN WITH GENERAL CONSTRUCTION. CONCEAL PIPING AND CONDUIT ROUGH-IN EXCEPT IN UNFINISHED AREAS WHERE OTHERWISE SHOWN.

1.13 STRUCTURAL STEEL

STRUCTURAL STEEL USED FOR PIPE SUPPORTS, EQUIPMENT SUPPORTS, ETC., SHALL BE NEW, CLEAN, AND CONFORM TO ASTM DESIGNATION A-36.

SUPPORT PLUMBING AND MECHANICAL EQUIPMENT AND PIPING FROM THE BUILDING STRUCTURE. DO NOT SUPPORT PLUMBING EQUIPMENT FROM CEILINGS, OTHER MECHANICAL OR ELECTRICAL COMPONENTS, AND OTHER NON-STRUCTURAL ELEMENTS.

1.14 ACCESS DOORS

PROVIDE ACCESS DOORS IN CEILINGS AND WALLS WHERE INDICATED OR REQUIRED FOR ACCESS TO CONCEALED VALVES AND EQUIPMENT INSTALLED UNDER THIS SECTION. PROVIDE CONCEALED HINGES, SCREWDRIVER-TYPE LOCK, ANCHOR STRAPS, MANUFACTURED BY MILCOR, ZURN, TITUS, OR EQUAL. OBTAIN ARCHITECT'S APPROVAL OF TYPE, SIZE, LOCATION, AND COLOR BEFORE ORDERING.

1.15 PENETRATIONS

SEAL FLOOR, EXTERIOR WALL AND ROOF PENETRATIONS WATER AND WEATHER TIGHT WITH APPROPRIATE NON-SHRINK, NON-HARDENING COMMERCIAL CONSTRUCTION SEALANT. SEAL ROOF PENETRATIONS WITH FOUR POUND PER SQUARE FOOT LEAD FLASHING, PROVIDE A SLEEVE, AND SEAL NON-FIRE-RATED FLOOR AND WALL PENETRATIONS WITH FIBERGLASS PACKING AND SILICONE CAULK (FOR ACOUSTICAL INSULATION).

COORDINATE FIRE RATING REQUIREMENTS AND LOCATIONS WITH THE ARCHITECT. SEAL PENETRATIONS OF FIRE-RATED ASSEMBLIES WITH 3M #CP-25 FIRE BARRIER CAULK (PROVIDE THICKNESS AND METHOD AS REQUIRED AND RECOMMENDED BY MANUFACTURER) TO MAINTAIN THE FIRE RESISTANCE RATING OF FIRE-RATED ASSEMBLIES.

SEAL EXTERIOR WALL PENETRATIONS BELOW GRADE WITH CAST IRON WALL PIPES AND MODULAR MECHANICAL SLEEVE SEALS, MANUFACTURED BY THUNDERLINE/LINK SEAL, CALPICO, INC AND METRAFLEX.

PROVIDE SLEEVES FOR HORIZONTAL PIPE PASSING THROUGH OR UNDER THE FOUNDATION. SLEEVES SHALL BE CAST IRON SOIL PIPE TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED.

PROVIDE SLEEVES FOR VERTICAL PIPE PASSING THROUGH SLAB ON GRADE. SLEEVES SHALL BE SCHEDULE 40 PVC PIPE, TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED. SEAL WATER-TIGHT WITH SILICONE CAULK.

2: HEATING, VENTILATION, AND AIR CONDITIONING

2.1 DUCTWORK

CONTRACTOR SHALL PROVIDE ANY DUCTWORK NECESSARY FOR A COMPLETE INSTALLATION OF HVAC SYSTEMS (INCLUDING EXHAUST SYSTEMS). ALL DUCTWORK IDENTIFICATION AND INSTALLATION TO ADHERE TO ASHRAE AND SMACNA STANDARDS AND ALL GOVERNING CODES.

DUCTWORK SHALL BE A MINIMUM 26 GAUGE GALVANIZED STEEL SHEET METAL DUCTWORK.

SUPPLY DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR A TWO-INCH POSITIVE PRESSURE RATING AND SEAL CLASS B.

RETURN DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR A ONE-INCH NEGATIVE PRESSURE RATING AND SEAL CLASS C.

EXHAUST DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR A ONE-INCH POSITIVE PRESSURE RATING AND SEAL CLASS C.

ROUND DUCT RUNS SHALL BE CONSTRUCTED OF METAL PIPE WITH EXTERNAL SLEEVE INSULATION.

DUCTWORK CONNECTIONS TO AIR DEVICES MUST BE MADE WITH HARDBOARD ELBOWS, COVERED WITH SLEEVE INSULATION. FLEX DUCT MUST NOT BE UTILIZED FOR A 90 DEGREE CONNECTION TO AN AIR DEVICE.

VOLUME/BALANCING DAMPERS SHALL BE PROVIDED IN ALL BRANCH DUCT TAKE-OFFS FROM THE MAIN TRUNKS, UNLESS NOTED OTHERWISE ON PLANS. LOCATE DAMPERS A MINIMUM OF 4'-0" AWAY FROM AIR DEVICES.

A MAXIMUM OF 5'-0" OF FLEX DUCT MAY BE USED FOR FINAL CONNECTION OF AIR DEVICES.

FLEX DUCT MUST BE PROPERLY SUPPORTED WITH ONE INCH STRAPS AND CUT TO PROPER LENGTH TO PREVENT SAGGING.

FLEX DUCT SHALL BE OWENS-CORNING FOIL-BACK HIGH QUALITY UL APPROVED OR EQUAL. PLASTIC WRAPPED FLEX DUCT IS NOT ACCEPTABLE.

DUCTWORK SHALL BE CONNECTED TO FANS, FAN CASINGS, AND FAN PLENUMS BY MEANS OF FLEXIBLE CONNECTIONS.

MITERED ELBOWS 45 DEGREES AND GREATER SHALL HAVE SINGLE THICKNESS TURNING VANES OF SAME GAUGE AS DUCTWORK.

2.2 INSULATION

SUPPLY AND RETURN DUCTWORK INSIDE THE BUILDING SHALL BE INSULATED WITH 1.5" THICK ACOUSTICAL LINING WITH A MINIMUM R-VALUE OF 6 OR EXTERNALLY WRAPPED WITH 2" THICK GLASS FIBER DUCT WRAP.

SUPPLY AND RETURN DUCTWORK LOCATED OUTSIDE THE BUILDING SHALL BE INSULATED WITH 2" LINER WITH A MINIMUM R-VALUE OF 8 AND SEAL SEAMS WEATHER TIGHT.

DEDICATED OUTSIDE AIR SUPPLY AND RELIEF DUCTWORK INSIDE THE BUILDING SHALL BE INSULATED WITH 2" DUCT WRAP WITH A MINIMUM R-VALUE OF 6.

2.3 PIPING

REFER TO PLUMBING SPECIFICATIONS FOR GAS AND CONDENSATE PIPING SPECIFICATIONS.

2.4 FINAL TESTING AND ADJUSTMENTS

AIR BALANCE SHALL BE PERFORMED BY AN INDEPENDENT AIR BALANCE CONTRACTOR. BALANCE EACH SUPPLY, RETURN, OUTSIDE AIR DEVICE WITHIN 5% OF REQUIREMENTS AND FURNISH A REPORT TO THE CONSTRUCTION MANAGER. THE ENTIRE HVAC SYSTEM MUST BE FULLY OPERABLE, BALANCED, AND APPROVED BY OWNER'S REPRESENTATIVE ON THE DAY TENANT OPENS FOR BUSINESS.

ADJUST THERMOSTATS AND CONTROL DEVICES TO OPERATE AS INTENDED. ADJUST BURNERS, PUMPS, FANS, ETC. FOR PROPER AND EFFICIENT OPERATION. CERTIFY TO ARCHITECT THAT ADJUSTMENTS HAVE BEEN MADE AND THAT SYSTEM IS OPERATING SATISFACTORILY. CALIBRATE, SET AND ADJUST AUTOMATIC TEMPERATURE CONTROLS. CHECK PROPER SEQUENCING OF INTERLOCK SYSTEMS, AND OPERATION OF SAFETY CONTROLS.

VERIFY ECONOMIZER OPERATION PER MANUFACTURER PROCEDURE WHEN APPLICABLE.

2.5 AIR DEVICES

PROVIDE AIR DEVICES AS SCHEDULED ON THE DRAWINGS.

MAINTAIN NOISE LEVEL OF NC-30 OR LESS.

ALL AIR TERMINAL DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS IN ORDER TO HANDLE THE DESIGNED AIR FLOW CAPACITIES WITH A MINIMUM AMOUNT OF NOISE AND STATIC PRESSURE.

PROVIDE AIR DEVICES WITH WHITE ENAMEL FINISH UNLESS NOTED OTHERWISE.

2.6 CONTROLS

COORDINATE LOCATIONS FOR THERMOSTATS AND SENSORS FOR ROUGH-IN.

SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND SHALL DISABLE HVAC UNIT OPERATION UPON ACTIVATION.

2.7 ELECTRICAL WIRING

ALL PROVISIONS FOR LOW VOLTAGE WIRING SHALL BE PERFORMED BY THE CONTRACTOR UNLESS CODES OR LABOR SITUATIONS DO NOT PERMIT. IF THE CONTRACTOR CANNOT PERFORM LOW VOLTAGE WIRING, THE CONTRACTOR SHALL INFORM THE GENERAL CONTRACTOR, AS PART OF THE HVAC BID DOCUMENT, TO HAVE THE ELECTRICAL SUBCONTRACTOR INCLUDE THIS WORK IN THEIR BID.

ALL ELECTRICAL POWER WIRING TO INCLUDE FINAL CONNECTIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR'S ELECTRICAL SUBCONTRACTOR.

2.8 REMODEL WORK

REMOVE ALL UNUSED EQUIPMENT, DUCTWORK, PIPING AND ASSOCIATED SUPPORTS. CAP DUCTWORK AND PIPING AT MAINS AND SEAL AIR AND WATER TIGHT.

PROVIDE ITEMS OF HVAC SYSTEMS MODIFICATION REQUIRED BECAUSE OF BUILDING REMODELING, AS NOTED ON THE DRAWINGS OR NECESSARY FOR PROPER OPERATION. MATCH EXISTING MATERIALS AND CONSTRUCTION TECHNIQUES WHEN MODIFYING EXISTING SYSTEMS UNLESS SPECIFIED OTHERWISE. COORDINATE ADDITIONAL REQUIREMENTS WITH GENERAL CONTRACTOR AND ARCHITECT.

SEAL AIRTIGHT EXISTING DUCTWORK REQUIRED TO BE ABANDONED IN PLACE OR NOT IN USE AT THE TERMINATION OF THE WORK.

CAP AND SEAL WEATERTIGHT EXISTING ROOF CURBS AND ROOF OPENINGS TO BE ABANDONED IN PLACE AS A RESULT OF EQUIPMENT REMOVAL.

CLEAN AND REBALANCE EXISTING DUCTWORK, DIFFUSERS, REGISTERS, AND GRILLES INTENDED FOR REUSE AS REQUIRED OR AS INDICATED ON DRAWINGS.

CLEAN AND REFURBISH EXISTING HVAC EQUIPMENT INTENDED FOR REUSE AS REQUIRED FOR PROPER OPERATION INCLUDING REPLACEMENT OF FILTERS, BELTS, MOTORS, REMOTE CONTROLS, AND SAFETY INTERLOCKS.

