Request for Proposal ("RFP") For General Contractor to Construct Interior Modifications for "East Meadows Family Apartments Phase I"

San Antonio, Texas April 18, 2019

I. Introduction

This Request for Proposal (RFP) is for proposals to complete interior modifications to select apartments in Phase I of the East Meadows Family Apartments.

The Project Owner, Wheatley Family I, L.P. is requesting Proposals from selected General Contractors for the construction of interior modifications consisting of the addition of ground floor half-baths to select townhouse apartments. The General Contractor selection process will involve two stages: (i) submittal of qualifications and a cost proposal to construct the improvements, and (ii) interviews with qualified respondents. Upon completion of the interviews, the Owner will select the "lowest responsive bidder" from among the qualified General Contractors and negotiate to enter into a Contract for Construction. The selection criteria for the RFP is included in this announcement. The criteria used in evaluating the proposals will include such factors that are determined to derive or offer the greatest value to the Owner, combining both qualifications and fee. Current information on the project is included in this document; however, it is subject to change.

Three complete hard copies and one electronic copy of the Proposal must be received at the office of Owner's Representative, McCormack Baron Salazar, Inc. by 4:00 p.m. CDT on May 9, 2019. Please mark envelopes with "Proposal for Interior Modifications – East Meadows Family Apartments Phase I, San Antonio, Texas." The electronic copy may be submitted in PDF format and should be provided on a flash drive or CD included in the envelope.

The offices of McCormack Baron Salazar, Inc. are located at:

McCormack Baron Salazar, Inc. 454 Soledad Street Suite 300 San Antonio, Texas 78205 Attn: Louis Bernardy Direct- Louis Bernardy: (210) 819-6492

The Owner reserves the right to reject any and/or all proposals and submittals, to waive any minor informalities or irregularities in any submittal, to solicit new proposals, or to proceed to do the work by other means, as determined to be in the best interest of Wheatley Family I, L.P.

Questions regarding this Request for Proposal should be directed to McCormack Baron Salazar, Inc., only and not to other individual project team members.

A site walk-thru for interested Prime Contractors and Subcontractors is scheduled for 1:00 PM, April 25, 2019. The site walk-thru will start at the East Meadows Apartments Leasing Office, 1223 N. Walters St.

II. <u>Description of the Project</u>

The Project includes construction of new half-baths on the ground floor of 58 existing townhouse apartments, located in multiple buildings across four city blocks.

The scope of construction includes, but is not limited to, demolition of existing partitions, finishes, and electrical devices and wiring; installation of new under-slab and above slab plumbing supply, waste and vent piping, including connections to existing piping; installation of new plumbing fixtures; modifications to existing electrical systems, including new devices, lighting and connections to exhaust fans; installation of new toilet exhaust fans, ductwork and wall penetrations; installation of new finishes, including vinyl plank flooring, textured wall and ceiling finishes and paint; installation of new toilet accessories; and installation of new door hardware.

The construction of the existing townhouse buildings consists of post-tensioned concrete slabson-grade, wood-framed interior partitions, and metal-plate-connected wood floor trusses. The Contractor shall be responsible for identifying the location of PT slab tendons and performing all slab demolition and excavation necessary for installation of new underground plumbing utilizing the procedures shown on the Contract Documents.

The existing apartments are occupied. Residents may be temporarily relocated during portions of the construction, but residents' furniture and possessions will remain in the apartment. The Contractor shall be responsible for installing temporary protections, including dust protection and floor protection, and will be expected to provide daily cleaning operations, along with final cleaning by a professional cleaner.

The Contractor is expected to complete the work in all apartments within **120 calendar days** of Notice-to-Proceed. Multiple apartments will be made available to the Contractor, however, not all apartments will be made available at one time. As part of the RFP response, the Contractor shall provide a detailed preliminary schedule indicating its concept for phasing of the Project, including number of apartments required for each phase and the duration necessary to complete each group of apartments. The actual Notice-to-Proceed date by the Owner will be contingent upon approval of the final contract by the Project's investors.

The Contractor shall obtain all required permits and shall include the cost of all required permits and fees in its Proposal.

Payment and Performance Bonds and complete insurance coverage are required for this Project, and the cost of such bonds and insurance shall be included in the Proposal.

April 18, 2019

III. Project Team

Durand-Hollis Rupe Architect, Inc. is the Architect of Record for the proposed improvements. The Project Team includes Lundy & Franke Engineering for structural design and H2MG for MEP design.

IV. <u>Selection Process</u>

The selection of the General Contractor for this development is a two-step process:

- 1) Submit qualifications and cost proposal through this RFP process.
- 2) Interview qualified respondents.

This "Request for Proposal" is the first step in the process. From the responses, the Owner will generate a short list of General Contractors that the Owner has deemed qualified to perform the work based on their demonstrated capacity and experience. The second step is to interview each of these qualified General Contractors. The Owner will then select the "lowest responsive bidder" to enter into final contract negotiations.

During these negotiations, the Owner and the design team will work exclusively with the selected General Contractor to "value engineer" the project, perfect the Construction Documents, and finalize the contract price with the intent of entering into a construction contract. For purposes of this RFP, "value engineering" means requesting that the selected General Contractor review the constructions documents thoroughly and with subcontractors to identify any potential cost savings to the project. This period will also be used to identify and resolve any conflicts or inconsistencies in the Construction Documents that were not addressed during the bidding process. The Contractor will not increase the contract amount during this process unless there is an agreed upon scope change to the project. It is incumbent upon the Development Team, including the General Contractor, to design and construct the project within the established budget and as efficiently and cost-effectively as is feasible.

If during this negotiation process the selected General Contractor is deemed by the Owner to be non-responsive to the construction documents, or not negotiating in "good faith", the Owner reserves the right to terminate the negotiations and enter into negotiations with the "next lowest, responsive bidder". Further, the Owner will be under no obligation to enter into a construction contract with, and will not owe any compensation to, the selected General Contractor for its time during this negotiation period if the Owner decides not to proceed with the Work.

Please note that the Owner may elect to meet with some or all of the respondents after Proposals are received to review or address questions about the submittals.

V. <u>Schedule</u>

The following is the anticipated schedule for this Project:

Issue Request for Proposal	April 18, 2019
Site Walk-Thru	April 25, 2019
Responses to RFP Due	May 9, 2019
Interview Selected General Contractors	May 16, 2019
Select General Contractor	May 23, 2019
Finalize Construction Contract	June 6, 2019
Notice-to-Proceed	June 20, 2019
Complete Construction	October 18, 2019

The above schedule is subject to modification as the project is developed.

Note: Contractor will be required to hold the final agreed upon contract amount for 60 days from the date accepted by the Owner.

VI. <u>Selection Criteria</u>

The Owner is looking for general contractors with the following <u>minimum</u> qualifications. The submission requirements listed in Section X. below include the items to be provided to evidence these qualifications.

- Experience of the General Contractor, the proposed Project Manager, and Site Superintendent(s) with the successful completion of similar type and size projects and similar type construction. (25 pts.)
- Complete and competitive Cost Proposal covering all aspects of the Work. (50 pts.)
- The General Contractor's financial capacity and resources, including the ability to properly insure and provide performance and payment bonds. (5 pts.)
- The General Contractor's technical resources including ability to work with the Owner and Architect to "perfect the documents". (5 pts.)
- The ability of the General Contractor to complete the project within the proposed schedule of 120 calendar days. (10 pts.)
- A proven track record for completing projects on time and within the original contract amount. (5 pts.)

VII. <u>Construction Contract</u>

The scope during the construction period is defined in the draft Contract (see **Exhibit B**). The form of contract is the Trade Work Agreement, where the basis of payment is a Lump Sum, including Contractor overhead, profit and fee.

The final award by Owner will be conditioned and contingent upon the execution of the Contract in the form attached hereto as Exhibit B. Each Respondent must thoroughly review and familiarize itself with all provisions and requirements of the form of Contract and other attachments thereto. The pricing proposals submitted should cover all of the Work (as defined in the form of Contract) and conditions set forth in the form of Contract, precisely as specified and without deviation or alteration of any kind.

The Contract cannot be modified by exceptions noted in any Proposals submitted in response to this RFP. The Respondent is to provide an itemized list of any and all comments regarding the Contract, with specific reference to each clause towards which a comment or objection applies. Where applicable, include proposed modifications of language suggested to be made, again with specific reference to specific clauses within the Contract. By responding to this RFP, the Respondent acknowledges and accepts that the requirements included in this RFP, and no others, will control any Contract awarded unless the Respondent expressly states, in whole or by reference, alternate terms or conditions which the Respondent wishes Owner to consider. Any subject Proposal to rejection. If no comments are provided in the Proposal, the Contract shall be considered accepted in the form provided by Owner in this RFP, including applicable insurance limits and coverages. Submission of a Proposal is a firm representation by Respondent that it is prepared to immediately execute the Contract if selected by Owner. In the event of any conflicts or inconsistency between the information presented in this RFP and the terms of the Contract, the terms of the Contract shall control.

VIII. Additional Contractual Provisions

A. Performance and Payment Bonds

The Contractor selected shall be required to furnish a Performance and Payment Bond:

• A "Performance Bond" on the part of the General Contractor for one hundred percent (100%) of the contract price (including change orders). A "Performance Bond" is one executed in connection with a contract to secure fulfillment of all the Contractor's obligations under such contract.

• A "Payment Bond" on the part of the contractor for one hundred percent (100%) of the contract price (including change orders). A "Payment Bond" is one executed in connection with a contract to assure payment as required by law for all persons applying labor and material in the execution of the work provided for in this contract.

No bid bond will be required.

B. Basic Eligibility

The successful Submitter must be licensed to do business in the State of Texas and the City of San Antonio and must have the appropriate state and local business license numbers.

IX. <u>Submissions Requirements</u>

Submission should be organized as follows:

1. Cover Letter

2. **Company Description/Resume** including the company's standard marketing information.

3. **Profiles of Similar Projects**:

A. Please provide detailed information on at least three and up to five similar projects that the firm has completed (or is in the process of completing) preferably within the last five years. The examples submitted should be multi-family projects involving renovation of multiple units, preferably involving phased completion.

For each of the projects listed above, please provide the contact information for primary project staff and partners; the original contact amount, the final contract amount and the total number and dollar value of change orders that were <u>not</u> due to unforeseen conditions (i.e., issues related to the field conditions) or owner upgrades.

- 4. **Resumes of the Proposed Construction Team** including the key members of the construction company's team that will be assigned to this project. (The proposed Project Manager and Superintendents must have experience in similar projects in both scale and type.)
- 5. Contractor's Qualification Statement (AIA Document A305 or equivalent)
 - a. Include financial information
 - b. Note that it is not necessary to repeat previous projects already listed under #3, just list other projects completed within the last ten years.

6. Proof of Insurability

a. Submit letter regarding coverage from insurance company or insurance certificate that meet project requirements, as described in the draft Contract (Exhibit B). In the event that the respondent's current insurance coverage does not meet the requirements stated in the draft Contract, the respondent shall submit information regarding their current coverage, and identify in their Cost Proposal the additional cost to increase coverage to meet the requirements of the Contract.

7. **Proof of Bonding Capacity**

a. Submit letter from bonding company stating bonding capacity of \$1 million per project and general contractor's aggregate bonding capacity.

8. Copy of Licenses

9. References

- a. Provide a minimum of four references with contact information including: Contact Name, Company Name, Address, Phone Number including at least one Developer, one Architect, and one Major Subcontractor. References will be called.
- 10. **Acknowledgement** that the General Contractor has read the Construction Contract, including any comments thereto in accordance with item VII above.
- 11. Acknowledgement that the General Contractor understands that the Project must be completed within 120 calendar days and has the capacity to meet or exceed the proposed construction time period.
- 12. **Cost Proposal** in the form of a Schedule of Values by trade.
 - a. Include a detailed breakdown of general requirement costs.
 - b. Include a unit price for the daily cost of general requirements, should the Owner elect to extend the overall schedule by delaying the start of work on a unit or group of units in order to accommodate resident needs. The additional daily general requirements cost will only be applicable where the Owner's request to delay start of work on a unit or group of units will result in an extension of the overall 120 day contract duration.
- 13. **Proposed Schedule** for phasing and completion of the Project.

X. <u>Attachments</u>

The following information is attached for use in preparing your submittal:

- Exhibit A Bidding Documents
- Exhibit B Trade Work Agreement
- Forms of Acknowledgment

Further Information

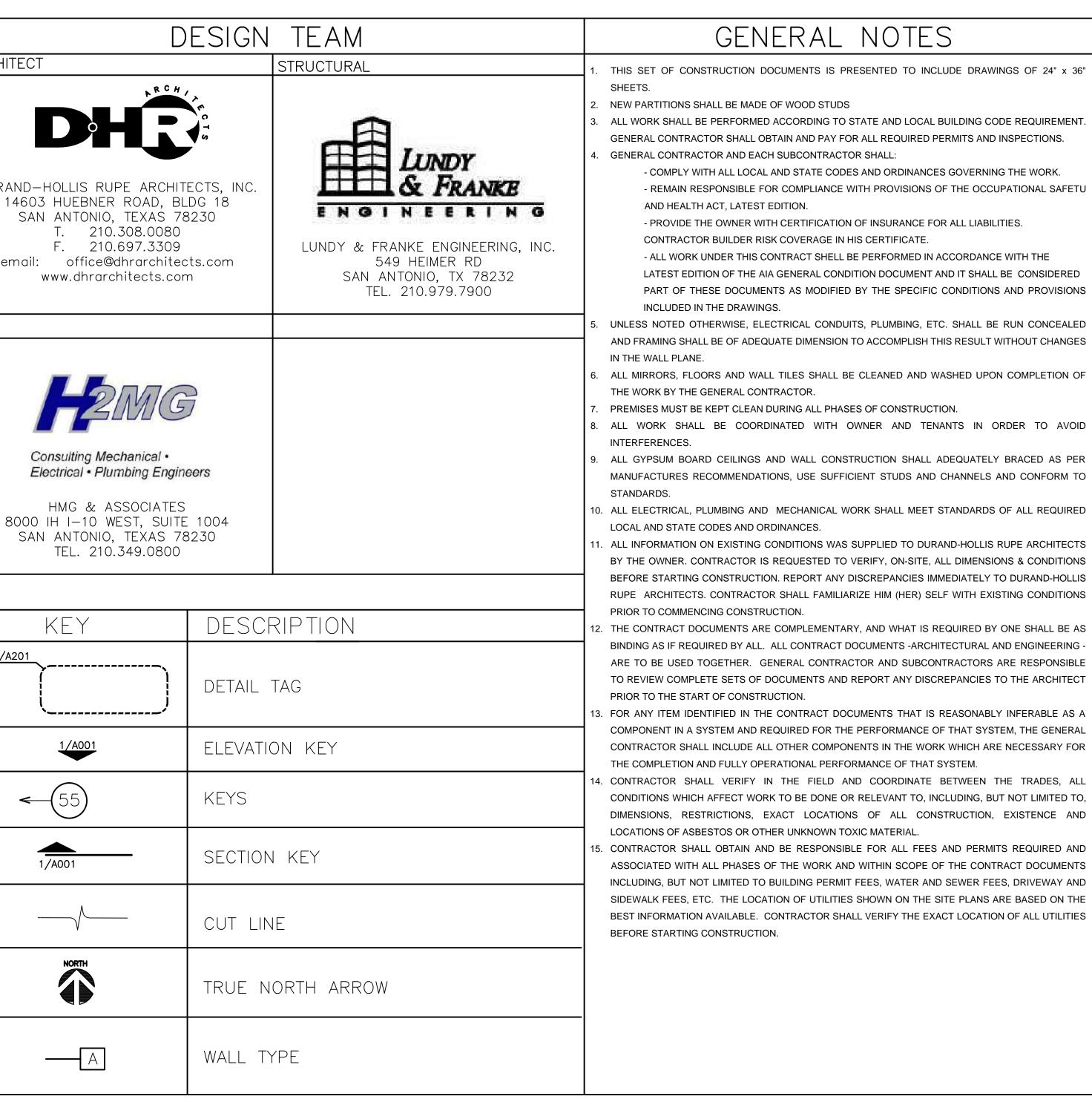
If there are any questions regarding this RFQ please forward them by email to **Louis Bernardy of McCormack Baron Salazar at** <u>louis.bernardy@mccormackbaron.com</u>.

Site visits must be scheduled by contacting McCormack Baron Salazar. Do not contact the property to schedule access to the site.

April 18, 2019

EAST MEADOWS FAMILY APARTMENTS - PHASE 1 1/2 BATH RETROFIT FOR 2 & 3 BEDROOM UNITS WHEATLEY FAMILY I, L.P. SAN ANTONIO, TX

00050		BUILDING INFORMATION	ARCHI
CODES		BUILDING OCCUPANCY: GROUP	
2015 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS		BUILDING USE: RESIDENTIAL - MULTIFA	
		SPRINKLER SYSTEM: IN ACCORDANCE W/ SECTION 903 3 1 2 OF 2015	
2015 INTERNATIONAL AMENDMENTS	MECHANICAL CODE WITH LOCA	CONSTRUCTION TYPE:	VB
		UNIT AREAS:	VD
2015 INTERNATIONAL AMENDMENTS	PLUMBING CODE WITH LOCAL	2 BEDROOM UNIT:	
		GROUND FLOOR: 496	
AMENDMENTS	CTRICAL CODE WITH LOCAL	SECOND FLOOR: 496	SF 1
			SF
AMENDMENTS	FIRE CODE WITH LOCAL	3 BEDROOM UNIT:	
	ENERGY CONSERVATION CODE	GROUND FLOOR: 672	SF ei
2013 INTERNATIONAL	ENERGY CONSERVATION CODE	SECOND FLOOR: 672	SF
		TOTAL: 1344	SF
			MEP
BUILDING SUMMARY			
RESIDENTIAL COM	IPLEX CONSISTING OF		
RETROFITTING FIF	TY EIGHT (58) UNITS, ON FOUF	R	
(4) BUILDING TYI	PE TOWN HOMES		
• TWO (2) STORY	MULTIFAMILY UNITS.		
	DATION, POST TENSION SLAB.		
	MING, EXTERIOR STUCCO,		
	D LAP SIDING, CONC. TILE		
ROOFING, ASPHA	I SHINGLES.		
ROOFING, ASPHAIRESIDENTIAL DOC			
	LI SHINGLES. IRS AND WINDOWS.		3
			٤
			٤
	RS AND WINDOWS.		ε
	RS AND WINDOWS.	LOCATION MAP	ε
	RS AND WINDOWS.	LOCATION MAP	ε
RESIDENTIAL DOC	irs and windows.		5
	RS AND WINDOWS.	Sherman Verizon Business 📀	
RESIDENTIAL DOC	irs and windows.	Sherman	
RESIDENTIAL DOC	Sherman	Sherman	
RESIDENTIAL DOC	irs and windows.	Sherman Verizon Business 🔘	8 2/A
RESIDENTIAL DOC	Sherman Rudolph St Burleson	Sherman Liberty View Church Sherman Burleson Burleson St Burleson St Burleson St Burleson St Burleson St Burleson	
RESIDENTIAL DOC Sherman Moten Alley Rudolph St	Sherman Rudolph St Rudolph St Rudolph St	Sherman Liberty View Church Sherman Burleson Burleson St Burleson St Burleson St Burleson St Burleson St Burleson	
RESIDENTIAL DOC Sherman Moten Alley Rudolph St	Sherman Rudolph St Burleson Young Men's Lead	Sherman Liberty View Church Burleson	
RESIDENTIAL DOC Sherman Moten Alley Rudolph St	Sherman Rudolph St Burleson Young Men's Lead	Sherman Liberty View Church Burleson Burleson Gabriel St Gabriel St Gabriel St Company Sherman She	
RESIDENTIAL DOC	Sherman Sherman Sherman Sherman Rudolph St Burleson Burleson Sherman Sherman Contact Sherman	Sherman Liberty View Church Sherman Burleson Burleson Gabriel St Gabriel	
RESIDENTIAL DOC	RS AND WINDOWS. SITE Sherman Cothans Rudolph St Burleson Burleson Sherman Cothans Rudolph St Burleson Sherman Burleson Sherman Cothans Sherman Cothans Sherman Cothans Sherman Sherma	Sherman Liberty View Church Burleson Gabriel St Gabriel St Ga	
RESIDENTIAL DOC	RS AND WINDOWS. SITE Sherman Cothans Rudolph St Burleson Burleson Sherman Cothans Rudolph St Burleson Sherman Burleson Sherman Cothans Sherman Cothans Sherman Cothans Sherman Sherma	Sherman Liberty View Church Burleson Burleson Burleson Gabriel St Gabriel St Gabriel St Hutgon St Gabriel St Hutgon St Hutgon St Hutgon St Hutgon St Gabriel St Hutgon S	
RESIDENTIAL DOC	Sherman Sherman Sherman Sherman Sherman Sherman Sherman Sherman Burleson Burleson Sherman Burleson Sherman	Sherman Liberty View Church Burleson Burleson Gabriel St Gabriel St Ga	
RESIDENTIAL DOC	Sherman Rudolph St Sherman Cothar S Rudolph St Sherman Burleson Burleson Sabriel St Gabriel St Cothar S Gabriel St Cothar S Cothar	Sherman Liberty View Church Sherman Burleson Burleson Gabriel St Gabriel St Lamar Lamar Arthur Walk Marters St Lamar	
RESIDENTIAL DOC	RS AND WINDOWS. SITE Sherman Very Site Rudolph St Burleson Burleson Sherman Burleson Sherman Burleson Sherman Burleson Sherman Construction Burleson Sherman Sherman Sherman Construction Sherman Sher	Sherman Liberty View Church Burleson Burleson Burleson Burleson Church-God in Christ Gabriel St Gabriel St Gabriel St Church-God in Christ Church-God in Christ Ch	
RESIDENTIAL DOC	RS AND WINDOWS. SITE Sherman Very Site Rudolph St Burleson Burleson Sherman Burleson Sherman Burleson Sherman Burleson Sherman Construction Burleson Sherman Sherman Sherman Construction Sherman Sher	Sherman Liberty View Church Gabriel St Gabriel St	
RESIDENTIAL DOC	Sherman Sherman Sherman Rudolph St Burleson Burleson Sherman Burleson Sherman Burleson Sherman Burleson Sherman Burleson Sherman She	Sherman Liberty View Church Burleson Burles	
RESIDENTIAL DOC	RS AND WINDOWS. SITE Sherman Control Rudolph St Burleson Voung Men's Lead Academy @ Wh Gabriel St Control Con	Sherman Liberty View Church Burleson Burles	
RESIDENTIAL DOC	Sherman She	Sherman Liberty View Church Burleson Burles	
RESIDENTIAL DOC	Sherman Sherman Cochart St Cochart St	Sherman Liberty View Church Burleson Burles	
RESIDENTIAL DOC	Sherman She	Sherman Liberty View Church Burleson Burles	
RESIDENTIAL DOC	RS AND WINDOWS. SITE SITE Sherman Lamar New Mt Pleasant Cothart St Lamar New Mt Pleasant Sherman Cothart St Lamar New Mt Pleasant Balaine St Burnet St Burnet St	Sherman Liberty View Church Burleson Burleson Burleson Gabriel St Gabriel St Hays St	
 RESIDENTIAL DOC Sherman Moten Alley Rudolph St Burleson Gabriel St Lamar Arthur St Hays St Blaine St Burnet St 	RS AND WINDOWS. Sherman Cochart St Rudolph St Burleson Cochart St Gabriel St Cochart St Gabriel St Cochart St Baptist Church Burleson Cochart St Cochart St Baptist Church Cochart St Baptist Church Cochart St Burnet St Burnet St Burnet St Cochart St Cochart St Cochart St Cochart St Cochart St Baptist Church Cochart St Burnet St Burnet St Burnet St Cochart St Cochart St Cochart St Cochart St Cochart St Cochart St Cochart St Cochart St Baptist Church Cochart St Burnet St Burnet St Cochart St Church St Cochart St Cochart St Church St Cochart St	Sherman Liberty View Church Burleson Burles	
RESIDENTIAL DOC Sherman Moten Alley Rudolph St Burleson Gabriel St Lamar Arthur St Hays St Blaine St	RS AND WINDOWS. SITE SITE Sherman Lamar New Mt Pleasant Cothart St Lamar New Mt Pleasant Sherman Cothart St Lamar New Mt Pleasant Balaine St Burnet St Burnet St	Sherman Liberty View Church Burleson Burles	



DTES
D TO INCLUDE DRAWINGS OF 24" x 36"
ND LOCAL BUILDING CODE REQUIREMENT. EQUIRED PERMITS AND INSPECTIONS.
RDINANCES GOVERNING THE WORK.
OVISIONS OF THE OCCUPATIONAL SAFETU
IRANCE FOR ALL LIABILITIES. IFICATE.
ORMED IN ACCORDANCE WITH THE
CUMENT AND IT SHALL BE CONSIDERED
SPECIFIC CONDITIONS AND PROVISIONS

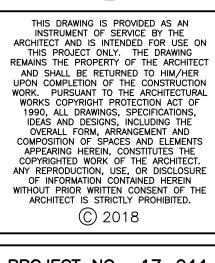
DRAWING LIST

GENERAL INFORMATION COVER PROJECT INFORMATION, CODE ANALYSIS, LOCATION MAP

ARCHITECTURAL

SP100	OVERALL SITE PLAN
SP101	BLOCK A
SP102	BLOCK B
SP103	BLOCK C
SP104	BLOCK D
D100	DEMOLITION PLANS
A100	2 BEDROOM UNIT PLAN AND BATH INTERIOR ELEVATIONS
A101	3 BEDROOM UNIT PLAN AND BATH INTERIOR ELEVATIONS
STRUC	TURAL
S101	STRUCTURAL
S102	STRUCTURAL INSPECTION REQUIREMENTS
S103	STRUCTURAL INSPECTION REQUIREMENTS
MEP	
M001	MECHANICAL / PLUMBING SYMBOLS & ABBREVIATIONS
M002	MECHANICAL / PLUMBING SPECIFICATIONS
M100	MECHANICAL PLAN
M101	FLOOR PLANS - PLUMBING
E001	ELECTRICAL SYMBOLS SPECIFICATIONS
E100	ELECTRICAL 2 BEDROOM PLAN
E101	ELECTRICAL 3 BEDROOM PLAN

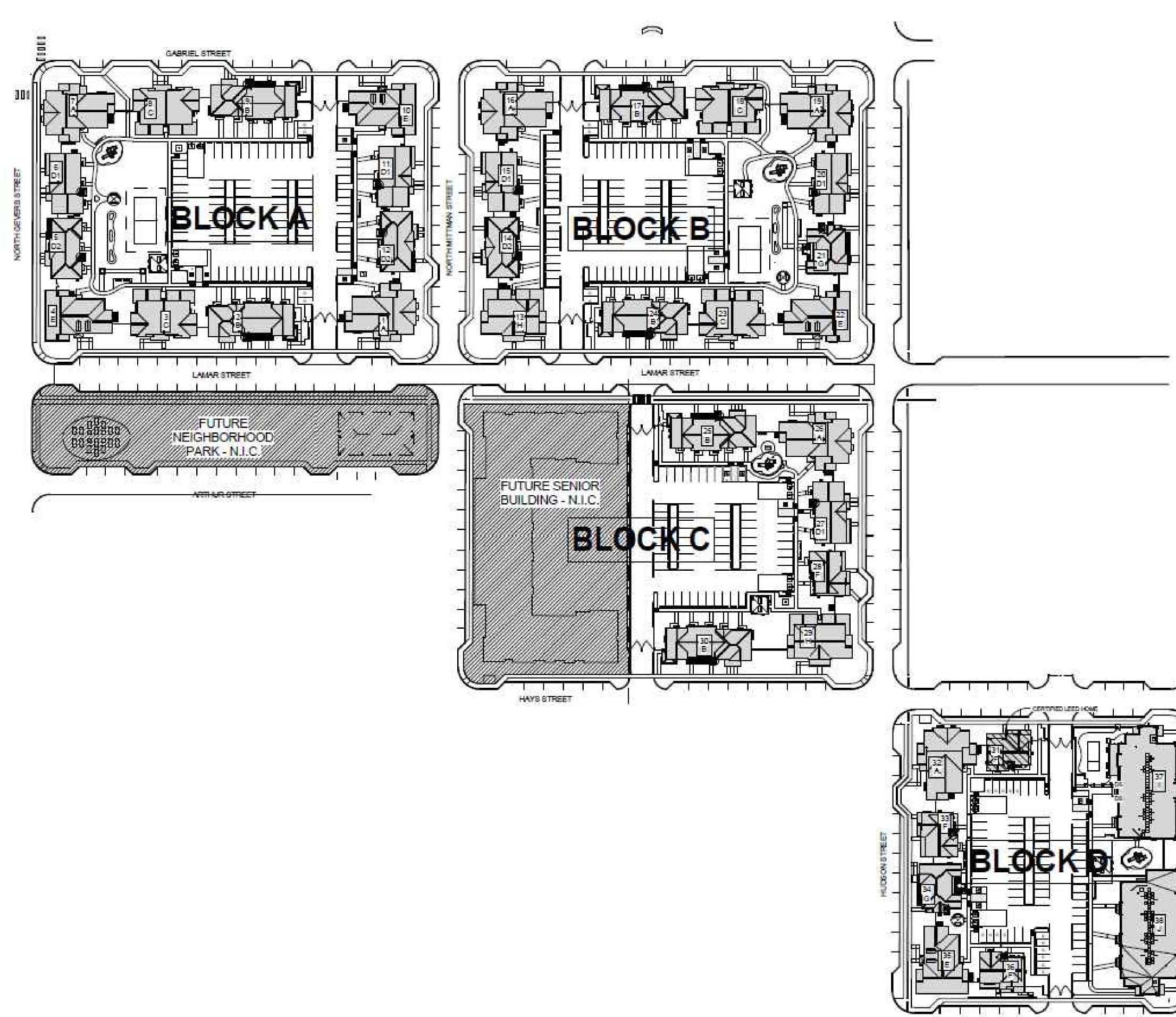
DURAND-HOLLIS RUPE ARCHITECTS, INC. 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, **TEXAS** 78230 TEL. 210.308.0080 FAX. 210.697.3309 eMAIL office@dhrarchitects.com WEB WWW.DHRARCHITECTS.COM REVISED ISSUE DATES $\overline{}$ () \triangleleft \Box \square \bigcirc \sim \bigcap \odot \geq \$ < \leq < \leq \mathbb{Z} \triangleleft ()____ \geq \leq COVER



1–29–

PROJECT NO. 17-044 ISSUE DATE: 10-06-18 DRAWN BY: CF REVIEWED BY: GDH **PROJECT ARCHITECT:** GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881

COVER



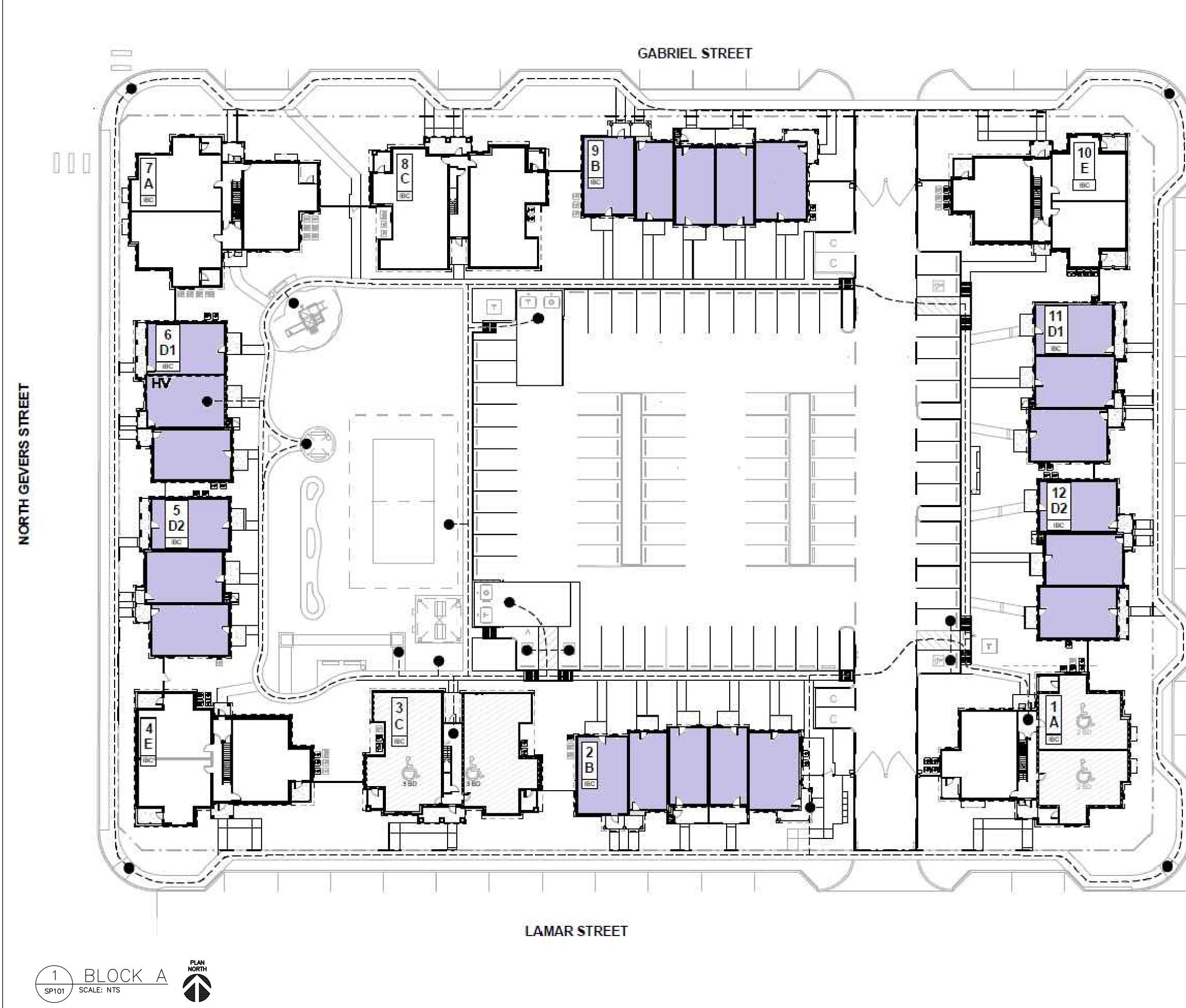


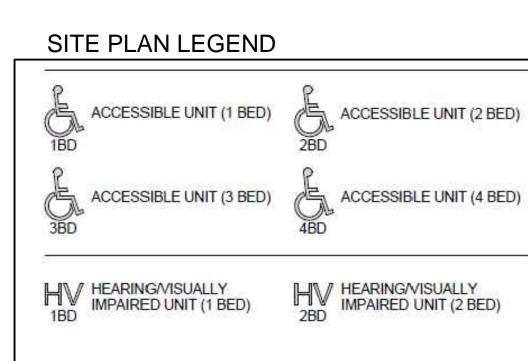
BURNET STREET

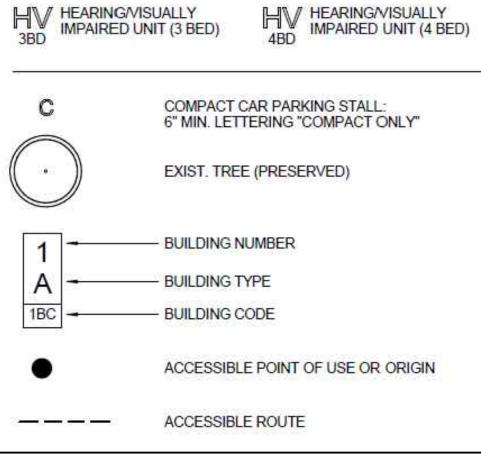
DURAND-HOLLIS RUPE ARCHITECTS, INC. 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, TEXAS 78230
 TEL.
 210.308.0080

 FAX.
 210.697.3309

 eMAIL
 office@dhrarchitects.com
 WEB WWW.DHRARCHITECTS.COM REVISED ISSUE DATES: $\overline{}$ \bigcirc \triangleleft \sim \bigcirc \square \sim \odot U \geq \triangleleft ____ $\triangleleft \downarrow \land$ \triangleleft \bigcirc \succ _____ ____ \geq \triangleleft OVER ALL SITE PLAN TERED AR 1-29-1 THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTRUCTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, IDEAS AND DESIGNS, INCLUDING THE OVERALL FORM, ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS APPEARING HEREIN, CONSTITUTES THE COPYRIGHTE WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED. C 2018 PROJECT NO. 17-044 ISSUE DATE: 10-06-18 DRAWN BY: CP GDH **REVIEWED BY:** PROJECT ARCHITECT: GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881 SP100







UNITS TO BE RETROFITTED WITH THE ADDITION OF A HALF BATH

BLOCK A			
BUILDING	BUILDING TYPE	UNIT ADDRESS	UNIT SIZE
2	В	1619 LAMAR ST.	3
2	В	1620 LAMAR ST.	2
2	В	1623 LAMAR ST.	2
2	В	1625 LAMAR ST.	2
2	В	1327 LAMAR ST.	3
5	D2	1010 NORTH GEVERS ST	3
5	D2	1012 NORTH GEVERS ST.	3
5	D2	1014 NORTH GEVERS ST.	3
6	D1	1022 NORTH GEVERS ST.	3
6	D1	1024 NORTH GEVERS ST.	3
6	D1	1026 NORTH GEVERS ST.	3
9	В	416 GABRIEL ST.	3
9	В	420 GABRIEL ST.	2
9	В	422 GABRIEL ST.	2
9	В	424 GABRIEL ST.	2
9	В	426 GABRIEL ST.	3
11	D1	1023 NORTH MITTMAN ST.	3
11	D1	1021 NORTH MITTMAN ST.	3
11	D1	1019 NORTH MITTMAN ST.	3
12	D2	1015 NORTH MITTMAN ST.	3
12	D2	1013 NORTH MITTMAN ST.	3
12	D2	1011 NORTH MITTMAN ST.	3

UNITS TO BE TREATED

<u>NOTES:</u> * OWNER TO DETERMINE IF TENANT WILL BE TEMPORARY RELOCATED. ** CONSTRUCTION MANAGER TO DETERMINE HOW MANY UNITS WILL BE WORKED ON AT A TIME.

