

IFB Number	Scope Number	Closing Date	Closing Tin	ne	Return IFB Sul	bmittal
GC2018092565-7079	6114	2/26/2020	4:00pm ES	ST k	oids@synergyr	nds.com
IFB Reference Information	n: Interior Build	Out				
Insured Property Owne	r: Town of Gree	nwood				
Property Location Name	e: Warehouse					
Address Line	L: 5167 Fort Roa	d				
Address Line 2	2: Enter Text Her	e				
Cit	: Greenwood		State:	Florida	Zip Code:	32443

**DESCRIPTION:** Furnish all required labor, materials and equipment necessary to provide Scope-of-Work at the above described location. Work is being authorized under the elected FMIT TurnKey Recovery Program<sup>sm</sup> administered by Synergy NDS, Inc. (SynergyNDS) on behalf of the Insured Property Owner, a Member of the Florida Municipal Insurance Trust (FMIT).

**SUBMITTAL INSTRUCTIONS:** In support of Procurement Guidelines, the IFB Packet includes specifications and terms & conditions associated with the above referenced project information.

- 1. Bids shall be received no later than the Closing Date & Time indicated above. Bids received after above deadline or that are not submitted in accordance to Submittal Instructions may be rejected without further explanation or contractor notification.
- 2. Bid shall be completed and submitted using **ONLY** the <u>Contractor Submittal Form</u> (provided at the end of the IFB Packet).
- Contractor is responsible to validate all Quantities and Units of Measurements specific to the following scope items &/or products. The information and descriptions provided in the IFB are intended for general guidance purposes only. Contractor may not change or alter any material &/or specifications identified in the IFB for submission purposes without prior written/email notification to: <u>bids@synergynds.com</u>.
- 4. Contractor has the sole responsibility to ensure that all services and material for BID Submittal (whether stated correctly in the IFB or not) satisfactorily meet all required Codes & Standards, OSHA Guidelines and The Americans with Disabilities Act (ADA).
- 5. Contractor should also consider the approach (if necessary) in which to stock/store material at the jobsite in a safe and secure manner. SynergyNDS will not be responsible for lost or stolen material, supplies or equipment stocked at the jobsite.
- 6. Bid award will be made based on best overall LUMP SUM project value as determined by SynergyNDS in accordance to market valuation, project demands, critical path scheduling as well as overall Insured Member's WorkForce Participation Goals. Contributing factors, in addition to price, may be considered as necessary to help determine bid award based on any additional criteria set forth by the specific FMIT Insured Member.

- 7. SynergyNDS reserves the right to modify the IFB Specifications and Terms & Conditions at any time during the bid solicitation process. Timely notice to all bidders will be given via an electronically distributed Addendum.
- 8. All registered HUB & HUB Zone Contractors, as well as DBEs are encouraged to participate. Additional Contractor Financial Assistance is available to help support daily HUB/DBE Contractor's operations under the terms and condition of a successful contract award.
- 9. SynergyNDS is an equal opportunity employer and administers all Contracts & Contractor Agreements in accordance to the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a).
- 10. Contractor is strongly encouraged to schedule a Site Visit of the property as necessary to support the IFB Submittal. All scheduled site visits can be requested at <u>bids@synergynds.com</u>.
- 11. When a mandatory Pre-BID Meeting is identified and scheduled in a specific IFB, Contractor Attendance is a requirement as part of the Solicitation. Contractors who fail to attend the Pre-BID Meeting will not be eligible to participate in the IFB and subsequent submittal process.
- 12. Contractor can submit all questions &/or concerns specific to the IFB by email to: <u>bids@synergynds.com</u>.

#### **SCOPE-OF-WORK SUMMARY**

Refer to **EXHIBIT A** and any subsequent **ATTACHMENTS** for scope-of-work description that will be included after the IFB Contractor Submittal Form on Page #9.

\*This IFB is part of a potential Federally Funded Project.

\*This IFB does not require a Contractor Payment or Performance Bond.

\*This Project is Sales Tax Exempt through the specific Florida Public Entity.

\*This IFB does not require a Pre-BID Meeting

\*This IFB supports workforce participation goals.

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#### **GENERAL TERMS & CONDITIONS**

- 1. Contractor shall be responsible for field verifying all conditions, dimensions & quantities prior to IFB Submittal and the implementation of this scope of work. Any Exhibits, Plans, Drawing &/or Other Supporting Documents have been included for general reference purposes only.
- Contractor is responsible to identify and satisfactorily address all applicable regulatory requirements, including but not limited to Codes & Standards, HUD/DBE Participation Goals & Guidelines and ADA/FHA Specifications.
- Contractor shall indicate in writing and be responsible to submit to SynergyNDS via email distribution to projects@synergynds.com any request or need for additional 3<sup>rd</sup> Party Assignment as necessary to further identify required codes & standards, scope specifications or public health safety concerns outside of Contractor's professional competence &/or licenses.
- 4. Contractor is to obtain their own permits and schedule all applicable inspections. Permits can be obtained by contacting the Building Department or other administering entity. Permit Fees are reimbursable direct from SynergyNDS (in addition to contractor's Lump Sum Proposal) if incurred and submitted with proper documentation.
- 5. Contractor shall prohibit discrimination against staff &/or available workforce based on their status as protected veterans or individuals with disabilities and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin. Moreover, these regulations require that Contractor and its subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity.
- 6. Contractor is to abide by all applicable OSHA and project safety requirements and standards. Contractor shall require all employees to utilize proper PPE when applicable, including but not limited to: fall protection harnesses, hard hats, safety glasses, safety foot wear, gloves and etc.
- 7. Contractor is responsible for submitting applicable project and associated contract documents as defined by Architectural Drawings Specifications, Engineering Requirements, Certificates of Insurance, Change Order Requests and any written or documented deviations from approved scopes-of-work or Contract.
- 8. Contractor may be asked to provide Material Safety Data Sheets (MSDS) to the Industrial Hygienist of record (for the project) for chemical-based products that will be used including, but not limited to, glues, cleaners, solvents, anti-microbial products, sanitizing agents, etc. The Industrial Hygienist of record retains the right to not allow the use of any of the products selected.
- 9. Contractor shall be responsible under terms of the Agreement for supplying any and all necessary labor, equipment, tools, materials and travel expense to complete the scope of work unless directed otherwise in the IFB. This includes but is not limited to: Rental Equipment, Dumpsters, Storage Containers, Jobsite Trailer, General Conditions, Associated Expenses, Travel Cost and Overhead & Profit which are to be included in the IFB Contractor Lump Sum Proposal.
- 10. Contractor shall protect all property from new and supplemental damage during the performance of work. This includes, but necessarily limited to: wall finishes, floor finishes, windows, electrical systems, mechanical systems, communication systems, life safety systems, security systems, HVAC control

systems, plumbing systems, lighting systems, structurally related components, exterior elements, vegetation, property-of-others, and etc.

- 11. Contractor shall be responsible for any breakage &/or cleaning of unintended damage, debris, coatings, coverings, overspray and residual caulking from the aforementioned property described above. If affected property can't be successfully cleaned &/or restored to pre-existing condition, SynergyNDS will seek reimbursement from Contractor &/or deduct the appropriate replacement cost from outstanding Invoice Payment (Contract Value).
- 12. Contractor is EXPECTED to maintain a Clean & Safe Work Environment throughout the lifecycle of the awarded scope-of-work. This includes daily clean-up and organization of the Contractor's work area specific to all material waste, debris, tools &/or equipment. Failure to do so (after 3 documented warnings) can result in back charges to Contractor in the amount of \$25.50 hourly rate with a minimum \$150.00 per day clean-up rate (as determined by the SynergyNDS or the Insured Property Owner).
- 13. Contractor shall be responsible for securing work area(s) from access by non-authorized building occupants, including all persons not directly part of the restoration, repair and/or rebuild efforts. This includes securing work area(s) as identified in the IFB Scope-of-Work &/or under Contractors control.
- 14. Contractor shall provide and implement a site-specific health and safety plan to include hazard communication and related OSHA requirements to protect workers as well as the general public with access to the work area.
- 15. If the Contractor determines that deviations, modifications (change order or supplemental costs) from the initial scope-or-work are required, the Contractor shall submit a written request to SynergyNDS for review and approval prior to start of any additional work not otherwise included in initial BID. The written request will contain, at a minimum:
  - a. Reason for deviation or modification
  - b. Description of deviation or modification
  - c. Project cost addition or subtraction for deviation or modification
  - d. Estimated time required for deviation or modification.
- 16. Contractor is NOT responsible for any conditions or activities the building owner or employees implemented prior to their arrival to the job site. This includes removal of contents, equipment or personnel from the affected areas to the non-affected areas of the building.
- 17. During the performance of Contractor's scope-of-work, pre-existing damage to the building, structure, system failures or other anomalies may be found. If this occurs, the Contractor has the responsibility to identify, document and report these deficiencies immediately to SynergyNDS by email notification to projects@synergynds.com. Verbal notification &/or discussion only with the Onsite Project Manager is encouraged but not binding. Written documentation must be provided in efforts to comply with the required transparent approach.
- 18. Contractor is responsible to ensure that their employees &/or its sub-contractors comply with the provisions and terms of the IFB and Contract Agreement.

**PAYMENT**: Project is managed by SynergyNDS, Inc., under the FMIT Turnkey Recovery Program. Payments will be made directly to the contractor(s) in accordance with described terms & conditions. Qualified contractors may be eligible for an upfront material deposit or progress payments as determined prior to BID AWARD. Contractor must be registered in the MVP (Managed Vendor Program) whereby required contractor documents must be uploaded to the database. There is annual \$49.95 processing fee as part of the initial contractor vetting and background check.

**PAYMENT TERMS**: Payments will be made after inspection and approval of work by SynergyNDS, City Building Official &/or Insurance Adjuster. Accurate invoices and required project documentation must be submitted to SynergyNDS for project audit prior to payment. \*Material Deposits &/or Advanced Payments require Contractor to complete online registration in the Managed Vendor Program (MVP). MVP has an annual \$49.99 Registration Fee to be part of the Contractor Direct Repair Program. Material Deposits &/or Advanced Payments will require a 2% Invoice Payment Discount.

**HOLD HARMLESS**: To the fullest extent permitted by law, the Contractor/Vendor shall indemnify, defend, and hold harmless SynergyNDS, Inc & FMIT, their officers, agents, employees, elected, and appointed officials, Insurance Representatives and volunteers from and against any and all claims, losses or liability, including attorney's fees, arising from injury or death to persons or damage to property occasioned by any act, omission, or failure of the Contractor/Vendor and any of its officers, agents, employees, and volunteers in satisfying the terms required by this contract.

**RIGHT TO ACCEPT, REJECT AND WAIVE DEFECTS**: SynergyNDS &/or Contracting Agent reserves the right to: reject all quotations; waive formalities, technical defects, and minor irregularities; accept the quotation (if any) deemed most advantageous to and in the best interests of Insured Members of FMIT. Award will be based on price, contractor's daily performance capabilities, availability to provide the specified services when required &/or in accordance to critical path scheduling.

**DAMAGES:** Contractor will be held liable for any damage caused to the building and ancillary structure, and/or injury to the occupants resulting from the execution of the work or from not exercising proper precautionary protective measures. Any cost of repair/replacement resulting from damages shall be at the Contractor's expense.

**WORK-SITE PRACTICES:** Contractor's workers, as well as the various trade contractors entering or leaving the work area, will all attend a site-specific safety meeting as well as daily safety meetings prior the scheduled workday. Contractor's workers entering or leaving the work area will don or remove personal protective equipment and clothing in the staging area outside of each work area. All debris & trash in the work area will be removed and disposed.

**WORKER PERSONAL PROTECTION EQUIPMENT:** The National Institute for Occupational Safety and Health (NIOSH) provides the following interim guidelines and warnings to restoration workers.

- a) Steel toed leather boots should be worn. Tennis shoes or sneakers should *not* be worn because they will transfer contamination and will not prevent punctures, bites, or crush injuries.
- b) Goggles, safety glasses with side shields or full-face shields shall be used when performing restoration related activities that involve demolition, cutting or the use of ANY power tools. Sun/glare-protective

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lenses may be needed in some work settings. The use of goggles or protective eyewear should also be worn during the application of any cleaners, sanitizers or disinfectants.

- c) Soft hat or another protective head cover. Wear an American National Standards Institute (ANSI) rated hardhat if there is any danger of falling debris or electrical hazards.
- d) Hearing protection (when working in an environment with any noise that you must shout over to be heard).
- e) Comfortable, form fitting, light weight clothing including long pants and a long-sleeved shirt or coveralls. Additional PPE, respiratory protection, or clothing may be required when specific exposure hazards are identified or expected at the work site. In some instances, the protective ensemble components (garment, boots and gloves) may need to be impervious to contaminated flood or other site-specific chemical, physical, or biological hazards. In all instances, workers are advised to wash their hands with soap and clean water, especially before eating or drinking. Protect any cuts or abrasions with waterproof gloves and dressings. The use of insect repellant, sun block and lip balm may also be required for some work environments. Drink plenty of bottled water and take frequent rest breaks to avoid overexertion.

**THERMAL STRESSES: HEAT:** Workers are at serious risk for developing heat stress. Excessive exposure to hot environments can cause a variety of heat-related problems, including heat stroke, heat exhaustion, heat cramps, and fainting. To reduce the potential for heat stress, drink a glass of fluid every 15 to 20 minutes and wear loose- fitting clothing. Additionally, incorporate work-rest cycles into work routines and when possible distribute the workload evenly throughout the day.

\*\*\*\*Temporary cooling to the work areas shall only be authorized by the owner's representative based on the actual need for the work being performed. Where the conditions allow for the operation of part or all of the ventilation systems serving the work area then the need for temporary cooling is NOT necessary. The work area should be maintained at conditions that meet OSHA requirements for health and safety.\*\*\*

**WORKING IN CONFINED SPACES:** If you are required to work in a boiler, furnace, pipeline, pit, pumping station, septic tank, sewage digester, storage tank, utility vault, well, or similar enclosure, you should be aware of the hazards of working in confined spaces. A confined space has one or more of the following characteristics:

- a) limited openings for entry or exit;
- b) unfavorable natural ventilation; or
- c) Is not designed for continuous worker occupancy.

Toxic gases, a lack of oxygen, or explosive conditions may exist in the confined area, resulting in a potentially deadly atmosphere. Because many toxic gases and vapors cannot be seen or smelled, never trust your senses to determine if safe entry is possible. **Never** enter a confined space unless you have been properly trained, even to rescue a fellow worker! If you need to enter a confined space and do not have the proper training and equipment, contact your local fire department for assistance.

**<u>CONTRACT IMPLEMENTATION</u>**: Contract will be awarded upon review of all bids and proposals received by SynergyNDS. Initiation of intent-to-contract with Contractor will be engaged upon email notification and signed/returned Contractor Agreement Form. Contract-in-full will occur upon SynergyNDS receipt of all required documentation including but not limited to:

- a) Performance Bond &/or Payment Bond (If Required)
- b) Certificate of General Liability Insurance
- c) Certificate of Auto Insurance
- d) Certificate of Worker's Compensation or Letter of Exemption
- e) Contractor's W-9
- f) State Licenses

Further description of insurance requirements is listed in "Insurance & Licensing Requirements." No material deposits &/or payments will be made to Contractor until all required documentation has been received.

**ASSIGNMENT OF CONTRACT**: Contractor shall not assign the contract or any part thereof to any person, firm, corporation or company unless such assignment is approved in writing by SynergyNDS. Such acceptance shall be at the sole discretion of the SynergyNDS upon request of the Contractor. Upon approved and executed Transfer-of-Contract-Agreement, Contractor will be responsible for the coordination and hand-off of work/trades with the newly Assigned Contractor. Failure to coordinate this work will not relieve original Contractor of their obligations and shall not constitute additional cost as governed by the Lump Sum Contract Award.

**ASSIGNMENT OF CONTRACTOR:** Contractor is responsible for supplying all required Personal Protective Equipment (PPE), including but not limited to the furnishing and appropriate use of: hard hat(s), safety glasses, face shields, ear plugs, gloves, boots, fall protection (where required), breathing protection (where required), tie off ropes/apparatuses/points (where required), fire extinguishers, first aid kits, etc. Contractor is required to be familiar with and follow all OSHA and State of Florida's safety requirements.

- a) Contractor is to hold daily jobsite safety meetings that review the work to be performed, the hazards involved and the methods for reducing and eliminating such hazards, as well as maintain meeting records, including attendance lists, which shall be kept onsite and available for SynergyNDS review at all times. Contractor shall be solely liable for any and all OSHA violations associated with his/her employees.
- b) SynergyNDS reserves the right to hold weekly progress meetings for which the Subcontractor shall attend. Contractor shall be responsible for daily cleanup of the work performed herein. Failure to cleanup daily after trade will result in cleanup supplementation at Contractor's cost. Twenty-Four (24) hour notice will be given prior to supplementation. Contractor shall be responsible for delivery, loading, unloading, storage, protection, etc. of all work provided herein.

**ENERGY EFFICIENCY:** The Contractor shall comply with all mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163) for the State in which the work under this contract is performed.

**PROCUREMENT OF RECOVERED MATERIALS:** In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor should procure items designated in the EPA Guidelines that contain the highest percentage of recovered materials practical unless the Contractor determines that such items:

- a) are not reasonably available in a reasonable period of time;
- b) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology;

**FAILURE TO COMPLY**: For failure to deliver in accordance with specifications, SynergyNDS may cancel the contract or any part thereof and purchase services on the open market, charging any additional cost to the Contractor. Contractor shall comply with all applicable state, federal and local codes, and pay all permits, licenses and certificates, and other fees as required by the work.

#### **INSURANCE & LICENSING REQUIREMENTS**: Before starting work, the Contractor will provide

SynergyNDS proof of Worker's Compensation and Commercial and Public Liability Insurance. The Contractor must be licensed to do business in the State of Florida and SynergyNDS must be named as an additional insured on general liability insurance certificate. Contractor will need to go to <u>www.syngerynds.com</u> and complete the initial registration for the Managed Vendor Program (MVP). Contractor will be required to upload the following information (when applicable) prior to contract award and eligible material deposits.

- a) The Contractor will carry Worker's Compensation Insurance for all employees engaged in work at the site, in accordance with State or Territorial Worker's Compensation Laws.
- b) Commercial and Public Liability with bodily injury and property damage limits will be at a combined single limit of at least \$500,000 to protect the contractor and each subcontractor against claims for injury to or death of one or more persons.
- c) Automobile Liability on owned and non-owned motor vehicles used on the site(s), or in connection with the sites, for a combined single limit for bodily injury and property damages of not less than \$500,000.00 per occurrence.
- d) Builder's Work Insurance limit of at least \$5,000.00 per occurrence and \$10,000.00 aggregate.
- e) Professional Liability \$1,000,000 per occurrence (if applicable).

Contractor will not allow insurance coverage to lapse and will provide SynergyNDS with updated Certificates of Insurance as necessary. All policies must provide that at least thirty (30) days' notice of cancellation will be given to SynergyNDS. All Contractor employees &/or subcontractors are bound by the Insurance Requirement. Contractor is the sole responsible party for all its Employee &/or SubContractor infractions, accidents, damages and all general liability concerns that occur, whether directly or indirectly, as related to Contracted Scope-of-Work.

#### The certificate holder(s) must be noted as:

Synergy NDS, Inc. 1400 Sarno Rd Melbourne, FL 3293

#### FEDERAL CONTRACT REQUIREMENTS ONLY (In a Declared Event)

If stated in the IFB, the Contractor and its subcontractors must follow the provisions, as applicable, as set forth in 2 C.F.R. §200.326 Contract provisions and Appendix II to 2 C.F.R. Part 200, as amended, including but not limited to:

9.29.1 Davis-Bacon Act, as amended (40 U.S.C. §§3141-3148). When required by Federal program legislation, which includes emergency Management Preparedness Grant Program, Homeland Security Grant Program, Nonprofit Security Grant Program, Tribal Homeland Security Grant Program, Port Security Grant Program and Transit Security Grant Program, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must comply with the Davis-Bacon Act (40 U.S.C. §§3141-3144, and §§3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. If applicable, SynergyNDS must place a current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. SynergyNDS must report all suspected or reported violations to the Federal awarding agency. When required by Federal program legislation, which includes emergency Management Preparedness Grant Program, Homeland Security Grant Program, Nonprofit Security Grant Program, Tribal Homeland Security Grant Program, Port Security Grant Program and Transit Security Grant Program (it does not apply to other FEMA grant and cooperative agreement programs, including the Public Assistance Program), the contractors must also comply with the Copeland "Anti-Kickback" Act (40 U.S.C. § 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). As required by the Act, each contractor or subrecipient is prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. SynergyNDS must report all suspected or reported violations to the Federal awarding agency.

- 1. Contractor. The contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
- 2. Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as the FEMA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.
- 3. Breach. A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12.

9.29.2 Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, which includes all FEMA grant and cooperative agreement programs, all contracts awarded by SynergyNDS in excess of

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\$100,000 that involve the employment of mechanics or laborers must comply with 40 U.S.C.§§ 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. §3702 of the Act, each contractor must compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

9.29.3 Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

9.29.4 Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387). Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. §§7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. §§1251-1387) and will report violations to FEMA and the Regional Office of the Environmental Protection Agency (EPA). The Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—applies to Contracts and subgrants of amounts in excess of \$150,000.

9.29.5 Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689(3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

9.29.6 Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal funds that takes place in connection with obtaining any Federal funds that takes place in connection with obtaining any Federal funds that takes place in connection with obtaining any Federal funds that takes place in connection with obtaining any Federal award.

9.29.7 Compliance with Procurement of recovered materials as set forth in 2 CFR § 200.322. CONTRACTOR must comply with section 6002 of the Solid Waste disposal Act, as amended, by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered FMIT TURNKEY RECOVERY<sup>™</sup> PROGRAM 2020 | SYNERGYNDS, INC | 888.580.7080 Page 10

materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

#### **OTHER FEDERAL REQUIREMENTS (In a Declared Event)**

9.29.9 Americans with Disabilities Act of 1990, as amended (ADA) – The CONTRACTOR will comply with all the requirements as imposed by the ADA, the regulations of the Federal government issued thereunder, and the assurance by the CONTRACTOR pursuant thereto.

9.29.10 Disadvantaged Business Enterprise (DBE) Policy and Obligation - It is the policy of SynergyNDS that DBE's, as defined in 49 C.F.R. Part 26, as amended, shall have the opportunity to participate in the performance of contracts financed in whole or in part with SYNERGYNDS funds under this Agreement. The DBE requirements of applicable federal and state laws and regulations apply to this Agreement. SynergyNDS and its CONTRACTOR agree to ensure that DBE's have the opportunity to participate in the performance of this Agreement. In this regard, all recipients and contractors shall take all necessary and reasonable steps in accordance with 2 C.F.R. § 200.321( as set forth in detail below), applicable federal and state laws and regulations to ensure that the DBE's have the opportunity to compete for and perform contracts. SynergyNDS and the CONTRACTOR and subcontractors shall not discriminate on the basis of race, color, national origin or sex in the award and performance of contracts, entered pursuant to this Agreement. 2 C.F.R. § 200.321 CONTRACTING WITH SMALL AND MINORITY BUSINESSES, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS

- a) If the CONTRACTOR, with the funds authorized by this Agreement, seeks to subcontract goods or services, then, in accordance with 2 C.F.R. §200.321, the CONTRACTOR shall take the following affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used whenever possible.
- b) Affirmative steps must include:
  - I. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
  - II. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
  - III. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
  - IV. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
  - V. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

VI. Requiring the Prime contractor, if subcontractor are to be let, to take the affirmative steps listed in paragraph (1) through (5) of this section.

9.30 The Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contractor during the term of the Contract and shall expressly require any subcontractors performing work or providing services pursuant to the Contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contract term.

9.31 If attached, the CONTRACTOR is bound by the terms and conditions of the Federally-Funded Subaward and Grant Agreement between SYNERGYNDS and the Florida Division of Emergency Management (Division).

9.32 The CONTRACTOR shall hold the Division and SYNERGYNDS harmless against all claims of whatever nature arising out of the CONTRACTOR's performance of work under this Agreement, to the extent allowed and required by law.

#### **\*\* THE REMAINING PART OF THIS PAGE IS INTENTIONALLY LEFT BLANK \*\***

IFB – CONTRACTOR SUBMITTAL FORM						
GC20	<b>B Number</b> 18092565-7079	Scope Number 6114	Closing Date 2/26/2020	Closing Time 4:00pm EST	Return IFB Submittal bids@synergynds.com	
Co	mpany Name:					
А	ddress Line 1:					
A	ddress Line 2:					
	City:					
	State:	Zip Code:				
C CONTF	Contractor Cert	ification: DBE	U WBE/WOS	В 🗌 НОВ [	SDVOSB/VOSB	
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Signature

Date

\*Material Deposits &/or Advanced Payments require Contractor to complete online registration in the Managed Vendor Program (MVP). MVP has an annual \$49.99 Registration Fee to be part of the Contractor Direct Repair Program. Material Deposits &/or Advanced Payments will require a 2% Invoice Payment Discount.

## INVITATION FOR BID (IFB) GC2018092565-007001-Exhibit A

**Project Summary:** The location the remnants of a warehouse building which was a complete loss as a result of Hurricane Michael. Warehouse is an 80' x 40' structure with garage doors and personnel entry/exit doors. The invitation for bid is to complete the interior framing, insulation, drywall, doors, and painting. Debris from original warehouse has been removed from the location along with the damaged concrete slab and footers. The slab of the new building has been poured and has cured. The skeleton of the building has been completed and current contractor will be on site installing insulation and exterior wall panels. Anticipate work beginning March 2020. Contractor is expected to work in conjunction with other trades. Scheduling will be important to ensure limited delays amongst other trades.

#### **Bidding Information:**

Bids are to be returned to: bids@synergynds.com

Bid is to be provided in a lump sum total.

Bid packets shall include the following:

- 1) Completed IFB Form.
- 2) Copy of Florida License.
- 3) All proposed materials to be used with manufacture warranty information (Where applicable).
- 4) Florida Product Approval Sheet for all proposed materials to be used.
- 5) Proposed timeline for project from beginning of project to completion.

#### Location:

Warehouse 5167 Fort Road Greenwood, FL 32443

#### Work Scope:

Special Note:

- $\circ~$  The wall between the warehouse and the office/breakroom area shall be constructed to be 1-HR fire rated.
- The interior ceiling shall be 1-HR fire rated.
- Interior Framing:
  - o All lumber which has direct contact with finished concrete shall be pressure treated.
  - All framing shall be completed as indicated in the attached architectural plans.
  - Walls are to be attached to concrete slab with 5/8" bolts to be drilled and epoxied in place and then secured.
    - Bolts to be installed every 2′ 8″ OC.

- Framing will be completed with 2" x 4" dimensional lumber. (Contractor has the option to use steel stud framing. If chosen all steel studs shall be of 18 GA.)
  - Frame out window and door openings with required headers and jacks.
  - Finished ceiling height to be 8'
  - All blocking to be installed to accommodate:
    - Grab bars
    - Wall mounted sinks
    - Wall mounted water cooler
    - Mounting of cabinets
- Framing is to include framing of the ceiling joist/mezzanine floor joist.
  - 14" PB's manufactured trusses.
  - Finished floor height to be 9'4"
  - Mezzanine floor to be decked with ¾" T&G plywood. Approx. 800 SF.
- $\circ~$  Guardrail for mezzanine level to be framed accordingly with  ${\it \ensuremath{\mathcal{X}}}''$  plywood on both sides.
- $\circ$   $\;$  Stairs to be constructed as indicated on the architectural plans.
  - Stair walls to be constructed as indicated on the plans.
  - Handrails to be constructed with 1-1/4" pipe on each side of the stairs.
- Install 3 wood shelves in closet in the bathroom at identified heights.
- Insulation:
  - $\circ$   $\;$  All wall cavities shall be filled with R-11 batt insulation.
  - $\circ$  Ceiling shall be insulated with R-31 batt insulation.
- > Drywall:
  - Must allow MEP contractors to complete required rough in prior to installing of the drywall.
  - Drywall to be 5/8" gypsum board.
  - 2 layers of drywall to be installed on the ceiling.
  - Drywall to be installed on the exterior of the wall which divides the office/breakroom from the warehouse. This is the only section to be taped and bedded of all joints. <sup>1</sup>/<sub>4</sub>" AC plywood to be installed on top of the drywall.
  - Taped, floated, and made ready for paint.
  - $\circ$   $\;$  Touch up maybe required following completion from all other trades.
- Doors/windows:
  - o Install interior single glass glazing metal frame window in office wall.
  - $\circ~$  Install 1-HR fire rated metal frame window in wall looking out to the warehouse area.
  - Install doors as indicated on the door schedule. (5 total).
  - Provide and install all required door hardware.
    - Door hardware to be brushed nickel.
    - All door handles to be commercial grade lever action type.
  - $\circ$   $\;$  Doors and windows to be trimmed out.
    - Doors to be trimmed with standard 2-1/4" casing.
    - Inside of exterior windows to have interior wrapped with drywall and window stool installed.
    - Interior windows to be trimmed out with 2-1/4" trim to match doors.
      - Trim shall have corners cut at 45-degree angles to form box around the windows on both sides.