COMPLY WITH THE SCHEDULE OF OPERATIONS AS OUTLINED IN THE ARCHITECTURAL PORTIONS OF THIS SPECIFICATION. BUILDING SHALL BE IN CONTINUOUS OPERATION. ACCOMPLISH WORK REQUIRING INTERRUPTION OF BUILDING OPERATION AT A TIME WHEN THE BUILDING IS NOT IN OPERATION, AND ONLY WITH WRITTEN APPROVAL OF BUILDING OWNER AND/OR TENANT. COORDINATE INTERRUPTION OF BUILDING OPERATION WITH THE OWNER AND/OR TENANT A MINIMUM OF SEVEN DAYS IN ADVANCE OF WORK.

2.9 CONTRACTOR RESPONSIBILITIES

AFTER COMPLETION OF THE WORK DESCRIBED IN THIS SPECIFICATION AND SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVING ALL LABELS AND STICKERS NOT CONTAINING OPERATION INSTRUCTION. CONTRACTOR SHALL REMOVE CRATING DEBRIS, LEAVING THE INSTALLATION FINISHED AND READY FOR OPERATION, INCLUDING CLEAN FILTERS IN AIR HANDLING UNITS.

MECHANICAL GENERAL NOTES

- NOTES APPLY TO ALL MECHANICAL SHEETS.
- EACH CONTRACTOR IS RESPONSIBLE FOR HAVING THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS AS THEY RELATE TO THIS WORK.
- PROVIDE ALL MATERIALS FOR A COMPLETE INSTALLATION IN ALL RESPECTS READY FOR INTENDED USE AND IN STRICT ACCORDANCE WITH STATE AND LOCAL CODES AND MANUFACTURER'S RECOMMENDATIONS.
- EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- DURING INSTALLATION OF NEW WORK, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
- ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE.
- NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- DUCTWORK IDENTIFICATION AND INSTALLATION SHALL ADHERE TO GOVERNING CODES.
- INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF.
- COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT.
- SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
- SPRINKLER HEAD AND LIGHTING FIXTURE LOCATIONS TAKE PRECEDENCE OVER DIFFUSER LOCATIONS. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID, SPRINKLER, AND LIGHTING LOCATIONS.
- SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
- SPRINKLER HEAD AND LIGHTING FIXTURE LOCATIONS TAKE PRECEDENCE OVER DIFFUSER LOCATIONS. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID, SPRINKLER, AND LIGHTING LOCATIONS.
- INSTALL VTR'S AND EXHAUST FANS A MINIMUM OF 10 FT FROM OUTSIDE AIR INTAKE.
- ALL CEILING DIFFUSERS ARE 4-WAY PATTERN UNLESS NOTED OTHERWISE.
- LOCATE AND SET THERMOSTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 16.
- DUCTWORK CROSSING FIRE RATED WALLS OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.
- PROVIDE FIRE OR FIRE/SMOKE DAMPERS, AS APPLICABLE, IN DUCTWORK AT CEILINGS AND WALLS AT LOCATIONS SHOWN ON THE PLANS. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE. COORDINATE SLEEVE LENGTH WITH REQUIREMENTS OF INSTALLED LOCATION.
- PROVIDE WALL OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO FIRE AND FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 10" BY 10" AND SHALL BE INSTALLED WITHIN 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR A 10" BY 10" ACCESS DOOR.
- PROVIDE A MANUAL BALANCING DAMPER IN EACH BRANCH DUCT TAKE-OFF FROM MAIN SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS. LOCATE DAMPERS A MINIMUM 4'-0" AWAY FROM DIFFUSERS. PROVIDE ACCESS AS REQUIRED.
- PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES.
- BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS NOTED OTHERWISE. TYPICAL BRANCH DUCT FITTING DETAIL IS APPLICABLE THROUGHOUT.
- RIGID DUCTWORK INSULATION: PROVIDE 3/4 LB DENSITY, 2" R-6 THICK, INSULATION WRAP ON RIGID ROUND AND RECTANGULAR, CONCEALED, SUPPLY AND RETURN AIR DUCTS AND ON OUTSIDE AIR DUCTS. CONTRACTOR'S OPTION TO FURNISH AND INSTALL 1-1/2 LB DENSITY, 1-1/2" R-6 THICK INTERNAL DUCT LINER ON RECTANGULAR SUPPLY AND RETURN AIR DUCTS IN LIEU OF DUCTWRAP.
- DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS AND REPRESENTATIVE OF THE INSIDE EQUIVALENT FREE AREA REQUIRED TO MAINTAIN THE AIR FLOW SPECIFIED. IF DUCT LINING IS REQUIRED, INCREASE DUCT SIZE TO MAINTAIN ORIGINAL INSIDE DIMENSIONS. IF DUCT SIZES NEED TO BE ALTERED FOR SPACE REQUIREMENTS, ENSURE THE ORIGINAL INSIDE DUCT EQUIVALENT FREE AREA IS MAINTAINED.
- CONTRACTOR'S OPTION TO SUBSTITUTE ROUND DUCT OF EQUAL FREE AREA FOR RECTANGULAR DUCT AND VICE VERSA. DIMENSIONS OF RECTANGULAR DUCT MAY BE ADJUSTED AS NECESSARY TO INSTALL DUCT IN AVAILABLE SPACE AS LONG AS FREE AREA IS MAINTAINED.
- PROVIDE THERMAFLEX TYPE G-KM, M-KE, FLEXMASTER TYPE 8, OR APPROVED EQUAL FLEXIBLE DUCTWORK. FLEXIBLE DUCTWORK SHALL BE LISTED UNDER UL 181 AS CLASS 1 AIR DUCT AND BE PROVIDED WITH INTEGRAL R-6, 3/4 LB DENSITY FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING.
- FOR ALL EXPOSED DUCTWORK, PROVIDE DUCT THAT IS SUITABLE FOR PAINTING. ENSURE THAT ALL EXPOSED DUCTWORK IS PROPERLY PREPARED AND READY FOR PAINTING. COORDINATE COLOR WITH ARCHITECT.
- PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.
- PROVIDE A COMPLETE TEST AND BALANCE FOR HVAC SYSTEM. AIR BALANCE SHALL BE WITHIN 5% OF SCHEDULED AIRFLOWS.
- INSTALL VTR'S AND EXHAUST FANS A MINIMUM OF 10 FT FROM OUTSIDE AIR INTAKE.

MECHANICAL SYMBOLS

(SYMBOLS APPLY ONLY WHEN USED ON DRAWINGS)

SYMBOL	DESCRIPTION
	RECTANGULAR DUCT 18" WIDE BY 12" DEEP (INSIDE CLEAR DIMENSIONS)
	12" Ø DIAMETER ROUND DUCT (INSIDE CLEAR DIMENSIONS)
	SUPPLY DUCT IN SECTION (UP / DOWN)
	RETURN OR EXHAUST DUCT IN SECTION (UP / DOWN)
	ELBOW WITH TURNING VANES
	VOLUME/BALANCE DAMPER
	MOTORIZED DAMPER
	SUPPLY AIR DIFFUSER
	RETURN OR EXHAUST AIR GRILLE
	DIFFUSER OR GRILLE TYPE BRANCH DUCT & NECK SIZE CFM
	THERMOSTAT
	TEMPERATURE SENSOR
	CO2 SENSOR
	HUMIDISTAT
	SMOKE DETECTOR
	TIMER
	FIRE DAMPER

ANNOTATION

	PLAN KEYNOTE
	MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
	CONNECTION POINT OF NEW WORK TO EXISTING
	DETAIL REFERENCE: UPPER NUMBER INDICATES DETAIL NUMBER, LOWER NUMBER INDICATES SHEET NUMBER
	SECTION CUT DESIGNATION

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
CD	CEILING SUPPLY AIR DIFFUSER
CF	CEILING FAN
CFM	CUBIC FEET PER MINUTE
CU	CONDENSING UNIT
DDC	DIRECT DIGITAL CONTROL
EA	EXHAUST AIR
EAG	EXHAUST AIR GRILLE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ETR	EXISTING TO REMAIN
GC	GENERAL CONTRACTOR
IN WC	INCHES OF WATER COLUMN
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MFR	MANUFACTURER
MIN	MINIMUM
MOP	MOP SINK
OA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RC	RETURN AIR WALL GRILLE
REF	REFRIGERATION CONTRACTOR
RH	REFERENCE
RTU	RADIANT HEATER
SA	ROOF TOP UNIT
SAW	SUPPLY AIR
TYP	TYPICAL
UH	SUPPLY AIR WALL REGISTER
UJ	UNIT HEATER
VTR	UNLESS NOTED OTHERWISE
VTR	VENT THRU ROOF
VTR	WATER HEATER

ARCHITECT:



PLUMBING SPECIFICATIONS

1. GENERAL

1.1 GENERAL REQUIREMENTS

REQUIREMENTS UNDER DIVISION ONE AND THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE A PART OF THIS SECTION. THE CONTRACTOR SHALL BECOME THOROUGHLY ACQUAINTED WITH ALL LOCAL CODES HAVING JURISDICTION. EQUIPMENT FURNISHED AND ASSOCIATED INSTALLATION WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN STRICT COMPLIANCE WITH CURRENT APPLICABLE CODES ADOPTED BY THE LOCAL AHJ INCLUDING ANY AMENDMENTS AND STANDARDS AS SET FORTH BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (UL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM), AND OTHER NATIONAL STANDARDS AND CODES WHERE APPLICABLE. WHERE THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THEIR REFERENCED CODES, STANDARDS, ETC., THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.

THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECTS ARE COMPLEMENTARY, AND PORTIONS OF THE WORK DESCRIBED IN ONE, SHALL BE PROVIDED AS DESCRIBED IN THE OTHER. IN THE EVENT OF DISCREPANCIES, NOTIFY THE ENGINEER AND/OR OWNER AND REQUEST CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK INVOLVED.

1.2 INSPECTION OF SITE

PRIOR TO SUBMITTING BID, VISIT THE SITE OF THE PROPOSED WORK AND BECOME FULLY INFORMED AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT PRICE.

1.3 MATERIAL AND WORKMANSHIP

PROVIDE NEW MATERIAL, EQUIPMENT, AND APPARATUS UNDER THIS CONTRACT UNLESS OTHERWISE STATED HEREIN, OF BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE, AND FREE FROM ANY DEFECTS. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT NECESSARILY INTENDED TO DESIGNATE THE REQUIRED TRIM. WRITTEN DESCRIPTIONS OF THE TRIM GOVERN MODEL NUMBERS.

WORK PERFORMED UNDER THIS CONTRACT SHALL PROVIDE A NEAT AND "WORKMANLIKE" APPEARANCE WHEN COMPLETED, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER. WORKMANSHIP SHALL BE THE FINEST POSSIBLE BY EXPERIENCED MECHANICS. INSTALLATIONS SHALL COMPLY WITH APPLICABLE CODES AND LAWS.

THE COMPLETE INSTALLATION SHALL FUNCTION AS DESIGNED AND INTENDED WITH RESPECT TO EFFICIENCY, CAPACITY, NOISE LEVEL, ETC. ABNORMAL NOISE CAUSED BY RATTLING EQUIPMENT, PIPING, AND SQUEAKS IN ROTATING COMPONENTS WILL NOT BE ACCEPTABLE. IN GENERAL, MATERIALS AND EQUIPMENT SHALL BE OF COMMERCIAL SPECIFICATION GRADE IN QUALITY. LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE ACCEPTED.