DURAND-HOLLIS RUPE ARCHITECTS, INC. 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, TEXAS 78230 TEL. 210.308.0080 FAX. 210.697.3309 eMAIL office@dhrarchitects.com WEB WWW.DHRARCHITECTS.COM REVISED ISSUE DATES: $\overline{}$ \bigcirc \triangleleft \sim \bigcirc \cap \sim \odot \cup ____ \geq \mathbb{C} \frown $\overline{}$ < \leq $\overline{}$ \checkmark \triangleleft ____ \triangleleft \downarrow \checkmark \checkmark \triangleleft \bigcirc _____ _____ \geq \triangleleft BLOCK A AED AN 1-29-1 THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTRUCTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, IDEAS AND DESIGNS, INCLUDING THE OVERALL FORM, ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS APPEARING HEREIN, CONSTITUTES THE COPPRIGHTED WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED. C 2018 PROJECT NO. 17-044 ISSUE DATE: 10-06-18 DRAWN BY: CP REVIEWED BY: GDH PROJECT ARCHITECT: GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881 SP101

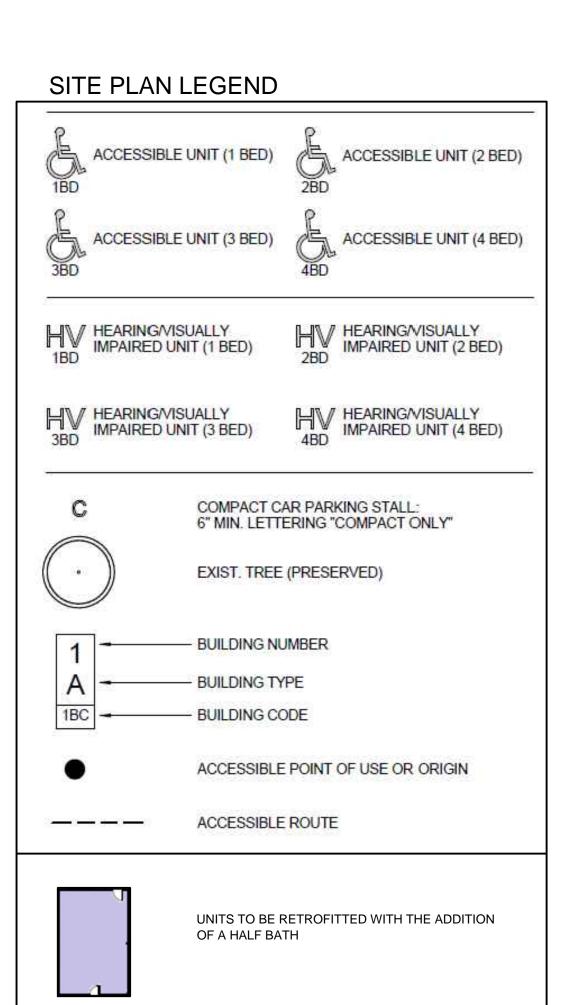
STREET MITTMAN NORTH







LAMAR STREET



UNITS TO BE TREATED

BLOCK	В		
BUILDING	BUILDING TYPE	UNIT ADDRESS	UNIT SIZE
24	В	1723 LAMAR ST.	3
24	В	1721 LAMAR ST.	2
24	В	1719 LAMAR ST.	2
24	В	1717 LAMAR ST.	2
24	В	1715 LAMAR ST.	3
14	D2	1010 NORTH MITTMAN ST.	3
14	D2	1012 NORTH MITTMAN ST.	3
14	D2	1014 NORTH MITTMAN ST.	3
15	D1	1022 NORTH MITTMAN ST.	3
15	D1	1024 NORTH MITTMAN ST.	3
15	D1	1026 NORTH MITTMAN ST.	3
17	В	514 GABRIEL ST.	3
17	В	516 GABRIEL ST.	2
17	В	518 GABRIEL ST.	2
17	В	520 GABRIEL ST.	2
17	В	522 GABRIEL ST.	3
20	D1	523 HUDSON ST.	3
20	D1	521 HUDSON ST.	3
20	D1	519 HUDSON ST.	3

<u>NOTES:</u>
* OWNER TO DETERMINE IF TENANT WILL BE TEMPORARY RELOCATED. ** CONSTRUCTION MANAGER TO DETERMINE HOW MANY UNITS WILL BE WORKED ON AT A TIME.

R C H / A
DURAND-HOLLIS RUPE ARCHITECTS, INC. 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, TEXAS 78230 TEL. 210.308.0080 FAX. 210.697.3309 MAIL office@dhrarchitects.com WEB WWW.DHRARCHITECTS.COM
REVISED ISSUE DATES:
FAMILY APARTMENTS – PHASE 1 WHEATLEY FAMILY 1, L.P. SAN ANTONIO, TEXAS 78202
BLOCK B
DURANONO DURANO
THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTRUCTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, IDEAS AND DESIGNS, INCLUDING THE OVERALL FORM, ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS APPEARING HEREIN, CONSTITUTES THE COPYRIGHTED WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED. © 2018
PROJECT NO. 17-044 ISSUE DATE: 10-06-18 DRAWN BY: CP REVIEWED BY: GDH PROJECT ARCHITECT: GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881

Ш 111 STRI g \overline{o} **P**P



SITE PLAN LEGEND ACCESSIBLE UNIT (2 BED) ACCESSIBLE UNIT (1 BED) ACCESSIBLE UNIT (4 BED) ACCESSIBLE UNIT (3 BED) HW HEARING/VISUALLY 1BD IMPAIRED UNIT (1 BED) HV HEARING/VISUALLY 2BD IMPAIRED UNIT (2 BED) HV HEARING/VISUALLY 3BD IMPAIRED UNIT (3 BED) 4BD HEARING/VISUALLY COMPACT CAR PARKING STALL: С 6" MIN. LETTERING "COMPACT ONLY" EXIST. TREE (PRESERVED) . - BUILDING NUMBER BUILDING TYPE 1BC - BUILDING CODE ACCESSIBLE POINT OF USE OR ORIGIN ACCESSIBLE ROUTE UNITS TO BE RETROFITTED WITH THE ADDITION OF A HALF BATH

UNITS TO BE TREATED

BLOCK C				
BUILDING	BUILDING TYPE	UNIT ADDRESS	UNIT SIZE	
30	В	1831 HAYS ST.	3	
30	В	1829 HAYS ST.	2	
30	В	1827 HAYS ST.	2	
30	В	1827 HAYS ST.	2	
30	В	1823 HAYS ST.	3	
25	В	1722 LAMAR ST.	3	
25	В	1724 LAMAR ST.	2	
25	В	1726 LAMAR ST.	2	
25	В	1728 LAMAR ST.	2	
25	В	1730 LAMAR ST.	3	
27	D1	423 HUDSON ST.	3	
27	D1	421 HUDSON ST.	3	
27	D1	419 HUDSON ST.	3	
28	F	413 HUDSON ST.	3	
NOTES: * OWNER TO DETERMINE IF TENANT WILL BE TEMPORARY RELOCATED. ** CONSTRUCTION MANAGER TO DETERMINE HOW MANY UNITS WILL BE				

CONSTRUCTION MANAGER TO DETERMINE HOW MANY UNITS WILL BE WORKED ON AT A TIME.

DURAND-HOLLIS RUPE ARCHITECTS, INC. 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, TEXAS 78230 TEL. 210.308.0080 FAX. 210.697.3309 **eMAIL** office@dhrarchitects.com WEB WWW.DHRARCHITECTS.COM REVISED ISSUE DATES: $\overline{}$ \bigcirc \triangleleft \sim \bigcirc \bigtriangledown ∞ \cup \geq $\overline{}$ <1____ \triangleleft \neq Z \triangleleft \bigcirc _____ ____ \geq \triangleleft BLOCK C ERED AA 1-29-1 THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTRUCTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, IDEAS AND DESIGNS, INCLUDING THE OVERALL FORM, ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS APPEARING HEREIN, CONSTITUTES THE COPYRIGHTED WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED. C 2018 PROJECT NO. 17-044 ISSUE DATE: 10-06-18 DRAWN BY: CP REVIEWED BY: GDH PROJECT ARCHITECT: GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881 SP103

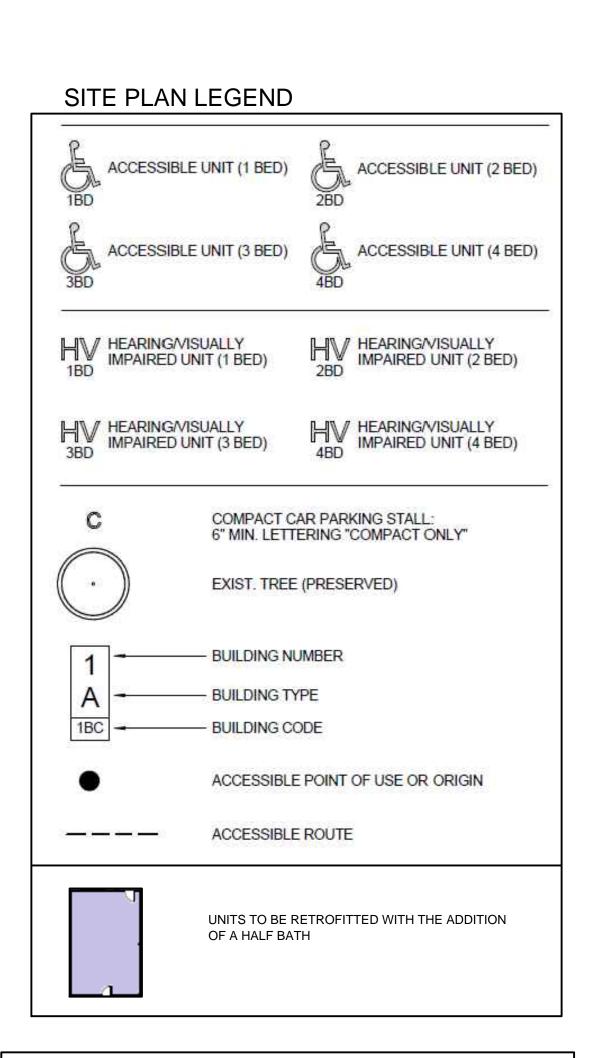


BURNET STREET



PLAN NORTH





BLOCK	D		
BUILDING	BUILDING TYPE	UNIT ADDRESS	UNIT SIZE
36	F	2011 BURNET ST.	3
33	F	322 HUDSON ST.	3
31	F	1910 HAYS STREET	3

<u>NOTES:</u> * OWNER TO DETERMINE IF TENANT WILL BE TEMPORARY RELOCATED.

** CONSTRUCTION MANAGER TO DETERMINE HOW MANY UNITS WILL BE WORKED ON AT A TIME.

DURAND-HOLLIS RUPE ARCHITECTS, INC. 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, TEXAS 78230 TEL. 210.308.0080 FAX. 210.697.3309 **eMAIL** office@dhrarchitects.com WEB WWW.DHRARCHITECTS.COM REVISED ISSUE DATES: $\overline{}$ \bigcirc \triangleleft ____ \sim \bigcirc \cap \sim \odot 10_____ \sim \geq • С \frown ____ < \sim \angle \triangleleft $\overline{}$ \angle \angle < \triangleleft \neg \triangleleft \downarrow \land \triangleleft \bigcirc \succ _____ ____ \geq \triangleleft BLOCK D RED AR 1-29-1 THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTRUCTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, IDEAS AND DESIGNS, INCLUDING THE OVERALL FORM, ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS APPEARING HEREIN, CONSTITUTES THE COPYRIGHTED WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED. C 2018 PROJECT NO. 17-044 ISSUE DATE: 10-06-18 DRAWN BY: CP REVIEWED BY: GDH PROJECT ARCHITECT: GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881 SP104

<u>DEMO KEY NOTES</u>:

1. REMOVE EXISTING SHELVING.

- 2. EXISTING WALLS TO REMAIN. DRYWALL TO BE REMOVED AS NECESSARY TO FACILITATE NEW CONSTRUCTION AND THEN PATCHED AND REPAIRED.
- 3. EXISTING DOOR & FRAME TO BE REMOVED TO FACILITATE NEW CONSTRUCTION AND THEN REUSED. CHANGE HARDWARE TO PRIVACY LOCK
- 4. REMOVE EXISTING FLOORING.
- 5. REINFORCING POST-TENSION CABLES TO BE LOCATED PRIOR TO ANY SAW-CUTTING OPERATION. REF. STRUCTURAL.
- 6. CONTRACTOR TO BLOCK THE CONSTRUCTION AREA WITH PARTITION WALLS TO MAINTAIN SECURITY AND DUST CONTROL.

PROCEDURE (REF. STRUCTURAL):

- POST TENSION CABLE REINFORCING, TO BE IDENTIFIED PRIOR TO ANY SAW CUTTING OPERATION.
- SAW CUT 3/4" GROOVES ON EACH SIDE OF PLUMBING LINE AS SHOWN.
- "CHIP OUT" EXIST. BEAM LEAVING EXPOSED REINF. INTACT.
- COAT EXISTING BEAM SURFACES WITH EPOXY BONDING AGENT AND POUR CONCRETE.

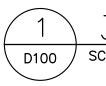
GENERAL NOTES:

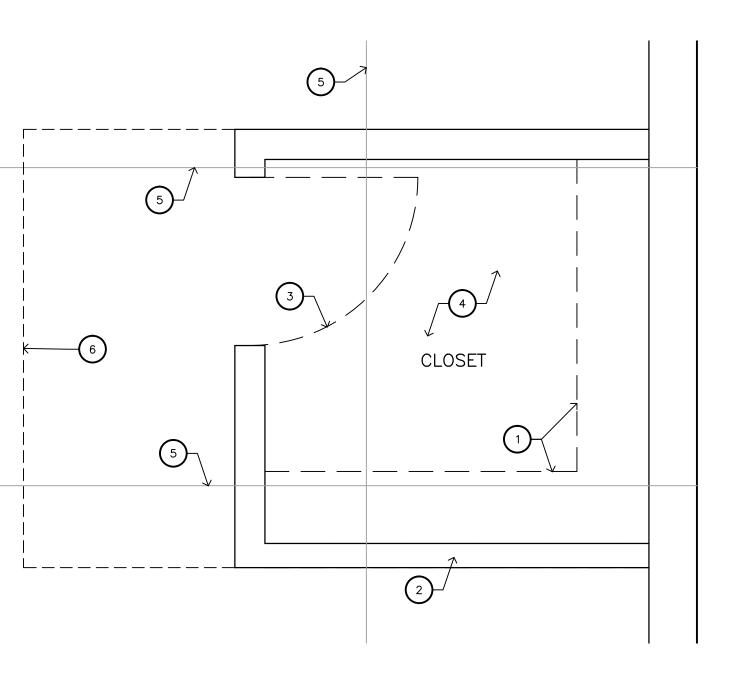
1. DIMENSIONS ARE TO FINISH WALL.

- 2. UNDER NO CIRCUMSTANCES SHALL THE POST-TENSION CABLES BE CUT.
- 3. TAPE, FLOAT & PAINT ALL WALLS TO MATCH EXISTING.

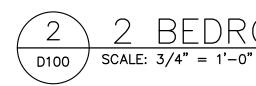
DEMO. PROTECTION NOTES:

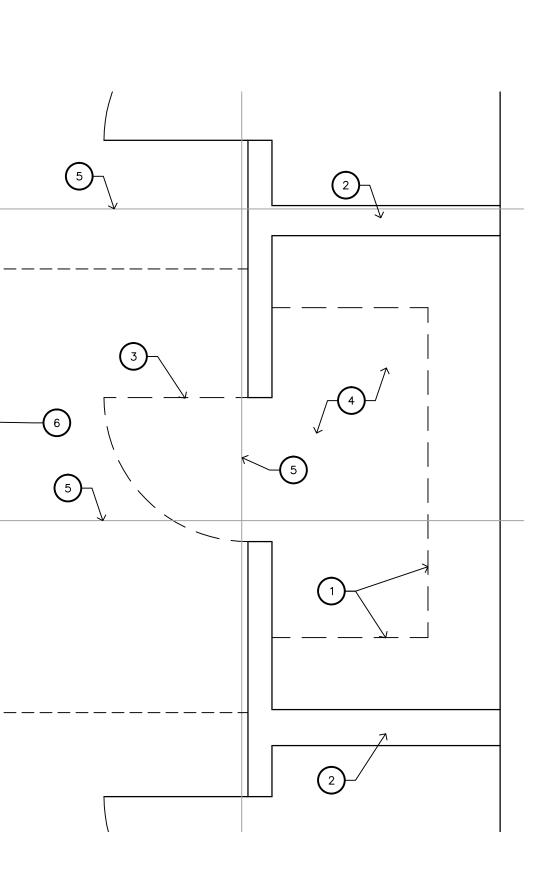
- 1. OWNER WILL COORDINATE WITH CONTRACTOR IF TENANT WILL BE OCCUPYING APARTMENT SPACE DURING CONSTRUCTION WORK.
- 2. DURING CONSTRUCTION, CONTRACTOR IS TO INSTALL TEMPORARY DUST PROTECTION, AS NECESSARY, TO PROTECT EXISTING AREAS OUTSIDE OF THE WORK AREA. COVER ANY TENANT ITEMS THAT MAY GET DUST.
- 3. PROTECT FLOORS AREAS NEEDED TO HAUL AWAY MATERIALS DURING DEMOLITION. COVER WHEEL BARREL DEBRIS DURING REMOVAL.
- VACUUM & CLEAN DURING AND AT THE END OF DAILY WORK TO MINIMIZE DUST CREATED BY CONSTRUCTION WORK.
- 5. ANY EXISTING AREAS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION WILL BE CORRECTED TO THE ORIGINAL CONDITION.





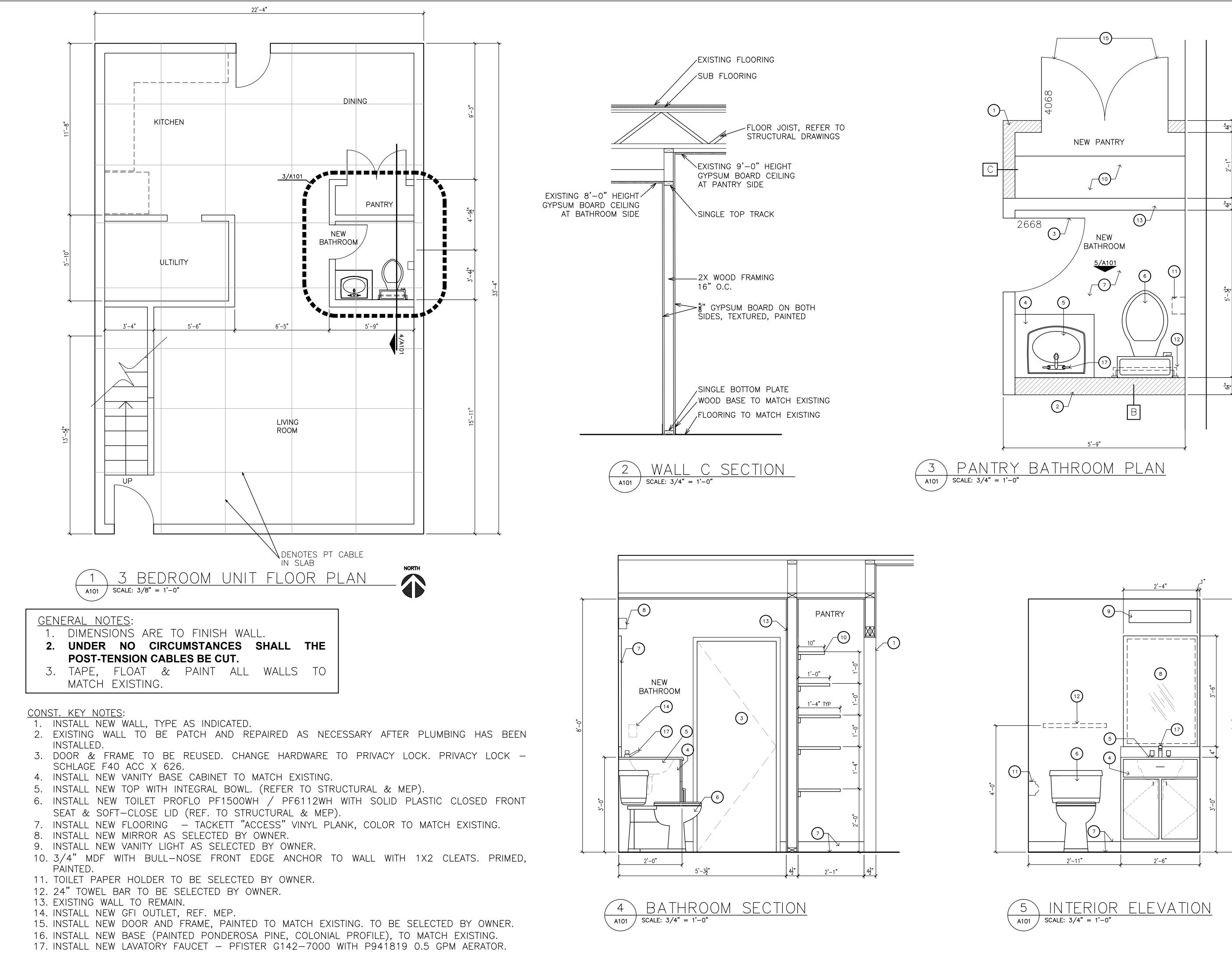
<u>3 BEDROOM UNIT CLOSET DEMO PLAN</u> scale: 3/4" = 1'-0"



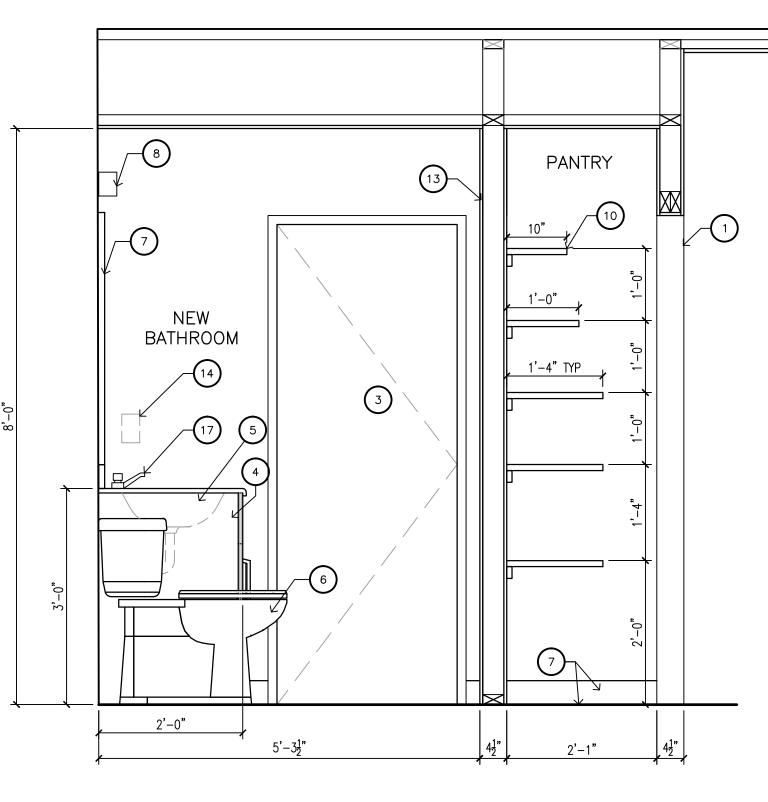


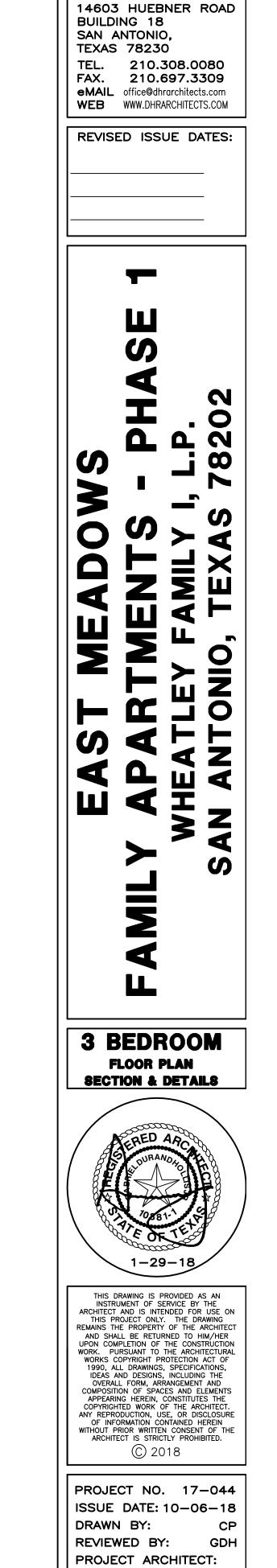


DURAND-HOLLIS RUPE ARCHITECTS, INC. 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, TEXAS 78230 TEL. 210.308.0080 FAX. 210.697.3309 eMAIL office@dhrarchitects.com WEB WWW.DHRARCHITECTS.COM **REVISED ISSUE DATES:** () \triangleleft \bigcirc \bigcirc \square \sim ∞ $\triangleleft \downarrow$ Z \triangleleft \bigcirc ____ \geq \triangleleft DEMOLITION PLANS RED AR 1-29-THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTRUCTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, IDEAS AND DESIGNS, INCLUDING THE OVERALL FORM, ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS APPEARING HEREIN, CONSTITUTES THE COPYRIGHTED WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED. C 2018 PROJECT NO. 17-044 ISSUE DATE: 10-06-18 DRAWN BY: CP REVIEWED BY: GDH PROJECT ARCHITECT: GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881 D100



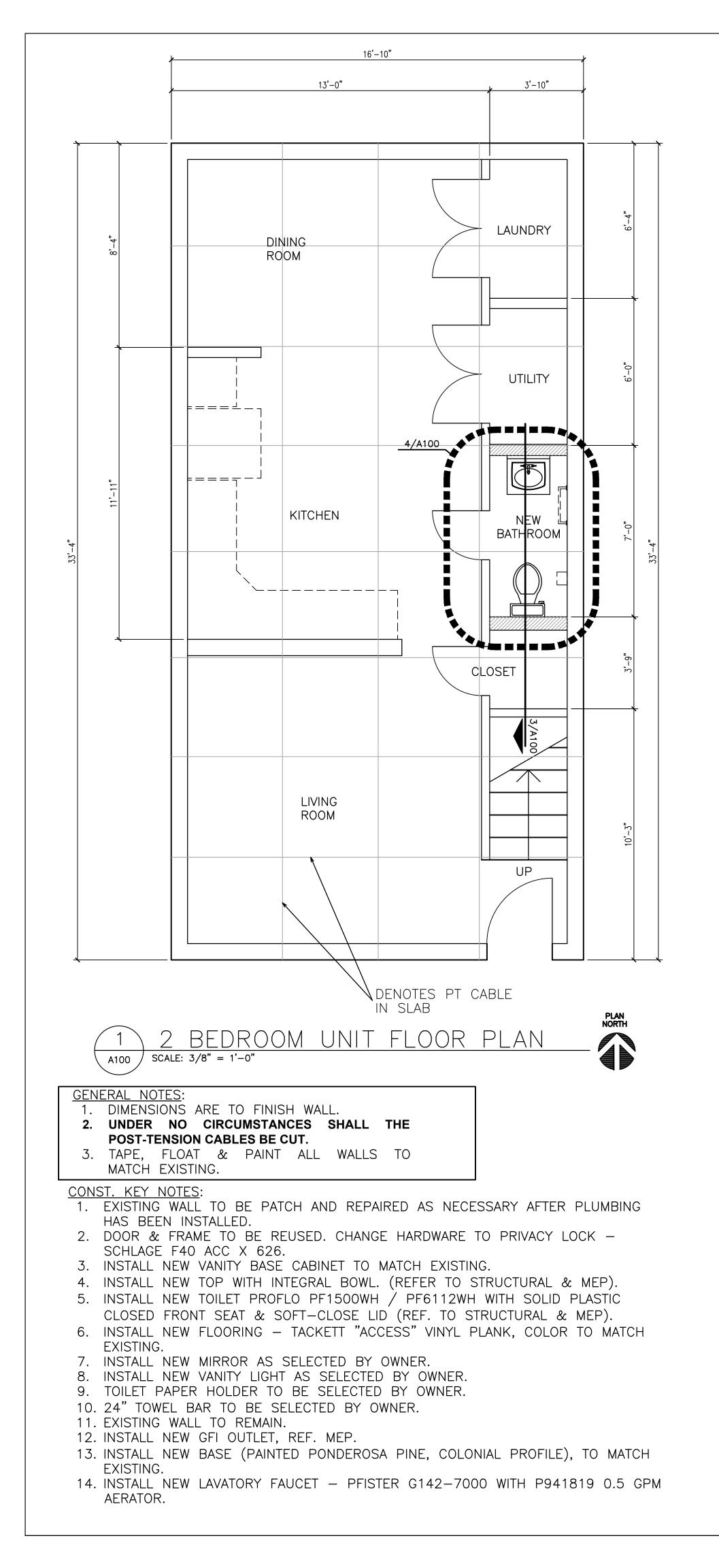




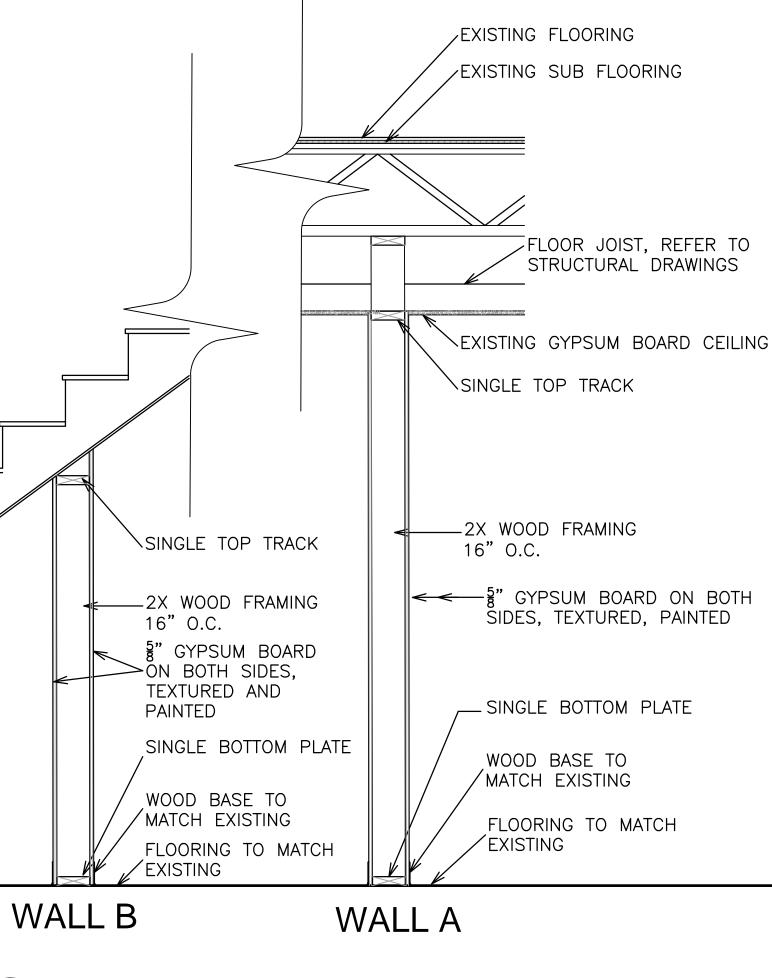


DURAND-HOLLIS RUPE ARCHITECTS, INC.