 All trim shall be tight cut to eliminate excessive caulking during painting phase.

#### Painting:

- Ceiling to be painted with one coat primer and 2 coats of standard white ceiling paint.
- All walls to be painted with one coat primer and 2 coats of eggshell paint. Color to be determined.
- Guardrail and exterior plywood wall covering shall be painted with one coat primer and 2 coats of color paint. Paint shall be suitable for exposure to environment.
- Prime and paint with direct to metal paint for all metal surfaces including window and door frames and metal pipe handrail.
- All painting shall be completed in accordance with the manufacture specifications.
- No diluting of paint will be accepted.
- Caulk all trim joints.
  - All trim to be painted white with one coat primer and two coats of paint.
- Paint shelves in closet in the bathroom (3 shelves).
- Contractor to perform any required touch up paint at the end of the project.
- Contractor to keep in mind that when painting any wood surface more than 2 coats of color paint maybe required due to different absorption rate of material.
- Exterior Windows & Doors:
  - Exterior windows and door openings shall be finished out to match interior finishes.
- Accessories:
  - $\circ$   $\;$  Install grab bars as indicated in the attached plans.
  - $\circ$  Install 2 soap dispensers. (1 in bathroom and 1 in the breakroom).
  - $\circ$  Install 2 paper towel dispensers. (1 in bathroom and 1 in the breakroom).
  - Install 2 wall mounted fire extinguishers in identified locations. (min. 10lb capacity)
- General Notes:
  - Contractor is required to keep site clean and tidy at all times.
  - $\circ$  Contractor is required to clean all areas at the end of the project. (Construction clean)
  - Contractor shall review attached drawings. Any information contained in the drawings and not in the Invitation for Bid shall be brought to the attention of SynergyNDS for review. Consideration of these items shall be considered when providing the lump sum bid.
  - $\circ~$  Any specifications of manufacture specific is for reference only and not an indication that the manufacture must be used.

#### Reminder Notes:

- 1. Contractor is responsible to validate all quantities and units of measurements specific to the scope items above. Information above is intended as a general guidance purpose only.
- 2. Contractor has the sole responsibility to ensure that all services and materials for bid submittal meet all codes and standards. This include that all work must be completed in order to meet all codes and standards.
- 3. Contractor should also consider method to stock/store materials at the jobsite in a safe and secure manner. SynergyNDS will not be responsible for lost or stolen materials, supplies, or equipment from the location.
- 4. Contractor is strongly encouraged to schedule a site visit of the property as necessary to support the IFB submittal.

5. Contractor can submit request for site visit, all questions &/or concerns to the specific IFB by emailing: bids@synergynds.com



#### PROJECT DIRECTORY

OWNER:	Town of Greenwood 4207 Bryan Street, Greenwood, Florida Phyliss Bowman, Mayor Phone: (850) 594-1216
ARCHITECT:	Donofro Architects 2910 Caledonia St. P.O. Box 861 Marianna, Florida 32446/32447 Phone: (850) 482-5261 Fax: (850) 482-8609 Paul A. Donofro, Jr., Project Architect Sean Donofro, Contract Administration
PROJECT MANAGEMENT:	SynergyNDS 1400 Sarno Road Melbourne, GL 32935 Phone: (888) 580-7080 Keith Bassett, Sr Project Manager <u>kbassett@synergynds.com</u> or (706) 551-4946
CIVIL ENGINERING:	N.I.C. / BY OWNER
STRUCTURAL ENGINEER:	Johnson and Associates Engineering 200 Grove Park Lane, #820 Dothan, Al. 36305 Phone: (334) 671-4783 Brad Johnson, PE
MECHANICAL ENGINEER:	Watford Engineering, Inc 2872 Madison Street Marianna, Florida 32448 Phone: (850) 526-3447 David N. Watford, PE
ELECTRICAL ENGINEER:	Humber Garrick Engineering 142 Elgin Parkway, SE Fort Walton Beach, Florida 32548 Phone (850) 243-6723 Dan White, PE

#### SECTION 1B

#### **RODENT PROOFING**

#### 1B-01. <u>GENERAL CONDITIONS:</u>

The General and Special Conditions, Division II, Sections E and F of these specifications shall apply to and form a part of this Section as if written in full herein.

#### 1B-02. <u>SCOPE:</u>

Buildings or structures and the walls enclosing habitable or occupied rooms and spaces in which persons live, sleep or work or in which feed, food or foodstuffs are stored, prepared, processed, served, or sold, shall be constructed in accordance with the provisions of this section.

#### 1B-03. FOUNDATION WALL VENTILATION OPENINGS: N.A.

#### 1B-04. FOUNDATION AND EXTERIOR WALL SEALING:

Annular spaces around pipes, electric cables, conduits, or other openings in the walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry, or non-corrosive metal.

#### 1B-05. <u>DOORS:</u>

Hollow metal doors and doors on which metal protection has been applied shall be hinged to be free swinging. When closed, the maximum clearance between any door, door jambs and sills shall not be greater than inch (9.5mm).

#### 1B-06. WINDOWS AND OTHER OPENINGS:

Windows and other openings for light or ventilation located in exterior walls within 2 feet (610mm) above the existing ground level immediately below such openings shall be covered for their entire height and width, including frame, with hardware cloth of at least 0.035-inch (0.89mm) wire or heavier.

A. <u>Rodent - accessible openings:</u> Windows and other openings for the purpose of light and ventilation in the exterior walls not covered in this chapter, accessible to rodents by way of exposed pipes, wires, conduits and other appurtenances, shall be covered with wire cloth of at least 0.035 inch (0.89mm) wire. In lieu of wire cloth covering, said pipes, wired, conduits and other appurtenances shall be blocked from rodent usage by installing solid sheet metal guards 0.024 inch (0.61mm) thick or heavier. Guards shall be fitted around pipes, wires, conduits, or other appurtenances. In addition, they shall be fastened securely to and shall extend perpendicularly from the exterior wall for a minimum distance of 12 inches (305mm) beyond and on either side of pipes, wires, conduits or appurtenances.

#### 1B-07. <u>PIER AND WOOD CONSTRUCTION:</u>

- A. <u>Sill less than 12 inches above ground</u>: Buildings not provided with a continuous foundation shall be provided with protection against rodents at grade by providing either an apron in accordance with Section F101.6.1.1 or a floor slab in accordance with Section F101.6.1.2
  - 1. **F101.6.1.1 Apron**. Where an apron is provided, the apron shall not be less than 8 inches (203mm) above, nor less than 24 inches (610mm) below grade. The apron shall not terminate below the lower edge of the siding material. The apron shall be constructed of an approved non-decayable, water-resistant rodent-proofing material of required strength and shall be installed around the entire perimeter of the building. Where constructed of masonry or concrete materials, the apron shall not be less than 4 inches (102mm) in thickness.
  - 2. **F101.6.1.2. Grade Floors**. Where continuous concrete grade floor slabs are provided, open spaces shall not be left between the slab and walls, and openings in the slab shall be protected.
- B. <u>Sill at or above 12 inches above ground:</u> Buildings not provided with a continuous foundation and which have sills12 or more inches (305mm) above the ground level shall be provided with protection against rodents at grade in accordance with any of the following:
  - 1. Section F101.6.1.1 or F101.6.1.2:
  - 2. By installing solid sheet metal collars at least 0.024 inch (0.6mm) thick at the top of each pier or pile and around each pipe, cable, conduit, wire or other item which provides a continuous pathway from the ground to the floor; or
  - 3. By encasing the pipes, cables, conduits, or wires in an enclosure constructed in accordance with Section F101.6.1.1

#### **END OF SECTION**

#### SECTION 6A

#### CARPENTRY, MILLWORK, AND INSULATION

#### 6A-01. <u>GENERAL CONDITIONS:</u>

The General and Special Conditions, Division II, Sections E and F of these specifications shall apply to and form a part of this Section as if written in full herein.

#### 6A-02. <u>SCOPE:</u>

The contractor shall furnish all labor and materials for carpentry, millwork and case work as indicated on drawings or specified, or reasonably required to finish the work. Work under this heading shall be properly coordinated with all other trades. The carpenter shall do all cutting and fitting for carpentry and millwork, and render all such other assistance required for other branches of the work, making good after other mechanics.

#### 6A-03. LUMBER, IN GENERAL:

All lumber shall be thoroughly seasoned and dried to a moisture content of not over 10% for framing lumber and not over 12% for millwork, and when delivered shall be stored and protected to keep same dry.

All lumber for any purpose shall be dressed four (4) sides, unless otherwise noted and be free from holes, large loose knots, bark and large pitch streaks, regardless of grade.

Grading shall be according to grading rules of the Southern Pine Inspection Bureau under which it is manufactured and each piece of bundle, if bundled stock, shall bear an Inspection Bureau's mark, indicating the grade.

Doors, trim, and millwork in general shall not be stored in the building while the building is damp or in any damp storage location.

#### 6A-04. <u>LUMBER GRADES:</u>

All trim shall be No. 1 Fir. All blocking "cant" strips, grounds or nailers shall be pressure treated No. 2 grade, Yellow Pine; wood studs and wood joists shall be Fir or Yellow Pine structural grade.

#### 6A-05. <u>TREATED LUMBER:</u>

A. <u>Structural Lumber:</u> Give all nailers, blocking and wood grounds in contact with exterior masonry, concrete, roof slabs or steel, pressure preventative treatment in closed retort as per FS TT-W-571; minimum net preservatives as specified herein. Any of the following preservatives will be acceptable:

Pentachlorophenol (5% solution in oil)	Solution 6.0
Zinc Chloride	Dry Salt 1.0
Zinc Metal Arsenite (ZMA)	Dry Salt .03
Wolman Salts (Tanalith)	Dry Salt 0.3
Chromated Zinc Chloride	Dry Salt 0.75

Lbs. Per Cu. Ft.

After using the salt treatment, reduce lumber moisture content to not over 10%. Brush coat surfaces of lumber sawed, bored or cut, after treatment with same preservative used at plant. Accompany lumber with certificates from lumber treatment company, certifying treatment amount, moisture percentage after kiln drying. Architect reserves the right to apply method for determining penetrating as per manual issued by the American Wood Preserver's Association. Treatment shall be arsenic free.

#### 6A-06. METAL GLASS STOPS:

All wood doors shown or noted with glass lights shall have metal stops. Stops shall be Type FGS75 for single glazing and shall be as manufactured by Anemostat Door Products. **Install stops with stainless steel through bolts.** 

#### 6A-07. MILLWORK:

Preservative

Millwork shall be of material and manufacturer hereinafter specified and as indicated on the drawings and shown on details. In all cases millwork shall be of good standard construction. All joints shall be made in approved manner perfectly fitted. Secure with finishing nails with heads set for putty, and with screws and glue where required. All surfaces sanded smooth.

All trim and moldings shall be mitered at joints and corners and in full lengths within the limits of the material.

No sheet plywood shall be less than  $\frac{1}{4}$ " thick, exposed surfaces, Grade A. Frames shall be primed on all sides at the mill with clear primer.

#### 6A-08. TRIM:

Trim shall be as indicated on drawings or if not noted shall match specie of doors, siding, and paneling used. All other trim shall be as specified above, No. 1 Fir. All cuts in trim shall be painted with clear Rez during erection. All trim work including bonding on cabinets and cabinet work shall have mitered corners.

#### 6A-09. PLASTIC LAMINATE:

Surfaces where detailed shall be standard grade plastic laminate, 1/16" thickness, furniture finish, color as selected. Edges are to be covered with laminate. Counter top sheet shall overlap counter edge and corners ground to a 45-degree angle. Laminate shall be Formica, Micarta, Wilson Art, or equal. Colors shall be of solid colors as selected. **Other than manufactured** 

casework items, all millwork, window sills, and other surfaces shown with plastic laminate, plastic laminate shall be field applied.

#### 6A-10. ROUGH HARDWARE:

The contractor shall furnish all nails, screws, bolts and fittings required to fabricate and install his work in place of the character required and best suited to the conditions of the work.

#### 6A-11. <u>APPLICATION OF FINISH HARDWARE:</u>

Finish hardware is specified under another Section. Fit and apply all finish hardware to wood doors and leave same in operating order. All mortises, sinkages and cuts shall be accurately made to fit or be covered by hardware. Screws shall be counter sunk or counter bored and plugged as specified. All screws shall be screwed in place and not hammered. (After the finish hardware has been fitted, remove same until the painter has applied the last coat of paint on every surface, then reset in place.) See Carpet Section and Finish Hardware Section for aluminum saddles at doors between corridors and rooms.

#### 6A-12. <u>DOOR LOUVERS:</u>

All door louvers to be furnished by others and installed by this Contractor.

#### 6A-13. CAULKING:

Where backsplashes and/or counter tops finish against plastic walls, the joint shall be caulked with a Thiokol caulking compound before painting.

#### 6A-14. <u>PLYWOOD:</u>

All plywood shall have markings stamped on sheets for grades and thicknesses called for. Where used for exterior applications plywood to be exterior grade with exterior glue.

#### 6A-15. <u>ROOF INSULATION:</u> See Section 5

#### 6A-16 EXTERIOR WALL INSULATION: See Section 5

#### 6A-17. INTERIOR WALL SOUND BATTS:

Install interior wall sound batts at interior metal stud framed wall construction as shown in drawings equal to un-faced sound attenuation batts fiber glass as manufactured by Owens Corning with the following characteristics:

Thickness:3 <sup>1</sup>/<sub>2</sub>" <u>Width</u>:16" <u>Length:</u>96"

Surface Burning Characteris	stics / Rating:	Flame Spread Rating Smoke Developed Rating	10 10
Acoustical Performances:	N.R.C. (Nois	e Reduction Coefficient)	1
Thermal Performance:	R-Value		11

#### 6A-18. INTERIOR CEILING SOUND BATTS: N.A.

#### 6A-19. <u>CLEAN-UP</u>:

The Contractor shall remove all debris, scrap, etc., from the site upon completion of his work. Tile shall be free of finger prints, smudges, and present a uniform color, clean and level. Any tile found to contain smudges, chips, etc., shall be removed and replaced with new tile.

#### 6A-20. <u>GUARANTEE</u>:

This contractor shall guarantee in writing the materials and workmanship for a period of two (2) years after final acceptance of the building.

END OF SECTION.

#### SECTION 8A

#### GLASS, GLAZING, ALUMINUM WINDOWS, STOREFRONT, CURTAIN WALL

#### 8A-01. <u>GENERAL CONDITIONS:</u>

The General and Special Conditions, Division II, Sections E and F of these specifications shall apply to and form a part of this Section as if written in full herein.

#### 8A-02. <u>SCOPE:</u>

Furnish all labor, materials, and equipment and perform all operations necessary for the complete installation of all glass, glazing, windows, and store front as noted in these specifications and as shown on the drawings.

#### 8A-03. <u>GLAZING:</u>

All glazing shall be done by experienced glaziers. Only high grade glazing compound shall be used. G.E. Silglaze 2400 Silicone Sealant. All surfaces to be glazed shall be clean and dry and no glazing shall be done in freezing weather. Face putty shall be smooth and of uniform width, without ripples and all corners shall be cut clean and sharp.

Rebates of glazed panels and doors shall be primed before installing glass and all glass shall be back puttied and bedded on all sides except as noted for plate glass. Heat absorbing glass shall be set as to allow free expansion and contraction of the material.

Each piece of glass shall bear the manufacturer's label of quality and the labels shall remain in place until after inspection and approval of Architect. After inspection and approval, the labels shall be removed and glass cleaned and polished, both sides.

#### 8A-04. <u>SAFETY STANDARDS:</u>

All glazing shall comply with Safety Standards for Architectural Glazing 16CFR as issued by the Consumer Safety Commission. All windows shall meet requirements for 130 mph ultimate wind speed as per the 2014 Florida Building Code and ASCE 7-10.

#### 8A-05. NON-SECURITY LEVEL GLASS:

#### PART 1 -GENERAL

#### 1.1 SECTION INCLUDES

- A. Glass and glazing units for the following products and applications, and glazing requirements referenced by other sections:
  - 1. Windows.
  - 2. Doors.
  - 3. Interior borrowed lites.
  - 4. Glazed entrances.
  - 5. Storefront framing.

- 6. Glazed curtain walls.
- 7. Skylights.
- B. Glazing accessories.
- 1.2 RELATED SECTIONS
  - A. Division 08 Section 'Decorative Glass Glazing.'
  - B. Division 08 Section 'Mirrors.'
  - C. Division 08 Section 'Plastic Glazing.'
  - D. Division 08 Section 'Security Glazing.'

#### 1.3 REFERENCES

- A. American Architectural Manufacturers Association:
  - 1. AAMA 800 Voluntary Specifications and Test Methods for Sealants.
- B. ASTM International (ASTM):
  - 1. **ASTM C 509 -** Specification for Elastomeric Cellular Preformed Gasket and Sealing Material.
  - 2. **ASTM C 864** Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
  - 3. **ASTM C 920** Specification for Elastomeric Joint Sealants.
  - 4. **ASTM C 1036 -** Specification for Flat Glass.
  - 5. **ASTM C 1048 -** Specification for Heat-Treated Flat Glass Kind HS, Kind FT Coated and Uncoated Glass.
  - 6. **ASTM C 1087 -** Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.
  - 7. **ASTM C 1115 -** Specification for Dense Elastomeric Silicone Rubber Gaskets and Accessories.
  - 8. **ASTM C 1172 -** Specification for Laminated Architectural Flat Glass.
  - 9. **ASTM C 1281 -** Specification for Preformed Tape Sealants for Glazing Applications.
  - 10. **ASTM C 1330 -** Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
  - 11. **ASTM C 1376 -** Specification for Pyrolytic and Vacuum Deposition Coatings on Glass.
  - 12. **ASTM E 774 -** Specification for the Classification of the Durability of Sealed Insulating Glass Units.
  - 13. **ASTM E 1300 -** Practice for Determining Load Resistance of Glass in Buildings.
  - 14. **ASTM E** 2190 Standard Specification for Insulating Glass Unit Performance and Evaluation.
- C. Code of Federal Regulations:
  - 1. 16 CFR 1201 Safety Standard for Architectural Glazing Materials.
- D. Glass Association of North America (GANA):
  - 1. Glazing Manual.
  - 2. Laminated Glass Design Guide.
  - 3. Engineering Standards Manual.
- E. The Insulating Glass Manufacturers Alliance (IGMA):
  - 1. IGMA TB-3001 Sloped Glazing Guidelines.
  - 2. IGMA TM-3000 Glazing Guidelines for Sealed Insulating Glass Units.

- F. Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; Building Technologies Department; Windows & Daylighting Group, windows.lbl.gov/software:
  - 1. **"LBNL Window 5.0 (or higher) A PC Program for Analyzing Window** Thermal and Optical Performance.
- G. National Fenestration Rating Council (NFRC):
  - 1. NFRC 100 Procedure for Determining Fenestration Product Thermal Properties.
  - 2. NFRC 200 Procedure for Determining Fenestration Product Solar Heat Gain Coefficients at Normal Incidence.
  - 3. NFRC 300 Procedures for Determining Solar Optical Properties of Simple Fenestration Products.
- H. National Fire Protection Association (NFPA):
  - 1. NFPA 80 Fire Doors and Windows.
  - 2. NFPA 252 Fire Tests of Door Assemblies.
  - 3. NFPA 257 Fire Test for Window and Glass Block Assemblies.

#### 1.4 DEFINITIONS

- A. Manufacturers of Primary Glass: Firms that produce primary glass, as defined in referenced industry publications.
- B. Manufacturers/Fabricators of Glass Products: Firms that utilize primary glass in the production of glass products that may include coated glass, laminated glass, and insulating glass.
- C. Sealed Insulating Glass Unit Surfaces:
  - 1. Surface 1: Exterior surface of outer lite.
  - 2. Surface 2: Interspace-facing surface of outer lite.
  - 3. Surface 3: Interspace-facing surface of inner lite.
  - 4. Surface 4: Interior surface of inner lite.

#### 1.5 PERFORMANCE REQUIREMENTS

- A. General: Provide glazing systems that will withstand indicated loads and normal thermal movement without failure, including loss or glass breakage resulting from defective manufacture, fabrication, or installation; failure of glazing systems to remain watertight and airtight; or deterioration of glazing materials.
- B. Glass Design: Glass thicknesses indicated are minimums. Select actual glass lite thicknesses by analyzing loads and conditions. Provide glass lites in the thicknesses and in strengths required to meet or exceed the following criteria:
  - 1. Glass Thicknesses: Comply with ASTM E 1300, as follows:
    - a. Specified Design Wind Loads: As indicated.
    - b. Probability of Breakage for Vertical Glazing: 8 lites per 1000 for lites set within 15 degrees of vertical and under wind load for a load duration of [3] seconds.
    - c. Probability of Breakage for Sloped Glazing: 1 lite per 1000 for lites set more than 15 degrees off vertical and under wind and snow loads for a duration of [30] days.
    - d. Thickness of Tinted Glass: Provide the same thickness for each tint color for all applications.

- C. Thermal Movements: Allow for thermal movements of glazing components and glass framing members resulting from a temperature change range of 120 deg F ambient and 180 deg F material surfaces.
- D. Thermal and Optical Performance Properties: Provide glass meeting specified performance properties, based on manufacturer's published test data for units of thickness indicated, and the following:
  - 1. Center-of-Glass Values: Per LBNL Window 5.0 (or higher) analysis, as follows:
    - a. U-Factors: NFRC 100 expressed as Btu/sq. ft. x h x deg F.
    - b. Solar Heat Gain Coefficient: NFRC 200.
    - c. Solar Optical Properties: NFRC 300.

#### 1.6 SUBMITTALS

- A. Product Data: Manufacturer's data sheets for each glass product and glazing material.
- B. Samples: 12-inch-square, for each type of glass product, other than monolithic clear float glass [or clear float glass only set in insulated glass units].
- C. Glazing Schedule: Prepare schedule using designations used on Drawings.
- D. Product Certificates: Signed by manufacturers/fabricators of glass products certifying that products furnished comply with project requirements.
- E. Preconstruction Adhesion and Compatibility Test Report: From glazing sealant manufacturer, based on submitted samples or acceptable data from previous testing of current formulations with similar products.
- F. Qualification Information: For Installer firm and Installer's manufacturer/fabricatortrained field supervisor.
- G. Warranties: Submit sample meeting warranties requirements of this Section.

#### 1.7 QUALITY ASSURANCE

- A. Manufacturer/Source: Obtain each type of glass product from a single primary glass manufacturer and a single manufacturer/fabricator for each glass product type.
  - 1. For glass sputter-coated with solar-control low-e coatings, obtain glass products in fabricated units from a manufacturer/fabricator certified by the primary glass manufacturer.
- B. Installer Qualifications: Experienced Installer with minimum of 5 successful completed projects of similar materials and scope, approved by glass product manufacturer/fabricator.
- C. Preconstruction Adhesion and Compatibility Testing: Submit glass units, glazing materials, and glass-framing members with applicable finish to elastomeric glazing sealant manufacturer for determination of sealant compatibility, priming, and preparation requirements for optimum adhesion and performance.
- D. Glazing for Fire-Rated Door and Window Assemblies: Glazing tested per NFPA 252 and NFPA 257, as applicable, for assemblies complying with NFPA 80 and listed and labeled per requirements of authorities having jurisdiction.
- E. Safety Glazing Products: Comply with size, glazing type, location, and testing requirements of 16 CFR 1201 for Category I and II glazing products, and requirements of authorities having jurisdiction.
- F. Glazing Industry Publications: Comply with glass product manufacturers' recommendations and the following:

- 1. GANA Publications: GANA Laminated Division's 'Laminated Glass Design Guide' and GANA's 'Glazing Manual.'
- 2. IGMA Publication for Insulating Glass: IGMA TM-3000, 'Glazing Guidelines for Sealed Insulating Glass Units.'
- G. Insulating-Glass Certification Program: Indicate compliance with requirements of Insulating Glass Certification Council on applicable glazing products.
- H. Mockups: Prior to installing glazing, build mockups to demonstrate materials and workmanship. Coordinate with mockup requirements of related sections.
- I. Preinstallation Conference: Conduct conference at Project site in compliance with Division 01 requirements.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials during shipping, handling, and storage to prevent breakage, scratching, damage to seals, or other visible damage. Deliver, unload, store, and erect glazing materials without exposing panels to damage from construction operations.
  - 1. Comply with manufacturer's venting and sealing recommendations for shipping and handling of insulating glass units exposed to substantial altitude change.

#### 1.9 WARRANTY

- A. Warranty for Coated-Glass Products: Manufacturer's standard form, signed by coated-glass product primary manufacturer or manufacturer/fabricator, as applicable, agreeing to replace coated-glass units that display peeling, cracking, and other deterioration in metallic coating under normal use, within [10] years of date of Substantial Completion.
- B. Warranty for Laminated Glass: Manufacturer's standard form, signed by laminatedglass product manufacturer/fabricator, agreeing to replace laminated-glass units that display edge separation, delamination, and blemishes exceeding those allowed by ASTM C 1172, within [five] years of date of Substantial Completion.
- C. Warranty for Insulating Glass: Manufacturer's standard form, signed by insulatingglass product manufacturer/fabricator, agreeing to replace insulating-glass units that exhibit failure of hermetic seal under normal use evidenced by the obstruction of vision by dust, moisture, or film on interior surfaces of glass, within [10] years of date of Substantial Completion.
- D. Installer's Warranty: Form acceptable to Owner, signed by glass product Installer, agreeing to replace glass products that deteriorate, or that exhibit damage or deterioration of glass or glazing products due to faulty installation, within [2] years of date of Substantial Completion.

#### PART 2 - PRODUCTS

- 2.1 MANUFACTURERS
  - A. Basis of Design: Glass product selections are based upon the primary glass manufacturer below. Provide basis of design product [, or comparable product of a listed manufacturer approved by the Architect prior to bid]:
    - 1. Vitro Architectural Glass, Cheswick, PA, (888) 774-4332, Email: ideascapes@ppg.com, http://www.vitroglazings.com.

#### 2.2 GLASS PRODUCTS

A. Annealed Float Glass, General: ASTM C 1036, Type I, Quality-Q3, class indicated. M-2019-03 8A-5 August 3, 2019

- B. Annealed Ultra-Clear (Low Iron) Float Glass: Class I (clear).
  - 1. Basis of Design Product: Vitro Architectural Glass, Starphire.
  - 2. [Specifier: insert manufacturer of comparable product if required]
- C. Heat-Treated Float Glass, Heat-Strengthened: ASTM C 1048; Type I (transparent flat glass); Quality-Q3; Kind HS, of class and condition indicated: where indicated, where needed to resist thermal stresses and where required to comply with performance requirements.
- D. Heat-Treated Float Glass, Fully Tempered: ASTM C 1048; Type I (transparent flat glass); Quality-Q3; Kind FT, of class and condition indicated: where safety glass is indicated. Safety glazing must comply with ANSI Z97.1 and CPSC 16CFR-1201
- E. Pyrolytic-Coated Float Glass: ASTM C 1376, float glass with metallic-oxide coating applied by pyrolytic deposition process during primary glass product manufacture.
- F. Sputter-Coated Float Glass: ASTM C 1376, float glass with metallic-oxide or -nitride coating deposited by vacuum deposition process following primary glass product manufacture.
- G. Ceramic-Coated Vision Glass: Float glass with silk-screened ceramic enamel application, per ASTM C 1048, Condition B, Type I, Quality-Q3, and Specification No. 95-1-31 in GANA 'Engineering Standards Manual.'
- H. Ceramic-Coated Spandrel Glass: ASTM C 1048, Condition B, Type I, Quality-Q3 and GANA 'Engineering Standards Manual' 66-9-20 Specification for Heat-Strengthened or Fully Tempered Ceramic Enameled Spandrel Glass for Use in Building Window/Curtain Walls and Other Architectural Applications.
- Coated Spandrel Float Glass: Float glass complying with ASTM C 1048, GANA 'Engineering Standards Manual' 89-1-6 Specification for Environmental Durability of Fully Tempered or Heat-Strengthened Spandrel Glass with Applied Opacifier and other requirements specified, with manufacturer's standard opacifier material on coated second surface of lites.
- J. Laminated Glass: ASTM C 1172, with manufacturer's standard polyvinyl butyral or cured resin interlayer.
- K. Insulating-Glass Units: Factory-assembled units consisting of dual-sealed lites of glass separated by a dehydrated interspace, with manufacturer's standard spacer material and construction, per ASTM E 2190.

