INVITATION FOR BIDS (IFB)



Stark Residence Hall Building Renovations IFB No. 2021-STARK008

Prepared By: Mike Jenkins Executive Vice President Kilgore College 1100 Broadway Kilgore, TX 75662

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INVITATION FOR BIDS IFB#2021-STARK008 Kilgore College

Procurement Services 1100 Broadway, Kilgore, Texas 75662 Phone: 903-983-8105

Project Description: Kilgore College is accepting competitive bids in response to this Invitation for Bids #2021-STARK008.

The following timeline has been established to ensure that our project objective is achieved; however, the following project timeline shall be subject to change when deemed necessary by Owner.

MILESTONE	DATE
Posted/Published	July 24, 2022
Open for Bidding	August 10, 2022
Pre-Bid meeting/tour	August 3, 2022, 10:00 a.m.
Questions Deadline	August 12, 2022, 2:00 p.m.
Close to Bidding	August 23, 2022, 2:00 p.m.
Reading of Bids Received	August 23, 2022, 3:30 p.m.
Anticipated Contractor Selection Date	September 26, 2022
Contract Start Date	TBD

COMPETITIVE BIDDING

- A. Bids for the Stark Residence Hall Building Renovations project will be received until:
 - 1. Bidding Close Date: Tuesday, August 23, 2022
 - 2. Bidding Close Time: 2:00 p.m. CST
- B. Mailing Location: Kilgore College Procurement Services Attn: Betsy Hansard 1100 Broadway Kilgore, Texas 75662
- C. Physical Location: Kilgore College Receiving Building Attn: Betsy Hansard 108 Choice Street Kilgore, Texas 75662

One original and five (5) copies of the bid response, to include all requisite documents included herein, must be submitted in a sealed envelope(s) (box or container) to the address listed above and clearly identify the submittal deadline, the IFB number, and name and return address of the bidder. Documents received after the deadline indicated herein will not be considered. The College reserves the right to accept or reject any informality, or cancel this IFB for any reason at any time. The College will not accept bids that are delivered by telephone, facsimile (fax), or electronic mail (e- mail). Selected vendor will be required to submit Form 1295 through the Texas Ethics Commission (TEC).

Bid review coordination will be managed by Johnson & Pace, Inc.

D. Project Identification and Location: Stark Residence Hall Building, 607 Elder Street, Kilgore, TX 75662

E. Owner: Kilgore College, 1100 Broadway, Kilgore, TX 75662

F. Project Description: Work includes interior demolition and new finish-out of restrooms in existing 8-story building. Bidders must submit bids for the work detailed in Appendix A. Kilgore College desires work to begin no sooner than December 10, 2022, with a required completion date no later than August 23, 2023.

G. Project Alternatives: The following alternatives will be evaluated as potential expansions to the scope work, subject to projected costs and resource availability. The College reserves the right to choose any one alternative, any combination of listed alternatives, or to reject all alternatives.

- 1. Alternative 1 Reglaze Windows
- 2. Alternative 2 Paint Building Interior
- 3. Alternative 3 Hallway Floors
- 4. Alternative 4 Repair Stair Treads
- 5. Alternative 5 Replace Hallway Lighting
- 6. Alternative 6 New Ceiling Fans
- 7. Alternative 7 Lobby Restroom Finishes

Detailed descriptions for the alternates listed above can be found on sheet G0.9 in Appendix A.

CONTRACT

Bids will be based on a lump sum contract and evaluation of selection criteria. Actual contract terms will be negotiated with the selected proposer to fit budget constraints and may not include all items of work listed herein.

CONTRACT DOCUMENTS

A. Scope of work expectations and construction documents are included in this IFB as Attachment A. There is the base renovation project with seven (7) alternative options. Any and/or all of the alternative options may or may not be selected for inclusion in this project.

B. Invitation for Bids advertisement and any issued addenda can be found on the Kilgore College Procurement Services website, <u>https://www.kilgore.edu/about/offices/procurement-services.</u>

SELECTION CRITERIA

A. All properly submitted bids will be reviewed, evaluated, and ranked by the Owner and Johnson & Pace, Inc. representatives based on the following weighted selection criteria:

- 1. The bidder's proposed cost for services 45%
- 2. Qualifications and reputation of the bidder 35%
- 3. The bidder's past relationship with the College and/or design team 10%
- 4. Specific experience in the scope of the proposed project 10%

B. Kilgore College will select the bid that offers the best value for the College based on the abovepublished selection criteria and on its ranking evaluation. By submitting a bid, the bidder acknowledges (1) acceptance of the proposal evaluation process, and (2) recognition that some subjective judgments must be made by Owner during this process. In determining best value for the College, the College is not restricted to considering price alone, but may consider any other factors stated in the selection criteria that allows for the determination of the lowest responsible bidder. The Owner reserves the right to divide the project into multiple parts, to reject any and all bids and re-solicit, or to reject any and all bids and temporarily or permanently abandon the project. Owner makes no representations, written or oral, that it will enter into any form of agreement with any bidder to this solicitation and no such representation is intended or should be construed by the issuance of this solicitation. Acceptance of a bid for consideration does not waive this reservation of rights, nor does it imply any obligation by Owner.

BOARD OF TRUSTEES AWARD

A final determination of contractor selection and authorization for contract negotiations will be made by the Kilgore College Board of Trustees at a meeting currently scheduled for September 26, 2022. Kilgore College reserves the right to reject any and all bids and waive any and all information.

PROJECT MANAGEMENT

Kilgore College requires that a project manager, coordinator, or supervisor be assigned to the project to work with our Director of Environmental Safety, Construction and Facilities. The manager should be available to meet with College staff as needed. Please provide telephone and email contact information for person assigned. Kilgore College requires one (1) back-up to this person. Please provide telephone and email contact information.

MANDATORY PRE-BID CONFERENCE

A. August 3, 2022, at 10:00 a.m.; Stark Hall, 607 Elder Street, Kilgore, TX 75662.

B. There will be registration at the pre-proposal conference and guided tour of the site. The pre-bid conference will allow all proposers an opportunity to ask representatives relevant questions and clarify provisions of this project. Bids will be accepted from only those bidders recorded as attending this meeting. There will be no exceptions to this requirement.

Answers to questions at the pre-bid meeting will be available to all bidders on the College's website at: <u>https://www.kilgore.edu/about/offices/procurement-services</u>.

REQUESTS FOR INFORMATION

Further questions must be submitted as Requests for Information (RFI), by email to <u>mjenkins@kilgore.edu</u>, until the deadline for questions of Friday, August 12, 2022, by 2:00 p.m. Questions will be answered by the appropriate individual(s) within three (3) business days. RFI must be clearly written, concise and specific, generally addressing a single item or issue. Each email must be identified with a unique abbreviation of the sender's business name, and with a number unique and sequential to the sender. For instance, Walgreen General Contractors & Builders might send their fourth RFI identified as "WALGREEN #4", "WAL #4", or "WG #4" so long as the abbreviation is consistent during the bidding process.

ADDENDA

It is Bidder's responsibility to make sure they have obtained all addenda prior to submitting a bid. Addenda, if any, will be posted on Owner's website at

<u>https://www.kilgore.edu/about/offices/procurement-services</u>. An Addenda Checklist form is included as Appendix C and must be completed and submitted with the bid.

TIME OF COMPLETION

Bidders shall begin the work upon receipt of the Notice to Proceed and shall complete the work within the contract time.

BIDDER QUALIFICATIONS

Bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work.

CLARIFICATIONS AND INTERPRETATIONS

The College may, in its sole discretion, respond in writing to written inquiries concerning this RCB. Only those responses that are made by formal written Addenda will be binding on the College. Any verbal responses, written interpretations or clarifications other than Addenda to this RCB will be without legal effect. All Addenda issued by the College prior to the submittal deadline will be and are hereby incorporated as a part of this RCB for all purposes.

Bidders are required to acknowledge receipt of each Addendum as specified in this Section. The Bidder must acknowledge all Addenda by completing, signing and returning the Addenda Checklist (ref. APPENDIX C). The Addenda Checklist must accompany the Bidder's proposal. It is the Bidder's responsibility to make sure they have obtained all addenda. Addenda, if any, will be posted on the College's website at https://www.kilgore.edu/about/offices/procurement-services.

CONFIDENTIALITY OF DOCUMENTS

Kilgore College considers all information, documentation, and other materials requested to be submitted in response to this RCB to be of a non-confidential and/or nonproprietary nature and, therefore, shall be subject to public disclosure under Texas Public Records laws.

Any "proprietary, trade secret, or confidential commercial or financial" information must be clearly identified, in a separate sealed envelope, at the time of bid submission. The bidder will be required to fully defend, in all forums, Kilgore College's refusal to produce such information; otherwise, Kilgore College will make such information public.

NON-DISCRIMINATION CLAUSE

Bidders submitting qualifications/bids declare, promise, and warrant they have and will continue to comply fully with Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C.A. §1985, et seq.), and related state laws in that there shall be no discrimination against any employee who is employed in the performance of this contract, or against any applicant for such employment, because of age, color, national origin, race, religion, creed, disability or sex.

PRICING AND PAYMENT DISBURSEMENTS/DRAW

A detailed list of any and all expected costs or expenses should be explained in the Cost Proposal.

KC will not recognize or accept any charges or fees to perform the Services that are not specifically stated in the pricing bid.

The bid submitted by bidders should include a schedule of disbursements/draws required. Invoices for each disbursement/draw must be submitted for payment.

GUARANTEE. SERVICES CONTRACTS AND WARRANTIES

The successful bidder will be required to guarantee under a Full-System Warranty that all work shall remain free of defects for one (1) full year after project completion. A Full-System Warranty should include labor, workmanship, and full cost of construction. Project specifications may require further system warranties.

Manufacturer's warranties on all equipment and other architectural warranties shall be collected, bound and submitted to the Owner for their record and possible future use.

CONFLICT OF INTEREST CLAUSE

The parties hereto declare and affirm that no officer, member, or employee of the College, and no member of its governing body exercises any functions or responsibilities in the review or approval of the undertaking described in this Contract, or the performing of services pursuant to this Contract, shall participate in any decision relating to this Contract which affects his or her personal interest, or any corporation, partnership, or association in which he or she is directly or indirectly interested; nor shall any employee of the College, nor any member of its governing body, have any interest, direct or indirect, in this Contract or the proceeds thereof.

BREACH

Should the bidder breach, violate, or abrogate any term, condition, clause or provision of this agreement, the College shall notify the Company in writing that such an action has occurred. If satisfactory provision does not occur within ten (10) days from such written notice the College may, at its option, terminate this agreement and obtain an alternate provider to provide all required materials. This provision shall not preclude the pursuit of other remedies for breach of contract as allowed by law.

INSURANCE INFORMATION

• Bidder shall provide all insurance specified herein and shall maintain such insurance throughout the term of this Agreement.

• The insurance must be obtained from a company or companies acceptable to the Owner and licensed to transact business in the State of Texas, and have a minimum financial security rating by A.M. Best of "A-" or better, or the equivalent from any other rating system.

• The insurance specified herein is the minimum requirement. In the event bidder has or obtains insurance coverage in amounts in excess of those required herein, such additional insurance coverage shall also inure to the benefit of the Owner.

• Minimum insurance coverage to be provided by bidder:

TYPE OF	COVERAGE		LIMITS OF LIABILITY				
1)	Worker's Con	npensation (part a)	Statutory				
2)	Employers lia	bility	\$1,000,000 each occurrence				
3)	Commercial C	General Liability*					
	(a)	Bodily Injury	\$1,000,000 each person				
			\$1,000,000 each occurrence				
	(b)	Property Damage	\$1,000,000 each occurrence				
			\$1,000,000 Aggregate				
4)	Comprehensi	ve Vehicle Liability					
	(a)	Bodily Injury	\$1,000,000 each person				
			\$1,000,000 each occurrence				
	(a)	Property Damage	\$1,000,000 each occurrence				

*The Kilgore Junior College District shall be named as an additional insured party on Bidder's General Liability policy.