REMOVE FROM THE PREMISES WASTE MATERIAL PRESENT AS A RESULT OF WORK, INCLUDING CARTONS, CRATING, PAPER, STICKERS, AND/OR EXCAVATION MATERIAL NOT USED IN BACKFILLING, ETC. CLEAN EQUIPMENT INSTALLED UNDER THIS CONTRACT TO PRESENT A NEAT AND CLEAN INSTALLATION AT THE TERMINATION OF THE WORK.

REPAIR OR REPLACE PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT TO THE SATISFACTION OF AUTHORITIES AND REGULATIONS HAVING JURISDICTION.

1.4 COORDINATION

COORDINATE WORK WITH THAT OF OTHER TRADES SO THAT THE VARIOUS COMPONENTS OF THE SYSTEMS WILL BE INSTALLED AT THE PROPER TIME, WILL FIT THE AVAILABLE SPACE, AND WILL ALLOW PROPER SERVICE ACCESS TO THOSE ITEMS REQUIRING MAINTENANCE. COMPONENTS WHICH ARE INSTALLED WITHOUT REGARD TO THE ABOVE SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER.

UNLESS OTHERWISE INDICATED, THE GENERAL CONTRACTOR WILL PROVIDE CHASES AND OPENINGS IN BUILDING CONSTRUCTION REQUIRED FOR INSTALLATION OF THE SYSTEMS SPECIFIED HEREIN. THE CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH INFORMATION WHERE CHASES AND OPENINGS ARE REQUIRED, KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT, AND EXECUTE WORK IN A MANNER AS TO NOT INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALE DIMENSIONS. CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AT THE BUILDING, AS VARIATIONS MAY OCCUR. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS THAT COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION.

ACTIVE MATERIALS WITH TRIM THAT WILL PROPERLY FIT THE TYPES OF CEILING, WALL, OR FLOOR FINISHES ACTING AS INSTALLATION MODIFIERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT INTENDED TO DESIGNATE THE REQUIRED TRIM.

1.5 ORDINANCES AND CODES

WORK PERFORMED UNDER THIS CONTRACT SHALL, AT A MINIMUM, BE IN CONFORMANCE WITH APPLICABLE NATIONAL, STATE AND LOCAL CODES HAVING JURISDICTION. EQUIPMENT FURNISHED AND ASSOCIATED INSTALLATION WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN STRICT COMPLIANCE WITH CURRENT APPLICABLE CODES ADOPTED BY THE LOCAL AHJ INCLUDING ANY AMENDMENTS AND STANDARDS AS SET FORTH BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (UL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM), AND OTHER NATIONAL STANDARDS AND CODES WHERE APPLICABLE. WHERE THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THEIR REFERENCED CODES, STANDARDS, ETC., THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.

PROCURE AND PAY FOR PERMITS AND LICENSES REQUIRED FOR THE ACCOMPLISHMENT OF THE WORK HEREIN DESCRIBED, WHERE REQUIRED. OBTAIN, PAY FOR, AND FURNISH CERTIFICATES OF INSPECTION TO THE OWNER. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR VIOLATIONS OF THE LAW.

1.6 PROTECTION OF EQUIPMENT AND MATERIALS

STORE AND PROTECT FROM DAMAGE EQUIPMENT AND MATERIALS DELIVERED TO JOB SITE. COVER WITH WATERPROOF, HEAVY DUTY POLYETHYLENE PLASTIC AS REQUIRED TO PROTECT FROM PLASTER, DIRT, PAINT, WATER, OR PHYSICAL DAMAGE. EQUIPMENT AND MATERIAL THAT HAS BEEN DAMAGED BY CONSTRUCTION ACTIVITIES WILL BE REJECTED, AND CONTRACTOR IS OBLIGATED TO FURNISH NEW EQUIPMENT AND MATERIAL OF A LIKE KIND AS APPROVED BY OWNER.

KEEP PREMISES CLEAN FROM FOREIGN MATERIAL CREATED DURING WORK PERFORMED UNDER THIS CONTRACT. PIPING, EQUIPMENT, ETC., SHALL HAVE A NEAT AND CLEAN APPEARANCE AT THE TERMINATION OF THE WORK.

PLUG OR CAP OPEN ENDS OF PIPING SYSTEMS WHILE STORED OR INSTALLED DURING CONSTRUCTION WHEN NOT IN USE TO PREVENT THE ENTRANCE OF DEBRIS INTO THE SYSTEMS.

1.7 SUBSTITUTIONS

THE BASE BID SHALL INCLUDE ONLY THE PRODUCTS FROM MANUFACTURERS SPECIFICALLY NAMED IN THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTION WILL BE CONSIDERED PRIOR TO RECEIPT OF BIDS UNLESS WRITTEN REQUEST FOR APPROVAL TO BID HAS BEEN RECEIVED BY THE ENGINEER AT LEAST TEN CALENDAR DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS. EACH SUCH REQUEST SHALL INCLUDE THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED AND A COMPLETE DESCRIPTION OF THE PROPOSED SUBSTITUTE INCLUDING DRAWINGS, CUT PERFORMANCE AND TEST DATA AND OTHER INFORMATION NECESSARY FOR AN EVALUATION. A STATEMENT SETTING FORTH CHANGES IN OTHER MATERIALS, EQUIPMENT OR OTHER WORK THAT INCORPORATION OF THE SUBSTITUTE WOULD REQUIRE SHALL BE INCLUDED. THE BURDEN OF PROOF OF THE MERIT OF THE PROPOSED SUBSTITUTE IS UPON THE PROPOSER. THE ENGINEER'S DECISION OF APPROVAL OR DISAPPROVAL TO BID OF A PROPOSED SUBSTITUTION SHALL BE FINAL.

THE TERMS "APPROVED," "APPROVED EQUAL," AND "EQUAL" REFER TO APPROVAL BY THE ENGINEER AS AN ACCEPTABLE ALTERNATE BID. NO SUBSTITUTIONS WILL BE CONSIDERED THAT ARE NOT BID AS AN ALTERNATE. NO MATERIAL SUBSTITUTIONS SHALL BE CONSIDERED FOR APPROVAL PRIOR TO AWARD OF CONTRACT.

COORDINATE AND VERIFY WITH OTHER TRADES WHETHER OR NOT THE SUBSTITUTED EQUIPMENT CAN BE INSTALLED AS SHOWN ON THE CONSTRUCTION DRAWINGS WITHOUT MODIFICATION TO ASSOCIATED SYSTEMS OR ARCHITECTURAL OR ENGINEERING DESIGN. INCLUDE ADDITIONAL COSTS FOR ARCHITECTURAL AND ENGINEERING DESIGN FEES IN BID IF DRAWING MODIFICATIONS ARE REQUIRED BECAUSE OF SUBSTITUTED EQUIPMENT.

1.8 OPERATION AND MAINTENANCE INSTRUCTIONS

COLLECT AND COMPILE A COMPLETE BROCHURE OF FIXTURES, MATERIALS, AND EQUIPMENT FURNISHED AND INSTALLED ON THIS PROJECT. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, MANUFACTURER'S CATALOG SHEETS, WIRING DIAGRAMS, PARTS LISTS, APPROVED SHOP DRAWINGS, AND DESCRIPTIVE LITERATURE FURNISHED BY THE MANUFACTURER. INCLUDE AN INSIDE COVER SHEET THAT LISTS THE PROJECT NAME, DATE, OWNER, ARCHITECT, ENGINEER, GENERAL CONTRACTOR, SUBCONTRACTOR, AND AN INDEX OF CONTENTS.

SUBMIT COPIES OF LITERATURE BOUND IN APPROVED BINDERS TO THE ARCHITECT AND OWNER AT THE TERMINATION OF THE WORK. PAPER CLIPS, STAPLES, RUBBER BANDS, AND MAILING ENVELOPES ARE NOT CONSIDERED APPROVED BINDERS. FINAL APPROVAL OF PLUMBING SYSTEMS WILL BE WITHHELD UNTIL THIS EQUIPMENT BROCHURE IS DEEMED COMPLETE BY THE ARCHITECT, ENGINEER, AND OWNER.

1.9 SPARE PARTS

FURNISH TO OWNER, WITH RECEIPT, THE SPARE PARTS TO INCLUDE FAUCET WASHERS AND O-RINGS, FLUSHOMETER REPAIR KITS, AND WATER CLOSET TANK REPAIR KITS FOR THE FIXTURES FURNISHED FOR THIS PROJECT.

1.10 WARRANTIES

WARRANT EACH SYSTEM AND EACH ELEMENT THEREOF AGAINST ALL DEFECTS DUE TO FAULTY WORKMANSHIP, DESIGN, OR MATERIAL FOR A PERIOD OF 12 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS SPECIFIC ITEMS ARE NOTED TO CARRY A LONGER WARRANTY IN THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S STANDARD WARRANTY EXCEEDS 12 MONTHS. REMEDY ALL DEFECTS, OCCURRING WITHIN THE WARRANTY PERIOD(S), AS STATED IN THE GENERAL CONDITIONS AND DIVISION 1.

WARRANTIES SHALL INCLUDE LABOR AND MATERIAL. MAKE REPAIRS OR REPLACEMENTS WITHOUT ANY ADDITIONAL COSTS TO THE OWNER.

PERFORM THE REMEDIAL WORK PROMPTLY, UPON WRITTEN NOTICE FROM THE ENGINEER OR OWNER.

AT THE TIME OF SUBSTANTIAL COMPLETION, DELIVER TO THE OWNER ALL WARRANTIES, IN WRITING AND PROPERLY EXECUTED, INCLUDING TERM LIMITS FOR WARRANTIES EXTENDING BEYOND THE ONE YEAR PERIOD, EACH WARRANTY INSTRUMENT BEING ADDRESSED TO THE OWNER AND STATING THE COMMENCEMENT DATE AND TERM.

1.11 CUTTING AND PATCHING

PERFORM CUTTING OF WALLS, FLOORS, CEILINGS, ETC. AS REQUIRED TO INSTALL WORK UNDER THIS SECTION. OBTAIN PERMISSION FROM THE ARCHITECT PRIOR TO CUTTING. DO NOT CUT OR DISTURB STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT. CUT HOLES AS SMALL AS POSSIBLE. GENERAL CONTRACTOR SHALL PATCH WALLS, FLOORS, ETC. AS REQUIRED BY WORK UNDER THIS SECTION. PATCHING SHALL MATCH THE ORIGINAL MATERIAL AND CONSTRUCTION. REPAIR AND REFINISH AREAS DISTURBED BY WORK TO THE CONDITION OF ADJOINING SURFACES IN A MANNER SATISFACTORY TO THE ARCHITECT.

1.12 ROUGH-IN

COORDINATE WITHOUT DELAY ROUGHING-IN WITH GENERAL CONSTRUCTION. CONCEAL PIPING AND CONDUIT ROUGH-IN EXCEPT IN UNFINISHED AREAS WHERE OTHERWISE SHOWN.

1.13 STRUCTURAL STEEL

STRUCTURAL STEEL USED FOR PIPE SUPPORTS, EQUIPMENT SUPPORTS, ETC., SHALL BE NEW, CLEAN, AND CONFORM TO ASTM DESIGNATION A-36.