#### 2.3 GLAZING ACCESSORIES

- A. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- B. Glazing Tape: Butyl-based elastomeric tape with integral resilient tube spacer, 10 to 15 Shore A durometer hardness, black color, coiled on release paper; widths required for specified installation, complying with ASTM C 1281 and AAMA 800 for application.
- C. Glazing Tape: Closed cell polyvinyl chloride foam, maximum water absorption by volume 2 percent, designed for 25 percent compression percent for air barrier and vapor retarder seal, black color, coiled on release paper over adhesive on two sides; widths required for specified installation, and complying with AAMA 800.
- D. Glazing Gaskets:
  - 1. Dense Compression Gaskets: ASTM C 864, neoprene or EPDM, or ASTM C 1115, silicone, or thermoplastic polyolefin rubber, as recommended by

glazing product manufacturer for application, molded or extruded shape to fit glazing channel retaining slot; black color.

- 2. Soft Compression Gaskets: ASTM C 509, Type II, black, molded, or extruded, neoprene, EPDM, silicone, or thermoplastic polyolefin rubber, of profile and hardness required to maintain watertight seal.
- E. Setting Blocks: ASTM C 864, neoprene, 80 to 90 Shore A durometer hardness; length 4 inches, width of glazing rabbet space less 1/16-inch, height required for glazing method, pane weight, and pane area.
- F. Spacer Shims: ASTM C 864, neoprene, 50 to 60 Shore A durometer hardness; length 3 inches, one half height of glazing stop, thickness required for application, one face self-adhesive.
- G. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- H. Glazing Sealants: ASTM C 920, type recommended by glazing product manufacturer for application indicated, complying with requirements of Division 07 Section 'Joint Sealants,' color as selected by Architect.
- I. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.
- J. Smoke Removal Unit Targets: Adhesive targets for application to glass, identifying glass units designed for removal for smoke control.

#### 2.4 FABRICATION OF GLAZING UNITS, GENERAL

A. Fabricate glazing units in dimensions required, with edge and face clearances, edge and surface conditions, and bite in accordance with glazing product manufacturer/fabricator's instructions and referenced glazing publications.

#### 2.5 INSULATING-GLASS UNIT(S)

- A. Double Glazed Tinted Solar Control Insulating Glass Unit [Solarban® 60 on Solargray® 6mm (2) | Air 1/2" (12.7mm) | Clear 6mm]
  - 1. Conformance: ASTM E 2190
  - 2. Outdoor Lite: Solargray® Tinted Float Glass as manufactured by Vitro Architectural Glass
    - a. Conformance: ASTM C 1036, Type 1, Class 2, Quality q3.
    - b. Glass Thickness: 6mm (1/4")
    - c. Magnetic Sputter Vacuum Deposition Coating (MSVD): ASTM C 1376.
    - d. Coating: Solarban® 60 on Surface # 2
    - e. Heat-Treatment: [None] [Heat-strengthened, ASTM C 1048, Kind HS] [Tempered; ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201] Specifier Notes: Specify the method of heat treatment. Vitro recommends that heat strengthened glass be specified and used, except where tempered glass is mandated for safety or other purposes by code.
  - 3. Interspace Content: Air 1/2" (12.7mm)
  - 4. Indoor Lite: Clear float glass as manufactured by Vitro Architectural Glass
    - a. Conformance: ASTM C 1036, Type 1, Class 1, Quality q3.
      - b. Heat-Treatment: [None] [Heat-strengthened, ASTM C 1048, Kind HS] [Tempered; ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201] Specifier Notes: Specify the method of heat

treatment. Vitro recommends that heat strengthened glass be specified and used, except where tempered glass is mandated for safety or other purposes by code.

- c. Glass Thickness: 6mm (1/4")
- Performance Requirements:
  - a. Visible Light Transmittance: 35 percent minimum.
  - b. Winter Nighttime U-Factor: 1.55 (W/m<sup>2\*°</sup>C) maximum.
  - c. Summer daytime U-Factor: 1.55 (W/m<sup>2\*°</sup>C) maximum.
  - d. Shading Coefficient: 0.29 maximum.
  - e. Solar Heat Gain Coefficient: 0.25 maximum.
  - f. Outdoor Visible Light Reflectance: 6 percent maximum.

#### PART 3 - EXECUTION

5.

#### 3.1 EXAMINATION

- A. Verify that glazing channels are clean and ready to accept glazing installation, and that weeps are unobstructed. Confirm that minimum required face and edge clearances will be maintained. Do not proceed with glazing until unsatisfactory conditions have been corrected.
- B. Examine glazing units prior to setting. Reject units that display edge or face damage that may impede performance of unit or that will be visible when installed.

#### 3.2 PREPARATION

A. Clean glazing channels with recommended solvent and wipe dry. Apply primers to joint surfaces to ensure adhesion of sealants, unless preconstruction sealant-substrate testing indicates no primer is required.

#### 3.3 GLAZING INSTALLATION

- A. General: Install glass and glazing materials in accordance with instructions of manufacturers and requirements of GANA Glazing Manual.
  - 1. Install setting blocks of size and in location required by glass manufacturer. Set blocks in bed of approved sealant.
  - 2. Provide spacers for glass lites as recommended, based upon size of glass unit.
  - 3. Comply with glass manufacturer's limits on edge pressures.
  - 4. Ensure that glazing units are set with proper and consistent orientation of glass units toward interior and exterior.
  - 5. Provide edge blocking where recommended.
  - 6. Install sealants in accordance with requirements of Division 07 Section 'Joint Sealants.'
- B. Tape Glazing: Place tapes on fixed stops positioned to be flush or protrude slightly when compressed by glass. Install tapes continuously. Form butt joints at corners and where required, and seal tape joints with approved sealant.
  - 1. Apply heel bead of glazing sealant along intersection of permanent stop and frame for continuity of air and vapor seal.
  - 2. Set glass lites centered in openings on setting blocks.
  - 3. Install removable stops, and insert dense compression gaskets at corners, working toward centers of lites, compressing glass against tape on fixed stops.
  - 4. Apply cap bead of elastomeric sealant over exposed edge of tape or gasket on exterior of glass unit.
- C. Sealant Glazing: Install continuous spacers between glass lites and glazing stops. Install cylindrical sealant backing where recommended, in width and depth

recommended to provide proper depth and width of sealant bead. Ensure sealant cannot block weep system.

- 1. Install sealant under pressure to completely fill glazing channel without voids, with full bond to glass and channel surfaces.
- 2. Tool sealant bead to proper profile providing wash away from glass.
- D. Sealant Glazing for Butt Glazing:
  - 1. Brace glass in position for duration of glazing process
  - 2. Mask edges of glass at adjoining glass edges and between glass edges and framing members.
  - 3. Secure small diameter non-adhering foamed rod on back side of joint.
  - 4. Apply sealant to open side of joint in continuous operation; completely fill joint without displacing foam rod; tool sealant surface smooth to concave profile.
  - 5. Allow sealant to cure, then remove foam backer rod.
  - 6. Apply sealant to opposite side; tool sealant smooth to concave profile.
  - 7. Remove masking tape.
- E. Gasket Glazing: Fabricate gaskets to fit openings exactly. Allow for stretching of gaskets during installation.
  - 1. Set soft compression gasket against fixed stop or frame, secure, with bonded miter cut joints at corners.
  - 2. Set glass lites centered in openings on setting blocks.
  - 3. Install removable stops, and insert dense compression gaskets at corners, working toward centers of lites, compressing glass against soft compression gaskets and to produce a weathertight seal. Seal joints in gaskets. Allow gaskets to protrude past face of glazing stops.

#### 3.4 CLEANING AND PROTECTION

- A Protect installed glass from damage. Attach streamers or warning tape to framing members, away from contact with glass. Remove nonpermanent labels.
- B Protect glass from contact with contaminating substances during construction. Immediately clean glass exposed to contamination using methods recommended by glass manufacturer.
- C Within 5 working days prior to inspection for Substantial Completion, clean all exposed glass surfaces using methods recommended by manufacturer. Remove glazing compounds from framing surfaces.
- D Remove and replace broken or damaged glass.

#### 8A-06. <u>SECURITY LEVEL GLAZING:</u> N.A.

#### 8A-07. <u>ALUMINUM STOREFRONT AND SASH:</u>

- A <u>General:</u> All aluminum tubing shown for fixed glass windows and windows shall be equal to Kawneer TriFab II 451 Series, 2" x 4 ½" or Vista Wall Series 3000 2" x 4 ½". Finish shall be Class 1 clear anodized. Aluminum storefront shall be for Thermopane glazing.
- B <u>Materials:</u> All framing members shall be extruded aluminum of 6063-T6 alloy and temper. Exterior glazing gasket shall be E.P.D.M. and interior glazing seal shall be closed cell PVC. foam sealant tape. All mullions and horizontals for 1" glazing (except butt glazed) shall be thermally isolated from the pressure plate by a rigid vinyl separator.

- C Installation: All openings shall be prepared plumb and square by others and shall be of sufficient size to provide clearance at jambs, head and sill as shown on the Architectural drawings. Experienced technicians shall perform installation, glass and glazing according to the manufacturer's recommended procedures. All units shall be securely anchored with all joints fully caulked to issue a water tight seal. Sills shall be laid in full bed of caulking and jambs and heads shall be caulked as shown on the drawings and specified elsewhere in these specifications. Installation shall be by skilled, well trained mechanics. Fastenings shall be Phillips Head Machine Screws counter sunk and of stainless steel.
- D <u>Finish:</u> All exposed surfaces shall be free of unsightly scratches and blemishes. The exposed surfaces shall receive a caustic etch followed by an architectural class I clear anodized coating conforming to AA-M12C22A44 Vistawall 740-EC.
- E <u>Cleaning:</u> Upon completion of construction, the General Contractor shall be responsible for cleaning all aluminum, employing methods recommended by the manufacturer as follows Anodized aluminum shall be cleaned with plain water containing a mild detergent, or a petroleum product such as white gasoline, kerosene, or distillate. No abrasive agent shall be used.
- F <u>Warranty</u>: Provide standard limited two-year warranty from the date of substantial completion.
- G See drawings for locations for store front and fixed glass windows.

#### 8A-08. <u>ALUMINUM FRAME ENTRANCE DOORS:</u> N.A.

- 8A-09. <u>ALUMINUM WINDOWS:</u> N.A.
- 8A-10. <u>SKYLIGHTS:</u> N.A,
- 8A-11. <u>SHOP DRAWINGS:</u>

Glass and glazing contractor shall furnish complete shop drawings for all items this Section for approval prior to fabrication showing all details, sizes, shapes, dimensions, etc.

Shop Drawings shall show calculations, signed and sealed by an engineer registered in the State of Florida, that all exterior glazing, windows and store front comply with 130 mph ultimate wind speed as per the 2014 Florida Building Code and ASCE 7-10.

# Shop Drawings shall also include product approval number and additional test data that is required to comply with the 2014 Florida Building Code. See Supplementary and Special Conditions, Paragraph 15-6.

#### 8A-12. <u>CLEANING:</u>

After Final Inspection, all remaining glazing compound and smears shall be cleaned from the glass, the sash and frames, and the glass washed clean. Broken glass shall be removed and replaced at no expense to the Owner. **END OF SECTION.** 

#### M-2019-03

#### **SECTION 8B**

#### EXTERIOR AND INTERIOR DOORS

#### 8B-01. <u>GENERAL CONDITIONS:</u>

The General and Special Conditions, Division II, Sections E and F of these specifications shall apply to and form a part of this Section as if written in full herein.

#### 8B-02. <u>SCOPE:</u>

Furnish all labor, materials, and equipment and perform all operations necessary for the complete installation of all glass, glazing, windows, and store front as noted in these specifications and as shown on the drawings.

#### 8B-03. CHAIN OPERATED SERVICE DOOR:

A. Furnish and install chain operated service doors as shown on drawings. Mounting shall be face of wall mounting. Door shall be as manufactured by the C.H.I. Overhead Doors. Furnished materials shall include curtain, bottom bars, brackets, guides, hood operating mechanism and all incidentals to make for a complete installation.

#### B. Materials:

- 1. The door curtain shall be constructed with 20-gauge No. 5 flat slats as designated by the C.H.I. Overhead Doors.
- 2. Door shall be shipped with one coat of corrosion inhibiting primer, 2 mils per side, for finish painting at the job site.
- 3. The bottom bar shall consist of two \_" steel angles mechanically joined together. The finish on the bottom bar shall be one (1) coat of bronze rust -inhibiting prime paint.
- 4. The guides shall consist of 3 steel angles bolted together with 3/8" fasteners to form a channel for the curtain to travel. The wall angle portion shall be continuous and fastened to the surrounding structure with either minimum ½" fasteners or welds both on 36" centers. The finish on the guide angles shall be one (1) coat of bronze rust-inhibiting paint.
- 5. The brackets shall be constructed of steel not less than  $\frac{1}{4}$ " thick and shall be bolted to the wall angle with minimum  $\frac{1}{2}$ " fasteners. The finish on the brackets shall be one (1) coat of bronze rust-inhibiting prime paint.
- 6. All gears shall be cast iron with teeth cast from machine cut patterns. The pinion gear shall not be less than a 3" pitch diameter. The gear ratio shall be designed for a maximum effort of not more than 30 pounds.
- 7. The barrel shall be steel tubing of not less than 4" in diameter. Oil tempered torsion springs shall be capable of correctly counter balancing the weight of the curtain. The barrel shall be designed to limit the maximum deflection to .03" per foot of opening width.
The springs shall be adjusted by means of an exterior wheel. The finish on the barrel shall be one (1) coat of bronze rust-inhibiting prime paint.

8. The hood shall be fabricated from 24-gauge galvanized steel and shall be formed to fit the curvature of the brackets. The hood shall be corrugated every 1" along the curvature for the entire length of the hood. The hood shall be finish in color as selected.

#### C. <u>Operation:</u>

- 1. Chain operated doors shall open and close with a maximum of 30 pounds of effort utilizing an endless chain and cast-iron reduction gears.
- 2. The chain door shall be secured by means of a chain lock.
- D. <u>Shop Drawings:</u> Shop drawings shall be submitted for approval showing all details and shall also show that the door complies with the 145-mph wind speed as per the 2017 Florida Building Code.

#### 8B-04. HOLLOW METAL DOORS:

Furnish and install at exterior and interior openings and as called for in door schedule, "Regent" Honeycomb Core Beveled Lockedge, 1 <sup>3</sup>/<sub>4</sub> "thick full flush heavy duty 18-gauge galvanized steel doors as manufactured by Ceco Door product. Doors hall be seamless model. Doors shall be reinforced, stiffened, sound deadened, and insulated with impregnated Kraft Honeycomb core completely filling inside of doors and laminated to both inside faces of the panels. Doors shall have continuous vertical mechanical interlocking joints at lock and hinge edges and lock edges, 14 gauge reinforcing steel channels spot welded within the door. Hinge reinforcing shall be 3/16" lock reinforcing 16-gauge, closer reinforcing 12 gauge and adequately reinforced for other hardware if required.

All doors shall be bonderized and finished with one coat of baked on gray prime coat. Provide astragali at pairs of doors, and rain drips where scheduled. Glass lights to be as detailed on the drawings. Furnish UL Label doors in openings called for on the door schedule. Doors to carry appropriate Underwriter's Label.

Shop drawings shall also include the product approval number and any additional test data that is required to comply with the 2010 Florida Building Code. See Supplementary and Special Conditions, Paragraph 15-6.

#### E. <u>Execution:</u>

- 1. An authorized Cookson Distributor shall install all Cookson Rolling Service Doors.
- 2. All Cookson Rolling Service Doors shall be warranted for a period of twelve (12) months against defects in workmanship and materials from the time the building has been accepted.

#### 8B-05 WOOD DOORS:

All wood doors shall be sized as scheduled on the drawings and shall be equal to the following specifications for door types.

- A. <u>Hollow Core Doors:</u> Shall be Graham seven-ply hollow core doors, 1-3/4" thick conforming to US Commercial Standard CS 171-58, including all amendments. Type I waterproof glue for exterior doors and Type II water resistant for interior doors. Hollow core doors shall be flush panel, Birch Veneer. Furnish one-year industry guarantee.
- B. <u>Solid Core Doors</u>: Shall be Graham exterior or interior solid lumber staved core doors, 1- <sup>3</sup>/<sub>4</sub> " thick, of sizes as noted on drawings. Doors noted for 20-minute rating shall be DGS-20 staved core. Doors shall conform to U.S.
  - Commercial Standard CS 171-58 including all amendments. Face veneer shall be Birch premium grade. Exterior doors shall be guaranteed for two (2) years after installation, interior doors for life of installation. Top and bottom edges to be at least 2 \_" minimum hardwood, side edges to be 1¾" minimum Beech.
- C. <u>Fire Doors:</u> Where noted on the drawings, rated or label wood doors shall be equal to Weyerhaeuser staved core DFM-60 fire door for a one-hour fire rating, conforming to industry standards I.S. 1-73. Door shall carry appropriate UL Label. Finish shall be Birch premium grade.
- D. Acceptable manufacturers are US Plywood, Roddis, or Eggers Hardwood Company; supplier to furnish submittal data showing all specifications of doors to be furnished for approval by Architect.

#### 8B-06. METAL GLASS STOPS:

All wood doors shown or noted with glass lights shall have metal stops. Stops shall be Type FGS75 for single glazing and shall be as manufactured by Anemostat Door Products. **Install stops with stainless steel through bolts.** 

- 8B- 07. <u>ALUMINUM FRAME ENTRANCE DOORS:</u> N.A.
- 8B-08. BULLET RESISTANT WOOD DOORS: N.A.
- 8B-09. PUSH UP COUNTER DOOR: N.A.

#### 8B-10. PRODUCT APPROVAL NUMBERS: (METAL DOORS AND FRAMES)

Submittals for exterior hollow metal doors, metal door frames, exterior roll up doors, and exterior hollow metal window frames to have Florida Product Approval Numbers and information showing product complies with the Florida Building Code 2014. See Supplementary and Special Conditions, Paragraph 15-6 for this requirement.

Approval numbers shall be for the entire assembly (frames, doors. and hardware) including gauges of materials, set backs of hardware anchorage and installation of all components.

#### END OF SECTION

#### **SECTION 8C**

#### HOLLOW METAL DOOR AND WINDOW FRAMES

#### 8C-01. <u>GENERAL CONDITIONS:</u>

The General and Special Conditions, Division II, Sections E and F, of these specifications shall apply to and form a part of this Section as if written in full herein.

#### 8C-02. <u>SCOPE:</u>

Provide all labor, materials, and equipment necessary to install new floor covering and base where shown and scheduled on the drawings and as specified.

#### 8C-03. HOLLOW METAL DOOR AND WINDOW FRAMES:

Furnish and install in required sizes and shapes 16-gauge frames at exterior doors and 16-gauge for interior openings. All frames shall be reinforced at points of junction and where all hardware will occur with minimum of 3 - 16-gauge anchors per jamb. Frames shall be furnished with fully mitered welded corners and shipped assembled to the job. The frames shall be bonderized and delivered to job with one coat of zinc chromate paint. All hollow metal frames shall be hot dipped galvanized.

Store frames in upright position, cover with visqueen until ready for use, and on arrival give each frame one coat of approved rust inhibitive primer. Before priming, inspect all frames for rust, take down to base metal, touch up, then prime entire frame. All corners shall be mitered. Shop drawings shall be submitted for approval. Template butts will be required and information on hardware including butts, closers, etc., will be secured from hardware supplier. See Hardware Section.

See drawings and schedule for wood doors installed in metal bucks. Hardware location tolerance shall conform to ASA tolerance as noted in A-115. Furnish UL Label frames at all locations where wood or metal label doors are called for. Label frames to carry appropriate Underwriter's Label. Furnish proper anchors and throat fillers for hollow metal door frames used in dry wall system walls.

Note drawings for exterior windows set in hollow metal frames. Stops to be set to receive insulated glass as specified.

#### 8C-04. BULLET RESISTANT HOLLOW METAL DOOR AND WINDOW FRAMES: N.A.

#### 8C-05. PRODUCT APPROVAL NUMBERS: (METAL DOORS AND FRAMES)

Submittals for exterior hollow metal doors, metal door frames, exterior roll up doors, and exterior hollow metal window frames to have Florida Product Approval Numbers and information showing product complies with the Florida Building Code 2014. See Supplementary and Special Conditions, Paragraph 15-6 for this requirement.

Approval numbers shall be for the entire assembly (frames, doors, and hardware) including gauges of materials, set backs of hardware anchorage and installation of all components. **END OF SECTION** 

#### **SECTION 08D**

#### DOOR HARDWARE

PART 1 - GENERAL

- 1.1 RELATED DOCUMENTS
- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- 1.2 SUMMARY
- A. This Section includes commercial door hardware for the following:
  - 1. Swinging doors.
- B. Door hardware includes, but is not necessarily limited to, the following:
  - 1. Mechanical door hardware.
- C. Related Sections:
  - 1. Division 08 Section "Hollow Metal Doors and Frames".
  - 2. Division 08 Section "Flush Wood Doors".
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
  - 1. ANSI A117.1 Accessible and Usable Buildings and Facilities.
  - 2. ANSI/SDI A250.13 Testing and Rating of Severe Windstorm Resistant Components for Swing Door Assemblies.
  - 3. ASTM E1886 Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials.
  - 4. ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure difference.
  - 5. ASTM E1996 Standard specification for performance of exterior windows, curtain walls, doors and storm shutters impacted by Windborne Debris in Hurricanes.
  - 6. ICC/IBC International Building Code.
  - 7. NFPA 70 National Electrical Code.
  - 8. NFPA 80 Fire Doors and Windows.
  - 9. NFPA 101 Life Safety Code.
  - 10. NFPA 105 Installation of Smoke Door Assemblies.
  - 11. TAS-201-94 Impact Test Procedures.
  - 12. TAS-202-94 Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components using Uniform Static Air Pressure.
  - 13. TAS-203-94 Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.
  - 14. State Building Codes, Local Amendments.
- E. Standards: All hardware specified herein shall comply with the following industry standards:
  - 1. ANSI/BHMA Certified Product Standards A156 Series
  - 2. UL10C Positive Pressure Fire Tests of Door Assemblies

#### 1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
  - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
  - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
  - 3. Content: Include the following information:
    - a. Type, style, function, size, label, hand, and finish of each door hardware item.
    - b. Manufacturer of each item.
    - c. Fastenings and other pertinent information.
    - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    - e. Explanation of abbreviations, symbols, and codes contained in schedule.
    - f. Mounting locations for door hardware.
    - g. Door and frame sizes and materials.
    - h. Warranty information for each product.
  - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Proof of Qualification: Provide copy of manufacturer(s) Factory Trained Installer documentation indicating proof of status as a qualified installer of Windstorm assemblies.
- D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.
- E. Informational Submittals:
  - 1. Hurricane Resistant Openings (State of Florida): Within the State of Florida, provide copy of current State of Florida Product Approval or Metro-Dade County Notice of Acceptance (NOA) as proof of compliance that doors, frames and hardware for exterior opening assemblies have been tested and approved for use at the wind load and design pressure level requirements specified for the Project.

- a. Hurricane Resistant Components (State of Florida): Within the State of Florida, provide copy of independent, third party certified listing to ANSI A250.13.
- 2. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
- F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- D. Windstorm Assembly Installer Qualifications: Installers are to be factory trained for shop and field installation prior to project bid, and are responsible for commissioning, servicing, and warranting the installed equipment specified for the project. A pre-installation site inspection of the frame and floor conditions shall be conducted by the factory trained installer prior to any Windstorm assembly hardware applied to the opening.
- E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
  - 1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
- F. Hurricane Resistant Exterior Openings (State of Florida including the High Velocity Hurricane Zone (HVHZ)): Provide exterior door hardware as complete and tested assemblies, or component assemblies, including approved doors and frames specified under Section 081113 "Hollow Metal Doors and Frames", to meet the wind loads, design pressures, debris impact resistance, and glass and glazing requirements as detailed in the current State of Florida building code sections applicable to the Project.
  - 1. Each unit to bear third party permanent label in accordance with the Florida Building Code requirements.
- G. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

- H. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
  - 1. Function of building, purpose of each area and degree of security required.
  - 2. Plans for existing and future key system expansion.
  - 3. Requirements for key control storage and software.
  - 4. Installation of permanent keys, cylinder cores and software.
  - 5. Address and requirements for delivery of keys.
- I. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
  - 1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
  - 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
  - 3. Review sequence of operation narratives for each unique access controlled opening.
  - 4. Review and finalize construction schedule and verify availability of materials.
  - 5. Review the required inspecting, testing, commissioning, and demonstration procedures
- J. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.
- 1.5 DELIVERY, STORAGE, AND HANDLING
- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

#### 1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

#### 1.7 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
  - 1. Structural failures including excessive deflection, cracking, or breakage.
  - 2. Faulty operation of the hardware.
  - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
  - 4. Electrical component defects and failures within the systems operation.
- C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.
- D. Special Warranty Periods:
  - 1. Ten years for mortise locks and latches.
  - 2. Seven years for heavy duty cylindrical (bored) locks and latches.
  - 3. Twenty five years for manual surface door closer bodies.

#### 1.8 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

#### PART 2 - PRODUCTS

- 2.1 SCHEDULED DOOR HARDWARE
- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
  - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

#### 2.2 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
  - 1. Quantity: Provide the following hinge quantity:
    - a. Two Hinges: For doors with heights up to 60 inches.
    - b. Three Hinges: For doors with heights 61 to 90 inches.
    - c. Four Hinges: For doors with heights 91 to 120 inches.
    - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
  - 2. Hinge Size and Weight: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
    - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
    - b. Sizes from 3'1" to 4'0": 5" heavy weight.
  - 3. Hinge Base Material: Unless otherwise indicated, provide the following:
    - a. Exterior Doors: Non-ferrous, ball bearing or oil impregnated bearing hinges.
    - b. Interior Doors: Steel, ball bearing or oil impregnated bearing hinges.
  - 4. Hinge Options: Comply with the following:
    - a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
  - 5. Manufacturers:
    - a. Bommer Industries (BO) LB Series.
    - b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) TA Series.
    - c. Stanley Hardware (ST) CB Series.

#### 2.3 DOOR OPERATING TRIM

- A. Door Push Plates and Pulls: ANSI/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
  - 1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
  - 2. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.
  - 3. Manufacturers:
    - a. Burns Manufacturing (BU).
    - b. Hiawatha, Inc. (HI).
    - c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    - d. Trimco (TC).

#### 2.4 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.
- B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.
- C. Cylinders: Original manufacturer cylinders complying with the following:
  - 1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
  - 2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
  - 3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
  - 4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
  - 5. Keyway: Manufacturer's Standard.
- D. Patented Cylinders: ANSI/BHMA A156.5, Grade 1, certified cylinders employing a utility patented and restricted keyway requiring the use of patented controlled keys. Provide bump resistant, fixed core cylinders as standard with solid recessed cylinder collars. Cylinders are to be factory keyed where permanent keying records will be established and maintained.
  - 1. Provide a 6 pin multi-level master key system comprised of patented controlled keys and security and high security cylinders operated by one (1) key of the highest level. Geographical exclusivity to be provided for all security and high security cylinders and UL437 certification where specified.
    - a. Level 1 Cylinders: Provide utility patented controlled keyway cylinders that are furnished with patented keys available only from authorized distribution.
    - b. Level 2 Cylinders: Provide utility patented controlled keyway and side bar locking incorporating unique angled bottom pins for geographical exclusivity. Cylinders constructed to provide protection against bumping and picking.
    - c. Level 3 Cylinders: Provide utility patented controlled keyway and side bar locking incorporating unique angled bottom pins for geographical exclusivity. Cylinders to be UL437 certified and constructed to provide protection against bumping, picking, and drilling.
    - d. Refer to hardware sets for specified levels.
  - 2. Manufacturers:
    - a. Sargent Manufacturing (SA) Degree Series.
    - b. Corbin Russwin (RU) Access 3 Series.
- E. Keying System: Each type of lock and cylinders to be factory keyed.
  - 1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
  - 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
  - 3. New System: All locksets shall be keyed alike and construction master keyed.
- F. Key Quantity: Provide the following minimum number of keys:

- 1. Change Keys per Cylinder: Two (2)
- 2. Construction Keys (where required): Ten (10).
- G. Construction Keying: Provide construction master keyed cylinders.
- H. Key Registration List (Bitting List):
  - 1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
  - 2. Provide transcript list in writing or electronic file as directed by the Owner.
- 2.5 MECHANICAL LOCKS AND LATCHING DEVICES
- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.
  - 1. Extended cycle test: Locks to have been cycle tested in ordinance with ANSI/BHMA 156.13 requirements to 10 million cycles.
  - 2. Manufacturers:
    - a. Corbin Russwin Hardware (RU) ML2000 Series.
    - b. Sargent Manufacturing (SA) 8200 Series.
    - c. Yale Locks and Hardware (YA) 8800FL Series.
- B. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Grade 1 certified.
  - 1. Furnish with solid cast levers, standard 2 3/4" backset, and 1/2" (3/4" at rated paired openings) throw brass or stainless steel latchbolt.
  - 2. Locks are to be non-handed and fully field reversible.
  - 3. Extended cycle test: Locks to have been cycle tested in ordinance with ANSI/BHMA 156.2 requirements to 2 million cycles.
  - 4. Manufacturers:
    - a. Corbin Russwin Hardware (RU) CL3300 Series.
    - b. Sargent Manufacturing (SA) 10 Line.
    - c. Yale Locks and Hardware (YA) 5400LN Series.