CERTIFICATE OF INSURANCE

The bidder shall furnish the College with a certificate(s) of insurance evidencing the coverages required in this section. Such certificate(s) shall specifically state that the insurance company or companies

underwriting these insurance coverages shall give the College at least thirty (30) days' written notice in the event of cancellation of, or material change in, any of the coverages. If the certificate(s) is shown to expire prior to completion of all the terms of this Contract, the bidder shall furnish a certificate(s) of insurance evidencing renewal of its coverage to the College.

The bidder shall require each and every subcontractor performing work under the contract to maintain the same coverages required of the bidder in this Section, and upon the request of the College, shall furnish the College with a certificate(s) of insurance evidencing the subcontractor's insurance coverages required in this section.

INDEMNIFICATION

To the fullest extent permitted by law, contractor will and does hereby agree to indemnify, protect, defend with counsel approved by kc, and hold harmless kc, and their respective affiliated enterprises, board of trustees, officers, directors, attorneys, employees, representatives and agents (collectively "indemnitees") from and against all damages, losses, liens, causes of action, suits, judgments, expenses, and other claims of any nature, kind, or description, including reasonable Attorneys' fees and costs incurred in investigating, defending or settling any of the foregoing (collectively "claims") by any person or entity, arising out of, caused by, or resulting from contractor's performance under or breach of this agreement and that are caused in whole or in part by any malpractice, negligent act, negligent omission or willful misconduct of contractor, anyone directly employed by contractor or anyone for whose acts contractor may be liable. The provisions of this section will not be construed to eliminate or reduce any other indemnification or right which any indemnitee has by law or equity.

FORCE MAJEURE

The performance of either party's obligations will be suspended to the extent and for the length of time that the party is prevented from performing due to acts of nature, fires, governmental actions, changes in the Service requirements which directly contribute to a delay, or other events beyond its reasonable control. In the event of any occurrence that a party considers to be the cause of a delay or failure of performance, the party affected shall promptly notify the other party.

ISRAEL

In accordance with the Texas Government Code, Proposer represents and verifies that it does not, and will not during the term of the contract, if awarded, boycott Israel and that Proposer is not identified by the Texas Comptroller as boycotting Israel. "Boycott" as used herein means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes

EXECUTION OF OFFER

Bidder must complete, sign and return the attached Execution of Offer (Appendix C) as part of its bid. The Execution of Offer must be signed by a representative of bidder duly authorized to bind the bidder to its bid. Any bid received without a completed and signed Execution of Offer may be rejected by KC, in its sole discretion.

IFB Number 2021-STARK008 Kilgore College Dr. Brenda Kays, President

APPENDIX A

Appendix A consists of scope of work requirements/expectations and construction documents.

2084-008

KILGORE COLLEGE **STARK HALL R.R.** RENOVATION

607 ELDER STREET KILGORE, TX 75662

PROJE	CT SUMMARY	GENERAL DE
REGULATO	RY ON: CITY OF KILGORE, TEXAS	ROOMNAME [???] TYPSIM
BUILDING CODE:	2012 IBC	X/X7.1
BUILDING IN TOTAL BUILDING A AREA OF REMODE OCCUPANT LOAD: OCCUPANCY: TYPE CONSTRUCT	IFORMATION REA: 41,500 s.f. L: ±2,300 s.f. 175 PERSONS RESIDENTIAL R-2 TON: I-B	X'-X" TYP X SIM
SUMMARY		X6.1 X6.1
RENOVATION TO C RESTROOM / SHOV AND RELATED MEC FOR HANDICAPPE	CONVERT EXISTING COLLEGIATE RESIDENCE HALL GROUP RESTROOMS / SHOWERS TO (4) SINGLE USER WERS & (4) HANDICAPPED ACCESSIBLE SINGLE USER RESTROOM / SHOWERS ON EACH OF (7) RESIDENT FLOORS, CHANICAL, ELECTRICAL, AND PLUMBING IMPROVEMENTS. RENOVATION OF EXISTING FIRST FLOOR RESTROOMS O ACCESSIBILITY.	TYP X SIM X6.1 X6.1 X6.1 X6.1 X6.1 X6.1 X6.1 C X6 C X6 C X6 C C X6 C X6 C X6 C C X6 C C X6 C C X6 C C X6 C C C C
PROJE	CT GENERAL NOTES	
A. ALL WORK S REGULATION	HALL CONFORM TO THE 2012 INTERNATIONAL BUILDING CODE AND ALL OTHER APPLICABLE CODES, STANDARDS, AND IS OF THE CITY OF KILGORE, TEXAS AND COUNTY OF GREGG, TEXAS.	
B. IT IS INTEND	ED THAT A COMPLETE OCCUPIABLE BUILDING PROJECT IS PROVIDED.	ell St
C. THE GENER/ CONTRACT I	AL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION (A.I.A. A201 LATEST EDITION) ARE A PART OF THESE DOCUMENTS. A COPY IS ON FILE AT THE ARCHITECT'S OFFICE.	Leake St
D. INFORMATIC SCALE AND JOHNSON AI PERFORMED	IN SHOWN ON THESE DRAWINGS ARE TYPICALLY DRAWN TO SCALE. SOME INFORMATION MAY BE SHOWN NOT TO S TYPICALLY NOTED AS SUCH. IF A DIMENSION IS NOT SHOWN IT IS PREFERRED THAT THE CONTRACTOR CONTACT ND PACE TO OBTAIN THE REQUIRED INFORMATION. SCALING THESE DRAWINGS TO OBTAIN INFORMATION IS AT THE CONTRACTORS SOLE RISK.	S Jos
E. VERIFY ALL ATTENTION	DIMENSIONS AND CONDITIONS IN THE FIELD. ANY DISCREPANCIES IN THESE DRAWINGS SHALL BE BROUGHT TO THE OF THE ARCHITECT PRIOR TO STARTING WORK.	Elder St
F. PROVIDE EA CONSTRUCT CONSTRUCT	CH SUBCONTRACTOR WITH A COMPLETE DRAWING SET, APPROVED FOR CONSTRUCTION, AT TIME OF 10N. GRAPHIC AND WRITTEN INFORMATION ON DRAWINGS SHALL BE COORDINATED WITH ALL TRADES PRIOR TO 10N.	PROJECT
G. GC SHALL S SEE SCOPE	JPPLY AND INSTALL ALL ASPECTS OF THE PROJECT DESCRIBED IN THIS DRAWING SET UNLESS OTHERWISE NOTED. OF WORK FOR EXCEPTIONS.	Laird Ave
H. SHOULD THE	E DRAWINGS OR SPECIFICATIONS CONFLICT WITHIN THEMSELVES, OR WITH EACH OTHER, THE REQUIREMENT WITH	S Mar

THE GREATEST QUANTITY AND/OR THE HIGHEST QUALITY SHALL PREVAIL. THE DECISION OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE SYSTEM BEING INSTALLED SHALL BE FINAL.

RAWING SYSTEMS





GENERAL CONDITIONS
 THE DRAWINGS AND SPECIFICATIONS DESCRIBE THE COMPLETE PROJECT TO BE CONSTRUCTED BUT MAY NOT DESCRIBE CONDITION. THE GENERAL CONTRACTOR IS REQUIRED TO BE THOROUGHLY FAMILIAR WITH THE PROJECT AND CONTRACT DOCUMENTS AND IS REQUIRED TO NOTE ANY DISCREPANCIES OR OMISSIONS OF STANDARD CONSTRUCTION PRACTICES DRAWINGS, SPECIFICATIONS, SITE, EXISTING CONDITIONS, UTILITIES AND LOCAL BUILDING CODES AND REPORT THEM TO OWNER FOR RESOLUTION PRIOR TO SIGNING THE CONSTRUCTION CONTRACT. FAILURE TO DO SO SHALL PLACE THE BUF ANY ADDITIONAL COSTS, BECAUSE OF SUCH DISCREPANCIES OR OMISSIONS, UPON THE GENERAL CONTRACTOR. ADDITI WORK REQUIRED BY THE DESIGNER / ARCHITECT OR OWNER AFTER THE START OF CONSTRUCTION SHALL NOT BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
2. RESPONSIBILITY OF CONTRACTORS: EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HIS WORK OF EVERY DESCRIFTINT CONNECTION WITH HIS CONTRACT. HE SHALL SPECIFICALLY AND DISTINCTLY ASSUME AND DOES SO ASSUME ALL RISPLAMAGE OR INJURY FROM WHATEVER CAUSE TO PROPERTY OR PERSONS OR PROPERTY WHEREVER LOCATED, RESULT ANY ACTION OR OPERATION UNDER THE CONTRACT OR IN CONNECTION WITH HIS WORK. EACH CONTRACTOR WILL BE HE RESPONSIBLE FOR EXECUTION OF SATISFACTORY AND COMPLETE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS AND ANY BULLETINS, ADDENDA, ETC. WHICH MAY BE ISSUED DURING THE TIME OF BIDDING.
3. THE ARCHITECT / ENGINEER WILL NOT HAVE CONTROL OVER, CHARGE OF, OR RESPONSIBILITY FOR, THE CONSTRUCTION METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNEC THE WORK, SINCE THESE ARE SOLELY THE CONTRACTOR'S RIGHTS AND RESPONSIBILITIES.
4. THE GENERAL CONTRACTOR SHALL VERIFY SIZE, LOCATION AND CHARACTERISTICS OF ALL WORK AND EQUIPMENT SUPF THE OWNER OR OTHERS, WITH THE MANUFACTURER OR SUPPLIER PRIOR TO THE START OF RELATED WORK.
5. ALL SUBSTITUTIONS REQUESTED BY THE GENERAL CONTRACTOR MUST BE APPROVED BY THE OWNER OR ARCHITECT PR INSTALLATION. NO SUBSTITUTIONS WILL BE PART OF THE INITIAL BID PROCESS, PLANS MUST BE BID AS SPECIFIED.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF DAMAGE DONE TO OWNER'S PROPERTY BY PERSO EMPLOY OR IN THE EMPLOY OF HIS SUBCONTRACTORS.
7. THE GENERAL CONTRACTOR SHALL SEE THAT ALL SUBCONTRACTORS RECEIVE CURRENT AND COMPLTE SETS OF WORK DRAWINGS OR ASSUME FULL RESPONSIBILITY FOR COORDINATION.
8. CONTRACTOR SHALL COMPLETE ALL WORK IN A NEAT AND WORKMANLIKE MANNER IN COMPLIANCE WITH ALL STATE, NA LOCAL CODES, AND SECURE THE NECESSARY PERMITS AND "GREEN TAGS".
9. THE CONTRACTOR SHALL MAINTAIN THE PREMISES IN A CLEAN AND ORDERLY FASHION DURING THE ENTIRE CONSTRUCT PERIOD, REMOVING ALL TRASH AND DEBRIS ON A DAILY BASIS.
10. THE GENERAL CONTRACTOR SHALL PROVIDE THE OWNER OR OWNER'S REPRESENTATIVE WITH ALL PERTINENT OPERATION AT THE COMPLETION OF PROJECT.
11. PROMPTLY AFTER AWARD OF CONTRACT, CONTRACTOR MUST PREPARE AND SUBMIT TO THE OWNER ESTIMATED CONST PROGRESS SCHEDULES FOR THE WORK, WITH SUB-SCHEDULES OF RELATED ACTIVITIES WHICH ARE ESSENTIAL TO IT'S F
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL BLOCKING OR ANCHOR HARDWARE NECESSARY TO INSTALL MI AND TRADE DRESS ITEMS, WHETEHER INDICATED ON PLANS OR NOT.
 THE GENERAL CONTRACTOR SHALL PROVIDE, PAY FOR AND MAINTAIN ANY AND ALL TEMPORARY FACILITIES AND/OR UTIL REQUIRED FOR CONSTRUCTION, UNTIL TIME OF SUBSTANTIAL COMPLETION, INCLUDING BUT NOT LIMITED TO: a. POWER AND LIGHTING: EXISTING POWER SERVICE (IF AVAILABLE) MAY BE USED.

b. WATER SERVICE: EXISTING WATER SERVICE (IF AVAILABLE) MAY BE USED. c. SANITARY FACILITIES: A MINIMUM OF (1) PORTABLE TOILET SHALL BE MADE AVAILABLE FOR THE USE OF WORKMEN, ARCHITECT AND OWNER d. BARRIERS: TEMPORARY FENCING SHALL BE INSTALLED TO PREVENT UNAUTHORIZED ENTRY AND TO PROTECT EXISTING FACILITIES AND ADJACENT PROPERTIES FROM DAMAGE DURING CONSTRUCTION e. PARKING: A TEMPORARY PARKING AREA SHALL BE ARRANGED TO ACCOMODATE CONSTRUCTION PERSONN f. FIELD OFFICE AND STORAGE: PORTIONS OF THE WORK AREA MAY BE UTILIZED AS A FIELD OFFICE AND STORAGE PROVIDING THAT THEY DO NOT INTERFERE WITH OWNER'S USE OF THE REST OF THE FACILITY AND SHALL BE PROMPTLY REMOVED UPON CURITY OF OFFICE AND STORAGE FACILITIES IS THE CONTRACTOR'S RESPONSIBILIT

4. CONTRACT SHALL NOT BE CONSIDERED TO HAVE BEEN FULLY EXECUTED SATISFACTORILY UNTIL THE FOLLOWING HAS BEEI ESTABLISHED: A. OWNER HAS ACCEPTED CONSTRUCTION AS BEING SATISFACTORY.