SUPPORT PLUMBING AND MECHANICAL EQUIPMENT AND PIPING FROM THE BUILDING STRUCTURE. DO NOT SUPPORT PLUMBING EQUIPMENT FROM CEILINGS, OTHER MECHANICAL OR ELECTRICAL COMPONENTS, AND OTHER NON-STRUCTURAL ELEMENTS.

1.14 ACCESS DOORS

PROVIDE ACCESS DOORS IN CEILINGS AND WALLS WHERE INDICATED OR REQUIRED FOR ACCESS TO CONCEALED VALVES AND EQUIPMENT INSTALLED UNDER THIS SECTION. CONCEALED HINGES, SCREWDRIVER-TYPE LOCK, ANCHOR STRAPS, MANUFACTURED BY MILCOR, ZURN, TITUS, OR EQUAL. OBTAIN ARCHITECT'S APPROVAL OF TYPE, SIZE, LOCATION, AND COLOR BEFORE ORDERING.

1.15 PENETRATIONS

SEAL FLOOR, EXTERIOR WALL AND ROOF PENETRATIONS WATER AND WEATHER TIGHT WITH APPROPRIATE NON-SHRINK, NON-HARDENING COMMERCIAL CONSTRUCTION SEALANT. SEAL ROOF PENETRATIONS WITH FOUR POUND PER SQUARE FOOT LEAD FLASHING. PROVIDE A SLEEVE, AND SEAL NON-FIRE-RATED FLOOR AND WALL PENETRATIONS WITH FIBERGLASS PACKING AND SILICONE CAULK (FOR ACOUSTICAL INSULATION).

COORDINATE FIRE RATING REQUIREMENTS AND LOCATIONS WITH THE ARCHITECT. SEAL PENETRATIONS OF FIRE-RATED ASSEMBLIES WITH 3M #2P-25 FIRE BARRIER CAULK (PROVIDE THICKNESS AND METHOD AS REQUIRED AND RECOMMENDED BY MANUFACTURER) TO MAINTAIN THE FIRE RESISTANCE RATINGS OF FIRE-RATED ASSEMBLIES.

SEAL EXTERIOR WALL PENETRATIONS BELOW GRADE WITH CAST IRON WALL PIPES AND MODULAR MECHANICAL SLEEVE SEALS, MANUFACTURED BY THUNDERLINE/LINX SEAL, CALPICO, INC AND METRAFLEX.

PROVIDE SLEEVES FOR HORIZONTAL PIPE PASSING THROUGH OR UNDER THE FOUNDATION. SLEEVES SHALL BE CAST IRON SOIL PIPE TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED.

PROVIDE SLEEVES FOR VERTICAL PIPE PASSING THROUGH SLAB ON GRADE. SLEEVES SHALL BE SCHEDULE 40 PVC PIPE, TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED. SEAL WATER-TIGHT WITH SILICONE CAULK.

2. MATERIALS

2.1 DOMESTIC WATER PIPING

ABOVE AND BELOW GRADE WATER PIPING SHALL BE PEX TUBING CONFORMING TO ASTM F877 CROSS-LINKED POLYETHYLENE TUBING OR EQUAL. CONCEALED WATER DISTRIBUTION SYSTEMS, ASTM F876 CROSS-LINKED POLYETHYLENE TUBE, ASTM F1807 FITTINGS AND ASTM F2159 FITTINGS, COMPLY WITH NSF STANDARD 14 AND 61. PEX TUBING SHALL BE WATTS WATERPEX CROSS-LINKED POLYETHYLENE OR EQUAL. ALL PEX TUBING BELOW GRADE SHALL BE SLEEVED WITH PVC PIPE.

FITTINGS SHALL BE MECHANICAL CRIMP FITTINGS IN COMPLIANCE WITH ASTM F1807 AND F2159. PEX FITTINGS SHALL BE WATTS BRASS CRIMPING FITTINGS USING EITHER WATTS COPPER CRIMPING OR STAINLESS STEEL CINCHLAMP OR EQUAL, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

ABOVE AND BELOW GRADE WATER PIPING SHALL BE TYPE "L" AND "M" HARD DRAWN SEAMLESS COPPER TUBING CONFORMING TO ASTM B88.

COPPER UNIONS SHALL BE CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACE AND SOLDER-JOINT. JOINING MATERIAL SHALL BE ASTM B813 WATER-FLUSHABLE, LEAD-FREE FLUX ALLOY SOLDER.

2.2 FILTERED WATER PIPING

ABOVE AND BELOW GRADE FILTERED WATER PIPING SHALL BE CPVC TUBING CONFORMING TO ASTM D2846 AND CSA B137 CHLORINATED POLY (VINYL CHLORIDE) PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS, ASTM D1784 RIGID AND CHLORINATED PVC COMPOUNDS, ASTM F493 SOLVENT CEMENTS, COMPLY WITH NSF STANDARD 14 AND 61. CPVC TUBING SHALL BE FLOWGUARD GOLD CPVC CTS OR EQUAL.

FITTINGS SHALL BE SOCKET TYPE JOINTS IN COMPLIANCE WITH ASTM D2846 AND CSA B137. CPVC FITTINGS SHALL BE FLOWGUARD GOLD CPVC CTS FITTINGS OR EQUAL. JOINING MATERIAL SHALL BE ASTM F493 SOLVENT CEMENT, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

ABOVE AND BELOW GRADE FILTERED WATER PIPING SHALL BE TYPE "L" AND "M" HARD DRAWN SEAMLESS COPPER TUBING CONFORMING TO ASTM B88.

COPPER UNIONS SHALL BE CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACE AND SOLDER-JOINT. JOINING MATERIAL SHALL BE ASTM B813 WATER-FLUSHABLE, LEAD-FREE FLUX ALLOY SOLDER.

2.3 SOIL, WASTE, AND VENT PIPING

ABOVE AND BELOW GRADE SOIL, WASTE, AND VENT PIPING SHALL BE PVC PLASTIC, SCHEDULE 40 DWV PIPE CONFORMING TO ASTM D2665 WITH PLAIN ENDS. CELLULAR (FOAM) CORE PVC NOT ALLOWED. INSTALL PER ASTM D2665 AND ASTM D2321.

FITTINGS SHALL BE PVC SOCKET-TYPE DWV PIPE FITTINGS; ASTM D2665 MADE TO ASTM D3311 DRAIN, WASTE, AND VENT PATTERNS.

ABOVE AND BELOW GRADE SOIL, WASTE, AND VENT PIPING SHALL BE HUB-AND-SPIGOT CAST-IRON SOIL PIPE AND FITTINGS CONFORMING TO ASTM A74 WITH ASTM C564 RUBBER GASKETS. INSTALL CAST-IRON SOIL PIPING ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK" CHAPTER IV, "INSTALLATION OF CAST IRON SOIL PIPE AND FITTINGS".

ABOVE GRADE SOIL, WASTE, AND VENT PIPING SHALL BE ALLOWED TO BE COPPER DRAINAGE TUBING CONFORMING TO ASTM B306 AT PLUMBING CONTRACTOR'S OPTION.

2.4 INDIRECT AND CONDENSATE DRAIN LINES

PROVIDE HARD DRAWN, TYPE "M" OR "L" COPPER PIPE FOR ALL CONDENSATE DRAIN PIPING FROM COOLER AND FREEZER EVAPORATORS. PROVIDE HEAT TRACE FOR ALL CONDENSATE DRAIN PIPING LOCATED IN FREEZERS, AND ROUTE TO FLOOR DRAIN IN BUILDING.

PROVIDE PVC PIPE FOR ALL OTHER INDIRECT AND CONDENSATE DRAIN PIPING FROM HVAC, PLUMBING, AND BEVERAGE EQUIPMENT, AND ROUTE TO FLOOR DRAIN IN BUILDING.

2.5 GAS PIPING

GAS PIPING SHALL BE SCHEDULE 40 BLACK CARBON STEEL CONFORMING TO ASTM A53. PIPING 2" AND SMALLER SHALL BE WELDED OR THREADED WITH MALLEABLE IRON FITTINGS. PIPING 2-1/2" AND LARGER SHALL BE WELDED WITH BUTT-WELDED FITTINGS.

FITTINGS SHALL CONFORM TO ASME B16.3, MALLEABLE IRON OR ASTM A234, FORGED STEEL WELDED TYPE.

PROVIDE SHUT-OFF VALVE, DIRT LEG, AND UNION AT EACH ROOF-TOP UNIT. PAINT ALL GAS PIPING EXPOSED TO WEATHER WITH ONE COAT OF PRIMER, AND TWO COATS OF RUST-PROOF PAINT. COLOR SHALL MATCH BUILDING COLORS. COORDINATE WITH OWNER'S CONSTRUCTION MANAGER.

PROVIDE TREATED WOOD BLOCKING 6X6X12, 8-0" OC MAX WITH GALVANIZED PIPE STRAP, 1 1/4" ZINC COATED LAG SCREWS, AND RUBBER WALKPAD ADHERED TO ROOF.

2.6 FLASHING

SHEET LEAD, 4 POUNDS PER SQUARE FOOT, MINIMUM.

2.7 INSULATION

2.7.1 DOMESTIC COLD WATER (WITHIN BUILDING)

COPPER PIPING: 1/2" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTED, OWENS-CORNING, OR ARMSTRONG. (SEE BELOW FOR PLUMBING FITTING INSULATION REQUIREMENTS.)

PEX TUBING: NO INSULATION REQUIRED.

EXCEPTION: FOR NON-RECIRCULATING HOT WATER SYSTEM, PROVIDE 1/2" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTED, OWENS-CORNING, OR ARMSTRONG ON THE FIRST 8 FEET OF INLET PIPING AT WATER HEATER.

CPVC TUBING: NO INSULATION REQUIRED.

2.7.2 DOMESTIC HOT WATER

COPPER PIPING: 1/2" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTED, OWENS-CORNING, OR ARMSTRONG. (SEE BELOW FOR PLUMBING FITTING INSULATION REQUIREMENTS.)

PEX TUBING: 1/2" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTED, OWENS-CORNING, OR ARMSTRONG. (SEE BELOW FOR PLUMBING FITTING INSULATION REQUIREMENTS.)

FOR HOT WATER PIPING BEING SERVED BY SYSTEM WITH RECIRCULATING PUMP, PROVIDE 1" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTED, OWENS-CORNING, OR ARMSTRONG. (SEE BELOW FOR PLUMBING FITTING INSULATION REQUIREMENTS.)

2.7.3 INDIRECT AND CONDENSATE DRAIN PIPING (WITHIN BUILDING)

COPPER PIPING: PROVIDE 1" FLEXIBLE UNICELLULAR INSULATION BY ARMACELL.

PVC PIPING: NO INSULATION REQUIRED.

FOR PIPING AT HANGERS, PROVIDE 8" LONG SECTIONS OF HIGH DENSITY, HIGH TEMPERATURE CALCIUM SILICATE BY JOHNS-MANVILLE, FIBERGLASS BY KNAUF, OR 8" LONG STYROFOAM BILLETS BY DOW. INSULATION SHALL BE CONTINUOUS ALONG THE PIPE SURFACE, EXCEPT AT VALVES, UNIONS, AND WHERE PIPING IS EXPOSED AT FIXTURES.