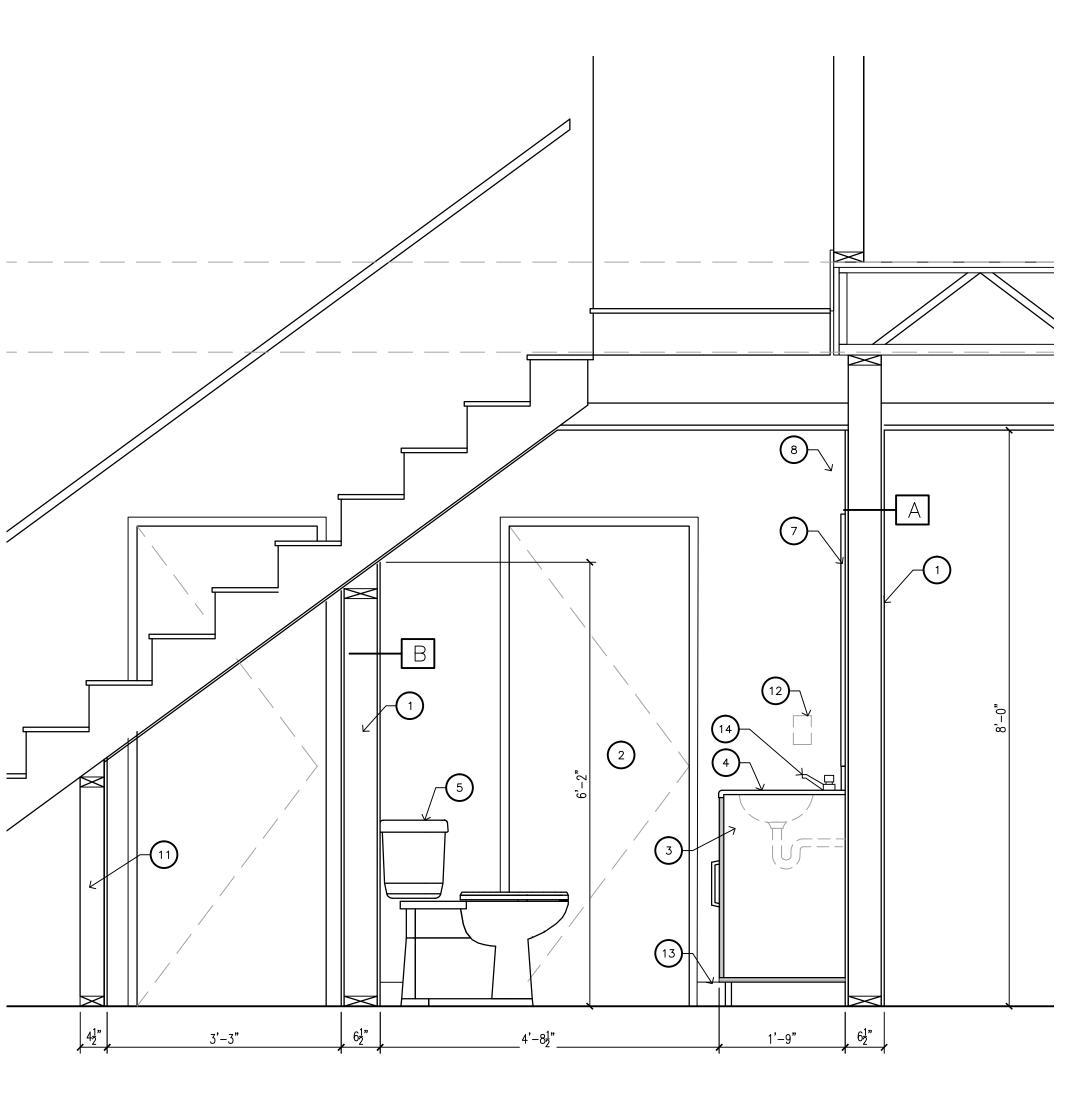
GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881 A101

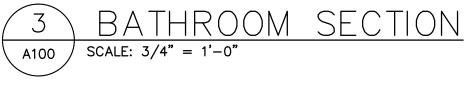


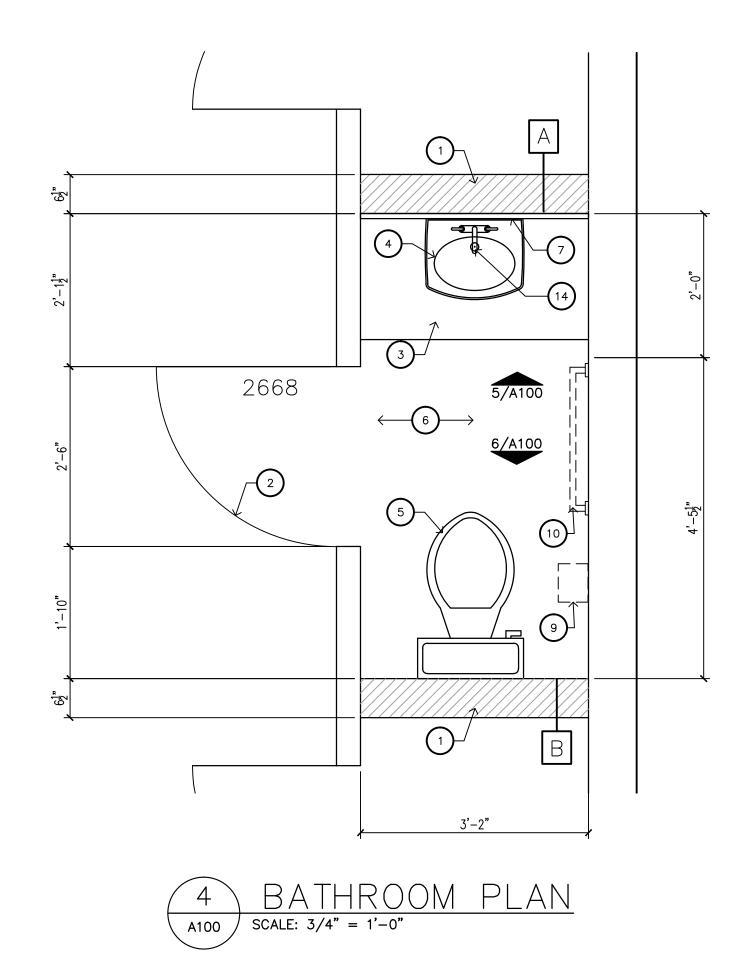
2 A100 / SCALE: 3/4'' = 1'-0''

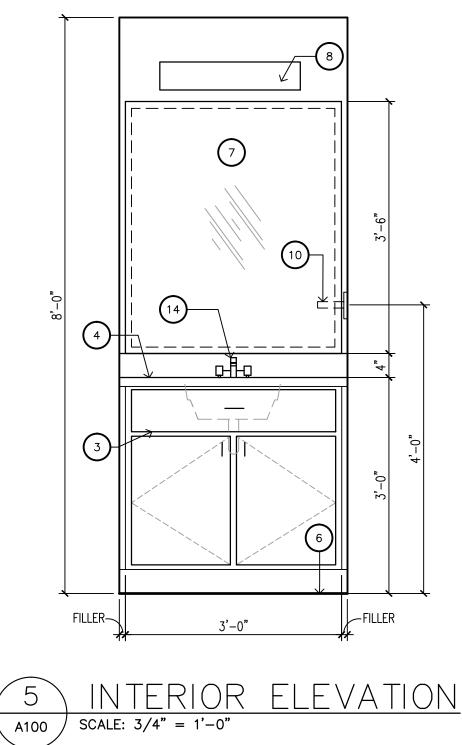


EXISTING WALL A & B SECTIONS

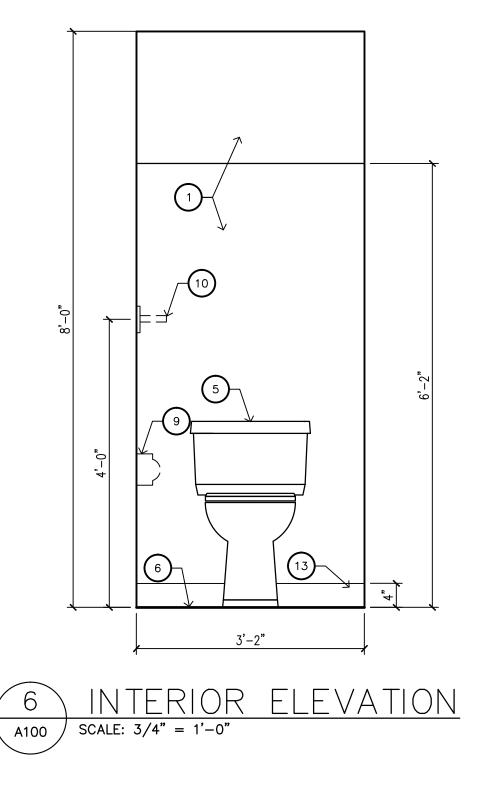








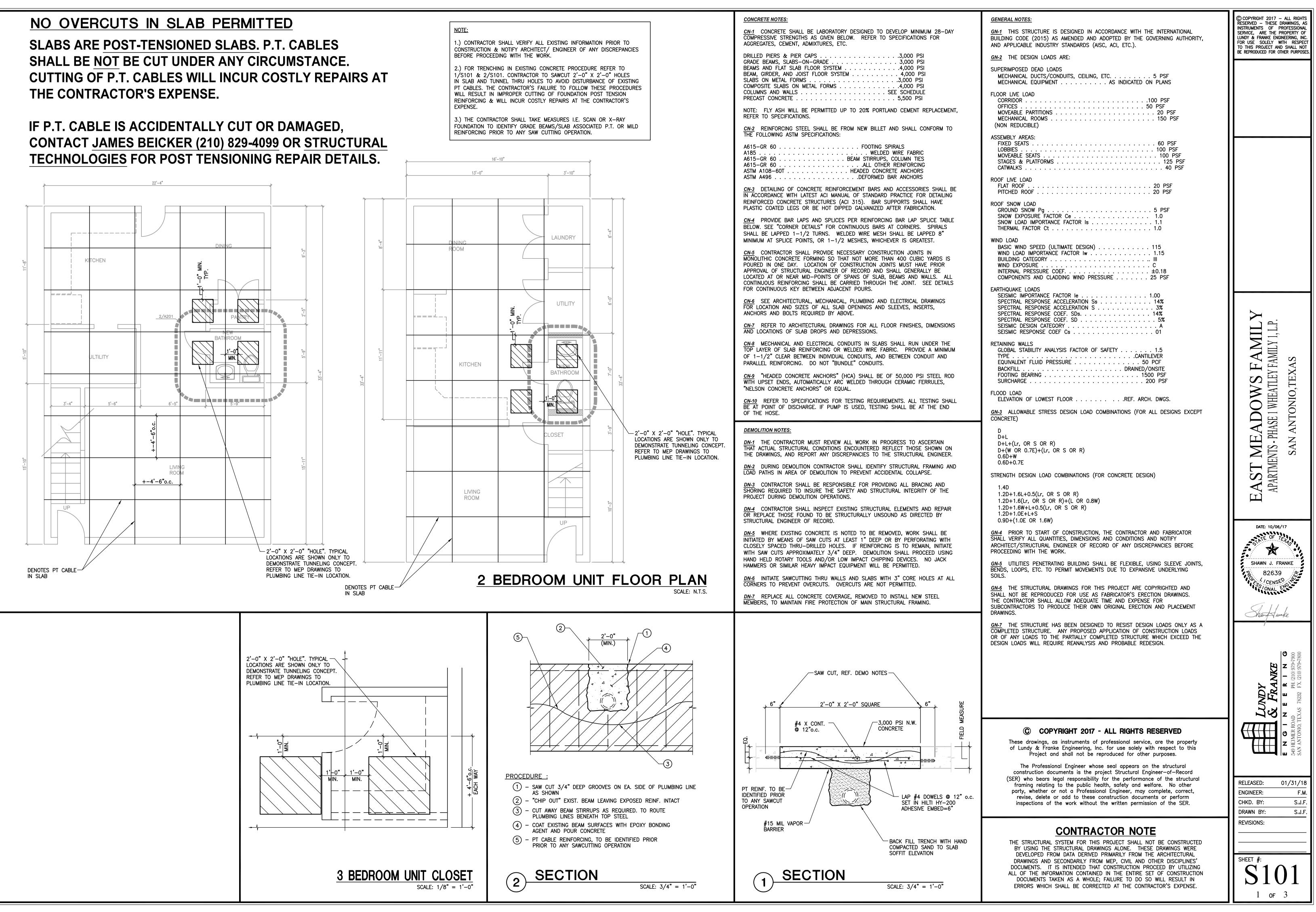












0JECT NO.: 60-0 E NO.: EMP1S101

L. REMOVAL OF SHORES	N/A	VERIFY IN-SITU CONCRETE STRENGTH PRIOR TO	ACI 318–CH. 5.11,	*QUALIFICATIONS BASED ON
AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	.,	REMOVAL.	5.13	ASTM E329
M. POST INSTALLED REINFORCING & ANCHORS (EXPANSION ANCHORS, SCREW ANCHORS ADHESIVE ANCHORS, ECT.).	N/A	THE SPECIAL INSPECTOR SHALL BE ON THE JOB SITE CONTINUOUSLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, CONRETE TYPE AND COMPRESSION STRENGTH, PRE-DRILLED HOLE DIMENSIONS, ANCHOR SPACING, EDGE DISTANCES, CONCRETE THICKNESS AND ANCHOR EMBEDMENT.	ACI 318 APPENDIX D-CH. D.9.1	*QUALIFICATIONS BASED ON ASTM E329 & ASTM C1077 OR CERTIFIED MANUFACTURI REPRESENTATIVE
4. STEEL CONSTRUCTION			IBC 1705.2	
A. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:	N/A	1. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	STRUCTURAL STEEL GENERAL NOTES	CWI/ASSOCIATE/TECHNICAL RADIATE, AWS OR CRSI
	N/A	2. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	APPLICABLE ASTM MATERIAL SPECIFICATIONS; AISC 335, SECTION A3.4; AISC LRFD, SECTION A3.3	
B. HIGH STRENGTH BOLTING:	N/A	1. BEARING-TYPE CONNECTIONS.	IBC 1704.3.3; STRUCTURAL STEEL GENERAL NOTES	CWI/ASSOCIATE/TECHNICAL RADIATE, AWS OR CRSI
	N/A	2. SLIP-CRITICAL CONNECTIONS.	AISC LRFD SECTION M2.5	
C. MATERIAL VERIFICATION OF STRUCTURAL STEEL:	N/A	1. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	IBC 1705.2; STRUCTURAL STEEL GENERAL NOTES	CWI/ASSOCIATE/TECHNICAL RADIATE, AWS OR CRSI
	N/A	2. MANUFACTURERS' CERTIFIED MILL TEST REPORTS.	ASTM A 6 OR ASTM A 568	
D. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:	N/A	1. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	STRUCTURAL STEEL GENERAL NOTES	CWI/ASSOCIATE/TECHNICAL RADIATE, AWS OR CRSI
	N/A	2. MANUFACTURERS' CERTIFIED OF COMPLIANCE REQUIRED.	AISC, ASD, SECTION A3.6; AISC LRFD, SECTION A3.5	
E. WELDING: OF STRUCTURAL STEEL:	N/A	1. COMPLETE & PARTIAL PENETRATION GROOVE WELDS.	IBC 1705.2.2.1; STRUCTURAL STEEL GENERAL NOTES	CWI AND ASNT
	N/A	2. MULTIPASS FILLET WELDS.	AWS D1.1	CWI AND ASNT OR LICENSED ENGINEER
	N/A	3. SINGLE-PASS FILLET WELDS > 5/16"		ENGINEER
	N/A	4. SINGLE-PASS FILLET WELDS \leq 5/16"		
	N/A	5. FLOOR AND DECK WELDS.	AWS D1.3	
F. WELDING OF REINFORCING STEEL:	N/A	1. VERIFICATION OF WELD ABILITY OF REINFORCING STEEL OTHER THAN A706.	IBC 1705.2.2.1.2	CWI/ASSOCIATE/TECHNICIAN TRAINED IN FIELD OF WORI AND HAS AT LEAST ONE
	N/A	2. REINFORCING STEEL-RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR REINFORCEMENT.		YEAR OF EXPERIENCE.
	N/A	3. SHEAR REINFORCEMENT.		

DEFERRED SUBMITTALS

BUILDING CONSTRUCTION	YES	NO	DESCRIPTION
STEEL	х	х	?
CONCRETE	х	х	?
WOOD	х	х	?

00 ROJECT NO.: 60-0 ILE NO.: EMP1S102

2B. PIER FOUNDATIONS				
A. THE GEOTECHNICAL ENGINEER OR A QUALIFIED E.I.T. INVOLVED IN THE ORIGINAL GEOTECHNICAL INVESTIGATION AND UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER SHALL BE PRESENT DURING THE EXCAVATION OF THE FIRST PIER SHAFT.	N/A	 VERIFY THE BEARING STRATUM IS ENCOUNTERED AT THE ANTICIPATED DEPTH. ADDRESS UNFORESEEN SUBSURFACE CONDITIONS, IF ANY. VERIFY CONFORMANCE WITH THE FOUNDATION RECOMMENDATIONS PROVIDE IN THE PROJECT "GEOTECHNICAL ENGINEERING STUDY" AND THE STRUCTURAL DRAWINGS ISSUED FOR THE PROJECT. 	IBC 1705.8 GEOTECHNICAL REPORT;	GRADUATE ENGINEER *QUALIFICATIONS BASED ON ASTM E329 & ASTM C1077
 B. ALL FOOTINGS SHALL BE OBSERVED AND MONITORED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL PROVIDE THE GEOTECHNICAL ENGINEER WITH A COMPLETE SET OF STRUCTURAL DRAWINGS THAT ARE TO REMAIN WITH THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE. 3. CONCRETE CONSTRUCTION 	N/A	1. PROVIDE RECORD OF EACH PIER INSTALLED. 2. RECORD LOAD TESTS, CUTOFF AND TIP OF EACH PIER.	IBC 1705.8 GEOTECHNICAL REPORT;	*QUALIFICATIONS BASED ON ASTM E329 & ASTM C1077
A. REINFORCING STEEL	N/A	PROVIDE PERIODIC INSPECTION OF REINFORCING SIZES, SPACING, GRADE OF REBAR; AND PLACEMENT AT THE FOLLOWING FREQUENCY: COLUMNS: 10% BEAMS: 30% JOIST: 10% OTHER MEMBERS: RANDOMLY @ 20%	IBC 1704.4 ACI 318: CH. 3.5, 7.1–7.7; CONCRETE AND REINFORCING GENERAL NOTES.	*QUALIFICATIONS BASED ON ASTM E329
B. REINFORCING STEEL WELDING	-	NO FIELD WELDING PERMITTED.	AWS D1.4 ACI 318: 3.5.2	CWI OR ASSOCIATE CWI
C. BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO & DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED.	N/A	VERIFY LOCATION, SIZE AND SPACING OF ANCHORS.	IBC 1705.3	**TECHNICIAN TRAINED IN FIELD OF WORK AND HAS AT LEAST ONE YEAR EXPERIENCE.
<i>D</i> . ANCHORS TO BE INSTALLED IN EXISTING CONCRETE	N/A	VERIFY LOCATION, SIZE AND SPACING OF ANCHORS.	IBC 1705.3	**TECHNICIAN TRAINED IN FIELD OF WORK AND HAS AT LEAST ONE YEAR EXPERIENCE.
E. VERIFY USE OF CONCRETE MIX DESIGN	N/A	EACH CONCRETE POUR.	ACI 318-CH. 4, 5.2-5.4	*QUALIFICATIONS BASED ON ASTM C1077
F. SAMPLING OF FRESH CONCRETE.	N/A	1. ALL CONCRETE TESTING IS TO BE MADE AFTER WATER, IF ANY, IS ADDED AT SITE. 2. TAKE SAMPLES & PERFORM SLUMP, AIR & COMPRESSION TESTS IN ACCORDANCE WITH ASTM C-39 ON CONCRETE PLACED EACH DAY AT THE RATE OF ONHE SET OF FOUR CYLINDERS FOR EACH 80 cu. yds. OR FRACTION THEREOF. WHEN MORE THAN 80 cu. yds. IS BEING CONTINUOUSLY PLACED, THE INTERVAL BETWEEN TEST SAMPLES SHALL BE AT LEAST 50 cu. yds. SO AS TO BE REPRESENTATIVE OF THE WHOLE DAYS POUR. SAMPLES SHALL BE TAKEN AT THE THE POINT OD DEPOSIT IN THE FIELD & ALL CYLINDERS SHALL BE ACCURATELY MARKED & REFERENCED TO SHOW DATE, TIME & EXACT LOCATION IN THE STRUCTURE FROM WHICH THEY CAME. MAKE 7-DAY TEST ON TWO CYLINDERS & 28-DAY TEST ON TWO CYLINDERS. REPORST OF TESTS SHALL BE PROMPTLY SENT AS FOLLOWS: TWO TO THE PDPIRC (ARCHITECT), ONE TO THE ENGINEER AND ONE TO THE CONTRACTOR.	ACI 318-CH. 5.6, 5.8	*QUALIFICATIONS BASED ON ASTM C1077
G. PLACEMENT OF CONCRETE & SHOTCRETE.	N/A		ACI 318-CH. 5.9, 5.10	*QUALIFICATIONS BASED ON ASTM C1077
H. MAINTENANCE OF SPECIFIED CURING TEMPERATURE & TECHNIQUES.	N/A	EACH CONCRETE POUR	ACI 318-CH. 5.11, 5.13	*QUALIFICATIONS BASED ON ASTM C1077
<i>I</i> . PRE-STRESSED CONCRETE	N/A	1. APPLICATION OF PRESTRESSING FORCE. 2. GROUTING OF BOUNDED PRESTRESSING TENDONS IN SEISMIC-FORCE RESISTING SYSTEMS.		*QUALIFICATIONS BASED ON ASTM C1077
J. ERECTION OF PRECAST CONCRETE MEMBERS.	N/A			TECHNICIAN TRAINED IN FIELD OF WORK AND HAS AT LEAST ONE YEAR OF EXPERIENCE.
<i>K</i> . POST-TENSIONED CONCRETE:	N/A	1. VERIFY IN-SITU CONCRETE STRENGTH PRIOR TO STRESSING OF TENDONS.		*QUALIFICATIONS BASED ON ASTM E329
	N/A	2. THE POST-TENSIONING ENGINEER, OR A MEMBER OF HIS STAFF, SHALL INSPECT THE TENDON PLACEMENT AND CHAIRING TO INSURE COMPLIANCE WITH THE INTENT OF THE DESIGN.		
	N/A	3. CONTINUOUS INSPECTION IS REQUIRED DURING ALL STRESSING ACTIVITIES.		
	N/A	4. RECORDS OF ALL JACKING FORCES AND ELINGATIONS SHALL BE MADE IN ACCORDANCE WITH THE PTI FIELD MANUAL AND RECORDS SHALL BE PROMPTLY SUBMITTED TO THE ARCHITECT AND ENGINEER.		

<u>NOTES:</u>

THESE INSPECTIONS DO NOT RELIEVE ENGINEER FROM STRUCTURAL OBSERVATIONS AS MAY REQUIRED BY IBC 2015, SECTION 1709, AND/OR CONTRACTUAL REQUIREMENTS OF ARCHITECT/CLIENT, (I.E. C141).

2 DEFINITIONS/TERM: PERIODIC VS. CONTINUOUS INSPECTIONS - REF. IBC SECTION 1702

- ADSC THE INTERNATIONAL ASSOCIATION OF FOUNDATION DRILLING
- ASNT AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING ASTM - AMERICAN SOCIETY FOR TESTING MATERIALS
- AWS AMERICAN WELDING SOCIETY CWI - CERTIFIED WELDING INSPECTOR
- CRSI CONCRETE REINFORCING STEEL INSTITUTE
- PCI PRECAST/PRESTRESSED CONCRETE INSTITUTE PTI - POST-TENSIONING INSTITUTE
- N/A NOT APPLICABLE

*TESTING AND INSPECTION DIRECTED BY ASTM E329 GUIDELINES.

Pursuant to IBC Chapter 17 (1704.2.1) provide the following Special Inspector Qualifications to the RDPiRC prior to start of inspections;

- a. ASTM C1077 for concrete, b.
- ASTM C1093 for masonry. С.
- d.

IBC 1704.2.1 "written documentation demonstrating the competence and relevant experience or training of special inspectors who will perform special inspections and tests during construction. Experience or training shall be considered relevant where the documented experience or training is related in complexity to the same type of special inspection or testing activities for projects of similar complexity and material qualities." These qualifications are in addition to qualifications specified in other sections of the IBC.

REQUIRED INSPECTION VERIFICATION, OR TEST	VERIFICATION MONITORING	TYPE AND/OR FREQUENCY OF TESTING	IBC SECTION & REFERENCE	INSPECTOR QUALIFICATIONS
VERIFICATION, OK TEST	FREQUENCY		<u>CRITERIA</u>	
1. SOILS (SLAB ON GRADE)		SITE PREPARATION	IBC 1705.6	
A. SUB-GRADE 1. VISUAL OBSERVATION	N/A	AT THE CONTRACTORS EXPENSE, INSTRUMENT READINGS SHALL BE TAKEN BY A LICENSED SURVEYOR TO VERIFY FINAL SUBGRADE ELEVATIONS AND SLOPES.	GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES	*QUALIFICATIONS BASED ON ASTM D3740 LICENSED SURVEYOR
2. PROOFROLLING OBSERVATIONS	N/A	PROOFROLLING SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL BE APPROVE THE TYPE OF PROOFROLLING EQUIPMENT AND PROCEDURES.	GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES	*QUALIFICATIONS BASED ON ASTM D3740
3. MOISTURE CONDITIONING & RECOMPACTION	N/A	PROVIDE (1) ON DENSITY TEST FOR EACH 3000 SQ. FT. REFER TO UNDERFLOOR FILL NOTES FOR TESTING SPECIFICATIONS.	GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES	*QUALIFICATIONS BASED ON ASTM D3740
B. CHEMICAL INJECTION	N/A	QUALITY CONTROLLED TESTING AND EVALUATION PRIOR AND SUBSEQUENT TO INJECTION SHALL BE PERFORMED BY THE GEOTECHNICAL ENGINEER TO DETERMINE THE EFFECTIVENESS OF THE CHEMICAL INJECTION PROCESS. THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE SHALL MONITOR THE INJECTION PROCESS TO VERIFY AREA COVERAGE, INJECTION DEPTH AND TO REVIEW AND MONITOR THE SWELL TEST RESULTS.	GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES	*QUALIFICATIONS BASED ON ASTM D3740
C. DURING FILL PLACEMENT	N/A	VISUAL OBSERVATIONS: DURING PLACEMENT AND COMPACTION OF FILL, SPECIAL INSPECTOR SHALL DETERMINE THE MATERIAL BEING USED AND THE MAXIMUM LIFT THICKNESS COMPLY WITH ADDITIONAL SAMPLES TESTED EACH DAY, OR MORE OFTEN IF MATERIAL APPEARS TO VARY.	IBC 1705.6 GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES	*QUALIFICATIONS BASED ON ASTM D3740
D. EVALUATION OF IN- PLACE DENSITY OF FILL	N/A	PROVIDE (1) ON DENSITY TEST FOR EACH 3000 SQ. FT. REFER TO UNDERFLOOR FILL NOTES FOR TESTING SPECIFICATIONS.	IBC 1705.6 GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES	*QUALIFICATIONS BASED ON ASTM D3740
E. TRENCH BACKFILLING:	N/A	TRENCH BACKFILLING: TRENCH BACKFILLING WITH CLAY CAP AND PLACING OF CLAY PLUG SHALL BE MONITORED BY GEOTECHNICAL ENGINEER.		
2A. PILE FOUNDATIONS				
A. THE GEOTECHNICAL ENGINEER OR A QUALIFIED E.I.T. INVOLVED IN THE ORIGINAL GEOTECHNICAL INVESTIGATION AND UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER SHALL BE PRESENT DURING THE EXCAVATION OF THE FIRST PILE.	N/A	 VERIFY THE BEARING STRATUM IS ENCOUNTERED AT THE ANTICIPATED DEPTH. ADDRESS UNFORESEEN SUBSURFACE CONDITIONS, IF ANY. VERIFY CONFORMANCE WITH THE FOUNDATION RECOMMENDATIONS PROVIDE IN THE PROJECT "GEOTECHNICAL ENGINEERING STUDY" AND THE STRUCTURAL DRAWINGS ISSUED FOR THE PROJECT. 	IBC 1705.7 GEOTECHNICAL REPORT;	GRADUATE ENGINEER *QUALIFICATIONS BASED ON ASTM E329 & ASTM C1077
B. ALL FOOTINGS SHALL BE OBSERVED AND MONITORED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL PROVIDE THE GEOTECHNICAL ENGINEER WITH A COMPLETE SET OF STRUCTURAL DRAWINGS THAT ARE TO REMAIN WITH THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE.	N/A	1. PROVIDE RECORD OF EACH PILE INSTALLED. 2. RECORD LOAD TESTS, CUTOFF AND TIP OF EACH PILE.	IBC 1705.7 GEOTECHNICAL REPORT;	*QUALIFICATIONS BASED ON ASTM E329 & ASTM C1077

1. Testing Laboratory Qualifications meeting ASTM0329 and accreditation by AASHTO and/or A2LA, and CCRL of the National Bureau of Standards.