#### 2.6 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
  - 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
  - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
  - 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
  - 4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- B. Standards: Comply with the following:

- 1. Strikes for Mortise Locks and Latches: BHMA A156.13.
- 2. Strikes for Bored Locks and Latches: BHMA A156.2.
- 3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
- 4. Dustproof Strikes: BHMA A156.16.

#### 2.7 DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
  - 1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
  - 2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
  - 3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
  - 4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
  - 5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
  - 6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
  - 7. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.
- B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.
  - 1. Manufacturers:
    - a. Sargent Manufacturing (SA) 351 Series.
    - b. Norton Door Controls (NO) 7500 Series.
    - c. Yale Locks and Hardware (YA) 4400 Series.

#### 2.8 ARCHITECTURAL TRIM

- A. Door Protective Trim
  - 1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
  - Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.

- 3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
- 4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
  - a. Stainless Steel: 300 grade, 050-inch thick.
- 5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
- 6. Manufacturers:
  - a. Burns Manufacturing (BU).
  - b. Hiawatha, Inc. (HI).
  - c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
  - d. Trimco (TC).
- 2.9 DOOR STOPS AND HOLDERS
- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
  - 1. Manufacturers:
    - a. Burns Manufacturing (BU).
    - b. Hiawatha, Inc. (HI).
    - c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    - d. Trimco (TC).
- 2.10 ARCHITECTURAL SEALS
- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
  - 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Furnished by door manufacturer (UL10C, Category A).
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Manufacturers:
  - 1. National Guard Products (NG).
  - 2. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
  - 3. Reese Enterprises, Inc. (RE).
- 2.11 FABRICATION
- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.
- 2.12 FINISHES
- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

#### PART 3 - EXECUTION

- 3.1 EXAMINATION
- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.
- 3.2 PREPARATION
- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.
- 3.3 INSTALLATION
- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

- 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
  - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
  - 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
  - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
  - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.
- 3.4 FIELD QUALITY CONTROL
- A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.
- 3.5 ADJUSTING
- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
- 3.6 CLEANING AND PROTECTION
- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

#### 3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

#### 3.8 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
- B. The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.
- C. Manufacturer's Abbreviations:
  - 1. MK McKinney 2. SA - SARGENT
  - 3. RO Rockwood
  - 4. PE Pemko

#### Hardware Sets

#### Set: 1.0

Doors: 101A, 101E, 103A Description: Basis of Design CURRIES FL#16353

2" US32D	MK
US26D	SA
EN	SA
US32D	RO
)	PE
	PE
	PE
Inches	PE
	ΡE
	2" US32D US26D EN US32D )

Notes: Exterior opening to comply with FBC windstorm requirements.

#### HARDWARE SETS 2.0 THRU 6.0

#### Set: 2.0

3	Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1	Storeroom Lock	DG1 10G04 LL	US26D	SA
1	Wall Stop	409	US32D	RO
3	Silencer	608-RKW		RO

Doors: 105A

Deers: 102	<u>Set: 3.0</u>		
3 Hinge 1 Office Lock 1 Wall Stop 3 Silencer	TA2714 4-1/2" x 4-1/2" DG1 10G05 LL 409 608-RKW	US26D US26D US32D	MK SA RO RO
Doors: 103B	<u>Set: 4.0</u>		
<ul> <li>3 Hinge</li> <li>1 Classroom Lock</li> <li>1 Door Closer</li> <li>1 Kick Plate</li> <li>1 Wall Stop</li> <li>1 Threshold</li> <li>1 Gasketing</li> </ul>	TA2314 NRP 4-1/2" x 4-1/2" DG1 10G37 LL 351 P10 K1050 12" x 2" LDW 409 2005AV x LAR (door width) S88D x LAR (head/jambs)	US32D US26D EN US32D US32D	MK SA SA RO RO PE PE
Doors: 105	<u>Set: 5.0</u>		
<ul> <li>3 Hinge</li> <li>1 Privacy Lock</li> <li>1 Door Closer</li> <li>1 Kick Plate</li> <li>1 Mop Plate</li> <li>1 Wall Stop</li> <li>3 Silencer</li> </ul>	TA2714 4-1/2" x 4-1/2" 10U65 LL 351 O K1050 12" x 2" LDW K1050 6" x 2" LDW 409 608-RKW	US26D US26D EN US32D US32D US32D	MK SA SA RO RO RO RO
Doors: 104	Set: 6.0		
<ul> <li>3 Hinge</li> <li>3 Hinge</li> <li>1 Pull Plate</li> <li>1 Push Plate</li> <li>1 Door Closer</li> <li>1 Kick Plate</li> <li>1 Mop Plate</li> <li>1 Wall Stop</li> <li>3 Silencer</li> </ul>	TA2714 4-1/2" x 4-1/2" 110x70C 70E 351 O K1050 12" x 2" LDW K1050 6" x 2" LDW 409 608-RKW	US26D US32D US32D EN US32D US32D US32D	MK RO RO SA RO RO RO RO

#### END OF SECTION

#### SECTION 9E

#### PAINTING

#### 9E-01. <u>GENERAL CONDITIONS:</u>

The General and Special Conditions, Division II, Sections E and F of these specifications shall apply to and form a part of this Section as if written in full herein.

#### 9E-02. <u>SCOPE:</u>

Furnish all labor, materials, equipment and services necessary and/or incidental to do all painting and decorating under this Contract.

In general, but not limited to, this contractor will include:

- A. Three (3) coats of paint on all new work exterior and interior, including plaster, stucco, sheetrock, block masonry walls, trim, and metal.
- B. Finishing of all cabinet work and paneling except that which is covered by plastic laminate, or that which is finished at the mill.
- C. Epoxy coating of all walls and ceilings where called for on the schedule.
- D. Painting of concrete floors where called for on the drawings.

#### 9E-03. <u>GENERAL REQUIREMENTS:</u>

Mix all paints at least seventy-two (72) hours before using, keeping the containers covered during this period. Mix well before using. All paint to come to the job in their original containers, and to be Sherwin- Williams, ICI Coatings, Pittsburgh, or Pratt and Lambert.

Painter to mix samples of stains and colors and have Architect's approval before applying. All surfaces to receive paint, varnish, etc., shall be clean, smooth, free from dust, scratches, and to be thoroughly dry before applying paint.

The edges including the top and bottom edges of all doors which paint at the job site shall be finished as called for, and shall be touched up after the carpenter has made the final adjustments.

No paint shall be applied to wet or damp surfaces, nor shall any paint be applied to any surface when the temperature is below 50 degrees F.

All painting and decorating to be done by experienced workmen, and the finished work shall be free from runs, sags, scratches, and brush marks, and shall be uniform in color.

Application of a paint by spray not allowed other than glaze or multicolor coats as called for. All wood and trim to be painted by brush only.

#### 9E-04. <u>APPLICATION:</u>

- A. No coat shall be applied until the preceding one is thoroughly dry, and no paint shall be applied when temperature is 50 degrees F., or below, or when surfaces are damp. All paint shall be evenly spread and well brushed or sprayed as noted, or so as to accomplish best results. All paints, stains, etc., shall be mixed and applied according to manufacturer's directions, and each coat shall be sanded as required before the succeeding coat is applied.
- B. <u>All raw spots of wood frames, interior millwork,</u> to be primed at mill shall be touched up with similar material immediately after being placed. All knots, sap, and pitch streaks shall be brush coated with shellac before priming coat is applied. Prime all wood which is to be covered with metal unless same has been treated with wood preserver.
- C. <u>Concrete masonry</u> walls where called for to be painted shall be first examined for excess mortar, pointing up of joints, etc.
- D. All rust spots, scratches, blemishes, etc., on metal door frames and exposed metal work through the building, shall be worked to the base metal with steel wool, the spots primed, and when dry.
- E. Natural finish wood doors surfaces to be sanded with #320 wet or dry paper and rubbed with 4/0 steel wool between each coat.
- F. Epoxy Coating Finish: Where called for on the finish schedule, epoxy coating shall be as per Paragraph 16-11, this section.

#### 9E-05. <u>PUTTYING:</u>

After the priming coat has been applied, all nail holes and voids of any kind are to be puttied flush with the surfaces. Excess putty shall be removed from the surfaces before succeeding coats of paint are applied.

#### 9E-06. EXTERIOR PAINTING:

- A. All exposed metal, trim, frames, doors, miscellaneous steel and iron, galvanized iron:
  - 1. <u>One Coat Primer:</u> ICI Devoe Coatings DevGuard 4160 Multi-Purpose Tank and Structural Primer or one coat of Sherwin Williams Kerm Kromik Metal Primer and one coat of Sherwin Williams Galvite for Galvanized Irons.
  - 2. <u>Two Coats Finish:</u> ICI Devoe Coatings DevGuard 4308 Alkyd Gloss Enamel. Or two coats of Sherwin Williams Industrial Enamel B-54.
- B. All exposed wood and wood trim:
  - 1. <u>One Coat Primer:</u> ICI Ultra-Hide Durus 2110 Exterior Alkyd Primecoat or one coat of Sherwin Williams A-100 Primer.
  - 2. <u>Two Coats Finish:</u> ICI Dulux Professional 2402 Exterior 100% Acrylic Satin Finish or Sherwin Williams K33W100 Satin Latex House.

- C. Exposed concrete block, concrete, and cement stucco:
  - 1. <u>One Coat Primer:</u> (for concrete block only) ICI Ultra-Hide 3010-1200, Interior Exterior Vinyl Acrylic Block Filler or Sherwin Williams Heavy Duty Acrylic Block Filler B42W46.
  - 2. <u>Two Coats Finish:</u> ICI Dulux Professional 2402 Exterior 100% Acrylic Satin Finish or Sherwin Williams A24W351 Satin Latex House Paint.

#### 9E-07. INTERIOR PAINTING:

- A. Exposed Iron and Steel Metals:
  - 1. <u>One Coat Primer:</u> ICI Ultra-Hide 1120-1200 Oil / Alkyd Interior Enamel Undercoater or Sherwin Williams Kem Kromik Metal Primer.
  - 2. <u>Two Coats Finish:</u> ICI Ultra-Hide 1416 Latex Semi-Gloss Interior Wall and Trim Enamel or two coats Sherwin Williams Promar 200 Latex Semi-Gloss Enamel.
- B. Wood Trim (other than natural finish):
  - 1. <u>One Coat Primer:</u> ICI Ultra-Hide 1120-1200 Oil / Alkyd Interior Enamel Undercoater or Sherwin Williams Classic Wall and Wood Primer B28-W101.
  - 2. <u>Two Coats Finish:</u> ICI Ultra-Hide 1416 Latex Semi-Gloss Interior Wall and Trim Enamel or Sherwin Williams Promar B-31 200 Semi-Gloss.
- C. Sheetrock Walls:
  - 1. <u>One Coat Primer:</u> ICI Ultra-Hide 1030-1200 PVA Interior Primer Sealer or Sherwin Williams Promar 200 Series B-28.
  - 2. <u>Two Coats Finish:</u> ICI Ultra-Hide 1412 Latex Eggshell Interior Wall and Trim or Sherwin Williams Promar 200 Latex Semi-Gloss Enamel B-31.
- D. Exposed Masonry Block:
  - 1. <u>One Coat Primer:</u> ICI Ultra-Hide 3010-1200 Interior / Exterior Vinyl Acrylic Blockfiller or Sherwin Williams Heavy Duty Acrylic Block Filler B42W46.
  - 2. <u>Two Coats Finish:</u> ICI Ultra-Hide 1412 Latex Eggshell Interior Wall and Trim Enamel or Sherwin Williams Promar 200 Latex Semi-Gloss Enamel B-31.
- E. <u>Epoxy Coating Finish:</u> Where called for on the finish schedule, epoxy coating shall be as per Paragraph 16-11, this section.
- 9E-08. <u>NATURAL FINISH:</u>
- A. Where selected or called for on wood trim or doors or millwork items:

#### M-2019-03

1. One coat of Lacquer Sealer and two coats of Gloss Lacquer or two coats of ICI Woodpride 1902 Interior Polyurethane High Gloss Varnish.

#### 9E-09. <u>STAINED FINISH:</u>

- A. Where selected or called for on wood trim or wood doors or millwork items:
  - 1. <u>One Coat:</u> ICI Woodpride 1900 Interior Oil Wood Finishing Stain or one coat of Olympic Clear Interior Stain.
  - 2. <u>One Coat:</u> Lacquer Sealer or Sanding Sealer Well Sanded.
  - 3. <u>Two Coats:</u> ICI Woodpride 1902 Interior Polyurethane High Gloss Varnish or two coats of Gloss Lacquer.

#### 9E-10. PAINTED CONCRETE FLOORS:

- A. Where called for on the drawings and finish schedule concrete floors shall be painted with H&C shield plus paint as manufactured by the Sherwin-Williams Company Cleveland, Ohio. (Technical Service Phone 1-800/867-8246) or two coats of Anvil Concrete 1900 Siliconized Acrylic Concrete Stain.
- B. Concrete floor areas to receive paint shall be at least 45 days old, shall be clean and completely free of all grease, oil, loose or chalking paint, chalking concrete, dirt, etc.

Floor areas to be first cleaned with detergent and degreaser and thoroughly rinsed.

C. Apply first coat of paint, let dry two (2) hours and apply 2nd coat. Paint maybe applied by brush, roller, or airless sprayer.

#### Do not apply in temperature below 50 degrees F or above 90 degrees F.

D. Color to be selected by Architect.

#### 9E-11. EPOXY COATING FINISH:

A. Where called for on the drawings, finish shall be equal to DeVoe and Reynolds Co. True Glaze or Tile-Clad II Epoxy coating as manufactured by Sherwin Williams Company. Colors shall be as selected by Architect from manufacturers standard color key chart.

All materials shall be first quality, freshly compounded and formulated in such a manner as to form a chemical bond with the surface applied to, forming an integral part of same.

Application shall be by factory trained technicians, using approved mechanical equipment, and adhering to manufacturer's instructions and literature.

B. <u>Surface Preparation:</u> Mortar joints and major voids must be corrected and filled. Surfaces to receive epoxy coating shall be free from oil, grease, dirt, mortar splashing, etc.

#### C. <u>Materials:</u>

- 1. <u>One Coat:</u> ICI Ultra-Hide 3010-1200 Interior / Exterior Vinyl Acrylic Blockfiller or Sherwin Williams, Heavy Duty Block Filler B42W46.
- 2. <u>One Coat Primer:</u> ICI Ultra-Hide 3010-1200 Aquarcrylic Gripper Primer Sealer.
- 3. <u>Two Coats Finish:</u> ICI DeVoe Tur-Glaze 4419 Waterborne Acrylic Epoxy Coating or Sherwin William Tile-Clad II Epoxy.

#### D. <u>Application:</u>

- 1. Blockfiller by brush or roller only. DeVoe 75 sq. Ft. per gallon. Sherwin Williams 87 To 108 sq. ft./gallon.
- 2. Primer (DeVoe) by brush, roller or spray at the rate of 379 sq. ft. Per gallon to achieve 3.0 mills thickness dry. Sherwin Williams Two Coats Tile-Clad II Epoxyby brush, roller, or spray at rate of 195 sq. ft./gallon to achieve 4 mills thickness dry, each coat.
- 3. DeVoe Epoxy Coating by brush, roller or spray at the rate of 154-240 sq. ft. / gallon to achieve 3 mills thickness dry.
- 4. DeVoe and Sherwin Williams one splatter coat of a different color. DeVoe Epoxy Primer 12735, Sherwin Williams Tile Clad II Epoxy.

#### 9E-12. <u>SANDING AND FINISHING:</u>

It will be the responsibility of the painting contractor to hand sand all surfaces to be painted and otherwise prepare them to provide a smooth finish paint job. All corners to be "eased", nail holes filled and painted surfaces prepared and approved after prime coat is applied. The second coat of paint must be completed and approved before final coat is started in any area. Repainting of any area required because of poor coverage, sags, voids, poorly prepared surfaces, etc., will require the repainting of the entire wall area. No patch painting will be accepted.

#### 9E-13. <u>APPLICATION OF COATS:</u>

Work shall be limited to specific areas of construction to facilitate inspection and progress, and no succeeding coat will be applied in any area until the prime coat or first coat has been inspected and approved for the entire area.

Prime coat will be white. Second coat tinted toward color, and final coat from can in color selected.

#### 9E-14. <u>SUBMITTAL:</u>

Painting contractor to submit technical information for the various types of paint used along with color sample box for color selection.

#### M-2019-03

#### 9E-15. <u>GUARANTEE:</u>

Painting contractor shall guarantee in writing his material and application for a period of one year from date of acceptance of building.

END OF SECTION.

#### SECTION 9F

#### METAL STUD, DRYWALL SYSTEM

#### 9F-01. <u>GENERAL CONDITIONS:</u>

The General and Special Conditions, Division II, Sections E and F of these specifications shall apply to and form a part of this Section as if written in full herein.

#### 9F-02. <u>SCOPE:</u>

Furnish all labor, materials and equipment and perform all operations necessary for the complete installation of all metal studs and drywall applications as noted in these Specifications and as shown on the Drawings.

#### 9F-03. <u>GENERAL:</u>

Screw stud system shall be generally for single layer of  $\frac{5}{6}$ " fireguard sheetrock, or  $\frac{5}{6}$ " sheetrock in interior walls,  $\frac{1}{2}$ " exterior plywood or exterior gypsum board for backing for E.I.F. system, or for thermoply and backing for face brick. Steel stud system shall be equal to 3  $\frac{5}{6}$ " and 6" screw stud system as manufactured by U.S. Gypsum Company. Note drawings for other special wall thicknesses. <u>All studs shall be galvanized steel and spaced 16" o.c.</u>

#### 9F-04. <u>MATERIALS:</u>

- 1. Studs -3 <sup>5</sup>/<sub>8</sub>", 6" or 8" where shown. 16 gauge at door jambs and head. 20 gauge where used for framing for interior walls or where drawings indicate. 18 gauge where framing at exterior walls. Walls above or below window and door openings and for any framing where connections are welded if not indicated heavier shall be 18 gauge.
- 2. Runners Sized for studs 22 gauge.
- Face Boards <sup>5</sup>/<sub>8</sub>" " fire guard where noted (see drawings for double layers), and <sup>5</sup>/<sub>8</sub>" " regular for other partition walls. Where ceramic tile is called for on metal stud construction wall boards shall be <sup>1</sup>/<sub>2</sub>" Durock Board as manufactured by U.S. Gypsum.
- 4. Fasteners USG screws of required length.
- 5. Joint Treatment tape regular and flex tape.
- 6. Z galvanized metal furring strips  $\frac{3}{4}$ " and 1".
- 7.  $\frac{3}{4}$ " E.P.S. insulation board.
- 8. Galvanized hat channels (see drawings for sizes).

- 9. Galvanized corner beads. Galvanized "J" molding at all face ends
- 10. Sheetrock equal to National Gypsum Co. Wallboards  $\frac{5}{3}$ " thick fire guard for all rated walls,  $\frac{5}{3}$ " thick for interior walls and for ceilings where called for.
- 11. See EIFS section for exterior EIFS sheathing.

#### 9F-05. INSTALLATION:

#### A. <u>Exterior Framing:</u>

- 1. Studs and Runners:
  - a. Align runners accurately according to exterior wall layout and secure to base and head with power-driven fastener spaced 16" o.c.
  - Position studs vertically in runners at floor and ceiling to structural elements with suitable fasteners located 2" from each end and spaced 24" o.c., or to suspended ceilings with toggle bolts or hollow wall anchors spaced 16" o.c.
  - c. Exterior block wall furring strips to be installed 2'0" o.c. with <sup>3</sup>/<sub>4</sub>" E.P.S. Board positioned tightly between the furring strips. Furring strips to be secured to block walls with power driven fasteners spaced no further than 16" o.c.

#### B. Interior Walls:

1. <u>Stud System Erection:</u> Attached steel runners at floor and ceiling to structural elements with suitable fasteners located 2" from each end and spaced 24" o.c., or to suspended ceilings with toggle bolts or hollow wall anchors spaced 16" o.c.

Position studs vertically, with open side facing in same direction, engaging floor and ceiling runners, and spaced 16" o.c. When necessary, splice studs with 8" nested lap and two positive attachments per stud flange. Place studs in direct contact with all door frame jambs, abutting partitions, partitions corners and existing construction elements. here studs are installed directly against exterior walls, and a possibility of water penetration through walls exists, install asphalt felt strips between studs and wall surface.

Anchor all studs for shelf-walls and those adjacent to door and window frames, partition intersections, corners and free-standing furring to ceiling and floor runner flanges with USG Metal Lock Fastener tool or screws. Securely anchor studs to jamb and head anchor clips of door or borrowed-light frames by bold or screw attachment. Over metal door and borrowed-light frames, placed horizontally a cut-to length section of runner, with a web-flange bend at each end, and secure to strut-studs with two screws in each bent web. Position a cut-to-length stud (extending to ceiling runner) at vertical panel joints over door frame header.

2. <u>Gypsum Panel Erection:</u> Apply gypsum panels perpendicular to studs. Position

all edges over studs for parallel application; all ends over studs for perpendicular application. Use maximum practical lengths to minimize end joints. Fit ends and edges closely, but not forced together. Stagger joints on opposite sides of partition.

For one hour rated walls between units, screw size and spacing shall be in accordance to requirement for a one-hour rating.

For single-layer parallel application of gypsum panels, space screws 16" o.c. in field of panels and along vertical abutting edges. For perpendicular panel application, space screws 16" o.c. in field and along abutting end joints. For double-layer screw attachment, space screws 24" o.c. in base layer and 16" o.c. in face layer. Apply both layers of gypsum panels vertically with joints in face layer offset from base layer joints. For  $\frac{1}{2}$ " and  $\frac{5}{6}$ " " panels, use 1" screws for base layer and 1-  $\frac{5}{6}$ " " screws for face layer.

For stud walls where ceramic tile is called for ½" Durock Board shall be installed in accordance with ATC. All joints shall be properly taped and the contractor shall inspect application of wall board for proper secureness to see that all joints of the wall board occur at wall anchored studs. All joints to be taped full length of cement board.

3. <u>Chase Wall Erection:</u> Align two parallel rows of floor and ceiling runners spaced apart as detailed. Attach to concrete slabs with concrete stud nails or powerdriven anchors 24" o.c. to suspended ceilings with toggle bolts 16" o.c., or to wood framing with suitable fasteners 24" o.c.

Position steel studs vertically in runners, 16" o.c. with flanges in the same direction, and with studs on opposite sides of chase directly across from each other. Anchor all studs to floor and ceiling runner flanges with USG Metal Lock Fastener tool or screws.

Cut cross bracing to be placed between rows of studs from gypsum panels, 12" high by chase wall width. Space braces 48" o.c. vertically and attach to stud webs with six (6) 1" Type S Screws per brace. If larger braces are used, space screws 8" o.c. max. On each side.

Bracing of 2-  $\frac{1}{2}$ " steel studs may be used in place of gypsum panels. Anchor web at each end of steel brace to stud web with two (2)  $\frac{5}{6}$ " pan head screws. When chase wall studs are not opposite, install steel stud cross braces 24" o.c. horizontally and securely anchor each end to a continuous horizontal 2-  $\frac{1}{2}$ " runner screw-attached to chase wall studs within the cavity.

C. <u>Finishing:</u> Gypsum board shall be finished according to manufacturer's recommendations with a complete system of taping, joint compound, sanding, etc. Use pre-fabricated outside and inside corner metal reinforcement. Joints, nails or other imperfections that are visible will be cause for rejection. Use "J" molding at all sheetrock panel ends.

#### END OF SECTION.

#### SECTION 10A

#### **MISCELLANEOUS SPECIALTIES**

#### 10A-01. <u>GENERAL CONDITIONS:</u>

The General Conditions, Division II, Sections E and F of these specifications shall apply to and form a part of this Section as if written in full herein.

#### 10A-02. <u>SCOPE:</u>

Work under this heading includes necessary labor and materials required to install items listed in this Section or shown on the contract drawings.

#### 10A-03. ACCESS PANELS AND DOORS:

Access panels for access to mechanical or electrical items shall be furnished to the general contractor by the respective subcontractor and installation shall be by the General Contractor.

All other areas which require access, access panels shall be furnished and installed by the General Contractor. Doors shall be suitable for wall or ceiling finish involved. Opening size shall be as required or as indicated and fire rated where rated walls or ceilings are penetrated. Units shall be equal to those manufactured by Milcor, Philip Carey, Zurn, or other approved equal.

- 10A-04. <u>PAIRED OPERABLE PARTITION:</u> N.A.
- 10A-05. <u>ALUMINUM LETTERS:</u> N.A.
- 10A-06. <u>ALUMINUM PLAQUE:</u> N.A.
- 10A-07. <u>ALUMINUM SHIPS LADDER:</u> N.A.
- 10A-07. <u>ALUMINUM THRESHOLDS:</u>

See Finish Hardware Section, these specifications. All thresholds to be set in full bed of mastic.

#### 10A-08. <u>ALUMINUM & STEEL MISCELLANEOUS SHAPES:</u>

Furnish and install all aluminum or steel angles, channels, break metal shapes, in sizes and shapes and at locations as shown on drawings, or as required for support, bracing, anchoring, etc. of incidental items whether shown or not.

#### 10A-09. BATHROOM ACCESSORIES:

Furnish and install the following accessories in locations as stated. Exact locations will be as directed by Architect.

- A. <u>Accessories:</u>
  - 1. <u>Surface Mounted Paper Towel Dispenser:</u> To be Bradley Model 2441-110000 Stainless Steel.
    - a. One (1) at Breakroom #103
    - b. One (1) at Unisex H/C Restroom #105
    - c. One (1) at Warehouse #101
  - <u>Mirrors:</u> Bradley Model 780 <sup>3</sup>/<sub>4</sub>" x <sup>3</sup>/<sub>4</sub>" satin finish stainless steel frame. All welded construction. 18 gauge wall hanger and theft resistant mounting bracket. 18" x 24" or sizes as shown on the interior elevations and drawings.
    - a. One (1) at Unisex H/C Restroom #105
  - 3. <u>Toilet Tissue Holder:</u> Bradley Model 5106 surface mounted toilet tissue holder fabricated from 304 stainless steel.
    - a. One (1) at Unisex H/C Restroom #105
  - 4. <u>Grab Bars:</u> Bradley 1 ½" O.D., S.S. Series 812, sanitary safe grey finish 059 configuration and 001 configuration grab bar installation for concealed mounting.
    - a. One (1) set at Unisex H/C Restroom #105

#### 10A-10. <u>CHAIN LINK FENCE:</u> N.A.

#### 10A-11. <u>FIRE EXTINGUISHERS:</u>

Furnish and install at locations shown, or noted on the drawings, 10 lb. capacity fire extinguishers equal to "J L Industries Cosmic 10E A B C with U.L. rating 4A-60BC.

Provide complete with metal hanger. Exact location will be as directed by Architect. Mounting height to be so top of extinguisher not more than 5'-0" A.F.F. Prior to final inspection each extinguisher shall be inspected by the local fire inspector and tagged with inspection sticker showing unit fully charged, date and signature of inspector.

#### 10A-12. <u>HANDRAILS/ GUARDRAILS:</u>

See Drawings for Construction.

#### 10A-13. <u>HAT CHANNELS:</u>

Furnish and install 1  $\frac{1}{2}$ " and  $\frac{3}{4}$ " galvanized hat channels for framing and installation of metal fascia and medal siding panels as shown and noted on the drawings. Light gauge framing for

installation of fascia system shall be as shown on the drawings and specified in Section 11 of these specifications.

10A-14. <u>CORRIDOR LOCKERS:</u> N.A.

10A-15. <u>MOP HOLDERS:</u> N.A.

#### 10A-16. PRECAST CONCRETE SILLS / WALL CAPS: N.A.

#### 10A-17. <u>SIGNAGE:</u>

A. Furnish and install plastic room signs for all rooms or areas numbered whether noted or not. Signs shall be equal to Best Manufacturing Sign Systems, Montrose, Colorado; (303) 249-0223.

NOTE: Rooms or areas with two or more means of egress are to have a room sign at each entrance to that room or space.

B. Signs for classrooms shall be 6 x 6 x ¼ MP and shall contain room number and room name, and raised braille copy. Numbers and names shall be engraved. All signs to be ADA compliant.

Type style shall be Helvetica Medium, finish of background shall be non-glare. Colors of letters and background will be as selected by Architect.

Signs for restrooms shall have separate integral handicapped pictorial insignia.

Room numbers and names will be furnished by Architect.

- C. Install door signs 60" A.F.F., to the centerline of the sign, on wall adjacent to latch side of door. Signs to be installed with stainless steel screws.
- D. See mechanical and electrical drawings and specifications for engraved signs located at exhaust fan switches and emergency cut offs. Signs to be red background, white letters. Signs to be installed for gas, water, electrical emergency cut off and for exhaust fans.
- E. Furnish shop drawings for approval, and color samples for color selection.