FOR HOT AND COLD WATER PIPING EXPOSED, CONCEALED IN WALLS, AND/OR INSTALLED INSIDE MASONRY UNITS OF WALLS, COVER FITTINGS WITH ZESTON, KNAUF, OR EQUAL ONE-PIECE PVC PREMOULDED INSULATING COVERS, FITTING COVERS, JACKETS, AND ADHESIVES SHALL NOT EXCEED FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPMENT RATING OF 50 PER ASTM E84. AT ALL ELBOWS AND TEES, FILL VOIDS BETWEEN COVERS AND PIPING WITH FIBERGLASS INSULATION TAPE JOINTS. INSTALL PIPE INSULATION IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS. WHERE PREMOULDED INSULATING FITTINGS ARE NOT APPROVED BY LOCAL AUTHORITIES, MITER INSULATION AT FITTINGS.

3. PIPING INSTALLATION

GENERAL: CLEAN PIPE THOROUGHLY PRIOR TO INSTALLATION. REAM ENDS OF PIPE TO REMOVE BURRS. CUT PIPE ACCURATELY TO MEASUREMENTS TAKEN ON THE JOB. INSTALL WITH ADEQUATE CLEARANCE FOR INSTALLATION OF COVERINGS WHERE REQUIRED. PIPE SHALL NOT BE SPRUNG OR BENT. NEATLY ALIGN PIPE, CONNECT IT SECURELY, AND SUPPORT IT FROM THE BUILDING, AND SUPPORT IT FROM THE BUILDING STRUCTURE WITH HANGERS AS SPECIFIED BELOW. PROVIDE CHROME-PLATED ESCUTCHEONS ON PIPES PASSING THROUGH CEILINGS, FLOORS, OR WALLS OF FINISHED SPACES. RUN PIPES FREELY THROUGH FLOOR AND WALL PENETRATIONS USING PIPE SLEEVES. DO NOT GROUT IN PLACE UNLESS REQUIRED FOR STRUCTURAL FIRE INTEGRITY. INSTALL PIPE CONCEALED IN FINISHED SPACES WHEREVER POSSIBLE. USE A DIELECTRIC UNION WHERE FERROUS AND COPPER PIPE CONNECT. DIELECTRIC UNION SHALL HAVE A ZINC STEEL BODY, A THREADED NYLON INSERT, AND INSULATION PRESSURE GASKET. NO FERROUS METAL-TO-COPPER CONNECTION MADE WITHOUT INSULATING UNIONS WILL BE ALLOWED.

HANGERS & SUPPORTS: PIPE HANGERS SHALL BE AS DESCRIBED IN THE SPECIFICATIONS BY B-LINE OR EQUAL BY ANVIL, MICHIGAN TRUSSCO, OR UNISTRUT. CONNECT HANGERS TO THE STRUCTURE WITH SIDE BEAM CONNECTORS AND ALL THREAD HANGER RODS. PROVIDE ENGINEERED SUPPORT STRUTS BETWEEN JOISTS AND OTHER STRUCTURAL MEMBERS AS REQUIRED TO PROVIDE A RIGID HANGING.

DOMESTIC WATER: ARRANGE COLD, HOT, AND HOT WATER RECIRCULATION PIPING TO DRAIN AT THE LOWEST POINT IN EACH SYSTEM SUBJECT AT LEAST ONE PIPE UNION/JACKET TO ALL SHUT-OFF VALVES. AT CONNECTION POINT OF EACH PIECE OF EQUIPMENT, AND ELSEWHERE IN THE SYSTEM WHERE REQUIRED TO ALLOW PROPER MAINTENANCE, PROVIDE UNIONS OF THE GROUND JOINT TYPE. MAKE ALLOWANCE FOR EXPANSION AND CONTRACTION WHERE REQUIRED BY THE INSTALLATION. WHERE WATER PIPING OCCURS IN EXTERIOR WALLS, HOLD PIPE AS CLOSE AS POSSIBLE TO THE INTERIOR FACE OF THE WALL AND INSTALL INSULATION BATT OR OTHER INSULATION (MINIMUM R-8) BETWEEN PIPING AND THE EXTERIOR WALL FACE.

4. EXTERIOR UTILITY CONNECTIONS

TERMINATE DOMESTIC WATER, STORM, AND SEWER LINES AT A POINT APPROXIMATELY FIVE FEET FROM THE BUILDING WALL, OR AS SHOWN ON THE DRAWINGS. MAKE CONNECTION TO THE VARIOUS SERVICES PROVIDED BY OTHERS AND COORDINATE CONNECTION REQUIREMENTS WITH CIVIL ENGINEER. VERIFY THAT INSTALLATION WILL TIE INTO THE VARIOUS SERVICE PROVIDED BY OTHERS AT THE INDICATED INVERT ELEVATION POINT PRIOR TO INSTALLATION. IF THE INSTALLATION WILL NOT TIE INTO THE INDICATED INVERT ELEVATION POINT WHILE MAINTAINING PROPER FAL, NOTIFY THE ARCHITECT AND CIVIL ENGINEER SO THAT AN ALTERNATIVE MAY BE DETERMINED.

PROVIDE SERVICE PIPING AND ACCESSORIES REQUIRED TO COMPLETE UTILITY CONNECTIONS THAT ARE NOT FURNISHED BY THE SERVING UTILITY.

5. TESTING AND INSPECTION

UPON COMPLETION OF EACH PHASE OF THE INSTALLATION, TEST EACH SYSTEM IN CONFORMANCE WITH LOCAL CODE REQUIREMENTS AND AS NOTED BELOW. FURNISH LABOR AND EQUIPMENT REQUIRED TO TEST PLUMBING WORK INSTALLED UNDER THIS CONTRACT, AND ASSUME COSTS INVOLVED IN MAKING THE TESTS, AND REPAIRING AND/OR REPLACING DAMAGE RESULTING THEREFROM.

NOTIFY THE ARCHITECT AND AUTHORITY HAVING JURISDICTION, THREE (3) WORKING DAYS PRIOR TO MAKING PLUMBING SYSTEM TESTS. LEAVE CONCEALED WORK UNCOVERED UNTIL THE REQUIRED TESTS HAVE BEEN COMPLETED, BUT IF NECESSARY DUE TO CONSTRUCTION PROCEDURE, TESTS ON PORTIONS OF THE WORK MAY BE MADE, AND WHEN SATISFACTORY, THE WORK MAY BE CONCEALED. TEST PIPING BEFORE INSULATION IS INSTALLED, AND BEFORE BACKFILL, PIPES, JOINTS, FLANGES, VALVE STEMS, ETC., SHALL BE LEAK TIGHT. REPAIR OR REPLACE SYSTEM DEFECTS WITH NEW MATERIALS. CAULKING OF DEFECTIVE JOINTS, CRACK OR HOLES WILL NOT BE PERMITTED. REPEAT TESTS AFTER DEFECTS HAVE BEEN ELIMINATED. MAKE TESTS IN THE PRESENCE OF THE ADMINISTRATIVE AUTHORITY AND/OR THE OWNER'S AUTHORIZED REPRESENTATIVE.

WORK SHALL BE INSPECTED FOR COMPLIANCE WITH CODES, ORDINANCES, REGULATIONS, AND ADHERENCE TO CONTRACT DOCUMENTS. PLUMBING CONTRACTOR SHALL SUPPLY OWNER WITH SIGNED FORMS OR PROOF OF ACCEPTANCE BY THE LOCAL AUTHORITY BEFORE CONTINUING FROM ONE STAGE TO ANOTHER. FINAL APPROVAL SHALL BE OBTAINED BEFORE FINAL PAYMENT IS MADE ON THE CONTRACT.

6. GUARANTEE

THE WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL INCLUDE THE FURNISHING, INSTALLATION, AND CONNECTION OF PLUMBING SYSTEMS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. BY SIGNING THE CONTRACT, THE PLUMBING CONTRACTOR ACKNOWLEDGES THAT HE HAS ACQUAINTED HIMSELF WITH THE SITE AND THE EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, AND THE DRAWINGS AND SPECIFICATIONS PERTAINING THERETO, AND HE INDICATES THAT HE WILL COMPLY WITH THE REQUIREMENTS AND INTENT OF PERTINENT DOCUMENTS IN THE PERFORMANCE OF THE WORK.

PLUMBING GENERAL NOTES

1. NOTES APPLY TO ALL PLUMBING SHEETS.

2. EACH CONTRACTOR IS RESPONSIBLE FOR HAVING THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS AS THEY RELATE TO THIS WORK. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED DUE TO LACK OF THIS KNOWLEDGE.

3. PROVIDE ALL MATERIALS FOR A COMPLETE INSTALLATION IN ALL RESPECTS READY FOR INTENDED USE AND IN STRICT ACCORDANCE WITH STATE AND LOCAL CODES AND MANUFACTURER'S RECOMMENDATIONS. OBTAIN AND PAY FOR ALL PERMITS REQUIRED BY THIS WORK.

4. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

5. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF WORK. REVIEW THE GENERAL NOTES AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY THE ARCHITECT OR OWNER'S CONSTRUCTION MANAGER OF ANY CONFLICTS OR DISCREPANCIES.

6. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE ARCHITECT OR OWNER'S CONSTRUCTION MANAGER REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS.

7. PROVIDE TO THE ARCHITECT OR OWNER'S CONSTRUCTION MANAGER A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS.

8. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.

9. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.

10. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.

11. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE. INSTALL EXPOSED PIPING TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE LOCATIONS OF PIPING IN EXPOSED AREAS WITH ARCHITECT.

12. COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTINGS, ETC. WHERE REQUIRED AND AS NOTED ON PLANS.

13. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.

14. COORDINATE SEWER AND WATER CONNECTIONS WITH CIVIL AND AHJ. PROVIDE PRESSURE REDUCING VALVE AND BACKFLOW PREVENTER AS SHOWN OR REQUIRED BY AHJ. VERIFY INVERT AND SLOPE OF INCOMING SANITARY SEWER BEFORE TRENCHING.

15. REFER TO RISER DIAGRAMS AND PLUMBING FIXTURE SCHEDULE FOR ALL PIPING AND PIPE SIZES NOT SHOWN ON PLAN.

16. SANITARY AND STORM SEWER PIPING SHOWN IS BASED ON 1/4" PER FOOT FALL FOR ALL PIPE SMALLER THAN 3" DIAMETER AND 1/8" PER FOOT FALL FOR PIPE 3" DIAMETER AND LARGER.

17. ALL SEWER PIPING BELOW SLAB TO BE 2" DIAMETER MINIMUM.

18. PROVIDE ACCESS DOORS TO ALL CONCEALED VALVES AND CLEAN-OUTS; AND NOT ABOVE AN ACCESSIBLE CEILING.

19. PROVIDE TRAP GUARDS OR TRAP SEAL PRIMERS AND 1/2" COPPER TUBING CONNECTION TO ALL FLOOR DRAINS AS SHOWN OR AS REQUIRED BY AHJ. CONTRACTOR SHALL VERIFY REQUIREMENTS.

20. INSTALL VTR'S, EXHAUST FANS, AND FLUES A MINIMUM 5'-0" FROM PARAPET OR OUTSIDE WALL AND 10'-0" FROM EQUIPMENT WITH OUTSIDE AIR INTAKE.