2. Special Inspector's name and proof of meeting the qualification requirements set forth in

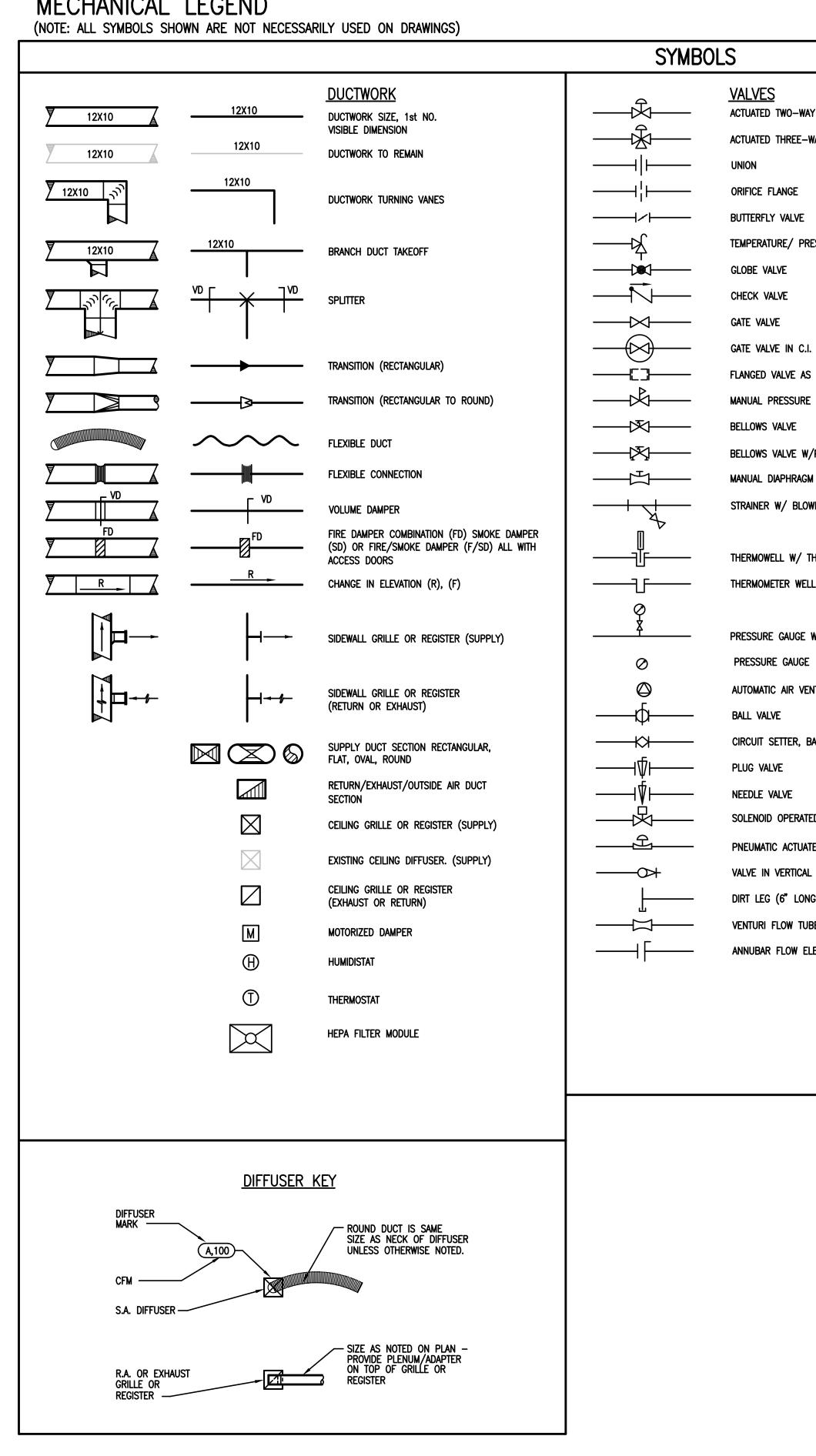
ASTM D3740 for soils,

ASTM D-2922 and D-3017 for Density control of compaction

TESTING & INSPECTION REQUIREMENTS (INCLUDING SPECIAL INSPECTIONS)

	© COPYRIGHT 2017 - ALL RIGHTS RESERVED - THESE DRAWINGS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE THE PROPERITY OF LUNDY & FRANKE ENGINEERING, INC. FOR USE SOLELY WITH RESPECT TO THIS PROJECT AND SHALL NOT BE REPRODUCED FOR OTHER PURPOSES.	
<u>IS</u> NON	FAMILY Y FAMILY 1, L.P. XAS	
	AST MEADOWS FAMILY APARTMENTS - PHASE 1 WHEATLEY FAMILY 1, L.P. SAN ANTONIO, TEXAS	
)N	DATE: 10/06/17	
 ЭN	SHAWN J. FRANKE B. 82639 SS/ONAL ENG SS/ONAL ENG SS/ONAL ENG	
N	E N G I N E R I N G 549 HEIMER ROAD 240 ANTONIO, TEXAS 78232 F.X. (210) 979-7800	
	RELEASED:01/31/18ENGINEER:F.M.CHKD. BY:S.J.F.DRAWN BY:S.J.F.REVISIONS:	
	SHEET #: SHEET #: 2 OF 3	

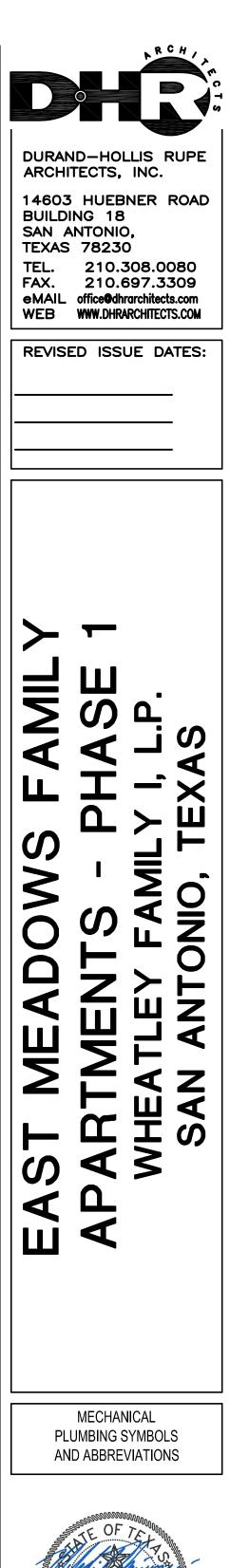
		© COPYRIGHT 2017 – ALL RIG RESERVED – THESE DRAWINGS, INSTRUMENTS OF PROFESSIO SERVICE, ARE THE PROPERTY LUNDY & FRANKE ENGINEERING, FOR USE SOLELY WITH RES TO THIS PROJECT AND SHALL
	I	LUNDY & FRANKE ENGINEERING, FOR USE SOLELY WITH RES TO THIS PROJECT AND SHALL
IBC 1705.2.1; STRUCTURAL DRAWINGS	705.2.1; PROJECT OF CO TURAL DETAILS: NGS – ASSOCIATE CV	BE REPRODUCED FOR OTHER PURE
	PROJECTS OF R SIMPLE DETAILS:	ELATIVELY
	– TECHNICIAN T FIELD OF WORK AT LEAST ONE	AND HAS
TE ACI 318 APPEND	EXPERIENCE.	
D-CH. D.9.1	D.9.1 ASTM E329 & A OR CERTIFIED M	STM C1077
2	REPRESENTATIVE	
IBC 1705.2.1	705.2.1 CWI, ASNT,	
	LICENSED ENGIN	EER
W ACY		
A		
5		
IBC 1705.4	705.4	
		AS AS
	705.4 QUALIFICATIONS	
5 IBC 1705.4	ASTM C1093	O,T O,T
		EF III
		NTS SA
1D		AS AS
ING		
		DATE: 10/06/17
		STATE OF TETTS
R		SHAWN J. FRANKE
		73 82639 5
١G		20 CENSED SS/ONAL ENG
		Show Hunke
		- A wante
		NKE I N (210) 979-7
		RELEASED: 01/31/
		ENGINEER:
		CHKD. BY: S DRAWN BY: S
		REVISIONS:
		$\int \mathbf{D} \mathbf{I} \mathbf{U} \mathbf{J}$



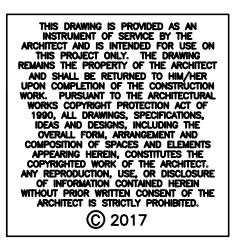
MECHANICAL LEGEND

ABBREVIATIONS

AFF ABOVE TRUSHED FLOOR NC NORMALLY CLOSED ARCH ARCHARCET NO NORMALLY CLOSED BELOW FLOOR OK OK OK BELOW FLOOR OK OK OK BELOW FLOOR OK OK OK CPH CAPLOTY PESSIBLE DROP PH CPH CAPLOTY PH PESSIBLE DROP CPH CAPLOTY RA RETURN AR CHR CHILD WATER RETURN RA RETURN AR CHR CHR CHR RETURN AR CHR CHR RETURN AR REDURER CHR CHR CHR RETURN AR CHR CHR RETURN AR REDURER	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
ACCH ARCHITCT GA OUTSDE AR ACC AROVE CELLING GA OUTSDE STEL A YOKE BFF BELOW PRISHED FLOOR CC OW CARDES BLO BUILT PRISH OW CARDES OW CARDES BYF BRITSH PREVAL LINTS PER HOUR OHP OUTSDE AR BYA BALL VALVE PH PH BYA BALL VALVE PH PH CAP CAPACITY PHS CH CUBIC FEET PER HOUR PSG CH COST RON PA CH CUBIC FEET PER HOUR PREVEXTRE REDUCAR CH CONNECTION SA SUPERVISION SERVISION SA CH CONNECTION	AFF	ABOVE FINISHED FLOOR		
AC ABOM CELLING OA OUTDBE AR BFF BELOW FLOOR OC OUTDBE STEL & YOKE BF BELOW FLOOR OH OUTDBE STEL & YOKE BT BALL VALVE PL PL BT CAP CAPACITY PLIS CH CUBE CFET FER HOUR PSIG PULUBING CH CUBE CFET FER HOUR PRIS PRESURE DROP CH CUBE CFET FER HOUR PRIS PRESURE DROP CH CUBE CFET FER HOUR PRI PRESURE DROP CH CUBE CFET FER HOUR PRI PRESURE DROP CH CUBE CFET FER HOUR PRI PRESURE DROP CH CHLED WATER RETURN RE RETURN AR CH CHLED WATER RETURN RE RETURN AR CH CHLED WATER RETURN RE RETURN AR CH CHLED WATER SUPPLY RA RETURN AR CH CONTINUATION SM SULTIONS RESIDE AND	ARCH	ARCHITECT	NU	NORMALLT OPEN
BFF BELOW FLOOR OC ON CONTENS BF BELOW FLOOR OH OVERHEAD OVERHEAD BVA BALL MULE PD PHESSLEE DROP CAP CAPACITY PHESSLEE REDUCES THE NOUR PHESSLEE REDUCES THE NOUR CAP CUBIC FEET FER HOUR PSIG PONDS PER SOLARE INCH CAUGE CH CUBIC FEET FER HOUR PRIV PHESSLEE REDUCING VALVE CH CUBIC FEET FER HOUR PRIV PHESSLEE REDUCING VALVE CH CUBIC FEET FEER HOUR PRIV PHESSLEE REDUCING VALVE CH CUBIC FEET FEER HOUR PRIV PHESSLEE REDUCING VALVE CH CHILED WATER RETURN RA RETURN AIR CH CHILED WATER RETURN RA RETURN AIR CO CAST ROW RE REPERPACE REVERVAL CO CAST ROW RA RETURN AIR REVERVAL CO CONTINUATION SA SUPPT AIR REVERVAL CONTINUATION SA SUPT ST SINGLE PER INJUTE SUP ST SINGLE PEM	AC	ABOVE CEILING		
BF BLUDNG OH OVERPEAD BUDNG OH OVERPEAD OUTDOOR HEAT PUWP BVA BALL VALVE PD PRESSURE DROP BVA BALL VALVE PD PRESSURE DROP CH OWERT PERS PLABE CH OWERT PERSURE DROP PHAS CH OWERT PERTURN PRESSURE REDUCING VALVE CH OWERT PERTURN PRESSURE REDUCING VALVE CH OHLED WITER SUPPLY PA RELIGHT. HUNDITY CH CA OHLED WITER SUPPLY PA RELIGHT. HUNDITY CO CLEANOUT RH RELIGHT. HUNDITY RC CONC CONCRETE RPM RELIGHT. HUNDITY RC CONN CONNECTION SA SUPPLY AR SOL & WISTE (POVE GRADE) CONN CONNECTION SA SUPPLY AR SOL & WISTE (POVE GRADE) CONN CONNECTION SA SUPPLY AR SOL & WISTE (POVE GRADE) CONN CONNECTION	RFF	BELOW FINISHED FLOOR		
BTUH BRUH WARE PD PRESSURE DROP B'W BALL WARE PD PRESSURE DROP CPH CURRC FEET PER MINUTE PR PSG POUNDS PER SQUARE INCH GAUGE CH CURRC FEET PER MINUTE PR PR PRESSURE DROP CH CURRC FEET PER MINUTE PR PR PRESSURE ERDORN VALVE CH CURRC FEET PER MINUTE PR PR PRESSURE ERDORN VALVE CH CURRC FEET PER MINUTE PR PR PRESSURE ERDORN VALVE CH CHLEDD WATER RELIDIN PR PRESSURE ERDORN VALVE CH CHLEDD WATER NUMPE PR PR PRESSURE ERDORN VALVE CONC CONDENSITE OWN PR PR PRESSURE ERDORN VALVE CONN CONTRONG SA SUPLY AR SOLE AWASET (ADOVE GRADE) CONN CONTRONG SA SUPLY AR SOLE AWASET (ADOVE GRADE) D CONDENSITE COLD WATER (POTABLE) SM SOLE AWASET (ADOVE GRADE) SM D CONDENSITE COLD WATER (POTABLE) SM SMLE POLE SINGLE THROW DM DOWSON SS STANLESS STEEL STANLESS STEEL DM DOWSON SS STANLESS STEEL STANLESS STEEL DM	BF	BELOW FLOOR	ОН	OVERHEAD
B VA BALL VALVE PD PRESSURE DROP CAP CAPACITY PLBG PLUMBING CAP CUBRC FEET PER HOUR PSIG PLUMBING CAR CUBRC FEET PER MUNTE PR VA PRESSURE REDURN VALVE CAR CUBRC FEET PER MUNTE PR VA PRESSURE REDURN VALVE CAR CUBRC FEET PER MUNTE PR VA PRESSURE REDURN VALVE CAR COMPACTER PR PR PRESSURE REDURN VALVE CAN COMPACTER PR PR PRESSURE REDURN VALVE COND CALVANTE PA PRESSURE PROP COND CALVANTE PR PR COND CONDENSING SA SUPPLY AR CONT CONT CONTINUATION SA SULL #WASTE (AROVE GRADE) CUU CONESTIC COLD WATER (POTABLE) SD STAIL #SOE D CONDENSITE COLD WATER (POTABLE) SD STAIL #SOE D CONDENSITE COLD WATER (POTABLE) SD STAIL #SOE D CONDENSITE COLD WATER (POTABLE) </th <th></th> <th></th> <th>OHP</th> <th>OUTDOOR HEAT PUMP</th>			OHP	OUTDOOR HEAT PUMP
CHS CHEUX CHEUX PA RETURN AR CH CHEUX RED REDUCER CI CAST RON RE REFRENCE CI CAST RON RE REFRENCE CO CLEANOUT RH RELATIVE HUNDOTY CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONC CONTROL SA SUPLY AR CONC CONTROL SA SUPLY AR CONT CONTROL SA SUPLY AR CONT CONTROL SA SUPLY AR D CONDENSATE DRAIN LINE SPRK SPRINKLER DB DAMETER SO FT SQUARE FEET DN DOMISION SS STANLESS STELL DN DOMIN SS SUPPRYSORY SWICH DW DISION SS SUPLY AR DW DOMIN SS SUPLY AR DR DAMETER SUPLY AR <th></th> <th></th> <th>PD</th> <th>PRESSURE DROP</th>			PD	PRESSURE DROP
CHS CHEUX CHEUX RA RETURN AR CH VA CHEOK VANCH RE REFERENCE CO CLEANOUT RH REALTICE HUNDOTY CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONT CONTECTION SA SUPPLY AIR CONT CONTEXTOR SA SUPPLY AIR CONT CONTEXTOR SCH SCHEDULE CONT CONTEXTOR SCH SCHEDULE CONTEXTOR SCHE SCHEDULE SCH D CONDENSATE DRAIN LINE SPRK SPRINKLER DB DATE DATE SUPPLY AIR DM DMARTER SUPPLY AIR SUPPLY AIR DM DMARTER SUPPLY AIR SUPPLY AIR DM DAMAETER SUPPLY AIR SUPPLY AIR DM DMARTER SUPPLY AIR SUPLY AIR DM DMARTER<	CAD	CADACITY	PH	PHASE
CHS CHEUX CHEUX RA RETURN AR CH VA CHEOK VANCH RE REFERENCE CO CLEANOUT RH REALTICE HUNDOTY CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONT CONTECTION SA SUPPLY AIR CONT CONTEXTOR SA SUPPLY AIR CONT CONTEXTOR SCH SCHEDULE CONT CONTEXTOR SCH SCHEDULE CONTEXTOR SCHE SCHEDULE SCH D CONDENSATE DRAIN LINE SPRK SPRINKLER DB DATE DATE SUPPLY AIR DM DMARTER SUPPLY AIR SUPPLY AIR DM DMARTER SUPPLY AIR SUPPLY AIR DM DAMAETER SUPPLY AIR SUPPLY AIR DM DMARTER SUPPLY AIR SUPLY AIR DM DMARTER<	CFH	CUBIC FEET PER HOUR	PSIG	POUNDS PER SQUARE INCH GAUGE
CHS CHEUX CHEUX RA RETURN AR CH VA CHEOK VANCH RE REFERENCE CO CLEANOUT RH REALTICE HUNDOTY CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONC CONCRETE RPM REVOLUTIONS PER MINUTE CONT CONTECTION SA SUPPLY AIR CONT CONTEXTOR SA SUPPLY AIR CONT CONTEXTOR SCH SCHEDULE CONT CONTEXTOR SCH SCHEDULE CONTEXTOR SCHE SCHEDULE SCH D CONDENSATE DRAIN LINE SPRK SPRINKLER DB DATE DATE SUPPLY AIR DM DMARTER SUPPLY AIR SUPPLY AIR DM DMARTER SUPPLY AIR SUPPLY AIR DM DAMAETER SUPPLY AIR SUPPLY AIR DM DMARTER SUPPLY AIR SUPLY AIR DM DMARTER<	CFM	CUBIC FEET PER MINUTE	PR VA	PRESSURE REDUCING VALVE
CI CAST RON RE: REFERENCE CONC CLEANOUT RH REALTING HUMDITY COND CONDENSING CONT CONTENTION SA SUPPLY AR REVOLUTIONS PER MINUTE CONT CONTENTION SA SUPPLY AR CONT CONTENTION SAN SOL & WASTE (AGOVE GRADE) CU COPPER SCHEDUES SCH CW DOMESTIC COLD WATER (POTABLE) SD STORM PRAN DOMESTIC COLD WATER (POTABLE) SD STORM PRAN DB DY BULB SPET SINGLE POLE SINCLE THROW DB DW BULB SPET SINGLE POLE SINCLE THROW DB DW DWISION SS SUPPLY AR DW DWSION SS STANLESS STELL DN DOWN SS SUPPLY SINGLE POLE SINCLE THROW DW DWSION SS SUPPLY SINGLE POLE SINCLE THROW DW DWSION SS STANLESS STELL DN DOWN SS SUPPLYSION SWITCH DW DWSION SS SUPPLYSION SWITCH DW DWS DRAWINGS STLL STRUCTURAL EXT ENTERING AIR TEMPERATURE SUCT SUCTOR EFFICIENCY S P STAILC PRESSURE ELEC ELECTRICAL EXT ENTERING WATER TEMPERATURE SUCT SUCTOR EFFICIENCY S P STAILC PRESSURE EFFICIENCY S P STAILC PRESSURE RELIEF VALVE F D EGREES FAHRENHET UN INLESS OTHERWISE NOTED FO THOOR DAANN VTR VENT TOTAL & PRESSURE RELIEF VALVE F D EGREES FAHRENHET UN INLESS OTHERWISE NOTED FO THEOR DAANN VTR VENT THROUGH ROOF FIN RINSHED FLOR REANUE FU RECORD WY VO WOULNE DAANER WENT FO RECOMMERATION FIRE/SMOKE DAMPER GALV GALVANIZED GA GAUGE G'HM GALLONS PER MUNUTE G'TVA GALVANIZED GA GAUGE G'HM GALVANIZED GA GAUGE G'HM GALLONS PER MUNUTE H'FT RECET W'FY WITH H'FY H'Z HERTZ N INCHES IE INVERT ELEVATION HWP HATING WATER TEMPERATURE WY WITH H'FY H'W KILDWATTS LB POUNDS L'WM KILDWATTS L'B POUNDS L'WM KILDWATTS L'B POUNDS L'WM KILDWATTS L'B POUNDS L'WM KILDWATTS L'MM KILDWATTS L'MM K				
CONC CONCRETE RPM REATIVE HUMDITY CONC CONCRETENT RPM REVOLUTIONS PER MINUTE CONT CONTINUATION SA SUPLY AIR CONT CONTINUATION SA SUPLY AIR D CONDENSATE DRAIN LINE SPRT SINGLE PALE SINGLE THROW D D CONDENSATE DRAIN LINE SPRT SINGLE PALE SINGLE THROW D D CONDENSATE DRAIN LINE SPRT SINGLE PALE SINGLE THROW D D CONDENSATE DRAIN LINE SPRT SINGLE PALE SINGLE THROW D D CONDENSATE DRAIN LINE SPRT SINGLE PALE SINGLE THROW D D CONDENSATE DRAINING SS STATIALESS STELL D N DOWN SS SUPERVISORY SWITCH EXT ENTERING AIR TEMPERATURE SUCT SUCTON EFFIC EFFICIENCY ELECC EFFICIENCY ELECT ENTERING WATER TEMPERATURE TI TEMPERATURE INDICATOR (THERMOMETER) DT TOTAL EXT ENTERING WATER TEMPERATURE TI TEMPERATURE INDICATOR (THERMOMETER) EXT EXTERNAL TAP TEMPERATURE APRESSURE RELIEF VALVE F D EGGREES FAHRENHEIT UON UNLESS OTHERWISE NOTED EXT EXTERNAL TAP TEMPERATURE V SANTRAY VENT FD FIED DAMPER VD VICH WENT THROUGH ROOF FIE DAMPER VD VICH WENT THROUGH ROOF FIE DAMPER VD VICH WENT THROUGH ROOF FIE REDATED FO FLOOR DRAIN VICH VENT THROUGH ROOF FIE REDATED FO FLOOR DRAIN VICH VENT THROUGH ROOF FIE REDATED FO FLOOR DRAIN VICH WENT THROUGH ROOF FIE REDATED FO FLOOR DRAIN VICH VENT THROUGH ROOF FIE REDATED FO FLOOR DRAIN VICH VENT THROUGH ROOF FIE REDATED FOR GALLONS PER MINUTE GOAL GALVANEE RECIEVEN HP HOUR CHAINER SUPPLY HZ HERTZ IN INCRESS LB POUNDS LATT LEAVING WATER TEMPERATURE LB INVERT ELEVATION HWW HATTER SUPPLY HZ HERTZ IN NORHERS LB POUNDS LATT LEAVING WATER TEMPERATURE MAX MAXIMUM MID MUNITED MICH MATER MATER SUPPLY HZ HERTZ IN MININUM MININUM MID MOUNTED MICH MATER MADEN FIRES SUPPLY HZ HERTZ IN MININUM MININUM MINING MIDENTED MICH MADENTED CONT MATER TEMPERATURE LB POUNDS SUPPLY HZ HERTZ IN MININUM MININUM MINING MIDENTED MICH MADENTED SUPPLY HZ HERTZ SUPPLY HZ HERTZ SUPPLY HZ HERTZ SUPPLY HZ HERTZ SUPPLY HZ HERTZ SUPPL	CH VA	CHECK VALVE	RED	
CONC CONCRETE REPAIRS RPM REVOLUTIONS PER MINUTE CONN CONNECTION SA SUPPLY AR CONT CONTINUATION SAN Solut & WASTE (ABOVE GRADE) CU COPPER SCHEDUE CW DOMESTIC COLD WATER (POTABLE) SD STORM DRAM D CONDENSATE DRAN LINE SPRT SINGLE POLE SINGLE THROW DB DRY BULB SPRT SINGLE POLE SINGLE THROW DAMETER SG FT SOLARE FEET DN DOMN SS SUPPRYSION SUTCH DW DIVISION SS SUPPRYSION SWITCH DW DIVISION SS SUPPRYSION SWITCH EXT EXTERNO AIR TEMPERATURE EXT EXTERNOR AIR TEMPERATURE F DEGREES FARENHET UON UNLESS OTHERWSENTED FO FLOOR DAWN VT VENT TOTAL REPORTING WATER FD FLOOR DAWN VTR VENT THROUGH ROOF FNN FINISHED FLOOR DAWN WTR VENT THROUGH ROOF FNN FINISHED FLOR DAWNER FLOR DAWNER KELWON FLOR DAWN WTR VENT THROUGH ROOF FNN FINISHED FLOR DAWN WTR VENT THROUGH ROOF FNN FINISHED FLOR COMBINATION FIRE/SMOKE DAMPER GALVG GALVANIZED GA GAUGE G'HM GALLONS PER MOUR G'HM GALLONS PER MOUR HPY HOT WATER TELEPERATURE MAX MAXIMUM MICH MICH MOURTED MIN MOUNTED MIN MOUNTED MIN MOUNTED MIN MOUNTED MIN MOUNTED MIN MOUNTED MIN MOUNTED MIN MOUNTED MIN MOUNTED MIN MOU			RE: RH	
CONN CONNECTION SA SUPPLY AR CONTRODUCTION SAN SOLVE GRADE) CW COMPER SUPPLY AR CONTRODUCTION CONNECTION CW DOMESTIC COLD WATER (POTABLE) D CONDERSATE DRAIN LINE D CONDERSATE DRAIN D CONDERSATE DRAIN D CONDENSATE DRAIN D CONTROL D CONDERSATE DRAIN D CONTROL D CONDERSATE DRAIN D CONTROL D CONDERSATE DRAIN D CONTROL D CONT	CONC	CONCRETE	RPM	REVOLUTIONS PER MINUTE
CONT CONTINUATION SAN SOIL & WASTE (ABOVE GRADE) CU COPPER CW DOMESTIC COLD WATER (POTABLE) SCH SCHEDULE CW DOMESTIC COLD WATER (POTABLE) DU CONDENSATE DRAIN LINE DB DTY BUILS DB DTY BUILS DIA DUMMETER DIA DUMMETER DIA DUMMETER SSF ST SINGLE POLE SINGLE THROW DIA DUMMETER SSF ST SINGLE POLE SINGLE THROW DIA DUMMETER SS STATUCE SINGLE POLE SINGLE THROW DIA DUMMETER SS STATUCE SINGLE POLE SINGLE THROW DIA DUMMETER SS STATUCES STELL SUCT SUCTOR SS STATUCERS SS STATUCERS SS STATUCERS SS STATUCE PRESSURE ELECTRICAL DIA DUMETER DIA DUMETER DIA DUMETER DIA DUMETER SS STATUCE PRESSURE ELECTRICAL ELECTRICAL DIA DUMETER SC F SCHEDING SS STATUCE PRESSURE ELECTRICAL DIA DUMETER SC FD SCHEDING SS STATUCE PRESSURE RELIEF VALVE SFF ST SINGLE POLE SINGLE THROW SS STATUCE PRESSURE ELECTRICAL DIA DUMETER SS STATUCE PRESSURE RELIEF VALVE SS STATUCE PRESSURE RELIEF VALVE SFF ST SINGLE POLE STATURE SC DIA DUMETER TEMPERATURE SC DIA DUMETER DIA DUMETER SC DIA DUMETER SC DIA DUMETER SC DIA DUMETER SC DIA DUMETER SC DIA DUMETER SS STATUCE PRESSURE RELIEF VALVE SC DIA DUMETER SC			SA	SUPPLY AIR
CW DOMESTIC COLD WATER (POLABLE) SD STOKE DRAIN D CONDENSATE DRAIN LINE SPRT SIMILAR DB DAT BULB SPRT STRUCKLER DA DAMETER SQ FT SOURCE POLE SINGLE THROW DA DAMETER SQ FT SOURCE POLE SINGLE THROW DN DOWN SS STRUCTURAL DWOSD DRAWINGS STRUCTURAL SUCT NOTAL EAT ENTERING AR TEMPERATURE SUCT STRUCTURAL SUCT NOTAL EAT ENTERING ART TEMPERATURE T TEMPERATURE INDICATOR (THERMOMETER) EAT ENTERING TOT TOTAL EAT ENTERNAL TAP TOTAL EAT ENTERNAL TAP TEMPERATURE APRESSURE EAT EXTREMAL TAP TEMPERATURE APRESSURE RELIEF VALVE F DEGREES FAHRENHEIT UON UNLESS OTHERWISE NOTED EAT EXTREMAL TAP TEMPERATURE APRESSURE RELIEF VALVE FD FRED CALENDUT V V VOLUME DAMPER FD PRECAMPER VD VOLUME DAMPER V FD FRED CALENDUT VR VR VENT THROUGH ROOF FN FRUANE VR VR	CONT	CONTINUATION		SOIL & WASTE (ABOVE GRADE)
D CONDENSATE DRVIN LINE SPRIX DB DRY BULB SPRIX DA DAMETER SQ FT DIV DINSION SS STAILESS STEL STAILESS STEL DN DOWN SS DWCS DRAWINGS ST STRUCTURAL STRUCTURAL EAT ENTERING AIR TEMPERATURE SUCT EAT ENTERING AIR TEMPERATURE SUCT ELC ELCOTRICAL TI EWT ENTERING WATER TEMPERATURE SUCT EXT ENTERING WATER TEMPERATURE SUCT EXT ENTERING TO EVAL ENTERING WATER TEMPERATURE TO EVAL ENTERING TO TOTA EVAL ENTERING TO TOTA EVAL ENTERING TO TOTA EVAL ENTERING TO TOTA PO PER DAMPER TO VO PO FIRE DAMPER WOO WOO <tr< th=""><th></th><th>COPPER DOMESTIC COLD WATER (POTABLE)</th><th>SCH</th><th></th></tr<>		COPPER DOMESTIC COLD WATER (POTABLE)	SCH	
DB DPF BULB SPST SINGLE POLE SINGLE THROW DN DIMISION SQ FT DN DOWN SS STAINLESS STEEL DN DOWN SS STAINLESS STEEL DWGS DRAWINGS ST STRUCTURAL EAT ENTERING AIR TEMPERATURE SUCTO SUCTION EFFIC EFFICIENCY S P EVET ENTERING WATER TEMPERATURE TI TEMPERATURE INDICATOR (THERMOMETER) EXT ENTERING WATER TEMPERATURE TI TEMPERATURE INDICATOR (THERMOMETER) EXT ELECTRICAL TOT TOT TOTAL EXT EXTERIOR TYP TYPICAL TYP EXT EXTERIOR TYP TYPICAL TOT EXT EXTERNAL TAP TEMPERATURE & PRESSURE RELEF VALVE F DEGREES FAHENHEIT UON UNILESS OTHER WISE NOTED FCO FLOOR CLEANOUT V SANITARY VENT FD FLEOR DAMPER VIR VOLUME DAMPER PD FLOOR DANN VIR VOLUME DAMPER PD FLOOR DANN VIR VOLUME DAMPER PD FLOOR DANN VIR VOLUME DAMPER PD F			SIM	SIMILAR
DIA DUALTER SQ.AF FET DIV DUNSION SS STAINLESS STELL DIV DUNSION SS STAINLESS STELL DIV DOWN SS STAINLESS STELL DIV DUNSION STELL STRUCTURAL EAT ENTERING AIR TEMPERATURE SUCT SUCTION EFFLC EFFICIENCY SYNTCH ELEC ELECTRICAL EWT ENTERING WATER TEMPERATURE TI TEMPERATURE INDICATOR (THERMOMETER) EXT ENTERING WATER TEMPERATURE TI TEMPERATURE INDICATOR (THERMOMETER) EXT ENTERNAL TO TOTAL EXT EXTERNAL T&P TEMPERATURE SUCT SUCTION EXT EXTERNAL T&P TEMPERATURE NOTED FC FLOOR CLEADOUT V SANITARY VENT FD FIRE DAMPER VUNC VOLUME DAMPER FD FLOOR CLEADOUT V SANITARY VENT FD FIRE DAMPER VD VILL DAMPER FD FLOOR CLEADOUT V SANITARY VENT FD FIRE DAMPER VD VILL DAMPER FD FLOOR CLEADOUT V SANITARY VENT FD FIRE DAMPER VD VILL DAMPER FD FLOOR CLEADOUT V SANITARY VENT FD FIRE DAMPER VD VILL DAMPER FD FLOOR CLEADOUT V SANITARY VENT FD FIRE DAMPER VD VILL DAMPER FD FLOOR CLEADOUT V SANITARY VENT FD FIRE DAMPER VD VILL CLEADOUT FT FEET W/ WET THROUGH ROOF FT FEET W/ WITH VENT THROUGH ROOF FT FEET W/ WITH FLT FLUTURE FT FEET W/ WITH FLT FLEX FLEADALTON FIRE/SMOKE DAMPER GALV GALUANZED GA GAUGE GPH GALLONS PER HOUR GPM GALLONS PER HOUR GPM GALLONS PER HOUR GPM GALLONS PER HOUR GPM GALLONS PER HOUR GPH GALLONS PER HOUR GPH GALLONS PER HOUR GPH GALLONS PER HOUR GPH GALLONS PER HOUR HWY HEATING WATER TEMPERATURE HWY KLEAVING HWY MODR HEAT PUMP KW KLEAVING WATER TEMPERATURE MAX MAXIMUM MECH MCCHANCAL MAX MAXIMUM MECH MCCHANCAL MAX MAXIMUM MECH MCCHANCAL MAX MAXIMUM MECH MCCHANCAL MAX MAXIMUM MECH MCCHANCAL MAX MAXIMUM MECH MCCHANCAL MAX MAXIMUM MECH MCCHANCAL			SPKR	SPRINKLER
ON DOWN SS SUPERVISORY SWITCH DWGS DRAWINGS STEL STEL EAT ENTERING AIR TEMPERATURE SUCT SUCTON ELEC ELECTRICAL S P STATIC TRESSURE ELEC ELECTRICAL T TEMPERATURE INDICATOR (THERMOMETER) EXT EXTERNAL TOT TOTAL EXT EXTERNAL T&P TEMPERATURE & INDICATOR (THERMOMETER) FCO FLORGES FAHRENHET UON UNLESS OTHERWISE NOTED FCO FLOROR DRAIN YIR VENT THROUGH ROOF FD FIRE DAMPER VO VOLUME DAMPER FD FLOROR DRAIN YIR VENT THROUGH ROOF FLEX FLEX FLEXIBLE WB WET BULB FLEX FLOROR DRAIN YIR VENT THROUGH ROOF FLEX FLEX FLEXIBLE WB WET BULB FLEX FLEX FLEXIBLE WB WET BULB <th></th> <th></th> <th>SQ FT</th> <th>SQUARE FEET</th>			SQ FT	SQUARE FEET
DWGS DRAWINGS STL STELE EAT ENTERING AIR TEMPERATURE SUCT SUCTON EFFIC EFFICIENCY S P STATIC CRESSURE ELEC ELECTROAL TI TEMPERATURE INDICATOR (THERMOMETER) EXH EXHERING WATER TEMPERATURE TI TEMPERATURE INDICATOR (THERMOMETER) EXH EXTERIOR TYP TYPICAL EXT EXTERIOR TYP TYPICAL EXT EXTERIOR TVP TYPICAL F DEGREES FAHRENHET UON UNLESS OTEEWINE NOTED FCOR FLOR DRUN VIX VIXUNED F DEGRES FAHRENHET VO VOLUME DAUPER FLR FLOR DRUN V				
EAT ENTERING AR TEMPERATURE SUCT SUCTON EFFICE EFFICIENCY S P STATIC PRESSURE ELEC ELECTRICAL T TEMPERATURE INDICATOR (THERMOMETER) EXT EXTERING TYP TYPOAL EXT EXTERNAL TAP TYPOAL EXT EXTERNAL TAP TYPOAL F DEGREES FAHRENHET UON UNLESS OTHERWISE NOTED FO FLOOR CLEANOUT V SANTARY VENT FD FICOR DRAIN VIR VENT THROUGH ROOF FN FLOOR DRAIN VIR VENT THROUGH ROOF FLEX FLEXBLE WB WET BULB FLR FLOOR DRAIN VIR VIR FLR FLOOR DRAIN VIR WALL CLEANOUT FT FETIOR WCO WALL CLEANOUT			STI	
ELEC RELEGTRICAL EVIT ENTERING WATER TEMPERATURE TI TEMPERATURE INDICATOR (THERMOMETER) EXI EXTERIOR TYP TYPICAL EXT EXTERNAL TRAP TEMPERATURE TYP TYPICAL EXT EXTERNAL TRAP TEMPERATURE APRESSURE RELIEF VALVE F DEGREES FAHRENHEIT UON UNLESS OTHERWISE NOTED FCO FLOOR CLEANOUT V SANITARY VENT FD FLOOR CLEANOUT V SANITARY VENT FD FLOOR DRAIN VIT VON VOLUME DAMPER FD FLOOR DRAIN VIT VON VOLUME DAMPER FL FLC FLOOR WATEN VO WOLL CLEANOUT FT FEET W WO WALL CLEANOUT FT FEET W WO WALL CLEANOUT FT FLOOR WALL CLEANOUT FT FLOOR WITH FL FLOOR VITH FL FL FLOOR VITH FL	FAT		STRUC	STRUCTURAL
ELEC ELECTRICAL EVI ENTERNO WATER TEMPERATURE TI TEMPERATURE INDICATOR (THERMOMETER) EXT EXTERINAL TOTAL EXT EXTERNAL TAPP TEMPERATURE (INDICATOR (THERMOMETER)) EXT EXTERNAL TAPP TEMPERATURE A PRESSURE RELIEF VALVE F DEGREES FAHRENHEIT UON UNLESS OTHERWISE NOTED FOO FLOOR CLEANOUT V SANITARY VENT FO FLOOR CLEANOUT V SANITARY VENT FD FLOOR DRAIN VIR VENT FD FLOOR DRAIN VIR VENT FD FLOOR DRAIN VIR VENT FLOOR DRAIN VIR VENT FLOOR DRAIN VIR VENT FT FEET W// WITH FT FEET // FUTURE FLOOR GALVANIZED GALV GALVANIZED GALV GALLONS PER HOUR GPM GALLONS PER MINUTE GT VA GATE VALVE HP HORSEPOWER HR HOUR HW DOMESTIC HOT WATER (140F) HWR HEATING WATER RETURN HWR HEATING WATER RETURN HWR HEATING WATER RETURN HWR HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP HOURS KW KILOWATTS LB POUNDS LWT LEXVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MECH MICHANICAL MECH MICHANICAL MENT MICHANICAL MENT MICHANICAL MENT MICHANICAL MENT MICHAN			S P	STATIC PRESSURE
EXH EXHAUST TOT TOTAL EXT EXTERIOR TYP TYPICAL EXT EXTERNAL TAP TYPICAL EXT EXTERNAL TAP TYPICAL F0 DEGREES FAHRENHET UON UNLESS OTHERWISE NOTED F0 FLOOR CLEANOUT V SANITARY VENT F0 FLOOR CLEANOUT V SANITARY VENT F0 FLOOR CLEANOUT V V F1 FEIT VD VOLUME DAMPER F2 FLEX FLIBLE WB WET BULB F1R FLOOR WCO WALL CLEANOUT F1 FETF WCO WALL CLEANOUT F4 FUOR FUT RE/SMOKE DAMPER GALVAIZED GALV GALVANIZED WCO WALL CLEANOUT GALV GALLONS PER HOUR GPM GALLONS PER HOUR GPM GALLONS PER MINUTE GT VA GALLONS PER MINUTE GT VA GALLONS PER MINUTE HR HOUR GPM GALLONS PER MINUTE HET TOTAL GT VA GALLONS PER MINUTE HET SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION HET <td< th=""><th></th><th></th><th></th><th></th></td<>				
EXT EXTERNAL TYP TYPCAL EXT EXTERNAL T&P TEMPERATURE & PRESSURE RELIEF VALVE F DEGREES FAHRENHEIT UON UNLESS OTHERWISE NOTED FO FLOC CLEANOUT V SAMITARY VENT FD FLOC DAWPER VD VOLUME DAWPER FD FLOC DRAIN VTR VENT THROUGH ROOF FIN FINISHED WB WET BULB FLEX FLEXIBLE WB WET BULB FLR FLOR OR WC WALL CLEANOUT FT FEET W/ WTH FUT FUTURE ININTE FUT GALV GALVANIZED GALONS PER WINUTE GT VA GATE				
F DEGREES FAHRENHEIT UON UNLESS OTHERWISE NOTED FOO FLOOR CLEANOUT V SANITARY VENT FD FIRE DAMPER VD VOLUME DAMPER FD FLOOR DRAIN VTR VENT THROUGH ROOF FIN FINISHED VTR VENT THROUGH ROOF FLX FLEXIBLE WB WET BULB FLR FLOOR WCO WALL CLENOUT FT FEET W/ WTH F/JDOR COMBINATION FIRE/SMOKE DAMPER GALV GALVANIZED GA GAUGE GPH GALIONS PER MOUR GPH GFM GALIONS PER MOUR GPH GALIONS PER MOUR GPM GALIONS PER MOUR GPH GALIONS PER MOUR GPM GALIONS PER MOUR HP HORSEPOWER HR HOUR HW DOMESTIC HOT WATER REITURN HN HW DOMESTIC HOT WATER REITURN HW HEATING WATER REITURN HW HEATING WATER SUPPLY HZ HEATING WATER SUPPLY HY HORSET LEAVING WATER HEATING WATER TEMPERATURE <tr< th=""><th></th><th></th><th></th><th></th></tr<>				
FCO FLOOR CLEANOUT V SANTARY VENT FD FIRE DAMPER VD VOLUME DAMPER FD FLOOR DRAIN VIR VENT THROUGH ROOF FIN FINISHED WB WET BULB FLEX FLEXIBLE WB WET BULB FLR FLOOR WCO WALL CLEANOUT FT FEET W/ WITH FJUTRE WC WITH WITH F/SD COMBINATION FIRE/SMOKE DAMPER GALV GALVANIZED GA GAUGE GPH GALONS PER HOUR GPH GALONS PER HOUR GPM GALONS PER MINUTE GT VA GATE VALVE HP HORSEPOWER HR HOUR WATER RETURN HWR HWR DOMESTIC HOT WATER RECIRCULATING PUMP HWR HWR HEATING WATER SUPPLY HZ IN INCHES IE INVERT ELEVATION IE INVERT LEVATION IE IV ILAVING WATER TEMPERATURE MAX MAXIMUM MECH-MINCAL MECHANICAL IE		EXTERINAL	ICC	IEMPERATURE & PRESSURE RELIEF VALVE
FD FIRE DAMPER VD VOLUME DAMPER FD FLOOR DRAIN VIR VENT THROUGH ROOF FIN FINSHED WB WET BULB FLEX FLEXIBLE WB WET BULB FLR FLOOR WCO WALL CLEANOUT FT FEET W/ WITH FUT FUTURE F W/ FV GALV GALVANIZED GA GA GAUGE GPH GALIONS PER MOUR GPH GALIONS PER MINUTE GT GT GT VA GATE VALVE HP HORSEPOWER HR HOUR HW DOMESTIC HOT WATER (140F) HW DOMESTIC HOT WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER REDUPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS IMMER MAXIMUM MECH MAXIMUM MAXIMUM MECHANICAL MAX MAXIMUM MIN MINIMINUM MINIMINUM MTD MOUNTED MIN				
FIN FINSHED WB WET BULB FLEX FLEXIBLE WB WET BULB FLF FLEX WCO WALL CLEANOUT FT FEET WC WTH FUT FUTURE W/ WTH FVT FUTURE W/ WTH FVT FUTURE WC WITH FVT FUTURE WC WITH FVT FUTURE W/ WTH FVT FUTURE WC WITH FVT FUTURE WC WITH FVT FUTURE W/ WTH FVT GALVANIZED GALVANIZED WC GALV GALVANIZED GALOSE WC GALOSE FERMINUTE GTVA GATEVALVE GTVA GATEVALVE HORSEPOWER HR HR HOUR HW DOMESTIC HOT WATER (140F) HW MATING WATER SUPPLY HZ HETING WATER SUPPLY HW HEATING WATER SUPPLY HZ HETING WATER TELEVATION HP INDOOR	FD	FIRE DAMPER		
FLEX FLEXIBLE WB WET BULB FLR FLOOR WCO WALL CLEANOUT FT FEET W/ WITH FUT FUTURE W/ WITH FV FUTURE W/ WITH F/SD COMBINATION FIRE/SMOKE DAMPER W/ WITH GALV GALVANIZED GA GAUGE GPH GALLONS PER HOUR F/ F/ GPM GALLONS PER MINUTE F/ F/ GT VA GATE VALVE HP HORSEPOWER HR HOUR H/ HORSEPOWER HR HOUR H/ H/ HW DOMESTIC HOT WATER RETURN H/ HWR HATING WATER RETURN H/ HWR HATING WATER RECIRCULATING PUMP H/ HWS HEATING WATER SUPPLY H// HZ HERTZ H/ IN INCHES H// LB POUNDS H// LWT LEAVING WATER TEMPERATURE H// MAX MAXIMUM			VTR	VENT THROUGH ROOF
FT FEET W/WTH FUT FUTURE FVT FUTURE F/SD COMBINATION FIRE/SMOKE DAMPER GALV GALVANIZED GA GAUORS GPH GALLONS PER HOUR GPH GALLONS PER MINUTE GT VA GATE VALVE HP HORSEPOWER HR HOUR HWW MESTIC HOT WATER (140F) HWW HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWRP HOT WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH-MICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTN MINIMUM MTR MOUNTED MT MTOR			WB	WET BULB
FUT FUTURE FUTURE F/SD COMBINATION FIRE/SMOKE DAMPER GALV GALVANIZED GA GAUGE GPH GALLONS PER HOUR GPM GALLONS PER MINUTE GT VA GATE VALVE HP HORSEPOWER HR HOUR HW DOMESTIC HOT WATER (140F) HWR HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTD MOUNTED MTR MOTOR				
GALV GALVANIZED GA GAUGE GPH GALLONS PER HOUR GPM GALLONS PER MINUTE GT VA GATE VALVE HP HORSEPOWER HR HOUR HW DOMESTIC HOT WATER (140F) HWR HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTD MOUNTED			W/	WITH
GA GAUGE GPH GALLONS PER HOUR GPM GALLONS PER MINUTE GT VA GATE VALVE HP HORSEPOWER HR HOUR HW DOMESTIC HOT WATER (140F) HWR HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR	F/SD	COMBINATION FIRE/SMOKE DAMPER		
GPH GALLONS PER HOUR GPM GALLONS PER MINUTE GT VA GATE VALVE HP HORSEPOWER HR HOUR HW DOMESTIC HOT WATER (140F) HWR HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR				
GPM GALLONS PER MINUTE GT VA GATE VALVE HP HORSEPOWER HR HOUR HW DOMESTIC HOT WATER (140F) HWR HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTR MOTOR				
HP HORSEPOWER HR HOUR HW DOMESTIC HOT WATER (140F) HWR HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR	GPM	GALLONS PER MINUTE		
HR HOUR HW DOMESTIC HOT WATER (140F) HWR HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION HP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR	GT VA	GATE VALVE		
HW DOMESTIC HOT WATER (140F) HWR HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR				
HWR HEATING WATER RETURN HWRP HOT WATER RECIRCULATING PUMP HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR				
HWS HEATING WATER SUPPLY HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR	HWR	HEATING WATER RETURN		
HZ HERTZ IN INCHES IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR				
IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR				
IE INVERT ELEVATION IHP INDOOR HEAT PUMP KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR	IN	INCHES		
KW KILOWATTS LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR	IE	INVERT ELEVATION		
LB POUNDS LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR	IHP	INDOOR HEAT PUMP		
LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR				
MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR				
MFR MANUFACTURER MIN MINIMUM MTD MOUNTED MTR MOTOR				
MIN MINIMUM MTD MOUNTED MTR MOTOR				
MTR MOTOR	MIN	MINIMUM		