B. OWNER'S FIELD REPRESENTATIVE OR OWNER HAS ACCEPTED CONSTRUCTION AS BEING SATISFACTORY C. CITY BUILDING DEPARTMENT OR AUTHORITY HAVING JURISDICTION HAS ISSUED AN UNQUALIFIED CERTIFICATE OF OCCUPANCY. D. LIEN RELEASES FROM GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS HAVE BEEN SUBMITTED TO OWNER.

CODE SUMMARY

FEATURE	PARAGRAPH	INDICATED OR PROVIDED							
USE:		COLLEGIATE RESIDENCE HALL	DORMITORY						
CONFIGURATION:		EIGHT (8) STORIES AT + PENTHOUSE							
AREA:		5,000 SF PER FLOOR + 1,500 SF PENTH	IOUSE = 41.500 SF						
MATERIALS:		MASONRY, CAST-IN-PLACE CONCRETE	E, AND PRECAST S						
OCCUPANCY CLASSIFICATION:	310.4	RESIDENTIAL GROUP R-2							
SPECIAL REQUIREMENTS:	403	NOT APPLICABLE	NO OCCUPIED F						
	420.4	IN ACCORDANCE WITH 903.2.8	AUTOMATIC SPF						
	420.3	IN ACCORDANCE WITH 907.2.9	SMOKE DETECT						
CONSTRUCTION:	601 TABLE	APPARENTLY TYPE I-B	FRAME, WALLS,						
ALLOWABLE AREA:	503 TABLE	UNLIMITED	FOR R-2 OCCUP						
ALLOWABLE STORIES:	503 TABLE	ELEVEN (11)	FOR R-2 OCCUP						
FIRE PROTECTION:	903.2.8	NOT PROVIDED	SPRINKLERS RE						
FIRE PROTECTION:	907.2.9	PROVIDED	SMOKE DET. + F						
FIRE PROTECTION:	905.4	PROVIDED	CLASS 1 HOSE (
OCCUPANT LOAD:	1004.1.2 TABLE	25 RESIDENTS PER FLOOR	RESIDENTIAL - 2						
IEBC – INTERNATIONAL EXISTING	BUILDING CODE 2	2012 – REVIEW SUMMARY							
FEATURE	PARAGRAPH	INDICATED OR PROVIDED	REQUIRED OR N						
COMPLIANCE METHOD	301.1.2	WORK AREA COMPLIANCE METHOD							
CLASSIFICATION OF WORK	504	ALTERATION - LEVEL 2	322 SF WORK <						
NEW BLDG. ELEMENTS & MAT'LS	702	PROVIDED (RE: SPECS)	COMPLY REQUI						
FIRE PROTECTION	703	MAINTAINED	MAINTAIN EXIST PROTECTION						
MEANS OF EGRESS	704	MAINTAINED	MAINTAIN EXIST						

705

706

804.2.2

804.2.5

<u>804.4.3</u>

804.3

804.4

805

805.3

805.4

805.6

805.7

805.8

805.9

<u>805.10</u>

806

807

809

810

811

1001

808.1

805.4.4

707

ACCESSIBILITY

ENERGY CONSERVATION

SPECIAL USE AND OCCUPANCY 802

AUTOMATIC SPRINKLER SYSTEM 804.2 GROUPS ...R-2...

OCCUPANCY REQUIREMENTS 804.4.1

OPENINGS IN CORRIDOR WALLS 805.5

SUPERVISION

FIRE ALARM AND DETECTION

NUMBER OF EXITS

PANIC HARDWARE

DEAD END CORRIDORS

ENERGY CONSERVATION

EXIT SIGNS

HANDRAILS

ACCESSIBILITY

STRUCTURAL

ELECTRICAL

MECHANICAL

OCCUPANCY

PI UMBING

<u>GUARDS</u>

EGRESS DOORWAYS

MEANS OF EGRESS LIGHTING

NEW BLDG. ELEMENTS & MAT'LS 803.2.1.11

WINDOWLESS STORY 804.2.3

OTHER REQUIRED 804.2.4

STRUCTURAL

STANDPIPES

SMOKE ALARMS

MEANS OF EGRESS

MAINTAINED PROVIDED (RE: DRAWINGS) NOT APPLICABLE PROVIDED (RE: SPECS) NOT APPLICABLE EXISTING COMPLIES

NOT APPLICABLE

EXISTING COMPLIES NOT APPLICABLE NOT APPLICABLE EXISTING COMPLIES EXISTING COMPLIES IN SLEEPING ROOMS EXISTING COMPLIES NO REQUIREMENT NO REQUIREMENT PROVIDED (RE: DRAWINGS) NOT APPLICABLE PROVIDED (RE: DRAWINGS) PROVIDED (RE: DRAWINGS) EXISTING COMPLIES PROVIDED (RE: DRAWINGS) PROVIDE PER TAS

LINTELS AT NEW OPENINGS PROVIDED (RE: DRAWINGS) PROVIDED (RE: DRAWINGS) PROVIDED (RE: DRAWINGS) PROVIDED (RE: DRAWINGS) NOT APPLICABLE

NEEDED Γ SLAB

FLOOR > 75' ABV. GRADE PRINKLER SYSTEM TION / FIRE ALARM , FLOOR: 2-HR RATED PANCY PANCY EQUIRED FOR R2

EEDED

< 50% OF 5,000 SF JIREMENTS OF IBC 2012 . LEVEL OF MAINTAIN EXIST. LEVEL OF EGRESS PER TAS 2012 FOR RENOVATIONS NO ROOF WORK NEEDED NEW WINDOWS & PLUMBING FIXTURES COMPLY WITH 801.1, NONE INDICATED EXISTING VERTICAL OPENINGS

SPRINKLERS NOT REQUIRED, SEE 504 OPENINGS 50' O.C. EACH SIDE NOT REQUIRED: TABLE 903.2.11.6 SPRINKLERS NOT REQUIRED WORK AREA LOCATED > 50' ABV.

REQUIRED REQUIRED GROUP R AND I-1

TWO FROM EACH FLOOR NO REQUIREMENT, SEE 504 NO REQUIREMENT, SEE 504 COMPLY WITH 805.5 NONE INDICATED REQUIRED REQUIRED COMPLY WITH 805.9 COMPLY WITH 805.10 NO CODE REQUIREMENT PER IBC 2012

COMPLY WITH NFPA 70 COMPLY WITH IMC COMPLY WITH IPC NEW CONSTRUCTION ONLY

OWNERSHIP, USE AND CLASSIFICATION UNCHANGED

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ALL MILLWORK

FIRE ALARM REQUIRED CONNECTION REQUIRED - 200 SF / OCCUPANT

SHEET	
GENERAL:	
G0.1	COVER SHEET
G0.2	ACCESSIBILITY GUIDELINES
G0.3	ACCESSIBILITY GUIDELINES
G0.4	SPECIFICATIONS
G0.5	SPECIFICATIONS
G0.6	SPECIFICATIONS
G0.7	SPECIFICATIONS
G0.8	SPECIFICATIONS
G0.9	BID ALTERNATES
STRUCTURAL	.:
S1.1	NEW & EXPANDED OPENING LINTEL SUPPORT PLANS & DETAILS
ARCHITECTU	RAL:
A1.1	ARCHITECTURAL SITE PLAN & BUILDING SECTION
A2.1	DEMOLITION PLANS, PARTITION LAYOUT PLAN & FLOOR PLANS - FLOORS 1 THRU 8
A2.2	ENLARGED PLAN, INTERIOR ELEVATIONS, SCHEDULES & DETAILS
MECHANICAL	
M0.0	MECHANICAL LEGEND & GENERAL NOTES
M1.1	1st FLOOR MECHANICAL PLAN
M1.2	2nd THRU 8th FLOOR MECHANICAL PLAN
M1.3	ROOF MECHANICAL PLAN
M3.0	MECHANICAL SCHEDULES & DETAILS
PLUMBING:	
P0.0	PLUMBING LEGEND & GENERAL NOTES
P1.0	DOMESTIC WATER PLAN
P2.0	SANITARY SEWER PLAN

LECTRICAL

E0.0

E1.0

F1.1

R UTILITIES

DEMOLITION NOTES

POWER PLAN

E2.0 LIGHTING PLAN

ROOF ELECTRICAL PLAN

ELECTRICAL LEGEND & GENERAL NOTES

- CONTRACTOR SHALL VISIT SITE AND BE FAMILIAR WITH EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO EXISTING DIMENSIONS, EQUIPMENT, LOCATIONS, SIZES, QUANTITIES, AND MATERIALS.
- EXISTING CONSTRUCTION IS SHOWN BASED UPON ONSITE OBSERVATIONS. DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS THAT AFFECT NEW WORK SHALL BE REPORTED TO THE ARCHITECT / ENGINEER / PROJECT MANAGER PRIOR TO PROCEEDING WITH WORK.
- DEMOLITION WORK SHALL BE SELECTIVE AND PLANNED TO MINIMIZE REMOVALS TO ONLY THE EXTENT REQUIRED FOR INSTALLATION OF NEW WORK AND FOR REPAIR AND PATCHING OF NEW FINISHES SO THAT COMPLETED WORK IS LIKE NEW AND INDISTINGUISHABLE FROM EXISTING.
- ALL DEMOLITION. INTERRUPTION OR PENETRATION OF ASSEMBLIES-TO-REMAIN SHALL BE MINIMIZED AS MUCH AS POSSIBLE AND PERFORMED IN A MANNER THAT WILL ENSURE THE INTEGRITY OF THE ASSEMBLY.
- COMPLY WITH ALL STATE AND LOCAL ENVIRONMENTAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO ADDRESSING OF ASBESTOS MATERIALS AND MOLD GROWTH IN THE BUILDING IF AND WHERE THEY EXIST. ANY REQUIRED ASBESTOS AND MOLD GROWTH ABATEMENT SHALL BE PERFORMED BY LICENSED ENTITIES AND IS NOT PART OF THIS CONTRACT. COORDINATE WITH OWNER TO OBTAIN CURRENT REPORT OF INVESTIGATION AND REMEDIATION. PROCEED WITH DEMOLITION AND CONSTRUCTION ONLY AFTER ABATEMENT WORK IS COMPLETED, INSPECTED AND CERTIFIED.
- CONTRACTOR SHALL COORDINATE EXACT SIZES AND LOCATIONS FOR MECHANICAL, PLUMBING, AND ELECTRICAL PENETRATIONS REQUIRED FOR NEW WORK WITH EACH RESPECTIVE TRADE.
- CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF TEMPORARY SHORING AND BRACING REQUIRED FOR DEMOLITION.
- EXISTING CONSTRUCTION ADJACENT TO DEMOLITION WORK SHALL BE PATCHED AND REPAIRED TO MATCH ORIGINAL CONDITION.
- DEMOLITION, AS NOTED, CONSISTS OF COMPLETE REMOVAL OF THE LISTED ITEMS, RELATED FASTENERS, AND ATTACHMENT MATERIALS LEAVING A CLEAN SURFACE READY TO RECEIVE NOTED MATERIALS OR SCHEDULED FINISHES.
- UNLESS NOTED OR SPECIFIED OTHERWISE, MATERIALS SHALL BE REMOVED FROM SITE AND DISPOSED OF AT CONTRACTOR'S EXPENSE, DISPOSAL SHALL COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL GUIDELINES.
- PRECAUTIONS SHALL BE TAKEN TO SEPARATE THE GENERAL PUBLIC FROM DEMOLITION AND TO PROTECT THEIR HEALTH AND SAFETY.
- CONTRACTOR SHALL INVESTIGATE EACH WALL SUBJECT TO DEMOLITION TO DETERMINE IF IT IS USED FOR BEARING. COORDINATE WITH CONSTRUCTION SEQUENCE AND PROVIDE SHORING AT ANY WALL CARRYING STRUCTURAL LOAD TO PREVENT COLLAPSE UNTIL NEW STRUCTURE IS IN PLACE.
- OWNER RESERVES FIRST RIGHT TO RETAIN AND KEEP ANY EXISTING ITEMS REMOVED AS A PART OF THE DEMOLITION WORK. CONTRACTOR SHALL VERIFY ANY AND ALL ITEMS TO BE SALVAGED AND RE-USED OR KEPT BY OWNER PRIOR TO PERFORMING ANY DEMOLITION.
- CONTRACTOR SHALL PERFORM ALL DEMOLITION NECESSARY TO PROVIDE CONSTRUCTION AND / OR INSTALL NEW WORK INDICATED, WHETHER SAID DEMOLITION IS INDICATED ON DRAWINGS OR NOT.