21. PROVIDE INSULATION ON HOT AND COLD WATER PIPING, ROOF DRAIN BODIES, AND HORIZONTAL ROOF DRAIN PIPING.

22. INSTALL WATER PIPE ON INSIDE OF EXTERIOR WALL INSULATION TO PREVENT FREEZING.

23. WHEN DEEP FROST LOCATIONS ARE ENCOUNTERED, ROUTE SANITARY LINES UNDER BUILDING AS MUCH AS POSSIBLE.

24. PROVIDE PVC SLEEVE FOR ALL COLD/HOT WATER FLOOR PIPE PENETRATIONS. MAKE SLEEVE LARGE ENOUGH FOR INSULATION. SEAL WITH GRAY MASTIC AND ENSURE OF NO WATER PENETRATIONS.

25. PROVIDE FIRE SEAL WHERE PIPES PENETRATE FIRE RATED ASSEMBLY.

STRUCTURAL NOTES:

1010 GENERAL

Structural Drawings are to be used with Specifications, Architectural, Mechanical, Electrical, Plumbing, and Site Drawings as a part of the Contract Documents. Consult these drawings for features and details not shown on the Structural Drawings. Drawing discrepancies must be brought to the attention of the Engineer before proceeding. Dimensions and conditions must be verified in the field.

The structure is designed to be stable and self supporting when complete. It is the Contractor's responsibility to determine means and methods of construction to provide stability for the building and its components during erection. This includes any temporary bracing, shoring, guys, or tiedowns.

1050 DESIGN LOADS

The structural design for this building is in accordance with the Florida Building Code, 2017 6th Edition.

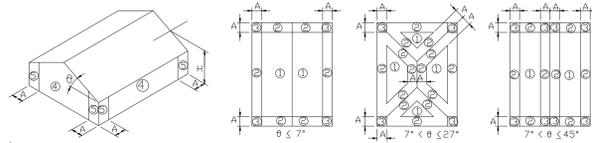
The following loadings have been used:

LIVE LOADS:
 Floor 40 psf
 Stairs 40 psf
 Roof 20 psf

DEAD LOADS (superimposed):
 Floor 20 psf
 Roof 20 psf

WIND LOADS:
 Applied per ASCE 7-10
 Building Risk Category II
 Ultimate Wind Speed 180 mph
 Nominal Wind Speed 139 mph
 Exposure D
 Int. Pressure C_{pi} (+0.18/-0.18)
 Enclosed Building

COMPONENT AND CLADDING LOADING DIAGRAM



ALLOWABLE STRESS DESIGN PRESSURES (psf)

EFFECTIVE WIND AREA (FT ²)	WALL PRESSURES						ROOF PRESSURES						
	4 INTERIOR ZONE		5 END ZONE		1 INTERIOR ZONE		2 END ZONE		3 CORNER ZONE		OH 1 & 2 OVERHANG ZONE		OH 3 OVERHANG ZONE
10	+58	-63	+58	-78	+33	-53	+33	-42	+33	-136	-117	-117	-190
20	+55	-62	+55	-73	+31	-52	+31	-38	+31	-127	-117	-171	-171
50	+53	-57	+53	-65	+26	-50	+26	-25	+26	-114	-117	-151	-151
100	+50	-53	+50	-60	+24	-48	+24	-24	+24	-107	-117	-132	-132

End Zones = 1.75 Feet Guest Suite 3.41' Main House

2340 AUGERCAST CONCRETE PILES - Alternate
 Piles shall be 16" round minimum 3 feet into cap rock. Reinforce with per schedule.

3120 SHORING
 Shores are to remain in place until the concrete has reached 2/3 of the 28 day design strength. Shoring and reshoring shall be in accordance with ACI 301 and 341.

3210 REINFORCING STEEL
 Steel shall be clean deformed bar, ASTM A615 Grade 60. Fabricate and place steel in accordance with ACI Manual of Standard Practice and ACI 318-08 unless noted otherwise.

Specified concrete cover unless noted otherwise for reinforcement shall be:

- Cast against earth 3"
- Exposed to weather 2"
- Slabs, walls, joists 3/4"
- Beams, columns 1 1/2"

CONCRETE NOT EXPOSED TO WEATHER AND CAST OVER 6 MIL VAPOR BARRIER
 SLABS AND WALLS 3/4"
 BEAMS AND GIRDER TIES 1/2"
 COLUMN TIES 1/2"

3320 CONCRETE

Concrete shall be an approved mix design to achieve a compressive strength at 28 days, as scheduled below, placed in accordance with ACI standards and specifications. Mixes batched over 90 minutes before final placing shall not be used. Mix designs with coarse aggregate of 3/8" (#8) or smaller may not be used.

Slabs on grade 3000 psi 4000psi
 All other structural concrete 5000 psi

Mix design shall comply with ACI 318-08, Exposure categories FO, SO, PO, GI. Admixtures with calcium chlorides will not be accepted. The concrete shall comply with the requirements of ASTM C94 for measuring, mixing, and transporting.

All slabs are to be cured using a curing compound meeting the requirements of ASTM C309. The contractor must verify the curing compound is compatible with subsequent concrete covering products. The compound is to be placed as soon as the finishing is completed. Scuffed or exposed areas of the membrane are to be recoated.

3600 EPOXY ANCHORS

Epoxy anchors shall be an equal two part epoxy polymer cartridge injection system Powers PE 1000+ or Engineer approved substitution. Embedment shall be 4 bar diameters or 6" minimum unless noted otherwise, installed in accordance with the manufacturer's instructions. Installers shall be trained by the manufacturer's representative. Upland installation is not approved for this product.

4200 MASONRY

Concrete masonry units shall be in accordance with ASTM C90, 1800 psi on the net area, F_m = 1500 psi. Mortar shall be ASTM C210, Type M or S. Grout shall meet ASTM C416, 2000 psi minimum compressive strength. Masonry units shall be grout filled with vertical reinforcing at corners, intersections, each side of openings over 4 feet wide, and as shown on the plans. Provide hooked dowels in footings for vertical reinforcing above. Lap splices for reinforcing in masonry is 48 bar diameters. Provide 9 gage ladder type galvanized horizontal joint reinforcing at every other block course.

4210 TIE BEAMS

Beams prefixed with TB- shall have concrete placed after masonry below is in place. Vertical reinforcing shall be continuous through tie beams. Provide hooked vertical reinforcing in tie beams for roof tie beams less than 16" deep. Tie beam reinforcing shall be continuous, 20" lap minimum, and includes corner bars. Use metal lath or non-aluminum screening to confine the concrete in the tie beams.

4220 LINTELS

Masonry openings up to 8 feet wide may be spanned with precast lintels unless noted otherwise as manufactured by Cast Crete Corp. Type BF8-1B/T or engineer approved substitution. Openings up to 16 feet wide may be spanned with a cast in place 8" by 16" concrete beam with (2) #5 reinforcing bars top and bottom unless noted otherwise. Lintels shall bear 8" minimum on each end.

5120 RAILINGS

The railing system and its connections to the building shall be designed for a 200lb. load at the top of the rail and in accordance with the Florida Building Code, 2010, Section 1607.1.

TIE COLUMN SCHEDULE		
ALL DIMENSIONS ARE MINIMUM SOME TIE COLUMNS MAY BE LARGER. ALL DETAILS MAY NOT BE USED ON THIS SET OF DRAWINGS		
 C-1 24" AUGER PILE W/(6)-#3 @ 4 #3 HOOPS @ 6' O.C.	 C-2 12" SQUARE COLUMN, W/(4)-#3 @ 4 #3 TIES @ 12' O.C.	 C-3 8" SQUARE COLUMN, W/(4)-#3 @ 4 #3 TIES @ 8' O.C.
 C-4 16" SQUARE COLUMN W/(4)-#3 @ 4 #3 TIES @ 8' O.C.	 C-5 TIE COLUMN W/(6)- #3 @ 4 #3 TIES @ 12' O.C.	 C-6 4"x4" x 3/8" HSS W/ 8"x1/2" SQ. WELDED T4B FLATES+ 1/4" FILLET (4) 1/2" BOLTS T4B. GALVANIZE ALL @ EXTERIOR
 C-7 TIE COLUMN W/ (6)-#3 @ 4 #3 TIES @ 12' O.C.	 C-8 FYPON PP8x120A FORCH POST W/SIMPSON THREADED ROD TIE DOWN-THRU CENTER SYSTEM	 C-9 TIE COLUMN W/(6)-#3 @ 4 #3 TIES @ 12' O.C.
 C-10 TIE COLUMN W/ (6)-#3 @ 4 #3 TIES @ 12' O.C.	 C-11 16" BONO TUBE W/(4)-#3 @ 4 #3 HOOPS @ 12' O.C.	 C-12 4"x4" x 5/16" SQUARE TUBE W/ 8"x1/2" SQ. WELDED T4B FLATES+ 1/4" FILLET (4) 5/8" x 6" ANCHOR OR EPOXY BOLTS T4B.
 C-13 TIE COLUMN W/ (6)-#3 @ 4 #3 TIES @ 12' O.C.	 C-14 TIE COLUMN W/ (6)-#3 @ 4 #3 TIES @ 12' O.C.	FILLED CELL FILLED CELL, W/ MIN. (1)-#5 POURED SOLID AT EACH END OF WINDOW & DOOR OPENING AND @ 32' O.C.
 C-15 8"x8 NOMINAL WOOD COLUMN	 C-16 TIE COLUMN W/ (6)-#3 @ 4 #3 TIES @ 12' O.C.	

NOTES:
 1. ALL TIE COLUMNS SHOWN ARE ABOVE TRUSS OR SLAB
 2. ALL EXPOSED STEEL TO BE HOT DIP GALVANIZED.

CONCRETE BEAM SCHEDULE					
MARK	SIZE (WxH)	TOP	MID	BOT	HOOPS/NOTES
B1	8 x 12	(2) #5		(2) #5	#3 STIRRUPS @ 8' O.C.
B2	8 x 16	(2) #5		(2) #5	#3 STIRRUPS @ 8' O.C.
B3	8 x 30	(2) #6		(2) #6	#3 STIRRUPS @ 8' O.C.
B4	12 x 20	(3) #5		(3) #5	#3 STIRRUPS @ 8' O.C.
B5	8x8	(2) #5			

BEAM NOTES:

BEAM OVER CMU WALLS TO BE 1 5/8" WIDE. ANCHOR TOP STEEL INTO END BEAM 24" MIN. AT CORNERS. PROVIDE A 24" x 24" #5 CORNER FOR EACH TOP MEMBER AND BOTTOM MEMBERS.

GRADE BEAM SCHEDULE					
MARK	SIZE (WxH)	TOP	MID	BOT	STIRRUP SPACING
GB1	24 x 24	(4) #6		(4) #6	#3 STIRRUPS @ 6' O.C.
GB2	12 x 12	(2) #6		(2) #6	#3 STIRRUPS @ 8' O.C.

GRADE BEAM NOTES:

ANCHOR TOP STEEL INTO END BEAM 21" MIN. AT CORNERS. PROVIDE A 21" x 21" #6 CORNER FOR EACH TOP MEMBER AND BOTTOM MEMBERS.

PILE SCHEDULE	
MARK	TYPE
AP-1	24" AUGER PILE W/(8) #6 VERT. & #3 TIES @ 6' O.C.