PROJECT NO. 17-044 ISSUE DATE: 10-06-17 DRAWN BY: HMG REVIEWED BY: MM PROJECT ARCHITECT: GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881 M001



8000 IH-10 West, Suite 1004 San Antonio, Texas 78230 E-Mail: HMGSAN@HMG-ASSOCIATES.COM Texas Firm Registration #F-2597 Copyright © 2017

PH. (210) 349-0800 FAX (210) 349-2736

SPECIFICATIONS

<u>3EUI</u> 1.	I <mark>on 15010 — Mechanical General Provisions</mark> Summary: Furnish and Install all Items as required for an	<u>Section 15060 – PIPE AN</u> 1. Escutcheons: Cut
2.	INSTALLATION THAT IS COMPLETE IN EVERY RESPECT (THE WORK). CODES: LATEST REQUIREMENTS OF IBC, IMC, IPC, IFC, IECC, NFPA, TDSHS, OSHA,	POLISHED CHROME-I TO FULLY COVER TH CHASES OR ABOVE I
	TAS, AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES, ORDINANCES AND REGULATIONS.	2. WORKMANSHIP: ROUT HEADROOM, PROPER
3.	QUALITY STANDARDS: FURNISH NEW, DOMESTIC MATERIALS AND EQUIPMENT OF DOMESTIC MANUFACTURE; STANDARD CATALOG PRODUCTS OF MANUFACTURERS, CONFORMING TO THE STANDARDS OF ALL APPLICABLE, RECOGNIZED TESTING AND/OR APPROVAL AGENCIES; AND UL LISTED WHERE REQUIRED.	Building Walls, As Available commerc Proper drainage. 3. Supports: USE Gai
1 .	ACCEPTABLE MANUFACTURERS: MANUFACTURER'S NAME AND CATALOG NUMBERS SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN ESTABLISH STANDARDS OF DESIGN, PERFORMANCE, QUALITY AND SERVICEABILITY. EQUIPMENT OF SIMILAR, EQUIVALENT DESIGN, WITH LOCAL FACTORY OR	RAPEZE-TYPE HANG TRAPEZE HANGERS. WITH STEEL STRAP FURNISH AND INSTA HANGERS, STRAPS, CONDUITS.
	DEALER REPRESENTATION, WILL BE ACCEPTABLE UPON ARCHITECT'S/ ENGINEER'S REVIEW.	4. CLEANING: CLEAN AL
.	SUBMITTALS. SUBMIT SHOP DRAWINGS AND PRODUCT DATA TO ARCHITECT/ ENGINEER PRIOR TO ORDERING MATERIALS AND EQUIPMENT. REFER TO INDIVIDUAL SECTIONS FOR SUBMITTALS REQUIRED. PRODUCT DATA MUST BE CLEARLY HIGHLIGHTED TO INDICATE THE EXACT CHARACTERISTICS	5. SUBMITTALS: SUBMIT <u>15100 – Valves</u>
	OF THE MATERIALS OR EQUIPMENT TO BE FURNISHED, AND MUST INCLUDE ADEQUATE DATA TO ALLOW VERIFICATION OF CAPACITIES AND OTHER SCHEDULE CHARACTERISTICS, OPTIONAL ACCESSORIES, ETC. PROVIDE COVER WITH PROJECT TITLE, PROJECT ARCHITECT, PROJECT	1. UNIFORMITY OF MAN SAME MANUFACTURE
S.	ENGINEER, MECHANICAL OR PLUMBING CONTRACTOR, GENERAL CONTRACTOR AND RESPECTIVE PHONE NUMBERS AND ADDRESSES. EXISTING CONDITIONS: VERIFY PRIOR TO CONSTRUCTION. PRIOR TO	2. TYPE: FURNISH THRE AND SMALLER. FURN 3-INCHES (3") AND
	CUTTING/CORING OPERATIONS THROUGH EXISTING CONSTRUCTION, VERIFY WITH BUILDING OWNER/MANAGER THE LOCATION OF REINFORCING BARS, TENDONS, CONDUITS, OR OTHER ITEMS CONCEALED IN OR	T—134 MODIFIED FO (GLOBE), T—580—BR
		3. ACCESS: WHERE VAL INACCESSIBLE CEILIN CONCEALED HINGE A ACCESS DOORS IN F
7.	TRADES, PARTICULARLY ABOVE THE CEILING AND BELOW THE FLOOR. RESOLVE ALL CONFLICTS PRIOR TO ORDERING EQUIPMENT AND PRIOR TO ROUGH-IN, AS APPLICABLE. REWORK AND REPLACE AS NECESSARY ALL	4. ACCEPTABLE MANUFA STOCKHAM.
8.	WORK NOT PROPERLY COORDINATED. OBSTRUCTIONS: NOT ALL OFFSETS ARE SHOWN. AS PART OF THE WORK,	
	ALTER ROUTING OF WORK SHOWN ON DRAWINGS, FURNISH AND INSTALL OFFSETS, REROUTE EXISTING SERVICES, AND OTHERWISE PERFORM WHATEVER WORK IS REQUIRED TO SATISFY THE PURPOSE OF THE NEW	<u>section 15403 — Plumbing fixtur</u> 1. Quality Standards.
•	WORK AND MAINTAIN THE EXISTING SYSTEMS.	A. FURNISH AND INSTALL FIXT CURVES AND COLOR, SMO
€.	PROTECTION OF WORK: PROTECT EXISTING AND NEW MATERIALS, EQUIPMENT AND OTHER ITEMS FROM DAMAGE, MOISTURE ABSORPTION AND METALLIC CORROSION. FURNISH OUTDOOR APPARATUS OF	B. FURNISH AND INSTALL FITT
	CORROSION RESISTANT STEEL, ZINC COATED. FURNISH INDOOR EQUIPMENT WITH BAKED ENAMEL FINISH. FURNISH EQUIPMENT AND DEVICES EXPOSED IN FINISHED AREAS WITH STANDARD WHITE FINISH; CONFIRM WITH ARCHITECT PRIOR TO PLACEMENT OF EQUIPMENT ORDERS.	BRASS, CHROME PLATED O C. FURNISH AND SET ALL HAI THE FIXTURES.
0.	COOPERATION. COOPERATE WITH OTHER TRADES PERFORMING WORK, INCLUDING THOSE OF SEPARATE CONTRACTORS. COORDINATE ELECTRICAL	D. FURNISH FIXTURES AND TR
	CHARACTERISTICS OF ALL FURNISHED MECHANICAL EQUIPMENT WITH ELECTRICAL SUBCONTRACTOR PRIOR TO ORDERING EQUIPMENT.	E. FURNISH FIXTURES AND TR APPROVED BY THE STATE.
1.	INSTALLATION STANDARDS. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE TRADE STANDARDS, AND TO ALLOW READY ACCESS FOR SERVICE AND REMOVAL OF PERTINENT COMPONENTS.	2. PLUMBING FIXTURES. A. FLOOR MOUNTED WATER C
12.	ROUTING. CONCEAL ALL WORK IN WALLS, CHASES, OR ABOVE CEILINGS, AND ROUTE ALL WORK PARALLEL OR PERPENDICULAR TO BUILDING LINES, UNLESS OTHERWISE NOTED.	(1) FIXTURE. FURNISH ANI ELONGATED FRONT, FL CLOSE COUPLED TANK WITH A MAXIMUM 1.28
13.	RECORD DOCUMENTS, AND AIR BALANCE REPORTS TO ARCHITECT/	LISTED/APPROVED FLC KOHLER NO. K-3810.
14.	ENGINEER AND PROVIDE OPERATING INSTRUCTIONS TO OWNER. WARRANTY: WARRANT DEFECTIVE MATERIALS AND WORKMANSHIP FOR ONE YEAR FROM THE DATE OF BENEFICIAL OCCUPANCY OF THE PROJECT. CORRECT ANY OBJECTIONABLE NOISE OR VIBRATION.	(2) TRIM. FURNISH AND IN 1/2 X 3/8—INCH LOC 3/8—INCH O.D. BY 12 WITH POLISHED CHROI WITH PLASTIC INTERNA NO. ST2166LK OR API PLATED, ASTM B 43 8
		(3) CLOSED FRONT WITH SEAT WITH OPEN FRO PINTLES AND NON-CO
		(4) HEAVY DUTY TORQUE LINE AND TEST CAP.
		(5) CLOSET GASKET/RING. SEALING RINGS. DO N RECOMMENDATIONS.
		(6) CLOSET BOLT ASSEME FLANGE BOLT ASSEME CONSIST OF A SOLID BRASS WASHERS AND
		B. COUNTER TOP LAVATOR
		(1) FIXTURE: LAVATORY SH
		(2) TRIM. FURNISH AND II MOUNTED, SINGLE HAI 0.5 GPM FLOW RESTR PLATED BRASS VANDA

<u> CTION 15060 — PIPE AND PIPE FITTINGS</u>

- ESCUTCHEONS: CUT OPENINGS THE MINIMUM REQUIRED TO PASS THE FURNISH AND INSTALL POLISHED CHROME-PLATED CAST BRASS FLOOR, WALL, AND CEILING PLATES, LARGE ENOUGH TO FULLY COVER THE OPENING. AROUND PIPES AT ALL PENETRATIONS EXCEPT THOSE IN CHASES OR ABOVE FINISHED CEILINGS. PLATES MUST COVER OPENING IN MILLWORK.
- WORKMANSHIP: ROUTE ALL PIPING IN A WORKMANLIKE MANNER, ALLOWING MAXIMUM HEADROOM, PROPER ACCESS, AND CLEARANCES AT EQUIPMENT. INSTALL PARALLEL TO BUILDING WALLS, AS CLOSE TO CEILINGS, WALL, AND COLUMNS AS REASONABLE. USE LONGEST AVAILABLE COMMERCIAL STANDARD LENGTHS OF PIPING TO MINIMIZE GRADE PIPING FOR PROPER DRAINAGE.
- SUPPORTS: USE GALVANIZED ALL-THREAD ROD AND APPROVED, CLEVIS-TYPE, SPLIT-RING OR RAPEZE-TYPE HANGERS SUPPORTED FROM THE STRUCTURE. GROUP PIPE WHERE POSSIBLE ON TRAPEZE HANGERS. USE COPPER HANGERS WITH COPPER PIPE. SUPPORT VERTICAL RISERS WITH STEEL STRAP PIPE CLAMPS. DESIGN HANGERS TO FIT THE OUTSIDE OF PIPE INSULATION. FURNISH AND INSTALL GALVANIZED SHEET MEAL SHIELDS. DO NOT USE PERFORATED PIPE HANGERS, STRAPS, WIRES, OR DO NOT SUPPORT PIPE FROM OTHER PIPE, EQUIPMENT, OR CONDUITS.
- CLEANING: CLEAN ALL PIPING SYSTEMS DURING AND AT COMPLETION OF INSTALLATION.
- SUBMITTALS: SUBMIT PRODUCT DATA ON ALL PIPING MATERIALS AND MARKERS.

<u> 100 – VALVES</u>

- UNIFORMITY OF MANUFACTURE: FURNISH AND INSTALL VALVES OF THE SAME MANUFACTURER THROUGHOUT THE PROJECT WHERE POSSIBLE.
- TYPE: FURNISH THREADED VALVES FOR PIPE SIZES 2-1/2-INCHES (2-1/2") AND SMALLER. FURNISH FLANGED OR GROOVED END VALVES FOR PIPE SIZES' 3-INCHES (3") AND LARGER. CLASS 150 BRONZE BODY, ASTM B-62. NIBCO T-134 MODIFIED FOR MALLEABLE IRON HANDWHEEL (GATE) T-235-Y (GLOBE), T-580-BR (BALL), AND T-473-B (CHECK), OR EQUIVALENT.
- ACCESS: WHERE VALVES ARE CONCEALED IN PIPE CHASES OR ABOVE INACCESSIBLE CEILINGS, FURNISH AND INSTALL ACCESS DOORS WITH CONCEALED HINGE AND KEY-OPERATED LOCKS. FURNISH FIRE-RATED ACCESS DOORS IN FIRE-RATED CONSTRUCTION.
- ACCEPTABLE MANUFACTURERS: APPOLLO, NIBCO, JENKINS, POWELL, STOCKHAM.
- SUBMITTALS: SUBMIT PRODUCT DATA ON ALL VALVES.

403 - Plumbing fixtures

- RNISH AND INSTALL FIXTURES THAT ARE FREE FROM IMPERFECTIONS, TRUE AS TO LINE, ANGLES, IRVES AND COLOR, SMOOTH, WATERTIGHT, COMPLETE IN EVERY RESPECT.
- RNISH AND INSTALL FITTINGS, ESCUTCHEONS, FAUCETS, TRAPS, EXPOSED PIPING, ETC., THAT ARE ASS, CHROME PLATED OVER NICKEL PLATE WITH POLISHED FINISH.
- RNISH AND SET ALL HANGERS, SUPPORTS, BRACKETS, ETC., FOR THE PROPER INSTALLATION OF E FIXTURES.
- RNISH FIXTURES AND TRIM COMPLYING WITH FEDERAL, STATE AND LOCAL HANDICAP REQUIREMENTS. RNISH FIXTURES AND TRIM THAT MEET ALL APPLICABLE WATER CONSUMPTION STANDARDS AND ARE

- OOR MOUNTED WATER CLOSETS, TANK TYPE (WC-1)
- FIXTURE. FURNISH AND INSTALL A WHITE VITREOUS CHINA, PRESSURE ASSIST FLUSHING ACTION, ELONGATED FRONT. FLOOR-MOUNTED. TWO-PIECE. TANK TYPE WATER CLOSET FIXTURE WITH CLOSE COUPLED TANK. WATER CLOSET FIXTURE SHALL BE DESIGNED TO FLUSH EFFICIENTLY WITH A MAXIMUM 1.28 GALLONS PER FLUSH AND SHALL BE EQUIPPED WITH INTEGRAL UPC LISTED/APPROVED FLOAT VALVE AND VACUUM BREAKER AND TWO (2) WHITE BOLT COVERS/CAPS. KOHLER NO. K-3810.
- TRIM. FURNISH AND INSTALL 1/2-INCH IPS, ALL BRASS TOILET TANK SUPPLY ASSEMBLY WITH 1/2 X 3/8-INCH LOOSE KEY HANDLE ANGLE VALVE WITH 1/2-INCH IPS FEMALE THREAD INLET, 3/8-INCH O.D. BY 12-INCH LONG FLEXIBLE TUBE RISER AND BRASS PIPE ESCUTCHEON ALL WITH POLISHED CHROME FINISH. ENTIRE ASSEMBLY SHALL BE MADE OF BRASS. SUPPLY STOPS WITH PLASTIC INTERNAL PARTS ARE NOT ACCEPTABLE. McGUIRE NO. 2166 LK, SPECIFIED TRIM NO. ST2166LK OR APPROVED EQUIVALENT. EQUIP SUPPLY STOP WITH A POLISHED CHROME PLATED, ASTM B 43 80, THREADED, RED BRASS PIPE NIPPLE.
- CLOSED FRONT WITH SEAT COVER. FURNISH AND INSTALL INJECTION MOLDED SOLID PLASTIC SEAT WITH OPEN FRONT WITH COVER FOR ELONGATED BOWL WITH BUMPER, STAINLESS STEEL PINTLES AND NON-CORROSIVE TOP-TIGHTINING VOLT, WING NUT AND NO SLIP WASHER.
- HEAVY DUTY TORQUE SET CAST IRON FLANGE WITH INTEGRAL COMPRESSION SEAL TO WASTE LINE AND TEST CAP. JONESPEC NO. CF2982 AND CLOSET FLANGE JONESPEC NO. 2980.
- CLOSET GASKET/RING. FURNISH AND INSTALL RESILIENT SPONGE RUBBER WATER CLOSET SEALING RINGS. DO NO USE WAX RING GASKETS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- CLOSET BOLT ASSEMBLIES. FURNISH AND INSTALL TWO SOLID BRASS WATER CLOSET FLOOR FLANGE BOLT ASSEMBLIES (PLATED BRASS IS NOT ACCEPTABLE). EACH BOLT ASSEMBLY SHALL CONSIST OF A SOLID BRASS SLOTTED HEAD BOLT, TWO SOLID BRASS NUTS, TWO HEAVY SOLID BRASS WASHERS AND TWO RESILIENT RUBBER WASHERS.

COUNTER TOP LAVATORIES (LAV-1).

- FIXTURE: LAVATORY SHALL BE INTEGRAL WITH COUNTER TOP. REFER TO ARCHITECTURAL.
- TRIM. FURNISH AND INSTALL SOLID BRASS ALL POLISHED CHROME 4-INCH CENTER, DECK MOUNTED, SINGLE HANDLE AND RIGID COPPER TUBE INLETS. FAUCET SHALL BE EQUIPPED WITH 0.5 GPM FLOW RESTRICTING AERATOR. FURNISH COMPLETE WITH 1 1/4-INCH POLISHED CHROME PLATED BRASS VANDAL PROOF GRID ASSEMBLY AND TAIL PIECE. SYMMONS NO. S-20-2FR.

- (3) SUPPLIES. FURNISH AND INSTALL 1/2-INCH (1/2") IPS, ALL BRASS LAVATORY SUPPLY ASSEMBLY WITH 1/2-INCH (1/2") X 3/8-INCH (3/8") LOOSE KEY HANDLE ANGLE VALVE WITH 1/2-INCH (1/2") IPS FEMALE THREAD INLET, 3/8-INCH (3/8") O.D. BY 12-INCH (12") LONG FLEXIBLE TUBE RISER AND BRASS PIPE ESCUTCHEON ALL WITH POLISHED CHROME FINISH, ENTIRE ASSEMBLY SHALL BE MADE OF BRASS, SUPPLY STOPS WITH PLASTIC INTERNAL PARTS ARE NOT ACCEPTABLE. MCGUIRE NO. 2165-LK, SPECIFIED TRIM NO. ST2165LK, OR APPROVED EQUIVALENT. EQUIP EACH SUPPLY STOP WITH A POLISHED CHROME PLATED, ASTM B 43-80, THREADED, RED BRASS PIPE NIPPI F.
- (4) TRAPS. FURNISH AND INSTALL 1-1/2-INCH $(1-1/2^{"})$ ADJUSTABLE CAST BRASS "P" TRAP WITH TUBING DRAIN TO WALL, 1-1/4-INCH (1-1/4") INLET, 1-1/2-INCH (1-1/2") OUTLET, GROUND SWIVEL JOINT, CAST BRASS NUTS, CAST BRASS CLEANOUT PLUG AND BRASS ESCUTCHEON, ALL WITH POLISHED CHROME FINISH. McGUIRE NO. 8902, SPECIFIED TRIM NO. 8902C, OR APPROVED EQUIVALENT.

SECTION 15406 - DOMESTIC WATER PIPING

- PIPE: FURNISH AND INSTALL CPVC SCHEDULE 40 PIPE, ASTM F 441/F441M WITH SCHEDULE 40 FITTINGS, ASTM F438 SOCKET TYPE.
- 2. TESTING: TEST HYDROSTATICALLY AT 1.5 TIMES OPERATING PRESSURE, MINIMUM 150 PSIG. REPAIR ALL LEAKS AND RETEST UNTIL SYSTEM HOLDS FOR AT LEAST 24 HOURS.
- 3. STERILIZATION: STERILIZE WITH CHLORINATING SOLUTION FOR AT LEAST EIGHT (8) HOURS. FLUSH WITH CLEAN WATER UNTIL RESIDUAL CHLORINE CONCENTRATION IS LESS THAN 0.2 PPM.

SECTION 15408 - SOIL. WASTE. AND SANITARY SEWER PVC DRAIN PIPING. VENT PIPING AND APPURTENANCES

- GENERAL: THIS SECTION PROVIDES REQUIREMENTS FOR FURNISHING AND INSTALLING PIPING WITHIN BUILDINGS AND UNDERGROUND LATERALS.
- 2. STANDARDS:
 - PERFORM WORK IN ACCORDANCE WITH APPLICABLE STATUTES, ORDINANCES, CODES, AND REGULATIONS OF GOVERNMENTAL AUTHORITIES HAVING JURISDICTION.
 - RESOLVE ANY CODE VIOLATION DISCOVERED IN CONTRACT DOCUMENTS WITH THE ENGINEER PRIOR TO AWARD OF THE CONTRACT. AFTER AWARD OF THE CONTRACT, MAKE ANY CORRECTION OR ADDITIONS NECESSARY FOR COMPLIANCE WITH APPLICABLE CODES AT NO ADDITIONAL COST TO THE OWNER.
- 3. PRODUCTS DRAIN AND VENT PIPE AND FITTINGS:
 - A. WASTE AND VENT PIPE AND PIPE FITTINGS SHALL BE:
 - (1) MATERIAL. SCHEDULE 40 ASTM D-1784, D-2665, D-3311, FHA UM-79, FEDERAL SPECIFICATION L-P-320A, IAPMO IS 9-75, PS 27-69, NSF STANDARD NO. 14, CELL CLASSIFICATION 12454-B (TYPE I, GRADE 1) POLYVINYL CHLORIDE - DRAIN WASTE AND VENT (PVC-DWV) PIPE AND FITTINGS.
 - (2) PVC PIPE AND PIPE FITTINGS SHALL HAVE DESIGN STRESSES OF 2,000 PSI AT 73 DEG. F AND SHALL BE LISTED. TESTED. AND APPROVED FOR CONVEYING SANITARY WASTE BY THE PLASTIC PIPE INSTITUTE (PPI) AND THE NATIONAL FOUNDATION TESTING LABORATORY (NSF).
 - (3) FITTINGS SHALL CONFORM TO ASTM D-2466 AND NSF STANDARD NO. 14.
 - (4) SOLVENT CEMENT JOINTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-2564 USING PURPLE PRIMER MEETING REQUIREMENTS OF ASTM F-656, LISTED FOR USE ON PVC.
 - (5) ALL PIPING SYSTEM COMPONENTS SHALL BE THE PRODUCTS OF ONE (1) MANUFACTURER AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. PIPING SHALL NOT BE THREADED.
 - (6) FITTINGS AND PIPE SHALL BE CLEARLY MARKED IN
- ACCORDANCE WITH THE REQUIREMENTS OF ASTM STANDARDS. 4. PIPE AND JOINT FABRICATION:
- A. CUT PLASTIC PIPE WITH PIPE CUTTERS USING A CUTTING WHEEL SPECIFICALLY DESIGNED FOR PLASTIC PIPE.
- B. REMOVE ALL BURRS, CHIPS, FILINGS, ETC. FROM BOTH THE I.D. AND O.D. OF THE PIPE BEFORE JOINING. USE A KNIFE, DE-BURRING TOOL, OR A HALF-POUND COARSE FILE TO REMOVE ALL BURRS.
- C. BEVEL ALL PIPE ENDS TO MINIMIZE THE CHANCES OF WIPING THE SOLVENT CEMENT FROM THE I.D. OF THE FITTING AS THE PIPE IS SOCKETED. USE A BEVELING TOOL DESIGNED TO BEVEL PIPE AT A 10° TO 15° ANGLE AND A DEPTH OF 1/16" TO 3/32".