OWNER	STRUCTURAL ENGINEER	
KILGORE COLLEGE 1100 BROADWAY KILGORE, TEXAS 75662 903-983-8101	JOHNSON & PACE INCORPORATED 1201 NW LOOP 281 SUITE 100 LONGVIEW, TEXAS 75604 903-753-0663 Office 903-753-8803 Fax	
ARCHITECT JOHNSON & PACE INCORPORATED 1201 NW LOOP 281 SUITE 100 LONGVIEW, TEXAS 75604 903-753-0663 Office 903-753-8803 Fax	MECH. / ELEC. ENGINEER JOHNSON & PACE INCORPORATED 1201 NW LOOP 281 SUITE 100 LONGVIEW, TEXAS 75604 903-753-0663 Office 903-753-8803 Fax	

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REVISIONS	NO. DESCRIPTION BY DATE	1 ISSUED FOR BIDDING JCT 07/22/2022			
		COVER SHEET			
ISSUE DATE:	01122/2022	Y: SCALE:	REVISION NO:	~	
JOB NO:	2084-008	JCT DJC DJC DJC DJC	SHEET NO.:	60.1	



THEY OPERATE OR WERE A PASSENGER IN. MINIMUM CLEAR WIDTH SHALL BE 36" EXCEPT AS FOLLOWS:

NOT TO EXCEED 1/2" RISE

- DOORS SHALL PROVIDE 32" MINIMUM CLEARANCE BOUTES WHICH REVERSE DIRECTION SHALL HAVE 42" MINIMUM CLEARANCE AND 48" TURNING SPACE SURFACES OF ROUTE(S) SHALL BE STABLE, FIRM AND SLIP RESISTANT
- ROUTE(S) SHALL HAVE A MAXIMUM SLOPE OF 1:20 (5%) AND A MAXIMUM CROSS SLOPE OF 1:48 (2%) VERTICAL CHANGES IN LEVEL SHALL NOT EXCEED 1/4" EXCEPT WITH A SLOPED LEADING EDGE (i.e.: DOORWAY THRESHOLD) THEN

B. <u>RAMPS:</u>

RAMPS ARE RUNNING SLOPES GREATER THAN 1:20 (5%) AND SHALL NOT EXCEED 1:12 (8.3%) SLOPE AND HAVE MAXIMUM 1:48 (2%) CROSS SLOPES. RAMPS SHALL HAVE 60" MINIMUM LEVEL LANDINGS AT TOP AND BOTTOM (OUTDOOR LANDINGS SHALL DRAIN) RAMPS SHALL NOT EXCEED 30' RUN (30" RISE) BETWEEN LANDINGS AND/OR TURNAROUNDS HAVING A MINIMUM 60"x60" SIZE. RAMPS GREATER THAN 30' LONG SHALL BE MINIMUM 44" WIDE. HANDRAILS SHALL BE CONTINUOUS AND SHALL BE PROVIDED ON BOTH SIDES OF THE RAMP. INTERMEDIATE HANDRAILS SHALL BE PROVIDED

IN THE CENTER OF RAMPS WIDER THAN 176" (14'-8"). RAMPS LESS THAN 72" (6'-0") LONG AND 6" RISE DO NOT REQUIRE HANDRAILS.

C. <u>DOORS:</u>

- DOORS SHALL OPEN A MINIMUM OF 90° AND HAVE A MINIMUM 32" (2'-10") CLEAR WIDTH IN-SWING DOORS SHALL HAVE AN 18" (1'-6") MINIMUM UNOBSTRUCTED CLEARANCE ON THE LATCH (LEVER) SIDE
- DOOR LATCHES (KNOBS) SHALL BE OF THE LEVER OPERATED OR U-TYPE MECHANISMS DOOR LATCHES (KNOBS) SHALL BE SET NOT GREATER THAN 48" (4'-0") A.F.F.
- DOOR CLOSERS SHALL NOT REQUIRE A GREATER FORCE THAN 51bs PER FOOT TO OPERATE. DOUBLE DOOR OPENINGS SHALL HAVE AT LEAST ONE LEAF HAVING MINIMUM 32" (2'-10") CLEAR WIDTH WHEN OPENED.

D. <u>SIGNS:</u>

- WHERE A TACTILE SIGN IS PROVIDED, THE SIGNS SHALL BE MOUNTED ON WALLS ADJACENT TO THE LATCH SIDE OF THE DOOR WITH AN 18"x18" CLEAR FLOOR SPACE BEYOND THE ARC OF THE DOOR SWING & CENTERED ON THE TACTILE CHARACTERS
- 2. SIGNS SHALL BE MOUNTED 48" MINIMUM FROM THE BASELINE OF THE LOWEST TACTILE CHARACTER AND 60" MAXIMUM FROM THE BASELINE OF THE HIGHEST TACTILE CHARACTER A.F.F. RAISED LETTERS, NUMBERS AND SYMBOLS SHALL BE OF CONTRASTING COLORS ON A NON-GLARE BACKGROUND
- HANDICAPPED (HC) PARKING SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND SHALL BE MOUNTED 60" MINIMUM ABOVE FINISHED SURFACE MEASURED TO THE BOTTOM OF THE SIGN. PROVIDE ONE SIGN PER REQUIRED HC SPACE (SEE MATRIX) WITH ONE VAN HC SPACE & ONE REGULAR HC SPACE

E. <u>Plumbing:</u>

- 1. WATER CLOSETS SHALL BE ELONGATED AND SPACED 16"-18" FROM THE WALL TO CENTER OF FIXTURE. FLUSH CONTROLS SHALL BE MOUNTED TO OPEN SIDE OF FIXTURE
- ALL EXPOSED PIPES, DRAINS AND SUPPLY LINES SHALL BE WRAPPED TO PROVIDE THERMAL PROTECTION AGAINST POTENTIAL ACCIDENTS 3. ALL HANDICAP ACCESSIBLE TUBS AND SHOWERS SHALL HAVE GRAB BARS AT HEIGHTS SPECIFIED AND HAVE ADEQUATE

CENEDAL DOOVICIONS

SUPPORT (BLOCKING) FOR 250lbs PER FOOT.

GENERAL PROVE					
*SEE (TA	s) or (Adaag o	GUIDELINES FOR	MORE COMPLE	TE HANDICAP G	UIDELINES
		A	GES		
MOUNTING HEIGHTS FOR ADULTS & CHILDREN	3 AND 4	5 - 8	9 - 12	ADULTS	FINISHED FLOOR TO
REACH RANGES (UNOBSTRUCTED)					
HIGH (MAX.) LOW (MIN.)	36" 20"	40" 18"	44" 16"	48" 15"	EDGE OF OBSTRUCTION
RAMPS AND STAIRS					
HANDRAIL GRIPPING SURFACE	28" MAX., S MIN. CLE	ECONDARY HAN ARANCE BETWE	IDRAIL W/ 9" EN RAILS	34" - 38" MAX.	TOP OF GRIPPING SURFAC
ELEVATORS					
CAR CONTROL EMERGENCY COMMUNICATION	36" MAX. 35" MIN.	40" MAX. 35" MIN.	44" MAX. 35" MIN.	48" MAX. 35" MIN.	HIGHEST OPERABLE PART
PLATFORM LIFTS (HC LIFTS)					
CONTROL/OPERATING MECHANISM	20"-36" MAX.	18"-40" MAX.	16"-44" MAX.	15"-48" MAX.	HIGHEST OPERABLE PART
DRINKING FOUNTAINS AND WATER COOLERS					
FRONTAL APPROACH					
SPOUT HEIGHT KNEE CLEARANCE				36" MAX. 27" MAX.	TO OUTLET TOP EDGE OF SPACE
<u>SIDE APPROACH</u> SPOUT HEIGHT				36" MAX.	TO OUTLET
WATER CLOSETS					
W/C CENTERLINE SEAT HEIGHT GRAB BAR HEIGHT FLUSH CONTROL DIOFENDER UFFOUT	12" 11"-12" 18"-20" 36" MAX.	12"-15" 12"-15" 20"-25" 40" MAX.	15"-18" 15"-17" 25"-27" 44" MAX.	16"-18" 17"-19" 33"-36" 48" MAX.	CENTER OF W/C TOP OF SEAT TOP OF GRAB BARS CENTER OF FLUSH CONTROL
LIBINAL S	14	14 - 17	17 - 19	15 -40	DISPENSER OUTLET
BASIN FLUSH CONTROL				17" MAX. 44"MAX.	RIM OF BASIN CTR. OF FLUSH CONTROLS
LAVATORIES AND SINKS					
COUNTER OR SURFACE KNEE CLEARANCE FAUCET				34" MAX. 27" MIN. 17"-25"	TOP OF RIM OR COUNTER TOP EDGE OF SPACE TO FAUCET FROM FRONT EDGE
MIRRORS					
REFLECTIVE EDGE (ABOVE LAV. OR COUNTER)				35" MAX. 40" MAX.	TO BOTTOM OF REFLECTIVE SURFACE
SURFACE BATHTUBS					
SEAT GRAB BARS HAND SHOWER				17"-19" 33"-36" 47" MAX.	TOP OF SEAT TOP OF GRAB BARS HAND SHOWER HEAD MOUNTING
SHOWER STALLS					
SEAT GRAB BARS HAND SHOWER				17"-19" 33"-36" 47" MAX.	TOP OF SEAT TOP OF GRAB BARS HAND SHOWER HEAD MOUNTING
STORAGE					
FRONTAL APPROACH <20"	36" MAX.	40" MAX.	44" MAX.	48" MAX.	
>20"-25" SIDE APPROACH	36" MAX.	40" MAX.	44" MAX.	48" MAX.	HIGHEST REACHABLE AREA
0"-10" 10"-24" CONTROL AND	36" MAX. 36" MAX.	40" MAX. 40" MAX.	44" MAX. 44" MAX.	48" MAX. 48" MAX.	
OPERATING MECHANISMS					
FRONTAL APPROACH SIDE APPROACH	36" MAX. 36" MAX.	40" MAX. 40" MAX.	44" MAX. 44" MAX.	48" MAX. 48" MAX.	HIGHEST OPERABLE PART
TELEPHONES					
FRONTAL APPROACH SIDE APPROACH	36" MAX. 36" MAX.	40" MAX. 40" MAX.	44" MAX. 44" MAX.	48" MAX. 48" MAX.	HIGHEST OPERABLE PART
FIXED OR BUILT-IN SEATING & TABLES, READING & STUDY AREAS & WORK STATIONS					
TABLES OR COUNTERS KNEE CLEARANCES		26"-20" 24" MIN.	•	28"-34" 27" MIN.	TOP OF SURFACE UNDERSIDE OF SURFACE
DRESSING AND FITTING ROOMS					
BENCH				17"-19"	TOP OF BENCH
FOOD SERVICE LINES					
TRAY SLIDE		. 26"-30"	•	28"-34"	TOP OF TRAY SLIDE













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CSI SECTION 02 - EXISTING CONDITIONS

02 4119 - SELECTIVE DEMOLITION

UNLESS OTHERWISE INDICATED, DEMOLITION WASTE BECOMES PROPERTY OF CONTRACTOR.