PILE CAP SCHEDULE	
MARK	TYPE
PC-1	30" x 30" x 12" W/(4) #5 EW BOTTOM
PC-2	36" x 36" x 12" W/(4) #5 EW BOTTOM
PC-3	36" x 56" x 12" W/#5 @ 8' O.C. EW BOTTOM

ARCHITECT:



Architecture, Engineering,
Interior Design,
Asset Management,
Specialty Consulting

1150 Virginia Street
Key West, FL 33040
Tel: 305-292-7722
Fax: 305-292-2162

Email: info@k2mdesign.com
URL: www.k2mdesign.com
PROF. REG. AA26001059

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DATE: PHASE
2018.04.19 - ISSUED PERMIT SET

CITY OF KEY WEST -
WICKER'S FIELD ATHLETIC TRAILERS
1435 KENNEDY DRIVE,
KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:37 PM

Drawing Size 24x36	Project #: 18038
Drawn By: NC	Checked By: AA

Title:
STRUCTURE NOTES
AND
DETAILS

Sheet Number:

S0.1.1

Date: 04/19/2018

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GENERAL NOTES

1. @ EACH COLUMN(ALL C-4) THERE IS A P-1 BELOW

CODED NOTES

- 1 FILLED CMU CELL W (1) # 5
- 2 6" CONCRETE SLAB W/ # 5 @ 6" O.C. EW. TOP & BOTTOM
- 3 6" CONCRETE SLAB W/ # 5 @ 8" O.C. EW. BOTTOM
- 4 DROP TRUSS GIRDER
- 5 HIP TRUSS @ 24" O.C.
- 6 MONO TRUSS @ 24" O.C.
- 7 STANDARD HERVE TRUSS @ 24" O.C.
- 8 FLOOR TRUSS GIRDER, GIRDER TO FLOOR TRUSS CONNECTION BY TRUSS ENGINEER
- 9 2 X 10 PT LEDGAR W/ (2) 1/2" X 6" BOLTS @ 24" O.C.



Consultants:

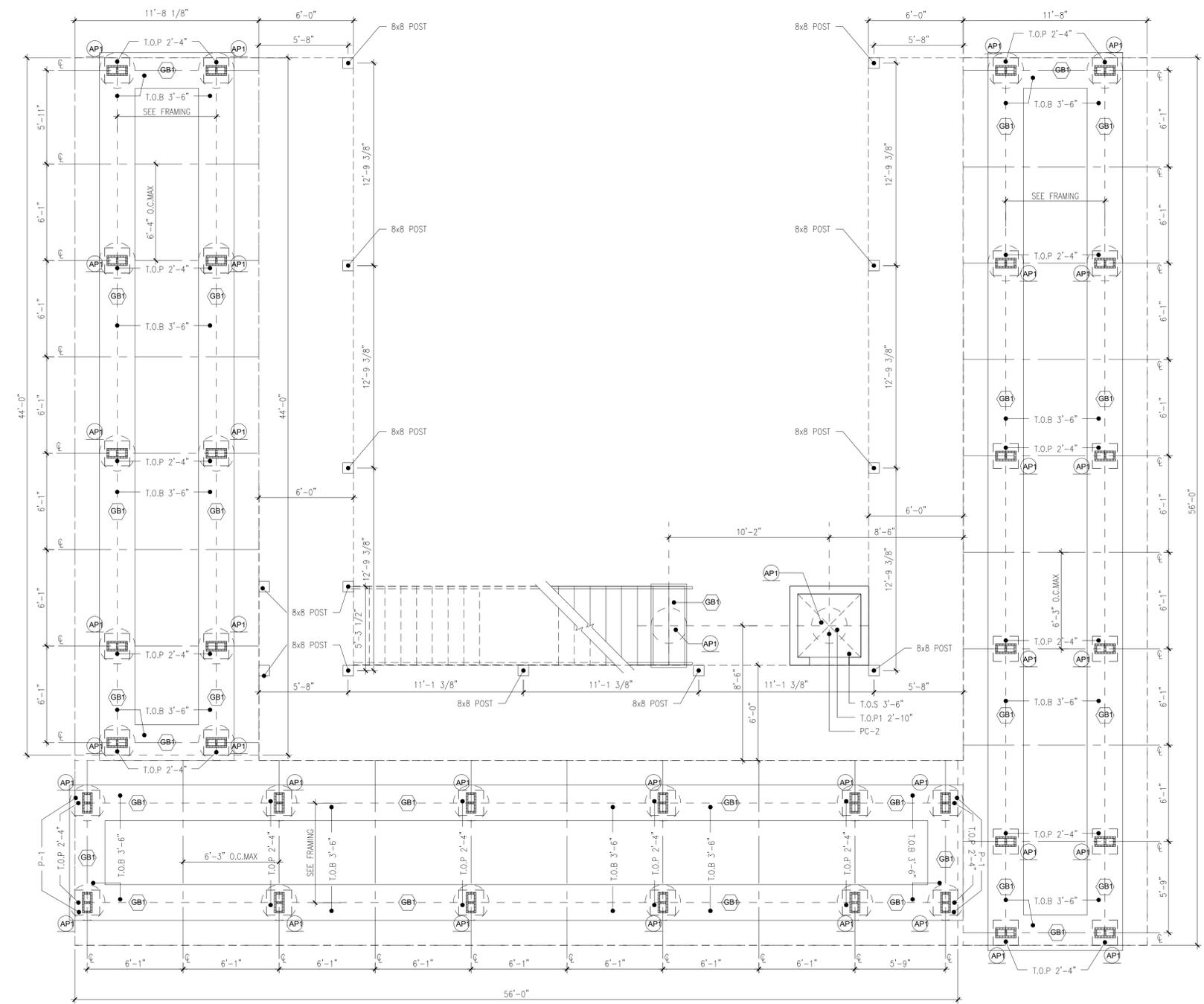
Submissions:
 DATE: PHASE
 2018.04.19 - ISSUED PERMIT SET

**CITY OF KEY WEST -
 WICKER'S FIELD ATHLETIC TRAILERS**
 1435 KENNEDY DRIVE,
 KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:37 PM
 Drawing Size: 24x36 Project #: 18038
 Drawn By: NC Checked By: AA

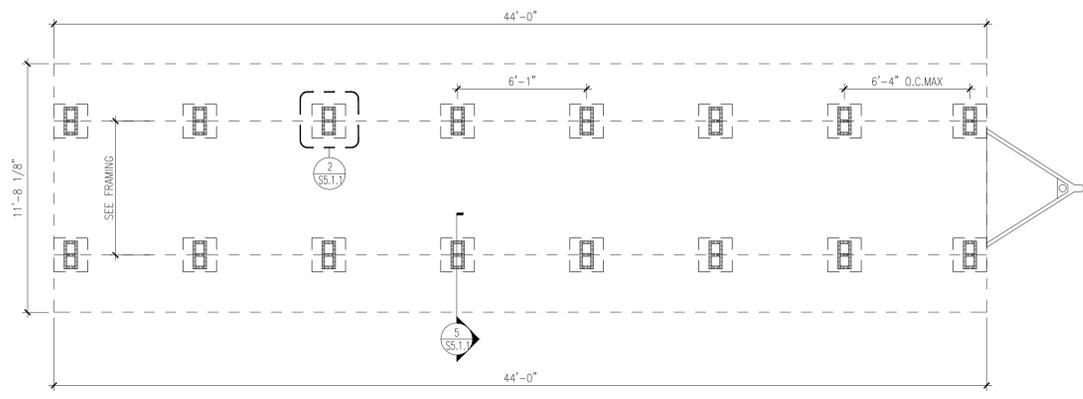
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FOUNDATION PLAN

Sheet Number:
S2.1.0
 Date: 04/19/2018
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1
**GROUND FLOOR
 COLUMN & WALL PLAN**
 SCALE: 1/4"=1'-0"



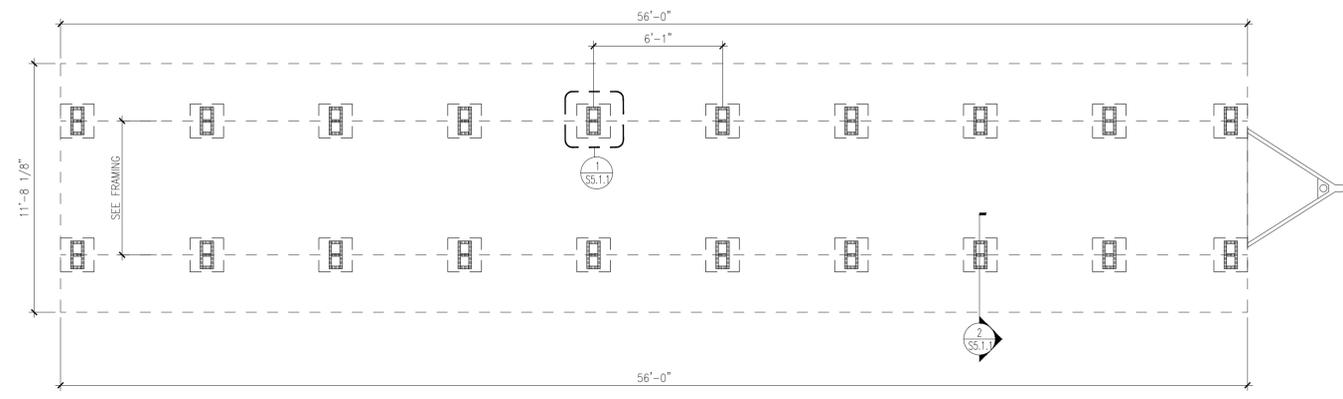


NOTE: LESSEE/ END USER IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND OBSTRUCTIONS .

NOTE: LESSEE/END USER IS RESPONSIBLE FOR CONDUCTING A "PULL TEST" IF REQUIRED FOR PERMITTING.

NOTE: IF SITE CONDITIONS/ BUILDING CONSTRUCTION DICTATE ANY STATE OF FLORIDA APPROVED TIE-DOWN METHOD MAY BE USED I LIEU OF DETAIL SHOWN.

1 FOUNDATION PLAN- PER MANUFACTURER
 SCALE: 1/4"=1'-0"



MAXIMUM WIND SPEED PER CHART PER ASCE-7-10 ALL TIE DOWN ANCHORS SHALL HAVE MINIMUM 4725 LB. CAPACITY AND SHALL BE INSTALLED IN ACCORDANCE WITH THEIR APPROVAL.

NOTE: LESSEE/END USER IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND OBSTRUCTIONS.