#### 10A-21. <u>SOLID PLASTIC TOILET PARTITIONS:</u> N.A.

#### 10A-21. <u>SPLASH BLOCKS:</u>

Furnish and install where noted at each downspout and/or roof drain wall Nozzle a preformed concrete splash, 1'-4" x 2'0".

#### END OF SECTION

# NEW MUNICIPAL WAREHOUSE FOR: THE TOWN OF GREENWOOD 5167 FORT ROAD, HIGHWAY 69, GREENWOOD FLORIDA

CITY OFFICIALS		<u>P</u>
MAYOR TOWN CLERK	<ul><li>PHYLLIS BOWMAN</li><li>ALICIA L. CORDER</li></ul>	O٧
CITY COUNCIL	<ul><li>BRYAN JOHNSON</li><li>MAMIE VANN</li><li>THOMAS ANDREASEN</li></ul>	OV
	- IIIOMAS ANDREASEN	DE
PROJECT INFORMA	ATION	AF
OCCUPANCY CLASSIFICATION	MODERATE HAZZARD STORAGE * GROUP S-1	
CONSTRUCTION TYPE	TYPE (V) FIVE B	CI
BUILDING SQUARE FOOTAGE	FIRST FLOOR: 3,200 S.F. MEZZANINE: 800 S.F. TOTAL: 4,000 S.F.	ST
OCCUPANT LOAD	OFFICE – 2 PERSONS BREAK ROOM – 4 PERSONS WAREHOUSE – 5 PERSONS TOTAL – 11 PERSONS	MI
MIN. # OF EXITS AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM	(1) / 2 PROVIDED <u>NOT</u> REQUIRED / <u>NOT</u> PROVIDED	EL

### PORTABLE FIRE EXTINGUISHERS—REUIRED / PROVIDED

## PROJECT DESIGN LOADS

ROOF LIVE LOAD	— 20 P.S.F.
MEZZANINE FLOOR LIVE LOAD	— 100 P.S.F.
WIND LOAD CRITERIA	— BUILDING RISK CATEGORY – II BASIC WIND SPEED – 145 MPH (V) ULT. EXPOSURE CATEGORY – EXPOSURE (C) INTERNAL PRESSURE COEFFICIENT – 0.18 (GPCI)
P.E.M.B. SUPPLEMENTAL DESIGN	CRITERIA

ROOF LIVE LOAD - 20 PSF (REDUCABLE @ R.F. RAFTERS & COLUMNS ONLY) DEAD LOAD - WEIGHT OF STRUCTURE COLLATERAL LOAD – 5 PSF CONCENTRATED LOADS - MECHANICAL EQUIPMENT LATERAL FRAME DRIFT – H/100 WALL GIRT DEFLECTION - L/240 OR 1-1/2" MAX COLUMN SHAFT DEFLECTION - L/240



# **PROJECT DIRECTORY**

- WNER
- WNER'S REPRESENTATIVE
- ESIGN ARCHITECT
- RCHITECT OF RECORD
- IVIL ENGINEERING
- TRUCTURAL ENGINEER
- ECHANICAL ENGINEER
- LECTRICAL ENGINEER

- TOWN OF GREENWOOD 4207 BRYAN ST. GREENWOOD, FLORIDA (850) 594-1216
- SYNERGY NDS KEITH BASSETT (407) 454-9195
- DONOFRO ARCHITECTS 2910 CALEDONIA ST. MARIANNA, FLORIDA (850) 482-5261
- DONOFRO ARCHITECTS 2910 CALEDONIA ST. MARIANNA, FLORIDA (850) 482-5261
- PROVIDED UNDER SEPARATE CONTRACT BY OWNER
- JOHNSON ENGINEERING ASSOCIATES DOTHAN, ALABAMA (850) 671-7221
- WATFORD ENGINEERING INC. 4471 CLINTON ST. MARIANNA, FLORIDA (850) 526-3447
- HUMBER-GARICK CONSULTING ENGINEERS 142 EGLIN PARKWAY SE, FORT WALTON BEACH, FLORIDA (850) 526-3447



## DONOFRO ARCHITECTS MARIANNA, FLORIDA (850) 482-5261

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		INDEX TO DRAWINGS
SECTION NAME	SHT. No.	CONTENTS
COVER		PROJECT LOCATION MAP * PROJECT DIRECTORY * PROJECT INFORMATION
	A-1.0	FIRST FLOOR PLAN * LEGEND
	A-1.1	SECOND FLOOR PLAN * LEGEND * CONSTRUCTION NOTES * INT. ELEV. * DETAILS
	A-2.0	ROOM FINISH & DOOR SCHEDULES * WINDOW & DOOR TYPES * DOOR FRAME TYPES
	A-3.0	EXTERIOR ELEVATIONS
	A-4.0	ROOF PLAN
	A-5.0	TRANSVERSE SECTION * DETAILS
	S-0.1	GENERAL STRUCTURAL NOTES * DETAILS
	S-1.1	FOUNDATION PLAN * SECTIONS
STRUCTURAL	S-1.2	MEZZANINE FRAMING PLAN * SECTIONS
	S-1.3	SCHEMATIC ROOF FRAMING PLAN
	P-1.0	PLYUMBING LEGEND * SCHEDULES * DETAILS & NOTES
PLUMBING	P-1.1	PLUMBING SPECIFICATIONS
	P-2.0	PLUMBING PLAN * RISER DIAGRAMS
	M-1.0	HVAC LEGEND * SCHEDULES & NOTES
MECHANICAL	M-2.0	HVAC FLOOR PLANS
	M-3.0	HVAC DETAILING
	E-1.0	LEGEND * NOTES * DETAILS
	E-2.0	SCHEDULES * POWER RISER * PARTIAL SITE PLAN
	E-2.1	LIGHTING CONTROLS & SCHEDULES
ELECTRICAL	E-3.0	FIRST FLOOR POWER PLAN
	E-3.1	SECOND FLOOR POWER PLAN
	E-4.0	FIRST FLOOR LIGHTING PLAN
	E-4.1	SECOND FLOOR LIGHTING PLAN

## **PROJECT ABBREVIATIONS**

A/C	AIR CONDITIONING
AFF	ABOVE FINISH FLOO
ALUM	ALUMINUM
CONC	CONCRETE
COND	CONDENSING
CONN	CONNECTION
CONT	CONTINUOUS
CORR	CORRIDOR
DET	DETAIL
DWG	DRAWING
EF	EXHAUST FAN

ELEV ELEVATION ELEC ELECTRICAL EOR EDGE OF ROOF GALV GALVANIZED HVAC HEATING, VENTILATION, & A/C MOUNTED MTD. N.I.C. NOT IN CONTRACT ROOF DRAIN RD SCHED SCHEDULE SHEET SHT SIM SIMILAR TYP TYPICAL UNO UNLESS NOTED OTHERWISE

JOB NUMBER: M-2019-03 DATE: AUGUST 3, 2019 CONSTRUCTION SET #





WALI		EDULE	
MARK	SYMBOL	WALL TYPE	DISCRIPTION
$\nabla$	· · · · · · · · · · · ·	EXTERIOR WALL	PRE-FINISHED METAL WALL PANELS / 2 X 4 WOOD STUD FRAMING @ 16" O.C. W/ R=11 FIBERGLASS BATT INSULATION @ CAVITY, MOISTURE & AIR BARRIER @ EXTERIOR & 5/8" GYP. BOARD INTERIOR WALL
$\overline{\mathbf{v}}$		EXTERIOR WALL	PRE-FINISHED METAL WALL PANELS OVER 3-1/2" VINYL FACED BLANKET INSULATION OVER P.E.M.B. SECONDARY FRAMING MEMBERS
3		INTERIOR WALL	2 X 4 WOOD STUD FRAMING @ 16" O.C. W/ 3-1/2" FIBERGLASS SOUND BATTS @ CAVITY & 5/8" GYP. WALL BOARD EA. SIDE
4		INTERIOR 1HR RATED WALL	2 X 4 WOOD STUD FRAMING @ 16" O.C. W/ R=11 FIBERGLASS BATT INSULATION @ STUD CAVITY & 1 LAYER OF 5/8" TYPE X F.C. GYP WALL BOARD EACH SIDE

#	ROOM FINISH SCHEDULE REFERENCE SYMBOL
$\langle \# \rangle$	WINDOW SCHEDULE REFERENCE SYMBOL
#	DOOR SCHEDULE REFERENCE SYMBOL
#	GENERAL CONSTRUCTION NOTE REFERENCE SYMBOL SEE SHEET A-1.1
4	STEEL COLUMN LOCATION REFERENCE SYMBOL
F.E.	WALL MTD. 10 LB. CAPACITY FIRE EXTINGUISHER
#	WALL TYPE SCHEDULE REFERENCE SYMBOL

## FLOOR PLAN LEGEND





**⊢6**"

					R	C	M	_	FΊ	N	[S	SH	2	SC	Έ	ΙE	DULE		
ROOM NUMBER	ROOM NAME	CERAMIC TILE	TILE 200 CARPET TILE 200	NONE OR EXPOSED II PLYWOOD SFALED CONC	CERAMIC TILE	DOW CON	KUBBER NONE	PAINTED PLYWOOD	PAINTED CONC. BLOCK	EPOXY PAINTED T GYPSUM BOARD 57	NONE:	SUSPENDED ACOUSTICAL TILE SUSPENDED VINYL	GYP. BOARD TILE PAINTED GYP. BOARD Z	NONE	CHAIR RAIL	CROWN MOLDING	CEILING HEIGHT	REMARKS	ROOM NUMBER
101	WAREHOUSE													$\bullet$				PAINTED PLYWOOD WALL @ NORTHSIDE ONLY	101
102	OFFICE												$\bullet$				8'-0"		102
103	BREAKROOM												lacksquare				8'-0"		103
104	VESTIBULE												lacksquare				8'-0"		104
105	UNISEX H.C. RESTROOM																8'-0"		105
105A	STORAGE																8'-0"		105A
201	STORAGE			•										$\bullet$					201

				DC	0	R SCHEDULI	H.					
DOOR NUMBER	WIDTH	OR SIZ	THICKNESS	DOOR DESCRIPTION	DOOR TYPE	FRAME DESCRIPTION	FRAME TYPE	SET. NUMBER	CLOSER WEATHERSTRIPPING	REMARKS	SIGNAGE	DOOR NUMBER
101A	3'-0"	7'-0"	$1 - \frac{3}{4}$	HOLLOW METAL FLUSH PANEL	Α	5-3/4" HOLLOW METAL	Α	1				101A
101B	14'-0"	10'-0"		STEEL ROLL UP DOOR	С			$\mathbf{>}$	1			101B
101C	14'-0"	10'-0"	$\checkmark$	STEEL ROLL UP DOOR	С		$\checkmark$	$\mathbf{>}$	1			101C
101D	14 <b>'</b> -0"	10'-0"	$\searrow$	STEEL ROLL UP DOOR	С		$\checkmark$	$\geq$	1			101D
101E	3'-0"	7'-0"	$1 - \frac{3^{2}}{4}$	HOLLOW METAL FLUSH PANEL	Α	5-3/4" HOLLOW METAL	Α	1				101E
102	3'-0"	7'-0"	$1 - \frac{3^{"}}{4}$	WOOD SOLID CORE FLUSH PANEL	Α	5-3/4" HOLLOW METAL	Α	3			OFFICE	102
103A	3'-0"	7'-0"	$1 - \frac{3^{"}}{4}$	HOLLOW METAL FLUSH PANEL	Α	5-3/4" HOLLOW METAL	Α	1	$\bullet$ $\bullet$			103A
103B	3'-0"	7'-0"	$1 - \frac{3}{4}$	WOOD SOLID CORE FLUSH PANEL	В	5-3/4" HOLLOW METAL	Α	4		1HR. RATED DOOR & FRAME	BREAK-ROOM	103B
104	3'-0"	7'-0"	$1 - \frac{3}{4}$	WOOD SOLID CORE FLUSH PANEL	Α	5-3/4" HOLLOW METAL	Α	5			H/C ACCESS SYS.	104
105	3'-0"	7'-0"	$1 - \frac{3}{4}$	WOOD SOLID CORE FLUSH PANEL	Α	5-3/4" HOLLOW METAL	Α	6			H/C ACCESS SYS.	105
105A	2'-6"	7'-0"	$1 - \frac{3}{4}$ "	WOOD SOLID CORE FLUSH PANEL	Α	5-3/4" HOLLOW METAL	Α	2			STORAGE	105A



**DOOR TYPES** 1/4" = 1'-0"





**WINDOW TYPES** 1/4" = 1'-0"





## **FOOR FRAME TYPES** 1/4" = 1'-0"

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	DONOFRO A	2910 CALEDONIA ST.	MARIANNA, FL 32446 OFFICE: (850) 482-5261
SHEET ROOM FINISH & DOOR SCHEDULES * TITLE: WINDOW & DOOR TYPES * DOOR FRAME TYPES	NEW MUNICIPAL WAREHOUSE	TOWN OF GREENWOOD	GREENWOOD, FLORIDA
JOB NUMBER: M-2019-03	DATE: AUG. 3, 2019	DRAWN BY: C.L.D.	снескер вҮ: Р.А.D., JR.
A	SHEE	Γ Νο.	0






## GENERAL STRUCTURAL NOTES

### <u>GENERAL</u>

- 1. NO PROVISION OF ANY REFERENCED STANDARD SPECIFICATION, MANUAL OR CODE (WHETHER OR NOT SPECIFICALLY INCORPORATED BY REFERENCE IN THE CONTRACT DOCUMENTS) SHALL BE EFFECTIVE TO CHANGE THE DUTIES AND RESPONSIBILITIES OF OWNER, CONTRACTOR, ENGINEER OR SUPPLIER OR ANY OF THEIR CONSULTANTS, AGENTS OR EMPLOYEES FROM THOSE SET FORTH IN THE CONTRACT DOCUMENTS, NOR SHALL IT BE EFFECTIVE TO ASSIGN TO THE STRUCTURAL ENGINEER OF RECORD OR ANY OF THE STRUCTURAL ENGINEER OF RECORD'S CONSULTANTS, AGENTS, OR EMPLOYEES ANY DUTY OR AUTHORITY TO SUPERVISE OR DIRECT THE FURNISHING OR PERFORMANCE OF THE WORK OR AUTHORITY TO UNDERTAKE RESPONSIBILITIES CONTRARY TO THE PROVISIONS OF THE CONTRACT DOCUMENTS.
- THE GENERAL CONTRACTOR SHALL VERIFY THE DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ARCHITECT/STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED OF ANY DISCREPANCY.
- 3. MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE SIXTH EDITION (2017) FLORIDA BUILDING CODE.
- THE CONTRACTOR SHALL COORDINATE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL WORKS WITH THE STRUCTURAL CONTRACT DOCUMENTS. ARCHITECT/STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED OF ANY DISCREPANCIES OR OMISSIONS.
- 5. THE CONTRACTOR SHALL VERIFY THE FLOOR AND ROOF MOUNTED MECHANICAL EQUIPMENTS WEIGHTS, FLOOR AND/OR ROOF OPENING SIZES AND LOCATIONS WITH ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS.
- 6. THE CONTRACTOR SHALL NOTIFY IN WRITING THE STRUCTURAL ENGINEER OF RECORD OF CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS.
- 1. FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS SEE THE ARCHITECTURAL.
- STRUCTURAL CONTRACT DRAWINGS SHALL NOT INCLUDE SHOP DRAWINGS, VENDOR DRAWINGS, OR ANY MATERIAL PREPARED AND SUBMITTED BY THE CONTRACTOR OR SUBCONTRACTOR.
- REFERENCE TO STANDARD SPECIFICATIONS OF ANY TECHNICAL SOCIETY, ORGANIZATION OR ASSOCIATION TO CODES OF LOCAL OR STATE AUTHORITIES, SHALL MEAN THE EDITION OF THE REFERENCED CODE INDICATED IN THE BUILDING CODE NOTED ABOVE.
- 10. ANY CONTRACTOR INTENDING TO SUPPORT EQUIPMENT, PIPING, DUCT WORK, CRANES OR OTHER ITEMS WHICH SUBJECT THE ROOF OR FLOOR SYSTEMS TO CONCENTRATED LOADINGS NOT SPECIFICALLY INDICATED ON THESE STRUCTURAL DRAWINGS, MUST SUBMIT SHOP DRAWINGS, WEIGHTS, AND PROPOSED SUPPORT LOCATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO ERECTION. ANY CONTRACTOR WHO ERECTS EQUIPMENT WITHOUT OBTAINING SUCH APPROVAL WILL BE REQUIRED EITHER TO REMOVE IT AND SUBMIT SHOP DRAWINGS OR STAND THE COST OF REQUIRED REINFORCEMENT OF MEMBERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE PERFORMANCE OF THE CONTRACT. THE CONTRACTOR SHALL GIVE NOTICES AND COMPLY WITH ALL APPLICABLE LAWG, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDER OF PUBLIC AUTHORITIES (ESPECIALLY OSHA) BEARING ON SAFETY OF PERSONS OR PROPERTY OR THEIR PROTECTION FROM DAMAGE, INJURY OR LOGS. THE CONTRACTOR SHALL NOT LOAD OR PERMIT ANY PART OF THE CONSTRUCTION SITE TO BE LOADED SO AS TO ENDANGER ITS SAFETY.
- 12. IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE, UNLESS APPROVED BY JOHNSON AND ASSOCIATES ENGINEERING IN WRITING
- 13. THIS BUILDING IS DESIGNED AS AN ENCLOSED STRUCTURE. ALL EXTERIOR COMPONENTS (DOORS, WINDOWS, ETC.) MUST BE DESIGNED TO WITHSTAND THE WIND LOADINGS SPECIFIED FOR THE DESIGN OF COMPONENTS AND CLADDING IN THE APPLICABLE BUILDING CODE.
- THE CONTRACT DOCUMENT DRAWINGS, GENERAL NOTES, AND SPECIFICATIONS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE SPECIFICATIONS AND/OR CODE OF PRACTICE FOR AISC, ACI, SJI, OR OTHER STANDARDS.
- 15. JOHNSON & ASSOCIATES ENGINEERING (JAE) HAS A LIMITED SCOPE OF SERVICES AND RESPONSIBILITY ON THIS PROJECT. JAE IS THE STRUCTURAL ENGINEER OF RECORD FOR THE DESIGN OF THE FOUNDATION SYSTEM AND THE MEZZANINE ONLY. THE DESIGN OF THE STEEL BUILDING SYSTEM, INCLUDING PRIMARY AND SECONDARY FRAMING. CONNECTIONS, ETC IS THE SOLE RESPONSIBILITY OF THE STEEL BUILDING MANUFACTURER AND HIS DULY LICENSED FLORIDA ENGINEER.

### PRE-ENGINEERED METAL BUILDING DESIGN CRITERIA

- ALL COLUMNS SHALL BE ANALYZED AND DESIGNED AS HAVING PINNED BASES. NO MOMENT SHALL BE TRANSFERRED TO THE FOUNDATIONS.
- 2. DESIGN LOADS SHALL BE AS SPECIFIED IN THE DESIGN LOADS SECTION.
- ROOF PURLING MUST BE CAPABLE OF RESISTING NET WIND PRESSURES (IN OR OUT) ASSUMING INTERIOR FLANGE UNBRACED EXCEPT WHERE FLANGE BRACING IS PROVIDED.
- THE METAL BUILDING SYSTEM MANUFACTURER WILL BE RESPONSIBLE FOR COMPLETE DESIGN OF THE BUILDING STRUCTURAL FRAME (INCLUDING LATERAL LOADS) DOWN TO THE FOUNDATION. COMPLETE DESIGN REACTIONS SHALL BE FURNISHED TO THE FOUNDATION DESIGN ENGINEER.
- 5. ALL METAL BUILDING SYSTEM SHOP DRAWINGS AND ERECTION DRAWINGS SHALL BE SIGNED AND SEALED BY THE MANUFACTURER'S ENGINEER DULY LICENSED IN THE PROJECT STATE.
- 6. METAL BUILDING CALCULATIONS COVER SHEET SHALL BE SIGNED AND SEALED BY THE MANUFACTURER'S ENGINEER, IN RESPONSIBLE CHARGE OF THEIR DEVELOPMENT, LICENSED IN THE PROJECT STATE.
- 1. DEFLECTION LIMITS FOR ROOF MEMBERS SHALL BE AS FOLLOWS: MANUFACTURER'S STANDARD DEFLECTION LIMITS, UNLESS SPECIFICALLY NOTED
- OTHERWISE BY THE ARCHITECT. EXCEPT AS OTHERWISE APPROVED BY ARCHITECT, STRUCTURAL CLEARANCES SHALL BE
- MAINTAINED AS CURRENTLY INDICATED IN THE CONTRACT DOCUMENTS.
- 9. STANDING SEAM DECKING SHALL NOT BE CONSIDERED AS PROVIDING DIAPHRAGM RESISTANCE FOR LATERAL LOADS.
- 10. RIGID FRAME COLUMNS SHALL HAVE A MINIMUM BASE PLATE THICKNESS OF AT LEAST 1/2
- ALL DEVIATIONS FROM THE CONTRACT DOCUMENTS (REQUESTED FOR THE CONVENIENCE OF THE PRE-ENGINEERED BUILDING SYSTEM MANUFACTURER) ARE SUBJECT TO APPROVAL BY THE ARCHITECT/ENGINEER OF RECORD. ALL DEVIATIONS SHALL BE EXPRESSLY LISTED AND DEFINED IN THE SHOP DRAWING SUBMITTAL. ARCHITECT/ENGINEER IS NOT RESPONSIBLE FOR DISCOVERY OF DEVIATIONS NOT LISTED, AND APPROVAL OF UNLISTED DEVIATIONS SHALL NOT BE IMPLIED.
- 12. A QUALIFIED REPRESENTATIVE OF THE METAL BUILDING SYSTEM SUPPLIER'S CONSTRUCTION SERVICES DEPARTMENT SHALL MAKE AN ON-SITE REVIEW OF THE ERECTED BUILDING. REVIEWER SHALL NOTIFY THE GENERAL CONTRACTOR AND ARCHITECT OF ANY AND ALL NOTED DISCREPANCIES FROM THE ERECTION AND DESIGN DRAWINGS

CONTRACTOR/ERECTOR SHALL CORRECT ALL DISCREPANCIES TO THE SATISFACTION OF THE REVIEWER AND THE ARCHITECT.

UPON COMPLETION OF SERVICES THE REVIEWER SHALL SIGN AND NOTARIZE THE FOLLOWING STATEMENT UNDER THE METAL BUILDING SYSTEM SUPPLIER'S LETTERHEAD:

TO THE BEST OF MY KNOWLEDGE AND BELIEF THE ABOVE DESCRIBED STRUCTURE HAS BEEN ERECTED IN SUBSTANTIAL CONFORMANCE WITH THE SUPPLIER'S ERECTION DRAWINGS AND DETAILS.

### PRE-ENGINEERED METAL BUILDING DESIGN CRITERIA (CONT.)

- 13. CONCRETE PEDESTALS/FOOTINGS SHALL BE OF SUFFICIENT SIZE TO PROVIDE FULL CONTACT BEARING: AREA FOR COLUMN BASE PLATES. IF P.E.M.B.M. SELECTS BASE PLATES/COLUMNS LARGER THAN INDICATED PEDESTAL/FOOTING SIZES, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL OF SAME FROM THE PROJECT ARCHITECT AND STRUCTURAL ENGINEER OF RECORD. UPON RECEIPT OF SUCH APPROVAL CONTRACTOR SHALL FURNISH PEDESTALS/FOOTINGS OF SUFFICIENT SIZE TO ALLOW FULL CONTACT BEARING AREA FOR BASE PLATES AND TO MAINTAIN A MINIMUM OF 4" FROM THE CENTERLINE OF THE EXTREME ANCHOR BOLTS, TO THE PEDESTAL EDGE. PEDESTALS OF SUFFICIENT SIZE SHALL BE FURNISHED WITHOUT ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PAY STRUCTURAL ENGINEER OF RECORD FOR SERVICES IN RE-SIZING PEDESTALS FOR CONTRACTOR'S CONVENIENCE. IF ARCHITECT/ENGINEER CANNOT APPROVE LARGER COLUMNS AND BASE PLATES, CONTRACTOR SHALL INSTRUCT P.E.M.B. MANUFACTURER TO FURNISH COLUMNS AND BASE PLATES THAT WILL HAVE FULL BEARING ON THE PEDESTALS/FOOTINGS INDICATED ON THE CONTRACT DRAWINGS.
- 14. CENTER ALL FOOTINGS ON METAL BUILDING SYSTEM COLUMN BASE PLATE, UN.O. NOTE, CENTERLINE OF METAL BUILDING COLUMN AND FOOTING MAY NOT ALIGN WITH CENTERLINE OF COLUMN PEDESTAL
- 15. SEE ANCHOR BOLT LAYOUT PLAN, PROVIDED BY THE METAL BUILDING SYSTEM MANUFACTURER, FOR EXACT ANCHOR BOLT SIZE AND LOCATION. DESIGN OF REQUIRED ANCHOR BOLT DIAMETER IS THE RESPONSIBILITY OF THE METAL BUILDING SYSTEM DESIGNER. SEE ANCHOR BOLT DETAILS FOR REQUIRED ANCHOR BOLT LENGTH AND CONFIGURATION.

### FOUNDATION

- THE FOUNDATION IS DESIGNED AS A SHALLOW SPREAD FOUNDATION SYSTEM WITH AN ASSUMED ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF. THE STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR SUBSURFACE CONDITIONS ENCOUNTERED IN THE FIELD CONTRARY TO THOSE ASSUMED FOR DESIGN.
- 2. THE CONTRACTOR SHALL VERIFY THE AVAILABLE SOIL BEARING CAPACITY AT FOOTING SUBGRADE ELEVATION, PRIOR TO COMMENCEMENT OF FOOTING CONCRETE OPERATIONS, BY PERFORMING HAND PENETROMETER TESTS. THE HAND PENETROMETER TESTS SHALL BE PERFORMED BY A PRIOR APPROVED TESTING LABORATORY AT EACH ISOLATED COLUMN FOOTING AND ALONG ALL CONTINUOUS FOOTINGS AT THE RATE OF ONE TEST PER 25 LINEAR FEET. THE ENGINEER OF RECORD SHALL BE NOTIFIED IMMEDIATELY OF ALL SOIL BEARING TEST RESULTS. IF THE SUBGRADE SOIL IS DETERMINED TO BE INADEQUATE TO SUPPORT THE ASSUMED BEARING CAPACITY, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND CONSTRUCTION OPERATIONS AND CONTACT THE STRUCTURAL ENGINEER OF RECORD SO THAT THE FOUNDATION SYSTEM CAN BE RE-DESIGNED TO SUIT FIELD CONDITIONS. THE STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR SUBSURFACE CONDITIONS ENCOUNTERED IN THE FIELD CONTRARY TO THOSE ASSUMED FOR DESIGN
- 3. FOOTING SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR DENSITY (ASTM D-1557) TO A DEPTH OF 12" BELOW BOTTOM OF FOOTING.

### <u>CONCRETE</u>

- 1. CONCRETE WORK SHALL CONFORM TO THE ACI 318-11 AND CRSI STANDARDS.
- 2. PIPES OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS SHALL NOT BE PLACED WITHIN THE THICKNESS OF CONCRETE WALLS UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES.
- 3. REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROOVES, ORNAMENTS, CLIPS, OR GROUNDS REQUIRED TO BE ENCASED IN CONCRETE AND FOR LOCATION AND DETAILS OF FLOOR FINISHES AND SLAB DEPRESSIONS.
- 4. CONSTRUCTION JOINTS IN CONCRETE BEAMS AND FRAMED SLABS SHALL BE PLACED AT MIDSPAN. ALL CONSTRUCTION JOINTS MUST BE KEYED WITH REINFORCING RUN CONTINUOUS THROUGH JOINTS.
- 5. AT COLUMN FOOTINGS, COLUMN ANCHOR RODS WITH TEMPLATE SHALL BE INSTALLED IN PROPER LOCATION PRIOR TO POURING THE FOOTING.
- 6. CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTH UTILIZING TYPE I CEMENT:

FOUNDATIONS AND SLABS ON GRADE 3000 PSI

## REINFORCING STEEL

- REINFORCING STEEL SHALL CONFORM TO ASTM A615-GRADE 60.
- 2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND HAVE A MINIMUM SIDE LAP OF 8 INCHES.
- 3. REINFORCEMENT SHALL BE SPLICED ONLY AS SHOWN OR NOTED IN THE STRUCTURAL CONTRACT DOCUMENTS.
- 4. ALL REINFORCING LAP SPLICES SHALL BE A MINIMUM OF 36 BAR DIAMETERS IN LENGTH FOR REINFORCED CONCRETE. LAP SPLICES FOR REINFORCED MASONRY SHALL BE A MINIMUM OF 48 BAR DIAMETERS.
- ALL REINFORCING STEEL AND ACCESSORIES SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI MANUAL AND MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.
- 6. MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE IN CONFORMANCE WITH CHAPTER 7 OF ACI 318-11 EXCEPT AS OTHERWISE NOTED.
- 7. REINFORCING IN ALL CONCRETE FOOTINGS SHALL BE CONTINUOUS AT INTERSECTIONS AND CORNERS. WHERE WALL FOOTINGS STEP, REINFORCING SHALL BE CONTINUOUS IN STEP.
- 8. PROVIDE 2-45 EXTRA DIAGONAL REINFORCING BARS AT CORNERS OF ALL OPENINGS IN FRAMED SLABS AND CONCRETE WALLS. EXTEND BARS 2'-O" BEYOND EACH EDGE OF OPENING.
- 9. AT POURED CONCRETE WALLS, PIERS AND COLUMNS, DOWELS FOR VERTICAL REINFORCING BARS SHALL BE INSTALLED IN THEIR PROPER LOCATION PRIOR TO CONCRETE POUR OF THE FOOTINGS.