CONDUCT A PRE-DEMOLITION CONFERENCE AT PROJECT SITE.

SUBMIT PROPOSED PROTECTION MEASURES IN A REPORT, INCLUDING DRAWINGS, THAT INDICATES THE MEASURES PROPOSED FOR PROTECTING INDIVIDUALS AND PROPERTY, FOR ENVIRONMENTAL PROTECTION, FOR DUST CONTROL AND, FOR NOISE CONTROL. INDICATE PROPOSED LOCATIONS AND CONSTRUCTION OF BARRIERS.

SUBMIT SCHEDULE OF SELECTIVE DEMOLITION ACTIVITIES WITH STARTING AND ENDING DATES FOR EACH ACTIVITY.

SUBMIT PRE-DEMOLITION PHOTOGRAPHS OR VIDEO.

CONDITIONS EXISTING AT TIME OF INSPECTION FOR BIDDING PURPOSE WILL BE MAINTAINED BY OWNER AS FAR AS PRACTICAL. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS BEFORE PROCEEDING WITH SELECTIVE DEMOLITION. UTILITY SERVICE: MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION OPERATIONS. MAINTAIN FIRE-PROTECTION FACILITIES IN SERVICE DURING SELECTIVE DEMOLITION OPERATIONS. ARRANGE SELECTIVE DEMOLITION SCHEDULE SO AS NOT TO INTERFERE WITH OWNER'S OPERATIONS.

COMPLY WITH GOVERNING EPA NOTIFICATION REGULATIONS BEFORE BEGINNING SELECTIVE DEMOLITION. COMPLY WITH HAULING AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION. COMPLY WITH ANSI/ASSP A10.6 AND NFPA 241.

EXISTING SERVICES/SYSTEMS TO REMAIN: MAINTAIN SERVICES/SYSTEMS INDICATED TO REMAIN AND PROTECT THEM AGAINST DAMAGE. EXISTING SERVICES/SYSTEMS TO BE REMOVED, RELOCATED, OR ABANDONED: LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF MECHANICAL/ELECTRICAL SYSTEMS SERVING AREAS TO BE SELECTIVELY DEMOLISHED. ARRANGE TO SHUT OFF UTILITIES WITH UTILITY COMPANIES. IF SERVICES/SYSTEMS ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, PROVIDE TEMPORARY SERVICES/SYSTEMS THAT BYPASS AREA OF SELECTIVE DEMOLITION AND THAT MAINTAIN CONTINUITY OF SERVICES/SYSTEMS TO OTHER PARTS OF BUILDING.

DISCONNECT, DEMOLISH, AND REMOVE PLUMBING, AND HVAC SYSTEMS, EQUIPMENT, AND COMPONENTS INDICATED ON DRAWINGS TO BE REMOVED. REMOVE PORTION OF PIPING INDICATED TO BE REMOVED AND CAP OR PLUG REMAINING PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL. REMOVE PORTION OF DUCTS INDICATED TO BE REMOVED AND PLUG REMAINING DUCTS WITH SAME OR COMPATIBLE DUCTWORK MATERIAL.

PROVIDE TEMPORARY BARRICADES AND OTHER PROTECTION REQUIRED TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN.

DESIGN, PROVIDE, AND MAINTAIN SHORING, BRACING, AND STRUCTURAL SUPPORTS AS REQUIRED TO PRESERVE STABILITY AND PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF CONSTRUCTION AND FINISHES TO REMAIN, AND TO PREVENT UNEXPECTED OR UNCONTROLLED MOVEMENT OR COLLAPSE OF CONSTRUCTION BEING DEMOLISHED. REMOVE TEMPORARY BARRICADES AND PROTECTIONS WHERE HAZARDS NO LONGER EXIST.

DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED. USE METHODS REQUIRED TO COMPLETE THE WORK WITHIN LIMITATIONS OF GOVERNING REGULATIONS AND AS FOLLOWS:

- NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE, AND TRUE TO DIMENSIONS REQUIRED. USE CUTTING METHODS LEAST LIKELY TO DAMAGE CONSTRUCTION TO REMAIN OR ADJOINING CONSTRUCTION. USE HAND TOOLS OR SMALL POWER TOOLS DESIGNED FOR SAWING OR GRINDING, NOT HAMMERING, AND CHOPPING. TEMPORARILY COVER OPENINGS TO REMAIN.
- CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES TO AVOID MARRING EXISTING FINISHED SURFACES.
- DO NOT USE CUTTING TORCHES UNTIL WORK AREA IS CLEARED OF FLAMMABLE MATERIALS. AT CONCEALED SPACES, SUCH AS DUCT AND PIPE INTERIORS, VERIFY CONDITION AND CONTENTS OF HIDDEN SPACE BEFORE STARTING FLAME-CUTTING OPERATIONS. MAINTAIN PORTABLE FIRE-SUPPRESSION DEVICES DURING FLAME-CUTTING OPERATIONS.
- MAINTAIN FIRE WATCH DURING AND FOR AT LEAST 12 HOURS
 AFTER FLAME-CUTTING OPERATIONS.
- LOCATE SELECTIVE DEMOLITION EQUIPMENT AND REMOVE DEBRIS AND MATERIALS SO AS NOT TO IMPOSE EXCESSIVE LOADS ON SUPPORTING WALLS, FLOORS, OR FRAMING.
- DISPOSE OF DEMOLISHED ITEMS AND MATERIALS PROMPTLY.

REMOVE DEMOLITION WASTE MATERIALS FROM PROJECT SITE AND DISPOSE OF THEM IN AN EPA-APPROVED CONSTRUCTION AND DEMOLITION WASTE LANDFILL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS. REMOVE DEBRIS FROM ELEVATED PORTIONS OF BUILDING BY CHUTE, HOIST, OR OTHER DEVICE THAT WILL CONVEY DEBRIS TO GRADE LEVEL IN A CONTROLLED DESCENT. DO NOT BURN DEMOLISHED MATERIALS.

CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY SELECTIVE DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE SELECTIVE DEMOLITION OPERATIONS BEGAN.

CSI SECTION 04 - MASONRY

04 0120.63 - BRICK MASONRY REPAIR

SECTION INCLUDES REPAIRING BRICK MASONRY. "REBUILDING (SETTING) MORTAR" IS USED TO SET AND ANCHOR MASONRY IN A STRUCTURE AND IS DISTINCT FROM POINTING MORTAR INSTALLED AFTER MASONRY IS SET IN PLACE.

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT.

ENGAGE AN EXPERIENCED BRICK MASONRY REPAIR FIRM TO PERFORM WORK OF THIS SECTION. FIRM SHALL HAVE COMPLETED WORK SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE. EXPERIENCE IN ONLY INSTALLING MASONRY IS INSUFFICIENT EXPERIENCE FOR MASONRY REPAIR WORK.

PREPARE MOCKUPS OF BRICK MASONRY REPAIR TO DEMONSTRATE AESTHETIC EFFECTS AND TO SET QUALITY STANDARDS FOR MATERIALS AND EXECUTION AND FOR FABRICATION AND INSTALLATION. PREPARE SAMPLE AREAS FOR EACH TYPE OF MASONRY REPAIR WORK PERFORMED. SIZE EACH MOCKUP NOT SMALLER THAN TWO ADJACENT WHOLE UNITS OR APPROXIMATELY 48 INCHES IN LEAST DIMENSION. CONSTRUCT SAMPLE AREAS IN EXISTING WALLS, WHERE DIRECTED BY ARCHITECT. DEMONSTRATE QUALITY OF MATERIALS, WORKMANSHIP, AND BLENDING WITH EXISTING WORK.

PROVIDE FACE BRICK AS REQUIRED TO COMPLETE BRICK MASONRY REPAIR WORK. PROVIDE UNITS OF COLORS, COLOR VARIATION WITHIN UNITS, SURFACE TEXTURE, SIZE, AND SHAPE THAT MATCH EXISTING BRICKWORK, AND HAVE PHYSICAL PROPERTIES ACCORDING TO ASTM C 67 FOR EXISTING BRICKWORK THAT EXHIBITS A RANGE OF COLORS OR COLOR VARIATION WITHIN UNITS, PROVIDE BRICK THAT PROPORTIONALLY MATCHES THAT RANGE AND VARIATION RATHER THAN BRICK THAT MATCHES AN INDIVIDUAL COLOR WITHIN THAT RANGE.

BUILDING BRICK: ASTM C 62, GRADE SW WHERE IN CONTACT WITH EARTH OR GRADE SW, MW, OR NW FOR CONCEALED BACKUP; AND OF SAME VERTICAL DIMENSION AS FACE BRICK, FOR MASONRY WORK CONCEALED FROM VIEW.

MASONRY CEMENT SHALL COMPLY WITH ASTM C 91/C 91M. MORTAR SAND SHALL COMPLY WITH ASTM C 144. FOR EXPOSED MORTAR, MATCH SIZE, TEXTURE, AND GRADATION OF EXISTING MORTAR SAND AS CLOSELY AS POSSIBLE. BLEND SEVERAL SANDS IF NECESSARY TO ACHIEVE SUITABLE MATCH. FOR COLORED MORTAR, PROVIDE NATURAL SAND OR GROUND MARBLE, GRANITE, OR OTHER SOUND STONE OF COLOR NECESSARY TO PRODUCE REQUIRED MORTAR COLOR. MORTAR PIGMENTS SHALL COMPLY WITH ASTM C 979/C 979M, COMPOUNDED FOR USE IN MORTAR MIXES, AND HAVING A RECORD OF SATISFACTORY PERFORMANCE IN MASONRY MORTARS. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PIGMENT PRODUCTS BY DAVIS COLORS, LANXESS CORPORATION, OR SOLOMON COLORS INC. WATER SHALL BE POTABLE.

BRICK PATCHING COMPOUND SHALL BE FACTORY-MIXED CEMENTITIOUS PRODUCT THAT IS CUSTOM MANUFACTURED FOR PATCHING BRICK MASONRY. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY CATHEDRAL STONE PRODUCTS, INC., CONPROCO CORPORATION, OR EDISON COATINGS, INC. USE FORMULATION THAT IS VAPOR AND WATER PERMEABLE (EQUAL TO OR MORE THAN THE BRICK), EXHIBITS LOW SHRINKAGE, HAS LOWER MODULUS OF ELASTICITY THAN BRICKS BEING REPAIRED, AND DEVELOPS HIGH BOND STRENGTH TO ALL TYPES OF MASONRY. FORMULATE PATCHING COMPOUND IN COLORS AND TEXTURES TO MATCH EACH BRICK BEING PATCHED.

SELECT MATERIALS AND METHODS OF USE BASED ON THE FOLLOWING, SUBJECT TO APPROVAL OF A MOCKUP:

- PREVIOUS EFFECTIVENESS IN PERFORMING THE WORK INVOLVED.
 MINIMAL POSSIBILITY OF DAMAGING EXPOSED SURFACES.
- CONSISTENCY OF EACH APPLICATION.UNIFORMITY OF THE RESULTING OVERALL APPEARANCE.
- DO NOT USE PRODUCTS OR TOOLS THAT COULD LEAVE RESIDUE ON SURFACES.

MEASURE CEMENTITIOUS MATERIALS AND SAND IN A DRY CONDITION BY VOLUME OR EQUIVALENT WEIGHT. DO NOT MEASURE BY SHOVEL; USE KNOWN MEASURE. MIX MATERIALS IN A CLEAN, MECHANICAL BATCH MIXER. PRODUCE MORTAR OF COLOR REQUIRED BY USING SPECIFIED INGREDIENTS. DO NOT ALTER SPECIFIED PROPORTIONS WITHOUT ARCHITECT'S APPROVAL. WHERE MORTAR PIGMENTS ARE INDICATED, DO NOT ADD PIGMENT EXCEEDING 10 PERCENT BY WEIGHT OF THE CEMENTITIOUS OR BINDER MATERIALS, EXCEPT FOR CARBON BLACK WHICH IS LIMITED TO 2 PERCENT. DO NOT USE ADMIXTURES IN MORTAR UNLESS OTHERWISE INDICATED.