5. TESTING:

- UNDER FLOOR.
- (1) TEST PIPE UNDER FLOORS BEFORE CONNECTING TO SEWERS.
- (2) MAINTAIN NOT LESS THAN 15-FEET OF HYDROSTATIC HEAD.
- (3) REPAIR ALL LEAKS AND REPEAT UNTIL SYSTEM HOLDS FOR 2-HOURS WITHOUT A DROP IN WATER LEVEL.
- SYSTEM TEST. AFTER ALL THE VARIOUS SECTIONS OF SOIL, WASTE AND VENT PIPING ARE INSTALLED, BUT BEFORE FIXTURES ARE CONNECTED, TEST THE SYSTEM BY:
- (1) PLUGGING ALL OUTLETS.
- (2) FILLING THE ENTIRE SYSTEM WITH WATER AND MAINTAINING NOT LESS THAN 10-FEET OF HYDROSTATIC HEAT TO ANY PORTION OF THE SANITARY OR VENT PIPING SYSTEM. APPLY WATER TESTS TO DRAINAGE, WASTE AND VENT SYSTEMS EITHER IN ITS ENTIRETY OR IN SECTIONS. PROVIDE EXTENSION PIECES, WYES, SUPPORTS, CLAMPS, PLUGS AND ALL OTHER FITTINGS AND MATERIALS AS REQUIRED TO FACILITATE PLUGGING AND TESTING.
- FURNISH ALL EQUIPMENT AND LABOR REQUIRED TO CONDUCT TESTS.
- CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OR APPOINTED OWNER'S REPRESENTATIVE FOR VISUAL INSPECTION OF TEST. AT ARCHITECT'S/ENGINEER'S DISCRETION, THE GENERAL CONTRACTOR SHALL VERIFY AND DOCUMENT THE TEST RESULTS. TEST FINDINGS SHALL BE DOCUMENTED AND FORWARDED TO THE ARCHITECT/ENGINEER.

<u>SECTION 15840 - DUCTWORK</u>

DUCTWORK (SHEETMETAL)

DUCT WORK TO BE FABRICATED AND INSTALLED PER LATEST EDITION OF SMACNA. GUARANTEE ALL DUCTWORK FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. THE GUARANTEE WILL COVER WORKMANSHIP. NOISE, CHATTER, WHISTLING, OR VIBRATION. DUCTWORK MUST BE FREE FROM PULSATION UNDER ALL CONDITIONS OF OPERATION.

CONTRACTOR COORDINATION

ERECT ALL DUCTS IN THE GENERAL LOCATIONS SHOWN, BUT CONFORM TO ALL STRUCTURAL AND FINISH CONDITIONS OF THE BUILDING. BEFORE FABRICATING ANY DUCTWORK, CHECK THE PHYSICAL CONDITIONS AT THE JOB SITE AND MAKE ALL NECESSARY CHANGES IN CROSS SECTIONS, OFFSETS, AND SIMILAR ITEMS, WHETHER THEY ARE SPECIFICALLY INDICATED OR NOT.

STANDARD AND CODES

EXCEPT AS OTHERWISE INDICATED. SHEET METAL DUCTWORK MATERIAL AND INSTALLATION SHALL COMPLY WITH THE FIFTH EDITION OF SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS.

SEALING OF SEAMS AND JOINTS (NOT FOR EXPOSED DUCTWORK) THE ENTIRE DUCT SYSTEM SHALL BE SEALED. THE SEAMS AND JOINTS SHALL BE SEALED BY USE OF HARDCAST DT TAPE WITH FTA-20 (INDOOR) ADHESIVE. DUCT SHALL BE THOROUGHLY CLEANED PRIOR TO APPLICATION.

INSTALLATION

CONSTRUCTION STANDARDS. USE CONSTRUCTION METHODS WHICH FOLLOW THE REQUIREMENTS OUTLINED IN PARAGRAPH 1.5, AS WELL AS SMACNA BALANCING AND ADJUSTING PUBLICATIONS, UNLESS OTHERWISE INDICATED IN THESE SPECIFICATIONS OR ACCOMPANYING DRAWINGS.

REINFORCEMENT. REINFORCE DUCTS HAVING ONE SIDE EQUAL TO 25 INCHES OR MORE IN ACCORDANCE WITH RECOMMENDED CONSTRUCTION PRACTICE OF SMACNA. CROSS BREAKING OR BEADING. CROSS BREAK OR BEAD SHEET METAL FOR RIGIDITY. EXCEPT DUCTS WHICH ARE 12 INCHES OR LESS IN THE LONGEST DIMENSION. WALL PENETRATIONS. WHERE DUCTS PASS THROUGH WALLS IN EXPOSED AREAS. INSTALL SUITABLE ESCUTCHEONS MADE OF SHEET METAL ANGLES AS CLOSERS. AT ALL LOCATIONS WHERE DUCTWORK PASSES THROUGH FLOORS, PROVIDE WATERTIGHT SLEEVES PROJECTING 3 INCHES ABOVE FINISHED FLOOR AND FLUSH WITH BOTTOM OF FLOOR SLAB. FABRICATE SLEEVES OF 1/8-INCH THICK STEEL, GALVANIZED AFTER FABRICATION. ANCHOR INTO ADJACENT FLOOR SLAB AS REQUIRED. SLEEVES ARE REQUIRED INSIDE AS WELL AS OUTSIDE CHASES. SUPPORT DUCTS WHERE PASSING THROUGH FLOORS WITH STEEL STRUCTURAL ANGLES OF ADEQUATE BEARING SURFACE, GALVANIZED AFTER FABRICATION AND RESTING ON TOP OF THE SLEEVE. ELBOWS.

RECTANGULAR. WHERE SQUARE ELBOWS ARE SHOWN, OR ARE REQUIRED FOR GOOD AIR FLOW. PROVIDE AND INSTALL BARBER-COLMAN OR EQUAL DOUBLE-WALL AIR FOIL TURNING VANES. USE RADIUS ELBOWS WITH A CENTER LINE RADIUS OF NOT LESS THAN 1-1/2 TIMES THE DUCT WIDTH. RADIUS ELBOWS MAY BE PROVIDED IN LIEU OF VANED ELBOWS WHERE SPACE AND AIR FLOW REQUIREMENTS PERMIT. ROUND DUCT. PROVIDE ELBOWS WITH A CENTERLINE RADIUS OF 1-1/2 TIMES THE DUCT DIAMETER OR DUCT WIDTH. FOR ROUND DUCTS, FURNISH SMOOTH ELBOWS OR 5-PIECE, 90° ELBOWS AND 3-PIECE, 45° ELBOWS.



PH. (210) 349-0800 FAX (210) 349-2736 8000 IH-10 West, Suite 1004 San Antonio, Texas 78230 E-Mail: HMGSAN@HMG-ASSOCIATES.COM Texas Firm Registration #F-2597 Copyright © 2017

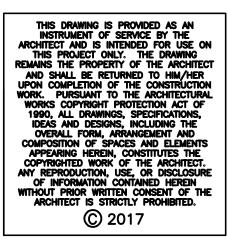
DURAND-HOLLIS RUPE ARCHITECTS, INC. 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, **TEXAS** 78230 TEL. 210.308.0080 FAX. 210.697.3309 eMAIL office@dhrarchitects.com WEB WWW.DHRARCHITECTS.COM

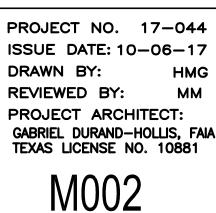
REVISED ISSUE DATES:

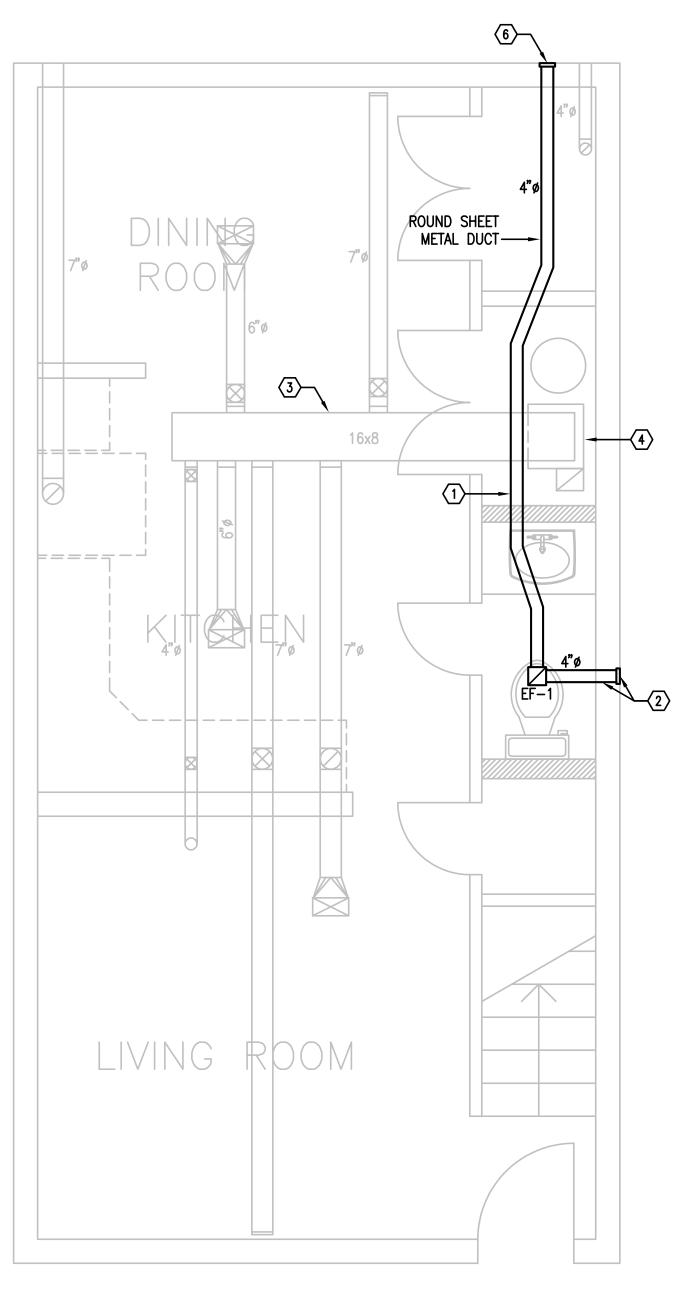
Σ (\mathbf{r}) Ω U. T 5 T LL \mathbf{O} Ш ⊢ Ζ Ш∢ T 1 ⋖≥ S ٢

MECHANICAL / PLUMBING SPECIFICATIONS

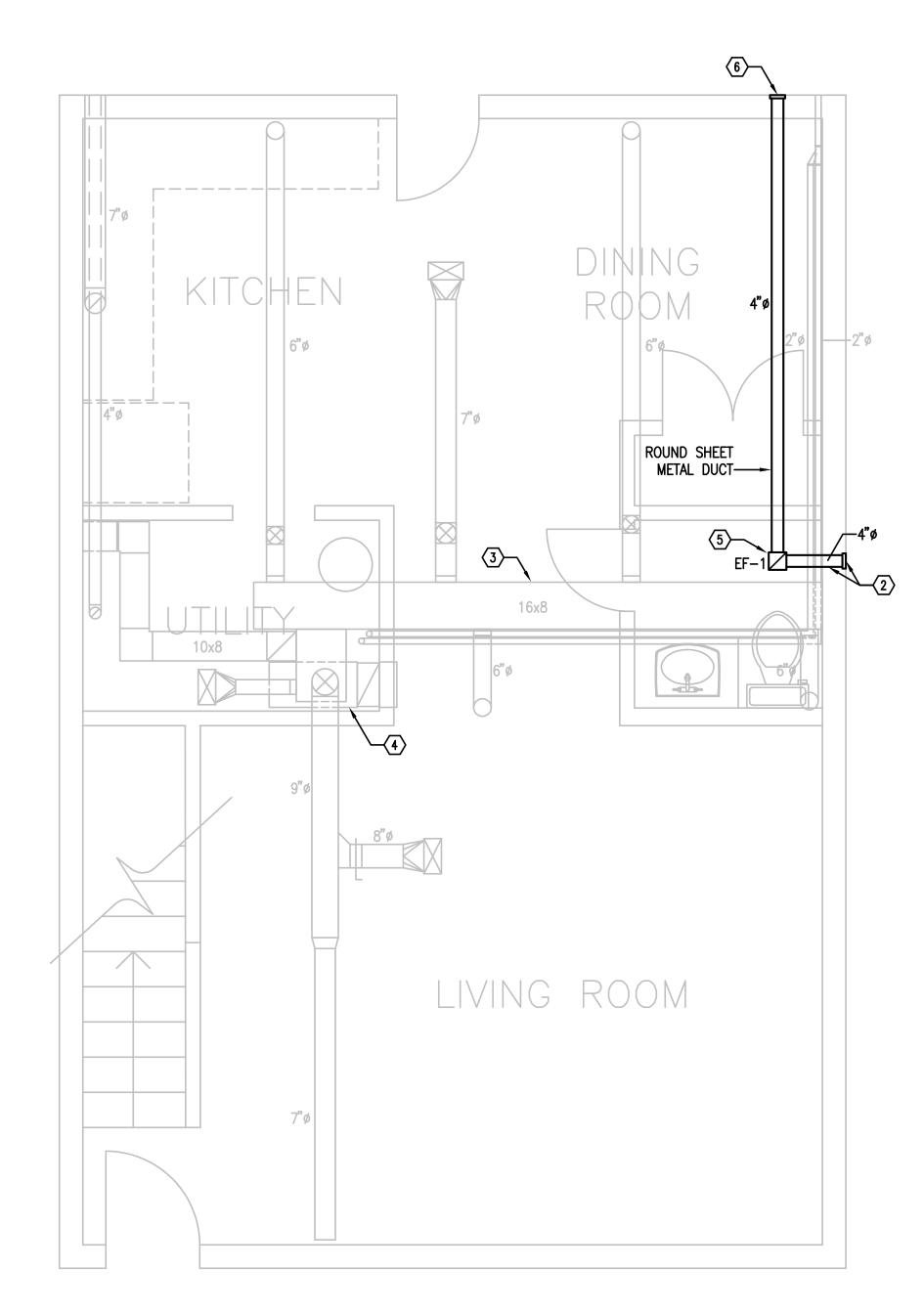














FAN SCHEDULE

TAG	SERVICE	TYPE	CFM	S.P. (IN.H2O)	MOTOR WATTS	VOLTS/PH	FAN RPM	MAX. SONES	DRIVE TYPE	REFERENCES SELECTION - COOK (U.N.O.)	NOTES
EF-1	RR EXHAUST	CEILING	80	0.30	130WA	110/1	1260		DIRECT	PANASONIC FV-08VKS3	1,2,3
NOTES:											

1. FURNISH WITH BACKDRAFT DAMPER, AND ALL REQUIRED SWITCHES AND RELAYS FOR PROPER OPERATION. 2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

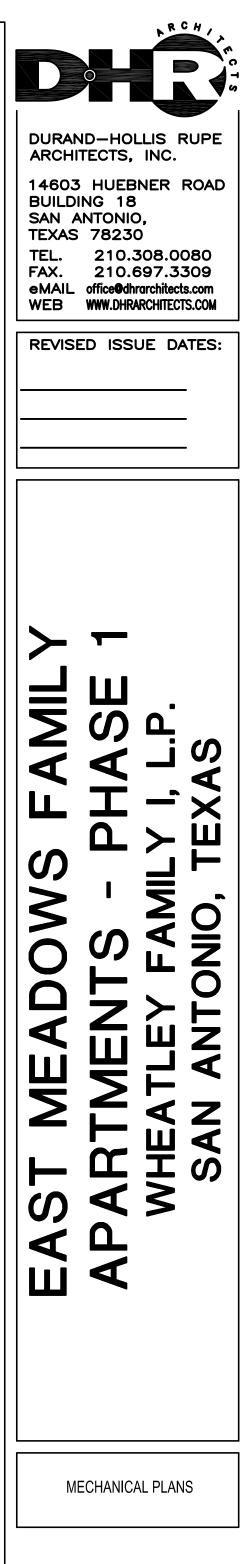
3. FURNISH AND INSTALL WITH WALL SWITCH. REFER TO ELECTRICAL DRAWINGS

KEYED NOTES

- (1) OFFSET EXHAUST DUCT TO AVOID EXISTING CONDITIONS IN A/C CLOSET.
- 2 EXTEND EXHAUST DUCT AT THIS LOCATION FROM UNITS LOCATED AT EXTERIOR WALL.
- $\overline{3}$ existing duct work.
- $\langle 4 \rangle$ existing a/c unit.
- (5) Contractor shall coordinate location of exhaust fan with existing ductwork.
- FURNISH AND INSTALL A MANUFACTURERS WALL CAP EQUAL TO A GREENHECK MODEL WC.



8000 IH−10 West, Suite 1004 PH. (210) 349−0800 San Antonio, Texas 78230 FAX (210) 349−2736 E-Mail: HMGSAN@HMG-ASSOCIATES.COM Texas Firm Registration #F-2597 Copyright © 2017







PROJECT NO. 17-044 ISSUE DATE: 10-06-17

REVIEWED BY: MM

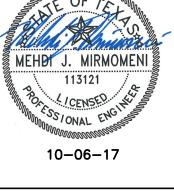
GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881

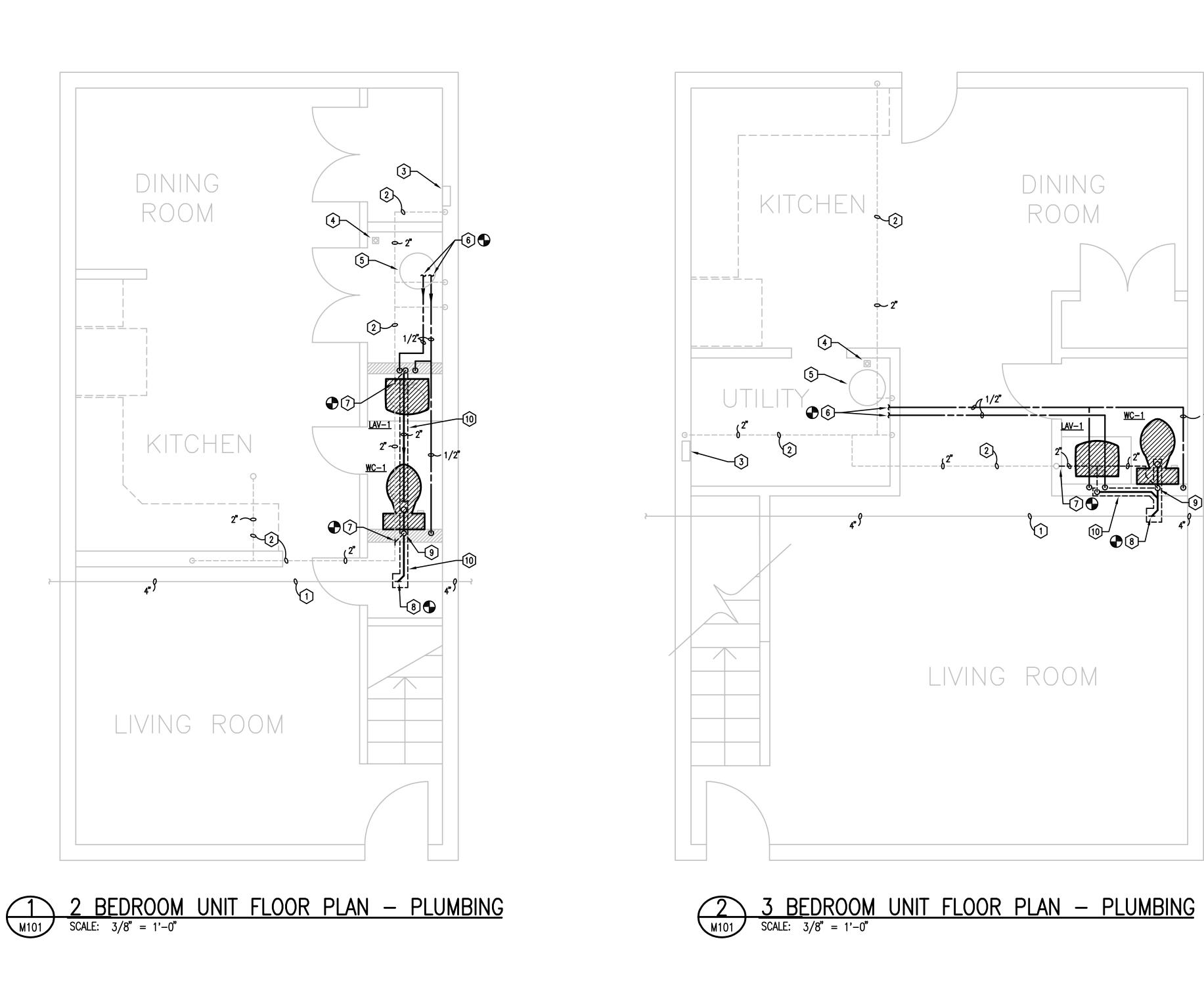
PROJECT ARCHITECT:

M100

HMG

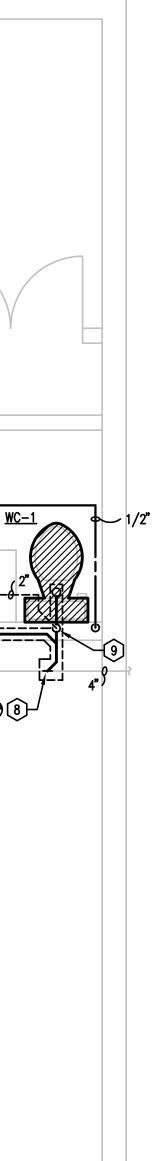
DRAWN BY:





MARK	
WC-1	
LAV-1	
-	

PLUMBING FIXTURE CONNECTION SCHEDULE								
DESCRIPTION	CONNECTION SIZE (IN)				REMARKS			
	CW	нพ	WASTE	VENT				
WATER CLOSET	1/2	-	4	2	FLOOR MOUNTED, TANK TYPE			
LAVATORY	1/2	1/2	2	2	COUNTER MOUNTED			
-	_	_	-	-	-			



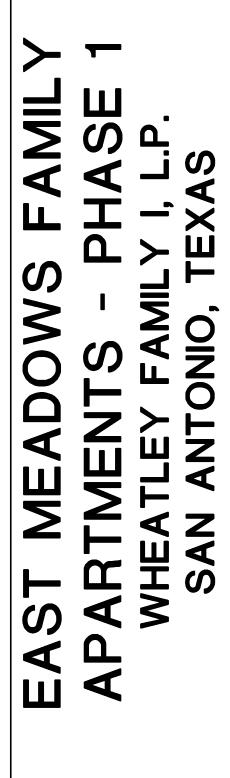
PLUMBING KEYED NOTES

- (1) EXISTING WASTE PIPE BELOW FLOOR.
- (2) EXISTING VENT PIPE ABOVE CEILING.
- (3) Existing clothes washer supply/drain wall box.
- (4) EXISTING FLOOR DRAIN.
- 5 EXISTING WATER HEATER.
- 6 CONNECT NEW 1/2"HW & 1/2"CW TO EXISTING HW & CW LINES IN THIS VICINITY.
- (7) connect new 2" vent pipe to existing vent pipe above ceiling.
- (8) CONNECT NEW 4" WASTE PIPE TO EXISTING WASTE PIPE BELOW FLOOR.
- (9) 2" VENT RISE FROM BELOW FLOOR EXTEND TO ABOVE CEILING.
- (10) SAWCUT EXISTING POST-TENSIONED CONCRETE FLOOR FOR ROUTING OF NEW WASTE PIPE.

GENERAL NOTES:

- 1. REFER TO STRUCTURAL DRAWINGS FOR REMOVAL OF SLAB FOR INSTALLATION OF WASTE PIPING.
- 2. EXISTING SLAB IS POST TENSION. CONTRACTOR SHALL X-RAY FLOOR TO DETERMINE TENDON LOCATION PRIOR TO SAW CUTTING SLAB.
- 5. THESE BUILDINGS ARE PROVIDED WITH A WET AUTOMATIC FIRE SPRINKLER SYSTEM. CONTRACTOR SHALL PROPERLY SECURE EXISTING SPRINKLER HEADS WHERE CEILINGS ARE REMOVED FOR INSTALLATION OF MEP SYSTEMS. CONTRACTOR SHALL ADJUST SPRINKLER HEADS IN NEW CEILING ALLOWING THE HEADS TO BE INSTALLED CORRECTLY. REFER TO ARCHITECTURAL DRAWINGS FOR WHERE CEILINGS WILL BE REMOVED.

R C H
DURAND-HOLLIS RUPE ARCHITECTS, INC.
14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, TEXAS 78230
TEL.210.308.0080FAX.210.697.3309eMAILoffice@dhrarchitects.comWEBWWW.DHRARCHITECTS.COM
REVISED ISSUE DATES:



FLOOR PLANS -PLUMBING





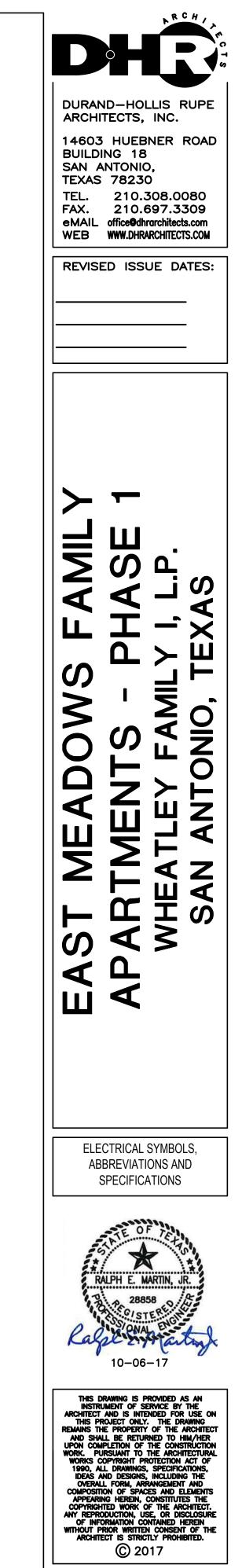
PROJECT NO. 17-044 ISSUE DATE: 10-06-17 DRAWN BY: HMG REVIEWED BY: MM PROJECT ARCHITECT: GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881 M101

AND & ASSOCIATES INC. Consulting Mechanical Electrical Engineers

8000 IH—10 West, Suite 1004 PH. (210) 349–0800 San Antonio, Texas 78230 FAX (210) 349–2736 E—Mail: HMGSAN@HMG-ASSOCIATES.COM Texas Firm Registration #F-2597 Copyright © 2017

	LEGEND (NOTE: ALL SYMBOLS SHOWN	ARE NOT NECI	ESSARILY USED ON DRAWINGS)
	LIGHTING		DISTRIBUTION & CONTRO
FA	FLUORESCENT LIGHT FIXTURE, LETTER(S) DENOTES TYPE.		ELECTRICAL PANELBOARD (480Y/277
O _B	INCANDESCENT, FLUORESCENT OR HIGH INTENSITY DISCHARGE LIGHT FIXTURE, LETTER(S) DENOTES TYPE. BRACKET "_" WHEN USED INDICATES WALL MOUNTED.	В	ELECTRICAL PANELBOARD (208Y/120 ENCLOSED CIRCUIT BREAKER, RATING INDICATED.
†⊖† ×A	EXIT LIGHT FIXTURE, LETTER(S) DENOTES TYPE. ARROW(S) WHEN USED, INDICATE DIRECTION OF CHEVRONS. SHADED AREAS INDICATE FACE(S). BRACKET "1" WHEN USED INDICATES WALL MOUNTED.	0% ~~~	NON-FUSED DISCONNECT SWITCH. 30/ SWITCH RATING, 3P = NO. OF POLES
G @ G		╔┘┉᠆╲-ш┓	FUSED DISCONNECT SWITCH. 30A/3P NOTED. 30A = SWITCH RATING, 3P = ENCLOSURE STYLE.
FB XB	EMERGENCY BATTERY BACKED UNIT EQUIPMENT, W/HEADS AS INDICATED.		MAGNETIC MOTOR STARTER. SIZE 1,
\$	SINGLE POLE SWITCH, INSTALL 48" AFF UON.		COMBINATION DISCONNECT AND MAGNI UON. CONTROLLER PROVIDED WITH EQUIPME
_	WIRING DEVICES	\$ ^M	INSTALLED BY DIVISION 16.
€	DUPLEX RECEPTACLE, 18" AFF UON. ('C' INDICATES CEILING MOUNTED). NEMA 5–20R, UON.		PER ACTUAL NAMEPLATE RATING.
	DUPLEX RECEPTACLE WITH INTERNAL GROUND FAULT PROTECTION, INSTALL 18" AFF UON. ('WP' INDICATES WEATHERPROOF).		CONTACTOR, RATING AND NO. OF POL PHOTO-ELECTRIC SWITCH. INSTALL WIT
	ISOLATED GROUND DUPLEX RECEPTACLE, INSTALL 18" AFF UON.	TS	NORTH, FLUSH MOUNTED WHERE POS TIME SWITCH.
			JUNCTION BOX.
		/M/	MOTOR.
	CONDUIT AND WIRE	MD	MOTORIZED DAMPER.
	CONDUIT RUN CONCEALED IN CEILING, WALL, FLOOR, OR ABOVE SUSPENDED CEILING.	····· ···· □	TRANSFORMER, RATING AS INDICATED.
	CONDUIT RUN IN OR BELOW SLAB OR GROUND.	T T	CURRENT TRANSFORMER, RATING AND
	SWITCH LEG.	~^ >>	DRAW-OUT POWER CIRCUIT BREAKER, AS INDICATED.
LA-1,3,5	HOMERUN TO PANEL AND CIRCUIT DESIGNATION. BRANCH CIRCUIT SHALL BE MINIMUM 3#12 AWG EXCLUDING NEUTRALS AND GROUND, 1/2"C. U.O.N. ON DRAWINGS OR SPECIFICATIONS.	-~	THERMAL AND/OR MAGNETIC CIRCUIT POLES AS INDICATED.
——Е——	EMPTY CONDUIT WITH PULLING LINE, SIZE AS INDICATED.		FUSE, RATING AS INDICATED.
	CAPPED CONDUIT.		SURGE ARRESTER, RATING AS INDICAT
Ð	CONDUIT TURNED UP.	MFM	DIGITAL SOLID STATE MULTI-FUNCTION
	CONDUIT TURNED DOWN.		UTILITY COMPANY REVENUE METER UC
		•	PUSHBUTTON, TYPE AS SPECIFIED ON
			SELECTOR SWITCH.
		E	EQUIPMENT CONNECTION. COORDINATE REPRESENTATIVE.
		SPD	SURGE PROTECTION DEVICE SYSTEM.
		PB	PULL BOX, SIZE PER NEC, UON.