### WOOD FRAMING

- ALL WOOD FRAMING INCLUDING TRUSSES SHALL BE DESIGNED, DETAILED AND FABRICATED IN ACCORDANCE WITH THE LATEST EDITION OF THE 'NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION".
- 2. FOR STRUCTURAL LUMBER, PROVIDE THE FOLLOWING GRADE AND SPECIES:
- ALL STRUCTURAL LUMBER SHALL BE SOUTHERN YELLOW PINE NO. 2 GRADE OR BETTER (NO. 3 LUMBER WILL NOT BE ACCEPTED).
- PARALLAM LUMBER
- FB = 2900 PSI FV = 290 PSI
- E = 2,000,000 PSI LAMINATED VENEER LUMBER (LVL) FB = 2925 PSI
- FV = 285 PSI
- E = 2,000,000 PSI
- PROVIDE GALVANIZED METAL HANGERS AND FRAMING ANCHORS OF THE SIZE AND TYPE RECOMMENDED BY THE MANUFACTURER FOR EACH USE INCLUDING RECOMMENDED NAILS AND/OR BOLTING.
- 4. ALL BOLTS USED FOR WOOD CONSTRUCTION SHALL BE A MINIMUM OF 5/8" DIAMETER (ASTM A307). PROVIDE FLAT WASHERS UNDER ALL HEADS AND NUTS WHICH ARE DRAWN UP AGAINST WOOD SURFACE.

## STRUCTURAL SUBMITTALS

FURNISH FIVE COPIES OF SHOP DRAWINGS. FURNISH THREE COPIES OF OTHER STRUCTURAL SUBMITTALS.

### STRUCTURAL SUBMITTALS (CONT.)

- 2. SEE CONTRACT SPECIFICATIONS FOR ADDITIONAL SUBMITTAL REQUIREMENTS AND PROCEDURES.
- REPRODUCTION OF CONTRACT DOCUMENTS FOR ERECTION AND/OR SHOP DRAWINGS WILL NOT BE PERMITTED.
- REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER OF RECORD DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR ALSO SHALL BE RESPONSIBLE FOR MEANS, METHOD, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION. SEE SPECIFIC PROVISIONS IN THE CONTRACT DOCUMENTS DEALING WITH THE APPROPRIATE DESIGN RESPONSIBILITIES OF CONTRACTORS, SUBCONTRACTORS, AND SUPPLIERS.
- 5. IN THE EVENT THAT JOHNSON & ASSOCIATES ENGINEERING REVIEWS SUBMITTALS (AS A COURTESY TO THE CONTRACTOR TO REDUCE THE TIME PRIOR TO THE START OF FABRICATION) WHICH HAVE NOT FIRST BEEN REVIEWED AND APPROVED BY THE CONTRACTOR, SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM REVIEW AND APPROVE ALL SUCH SUBMITTALS, NOR WILL IT CREATE RESPONSIBILITY OR LIABILITY ON THE PART OF JOHNSON & ASSOCIATES ENGINEERING AS TO THE CONTENTS, ACCURACY OR COMPLETENESS OF SUCH SHOP DRAWINGS EXCEPT AS MAY BE SPECIFICALLY DESCRIBED IN THESE GENERAL NOTES. CONTRACTOR IS SOLELY RESPONSIBLE FOR REVIEW AND APPROVAL OF SHOP DRAWINGS AND OTHER SUBMITTALS, AND CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL REQUIREMENTS OF THE WORK OF THE CONTRACTOR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS
- 6. THE SER REVIEW OF SUBMITTALS WILL BE MADE FOR LIMITED PURPOSES AND IS SUBJECT TO THE LIMITATIONS AND DISCLAIMERS SET FORTH IN THESE GENERAL NOTES. THE JOHNSON AND ASSOCIATES ENGINEERING REVIEW DOES NOT INVOLVE OR INCLUDE:
  - A. REVIEW OF SUBMITTAL DIMENSIONS AND QUANTITIES.
  - B. ACCEPTANCE OR ASSUMPTION OF ANY RESPONSIBILITY TO REVIEW, ANALYZE OR EVALUATE ANY SUBMITTALS INCLUDING SHOP DRAWINGS PROVIDED TO JOHNSON AND ASSOCIATES ENGINEERING OR ACCEPTANCE OR ASSUMPTION OF ANY PART OF CONTRACTOR'S RESPONSIBILITIES (WHICH INCLUDE THE CONTRACTOR'S RESPONSIBILITY TO REVIEW AND APPROVE SUBMITTAL), WHETHER OR NOT THE JOHNSON AND ASSOCIATES ENGINEERING REVIEW WAS MADE PRIOR TO THE REVIEW AND APPROVAL OF THE CONTRACTOR.
  - C. ANALYSIS, VERIFICATION OR SUBSTANTIATION OF EQUIPMENT OR SYSTEM INSTALLATION OR PERFORMANCE OF EQUIPMENT OR SYSTEMS.
  - D. REVIEW, EVALUATION OR APPROVAL OF PROJECT SAFETY PRECAUTIONS OR SAFETY TRAINING.
  - E. REVIEW, EVALUATION OR APPROVAL OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES OR SEQUENCES.

JOHNSON AND ASSOCIATES ENGINEERING REVIEW OF A SPECIFIC ITEM DOES NOT INCLUDE OR INDICATE OR CONSTITUTE REVIEW OF A GROUP OR AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT.

THE CONTRACTOR MUST NOTIFY JOHNSON AND ASSOCIATES ENGINEERING, IN WRITING, RELATIVE TO ANY DEVIATION FROM THE CONTRACT DOCUMENTS, WHICH APPEARS IN THE SHOP DRAWINGS SAMPLES AND PRODUCT DATA. APPROVAL OF THE SUBMITTAL CONTAINING SUCH DEVIATION DOES NOT CONSTITUTE APPROVAL OF THE DEVIATION. APPROVAL OR REJECTION OF THE DEVIATION WILL ONLY BE PROVIDED BY JOHNSON AND ASSOCIATES ENGINEERING IN A SEPARATE WRITTEN COMMUNICATION TO THE CONTRACTOR. JOHNSON AND ASSOCIATES ENGINEERING IS NOT RESPONSIBLE FOR DISCOVERY OF DEVIATIONS NOT COMMUNICATED BY THE CONTRACTOR.

STRUCTURAL SUBMITTALS: METAL BUILDING SYSTEM, CONCRETE REINFORCING BARS, ANCHOR RODS AND CONCRETE MIX DESIGNS

- 1. THE FOLLOWING SUBMITTALS MUST BE MADE TO THE STRUCTURAL ENGINEER OF RECORD:
  - A. ERECTION DRAWINGS, FABRICATION DRAWINGS, COMPONENT DETAILS, AND CONNECTION DETAILS.
  - B. CALCULATIONS FOR ALL COMPONENTS SIZED BY THE FABRICATOR'S
- THE STRUCTURAL SUBMITTALS FOR THE METAL BUILDING SYSTEM SHALL BEAR THE IMPRESSED SEAL AND SIGNATURE OF THE SPECIALTY DESIGN ENGINEER LICENSED IN THE PROJECT STATE.
- 3. THE PROJECT STRUCTURAL ENGINEER OF RECORD WILL REVIEW THE SUBMITTALS FOR INDICATION THAT HIS INTENT HAS BEEN UNDERSTOOD AND THAT THE SPECIFIED CRITERIA HAVE BEEN USED.

### DESIGN LOADS

ROOF LIVE LOAD = 20 PSF 2. MEZZANINE DESIGN LIVE LOAD = 100 PSF 3. WIND LOADING CRITERIA (PER ASCE 1-10) BUILDING RISK CATEGORY = || V(ULT) = 145 MPH BASIC WIND SPEED: EXPOSURE CATEGORY: = C GCPI INTERNAL PRESSURE COEFF .: = ±Ø,|8 4. METAL BUILDING SUPPLEMENTAL DESIGN CRITERIA

SPECIALTY DESIGN ENGINEER.

ROOF LIVE LOAD: = 20 PSF (REDUCIBLE AT RIGID FRAME RAFTERS AND COLUMNS ONLY) DEAD LOAD: = WEIGHT OF STRUCTURE COLLATERAL LOAD: = 5 PSF CONCENTRATED LOADS = (MECH EQUIP, ETC) LATERAL FRAME DRIFT: = H/100 WALL GIRT DEFLECTION = L/240 (OR 1-1/2" MAX) COLUMN SHAFT DEFLECTION = L/24Ø

### PREENGINEERED SYSTEMS

- THE DESIGN OF PREENGINEERED SYSTEMS SPECIFIED IN THE CONTRACT DOCUMENTS WHICH ARE DESIGNED/ENGINEERED BY OTHERS IS THE SOLE RESPONSIBILITY OF THE SUPPLIER AND ITS DESIGN ENGINEER, LICENSED IN THE PROJECT STATE. SUBMITTALS OF SUCH SYSTEMS TO THE STRUCTURAL ENGINEER OF RECORD SHALL BE REVIEWED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS WITH REGARD TO THE ARRANGEMENT, AND/OR SIZES OF MEMBERS SHOWN ON THE CONTRACT DOCUMENTS AND TO INSURE CORRECT INTERPRETATION OF THE DESIGN INFORMATION INCLUDED IN THE CONTRACT DOCUMENTS. SUCH REVIEW BY THE STRUCTURAL ENGINEER OF RECORD SHALL NOT IMPLY ANY RESPONSIBILITY FOR THE ACTUAL DESIGN OF SUCH SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIMENSIONAL ACCURACY AND CONFORMANCE WITH THE INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS.
- SEE SPECIFIC SECTIONS OF GENERAL NOTES ABOVE AND SPECIFICATIONS FOR THE APPROPRIATE DESIGN RESPONSIBILITIES OF THE SUPPLIER AND ITS LICENSED ENGINEER.
- THE CONTRACT DOCUMENT DRAWINGS, GENERAL NOTES, AND SPECIFICATIONS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE SPECIFICATIONS AND/OR CODE OF PRACTICE FOR AIGC, ACI, SJI OR OTHER STANDARDS.
- ERECTION, BRACING AND FORMWORK
  - THE DESIGN, ADEQUACY AND SAFETY OF ERECTION BRACING, FORMWORK, SHORING, AND TEMPORARY SUPPORTS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

ERECTION, BRACING AND FORMWORK (CONT.)

- 2. ANCHOR BOLTS AND FOUNDATIONS HAVE NOT BEEN DESIGNED FOR ANY CONDITION OF LOADING OTHER THAN THAT OF THE COMPLETED STRUCTURE. VERIFICATION OF ADEQUACY OF ANCHOR BOLT AND FOUNDATIONS TO RESIST ERECTION INDUCED FORCES IS SOLELY THE RESPONSIBILITY OF THE STEEL ERECTOR AND CONTRACTOR.
- 3. UNLEGS OTHERWISE NOTED STEEL FRAMEWORKS FOR THIS PROJECT ARE CLASSIFIED PER AISC CODE OF STANDARD PRACTICE AS A "NON-SELF-SUPPORTING STEEL FRAME". PROVIDE TEMPORARY SUPPORT SYSTEMS NECESSARY TO SECURE ANY ELEMENT OR ELEMENTS OF THE STEEL FRAMING UNTIL ALL PERMANENT STEEL BRACING, DECKING AND/OR MAGONRY WALLS ARE IN-PLACE AND CONNECTED TO THE STEEL FRAMEWORKS.

### <u>JOB SITE SAFETY</u>

HEZZ.

THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND FOR CONFORMANCE WITH THE HEALTH AND SAFETY PROVISIONS REQUIRED BY ANY REGULATORY AGENCIES. THE STRUCTURAL ENGINEER OF RECORD HAS NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR, OR THEIR EMPLOYEES WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS.



**SØ.**]





JOHNSON & ASSOCIATES ENGINEERING

4783 \* (334) 793-6276 (fax) TERTIFICATE OF AUTHORIZATION No. 25956

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	LEGEND	PLUMBING FIXTURE SCHEDULE
S.	S or W SOIL OR WASTE PIPING	MARKFIXTUREPIPE SIZES-INCHESREMARKSCWHWTWW
	V VENT PIPING	WC-1 WATER CLOSET (ADULT HANDICAP, TANK) 3/8 1 1 HANDICAP HEIGHT @ 17", FLOOR MOUNT, ELONGATED BOWL, TANK TYPE, 1.28 GPF
	CW COLD WATER SUPPLY PIPING	L-1 LAVATORY (STAFF, HANDICAP, 20X18) 3/8 - 3/8 1-1/4 COUNTERTOP MOUNT, OVAL, VITREOUS CHINA, SINGLE HOLE, METERING FAUCET, ANGLE STOPS & RISERS, MIXING VALVE, OFFSET TAIL-PIECE, P-TRAP W PRIMER CONNECTION
	HW HOT WATER SUPPLY PIPING	SK-1 SINK (DOUBLE, 33"x22"x10") 3/8 - 3/8 1-1/2 COUNTERTOP, DOUBLE COMPARTMENT, STAINLESS STEEL, 8" CENTERS, SWING FAUCET, SINGLE LEVER HANDLE WITH SPRAY, MIXING VALVE, VACUUM BREAKER, AERATOR, P-TRAP W/ PRIMER CONNECTION
H	HWR HOT WATER RETURN PIPING	SS-1 SERVICE SINK (24"x18"x12") 3/8 3/8 - 3 WALL MOUNT, SERVICE TYPE, CAST IRON, 8" CENTERS, TOP BRACE FAUCET, STRAIGHT LEVER HANDLES, VACUUM BREAKER, RIM GUARD
	GVGATE VALVECVCHECK VALVE	SH-1       SHOWER (HANDICAP)       1/2       1/2       1/2       2       WALL MOUNT, STAINLESS STEEL,SINGLE HANDLE PRESSURE BALANCING & THERMOSTATIC VALVE MEETING ASSE 1016 - TYPE T/P,MIXING VALVE FACTORY SET AT 110, 2.5 GPM SHOWERHEAD,HAND SHOWER W/ HOSE, VACUUM BREAKER, GLIDE RAIL
<u> </u>	BV BALL VALVE	UB-1     RECESSED UTILITY WALL BOX (ICE MACHINE HOOK-UP)     1/2     -     FACTORY FABRICATED, 16 GAUGE STEEL EPOXY FINISH. PROVIDE FINAL CONNECTIONS TO ICE MACHINE.
		EWC-1 ELECTRIC WATER COOLER (SINGLE LEVEL) 3/8 - 1-1/2 WALL MOUNT, CHAIR CARRIER, DUAL LEVEL, SELF-CONTAINED, STAINLESS STEEL, PUSH BAR,
		EWH-1       ELECTRIC WATER HEATER         3/4       3/4         INLET       OUTLET         -       4 KW TOTAL, 40 GALLON STORAGE, FLOOR MOUNT, STEEL SHELL DIAPHRAGM EXPANSION TANK, DRAIN PAN, 240 VOLT, SINGLE PHASE
	CO CLEANOUT TO FLOOR	FD     FLOOR DRAIN     1/2     -     -     3     DEEP SEAL, TRAP PRIMER CONNECTION
<u></u>	FD FLOOR DRAIN	EW-1 EMERGENCY SHOWER/EYE WASH 1-1/4 - 1-1/4 FLOOR MOUNT WITH CAST FLANGE, PULL BAR HANDLE, OPEN TEE WASTE DRAIN
(	FD FLOOR DRAIN WITH TRAP PRIMER CONNECTION	WH       RECESSED WALL HYDRANT/HOSE BIBB       3/4       -       -       FLUSH MOUNTING WALL BOX, BRASS, CHROME FINISH, ANTI-SIPHON VACUUM BREAKER, WHEEL HANDLE, INTEGRAL SERVICE STOPS
	COTG CLEANOUT TO GRADE	MV-1 WATER MIXING VALVE 1/2 1/2 - BRONZE, EXPOSED WALL MNT, FAC. PRE-PIPED, THERMOSTATIC, VAC. BRKER, FLOW RATE @ 0.5-3.5 GPM
	UNION	1. WATER SUPPLY TAPPING TO EACH PLUMBING FIXTURE SHALL BE FULL SIZE (MINIMUM).
JL v	VTR VENT THRU ROOF	2. SEE ELECTRICAL DWGS FOR FINAL POWER REQUIREMENTS.
$\langle 1 \rangle$	SHEET NOTE	7. PROVIDE WATER HAMMER ARRESTERS ON HOT & COLD WATER SUPPLY BRANCHES SERVING SINGULAR, MULTIPLE OR GROUPS OF PLUMBING FIXTURES. ADHERENCE TO THE PLUMBING AND DRAINAGE INSTITUTE STANDARD P.D.I. / WH201 (PER SPECIFICATIONS)
	POINT OF CONNECTION TO EXISTING	SHALL BE EMPLOYED IN DETERMINING PROPER SIZE, SELECTION, PLACEMENT, LOCATION AND INSTALLATION OF ARRESTERS.
SX	SOLENOID VALVE	
	SS SERVICE SINK	
٧	WC WATER CLOSET	
1	TP TRAP PRIMER	
E	EWH ELECTRIC WATER HEATER	
W	WHA WATER HAMMER ARRESTOR TYPE A	
W	WHBWATER HAMMER ARRESTOR TYPEB	WALL MOUNT SINK OR LAVATORY
W	WHC WATER HAMMER ARRESTOR TYPE C	(CABINET MOUNT SIMILAR)
	L LAVATORY	
ι	UR URINAL	FINISH FLOOR
K	KW KILOWATT	

## **GENERAL NOTES**

- 1. COORDINATE ALL PIPING WITH DUCTWORK SHOP DRAWINGS AND EXISTING CONDITIONS. ROUTE PIPING AS REQUIRED TO AVOID CONFLICTS.
- 2. PRIOR TO START OF ANY WORK, COORDINATE SANITARY SEWER AND POTABLE WATER PIPING WITH CIVIL DRAWINGS.
- FIELD VERIFY PIPE INVERTS PRIOR TO LAYING OUT SANITARY SEWER PIPING.
- 4. ALL PIPING PASSING THROUGH ANY WALL SHALL HAVE A SLEEVE PER SPECIFICATIONS.
- ALL PIPING PASSING THROUGH FIRE-RATED WALLS SHALL HAVE A FIRE-RATED SLEEVE PER SPECIFICATIONS. ALL PIPING PENETRATIONS THROUGH WALLS OR FLOORS SHALL BE SEALED TO EQUAL THE RATING OF THE WALLS OR FLOORS.
- ALL PIPING INDICATED IS ABOVE THE CEILING EXCEPT THE OBVIOUS SANITARY SOIL, WASTE, VENT AND POTABLE WATER 6. PIPING BELOW FLOOR OR GRADE.
- 7. SEE TOILET ROOM ELEVATIONS ON ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHT.
- COORDINATE EXACT LOCATION OF ALL EXTERIOR WALL HYDRANTS WITH ARCHITECTURAL DRAWINGS.
- UNDER SLAB SOIL, WASTE AND VENT PIPING PASSING TO UNDERSIDE OR THROUGH FOUNDATION FOOTING, WALL OR GRADE BEAM SHALL BE PROVIDED WITH A RELIEVING ARCH OR PIPE SLEEVE 2 (TWO) PIPE SIZES GREATER THAN PIPE SIZE INDICATED ON PLANS. COORDINATE FINAL PIPE ROUTING AND LAYOUT WITH STRUCTURAL DRAWINGS.
- 10. PRIOR TO SUBSTANTIAL COMPLETION OF NEW AND ALTERED WORK AREAS, CONTRACTOR SHALL HAVE SANITARY PLUMBING SYSTEM CLEARED OF DEBRIS OR ANY MATTER THAT WOULD INTERFERE OR PREVENT ADEQUATE CONVEYANCE OF MATERIALS FROM MOVING THROUGH AND TERMINATING INTO BUILDING OR PUBLIC DISPOSAL FACILITIES.
- 11. ALL (VTR'S) VENT THRU ROOF PENETRATIONS INDICATED ON PLANS ARE PRELIMINARY. FINAL LOCATIONS SHALL BE COORDINATED WITH ALL TRADES. ALL VTR'S SHALL BE A MINIMUM OF 10'-0" FROM ALL FRESH AIR INTAKE OPENINGS.
- 12. ALL TRAP PRIMERS AND DOMESTIC WATER ISOLATION VALVES SHALL BE ACCESSIBLE. TRAP PRIMERS LOCATED IN THE VICINITY OF WATER CLOSETS SHALL BE ACTIVATED BY WATER CLOSET USAGE. ISOLATION VALVES SHALL BE OF THE QUARTER TURN BALL OR GATE TYPE.
- 13. CONTRACTOR SHALL DEVELOP AND SUBMIT COORDINATION SHOP DRAWINGS WHICH IDENTIFY ROUTING OF PLUMBING PIPE AND LOCATION OF EQUIPMENT. SHOP DRAWINGS SHALL INDICATE COORDINATION WITH THE WORK OF OTHER TRADES.
- 14. ALL WORK SHALL COMPLY WITH THE FLORIDA BUILDING CODE 6TH EDITION (2017) PLUMBING.