MIX REBUILDING (SETTING) MORTAR BY VOLUME: ASTM C 270, PROPORTION SPECIFICATION, 1 PART PORTLAND CEMENT, 1 PART LIME, AND 6 PARTS SAND. MIX PIGMENTED, COLORED MORTAR BY ADDING MORTAR PIGMENTS TO PRODUCE EXPOSED, SETTING (REBUILDING) MORTAR OF COLORS REQUIRED.

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CSI SECTION 04 - MASONRY

UNITS.

04 0120.63 - BRICK MASONRY REPAIR (CONT.) WHERE DEMOLITION OPERATIONS DAMAGE EXISTING MASONRY THAT IS EXPOSED TO VIEW OR IS PART OF AN ASSEMBLY, THE INTEGRITY OF WHICH MIGHT BE COMPROMISED BY DAMAGED MASONRY, AND/OR WHERE PROJECT WORK EXPOSES DAMAGED EXISTING MASONRY, AND/OR AT LOCATIONS INDICATED: REMOVE BRICKS THAT ARE DAMAGED, SPALLED, OR DETERIORATED OR ARE TO BE REUSED. CAREFULLY REMOVE ENTIRE UNITS FROM JOINT TO JOINT, WITHOUT DAMAGING SURROUNDING MASONRY, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL-SIZE

SUPPORT AND PROTECT REMAINING MASONRY THAT SURROUNDS REMOVAL AREA. MAINTAIN FLASHING, REINFORCEMENT, LINTELS, AND ADJOINING CONSTRUCTION IN AN UNDAMAGED CONDITION. NOTIFY ARCHITECT OF UNFORESEEN DETRIMENTAL CONDITIONS INCLUDING VOIDS, CRACKS, BULGES, AND LOOSE UNITS IN EXISTING MASONRY BACKUP, ROTTED WOOD, RUSTED METAL, AND OTHER DETERIORATED ITEMS.

REMOVE IN AN UNDAMAGED CONDITION AS MANY WHOLE BRICKS AS POSSIBLE. REMOVE MORTAR, LOOSE PARTICLES, AND SOIL FROM BRICK BY CLEANING WITH HAND CHISELS, BRUSHES, AND WATER. REMOVE SEALANTS BY CUTTING CLOSE TO BRICK WITH UTILITY KNIFE AND CLEANING WITH SOLVENTS.

CLEAN MASONRY SURROUNDING REMOVAL AREAS BY REMOVING MORTAR, DUST, AND LOOSE PARTICLES IN PREPARATION FOR BRICK REPLACEMENT. REPLACE REMOVED DAMAGED BRICK WITH OTHER REMOVED BRICK IN GOOD CONDITION, WHERE POSSIBLE, MATCHING EXISTING BRICK. DO NOT USE BROKEN UNITS UNLESS THEY CAN BE CUT TO USABLE SIZE. INSTALL REPLACEMENT BRICK INTO BONDING AND COURSING PATTERN OF EXISTING BRICK. IF CUTTING IS REQUIRED, USE A MOTOR-DRIVEN SAW DESIGNED TO CUT MASONRY WITH CLEAN, SHARP, UNCHIPPED EDGES. MAINTAIN JOINT WIDTH FOR REPLACEMENT UNITS TO MATCH EXISTING JOINTS. USE SETTING BUTTONS OR SHIMS TO SET UNITS ACCURATELY SPACED WITH UNIFORM JOINTS.

LAY REPLACEMENT BRICK WITH REBUILDING (SETTING) MORTAR AND WITH COMPLETELY FILLED BED, HEAD, AND COLLAR JOINTS. BUTTER ENDS WITH ENOUGH MORTAR TO FILL HEAD JOINTS AND SHOVE INTO PLACE. WET BOTH REPLACEMENT AND SURROUNDING BRICKS THAT HAVE ASTM C 67 INITIAL RATES OF ABSORPTION (SUCTION) OF MORE THAN 30 G/30 SQ. IN. PER MIN. USE WETTING METHODS THAT ENSURE THAT UNITS ARE NEARLY SATURATED, BUT SURFACE IS DRY WHEN LAID. TOOL EXPOSED MORTAR JOINTS IN REPAIRED AREAS TO MATCH JOINTS OF SURROUNDING EXISTING BRICKWORK. WHEN MORTAR IS HARD ENOUGH TO SUPPORT UNITS, REMOVE SHIMS AND OTHER DEVICES INTERFERING WITH POINTING OF JOINTS.

CCURE MORTAR BY MAINTAINING IN THOROUGHLY DAMP CONDITION FOR AT LEAST 72 CONSECUTIVE HOURS, INCLUDING WEEKENDS AND HOLIDAYS. HAIRLINE CRACKING WITHIN THE MORTAR OR MORTAR SEPARATION AT EDGE OF A JOINT IS UNACCEPTABLE. COMPLETELY REMOVE SUCH MORTAR AND REPOINT.

PATCH BRICKS BY REMOVING LOOSE MATERIAL FROM MASONRY SURFACE. CAREFULLY REMOVE ADDITIONAL MATERIAL SO PATCH DOES NOT HAVE FEATHERED EDGES BUT HAS SQUARE OR SLIGHTLY UNDERCUT EDGES ON AREA TO BE PATCHED AND IS AT LEAST 1/4 INCH THICK, BUT NOT LESS THAN RECOMMENDED IN WRITING BY PATCHING COMPOUND MANUFACTURER. MASK ADJACENT MORTAR JOINT OR RAKE OUT FOR REPOINTING IF PATCH EXTENDS TO EDGE OF BRICK.

MIX PATCHING COMPOUND IN INDIVIDUAL BATCHES TO MATCH EACH UNIT BEING PATCHED. COMBINE ONE OR MORE COLORS OF PATCHING COMPOUND, AS NEEDED, TO PRODUCE EXACT MATCH. RINSE SURFACE TO BE PATCHED AND LEAVE DAMP, BUT WITHOUT STANDING WATER. BRUSH-COAT SURFACES WITH SLURRY COAT OF PATCHING COMPOUND ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. PLACE PATCHING COMPOUND IN LAYERS AS RECOMMENDED IN WRITING BY PATCHING COMPOUND MANUFACTURER, BUT NOT LESS THAN 1/4 INCH OR MORE THAN 2 INCHES THICK. ROUGHEN SURFACE OF EACH LAYER TO PROVIDE A KEY FOR NEXT LAYER. TROWEL, SCRAPE, OR CARVE SURFACE OF PATCH TO MATCH TEXTURE AND SURROUNDING SURFACE PLANE OR CONTOUR OF BRICK. SHAPE AND FINISH SURFACE BEFORE OR AFTER CURING, AS DETERMINED BY TESTING, TO BEST MATCH EXISTING BRICK. KEEP EACH LAYER DAMP FOR 72 HOURS OR UNTIL PATCHING COMPOUND HAS SET.

AFTER MORTAR HAS FULLY HARDENED, THOROUGHLY CLEAN EXPOSED MASONRY SURFACES OF EXCESS MORTAR AND FOREIGN MATTER; USE WOOD SCRAPERS, STIFF-NYLON OR -FIBER BRUSHES, AND CLEAN WATER, APPLIED BY LOW PRESSURE SPRAY. DO NOT USE METAL SCRAPERS OR BRUSHES. DO NOT USE ACIDIC OR ALKALINE CLEANERS.

CSI DIVISION 06 - WOOD AND PLASTICS

06 1000 - ROUGH CARPENTRY

- WOOD PRODUCTS, GENERAL:
 LUMBER: DOC PS 20 AND APPLICABLE RULES OF GRADING AGENCIES INDICATED. IF NO GRADING AGENCY IS INDICATED, PROVIDE LUMBER THAT COMPLIES WITH THE APPLICABLE RULES OF ANY RULES-WRITING AGENCY CERTIFIED BY THE ALSC BOARD OF REVIEW.
 PROVIDE LUMBER GRADED BY AN AGENCY CERTIFIED BY THE ALSC BOARD OF REVIEW TO INSPECT AND GRADE LUMBER UNDER THE RULES INDICATED.
 FACTORY MADIA FACUL DIFFERENTIAL CRADE STAND OF
- FACTORY MARK EACH PIECE OF LUMBER WITH GRADE STAMP OF GRADING AGENCY.
 WHERE NOMINAL SIZES ARE INDICATED. PROVIDE ACTUAL SIZES
- WHERE NOMINAL SIZES ARE INDICATED, PROVIDE ACTUAL SIZES REQUIRED BY DOC PS 20 FOR MOISTURE CONTENT SPECIFIED.
 WHERE ACTUAL SIZES ARE INDICATED, THEY ARE MINIMUM DRESSED SIZES FOR DRY LUMBER.
 PROVIDE DRESSED LUMBER, S4S, UNLESS OTHERWISE INDICATED.
- PROVIDE DRESSED LUMBER, 545, UNLESS OTHERWISE INDICATED.
 MAXIMUM MOISTURE CONTENT OF LUMBER: 19 PERCENT UNLESS OTHERWISE INDICATED.
 WOOD-PRESERVATIVE-TREATED LUMBER:
- PRESERVATIVE-TREATED LUMBER:
 PRESERVATIVE TREATMENT BY PRESSURE PROCESS: AWPA U1; USE CATEGORY UC2.
- PRESERVATIVE CHEMICALS: ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION AND CONTAINING NO ARSENIC OR CHROMIUM.
 KILN-DRY LUMBER AFTER TREATMENT TO A MAXIMUM MOISTURE CONTENT OF 19 PERCENT. DO NOT USE MATERIAL THAT IS WARPED
- OR THAT DOES NOT COMPLY WITH REQUIREMENTS FOR UNTREATED MATERIAL. MARK LUMBER WITH TREATMENT QUALITY MARK OF AN INSPECTION AGENCY APPROVED BY THE ALSC BOARD OF REVIEW.
- APPLICATION: TREAT ITEMS INDICATED ON DRAWINGS, AND THE FOLLOWING:
 1. WOOD CANTS, NAILERS, CURBS, EQUIPMENT SUPPORT BASES,
- BLOCKING, STRIPPING, AND SIMILAR MEMBERS IN CONNECTION WITH ROOFING, FLASHING, VAPOR BARRIERS, AND WATERPROOFING.
 2. WOOD SILLS, SLEEPERS, BLOCKING, STRIPPING, AND SIMILAR
- 2. WOOD SILLS, SLEEPERS, BLOCKING, STRIPPING, AND SIMILAR CONCEALED MEMBERS IN CONTACT WITH MASONRY OR CONCRETE.
- WOOD FRAMING AND FURRING ATTACHED DIRECTLY TO THE INTERIOR OF BELOW-GRADE EXTERIOR MASONRY OR CONCRETE WALLS.
- WOOD FLOOR PLATES THAT ARE INSTALLED OVER CONCRETE SLABS-ON-GRADE.
 MISCELLANEOUS LUMBER:
- GENERAL: PROVIDE MISCELLANEOUS LUMBER INDICATED AND LUMBER FOR SUPPORT OR ATTACHMENT OF OTHER CONSTRUCTION, INCLUDING THE FOLLOWING:
- 1. BLOCKING.
- NAILERS.
 CANTS.
- FOR ITEMS OF DIMENSION LUMBER SIZE, PROVIDE CONSTRUCTION OR NO. 2 GRADE LUMBER AND THE FOLLOWING SPECIES: 1. MIXED SOUTHERN PINE; SPIB.
- EASTERN SOFTWOODS; NELMA.
 FOR CONCEALED BOARDS, PROVIDE LUMBER WITH 19 PERCENT MAXIMUM MOISTURE CONTENT AND THE FOLLOWING SPECIES AND GRADES:
- 1. MIXED SOUTHERN PINE; NO. 2 GRADE; SPIB.
- FOR BLOCKING NOT USED FOR ATTACHMENT OF OTHER CONSTRUCTION, UTILITY, STUD, OR NO. 3 GRADE LUMBER OF ANY SPECIES MAY BE USED PROVIDED THAT IT IS CUT AND SELECTED TO ELIMINATE DEFECTS THAT WILL INTERFERE WITH ITS ATTACHMENT AND PURPOSE.
- FOR BLOCKING AND NAILERS USED FOR ATTACHMENT OF OTHER CONSTRUCTION, SELECT AND CUT LUMBER TO ELIMINATE KNOTS AND OTHER DEFECTS THAT WILL INTERFERE WITH ATTACHMENT OF OTHER WORK.
 FASTENERS:
- GENERAL: PROVIDE FASTENERS OF SIZE AND TYPE INDICATED THAT COMPLY WITH REQUIREMENTS SPECIFIED IN THIS ARTICLE FOR MATERIAL AND MANUFACTURE. 1. WHERE ROUGH CARPENTRY IS EXPOSED TO WEATHER. IN
- GROUND CONTACT, PRESSURE-PRESERVATIVE TREATED, OR IN AREA OF HIGH RELATIVE HUMIDITY, PROVIDE FASTENERS WITH HOT-DIP ZINC COATING COMPLYING WITH ASTM A 153/A 153M.
- NAILS, BRADS, AND STAPLES: ASTM F 1667.
 POWER-DRIVEN FASTENERS: NES NER-272.
- WOOD SCREWS: ASME B18.6.1.
- LAG BOLTS: ASME B18.2.1 (ASME B18.2.3.8M).
 BOLTS: STEEL BOLTS COMPLYING WITH ASTA
- BOLTS: STEEL BOLTS COMPLYING WITH ASTM A 307, GRADE A (ASTM F 568M, PROPERTY CLASS 4.6); WITH ASTM A 563 (ASTM A 563M) HEX NUTS AND, WHERE INDICATED, FLAT WASHERS.
- EXPANSION ANCHORS: ANCHOR BOLT AND SLEEVE ASSEMBLY OF MATERIAL INDICATED BELOW WITH CAPABILITY TO SUSTAIN, WITHOUT FAILURE, A LOAD EQUAL TO SIX TIMES THE LOAD IMPOSED WHEN INSTALLED IN UNIT MASONRY ASSEMBLIES AND EQUAL TO FOUR TIMES THE LOAD IMPOSED WHEN INSTALLED IN CONCRETE AS DETERMINED BY TESTING PER ASTM E 488 CONDUCTED BY A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY.
 MATERIAL: CARBON-STEEL COMPONENTS, ZINC PLATED TO COMPLY WITH ASTM B 633, CLASS FE/ZN 5.