	GENERAL ELECTRICAL NOTES	LIGHTING FIXTURE SCHEDULE
OLS	(APPLIES TO ALL DRAWINGS.)	NOTE: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM COMPATIBILITY BETWEEN THE CEILING TYPE, AS DEFINED ON THE ARCHITECTURAL ROOM FINISH SCHEDULE, AND THE LIGHT FIXTURE TRIM AS DEFINED ON THE FIXTURE SCHEDULE. NO CHANGES OR
7 VOLT).) VOLT).	1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE TO THE PROPER SIDE OF THE DOOR ANY SWITCH, RECEPTACLE OR DEVICE BEING AFFECTED BY ANY CHANGE IN DIRECTION OF DOOR SWINGS AS SHOWN ON THE	DEVIATIONS SHALL BE MADE FROM THE CONTRACT DOCUMENTS, HOWEVER, WITHOUT WRITTEN APPROVAL OF THE ENGINEER/ARCHITECT.
G AND NO. OF POLES AS	 ARCHITECTURAL FLOOR PLAN. 2. MECHANICAL EQUIPMENT SIZES ARE AS DESIGNED, BREAKERS, CONDUIT, STARTERS, CONDUCTORS, ETC., SHALL BE ADJUSTED TO THE EQUIPMENT SUBMITTED AND ADDROVED FOR INSTALLATION ON THIS OPPOLECT. 	PROGRESS LIGHTING #P7114-60EB (2)T8 27"LENGTH, WALL, SURFACE-BATHROOM WITH WHITE MOUNT ABOVE MIRROR. F 3000K 120 27"LENGTH, WALL, SURFACE-BATHROOM WITH WHITE MOUNT ABOVE MIRROR.
0A/3P NEMA 1 UON. 30A = ES, NEMA 1 = ENCLOSURE STYLE. P NEMA 1 UON. FUSE SIZE AS	SUBMITTED AND APPROVED FOR INSTALLATION ON THIS PROJECT. 3. REMOTE MOUNTED MOTORS SHALL BE PROVIDED WITH RECEPTACLES AND PLUGS OR DISCONNECT SWITCHES TO BE COMPATIBLE WITH THE CONSTRUCTION TYPE	
P = NO. OF POLES, NEMA 1	AND THE NEC.4. EACH MOTOR BEING INSTALLED ON THIS CONTRACT SHALL BE PROVIDED WITH THERMAL PROTECTION IN EITHER A MANUAL OR MAGNETIC STARTER. THERMAL	1. EQUIVALENT PRODUCTS FROM THE FOLLOWING MANUFACTURERS MAY BE ACCEPTABLE AS ALTERNATE SUBSTITUTIONS: (SUBSTITUTE PRODUCTS SHALL HAVE SUFFICIENT DATA) USI/COLUMBIA, HUBBELL, COOPER/METALUX, GENLYTE/LIGHTOLIER, LITHONIA, LUMINAIRE, KIM, GARDCO, WILLIAMS, DAYBRITE. REFER ALSO TO SPECIFICATION 26 51 00.
NETIC STARTER. SIZE 1, NEMA 1	ELEMENTS SHALL BE SIZED AND INSTALLED ACCORDING TO THE NAMEPLATE FULL LOAD AMP RATING OF THE MOTOR.	2. FINAL RAL COLOR FINISH ON ALL LIGHTING FIXTURES WILL BE DETERMINED BY ARCHITECT DURING SUBMITTAL REVIEW.
IENT (HVAC, ELEVATOR, ETC.)	5. KILOWATT (KW) RATINGS FOR EQUIPMENT MOTOR LOADS ARE AS DESIGNED WITH 90% POWER FACTOR RATING ASSUMED (EXCEPT ON THE CHILLER). THE CONTRACTOR SHALL BE RESPONSIBLE FOR INCREASING THE SIZE, AS REQUIRED,	
MAL OVERLOAD(S) UON, SIZED	OF ALL FEEDERS AND PROTECTIVE DEVICES SERVING ANY ITEMS OF EQUIPMENT SUPPLIED WITH POWER FACTOR RATINGS LESS THAN 90% EFFICIENCY.	
les as indicated. Ith sensor element facing SSIBLE, uon.	6. IN ALL AREAS THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN THE ELECTRICAL AND MECHANICAL TRADES TO PROVIDE CLEARANCE ABOVE CEILING BETWEEN RECESSED LIGHTING FIXTURES AND THERMAL INSULATION OR DUCTWORK IN ACCORDANCE WITH THE NEC, PARAGRAPH 410.116.	 WORK MUST COMPLY WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE, AND ALL LOCAL, STATE, AND FEDERAL CODES, ORDINANCES AND REGULATIONS. ALL MATERIALS SHALL BE UL LISTED AND/OR LABELED. DURING CONSTRUCTION, PROTECT ALL EXISTING ELECTRICAL EQUIPMENT AND I. FURNISH AND INSTALL 4" SQUARE GALVANIZED STEEL DEVICE BOXES. FURNISH AND INSTALL GALVANIZED STEEL JUNCTION, PULL AND SPLICE BOXES CONFORMING TO NEC ARTICLE 314. SECTION 16140 - WIRING DEVICES
	7. ALL COUNTERTOP RECEPTACLES WITHIN SIX FEET OF A SINK, SHALL BE GFI TYPE, UON.	 MATERIALS ITEMS FROM CONSTRUCTION DEBRIS, MOISTURE ABSORPTION, AND METALLIC CORROSION. 4. COOPERATE WITH ALL TRADES PERFORMING WORK. 5. MARK ALL MAJOR PIECES OF ELECTRICAL EQUIPMENT WITH ENGRAVED NAMEPLATES. 6. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR ALL MATERIALS AND FOLIDMENT
ı	GEN. ELECTRICAL DEMO. NOTES	 3. DEVICE PLATES TO MATCH EXISTING. 3. DEVICE PLATES TO MATCH EXISTING. 4. DEVICE COLOR SHALL BE SELECTED BY ARCHITECT. 5. SUBMIT PROJECT RECORD DOCUMENTS TO THE ARCHITECT/ENGINEER.
, d no. as indicated.	1. PRIOR TO BIDDING, THE DIVISION 16 INSTALLER SHALL VISIT THE SITE TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS, AND TO VERIFY LOCATION SIZE	SECTION 16020 - ELECTRICAL UTILITIES 1. CONNECT ELECTRICAL CIRCUITS TO THE EXISTING POWER DISTRIBUTION SYSTEM. SECTION 16470 - ENCLOSED SAFETY SWITCHES 1. FURNISH AND INSTALL HEAVY DUTY, QUICK-MAKE, QUICK-BREAK SAFETY SWITCHES 2. FURNISH AND INSTALL MANUAL MOTOR STARTER SAFETY SWITCHES AS INDICATED.
, RATING AND NO. OF POLES,	AND QUANTITY OF ITEMS TO BE REMOVED. SUBMITTAL OF HIS BID SHALL SIGNIFY HIS WILLINGNESS TO COMPLY WITH THE DESIGN AND HIS ACCEPTANCE OF ON-SITE CONDITIONS AS THEY EXIST.	SECTION 16030 - GROUNDING
BREAKER, RATING AND NO. OF	2. SALVAGE ITEMS AND MATERIALS SHALL REMAIN THE PROPERTY OF THE OWNER AND AS A PART OF THIS CONTRACT, THE CONTRACTOR SHALL DELIVER THESE TO A DESTINATION AS DIRECTED BY THE OWNER VERIES WITH OWNER'S	1. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL BRANCH CIRCUITS. SECTION 16110 - RACEWAYS 2. FURNISH AND INSTALL FLUORESCENT FIXTURES WITH ENERGY-SAVINGS LAMPS AND
TED.	TO A DESTINATION AS DIRECTED BY THE OWNER. VERIFY WITH OWNER'S REPRESENTATIVE FOR SALVAGE ITEMS. DELIVER TO OWNER IN UN-DAMAGED CONDITION WHERE POSSIBLE.	1. FURNISH AND INSTALL ELECTRICAL METALLIC TUBING (EMT) WITH STEEL COMPRESSION FITTINGS IN INTERIOR LOCATIONS.
N METER.	3. EACH ITEM OF EQUIPMENT, RECEPTACLES, LIGHT FIXTURES, SIGNAL EQUIPMENT, MOTORS, ETC., SHOWN TO BE DEMOLISHED SHALL HAVE ITS ASSOCIATED CIRCUITRY REMOVED BACK TO THE PROTECTIVE DEVICE IN THE PANEL ETC.	2. FLEXIBLE METAL CONDUIT, IN LENGTHS NOT EXCEEDING 60", MAY BE USED TO CONNECT LIGHT FIXTURES TO BRANCH CIRCUIT WIRING.
on. N DRAWING.	CIRCUITRY REMOVED BACK TO THE PROTECTIVE DEVICE IN THE PANEL, ETC., EXCEPT AS OTHERWISE MENTIONED BY NOTES 4, 5, AND 9 BELOW. A. ASSOCIATED CIRCUITRY SHALL BE DEFINED TO INCLUDE ALL CONDUIT, CONDUCTORS BOYES WIRING DEVICES COVERPLATES LAMPS FIXTURES	SECTION 16120 - INSULATED CONDUCTORS 1. FURNISH AND INSTALL SOLID OR STRANDED COPPER WIRE WITH THHN/THWN INSULATION FOR NO. 10 AND 10 AND 20 NULLETERS
E WITH MANUFACTURERS'	CONDUCTORS, BOXES, WIRING DEVICES, COVERPLATES, LAMPS, FIXTURES, WIREWAYS, SWITCHES, STARTERS, ETC., WHICH ARE ASSOCIATED WITH THE ITEM SHOWN TO BE REMOVED. B. THE DEDITECTIVE DEVICE SHALL PENAIN AS AN INTECRAL PART OF THE	FOR NO. 12 AND 10 AWG CONDUCTORS. 2. FURNISH AND INSTALL STRANDED COPPER WIRE WITH THHN/THWN INSULATION FOR NO. 8 AWG AND LARGER CONDUCTORS.
- WIIII MANUFACIUKEKS	B. THE PROTECTIVE DEVICE SHALL REMAIN AS AN INTEGRAL PART OF THE THE EXISTING PANEL, SWITCHBOARD, ETC., AND SHALL BE LABELED AS A SPARE OR BE USED FOR NEW CIRCUITRY AS SHOWN.	 COLOR CODE ALL WIRING. PROVIDE A SEPARATE NEUTRAL FOR EACH 120V. CIRCUIT. TYPE MC CABLE MAY BE USED IN APPLICABLE AREAS
	C. WHERE CONDUIT, ASSOCIATED WITH AN ITEM SHOWN TO BE REMOVED, IS IN AN INACCESSIBLE AREA, SUCH AS ENCASED IN CONCRETE, THIS INACCESSIBLE CONDUIT ONLY SHALL BE ABANDONED IN PLACE. ALL CONDUCTORS SHALL BE REMOVED, THEN CONDUIT SHALL BE SEALED,	
	CAPPED OR OTHERWISE TERMINATED IN A SAFE MANNER ACCEPTABLE TO TO THE OWNER, OR AS OTHERWISE STATED IN ITEM 3D BELOW.	
	D. WHERE SUCH INACCESSIBLE CONDUIT ENDS OR MUST BE TERMINATED IN FINISHED SPACE, THE CONDUIT OR J-BOX SHALL BE REMOVED TO BELOW THE FINISHED SURFACE OF WALL, CEILING OR FLOOR, THEN THE VOID SHALL BE FILLED WITH NON-SHRINKING GROUT, THEN RESURFACED AND REFINISHED TO MATCH SURROUNDING SURFACES.	
	4. WHERE ONLY A PORTION OF CIRCUIT'S LOAD IS SCHEDULED TO BE REMOVED, ONLY THAT PORTION ASSOCIATED WITH THE DEMOLISHED DEVICE SHALL BE REMOVED TO A POINT WHERE THE REMAINING LOAD IS ACTIVE AND IN A GOOD OPERATING CONDITION, UNLESS INDICATED OTHERWISE.	
	5. WHERE THE EXTENSION OF AN EXISTING CIRCUIT IS REQUIRED, CONDUIT AND WIRE SHALL BE RUN (CONCEALED WHERE POSSIBLE) FROM THE ITEM'S EXISTING LOCATION TO ITS NEW LOCATION. CONDUIT SHALL BE ROUTED SO AS NOT TO INTERFERE WITH THE USE OF, OR MAR THE AESTHETICS OF THE AREA. WHERE NECESSARY, THE CONTRACTOR SHALL RELOCATE AND RECONNECT CIRCUITRY ASSOCIATED WITH THE RELOCATION OF THE ITEM.	3
	6. WHERE AN ITEM OF EQUIPMENT IS SCHEDULED TO BE REMOVED AND RELOCATED, ITS ASSOCIATED CIRCUITRY SHALL ALSO BE REMOVED AS PER NOTE 3 ABOVE ALONG WITH ITS ASSOCIATED SWITCHGEAR AND DEVICES, ETC., TO BE RELOCATED TO THE NEW LOCATION. PROVIDE CONNECTION OF SUCH RELOCATED ITEMS TO NEW OR EXTENDED CIRCUITRY AS SHOWN ON THE DRAWINGS.	
	7. ALL EXISTING ABANDONED CONDUIT, CABLES, ETC. ABOVE EXISTING CEILINGS SHALL BE REMOVED.	
	8. PRIOR TO REMOVAL OF EXISTING FIRE ALARM EQUIPMENT FOR RELOCATION, TEST EXISTING SYSTEMS AND PROVIDE A DETAILED LIST OF DEFICIENCIES INCLUDING ANY DEVICES THAT ARE NOT FUNCTIONING PROPERLY. SUBMIT LIST TO A/E AND OWNER PRIOR TO DEMOLITION WITH ESTIMATED PROBABLE COST FOR ANY REQUIRED REPAIR. THE FIRE ALARM SYSTEM MAY NOT BE DISABLED WITHOUT APPROVAL OF THE FIRE MARSHAL.	
	9. ALL EXISTING CIRCUITS IDENTIFIED TO BE REUSED FOR REPLACEMENT LIGHTING AND NEW DEVICES UTILIZING CONDUIT FOR GROUND. SHALL HAVE A GREEN INSULATED GROUNDING CONDUCTOR PROVIDED FOR ALL REUSED BRANCH CIRCUITS.	
	10. IN ALL AREAS WHERE THE EXISTING CEILING WILL BE EXPOSED FOR DEMOLITION AND/OR NEW WORK, PROPERLY SUPPORT EXISTING J/BOXES AND CONDUITS AS REQUIRED BEFORE NEW CEILING ARE INSTALLED. PROVIDE COVERS AND K.O. CLOSURES TO J/BOXES THAT DO NOT HAVE COVERS.	



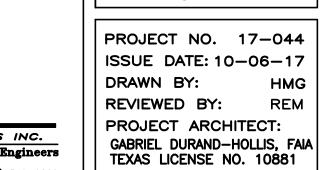
Consulting Mechanical · Electrical Engineers

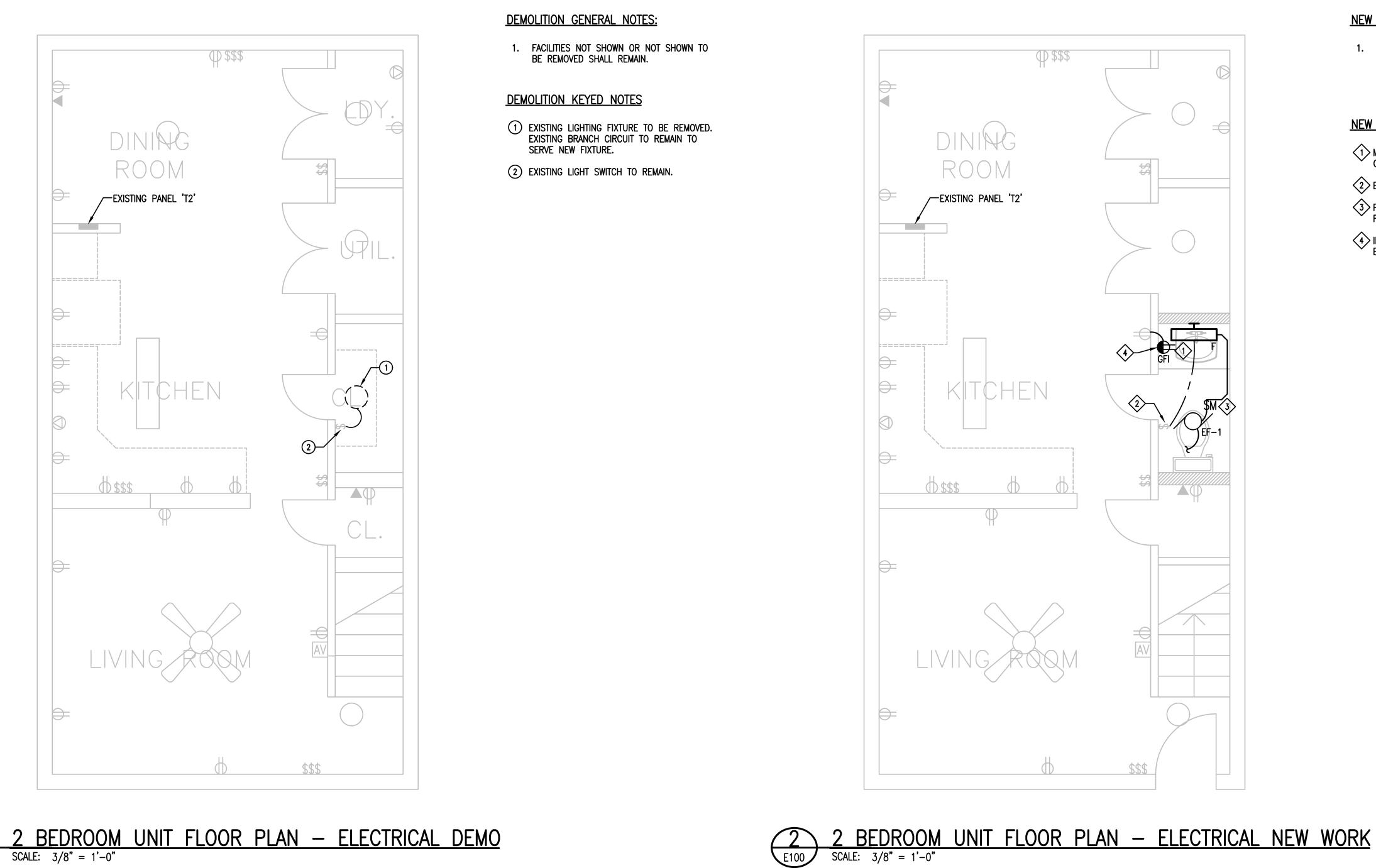
8000 IH—10 West, Suite 1004 PH. (210) 349—0800 San Antonio, Texas 78230 FAX (210) 349—2736 E—Mail: HMGSAN@HMG—ASSOCIATES.COM WWW.HMG—ASSOCIATES.COM Texas Firm Registration #F—2597 Copyright @ 2017

E001

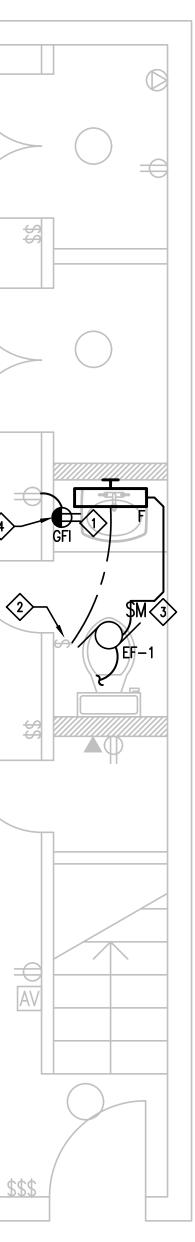


HMG





E100



NEW WORK GENERAL NOTES: 1. COORDINATE ALL NEW RECEPTACLE OUTLET DURAND-HOLLIS RUPE ARCHITECTS, INC. LOCATIONS WITH ARCHITECT/OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN. 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, TEXAS 78230 EXISTING OUTLETS SHOWN SCREENED SHALL REMAIN UNLESS OTHERWISE NOTED.
 TEL.
 210.308.0080

 FAX.
 210.697.3309

 eMAIL
 officeOdhrarchitects.com
 NEW WORK KEYED NOTES MODIFY AND CONNECT TO EXISTING BRANCH CIRCUIT AND SWITCH LEG AS REQUIRED. WEB WWW.DHRARCHITECTS.COM REVISED ISSUE DATES: 2 EXISTING TO REMAIN. $\stackrel{\textcircled{3}}{\longrightarrow} \text{PROVIDE MOTOR RATED TOGGLE SWITCH.} \\ \text{FAN TO OPERATE WITH LIGHT SWITCH.}$ INTERCEPT AND CONNECT TO EXISTING BRANCH CIRCUIT. AMIL Ш S Ω S × 上旧 Ω S Σ 3 ONO 0 Z Ш **T** ЧЧ T **Z HE** SA m AP Б П 2 BEDROOM UNIT ELECTRICAL PLANS RALPH I 01-30-18 THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTRUCTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, IDEAS AND DESIGNS, INCLUDING THE OVERALL FORM, ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS APPEARING HEREIN, CONSTITUTES THE COPYRIGHTED WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED. © 2017 PROJECT NO. 17-044 ISSUE DATE: 10-06-17



8000 IH—10 West, Suite 1004 PH. (210) 349—0800 San Antonio, Texas 78230 FAX (210) 349—2736 E—Mail: HMGSAN@HMG_ASSOCIATES.COM Texas Firm Registration #F—2597 соругант © 2017



PROJECT ARCHITECT:

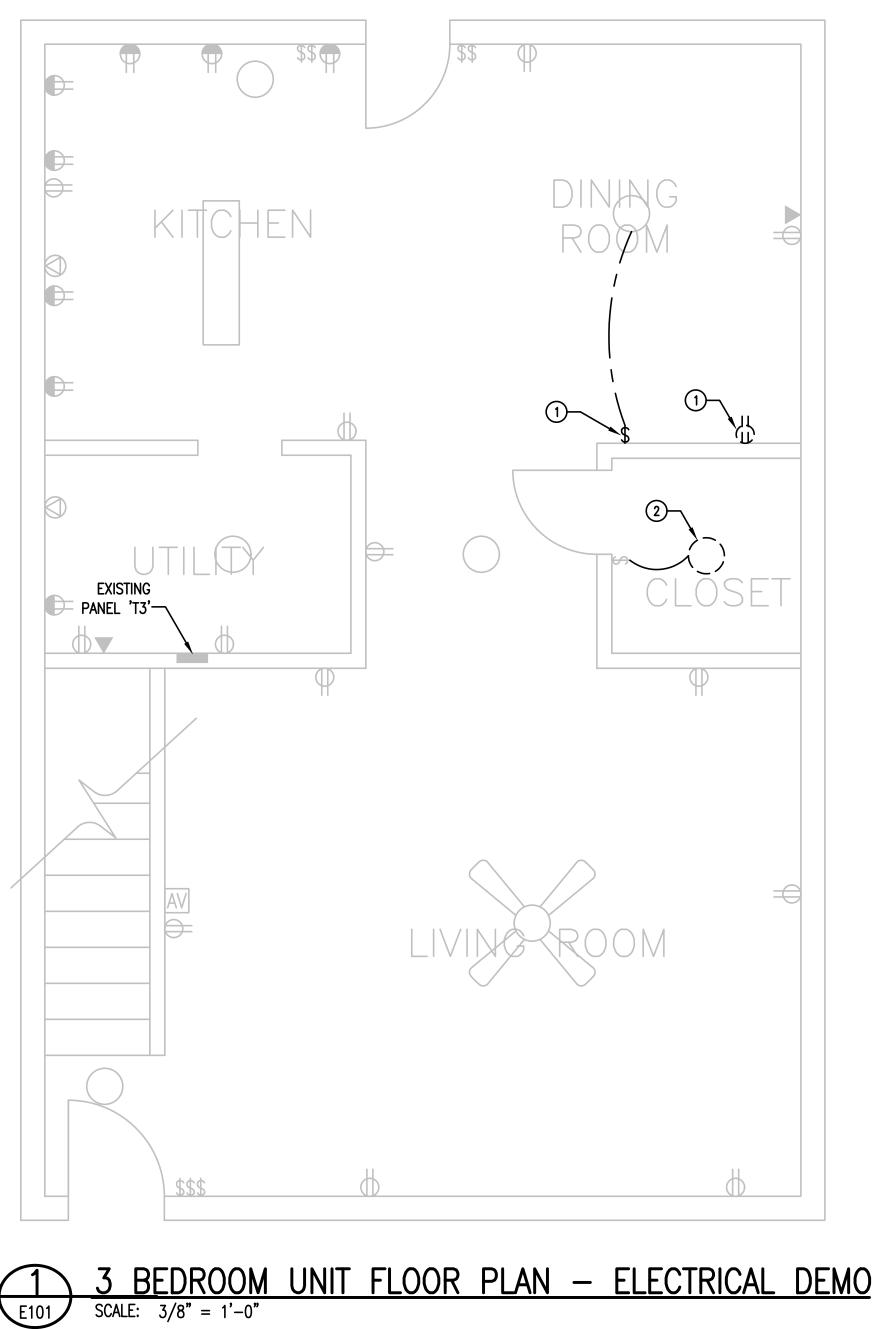
GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881

HMG

REM

DRAWN BY:

REVIEWED BY:

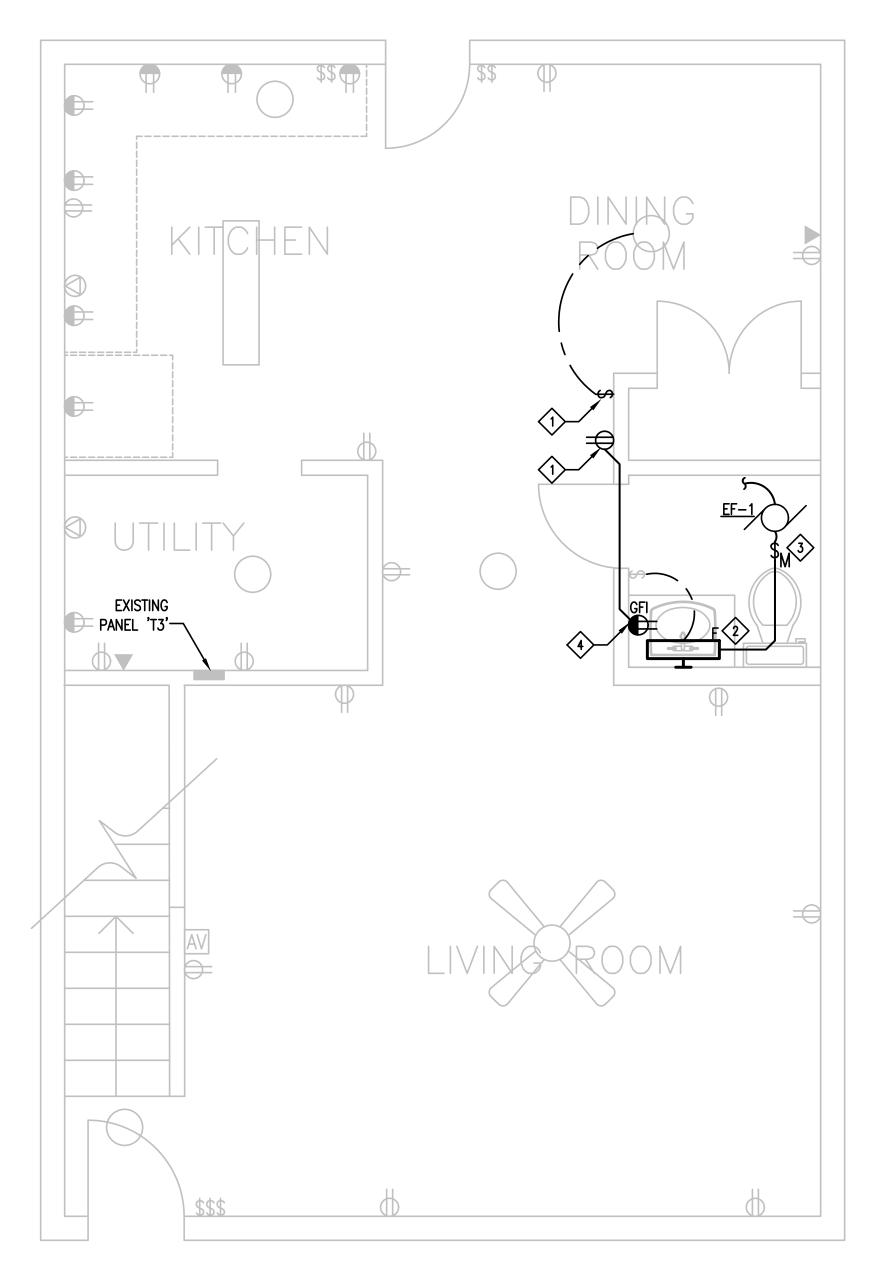


DEMOLITION GENERAL NOTES:

1. FACILITIES NOT SHOWN OR NOT SHOWN TO BE REMOVED SHALL REMAIN.

DEMOLITION KEYED NOTES:

- (1) RELOCATE EXISTING ELECTRICAL DEVICE. REFER TO NEW WORK PLANS.
- (2) EXISTING LIGHT FIXTURE TO BE REMOVED. EXISTING BRANCH CIRCUIT TO REMAIN AND SERVE EXISTING.





DURAND-HOLLIS RUPE ARCHITECTS, INC. NEW WORK GENERAL NOTES: 14603 HUEBNER ROAD BUILDING 18 SAN ANTONIO, TEXAS 78230 1. COORDINATE ALL NEW RECEPTACLE OUTLET LOCATIONS WITH ARCHITECT/OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN. EXISTING TEL. 210.308.0080 FAX. 210.697.3309 eMAIL officeOdhrarchitects.com OUTLETS SHOWN SCREENED SHALL REMAIN UNLESS OTHERWISE NOTED. WEB WWW.DHRARCHITECTS.COM NEW WORK KEYED NOTES: REVISED ISSUE DATES: NEW LOCATION OF EXISTING ELECTRICAL DEVICE. EXTEND EXISTING BRANCH CIRCUIT AND SWITCH LEG AS REQUIRED. (2) MODIFY EXISTING BRANCH CIRCUIT AND SWITCH LEG AS REQUIRED. A PROVIDE MOTOR RATED TOGGLE SWITCH. FAN TO OPERATE WITH LIGHT SWITCH. INTERCEPT AND CONNECT TO EXISTING BRANCH CIRCUIT. AMIL Ш S Ω S × 上旧 Ω S Σ 3 ONO 00 **L**N Ш ЧЧ Z **Z** SAP SAP AP Б П **3 BEDROOM UNIT** ELECTRICAL PLANS RALPH E. MART 01-30-18 THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTICTION WORK. PURSUANT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT OF 1990, ALL DRAWINGS, SPECIFICATIONS, IDEAS AND DESIGNS, INCLUDING THE OVERALL FORM, ARRANGEMENT AND COMPOSITION OF SPACES AND ELEMENTS APPEARING HEREIN, CONSTITUTES THE COPYRIGHTED WORK OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED. C 2017 PROJECT NO. 17-044 ISSUE DATE: 10-06-17 DRAWN BY: HMG REVIEWED BY: REM PROJECT ARCHITECT: GABRIEL DURAND-HOLLIS, FAIA TEXAS LICENSE NO. 10881



8000 IH-10 West, Suite 1004 San Antonio, Texas 78230 E-Mail: HMGSAN@HMG-ASSOCIATES.COM Texas Firm Registration #F-2597 Copyright © 2017

PH. (210) 349-0800 FAX (210) 349-2736

E101

TRADE WORK AGREEMENT

This Trade Work Agreement ("*Agreement*") is made and entered into as of the _____ day of _____, 2018, by and between ______ ("*Contractor*"), and Wheatley Family I, L.P., a Texas limited partnership ("*Owner*"), with respect to the provision by Contractor to Owner of certain labor, materials, equipment and related work and services in connection with the interior modifications including, without limitation, the construction of new bathrooms, at the multifamily affordable housing development commonly known as the "East Meadows Family Apartments Phase I," located within four city blocks in San Antonio, Texas ("*Project*").

SECTION 1

SCOPE OF WORK

1. Contractor shall provide and furnish (and as used in this Agreement, the term "*Work*" shall mean) all of the work, labor, supervision, services, permits, licenses, material and equipment that are described in, required by or reasonably inferable from or incidental to the drawings and specifications set forth or identified in **Exhibit A** hereto (which is incorporated fully herein by reference), and all work necessary to provide Owner with fully functional and complete systems and finishes in accordance therewith. Contractor agrees that the later issuance of drawings and specifications or other work descriptions by Owner shall not entitle Contractor to any additional compensation unless: (i) such later description of the Work involves work of a materially different nature, character, scope and cost than that set forth in or reasonably inferable from this Agreement and the descriptions, drawings and specifications set forth or identified in **Exhibit A** hereto; and (ii) Owner has authorized Contractor to proceed with such work pursuant to the provisions of this Agreement.

2. Contractor agrees (without limiting the requirements of Section 6 below) that it shall use the utmost care, in accordance with the manufacturers' recommendations and so as not to void or impair any manufacturers' warranties, in procuring and/or installing any equipment required as part of the Work hereunder. Additionally, Contractor, at its own expense, and as part of its Work, is responsible for coordinating and sequencing all aspects of the Work so that the entire Work is completed in a proper and timely fashion, in accordance with the requirements of this Agreement and all applicable statutes, codes, rules, regulations, ordinances, laws of all types (local, state, federal or otherwise), including, without limitation, the requirements and standards of public officials or other persons or entities (including utilities) having jurisdiction over the Project, as the same may be amended (collectively, "*Laws*"). The term "Laws" further includes, without limitation, Labor Laws and those governing: wages and hours, employment, drug-free workplace, safety, hazard communication, material safety data, health, and matters affecting the environment.

3. Contractor shall be solely responsible for all construction means, methods, techniques, sequences or procedures and for all safety requirements, programs, measures and precautions in connection with the Work. Contractor acknowledges and agrees that in no event will the availability or non-availability of any materials, supplies, utilities, labor or other items of the Work required to be provided or rendered by Contractor pursuant hereto give rise to an increase in the Contract Price or Contract Time or otherwise alter, modify, reduce or diminish in

any way Contractor's obligations hereunder, and Contractor assumes all risk and expense associated therewith.

4. Contractor acknowledges and agrees that it shall make all necessary arrangements to coordinate its Work, and cooperate, with Owner and Owner's forces, as well as with all contractors and consultants (including, but not limited to, Durand-Hollis Rupe Architect, Inc. ("Durand") with respect to design, Lundy & Franke Engineering ("Lundy") with respect to structural engineering, and H2MG ("H2MG") with respect to MEP), separately hired by or through Owner (it being understood that Durand, and not Owner, retained Lundy and H2MG directly, and that Durand shall be the point of contact on issues relating to Lundy's and/or H2MG's scopes of services) to perform work and/or services for the Project (collectively, "Owner's Consultants") so as not to delay or impair the progress of the Work or the work of such Owner's Consultants for the Project. In this regard, Contractor acknowledges and agrees that it may be performing its Work on the Project concurrently with the provision of work and services by Owner's Consultants and that the scope of Contractor's Work includes any and all work, services, activities, and undertakings necessary to coordinate and collaborate with Owner's Consultants so as to provide a complete and fully-functional Project. Under no circumstance shall any such cooperation or collaboration, or any delay necessitated or obstruction caused thereby, entitle Contractor to any extension of the Contract Time or increase in the Contract Price, unless otherwise approved by Owner pursuant to a Change Order.

5. Contractor shall use and maintain whatever lights, barriers, dust barriers, supports, barricades, warning and other safety devices necessary to protect the Work and prevent personal injury or property damage and shall in all events comply with all applicable Laws and all safety requirements reasonably imposed by Owner in connection with the Project. Contractor shall keep the Work area clean, neat, and orderly to the satisfaction of Owner, and shall promptly remove all unused construction materials, equipment, shipping containers, packaging debris and flammable waste from the Project site. Without limiting the requirements of Section 1.6 below, no smoking or eating is permitted inside the Project building or the units that are the subject of the Work.

6. Without limiting the foregoing, Contractor acknowledges that the East Meadows Family Apartments, and the individual units in which the Work will be performed, may be occupied during the performance of the Work. Accordingly, Contractor agrees that it will: (i) comply, and will cause all of its subcontractors, vendors and consultants to comply, with Owner's rules, requirements and reasonable requests relating to the performance of the Work without an increase in the Contract Price or extension of the Contract Time; and (ii) coordinate the performance of the Work with resident relocations, if any, being performed or to be performed by Owner or Owner's Consultants in connection with the Work. Without limiting the generality of item (i) above, Contractor acknowledges and agrees that it will be required to cooperate with Owner's requests and procedures regarding documenting the condition of each unit prior to the start of Work in such unit.

SECTION 2

SITE CONDITIONS

1. By executing this Agreement, Contractor represents that it has visited the Project site, and has acquainted itself with all conditions relevant to the performance of the Work. Any variance in actual conditions at the Project site from those observed by Contractor prior to the execution of this Agreement or contemplated by any of the documents reviewed by or furnished to Contractor shall not be the basis for extra compensation by Owner to Contractor, unless and only to the extent that such variance was not discoverable by Contractor prior to the execution of this Agreement. Contractor shall secure and pay for all necessary building permits and other governmental permits, licenses, approvals and inspections, necessary for the Work, and shall comply with and give all notices required by applicable Laws. Contractor agrees to furnish to Owner, upon request, copies of all such licenses, approvals and copies of inspection reports.