P001



## LAV/SINK MIXING VALVE DETAIL

SCALE: NONE NOTE: MIXING VALVE WILL BE TYPICAL FOR L-1, SK-1



SCALE: NONE

P001



1/2"TRAP PRIMER

CONNECTION -

SCALE: NONE

 $2^{}$ 

P001

- FLOOR DRAIN BODY

## FLOOR DRAIN WITH TRAP PRIMER DETAIL

ADJUSTING SETSCREWS SHALL CONNECTED TO CLEANOUT



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Mechanical Consulting



GENERAL	11	START LIP SERVI
A. THE CONTRACTOR SHALL FURNISH AL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND PERFORM ALL WORK AND SERVICES FOR ALL PLUMBING AS SHOWN ON DRAWINGS AND AS SPECIFIED, IN ACCORDANCE WITH PROVISIONS OF THE CONTRACT DOCUMENTS, AND COMPLETELY COORDINATED WITH WORK OF ALL OTHER TRADES.	11.	A. THE CON OPERATIO POINTS.
B. ALTHOUGH SUCH WORK IS NOT SPECIFICALLY INDICATED, FURNISH AND INSTALL ALL SUPPLEMENTARY OR MISCELLANEOUS ITEMS, APPURTENANCES AND DEVICES INCIDENTAL TO OR NECESSARY FOR A SOUND, SECURE AND COMPLETE INSTALLATION.	12.	<u>GUARANTEE:</u> A. THE CON
C. ALL WORK SHALL COMPLY WITH THE 2017 FLORIDA BUILDING CODE.		one yea Workma
<u>SCOPE OF WORK</u>	13.	FIXTURES AND
A. THE WORK INCLUDES THE FOLLOWING TIEMS BUT IS NOT NECESSARILY LIMITED TO THESE: 1 ALL POTABLE WATER, DRAIN, WASTE AND VENT PIPING FOR COMPLETE		A. FURNISH
<ul> <li>2. ALL WASTE AND DRAIN PIPING INCLUDING CONNECTING INTO EXISTING</li> </ul>		BY THE TI
<ul><li>SERVICES.</li><li>ALL MATERIALS, EQUIPMENT, FIXTURES, ACCESSORIES AND TRIM, TO MAKE A</li></ul>	WC-1	WATER CLOS
<ul> <li>COMPLETE FINISHED INSTALLATION.</li> <li>4. NECESSARY TRENCHING AND BACKFILLING TO INSTALL THE PLUMBING SYSTEM.</li> <li>5. ALL INSULATION AS SPECIFIED HEREIN.</li> </ul>		VITREOUS C ACTION, CLO PLATED TRIP
<u>SITE INSPECTION:</u>		STOP WITH F MOLDED PL/
A. BEFORE SUBMITTING PROPOSALS, EACH BIDDER SHALL VISIT THE SITE AND FULLY FAMILIARIZE HIMSELF WITH ALL JOB CONDITIONS AND SHALL BE FULLY INFORMED AS TO THE EXTENT OF WORK.		Steel, Self- Water Clos Supply W/S
QUALITY OF MATERIALS AND APPROVALS:		seat Closet bol
A. THE FIXTURES AND EQUIPMENT ARE SPECIFIED BY MANUFACTURER AND MODEL NUMBER FOR THE PURPOSE OF ESTABLISHING TYPE AND QUALITY REQUIRED. OTHER MANUFACTURER'S PRODUCTS OF EQUAL QUALITY AND TYPE, AS DETERMINED BY THE ARCHITECT, MAY BE USED WHEN APPROVED.	[-]	<u>LAVATORY, (</u>
TESTS		VITREOUS C PROVIDE CH
A. CONCEALED WORK SHALL REMAIN UNCOVERED UNTIL REQUIRED TESTS HAVE BEEN		3/8"FLEXIBLE STRAINER W
<ul> <li>DRAIN SYSTEMS: A WATER TEST SHALL BE APPLIED TO ALL PARTS OF THE DRAINAGE SYSTEM BEFORE THE PIPES ARE CONCEALED OR FIXTURES SET IN PLACE.</li> </ul>		BRASS FAUC SINK MIXINC
C. STERILIZATION: THE ENTIRE WATER DISTRIBUTION SYSTEM SHALL BE THOROUGHLY STERILIZED WITH SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF AVAILABLE CHLORINE. THE COMPLETE STERILIZATION OPERATION SHALL BE APPROVED BY THE STATE BOARD OF HEALTH REPRESENTATIVE		BETWEEN 80 CHECK VALV LAVATORY P MOLDED INS
PIPE AND FITTINGS		ASSEMBLY A NYLON-TYPE
A. WASTE, VENT AND DRAIN PIPING:		AT LEAST 28 SHALL BE AS
<ol> <li>PIPING BELOW SLAB SHALL BE SERVICE WEIGHT CAST - IRON WITH BELL AND SPIGOT - LEAD CAULKED, BELL AND SPIGOT NEOPRENE PUSH TYPE GASKET, OR "NO - HUB" JOINTS PIPE AND EITTINGS SHALL BE COATED INSIDE AND OUTSIDE</li> </ol>		SHALL BE A
WITH COAL - TAR VARNISH. "NO - HUB" JOINTS BELOW SLAB SHALL BE MADE USING TYPE MG CAST IRON COUPLINGS ONLY. CONTRACTOR'S OPTION: MAY		lavatory Faucet
<ul> <li>UTILIZE PVC PIPE AND FITTINGS.</li> <li>2. PIPING ABOVE THE SLAB SHALL BE SERVICE WEIGHT CAST - IRON WITH BELL</li> <li>AND SPICOT LEAD CALLEED OD INCO. LIUDILIONITS OD DVC DAW DIDE AND</li> </ul>		SUPPLY W/ST P-TRAP
FITTINGS. VENT PIPING MAY BE SCHEDULE 40 GALVANIZED STEEL WITH MALLEABLE FITTINGS. CONTRACTOR'S OPTION: MAY UTILIZE PVC PIPE AND FITTINGS.		INSULATION AERATOR MIXING VAL
<ul> <li>B. WATER PIPING:</li> <li>1. WATER PIPING SHALL BE COPPER TUBING, TYPE "K" (SOFT UP TO 1-INCH, OVER</li> <li>1. INCH TO BE HARD) BELOW SLAB AND TYPE "L" ABOVE SLAB, WITH SWEAT</li> </ul>	SK 1	
FITTINGS. 2. WATER PIPING MORE THAN FIVE FEET OUTSIDE BUILDING SHALL BE TYPE "K"	514 1	33" X 22" X
COPPER.		HOLE, 8"CEN STAINLESS S
PLASTIC PIPE		MATERIALS ( PLATED MET SAVING AER
<ul> <li>B. MATERIALS: PVC PIPE SHALL BE SCHEDULE 40 PIPE AND FITTINGS PRODUCED FROM MATERIAL CONFORMING TO ASTM D 1784, TYPE I, GRADE I, 200 PSI DESIGN STRESS (PVC 1120).</li> </ul>		STOPPER, 1- END OUTLET WITH CLEAN
INSULATION:		WATER SUPF
A. GENERAL: ALL INSULATION WORK SHALL BE DONE BY WORKMEN THOROUGHLY COMPETENT IN THIS TRADE. B. THE FOLLOWING SHALL BE INSULATED AS INDICATED:		COUNTERTO ONLY, NO C
<ol> <li>DOMESTIC COLD WATER PIPING AND FITTINGS LOCATED ABOVE CEILING AND ALL HOT WATER PIPING AND FITTINGS: 1" IN. THICK PREFORMED FIBERGLASS WITH FACTORY JACKET THAT MEETS ASTM C547 WITH CONDUCTIVITY OF 0.21-0.28 BTU IN. @ 100°F, FIRE RESISTANT.</li> </ol>		SINK Faucet Drain
INSTALLATION OF PIPING SYSTEMS:		WASTE SUPPLIES
A. GRADE: ALL BUILDING SEWERS SHALL HAVE A UNIFORM GRADE OF NOT LESS THAN 1/8 IN. TO THE FOOT, DOWNWARD IN DIRECTION OF FLOW FOR PIPE 3 IN AND		г-нкаř
LARGER. PIPE SMALLER THAN 3 IN. SHALL HAVE GRADE OF 1/4 IN. TO THE FOOT. B. CLEANOUTS: ALL CLEANOUT PLUGS SHALL BE RECESSED BRASS TYPE.	SS-1	<u>SERVICE SIN</u>
1. CLEANOUTS TO FINISHED FLOORS SHALL BE EQUAL TO JOSAM SERIES 56000-18-41 (-12, -14), BRONZE PLUG, CLAMP RING AND FLANGE, LEVELEZE		22" X 18" X CENTER, BA
Adjustable housing and with satin finish brunze Cover and FRAME. Cleanouts in Finished Walls shall be equal to Josam Series 58890, With Polished Stainless steel cover and securing screws		elated fau END, 3" TRA LOOSF KFY 4
2. CLEANOUTS TO GRADE SHALL BE WITH LEAD CAULKED CAST-IRON FITTINGS WITH BRASS COUNTERSUNK PLUG, JOSAM 58480 SET IN A 24 IN. SQUARE		SUPPLIES.
BLOCK OF POURED CONCRETE, 6 IN. THICK. ALL EXTERIOR CLEANOUTS SHALL BE BROUGHT TO GRADE. PVC SHALL NOT BE USED FOR CLEANOUTS TO GRADE.		SINK FAUCET
<ul> <li>C. PIPE SUPPORT:</li> <li>1. ALL HORIZONTAL SUSPENDED PIPE SHALL BE SUPPORTED AS REQUIRED IN SECTION 308 OF THE 2017 ELOPIDA BUILDING CODE PLUMPING</li> </ul>		DRAIN ASSEI HOSE & BRA SLIPPLV
<ul> <li>D. PROTECTION OF PIPING SYSTEMS:</li> <li>1. ALL PIPING AND PLUMBING SYSTEM COMPONENTS SHALL BE PROTECTED IN</li> </ul>	EWC-1	ELECTRIC W
ACCORDANCE WITH SECTION 305 OF THE 2017 FLORIDA BUILDING CODE-PLUMBING.		WALL HUNG
INSTALLATION OF FIXTURES AND EQUIPMENT		SINGLE CAR RODS, STRU
A. PREPARATIONS OF ROUGH-IN. SUPPORTS AND WALL FINISHES SHALL BE COMPLETED		AND ANCHO SYSTEM, CO MOTOR MET
AND TETED ON INTERED DEFORE FIATURES OR EQUIFIVIENT ARE INSTALLED.		
	CENERSE         4. Inter CONTRACTOR SHALL REPORT AL LABOR, MATERIAS, TOOLS, EOURYNEN, AND PERFORMANING, AND SERVICE DRAIN IN INVERSION OF DIRECTINGUES IN CONTRACTOR SHALL REPORT ALL LABOR, MATERIAS, TOOLS, EOURYNEN, AND SCHOLMAN, WAR AND SERVICE TO REPORT AND INVERSION OF DIRECTINGUES IN CONTRACTOR SHALL CONTRY WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR RECESSAND TO MAIN AND ALL SHOLMAND CONTRACT INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRI- INFO DIRECTION FOR THE CONTRACT WITH THE 2017 FLORIDA BLICING CONTRACT WI	CENERAL         1           4. INFO CONTRACTOR SHALL PLAY BIAL LACKY, WATERIALS, TOOLS, FOULHENT, AND DARK MARK, AND ADDARDS, HOW ALL PLAY WATERIALS, TOOLS, FOULHENT, AND DARK MARK, AND CONTRACTS, ORALL PLAY, WATERIALS, TOOLS, FOULHENT, AND DARK MARK, AND CONTRACTS, ORAL PLAY, WATERIALS, TOOLS, FOULHENT, AND DARK MARK, AND CONTRACTS, ORAL PLAY, WATERIALS, TOOLS, FOULHENT, AND DARK MARK, AND CONTRACTS, ORAL PLAY, WATERIALS, DARK MARK, AND CHARLES, AND DARK MARK, AND CONTRACTS, ORAL PLAY, WATERIALS, DARK MARK, AND CHARLES, AND DEWICES AND HARM MARK MARK MARKAN AND AND AND AND AND ADDARD AND ADDARD SCIENCE OF WORK         12.           5 ALL WORK INCLUEDS THE FOLLOWING (TENS BLITS NOT INCESSARIA'S LIMITED TO ILL ALL WORK INCLUEDS THE FOLLOWING (TENS BLITS NOT INCESSARIA'S LIMITED TO ILL ALL WORK INCLUEDS THE FOLLOWING (TENS BLITS NOT INCESSARIA'S LIMITED TO ILL ALL WORK INCLUEDS THE FOLLOWING (TENS BLITS NOT INCESSARIA'S LIMITED TO ILL ALL WORK INCLUEDS THE FOLLOWING (TENS BLITS NOT INCESSARIA'S LIMITED TO ILL ALL WORK INCLUEDS THE FOLLOWING (TENS BLITS NOT INCESSARIA'S LIMITED TO ILL ALL AND ADDARD AND THE INCLUENCE INTO BEAM TO INTO ADDARD AND AND ADDARD AND ADDARD AND THE INCLUENCE INTO BEAM TO INTO ADDARD AND ADDARD ADDARD ADDARD AND THE ADDARD ADDARD ADDARD ADDARD ADDARD ADDARD ADDARD ADDARD ADDARD AND THE INTO ADDARD ADDARD ADDARD ADDARD ADDARD ADDARD ADDARD ADDARD AND THE INTO ADDARD ADDARDADDARD ADDARD ADDARD ADDARDADDARD ADDARD ADDARDADDARDA

FITTINGS, GASKETS OR SETTING COMPOUND FOR EACH FIXTURE. SEAL ALL BRASS AND TRIM TO WALLS AND FIXTURES WITH RESILIENT WATERPROOF COMPOUND.

, SELF-CONTAINED ELECTRIC WATER COOLER. FURNISH FLOOR MOUNTED RIER WITH BEARING PLATE, HANGER PLATE, ADJUSTABLE SUPPORTING CTURAL UPRIGHTS AND BLOCK BASES, SECURE TO FLOOR WITH 1/2" BOLTS ORS. UNIT TO BE COMPLETE WITH HERMETIC AIR COOLED REFRIGERATION OLER PRE-COOLER, THERMOSTAT, SAFETY CONTROLS, CONDENSER FAN RMIN PROOF INSULATION, STAINLESS STEEL CABINET, QUIET OPERATION. OLER SHALL BE NO. 3 FINISH STAINLESS STEEL, TWO-STREAM ANTI-SQUIRT WITH ONE-PIECE CHROME PLATED HOOD GUARD, AND FRONT AND SIDE PUSH BAR CONTROLS. COOLER CAPACITY SHALL BE 8.1 GPH, COOLING 80-DEGREE F WATER TO 50 DEGREE F. PROVIDE ONE-YEAR WARRANTY ON ENTIRE COOLER. PROVIDE 1/2" x 3/8" CHROME PLATED STOP TO WALL WITH CHROME PLATED 3/8" FLEXIBLE

## PLUMBING SPECIFICATIONS

## ICE:

NTRACTOR SHALL PUT ALL ITEMS INSTALLED UNDER THIS SECTION INTO ON AND SHALL INSTRUCT THE OWNER'S MAINTENANCE PERSONNEL IN ALL

ITRACTOR SHALL GUARANTEE ALL WORK IN THIS SECTION FOR A PERIOD OF AR FROM DATE OF ACCEPTANCE AGAINST DEFECTS DUE TO FAULTY ANSHIP OR MATERIALS.

## EQUIPMENT:

AND INSTALL PLUMBING FIXTURES, EQUIPMENT, DRAINS, ETC., COMPLETE TRIM, FITTINGS, AND OTHER DEVICES WHICH ARE CONSIDERED NECESSARY RADE, BY CRAFT STANDARDS AND/OR BY THE ARCHITECT.

SET, FLOOR-MOUNT (STANDARD, TANK TYPE):

HINA LOW CONSUMPTION 1.28 GPF, ELONGATED, SIPHON JET OSED COUPLED TANK, COMPLETE WITH FLOAT VALVE, VALVE AND CHROME PLEVER, BOLT CAPS, COLOR "WHITE", CHROME PLATED SOLID BRASS ANGLE FLEXIBLE CHROME PLATED COPPER RISER, LOOSE KEY HANDLE. HEAVY ASTIC, WHITE, ELONGATED, OPEN FRONT SEAT LESS COVER, WITH STAINLESS -SUSTAINING CHECK HINGES.

ZURN Z5555
ZURN Z8802CRLK-PC
Z5955SS-EL-STS
Z5972-COMB

COUNTERTOP (HANDICAP):

HINA 20" x 17", OVAL, COLOR "WHITE", 4"CENTERS, FRONT OVERFLOW. ROME PLATED 1/2" x 3/8" ANGLE STOP TO WALL WITH CHROME PLATED E SUPPLY AND LOOSE KEY OPERATOR, INTEGRAL PERFORATED CAST BRASS (ITH ELBOW AND 1-1/4" OFFSET TAILPIECE, CHROME PLATED 17 GAUGE CAST AP WITH CLEANOUT AND TUBE WASTE TO WALL. CHROME PLATED CAST CET WITH AERATOR OUTLET AND ADA COMPLIANT LEVER HANDLE. UNDER VALVE WITH SOLDERED CONNECTION, BRONZE BODY, LIMITS HOT WATER 0°F & 120°F, DOUBLE THROTTLING, INTEGRAL INLET FILTER WASHERS & VES, TAMPER RESISTANT LOCKING CAP. MEETS ASSE 1070 STANDARDS. -TRAP AND SINGLE VALVE ASSEMBLIES SHALL BE INSULATED WITH FULLY SULATION KIT, LIGHT GRAY COLOR WITH 3-PIECE INTERLOCKING TRAP AND 2-PIECE INTERLOCKING ANGLE VALVE ASSEMBLY. FASTENERS SHALL BE SUPPLIED WITH KIT. LAVATORY SHALL BE MOUNTED WITH A CLEARANCE OF " FROM FLOOR TO BOTTOM OF THE APRON. KNEE AND TOE CLEARANCES FOLLOWS: 27" CLEAR HEIGHT SHALL BE PROVIDED FROM FINISHED FLOOR ON UNDERSIDE OF BOWL 8" IN FROM FRONT APRON. TOE CLEARANCE MINIMUM HEIGHT OF 9" UNDER P-TRAP AND SUPPLIES OR STOPS.

ORY	ZURN Z51114
ET	ZURN Z-81000
Y W/STOP	ZURN 8802LRLK-PC
Р	ZURN Z1021-PC
١	ZURN Z8746
ATION KIT	ZURN Z8946-3-NT
for	ZURN -5M
G VALVE	WATTS LFUSG-B

MPARTMENT STAINLESS STEEL SINK:

X 6-1/2" DEEP (BOWL IS 13-1/2X16X6-1/2), TYPE 304, 18 GAUGE, CENTER NTERS, SELF RIMMING SINGLE COMPARTMENT, (18-8) NICKEL BEARING STEEL, BACK LEDGE SINK WITH SATIN FINISH AND SOUND DEADENING ON SIDE AND BOTTOM OF SINK. PROVIDE TOP MOUNT POLISHED CHROME TAL SWING SPOUT FAUCET WITH SINGLE LEVER HANDLE SPRAY, WITH WATER ATOR, STRAINER WITH REMOVABLE CRUMB CUP AND -1/2" TAILPIECE, CHROME PLATED BRASS 1-1/2" CONTINUOUS WASTE WITH FAND 1-1/2" TAILPIECE, CHROME PLATED 17 GAUGE CAST BRASS P-TRAP NOUT AND TUBE WASTE TO WALL. CHROME PLATED LOOSE KEY 1/2" x 3/8" P TO WALL WITH 3/8" FLEXIBLE CHROME PLATED COPPER HOT AND COLD PLIES. COORDINATE WITH CABINET SHOP DRAWINGS, BASE CABINET MUST /INIMUM 24" DEEP BACK TO FRONT IN ORDER FOR SINK TO DROP INTO OP OPENING. SINK DRILLINGS SHALL ACCOMMODATE FITTING INSTALLATION, OTHER CAPPED OPENINGS WILL BE ALLOWED.

	ELKAY LRAD-332265PD
	ZURN Z-871 BW-HS
	ELKAY LK-35
	ELKAY LK-53
S	ZURN Z-8802-LR-LK
	ZURN Z-1021-PC

NK (WALL MOUNT):

(12-3/4" ENAMELED CAST IRON SERVICE SINK WITH 8" ON CK, STAINLESS STEEL RIM GUARD AND WALL HANGER. ROUGH CHROME CET WITH TOP BRACE, BUCKET HOOK, VACUUM BREAKER, STOPS AND HOSE P WITH CLEANOUT TO WALL INSIDE WITH FOOT SUPPORT. CHROME PLATED ANGLE STOP TO WALL WITH 3/8" CHROME PLATED FLEXIBLE COPPER

	ZURN Z5888
-	ZURN Z843 M1 RC
ASSEMBLY	ZURN TS 2900-IP3
8 BRACKET/MOP HANGER	-HH, -MH
·	ZURN Z-8800-LR-LK

ATER COOLER (HANDICAP):

COPPER SUPPLY. PROVIDE 1-1/4" CHROME PLATED 17 GAUGE CAST BRASS P-TRAP WITH CLEANOUT AND TUBE WASTE TO WALL, 120 VOLT, SINGLE PHASE, 3.3 FULL LOAD AMPS, 265 RATED WATTS, 1/6 COMPRESSOR HP. MOUNT TO SATISFY ADA REQUIREMENTS, VERIFY FINAL LOCATION, MOUNTING HEIGHT, AND FINISH WITH ARCHITECTURAL DRAWINGS.

	EDC TRAP CARRIER SUPPLIES	ELKAY EZS8 ZURN Z8700-PC Z1225 BL ZURN Z-8802-LK
EW-1	EMERGENCY FACE AND EYE WASH:	

SCHEDULE 40 GALVANIZED STEEL. FURNISHED WITH ORANGE POLYETHYLENE COVERS. PULL BAR HANDLE TO OPERATE EYEWASH. SHOWER AND EYEWASH SHALL HAVE 1-1/4" COLD WATER SUPPLY. FLOOR MOUNT WITH CAST FLANGE, OPEN WASTE TEE DRAIN, FOR INDIRECT CONNECTION.

GUARDIAN G-1902 HFC

eye wash

SHOWER (HANDICAP): SH-1

> SINGLE HANDLE PRESSURE-BALANCING MIXING VALVE. CERAMIC CONTROL CARTRIDGE WITH STAINLESS STEEL BALANCING PISTON. MUST HOLD SHOWER TEMPERATURE STEADY WITH PRESSURE FLUCTUATIONS UP TO 85%. PACKING WITH BRASS ADJUSTABLE LIMIT STOP SCREW TO PROHIBIT VALVE HANDLE FROM BEING TURNED TO EXCESSIVE HOT DISCHARGE TEMPERATURES. ALL TRIM TO BE COPPER NICKEL CHROME PLATED. SERVICE STOPS TO BE BRASS AND CAST INTEGRAL WITH VALVE BODY. TWO WAY CHROME DIVERTER VALVE. BRASS SHOWER HEAD WITH ARM AND FLANCE. WALL/HAND SHOWER WITH FLEXIBLE METAL HOSE, IN-LINE VACUUM BREAKER, WALL CONNECTION AND FLANGE, 30" SLIDE BAR FOR HAND SHOWER MOUNTING.

ZURN Z-7301-SS-MT-DV-2P-HW SHOWER DRAIN ZURN ZN-415 2" WITH 5"B

WATER MIXING VALVE (THERMOSTATIC MIXING): MV-1

> UNDER SINK MIXING VALVE, BRONZE BODY, LIMITS HOT WATER BETWEEN 80°F & 120°F, DOUBLE THROTTLING, DUAL CHECK VALVES, INTEGRAL STRAINER WITH 40 MESH SCREEN, TAMPER RESISTANT LOCKING NUT. MEETS ASSE 1070 STANDARDS.

EXPOSED MIXING VALVE WATTS LFUSG-B

UB-1 WALL BOX WITH SHUT-OFF VALVE (REFRIGERATOR):

RECESSED METAL WALL BOX CONSTRUCTED AND SUITABLE FOR FIRE RATED PARTITIONS, COMPLETE WITH FACTORY INSTALLED SHANK VALVE WITH 1/4" O.D. COPPER OUTLET TESTED @ 100 P.S.I. PROVIDE APPROXIMATELY 5'-0" OF 1/4" O.D. SOFT COPPER TUBING WITH COMPRESSION FITTING IN TIGHT COIL. ANCHOR BOX TO WALL STRUCTURE. VERIFY LOCATION AND MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS OR MOUNT TO MANUFACTURERS RECOMMENDATIONS.

WALL BOX

GUY GRAY BIM 875

## EWH-1 ELECTRIC WATER HEATER:

ASHRAE STANDARD 90. CLASS LINED TANK SUITABLE FOR 150 PSI WORKING PRESSURE 300-PSI TEST. FINISH OF DURABLE HIGH GLOSS BAKED ENAMEL. BLANKET GLASS FIBER INSULATION OVER ENTIRE TANK. ASME PRESSURE AND TEMPERATURE RELIEF VALVE. WATER HEATER SHALL BE ACCEPTABLE FOR COMMERCIAL APPLICATION BY MANUFACTURER. PROVIDE 3 FULL YEAR WARRANTY, SNAP ACTION AUTOMATIC SURFACE MOUNTED THERMOSTATS, IMMERSION TYPE HEATING ELEMENTS AND MAGNESIUM ANODE ROD. PROVIDE UNIT MOUNTED DISCONNECT SWITCH. PROVIDE THERMAL EXPANSION RELIEF VALVE ON COLD WATER INLET SIDE OF HEATER FOR THERMAL EXPANSION CONTROL. PROVIDE GALVANIZED STEEL DRIP PAN. 40GAL., 4.0 KW, 240V/SINGLE PHASE.

WATER HEATER	A. O. SMITH DEN 40 - 4 K.W.
VACUUM RELIEF	WATTS 36A
EXPANSION TANK	AMTROL "THERM-X-TROL"

WH-1 RECESSED HOSE BIB & WALL HYDRANT:

ANTI-SIPHON VACUUM BREAKER, FLUSH MOUNTING STAINLESS STEEL WALL BOX, NARROW INSTALLATION, 3/4 INCH HOSE THREAD, BRONZE BODY WITH CHROME FINISH POLYCARBONATE WHEEL HANDLE, STOP VALVES, LOOSE KEY FAUCET OPERATOR.

PRV-1 PRESSURE REDUCING VALVE (IF REQUIRED):

WALL FAUCET

A WATER PRESSURE REDUCING VALVE AND STRAINER SHALL BE INSTALLED ON THE WATER SERVICE PIPE NEAR ITS ENTRANCE TO THE BUILDING WHERE SUPPLY MAIN PRESSURE EXCEEDS 60PSI (413 KPA) TO REDUCE IT TO 50PSI (345 KPA) OR LOWER. THIS SERIES IS SUITABLE FOR WATER SUPPLY PRESSURES UP TO 300PSI. THE WATER PRESSURE REDUCING VALVE SHALL BE CONSTRUCTED USING LEAD FREE MATERIALS. LEAD FREE\* REGULATORS SHALL COMPLY WITH STATE CODES AND STANDARDS, WHERE APPLICABLE REQUIRING REDUCED LEAD CONTENT. SILL COCKS AND OUTSIDE WALL HYDRANTS MAY BE LEFT ON FULL MAIN PRESSURE AT THE OPTION OF THE OWNER. PROVISION SHALL BE MADE TO PERMIT THE BYPASS FLOW OF WATER BACK THROUGH THE VALVE INTO THE MAIN WHEN PRESSURES, DUE TO THERMAL EXPANSION ON THE OUTLET SIDE OF THE VALVE, EXCEED THE PRESSURE IN THE MAIN SUPPLY. PRESSURE REDUCING VALVES WITH BUILT-IN BYPASS CHECK VALVES AND INTEGRAL STRAINER WILL BE ACCEPTABLE. APPROVED VALVES SHALL COMPLY WITH ASSE 1003.

VALVE

WATTS LFN55B

ZURN Z1350

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	JOB NUMBER: 2019-024 DATE: AUG 3, 2019 AUG 3, 2019 ORAWN BY: MMI ONW
Watford Engineering, Inc. Mechanical Consulting 4471 Clinton Street Mariaana, FL 32446 Florida CA Number: 27825 Project Number: 2019-024 FL License Number: 58208	P-1.1



LEGEND						
SUPPLY DUCT SECTION POSITIVE PRESSURE	AHU-1	EQUIPMENT TAG				
RETURN OR EXHAUST DUCT NEGATIVE PRESSURE	(1)	DETAIL TAG ("1" INDICATES IDENTIFICATION NUMBER, "M3" INDICATES THE SHEET NUMBER DRAWN ON)				
RECTANGULAR DUCT SIZE ("A" INDICATES SIDE SHOWN; "B" INDICATES SIDE NOT SHOWN)	M3 (1)	SHEET NOTE				
INDICATES RISE IN ELEVATION OF DUCT.	<u>SR</u> -1	AIR DEVICE TAG. TOP LINE INDICATES TYPE OF				
EXTERNALLY INSULATED DUCTWORK	100	DEVICE BOTTOM LINE INDICATES AIRFLOW IN CFM				
INTERNALLY INSULATED DOUBLE WALL SPIRAL DUCTWORK	<u>(2)SR-1</u> 100	AIR DEVICE TAG. TOP LINE INDICATES TYPE OF DEVICE BOTTOM LINE INDICATES AIRFLOW IN CFM (2) INDICATES TYPICAL OF TWO DEVICES				
EXTERNALLY INSULATED ROUND FLEXIBLE DUCTWORK	TYP	TYPICAL				
DUCT ELBOW WITH TURNING VANES	TEMP SA RA	TEMPERATURE SUPPLY AIR RETURN AIR				
RADIUSED DUCT ELBOW	EA MA	EXHAUST AIR MIXED AIR OUTDOOR AIR				
FLEXIBLE DUCT CONNECTION	TA EF	TRANSFER AIR EXHAUST FAN				
	CD PC	CEILING DIFFUSER RETURN CRIILE				
MANUAL VOLUME BALANCING DAMPFR	EG	EXHAUST GRILLE				
	ER	EXHAUST REGISTER				
MOTORIZED DAMPER		Ceiling exhaust fan Wall molinted linit				
	WM HP	WALL MOUNTED UNIT				
FIRE DAMPER WITH ACCESS DOORS	DSHP	DUCTLESS SYSTEM HEAT PUMP				

SMOKE DAMPER WITH ACCESS DOORS

BACKDRAFT DAMPER

 $\rightarrow$ 

TEE WITH TURNING VANES

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TRANSITION FLEX DUCT TAKE OFF WITH MVD SIZE EQUALS DIFFUSER NECK SIZE UNLESS NOTED OTHERWISE BRANCH DUCT TAKEOFF WITH MVD AIRFLOW MEASURING STATION

DUCT TO BE DEMOLISHED

HIGH PRESSURE DUCTWORK

DOUBLE WALL HIGH PRESSURE DUCTWORK

FLAT OVAL DUCTWORK, A REPRESENTS THE SIDE

SHOWN AND B REPRESENTS THE SIDE NOT SHOWN

VENTURI FLOW METER VFM ANALOG INPUT ANALOG OUTPUT AO DIGITAL INPUT DIGITAL OUTPUT DO TAB TESTING, ADJUSTING AND BALANCING

THERMOSTAT, "1"

DUCT MOUNTED SMOKE

UNDERCUT DOOR 3/4"

DOOR SCHEDULE

TRANSFER AIR

PRESSURE

EXTERNAL STATIC

DOOR GRILLE, REFER TO

ABOVE FINISHED FLOOR

DIRECT DIGITAL CONTROL

INDICATES UNIT

CONTROLLED

DETECTOR

FLOOR DRAIN

 $(\mathbf{I})$ 

(S)

→ DG

AFF

XFR

ESP

DDC

NOM

VFD

AFF

NOMINAL VARIABLE FREQUENCY DRIVE

EXISTING ABOVE FINISHED FLOOR

UNIT		BASIS OF DESIGN		CAPACITY (	(NOMINAL)		CAPACITY (DERATED)		CC	OLING DESIGN CONDIT	IONS	HEATING DE	sign conditions	AIRFLOW		ELECTRICAL		NOTES
TAG	MANUFACTURER	MODEL	MOUNTING TYPE	COOLING (BTUH)	HEATING (BTUH)	TOTAL COOLING (BTUH)	SENSIBLE COOLING (BTUH)	HEATING (BTUH)	TOTAL COOLING (BTUH)	SENSIBLE COOLING (BTUH)	ENTERING AIR TEMP (DB °F/WB °F))	HEATING (BTUH)	ENTERING AIR TEMP (°F)	SUPPLY (CFM)	VOLTS/PH	MCA (AMPS)	MOCP (AMPS)	
WM-1	MITSUBISHI	PKFY-PO8NHMU-E2	WALL MOUNTED	8,000	9,000	7,300	6,200	9,000	5,700	4,300	72.2/64.2	4,200	70.4	295	240/1	0.38	15	1,2,3,4,5,6,7,8,9
WM-2	MITSUBISHI	PKFY-PO8NHMU-E2	WALL MOUNTED	8,000	9,000	7,100	6,200	9,000	5,900	5,200	72.3/61.2	1,700	71.0	275	240/1	0.38	15	1,2,3,4,5,6,7,8,9
WM-3	MITSUBISHI	PKFY-P06NBMU-E2R1	WALL MOUNTED	6,000	6,700	5,900	3,000	6,700	2,100	2,000	72.3/61.8	1,700	70.5	120	240/1	0.19	15	1,2,3,4,5,6,7,8,9
1. NOM	1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB) 4. CORRECTED CAPACITY FOR INSTALLATION ACCOUNTING FOR PIPE RUN LENGTHS, ETC. 7. EXPOSED (INDOOR OR OUTDOOR) REF PIPING SHALL BE HARD DRAWN COPPER.																	

NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB) NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°(WB) 3. HEATING AND COOLING SHALL INCLUDE NO DIVERSITY.

	CDI			
6	. PRO\	/IDE FAC	TORY ENGI	٩E

	MINI SPLIT OUTDOOR UNIT SCHEDULE																	
UNIT	JNIT BASIS OF DSHP NOMINAL COOLING CORRECTED COOLING DESIGN COOLING DESIGN COOLING NOMINAL HEATING CORRECTED HEATING DESIGN HEATING DESIGN HEATING DESIGN HEATING ELECTRICAL EFFICIENCY NOTES																	
DSHP	DESIGN	MODEL	TOTAL CAPACITY (BTUH	I) TOTAL CAPACITY (BTUH)	TOTAL LOAD (BTUH)	OUTDOOR TEMP (°F)	CAPACITY (BTUH)	CAPACITY (BTUH)	CAPACITY (BTUH)	OUTDOOR TEMP (°F)	VOLTS/PHASE	MCA	MOCP	EER	SEER	HSPF	L	
1	MITSUBISHI P	PUMY-P36NKMU2	2 36,000	36,000	24,000	95.0	42,000	32,000	7,600	25.0	240/1	29	44	15.0	22.3	12.0	1,2,3,4	
<ol> <li>NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB)</li> <li>NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°(WB)</li> <li>PROVIDE OUTDOOR UNIT FOR THREE INDOOR UNITS.</li> </ol>																		

$ \begin{array}{c c} \text{UNIT} \\ \text{ERH} \end{array} \begin{array}{c} \text{BASIS OF} \\ \text{DESIGN} \end{array} \begin{array}{c} \text{MODEL} \end{array} \begin{array}{c} \text{BTUH} \end{array} \begin{array}{c} \text{BTUH} \\ \text{HEIGHT} \end{array} \begin{array}{c} \text{REFLECTOR} \\ \text{PATTERN} \end{array} \begin{array}{c} \text{CONTROL} \end{array} \begin{array}{c} \text{ELECTRICAL} \end{array} \begin{array}{c} \text{NOTES} \end{array} \begin{array}{c} \text{NOTES} \end{array} \\ \hline \text{VOLTS/PHASE} \end{array} \begin{array}{c} \text{KW} \end{array} \end{array}$		ELECTRIC INFRARED REATER SCREDULE											
ERHDESIGNMODELBTOTIHEIGHTPATTERNCONTROLVOLTS/PHASEKW1-12FOSTORIAOCH-57-240V10,20016 FT30°PROGRAM. L CTAT240/13.01,2	UNIT	BASIS OF	MODEL	DTIILI	MOUNT	REFLECTOR		ELECTRICAL		NOTES			
1-12 FOSTORIA OCH-57-240V 10,200 16 FT 30° PROGRAM. 240/1 3.0 1,2	ERH	DESIGN	WIODLL	ВЮП	HEIGHT	PATTERN	CONTROL	VOLTS/PHASE	KW				
	1-12	FOSTORIA	OCH-57-240V	10,200	16 FT	30°	PROGRAM. T-STAT	240/1	3.0	1,2			
13,14         FOSTORIA         OCH-57-240V         10,200         7 FT         30°         PROGRAM. T-STAT         240/1         3.0         1,2	13,14	FOSTORIA	OCH-57-240V	10,200	7 FT	30°	PROGRAM. T-STAT	240/1	3.0	1,2			
15         FOSTORIA         OCH-57-240V         10,200         8 FT         30°         PROGRAM. I-STAT         240/1         3.0         1,2	15	FOSTORIA	OCH-57-240V	10,200	8 FT	30°	PROGRAM. T-STAT	240/1	3.0	1,2			

PROVIDE ASYMMETRIC REFLECTOR. 2. PROVIDE COATED STEEL CONSTRUCTION.