SET ROUGH CARPENTRY TO REQUIRED LEVELS AND LINES, WITH MEMBERS PLUMB, TRUE TO LINE, CUT, AND FITTED. FIT ROUGH CARPENTRY TO OTHER CONSTRUCTION; SCRIBE AND COPE AS NEEDED FOR ACCURATE FIT. LOCATE NAILERS, BLOCKING, AND SIMILAR SUPPORTS TO COMPLY WITH REQUIREMENTS FOR ATTACHING OTHER CONSTRUCTION.

PROVIDE BLOCKING AND FRAMING AS INDICATED AND AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, AND TRIM. SECURELY ATTACH ROUGH CARPENTRY WORK TO SUBSTRATE BY ANCHORING AND FASTENING AS INDICATED, COMPLYING WITH THE FOLLOWING:NES NER-272 FOR POWER-DRIVEN FASTENERS. • TABLE 2304.9.1, "FASTENING SCHEDULE," IN ICC'S INTERNATIONAL

 BUILDING CODE.
 TABLE R602.3(1), "FASTENER SCHEDULE FOR STRUCTURAL MEMBERS," AND TABLE R602.3(2), "ALTERNATE ATTACHMENTS," IN ICC'S INTERNATIONAL RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS.

CSI DIVISION 06 - WOOD AND PLASTICS

06 4116 - PLAM-CLAD VANITY & KNEESPACE

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT, INCLUDING FIRE-RETARDANT TREATMENT FROM CHEMICAL-TREATMENT MANUFACTURER AND CERTIFICATION BY TREATING PLANT THAT TREATED MATERIALS COMPLY WITH REQUIREMENTS.

SUBMIT SHOP DRAWINGS, INCLUDE PLANS, ELEVATIONS, SECTIONS, AND ATTACHMENT DETAILS.

SUBMIT SAMPLES, FOR SELECTION, OF FULL HPL MANUFACTURERS RANGE OF SOLID COLORS IN, MATTE FINISH.

SUBMIT QUALIFICATION DATA FOR MANUFACTURER AND INSTALLER.

MANUFACTURER SHALL EMPLOY SKILLED WORKERS WHO CUSTOM FABRICATE PRODUCTS SIMILAR TO THOSE REQUIRED FOR THIS PROJECT AND WHOSE PRODUCTS HAVE A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE. INSTALLER SHALL BE THE MANUFACTURER OF PRODUCTS AND A LICENSED PARTICIPANT IN AWI'S QUALITY CERTIFICATION PROGRAM.

UNLESS OTHERWISE INDICATED, COMPLY WITH THE ARCHITECTURAL WOODWORK STANDARDS FOR CUSTOM GRADE, FRAMELESS CONSTRUCTION, FLUSH OVERLAY STYLE, AND HIGH-PRESSURE DECORATIVE LAMINATE: ISO 4586-3, GRADE HGS, WITH 3.0 MM THICK PVC EDGE BANDING, MATCHING LAMINATE. CONCEALED BACKS OF PANELS SHALL BE COVERED WITH HIGH-PRESSURE DECORATIVE LAMINATE, ISO 4586-3, GRADE TO MATCH EXPOSED SURFACE. FABRICATE PANELS WITH EXPOSED FRONTS FASTENED TO SUB-FRONT WITH MOUNTING SCREWS FROM INTERIOR OF BODY. JOIN SUB-FRONTS, BACKS, AND SIDES WITH GLUED RABBETED JOINTS SUPPLEMENTED BY MECHANICAL FASTENERS OR GLUED DOVETAIL JOINTS.

WOOD PRODUCTS SHALL COMPLY WITH REQUIREMENTS OF CUSTOM QUALITY STANDARD WITH MOISTURE CONTENT OF 5 TO 10 PERCENT. COMPOSITE WOOD PRODUCTS SHALL COMPLY WITH REQUIREMENTS OF CUSTOM QUALITY STANDARD AND SHALL BE SOFTWOOD PLYWOOD: DOC PS 1.

PROVIDE HIGH PRESSURE LAMINATE PRODUCTS BY FORMICA CORPORATION, PIONITE, OR WILSONART LLC, AS SELECTED BY ARCHITECT FROM LAMINATE MANUFACTURER'S FULL RANGE IN SOLID COLORS, MATTE FINISH

FURRING, BLOCKING, SHIMS, AND HANGING STRIPS: SOFTWOOD OR HARDWOOD LUMBER, KILN-DRIED TO LESS THAN 15 PERCENT MOISTURE CONTENT. SELECT ANCHOR TYPE, SIZE, AND FINISH REQUIRED FOR EACH SUBSTRATE FOR SECURE ANCHORAGE. PROVIDE METAL EXPANSION SLEEVES OR EXPANSION BOLTS FOR POST-INSTALLED ANCHORS. USE NONFERROUS-METAL OR HOT-DIP GALVANIZED ANCHORS AND INSERTS AT INSIDE FACE OF EXTERIOR WALLS AND AT FLOORS. ADHESIVE FOR BONDING PLASTIC LAMINATE SHALL BE TYPE I, WATERPROOF AS SELECTED BY FABRICATOR TO COMPLY WITH REQUIREMENTS. ADHESIVE FOR BONDING EDGES SHALL BE HOT-MELT ADHESIVE OR ADHESIVE SPECIFIED FOR FACES.

COMPLETE FABRICATION, INCLUDING ASSEMBLY AND HARDWARE APPLICATION, TO MAXIMUM EXTENT POSSIBLE BEFORE SHIPMENT TO PROJECT SITE. DISASSEMBLE COMPONENTS ONLY AS NECESSARY FOR SHIPMENT AND INSTALLATION. WHERE NECESSARY FOR FITTING AT SITE, PROVIDE AMPLE ALLOWANCE FOR SCRIBING, TRIMMING, AND FITTING. SHOP-CUT OPENINGS TO MAXIMUM EXTENT POSSIBLE TO RECEIVE HARDWARE, APPLIANCES, ELECTRICAL WORK, AND SIMILAR ITEMS. SAND EDGES OF CUTOUTS TO REMOVE SPLINTERS AND BURRS. DO NOT DELIVER OR INSTALL CABINETS UNTIL BUILDING IS ENCLOSED, WET-WORK IS COMPLETE, AND HVAC SYSTEM IS OPERATING AND MAINTAINING TEMPERATURE BETWEEN 60 AND 90 DEG F AND RELATIVE HUMIDITY BETWEEN 25 AND 55 PERCENT DURING THE REMAINDER OF THE CONSTRUCTION PERIOD.

BEFORE INSTALLATION, CONDITION CABINETS TO HUMIDITY CONDITIONS IN INSTALLATION AREAS FOR NOT LESS THAN 72 HOURS. ARCHITECTURAL WOODWORK STANDARDS GRADE: INSTALL CABINETS TO COMPLY WITH QUALITY STANDARD GRADE OF ITEM TO BE INSTALLED. ANCHOR CABINETS TO ANCHORS OR BLOCKING BUILT IN OR DIRECTLY ATTACHED TO SUBSTRATES.

INSTALL CABINETS LEVEL, PLUMB, AND TRUE IN LINE TO A TOLERANCE OF 1/8 INCH IN 96 INCHES USING CONCEALED SHIMS. SCRIBE AND CUT CABINETS TO FIT ADJOINING WORK, REFINISH CUT SURFACES, AND REPAIR DAMAGED FINISH AT CUTS.

INSTALL CABINETS WITHOUT DISTORTION. FASTEN WALL CABINETS THROUGH BACK, NEAR TOP AND BOTTOM, AND AT ENDS NOT MORE THAN 16 INCHES O.C. WITH NO. 10 WAFER-HEAD SCREWS SIZED FOR NOT LESS THAN 1-1/2-INCH PENETRATION INTO WOOD FRAMING, BLOCKING, OR HANGING STRIPS.

CSI DIVISION 07 - THERMAL AND MOISTURE

07 8410 - PENETRATION & JOINT FIRESTOPPING FOR PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS OR IN

HORIZONTAL ASSEMBLIES PROVIDE FIRESTOPPING. CONDUCT PRE-INSTALLATION CONFERENCE AT PROJECT SITE.

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT.

SUBMIT PRODUCT SCHEDULE FOR EACH PENETRATION AND JOINT FIRESTOPPING SYSTEM. INCLUDE LOCATION, ILLUSTRATION OF FIRESTOPPING SYSTEM, AND DESIGN DESIGNATION OF QUALIFIED TESTING AND INSPECTING AGENCY.

SUBMIT: WHERE PROJECT CONDITIONS REQUIRE MODIFICATION TO A QUALIFIED TESTING AND INSPECTING AGENCY'S ILLUSTRATION FOR A PARTICULAR PENETRATION OR JOINT FIRESTOPPING SYSTEM, SUBMIT ILLUSTRATION, WITH MODIFICATIONS MARKED, APPROVED BY FIRESTOPPING SYSTEM MANUFACTURER'S FIRE-PROTECTION ENGINEER AS AN ENGINEERING JUDGMENT OR EQUIVALENT FIRE-RESISTANCE-RATED ASSEMBLY DEVELOPED IN ACCORDANCE WITH CURRENT INTERNATIONAL FIRESTOP COUNCIL (IFC) GUIDELINES. OBTAIN APPROVAL OF AUTHORITIES HAVING JURISDICTION PRIOR TO SUBMITTAL.

SUBMIT LISTED SYSTEM DESIGNS.

SUBMIT INSTALLER CERTIFICATES FROM INSTALLER INDICATING THAT PENETRATION AND JOINT FIRESTOPPING SYSTEMS HAVE BEEN INSTALLED IN COMPLIANCE WITH REQUIREMENTS AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

INSTALLER SHALL BE A FIRM THAT HAS BEEN APPROVED BY FM APPROVALS ACCORDING TO FM APPROVALS 4991, "APPROVAL OF FIRESTOP CONTRACTORS," OR BEEN EVALUATED BY UL AND FOUND TO COMPLY WITH ITS "QUALIFIED FIRESTOP CONTRACTOR PROGRAM REQUIREMENTS."