SECTION 3

TIME AND SCHEDULE

1. Contractor shall commence the Work promptly upon receipt of a written notice to proceed from Owner, and shall thereafter continuously and diligently perform and prosecute the Work to completion, in accordance with the terms of this Agreement and applicable Laws. Contractor agrees that it shall accomplish Final Completion of all Work required hereby, on or before the date that is one hundred twenty (120) days after commencement of the Work, subject only to delays attributable to causes beyond the reasonable control of, and which could not have been avoided or mitigated by reasonable efforts taken by, Contractor or its subcontractors ("Final Completion Date"). The "Contract Time" means the number of days from the date of commencement of the Work until the Final Completion Date. As used herein, the terms "Finally Complete" and "Final Completion" (whether capitalized or lower case) shall mean the proper and full completion of the entire Work in accordance with this Agreement and applicable Laws such that it is capable of being used for its intended purpose, and that all of the following shall have occurred: (i) issuance of all approvals and certificates required by any authorities with jurisdiction over the Project for occupation of the Project; (ii) removal of all debris, rubbish, tools and surplus materials from the Project site and correction of all property damage caused by Contractor or any subcontractor; (iii) start-up and commissioning of any equipment and correction (if necessary) of all items so that they are in complete accordance with the applicable drawings and specifications set forth in Exhibit A and with the other provisions of this Agreement; (iv) certification and/or other confirmation (in a form acceptable to Owner) by the Durand, Lundy and H2MG, as applicable, that the Work complies with all requirements set forth in Exhibit A; and (v) submission of required final lien waivers, conditioned only on receipt of final payment, in accordance with Section 4.6.

2. Contractor acknowledges and agrees that timely completion of the Work is the essence of this Agreement. In the event that Contractor fails to commence and complete the Work in accordance with the requirements of this Agreement (except for reasons beyond the reasonable control of, and which could not have been avoided or mitigated by reasonable efforts taken by, Contractor or its subcontractors and suppliers ("*Excused Delays*")), Owner shall have the right, in addition to any other rights or remedies, immediately to hire another person or entity (or to use Owner's personnel) to perform or complete Contractor's Work, and in such event Contractor shall be liable to Owner for the full cost incurred by Owner in order to procure the

performance and completion of such Work and all other damages incurred by Owner as a consequence of such failure.

3. Contractor's sole and exclusive remedy for Excused Delays shall be an extension of time for performance of the Work equal to the actual time lost on the critical path of the Work by reason of such Excused Delay. No such extension of time shall be allowed, however, unless Contractor submits a written request to Owner within forty-eight (48) hours of the commencement of the event asserted as the basis for such request, and then only if and to the extent approved by Owner in writing, which approval shall not be unreasonably withheld. Contractor shall not be entitled to any monetary damages or additional compensation for any delay, interference, disruption, hindrance, or similar event that Contractor may encounter in performing the Work, regardless of the cause and including Excused Delays.

4. Contractor understands, acknowledges and agrees that Owner shall make apartments available to Contractor in groups for the performance of the Work under this Agreement and that, accordingly, Contractor shall completed and deliver the Work to Owner in several distinct phases (each individually a "Phase," or collectively the "Phases"), as set forth in the schedule attached hereto as Exhibit B (the "Project Schedule"), provided that such Project Schedule shall in all cases comply with the Contract Time provided herein. Contractor acknowledges that it will be responsible for the construction of each Phase, as well as the overall planning, coordination and integration of each Phase with the others (and with any existing structures and conditions at the Project site). Contractor agrees that it shall plan, coordinate and integrate the activities requested of the Contractor with respect to each Phase, with the other aspects of the overall Project, so that each such Phase and the overall Project are integrated, completed, coordinated in accordance with the Agreement including, without limitation, the Contract Time. Contractor shall incorporate any comments and modifications to the Project Schedule provided by Owner. Except as otherwise directed by Owner in writing, Contractor shall perform the Work so as to complete each Phase in accordance with the Project Schedule approved by Owner.

SECTION 4

CONTRACT PRICE

1. The total compensation payable to Contractor in connection with performance of the entire Work shall be the fixed, lump sum amount of ______ Dollars (\$_____) (the "*Contract Price*"), as the same may be adjusted pursuant to a Change Order. The Contract Price shall constitute full and complete compensation for performance of the Work required by this Agreement, including, without limitation, compensation for Contractor's fee, profit, overhead, general conditions, insurance costs, and all other costs associated with the performance of the Work required by this Agreement.

2. The Contract Price includes the amount of all applicable taxes, permits and approvals (including sales, consumer, use and similar taxes, and taxes on the wages of Contractor's employees) and the cost of all labor and supervision necessary to perform the Work as required herein. Contractor shall be solely responsible to pay any taxes measured by the wages of its employees as required by applicable Laws, and shall indemnify and hold Owner

harmless on account of any such taxes assessed against Owner under authority of said Laws. Additionally, Contractor warrants that title to all Work will pass to the Owner, free and clear of all liens and encumbrances, upon incorporation into the Work or upon payment by the Owner therefor, whichever is earlier. Notwithstanding the foregoing, all materials and equipment supplied by Contractor pursuant to this Agreement shall be delivered free and clear of all liens and shall not be subject to any conditional sale, purchase-money lien, security agreement, financing agreement or chattel mortgages.

3. Attached as **Exhibit C** to this Agreement, and incorporated by reference herein, is a schedule of values allocating the entire Contract Price to the various portions of the Work (the "*Schedule of Values*"). The Schedule of Values may only be amended pursuant to a Change Order that expressly sets forth a revision to Schedule of Values. The Schedule of Values, as amended pursuant hereto, shall be used as a basis for reviewing the Contractor's applications for payment. Notwithstanding anything to the contrary herein, however, in no event shall the overall Contract Price be increased in connection with revising or amending the Schedule of Values except in accordance with the terms of this Agreement relating to Change Orders.

4. The parties acknowledge and agree that the Contract Price may be based upon certain allowances, which shall be stated in **Exhibit C**. Before performing any Work covered by an allowance, Contractor shall receive Owner's prior written consent (which shall not be unreasonably withheld or delayed). To the extent that the portion of the Contract Price relating to the approved allowance is greater or less than the allowance amount, the Contract Price shall be increased or decreased in the amount of such difference, as appropriate; provided, however, that in no event shall Contractor be compensated for amounts in excess of the allowance amount for the Work applicable to such allowance, nor will the Contract Price be increased on account of such excess costs, unless Contractor first obtains Owner's consent to exceed the applicable allowance amount pursuant to a Change Order.

Periodic payments for the performance of Contractor's Work shall be made as 5. follows. Contractor shall submit a payment application to Owner on the last day of each month. Each monthly payment application shall request payment only for Work then performed by Contractor and materials then installed by Contractor as part of its Work on the Project (unless otherwise agreed by Owner). Each monthly payment application shall itemize the Work as directed by Owner, assign a completed percentage for each item of the Work included in the Schedule of Values, and indicate the total amount previously invoiced by Contractor through the date of the current request for payment. Provided the payment application is in proper form and is received by Owner within the time required by this Section 4.5, and except to the extent Owner takes exception to the payment application, Owner shall make payment to Contractor of the approved amounts requested in the payment application, less retainage of ten percent (10%), within forty-five (45) days after receipt of the application. Each payment application shall be accompanied by (1) a partial conditional lien waiver, in the form executed by the Contractor covering the entire amount of the payment requested by such payment application, conditioned only upon the receipt of the amounts set forth in such payment application; (2) a partial unconditional waiver of lien, in the form provided executed by the Contractor covering all payments made by Owner to the Contractor in all preceding payment applications; (3) partial conditional waivers of lien executed by each subcontractor, covering the entire amount of the payment requested by Contractor on behalf of such subcontractor in the relevant payment application, conditioned only upon receipt of the amounts requested on behalf of such subcontractor as set forth in such payment application; and (4) partial unconditional waivers of lien, executed by each subcontractor, which partial waivers of lien shall be equal to the amount of all payments made by Owner to Contractor on behalf of such subcontractor in all preceding payment applications. All lien waivers referenced in this Section 4 and elsewhere in the Agreement shall be in the statutory form required by the Texas Property Code.

6. Final payment to Contractor, including release of the retainage to be withheld from each individual progress payment, shall not be made until: (i) the Work is Finally Complete; (ii) Contractor submits to Owner evidence that all payrolls, bills for materials and equipment and other indebtedness connected with the Work have been paid or otherwise satisfied; and (iii) Contractor has submitted to Owner, a final release and waiver of all claims, liens or other demands which Contractor (and any of its subcontractors) may assert against Owner in connection with the Work, effective upon receipt of final payment. Contractor shall submit unconditional final lien waivers executed by Contractor (and any of its subcontractors), within ten (10) calendar days of receipt of final payment.

7. Owner shall have the right to charge back against Contractor, and to deduct from any payments due Contractor pursuant to this Agreement, all amounts incurred by Owner as a result of any failure by Contractor to comply with the terms of this Agreement or as a result of any negligence or unsatisfactory Work by Contractor or its subcontractors, including, but not limited to, all costs incurred by Owner to correct defective or non-conforming Work and all amounts paid by Owner to any subcontractor or supplier as a result of Contractor's failure to make payment to such person or entity. No payment made by Owner pursuant to this Agreement, including final payment, nor any partial or entire use or occupancy of the Work by Owner, shall be considered as, or deemed to imply, acceptance of any such Work unless such acceptance is expressly provided in writing by Owner.

SECTION 5

CHANGES

1. Contractor shall not make any change in the Work on the Project, or to the Contract Time, including the times for commencement or completion of the Work, and Contractor shall not be entitled to any increase in the Contract Price or to any additional compensation of any kind as a result of any change in the Work or delay to the commencement or completion of the Work, except and only to the extent such change has been authorized in advance by Owner by issuance of a Change Order. As used herein, a "*Change Order*" is a written direction to Contractor (in any written form) signed by Owner and issued after execution of this Agreement, authorizing a change in the Work or an adjustment in the Contract Price or the Contract Time.

2. In the event that Contractor is entitled to an increase in the Contract Price as a result of any change to the Work, such increase shall be limited to one hundred ten percent (110%) of Contractor's actual and direct increased costs of labor, material and equipment, plus applicable taxes incurred as a result of the change, without any other or additional costs, markup or expenses of any kind, including any additional markups for Contractor's fee, profit, overhead

or general conditions; provided further, that the aggregate fees for overhead, profit and general conditions charged by subcontractors on account changes to the Work shall not exceed ten percent (10%) of such subcontractors' direct cost of labor, material and equipment incurred in connection with such changes. No other or additional claims, damages or costs shall be paid by Owner as a result of any such change.

3. Should the parties hereto be unable to agree on the value of the Work to be added to, or deducted from, the Contract Price in the event of a Change Order, or should Owner direct Contractor to perform work or services and the parties disagree regarding whether such directed work or services constitute a change in the Work entitling Contractor to an adjustment to the Contract Price or Contract Time, Contractor shall nevertheless proceed without delay to complete or deduct the Work specified in writing by Owner, and the matter shall be resolved through the claims and disputes procedures provided herein.

SECTION 6

INSURANCE, BONDS AND INDEMNIFICATION

1. Contractor shall, and cause its subcontractors to, procure and maintain, during the life of this Agreement, and any warranty period: (i) worker's compensation and employer's liability insurance to fully protect against loss from personal injury, including death, to any of their employees; (ii) comprehensive automobile liability, commercial general liability (including blasting, collapse and underground, product liability and completed operations coverages), excess or umbrella coverage, contractual liability, owners and contractor's liability, and property damage insurance; and (iii) any and all other insurance required by the Agreement. Such insurance shall cover each and every obligation herein, including, but not limited to, the indemnity and defense obligations arising out of this Agreement, with each policy (other than worker's compensation) naming each of the Owner Indemnitees (defined below) as additional insureds thereunder. Contractor shall maintain the following limits of insurance (or such additional insurance as required by law, by Owner, or as otherwise maintained under Contractor's now or hereafter existing insurance policies, whichever is greater):

Commercial General Liability	\$1,000,000 each occurrence	\$2,000,000 annual aggregate
Automobile (owned, leased, non-owned and hired)	\$1,000,000 combined single limit	\$2,000,000 annual aggregate
Employer's Liability	\$1,000,000 each accident; \$1,000,000 Disease - Policy; and \$1,000,000 Disease - Each Employee	

Workmen's Compensation	In an amount equal to that required by statute	
Umbrella Liability	\$5,000,000 each occurrence	\$5,000,000 annual aggregate

2. The insurance requirements herein are minimum requirements for this Agreement and in no way limit the indemnity covenants contained herein. Failure to maintain the insurance policies required hereunder or to provide appropriate evidence of renewals shall be a material breach of this Agreement. Owner in no way warrants that the minimum limits for insurance contained herein are sufficient to protect Contractor from liabilities that might arise out of the performance of the Work under this Agreement by Contractor, its agents, representatives, employees or subcontractors. Contractor is free to purchase additional insurance as it may deem necessary. Contractor shall pay for all deductibles for any insurance policies applicable to the Work and/or the Project; provided, however, that the party responsible (it being understood that the Owner shall be deemed "responsible" for acts of God) for a loss covered by Owner's property insurance, if any, shall pay all costs of such deductible.

3. All policies of liability insurance required under this Section 6 shall be on an "occurrence" form and shall cover the full period during which all Work required under this Agreement is provided and, with respect to the completed operations coverage, for the duration of the applicable statute of repose following Final Completion.

4. Each insurance policy required hereunder shall provide the required coverage and shall not be suspended, voided, canceled or reduced in coverage or in limits except after thirty (30) days prior written notice to the Owner. Any such notice shall be sent by certified mail, return receipt requested.

5. Contractor shall furnish Owner with certificates of insurance (ACORD form or equivalent as may be approved by Owner) as required hereunder. The Project/Contract Number shall be noted on each certificate of insurance. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by the Owner before the Work commences. Owner reserves the right to require Contractor to deliver complete, certified copies of all insurance policies required hereunder at any time during the life of this Agreement. In addition, the certificates required by this Section 6 shall contain a provision stating that the applicable policy and the coverage evidenced thereby shall be primary and non-contributing with respect to any policies carried by Owner and/or any additional insureds and that any coverage carried by Owner and/or such additional insureds shall be solely excess insurance. Without limitation of anything in this Agreement, all policies required hereby, except for workers' compensation, shall cover claims involving contractual liability insurance applicable to the Contractor's obligations under Section 6.7 below. Neither performance of Work by Contractor nor any payment by Owner prior to Owner's receipt of such certificates shall abrogate Contractor's duty to maintain the required insurance or to supply such certificates.

6. Contractor's certificates shall include all subcontractors as additional insureds under its policies or Contractor shall furnish to the Owner separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to the minimum requirements set forth in this Agreement.

7. To the fullest extent permitted by law, Contractor shall defend, indemnify and hold harmless Owner, the Owner's lenders, investors and mortgagees, the Owner's Representative, the San Antonio Housing Authority ("SAHA"), the U.S. Department of Housing and Urban Development ("HUD"), the City of San Antonio (the "City"), the Owner's Representative, McCormack Baron Salazar, Inc., McCormack Baron Management, Inc., Wheatley Family II, L.P., Wheatley Senior, L.P., the Owner's consultants, the Owner's general and limited partners, including, without limitation, RBC Tax Credit Equity, LLC, RBC Tax Credit Manager II, Inc., and the San Antonio Housing Facility Corporation, and any of their officers, directors, employees, shareholders and affiliated companies, all past, present and future owners and investors of and lenders for the Project, the Owner's Consultants, and agents and employees of any of them (collectively, "Owner Indemnitees") from and against any and all losses, damages (including, but not limited to, direct, indirect and/or consequential or other damages), expenses (including but not limited to attorneys', consultants' and experts' fees), claims, suits, liabilities, fines, penalties, and remedial or clean-up costs (collectively, "Losses") arising out of or in any way related to: (i) the performance of the Work by Contractor, any subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable or responsible (collectively, "Indemnitors" and each an "Indemnitor"); (ii) any breach of this Agreement by any Indemnitor; (iii) violation of any Law by an Indemnitor; or (iv) any act or omission by an Indemnitor, except to the extent such Loss is caused by Owner's negligence, misconduct or wrongdoing. Subject to the foregoing, Contractor's indemnity and defense obligations shall apply to any Loss incurred by any Owner Indemnitee as a result of any claim by an Indemnitor (including, without limitation, any employee or agent of any Indemnitor); and Contractor shall not assert as a defense in any suit by Owner to enforce Contractor's obligations under this Section 6.7 any immunity or other defense provided under any worker's compensation or other laws. Contractor's obligations under this Section 6.7 shall not be limited by any other provision of this Agreement.

8. The Owner and Contractor waive all rights against each other and any of their subcontractors, sub-subcontractors, agents and employees, investors and lenders, each of the other for any damages caused by any cause of loss to the extent paid by insurance procured in connection with the Work, except such rights as they have to proceeds of such insurance held by any loss payee. The policies procured under this Agreement and any policies taken out in substitution or replacement for any such policies shall provide for such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to any person or entity set forth above even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in any property damaged.

9. Contractor shall furnish performance and payment bonds covering faithful performance of the Agreement and payment of obligations arising thereunder, each in penal sum equal to one hundred percent (100%) of the Contract Price, and issued by a surety reasonably

acceptable to Owner and authorized to do business in the state where the Project is located. Owner Indemnitees shall be named as obligees with respect to the bonds. Contractor shall deliver the required bonds to Owner simultaneously with execution of this Agreement. Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney. The cost of any such bonds required hereunder is, or shall be deemed to be, included in the Contract Price.

10. Any modifications or variations from the insurance and/or bonding requirements in this Agreement shall be made and approved by the Owner in its sole discretion, and whose decision shall be final.

11. If at any time Owner receives any stop notice, mechanic's or materialman's lien or similar claim pertaining to unpaid amounts for any labor, goods, materials, equipment or services provided as a part of Contractor's Work, and provided Owner has paid undisputed amounts due Contractor, then Contractor shall immediately release or cause the release of Owner, Owner's property and the Project, as applicable, from such notices, liens or claims. All costs and expenses associated with any mechanic's or materialman's lien for which Contractor is responsible pursuant to this Section 6.11 and which is filed or threatened to be filed shall be borne by Contractor alone. At Contractor's option, Contractor may file a bond in lieu thereof in an amount and form satisfactory to Owner, which shall be in a penal sum of not less than one hundred fifty percent (150%) of any such lien claim or a greater amount as required by law, and issued by a surety acceptable to Owner. It is expressly understood that all of Contractor's obligations with respect to this Section 6.11 begin immediately at the outset of any notice or filing of a claim (whichever is earlier), either by correspondence or court proceeding or otherwise, and without regard to any showing of fault on the Contractor's part. In all cases, Contractor shall cause Owner, Owner's property and the Project, as applicable, to be fully and forever released from all such liens and claims or, at Contractor's option, bond against such liens and claims, in either case within fifteen (15) days of receipt of notice thereof. Once Contractor has removed the notice, claim or lien for which Contractor is responsible pursuant to this Section 6.11 or with respect to such notice, lien or claim has provided a bond acceptable to the Owner, then the Owner shall release all sums being withheld from Contractor on account of such lien with the next payment application submitted to Owner.

SECTION 7

GENERAL PROVISIONS RELATING TO THE PERFORMANCE OF THE WORK

1. Contractor agrees at all times to provide Owner and Owner's Consultants with access to the Work, wherever it is in preparation or progress, in order to allow Owner and Owner's Consultants to inspect the preparation, construction or progress thereof. Contractor acknowledges and agrees, however, that the performance of the Work under the observation or supervision of Owner or Owner's Consultants, or the failure of them to make inspection, or testing, or to discover or dispute any defective Work or materials during any inspection, shall not prejudice the rights of Owner hereunder, and shall not relieve, reduce or diminish Contractor's responsibility for performance of the Work as required by this Agreement. Contractor shall maintain the Project site in a clean and orderly condition during the entire construction period

and shall promptly remove all unused construction materials, equipment, shipping containers, packaging debris and flammable waste from the Project.

2. Contractor warrants that all Work will be new (unless otherwise required by this Agreement), of good quality and in conformance with the requirements of this Agreement and the applicable drawings and specifications and free from defects in material or workmanship not inherent in the nature or quality of the work as permitted by the Agreement, including, without limitation, the drawings and specifications set forth in **Exhibit A**. In addition, Contractor hereby guarantees all Work against failure under ordinary usage for a period of one (1) year from the date of Final Completion of the Work. Promptly after receipt of written notice thereof, Contractor shall correct any defects in material or workmanship and any damage to other work or property caused by such defects or the repairing of such defects, at its own expense and without cost to Owner and without interruption to Owner's occupancy or use of the Project.

3. From and after the execution of this Agreement, through and to Final Completion of the Work, Contractor shall be responsible for and shall bear all risk of, damage to or loss or theft of, all materials furnished by Contractor for the Work on the Project site, all materials delivered to the Project site by Owner which are to be used in the performance of the Work (beginning with their delivery to the Project site), the Work completed or in progress, and all tools and equipment furnished or used by Contractor at the site. Contractor shall arrange for and be responsible for storage of all materials and equipment during the course of the Work. All temporary facilities, equipment or services necessary in connection with Contractor's Work on the Project shall be provided by Contractor at its sole cost and expense.

4. Contractor shall take all necessary precautions to properly protect the Project properly and the property and work of Owner or any other persons on or adjacent to the Project site, from damages caused by the actions of Contractor or any of its subcontractors or suppliers. Contractor shall be liable for any loss of, or damage to, any such property that is caused by the action or neglect of Contractor or any of its subcontractors or suppliers. In addition, Contractor shall at all times, enforce any of the instructions or directions issued by those owning or operating facilities or services at the Project site regarding safety, fires and smoking and shall not trespass upon, nor unreasonably encumber, the premises outside of the worksite.

5. Contractor acknowledges and understands that it may be performing its Work in conjunction with the work of other contractors and entities to be present on the Project site, including work to be performed by Contractor under separate contract. Contractor agrees to cooperate fully with Owner and all such other contractors, persons and entities on the Project site, and to carefully coordinate and fit its Work with that of any such other contractors, persons or entities as may from time to time be directed by Owner. Contractor shall afford such other contractors, persons and entities and their subcontractors and suppliers reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities and shall connect and coordinate Contractor's Work with such other work as required by Owner.

6. Contractor represents and warrants that it, and all consultants or subcontractors retained by Contractor to perform Work on this Project, are fully and properly licensed, and in good standing with all applicable licensing bodies, the State of Texas, the City and any other

governmental authority or agency with jurisdiction over the Project, to perform all of the Work required by this Contract.

7. Contractor shall abide by and procure all permits and other governmental approvals required for the Work, including but not limited to any approvals required by the City. All fees necessary to secure governmental approval thereof shall be paid by the Contractor. Contractor agrees to furnish Owner, upon request, with copies of all such permits and approvals.

Contractor warrants that it is and will remain in compliance with all federal, state 8. and local labor and immigration laws, regulations and requirements ("Labor Laws"), including those of the U.S. Department of Homeland Security (DHS) and U.S. Citizenship and Immigration Services (USCIS), regarding all personnel retained by Contractor or any subcontractors who will be providing work, labor, services, materials or equipment to the Project. This includes, but is not limited to, the proper processing, storage and retention of required USCIS Form I-9s, the examination of required documentation, and the confirmation of appropriated evidence reflecting the identity and employment eligibility of each worker performing any portion of the Work (in such form and at such times as are required by applicable law), and compliance with all visa laws and regulations. Additionally, Contractor will maintain at the Project site records required by the USCIS, including records of any posting requirements under H-1 visa regulations. Contractor hereby indemnifies and holds Owner harmless from and against any losses arising out of Contractor's failure to comply with all applicable laws, regulations and requirements related to Contractor's or any subcontractor's use of non-U.S. citizens to perform or supply work, labor, services, materials or equipment to the Project. The Contractor will retain any and all documentation relating to its compliance with immigration laws, regulations and requirements for five (5) years after termination of the Contract or completion of all Work.

9. Owner hereby designates Louis Bernardy as its representative authorized to act on Owner's behalf with respect to the Project (hereinafter "*Owner's Representative*"):

Mr. Louis Bernardy 454 Soledad Street, Suite 3000 San Antonio, Texas 78205-1555 Tel: 210-819-6492 Fax: 210-819-6493 Email: Louis.Bernardy@mccormackbaron.com

In the event Contractor receives any instructions or approvals, either in writing or orally, by persons other than Owner's Representative, Contractor shall notify Owner's Representative of such instructions or approvals and shall not act upon such instructions or approvals until provided with directions from Owner's Representative.

10. Contractor hereby designates the following person to serve as its representative authorized to act on Contractor's behalf with respect to the Project ("*Contractor's Representative*"):

106369816\V-1



SECTION 8

TERMINATION; REMEDIES AND DAMAGES

1. Owner may terminate this Agreement, with or without cause, upon five (5) calendar days prior written notice to Contractor, setting forth the reason for termination in the written notice. Termination will thereafter be effective five (5) days after Contractor's receipt of the written notice. Contractor shall be deemed to have received the notice one (1) day after it is delivered by facsimile transmission, or one (1) day after it is delivered by hand delivery or express delivery service. Upon receipt of notice of termination pursuant to this Section 8.1, Contractor shall immediately discontinue performing the Work and placing orders for any material or equipment in connection with the Work, and shall make all reasonable efforts to procure cancellation of all existing commitments for material or equipment upon terms satisfactory to Owner, and shall thereafter do only such Work as may be necessary to preserve or protect Work already in place or in progress and to protect material and equipment at the worksite or in transit thereto.

2. If this Agreement is terminated by Owner for any reason attributable to the fault, negligence, error, omission, breach of contract or breach of warranty of Contractor, or its subcontractors or suppliers, Owner may, without prejudice to any other rights or remedies, take possession of the worksite and all materials thereon, and finish the Work by whatever method Owner deems expedient. In such event, Contractor shall not be entitled to receive any further payment until the Work is completed. After the Work has been completed, Contractor shall be entitled to payment (in such amounts as are required by this Agreement), only for Work performed by Contractor up to and including the date of termination, which amount shall be subject to any deductions permitted by the terms of this Agreement. In addition, upon such termination, Contractor shall be responsible to Owner for any damages, costs or expenses incurred by Owner as a result of the fault, negligence, error, omission, breach of contract or breach of warranty of Contractor or its subcontractors and suppliers. If a termination by Owner pursuant to this Section 8.2 is later determined to be unjustified, such termination shall be considered a termination for convenience pursuant to Section 8.3 below.

3. In the event this Agreement is terminated by Owner without cause, Contractor shall be entitled to payment (in such amounts as are required by this Agreement) for all Work performed by Contractor up to and including the date of termination, plus the costs of services, materials, equipment and supplies, ordered prior to the date of such termination, for use in connection with the Work and reasonably necessary for the discharge of Contractor's responsibilities under this Agreement, or if applicable cancellation charges for such services, materials, equipment and supplies which cannot be discontinued by Contractor without cost or penalty upon notice of such termination. Contractor's sole and exclusive rights in the event of such termination shall be those set forth in this Section 8.3, and Contractor shall be entitled to no

additional compensation and shall have no additional or other rights of any kind, type or nature arising out of or under this Agreement by virtue of such termination.

4. Contractor may terminate this Agreement upon five (5) days written notice to Owner, if Owner has failed to make payment to Contractor, of amounts due and owing pursuant to the terms of this Agreement, for a period of thirty (30) days or longer after the date when payment is first due. If payment is made by Owner within the five (5) day notice period, the termination shall not be effective. If payment is not made within the five (5) day notice period, however, termination shall be effective on the sixth day after the notice is received by Owner. Owner shall be deemed to have received the notice one (1) day after it is delivered by facsimile transmission, or one (1) day after it is delivered by hand delivery or express delivery service. In the event of such termination, Contractor shall be entitled to such payments as are permitted by Section 8.3 above. Contractor shall be entitled to no additional compensation and shall have no additional or other rights of any kind, type or nature arising out of this Agreement by virtue of such nonpayment or termination.

SECTION 9

MISCELLANEOUS

1. All drawings and specifications and other documents prepared by Owner, Owner's Consultants or Contractor (or any architect, engineer or consultant hired by Contractor) through which the Work to be executed by Contractor as described are the property of Owner and shall not be used by any person other than Owner on projects other than the Project unless expressly authorized in writing by Owner. Contractor may retain one record set of these documents. All other copies, however, shall be returned or suitably accounted for to Owner upon request or upon Final Completion of the Work.

As used in this Agreement, the term "subcontractor" shall mean any person or 2. entity who has a direct contract or subcontract with Contractor to perform a portion of the Work on the Project (including materialmen and suppliers) and all other persons or entities (whether such persons or entities are subcontractors, sub-subcontractors, materialmen, or suppliers) who provide materials, labor, or services directly or indirectly to or for the Project through or under the supervision of Contractor or its subcontractors. Contractor shall furnish in writing to Owner the names of persons or entities proposed for each principal portion of the Work that is not selfperformed by Contractor. Owner may reply within three (3) calendar days to Contractor in writing stating: (i) whether Owner has reasonable objection to any such proposed person or entity; or (ii) that Owner requires additional time for review. Contractor shall not contract with a proposed person or entity to whom Owner has made reasonable and timely objection. If Owner has reasonable objection to a person or entity proposed by Contractor, Contractor shall propose another to whom Owner has no reasonable objection. Owner may, upon reasonable cause, direct Contractor to terminate and/or replace a subcontractor without increase in the Contract Price or Contract Time

3. The parties agree that they shall endeavor in good faith to resolve all claims and disputes between them by non-binding mediation as a condition precedent to litigation. Unless the parties mutually agreed otherwise, such mediation shall be administered by the American

Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of suit, but in such event, mediation shall proceed in advance of the litigation, which shall be stayed pending mediation for a period of sixty (60) days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. Any claim or dispute that is not resolved by mediation in accordance with this Section 9.3, shall be decided by resort to litigation in any court of competent jurisdiction in the state where the Project is located. Contractor shall include in all subcontracts and purchase orders, provisions identical to those contained in this Section 9.3.

4. In any subcontract with a subcontractor, Contractor shall include a provision allowing for termination at Contractor's or Owner's convenience without liability to Contractor or Owner, which Contractor shall promptly exercise if requested by Owner.

5. Contractor shall not assign or transfer any or all of its interest in this Agreement, or any claim under this Agreement, or delegate any of its duties under this Agreement, and any such assignment or delegation shall be null and void and of no effect. Owner may assign this Agreement to any construction lender, or any other lender to or investor in Owner or the Project or any successor owner of the Project. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of the parties and their respective heirs, successors, assigns and legal representatives.

6. Failure or delay by Owner to require performance of any provision of this Agreement shall not be deemed a waiver of its right to enforce such provision, or a waiver of any other right. If any provision of this Agreement is found unenforceable by any court or tribunal, Owner and Contractor agree that such provision shall be modified as necessary to render it enforceable, and that the remainder of this Agreement shall not be otherwise affected. The mutual agreement of the parties hereto is comprised of each and every provision hereof, and no provisions shall individually be held unenforceable for lack of mutuality. This Agreement constitutes the entire, complete and integrated agreement between the parties, supersedes any and all prior understandings, agreements conversations, and proposals (whether written or oral) and may not be amended or modified except by written agreement executed by the parties.

7. Contractor shall be deemed to be an independent contractor to Owner and shall have no other relationship to Owner, the Project, or any other individual or entity, except as otherwise set forth in this Agreement. Nothing herein shall be construed to create a partnership between Owner and Contractor or to authorize either party to act as general agent or undertake any contracts for the other party. Contractor shall not have any authority to bind Owner in connection with any matters relating to the Project except as expressly directed by Owner in writing.

8. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may be executed and transmitted by PDF or facsimile and, in such event, the PDF or facsimile shall have the same force and effect as the hand delivery of an original of this Agreement to the recipient duly executed in ink.

9. The provisions of this Agreement that may require continuing performance by Contractor, including without limitation Contractor's covenants, representations, guaranties, releases, warranties and indemnities and the benefit thereof, shall survive as valid and enforceable obligations notwithstanding any termination, cancellation or expiration of the Contract, acceptance of the Work, Completion, or any combination of them.

10. This Agreement includes all of the exhibits hereto, and all such exhibits (specifically including, without limitation, all drawing and specifications listed in **Exhibit A**) are incorporated herein by reference. To the extent of a conflict or inconsistency between the terms of this Agreement and any such exhibit, this Agreement shall control.

11. All terms defined herein are used in conformance with such definitions. All other terms and phrases that have well-known technical or construction industry meanings are used in accordance with those meanings, unless otherwise defined herein or other context clearly indicates a different meaning.

[Remainder of Page Intentionally Blank; Signatures on Following Page]

IN WITNESS WHEREOF, the undersigned have hereunto set their hand as of the date first set forth above.

OWNER

CONTRACTOR

Wheatley Family I, L.P.

By: SAHA Wheatley I, LLC, its General Partner

By: San Antonio Housing Facility Corporation

By:		
Name:		
Title:		

By:	
Name:	
Title:	

EXHIBIT A

SCOPE OF WORK, DRAWINGS AND SPECIFICATIONS

[Attached]

EXHIBIT B

PROJECT SCHEDULE

[Attached]

EXHIBIT C

SCHEDULE OF VALUES

[Attached]

EAST MEADOWS FAMILY APARTMENTS PHASE I RFP FOR GENERAL CONTRACTOR FOR INTERIOR MODIFICATIONS Applicant Acknowledgement (Reference Submittal Requirement #10)

I acknowledge that I, as the applicant for General Contractor have read, understand and find the terms and conditions of the Construction Contract acceptable, except as noted below.

Company Name:
Printed Name:
Signature:
Title:
Date:

Exceptions to Construction Contract (if no exceptions, state "None"):

EAST MEADOWS FAMILY APARTMENTS PHASE I RFP FOR GENERAL CONTRACTOR FOR INTERIOR MODIFICATIONS Applicant Acknowledgement (Reference Submittal Requirement #11)

I acknowledge that I, as the applicant for General Contractor, have reviewed the project schedule and can meet or exceed the proposed 120 day construction time period of that schedule.

Company Name:	
Printed Name:	
Signature:	
Title:	
Date:	