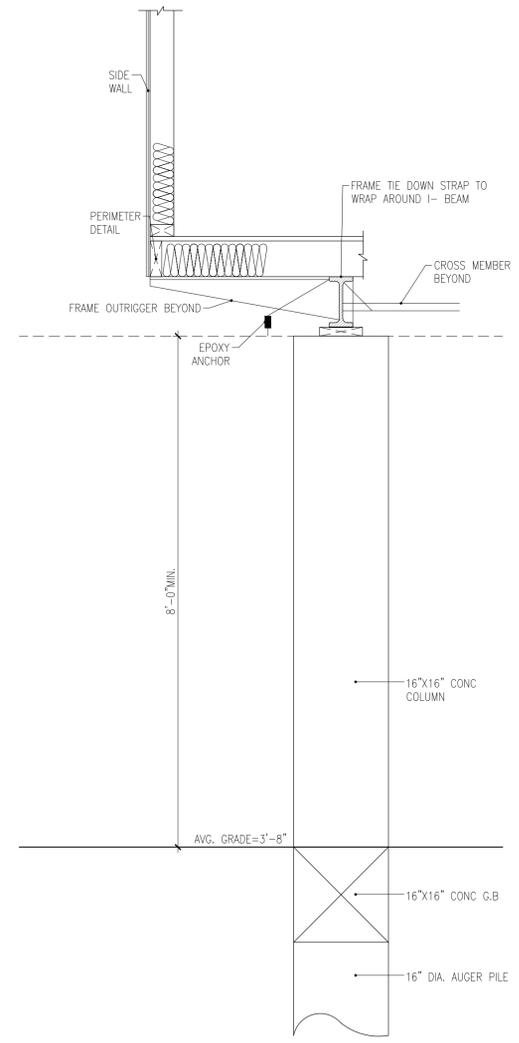
NOTE:LESSEE/END USER IS RESPONSIBLE FOR CONDUCTING A "PULL TEST" IF REQUIRED FOR PERMITTING.

NOTE:LESSEE/END USER IS RESPONSIBLE FOR INSURING THAT SITE/SOIL CONDITIONS MEET OR EXCEED THE REQUIREMENTS SHOWN.

NOTE: THIS FOUNDATION PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2009 EPCOT BUILDING CODE

FOUNDATION DIMENSIONS		
A. MODULE WIDTH	B. PIER TO MODULE WIDTH	C. STEEL BEAM SPACING
11'-8"	22"	VARIES
D. MAX PIER SPACING	MINIMUM SOIL BEARING CAPACITY	
6'-1"	2000 PSF MINIMUM SOIL BEARING CAPACITY	

2 FOUNDATION PLAN-PER MANUFACTURER
 SCALE: 1/4"=1'-0"



3 SECTION TIE DOWN , SIDEWALL (TYP.)
 SCALE: 3/4"=1'-0"



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**CITY OF KEY WEST -
 WICKER'S FIELD ATHLETIC TRAILERS**
 1435 KENNEDY DRIVE;
 KEY WEST, FL 33040

Drawing Size | Project #:
 18038

Drawn By: NC | Checked By: AA

Title:
**FOUNDATION AND
 STRUCTURAL
 DETAILS**

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City of Key West -

WICKER'S FIELD ATHLETIC TRAILERS
1435 KENNEDY DRIVE,
KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:37 PM

Drawing Size: 24x36 Project #: 18038

Drawn By: NC Checked By: AA

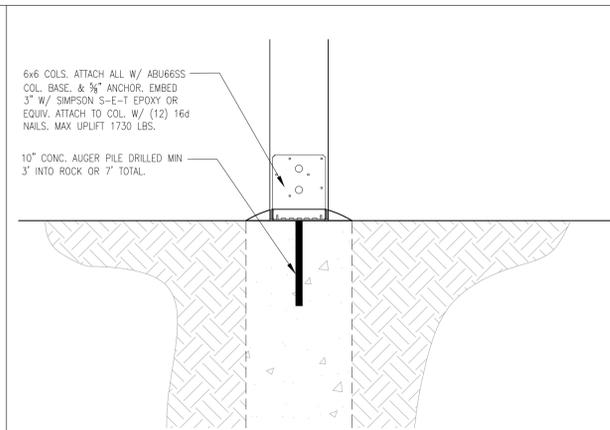
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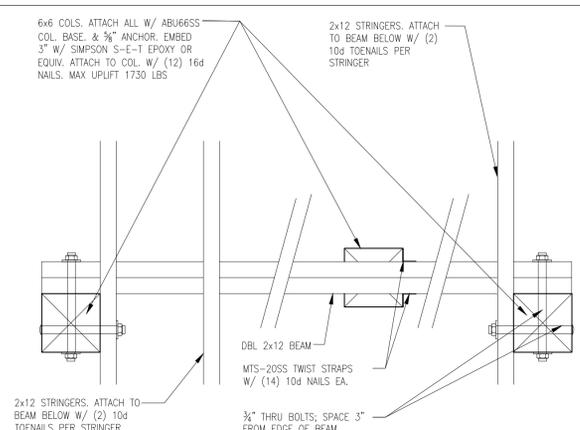
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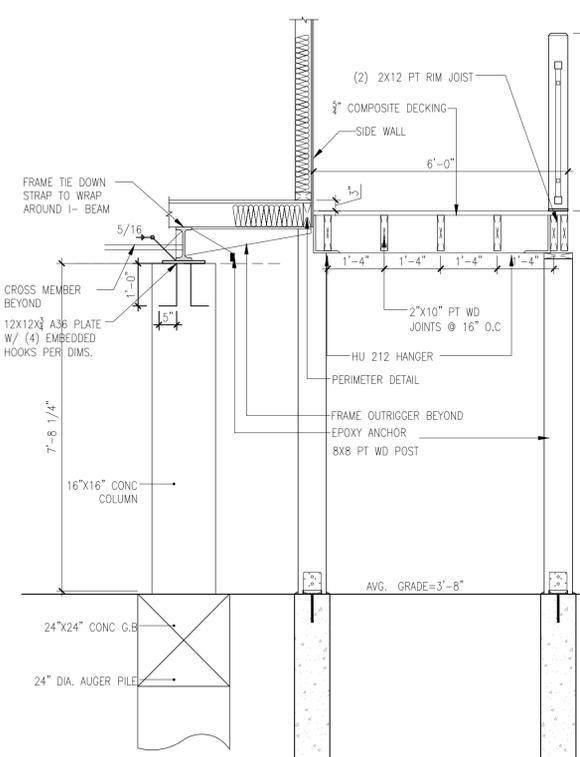
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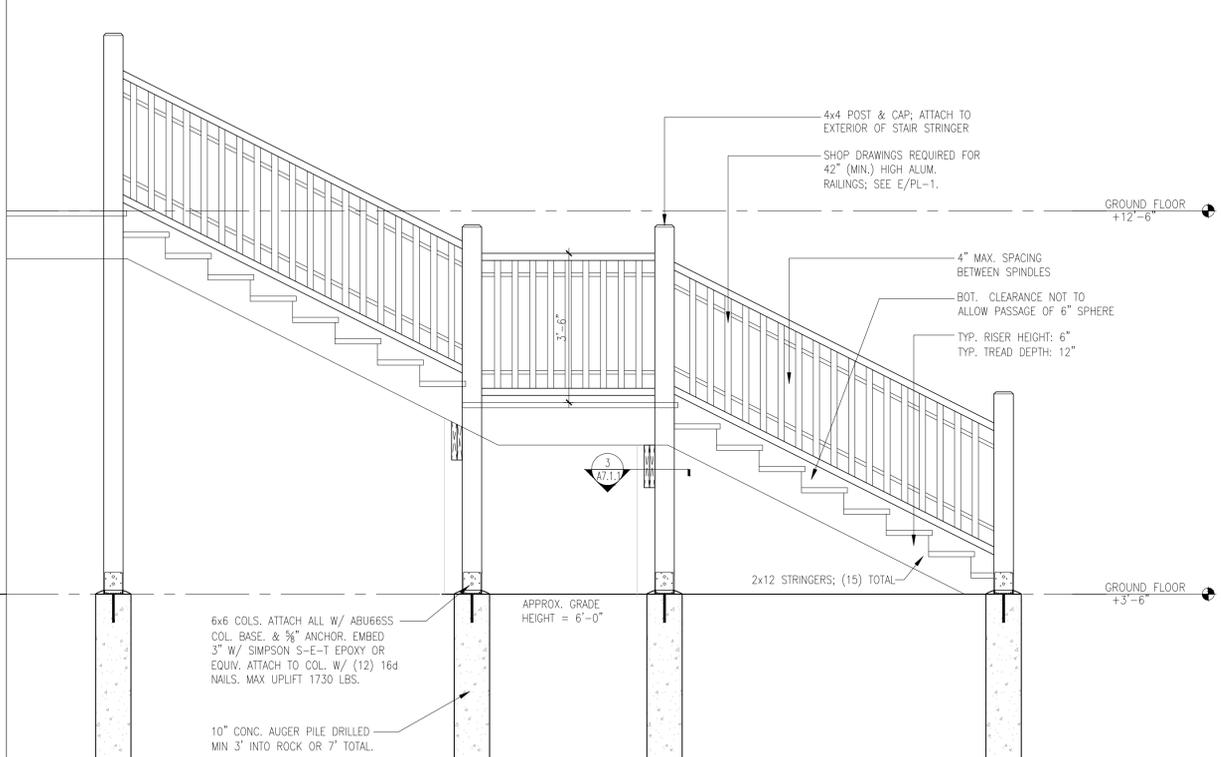
STAIR CORNER DETAIL SCALE: 1-1/2"=1'-0" 4



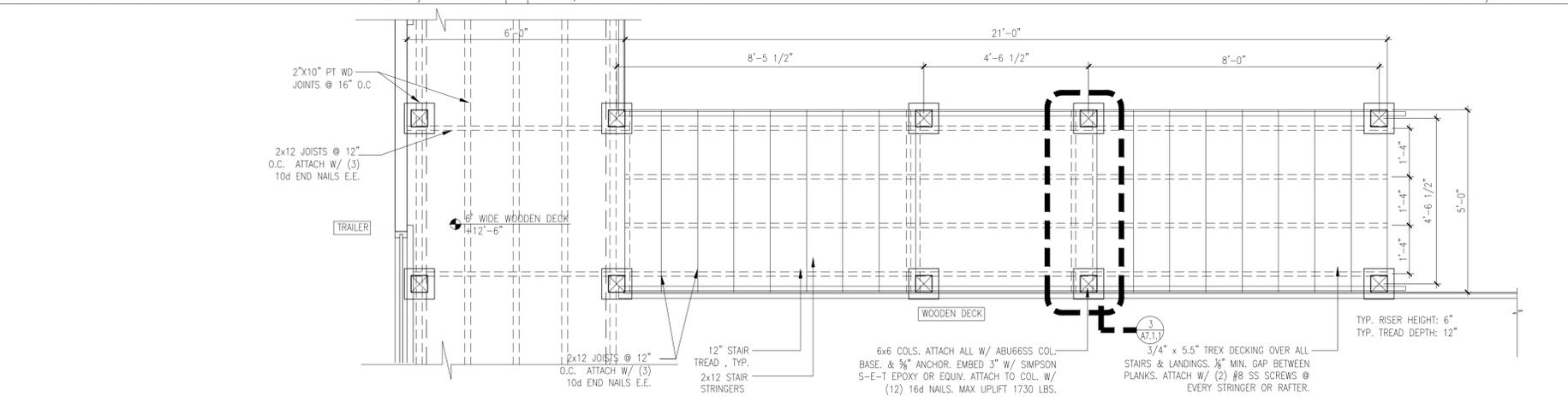
STAIR MID BEAM SCALE: 1-1/2"=1'-0" 3



WOODEN DECK SECTION SCALE: 1/2"=1'-0" 5



STAIR, LANDING & ACCESS SCALE: 1/2"=1'-0" 1



STAIR FRAMING PLAN SCALE: 1/2"=1'-0" 1

J:\31018\18038 - City of Key West - Wickers Field Athletic Trailers\4-20\Drawings\Struct\S7.1.dwg, 4/18/2018 4:37 PM, scale: 1'-0" = 1'-0", eplot: pldoc