## GENERAL NOTES

1. ALL DUCT DIMENSIONS ARE NET INSIDE.

- 2. VERIFY COLLAR SIZES ON ALL AIR TERMINALS, EQUIPMENT OUTLETS AND INLETS, TRANSITION DUCTWORK AS NECESSARY. EXTERNALLY INSULATE TRANSITIONS AT EQUIPMENT CONNECTIONS.
- FIELD VERIFY CLEAR SPACE AVAILABLE, ROUTING PATH, AND CONFLICTS WITH STRUCTURE AND THE WORK OF OTHER TRADES PRIOR TO - 3 FABRICATING DUCTWORK. PROVIDE OFFSETS IN DUCTWORK AS REQUIRED, WHETHER SPECIFICALLY INDICATED ON DRAWINGS OR NOT. SUBMIT SHOP DRAWINGS ON DUCTWORK LAYOUT PRIOR TO COMMENCING WORK. MAINTAIN CLEARANCE AROUND ALL LIGHT FIXTURES AS REQUIRED TO REMOVE AND SERVICE FIXTURES. COORDINATE WITH ROOF TRUSSES/STRUCTURE. PRESSURE TEST ALL NEW DUCTWORK FOR LEAKS. SEE SPECIFICATIONS.
- 4. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, PIPING, AND DUCTWORK SUCH THAT MANUFACTURERS' RECOMMENDED CLEARANCES ARE MET FOR ALL ACCESS PANELS, MOTORS, FANS, BELTS, FILTERS AND AIR INTAKES. CONDENSATE LINES SHALL BE CLEAR OF FILTER RACK ACCESS.
- 5. PROVIDE DUCT FLEX CONNECTIONS & VIBRATION ISOLATION FOR ALL UNITS NOT INTERNALLY ISOLATED.
- 6. ALL SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR INTAKE DUCTWORK SHALL BE GALVANIZED SHEET METAL.
- 7. ALL AHU AND OAU FILTERS SHALL BE OF A READILY AVAILABLE SIZE, OF DISPOSABLE TYPE, AND BE ACCESSIBLE WITHOUT THE USE OF SCREWS OR OTHER MECHANICAL DEVICES REQUIRING TOOLS.
- 8. PROVIDE ACCESS PANELS IN CEILINGS AS REQUIRED FOR MAINTENANCE AND ADJUSTMENT OF EQUIPMENT LOCATED ABOVE CEILING.
- 9. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION OF ALL EQUIPMENT AND UTILITIES.

## **DUCTWORK NOTES**

- ALL ROUND FLEXIBLE DUCT SHALL BE FLEXMASTER TYPE 8M ACOUSTICAL FLEX OR ENGINEER APPROVED EQUAL. MAXIMUM LENGTH OF ANY FLEXIBLE DUCT RUNOUT SHALL BE 5'-O". WHERE LENGTH REQUIRED EXCEEDS 5'-O", INSTALL EXTERNALLY INSULATED ROUND SNAPLOCK DUCT FOR BALANCE OF DISTANCE TO SPIN-IN TAP AT MAIN DUCT TRUNK.
- 2. SEAL ALL DUCT PENETRATIONS OF WALLS AIRTIGHT, REGARDLESS OF WHETHER WALLS ARE FIRE RATED OR NOT.
- 3. ALL SUPPLY AIR DUCTWORK FROM AHU'S (EXCEPT TAKEOFFS TO SUPPLY AIR DIFFUSERS) SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED UNLESS OTHERWISE INDICATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
- 4. ALL RETURN AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED UNLESS OTHERWISE INDICATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
- 5. ALL OUTSIDE AIR INTAKE DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
- 6. STANDARD EXHAUST AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1/2" W.G., SEAL CLASS A.
- 7. WHEN ROUTING DUCTWORK OVER LIGHTS, PROVIDE A MINIMUM 6" CLEARANCE BETWEEN DUCT AND LIGHTS.

	ENERGY RECOVERY VENTILATOR SCHEDULE																			
UNIT	BASIS OF		CONFIGURATION	DESIGN	AIR	CEM	ESP	FAN	ENTERING CO	onditions	LEAVING C	ONDITIONS	ELECTRICAL		NOTES					
ERV	DESIGN	MODEL		DAY	SIDE	01 M	(IN. H2O)	(HP)	SUMMER (DB/WB)	WINTER (DB/WB)	SUMMER (DB/WB)	WINTER (DB/WB)	VOLTS/PHASE	WEIGHT						
					SUPPLY	90	0.15	0.1	82.8/78.7	25.0/22.6	73.7/70.6	63.1/54.2								
							INDOOR		LATEINI	EXHAUST	120	0.15	0.1	72.0/62.7	70.0/61.0	~	-	240/1	49.100	12345678
EKV-I	KEINEWAIKE	EVIZO	PACKAGED		SUPPLY         90         0.15         92.2/76.5         25.0/22.6         75.1/68.2         63.1/54.2	240/1	48 LBS.	1, 2, 7, 4, 7, 0, 7, 0												
				SEINSIBLE	EXHAUST	120	0.15	0.1	72.0/62.7	70.0/61.0	,	,								

8. PROVIDE HARD WIRED THERMOSTAT AND FILTER HOUSING FOR UNIT MOUNTED FILTERS.

1. BELT DRIVE FAN

PROVIDE 2", MERV 8 FILTERS ON ENTERING SIDE OF EACH AIRSTREAM.

ESP DOES NOT INCLUDE FILTERS, CASING, ETC.

4. PROVIDE DEDICATED ENERGY RECOVERY UNIT WITH 1" FOIL FACED FIBERGLASS BOARD INSULATION, 20 GAGE G90 GALVANIZED STEEL CASE, AND FIXED PLATE CROSS FLOW CONSTRUCTION HEAT EXCHANGER WITH 10 YEAR CORE PERFORMANCE WARRANTY.

MINI SPLIT INDOOR AIR HANDLING UNIT SCHEDULE

CORRECTED CAPACITY IS NET CAPACITY FOR INSTALLATION ACCOUNTING FOR PIPE RUN LENGTHS, ETC. 5. PROVIDE UNIT MOUNTED CONDENSATE PUMP

EERED SHOP DRAWINGS WITH REFRIGERANT PIPE SIZES

## FAN SCHEDULE

												_
NIT	TYPE	CFM	MAX. Eani	ESP	MAX.	SONES/db	BASIS OF	MODEL	CONTROL	ELECTRICAL	NOTES	
			RPM	(IN. H20)	POWER	(MAX.)	DESIGN			VOLTS/PHASE		
-1	SIDEWALL	2,390	1,028	0.15	3/4 HP	7.3	GREENHECK	SE1-18-429-VG	SWITCH	115/1	1,2,3,4,5,6	
-2	SIDEWALL	2,390	1,028	0.15	3/4 HP	7.3	GREENHECK	SE1-18-429-VG	SWITCH	115/1	1,2,3,4,5,6	
PROVIDE DISCONNECT					4. F	PROVIDE DIR	ECT DRIVE FA	N				

PROVIDE BACK DRAFT DAMPER **3**. PROVIDE THERMAL OVERLOAD

5. PROVIDE VIBRATION ISOLATION

DESICCANT WHEELS ARE NOT ACCEPTABLE

- PROVIDE SINGLE POINT POWER CONNECTION.
- PROVIDE BASIS OF DESIGN UNIT OR PRIOR APPROVED EQUAL.
- 8. INTERLOCK UNIT WITH 105 RESTROOM LIGHTS

NOTES:

MA LVI CF LVR-C

## **VENTILATION SCHEDULE**

SPACE TYPE	VENTILATION CFM/S.F.	VENTILATION CFM/PERSON
OFFICE	0.06	5
BREAK ROOM	0.06	5
VESTIBULE	0.06	0
RESTROOM	0.00	70/50*
WAREHOUSE	0.06	10

\*70 CFM PER WATER CLOSET AND 50 CFM PER SHOWER HEAD

	LOUVER SCHEDULE												
ЯK	AIRFLOW CFM (MAX)	LOUVER SIZE (WxH) INCHES	FREE AREA FT <sup>2</sup> (MIN)	PRESSURE DROP (IN. WG)									
<u>- 1</u> M	120	14x12	0.2	0.06									
<u>-2</u> M	2,390	36x36	3.7	0.08									

1. PROVIDE GREENHECK MODEL 'EVH-660D' (OR EQUAL) EXTRUDED ALUMINUM, WIND-DRIVEN RAIN RESISTANT, STATIONARY LOUVER

WITH INSECT SCREEN.

2. FINISH TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.

AIR DEVICE SCHEDULE											
MARK	MAX AIRFLOW CFM	AIR DEVICE SIZE	DUCT CONNECTION SIZE	TITUS MODEL							
CD-1 CFM	90	9x9	6Ø	TDC							
RG, EG, SG, TG, RF	R,ER										
<u>xx-1</u> CFM	450	12x12	12x12	350FL							

1. MAX NC=20

2. PROVIDE BEVELED MOUNTING FRAME FOR CEILING DIFFUSERS IN HARD CEILINGS. 3. PROVIDE FLAT MOUNTING FRAME FOR GRILLES LOCATED IN HARD CEILINGS.

**Watford** 

1 Clinton Street rianna, FL 32446

orida CA Number: 27825

oject Number: 2019-024

Engineering, Inc. Mechanical Consulting

PROVIDE MOTORIZED OA AND EA DAMPER MOUNTED IN DUCT AND INTERLOCKED WITH UNIT.









- AND LOCATION OF EQUIPMENT WHICH IS FURNISHED BY OTHERS AND CONNECTED BY ELECTRICAL.

- LOCATION TO PROVIDE NATIONAL ELECTRIC CODE REQUIRED ACCESS SPACE.

- AS SHOWN AND SPECIFIED.
- OBTAIN ALL PERMITS REQUIRED BY LOCAL ORDINANCES.
- TO THE OWNER.
- (E.M.T.) CONDUIT 1/2" MIN. SIZE.
- TERMINATIONS.
- OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.



![](_page_83_Figure_22.jpeg)

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et Title
ETAILS
RRISER
ND SCHEDULES
PLAN
RPLAN
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ING PLAN

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	RCHITECTS	P.O. BOX 861	MARIANNA, FL 32447 FAX: (850) 482–8609
	DONOFRO A	2910 CALEDONIA ST.	MARIANNA, FL 32446 OFFICE: (850) 482–5261
HEET LEGEND, NOTES AND DETAILS	JEW MUNICIPAL WAREHOUSE <sup>R:</sup>	<b>JOWN OF GREENWOOD</b>	REENWOOD, FLORIDA
JOB NUMBER: SF <b>M-2019-03</b> TI	AUG 15, 2019 $\sum_{Fol}$	DRAWN BY: 3S	CHECKED BY: G.
	SHEET	- U	

	NEW PANEL	Vol tage:	120/2	240V			Phase:	Wire: Mounting: _Sl
		Mains:	500A	MLO				AIC Rating: 22,000
	'A'	NEMA R	ating:	1	O	otions:	BOLT-ON	N BREAKERS
KT	SERVING	CONN		BKR		BKR	CONN	SERVING
U. 1	MINI-SDUT CONDENSER - DSHD-1					15	300	MINI-SPLIT LINITS - CS-1 CS-2 & V
3				-	-			
5	AIR COMPRESSOR	4800	60	2	2	25	5010	WATER HEATER – EWH–1
/ >		3750	20	-	-	20	3750	
, 1				<u> </u>	<u> </u>			
3	INFRARED HEATER – ERH–1	3750	20	2	2	20	3750	INFRARED HEATER – ERH–1
ō				-	-			
7	INFRARED HEATER – ERH–1	3750	20	2	2	20	3750	INFRARED HEATER – ERH–1
9 1	INFRARED HEATER – ERH–1	3750	20	2	2	20	3750	INFRARED HEATER – ERH–1
3				-	_			
5	INFRARED HEATER – ERH–1	3750	20	2	2	20	3750	INFRARED HEATER – ERH–1
7				-	-			
9	INFRARED HEATER – ERH–1	3750	20	2	2	20	3750	INFRARED HEATER – ERH–1
1				-	-			
<u>ა</u> 5	INFRARED HEATER - ERH-1	3/50	20	2	2	20	3/50	INFRARED HEATER - ERH-1
7	INFRARED HEATER – ERH–1	3750	20	2	2	20		SPARE
9				-	-			
1	LIGHTS – WAREHOUSE (NORTH)	860	20	1	1	20	868	LIGHTS – WAREHOUSE (SOUTH)
3	LIGHTS – OFFICE	64	20	1	1	20	134	LIGHTS – BREAK ROOM
5	LIGHTS – RESTROOM	157	20			20	55	LIGHTS – EXTERIOR
/	EXHAUSI FAN - EF-1	1294	20	1		20	1294	EXHAUSI FAN - EF-1
9 1	RECEPT - WAREHOUSE (FAST SIDE)	1080	20			20	1080	RECEPT - WAREHOUSE (WEST SIDE)
3	RECEPT – BREAK ROOM – KITCHEN	1200	20	1		20	720	RECEPT - OFFICE - EQUIPMENT
5	LIGHTS – 2ND FLOOR STORAGE	272	20	1	1	15	200	ENERGY RECOVERY VENTILATOR - ERV
7	RECEPT – 2ND FLOOR STORAGE	1080	20	1	1	20	1200	MICROWAVE – BREAK ROOM
9	RECEPT - OFFICE	1080	20			20	900	RECEPT - BREAK ROOM
। र	RECEPT - RESTRUUM	1200	20			20	300	RECEPT - TELECOM BACKBUARD
5	SPARE		20	1		20		SPARE
7	SPACE ONLY			1	1			SPACE ONLY
9	SPACE ONLY			1	1			SPACE ONLY
1	SPACE ONLY			1				SPACE ONLY
ა 5	SPACE UNLY SPACE ONLY		<u></u>	1				SPACE UNLY SPACE ONLY
7	SPACE ONLY							SPACE ONLY
9	SPACE ONLY			1	1			SPACE ONLY
1	SPACE ONLY			1	2	60		SURGE SUPPRESSOR
3	SPACE ONLY			1	–			

## MECHANICAL EQUIPMENT CIRCUIT DESIGN SCHEDULE

	(VERIFY ALL EQUIPME	NT CIRCUIT REG	UIREMENTS WIT	H MANUFACTURERS	SHOP DRAWING	GS PRIO	R TO R	OUGH-I	N)
EQUIPMENT DESIGNATION	DESCRIPTION	VOLTAGE	RATED LOAD AMPS	MAXIMUM CIRCUIT OVERCURRENT PROTECTION	PROTECTION SPECIFIED	HEATER KW	FAN HP	CFM	REM
CS-1	MINI-SPLIT UNIT	230V 1ø	0.44	15	15/2	0.03	FRACT	459	
<u>CS-2</u> WM-1	MINI-SPLIT UNIT WALL MOUNT MINI-SPLIT UNIT	230V 1ø 230V 1ø	0.44	15 15	15/2 15/2	0.03	FRACT	459 210	
		230V 1Ø	29	44	40/2	-	FRACI	-	
EF-1 EF-2	EXHAUST FAN EXHAUST FAN	115V 1Ø 115V 1Ø	9	20	20/1	-	3/4	2390	MANUAL SWITCH
ERH-1 FRV-1	INFRARED HEATER	240V 1ø 120V 1ø	12.5	<u>20</u> 15	20/2 15/1	-	- 0.1	_ 1.30	
EWC	WATER COOLER	115V 1ø	5	20	20/1	_	FRACT	_	
EWH-1	WATER HEATER	240V 1ø	16.7	25	25/2	4000	-	-	NON-SIMULTANE
	AIR COMPRESSOR	230V 1ø	28	60	60/2		5		

![](_page_84_Figure_3.jpeg)

NOT TO SCALE

![](_page_84_Figure_5.jpeg)

NOT TO SCALE

ad					
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AND				ECTS	P.O. BOX 861 NA, FL 32447 0) 482-8609
THERHE ND ENC 'ER PLA	EAD, CT CLOSED N	CABINET, BREAKER.		ARCHIT	MARIAN FAX: (85
WAREH	IOUSE	BUILDING		NOFRO /	EDONIA ST. FL 32446 350) 482-5261
				DOI	2910 CAL MARIANNA, OFFICF: (8
νμα	N				
	K	EYNOTES			
	1	INSTALL GROUNDED (NEUTRAL) CONDUCTOR SAME SIZE AS THE LARGEST PHASE CONDUCTOR IF THE LINE-TO-NEUTRAL LOAD EXCEEDS 5% OF THE CONNECTED LOAD. IF NEUTRAL LOAD IS SMALLER, INSTALL THE NEC MINIMUM GROUNDED CONDUCTOR.			
	2	INSTALL GROUNDING ELECTRODE CONDUCTOR, SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE, BUT NOT SMALLER THAN NO 4.	Γ		
	3	INSTALL EQUIPMENT GROUNDING CONDUCTOR SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER OVERCURRENT DEVICE SIZE.			
	4	16 FOOT MINIMUM X 3/4" DIAMETER COPPER CLAD STEEL SECTIONAL DRIVEN GROUND ROD.		н Ш	
	5	INSTALL BONDING JUMPER WIRE THAT IS SIZED BASED ON NEC TABLE 250-66 OR 250.28(D)(1) USING THE SERVICE OR SEPARATELY-DERIVED SYSTEM PHASE PHASE CONDUCTOR SIZE.		EHOUS	OD
	6	INSTALL A CONCRETE-ENCASED MAIN GROUNDING ELECTRODE IN THE BUILDING FOUNDATION PER NEC ARTICLE 250.52 (A) (3).		WAR	
	0	BOND EACH PERIMETER STRUCTURAL STEEL COLUMN TO THE CONCRETE-ENCASED MAIN GROUNDING ELECTRODE. USE COMPRESSION CONNECTORS THAT MEET IEEE 837 REQUIREMENTS OR USE EXOTHERMIC WELDS.		NICIPAL	FLORIDA
	8	INSTALL A "MAIN GROUND ELECTRODE GROUND BAR" FOR SINGLE POINT GROUNDING. LOCATE AT AN ACCESSIBLE POINT NEAR THE SERVICE ENTRANCE EQUIPMENT. MAKE CONNECTIONS TO THE GROUND ELECTRODE CONDUCTOR USING IRREVERSIBLE CONNECTORS OR EXOTHERMIC WELDS. MAKE OTHER CONNECTIONS TO THE GROUND BAR USING TWO-HOLE COMPRESSION SPADE LUGS THAT MEET IEEE 837 REQUIREMENTS. LABEL FACH CONNECTION TO THE GROUND BAR	SHEET	NEW MUI	TOWN O Greenwood,

![](_page_84_Picture_9.jpeg)

![](_page_84_Figure_10.jpeg)

![](_page_85_Figure_0.jpeg)

			LI	GHT	IN	G FIX	τ u r	E SCHE	DULE	
Project: 1962	Job Name: NEW MUNICIP.	AL WAREHOUSE for the TOWN of GR	EENWOOD							
Luminaire Designation	Manufacturer	Catalog Number	Connected Voltage	Luminaire Load (va)	Lamping Source	Color Rendering Index (CRI)	Kelvin Temperature	Mounting	Comments	Luminaire Equals
"BP"	BEGHELLI	PACO-T20-AT	120V	3.2W	LED	n/a	n/a	BACK WALL	ADJUSTABLE TWIN HEAD EMERGENCY BATTERY LIGHT, SELF DIAGNOSTIC / SELF TESTING, 5 YEAR FULL WARRANTY	BASED ON ENGINEER'S APPROVAL IS REQUIRED
"DL"	GOTHAM	EVO 40/20 4WR MD LSS 120 TRW (NON-DIMMING)	120V	23.5W	LED	80-CRI	4000	CEILING RECESSED	4" RECESSED LED DOWNLIGHT, WITH HOUSING AND TRIM, 2000 LUMENS, 120V	BASED ON ENGINEER'S APPROVAL IS REQUIRED
"DS"	GOTHAM	EVO4SH 40/20 4DFRAMF SMO 120 (NON-DIMMING)	120V	29.8W	LED	80-CRI	4000	CEILING RECESSED	4" RECESSED LED DOWNLIGHT, WITH HOUSING AND TRIM, 2000 LUMENS, SHOWER LOCATION,	BASED ON ENGINEER'S APPROVAL IS REQUIRED
"L22"	H. E. WILLIAMS	PTS-2 2-L38/840-RA-DRV-120	120V	32W	LED	80-CRI	4000	CEILING SURFACE	2' x 2' SHALLOW SURFACE LED FIXTURE, 3800 LUMENS, 120V	BASED ON ENGINEER'S APPROVAL IS REQUIRED
"L6"	MARK ARCHITECTURAL	SL6L LOP 6FT RLP FL 80CRI 40K 900LMF NODIM 120	120V	48W	LED	80-CRI	4000	CEILING RECESSED	6" x 6' RECESSED LINEAR LED DOWNLIGHT, WITH HOUSING AND TRIM, 5400 LUMENS, 120V	BASED ON ENGINEER'S APPROVAL IS REQUIRED
"LS"	H. E. WILLIAMS	96-4-L81/840-DCL-SSCMB- SS LATCH-DRV-120	120V	65W	LED	80-CRI	4000	CEILING CHAIN HUNG	4' LED ENCLOSED INDUSTRIAL FIXTURE, VAPOR TIGHT, GASKETED, CEILING SUSPENDED, STAINLESS STEEL LATCHES, 8100 LUMENS, 120V	BASED ON ENGINEER'S APPROVAL IS REQUIRED
LV	H. E. WILLIAMS	EGL2-4-L145/840-HIA- SSMRB-SS LATCH-DRV-120	120V	142W	LED	80-CRI	4000	CEILING CHAIN HUNG	4' LED ENCLOSED INDUSTRIAL FIXTURE, VAPOR TIGHT, GASKETED, CEILING SUSPENDED, STAINLESS STEEL LATCHES, 14,600 LUMENS, 120V	BASED ON ENGINEER'S APPROVAL IS REQUIRED
"WB"	H. E. WILLIAMS	WPM-L8/750-120	120V	11W	LED	70-CRI	5000	BACK WALL 7'-8" AFF	MINI WALL PACK FIXTURE, EXTERIOR, WET LOCATION, 120V	BASED ON ENGINEER'S APPROVAL IS REQUIRED
"X"	BEGHELLI	ATX-SA-LR1-W-AT	120V	2W	LED	n/a	n/a	BACK WALL ABOVE DOOR	LED EXIT SIGN, SINGLE SIDED WHITE FACE, EMERGENCY BATTERY BACK-UP, SELF TESTING, WALL MOUNTED, 5 YEAR WARRANTY, 120V	BASED ON ENGINEER'S APPROVAL IS REQUIRED
"XC"	BEGHELLI	ATX-SA-LR1-U-AT	120V	2W	LED	n/a	n/a	CEILING MOUNTED	LED EXIT SIGN, SINGLE SIDED WHITE FACE, EMERGENCY BATTERY BACK-UP, SELF TESTING, CEILING MOUNTED, 5 YEAR WARRANTY, 120V	BASED ON ENGINEER'S APPROVAL IS REQUIRED

Lighting Space and Zones					Lighting Control Matrix										Low Voltage Switch Matrix (Button Labels to be designated by owner during installation)											
tacle		ZONE OF CONTROL							C	ONTROL	SCENARIO	os					CONNECT TO LIGHTING CONTROL PANEL						CONNE ROOI	ECT TO I	LOCAL TROL	
Ѕрасе Туре	Room Number	Automatic Recept Control	Description	Designator	Manual On	Manual Off	Dimming	Multi-Level Control	Timeclock On	Timeclock Off	Occupancy Sensor On	Vacancy Sensor Off	Daylight Harvesting	Photo Sensor On	Fire Alarm System Override to On	Security System Override to On	SL1 (1-Button)	SL2 (2-Button)	SL3 (3-Button)	SL4 (4-Button)	SL5 (5-Button)	SL6 (6-Button)	SLa (2-Button)	SLb (4-Button)	SLc (6-Button)	Remarks
/AREHOUSE - SOUTH END	101				Х	Х					Х	Х											Х			
/AREHOUSE- NORTH END	101				Х	Х					Х	Х											Х			
FFICE	102	Х			Х	Х					Х	Х											Х			
REAK-ROOM	103	Х			Х	Х					Х	Х											Х			
ESTIBULE	104										Х	Х														
ESTROOM	105				Х	Х					Х	Х											Х			
TORAGE	201				Х	Х					Х	Х											Х			
xterior Security Lighting	n/a								Х	Х				Х												

![](_page_85_Figure_5.jpeg)

LIGHTING (SWITCHING) CONTROL WITH OCC SENSOR (NON-DIMMING) NOT TO SCALE

![](_page_85_Figure_8.jpeg)

VESTIBULE AREA LIGHTING CONTROL WITH OCC SENSOR (NON-DIMMING) (NON-SWITCHING) NOT TO SCALE

![](_page_85_Picture_10.jpeg)

IG Engineers 42 Eglin Parkway SE fort Walton Beach, Florida, 32548 -mail: office@hgengineers.com h: 850.243.6723 Fax: 850.664.5420 I. Authoristica No 00006600 1962 Authorization No.00006680 Job No. Christopher A. Garick; FL. PE No.53924 Philip M. Humber; FL. PE No.13870 Thomas A. Alexander; FL. PE No.73172 Daniel J. White; FL. PE No.73790

E	JOB NUMBER: M-2019-03	SHEET LIGHTING CONTROLS AND SCHEDULES			THIS DRAMING & DESIGN SHOWN IS THE PROPERTY OF	
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	DW		OFFICE: (850) 482–5261	FAX: (850) 482–8609		

![](_page_86_Figure_0.jpeg)

![](_page_86_Picture_1.jpeg)

![](_page_87_Figure_0.jpeg)

![](_page_87_Picture_1.jpeg)

![](_page_88_Figure_0.jpeg)

![](_page_88_Picture_1.jpeg)

![](_page_89_Figure_0.jpeg)

![](_page_89_Picture_1.jpeg)

# **SECOND FLOOR LIGHTING PLAN** $\frac{1}{4''} = 1'-0''$

① MOUNT FIXTURES AS HIGH AS POSSIBLE. FIXTURES SHALL HUNG FROM THE METAL BUILDING PURLINS. RUN CONDUIT AS POSSIBLE TO THE BUILDING STRUCTURE.

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	-	DON 2910 CALE MARIANNA, OFFICE: (8
	-C	FLOOR LIGHTING PLAN PAL WAREHOUSE REENWOOD DA
LL BE CHAIN JITS AS TIGHT	JOSEPH ICEN 90 Hat 73590 K STATE OF TORDA	JOB NUMBER: M-2019-03 HEET BATE: DATE: AUG 15, 2019 AUG 15, 2019 FOR: DRAWN BY: DRAWN BY: PREW MUNICIP FOR: TOWN OF GR FOR: DW
	HG Engineers 142 Eglin Parkway SE Fort Walton Beach, Florida, 32548 E-mail: office@hgengineers.com Ph: 850.243.6723 Fax: 850.664.5420 Fl. Authorization No.00006680 Christopher A. Garick; FL. PE No.53924 Philip M. Humber; FL. PE No.13870 Thomas A. Alexander; FL. PE No.73172 Daniel J. White; FL. PE No.73172	E-4.1