FIRE-TEST-RESPONSE CHARACTERISTICS: PERFORM FIRESTOPPING SYSTEM TESTS BY A QUALIFIED TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION PER TESTING STANDARDS REFERENCED HEREIN. PROVIDE RATED SYSTEMS INSTALLED WITH PRODUCTS BEARING THE CLASSIFICATION MARKING OF A QUALIFIED PRODUCT CERTIFICATION AGENCY IN ACCORDANCE WITH LISTED SYSTEM DESIGNS PUBLISHED BY A QUALIFIED TESTING AGENCY:

UL IN ITS ONLINE DIRECTORY "PRODUCT IQ."
INTERTEK GROUP IN ITS "DIRECTORY OF BUILDING PRODUCTS."
FM APPROVALS IN ITS "APPROVAL GUIDE."

PENETRATION FIRESTOPPING SYSTEMS SHALL RESIST SPREAD OF FIRE, PASSAGE OF SMOKE AND OTHER GASES, AND MAINTAIN ORIGINAL FIRE-RESISTANCE RATING OF CONSTRUCTION PENETRATED. PENETRATION FIRESTOPPING SYSTEMS ARE TO BE COMPATIBLE WITH ONE ANOTHER, WITH THE SUBSTRATES FORMING OPENINGS, AND WITH PENETRATING ITEMS IF ANY.

PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS SHALL BE PROTECTED WITH FIRESTOPPING SYSTEMS WITH RATINGS DETERMINED PER ASTM E814 OR UL 1479: F-RATING SHALL BE NOT LESS THAN THE FIRE-RESISTANCE RATING OF THE WALL PENETRATED. AT MEMBRANE PENETRATIONS INSTALL RECESSED FIXTURES SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED.

PENETRATIONS IN HORIZONTAL ASSEMBLIES SHALL BE PROTECTED WITH PENETRATION FIRESTOPPING SYSTEMS WITH RATINGS DETERMINED PER ASTM E814 OR UL 1479: F-RATING SHALL BE A AT LEAST ONE HOUR, BUT NOT LESS THAN THE FIRE-RESISTANCE RATING OF THE FLOOR PENETRATED. T-RATING SHALL BE AT LEAST ONE HOUR, BUT NOT LESS THAN THE FIRE-RESISTANCE RATING OF THE FLOOR. THE FOLLOWING

- FLOOR PENETRATIONS DO NOT REQUIRE A T-RATING: • THOSE WITHIN THE CAVITY OF A WALL.
- FLOOR, TUB, OR SHOWER DRAINS WITHIN A CONCEALED SPACE.
 4-INCH OR SMALLER METAL CONDUIT PENETRATING DIRECTLY INTO METAL-ENCLOSED ELECTRICAL SWITCHGEAR.

JOINT FIRESTOPPING SYSTEMS SHALL RESIST SPREAD OF FIRE, PASSAGE OF SMOKE AND OTHER GASES, AND MAINTAIN ORIGINAL FIRE-RESISTANCE RATING OF ASSEMBLIES IN OR BETWEEN WHICH JOINT FIRESTOPPING SYSTEMS ARE INSTALLED. JOINT FIRESTOPPING SYSTEMS MUST ACCOMMODATE BUILDING MOVEMENTS WITHOUT IMPAIRING THEIR ABILITY TO RESIST THE PASSAGE OF FIRE AND HOT GASES. PROVIDE PRODUCTS THAT, UPON CURING, DO NOT RE-EMULSIFY, DISSOLVE, LEACH, BREAKDOWN, OR OTHERWISE DETERIORATE OVER TIME FROM EXPOSURE TO ATMOSPHERIC MOISTURE, SWEATING PIPES, PONDING WATER, OR OTHER FORMS OF MOISTURE. PROVIDE FIRESTOP PRODUCTS THAT DO NOT CONTAIN ETHYLENE GLYCOL.

FOR JOINTS IN OR BETWEEN FIRE-RESISTANCE-RATED CONSTRUCTION, PROVIDE JOINT FIRESTOPPING SYSTEMS WITH RATINGS DETERMINED PER ASTM E1966 OR UL 2079. FIRE-RESISTANCE RATING: EQUAL TO OR EXCEEDING THE FIRE-RESISTANCE RATING OF THE WALL, FLOOR, OR ROOF IN OR BETWEEN WHICH IT IS INSTALLED.

PROVIDE ACCESSORY COMPONENTS FOR EACH FIRESTOPPING SYSTEM INCLUDING PRIMERS AND FORMING MATERIALS, THAT ARE NEEDED TO INSTALL FILL MATERIALS AND TO MAINTAIN RATINGS REQUIRED. USE ONLY THOSE COMPONENTS SPECIFIED BY FIRESTOPPING SYSTEM MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR CONDITIONS INDICATED.

SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY 3M FIRE PROTECTION PRODUCTS, BALCO CSW INDUSTRIALS COMPANY, HILTI, INC., OR TREMCO INCORPORATED.

CSI DIVISION 07 - THERMAL AND MOISTURE

07 8410 - PENETRATION & JOINT FIRESTOPPING (CONT.) EXAMINE SUBSTRATES AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR OPENING CONFIGURATIONS, PENETRATING ITEMS, SUBSTRATES, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK. INSTALL FIRESTOPPING SYSTEMS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PUBLISHED DRAWINGS FOR PRODUCTS AND APPLICATIONS.

INSTALL FORMING MATERIALS AND OTHER ACCESSORIES OF TYPES REQUIRED TO SUPPORT FILL MATERIALS DURING THEIR APPLICATION AND IN THE POSITION NEEDED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS REQUIRED TO ACHIEVE FIRE RATINGS. AFTER INSTALLING FILL MATERIALS AND ALLOWING THEM TO FULLY CURE, REMOVE COMBUSTIBLE FORMING MATERIALS AND OTHER ACCESSORIES NOT FORMING PERMANENT COMPONENTS OF FIRESTOPPING.

INSTALL FILL MATERIALS BY PROVEN TECHNIQUES TO PRODUCE THE

- FOLLOWING RESULTS: • FILL VOIDS AND CAVITIES FORMED BY OPENINGS, FORMING MATERIALS, ACCESSORIES, AND PENETRATING ITEMS TO
- ACHIEVE REQUIRED FIRE-RESISTANCE RATINGS.
 APPLY MATERIALS SO THEY CONTACT AND ADHERE TO SUBSTRATES FORMED BY OPENINGS AND PENETRATING ITEMS.
- FOR FILL MATERIALS THAT WILL REMAIN EXPOSED AFTER COMPLETING THE WORK, FINISH TO PRODUCE SMOOTH, UNIFORM SURFACES THAT ARE FLUSH WITH ADJOINING
- FINISHES.
 PERMANENTLY LABEL WALLS CONTAINING FIRESTOPPING SYSTEMS WITH THE WORDS "FIRE AND/OR SMOKE BARRIER -PROTECT ALL OPENINGS," USING LETTERING NOT LESS THAN 3 INCHES HIGH AND WITH MINIMUM 0.375-INCH STROKES. LOCATE IN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING, OR ATTIC SPACE AT 15 FEET FROM END OF WALL AND AT INTERVALS NOT EXCEEDING 30 FEET.

IDENTIFY EACH FIRESTOPPING SYSTEM WITH LEGIBLE METAL OR PLASTIC LABELS. ATTACH LABELS PERMANENTLY TO SURFACES ADJACENT TO AND WITHIN 6 INCHES OF PENETRATION FIRESTOPPING SYSTEM EDGE SO LABELS ARE VISIBLE TO ANYONE SEEKING TO REMOVE PENETRATING ITEMS OR FIRESTOPPING SYSTEMS. USE MECHANICAL FASTENERS OR SELF-ADHERING-TYPE LABELS WITH ADHESIVES CAPABLE OF PERMANENTLY BONDING LABELS TO SURFACES ON WHICH LABELS ARE

- PLACED. INCLUDE THE FOLLOWING INFORMATION ON LABELS: • THE WORDS "WARNING - PENETRATION [OR "JOINT"] FIRESTOPPING - DO NOT DISTURB. NOTIFY BUILDING MANAGEMENT OF ANY DAMAGE."
- CONTRACTOR'S NAME, ADDRESS, AND PHONE NUMBER. DESIGNATION OF APPLICABLE TESTING AND INSPECTING AGENCY.
- DATE OF INSTALLATION. MANUFACTURER'S NAME
- INSTALLER'S NAME.

07 9200 - JOINT SEALANTS

ACCEPTABLE MANUFACTURERS, IF PRODUCT COMPLIES WITH SPECIFICATIONS: PECORA

SONNEBORNE/CHEMREX TREMCO

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT

SUBMIT SAMPLES OF MANUFACTURER'S FULL RANGE OF COLORS FOR SELECTION

NTERIOR:

PROVIDE SEALANT COMPLYING WITH ASTM C 920. ELASTOMERIC TYPE S OR M, GRADE NS, CLASS 12.5, USE NT. COLORS AS SELECTED BY OWNER. SEAL JOINTS: 1.BETWEEN PARTITIONS AND BUILT-IN OR SURFACE MOUNTED EQUIPMENT,

- FIXTURES AND MILLWORK 2. PERIMETER OF DOOR AND WINDOW FRAMES
- 3.. WHERE DIFFERING PLANES OF TILE SURFACES MEET 4. JOINTS BETWEEN TILE FLOORS AND TILE BASE, AND TILE AND DISSIMILAR MATERIALS
- WHERE INDICATED ON DRAWINGS
 WHERE BEST PRACTICES AND CUSTOM INDICATE FOR APPEARANCE AND FUNCTION.

EXTERIOR:

USE PRODUCTS ACCEPTABLE TO MANUFACTURER'S OF ADJACENT MATERIALS TO BE SEALED. FOR JOINTS IN VERTICAL SURFACES, PROVIDE ASTM C 920, TYPE S OR M, GRADE NS, CLASS 25, USE NT. FOR JOINTS IN HORIZONTAL SURFACES, PROVIDE ASTM C 920, TYPE S OR M, GRADE P, CLASS 25, USE T.

COLORS TO BE SELECTED FROM FIELD SAMPLES. PROVIDE ACCESSORY BACKER RODS, BOND BREAKER, PRIMERS, CLEANERS, ETC. REQUIRED FOR COMPLETE SEALANT SYSTEM.

APPLY SEALANT WHERE INDICATED ON DRAWINGS AND AS REQUIRED BY MANUFACTURER'S OF PRODUCTS/MATERIALS. ALSO, SEAL JOINTS AT THRU-WALL FLASHING, METAL TO METAL JOINTS WHERE SPECIFIED OR INDICATED, AND VOIDS WHERE ITEMS PASS THRU EXTERIOR WALL. SEAL JOINTS AND RECESSES WHERE FRAMES AND VENTS ADJOIN METAL FRAMES. APPLY AT BOTH INTERIOR AND EXTERIOR SURFACES OF WALL PENETRATIONS. INSTALL SEALANT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COMPLY WITH ASTM C 1193. UNSIGHTLY, IRREGULAR, OR OBJECTIONABLE WORK WILL BE CAUSE FOR REJECTION AND REPLACEMENT AT NO EXTRA COST TO THE OWNER.

	A PLANTER AND A	A PA	NCORDOR NCORDOR			Longview, Texas	903)753-0663 FAX (903 Website: www.johnsonp	TBPE F-4691/TBAE
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TECHNICAL SPECIFICATIONS NOTE

TECHNICAL SPECIFICATIONS ON THIS SHEET ARE INTENDED FOR USE WITH THE ISSUED CONSTRUCTION DRAWINGS.

THESE SPECIFICATIONS AND THE DRAWINGS ARE COMPLIMENTARY AND SOME PRODUCTS AND MATERIALS ARE ONLY INDICATED ON THE DRAWINGS, NOT IN THESE SPECIFICATIONS. LIKEWISE, SOME ITEMS OF THE WORK ARE DESCRIBED ONLY IN THE SPECIFICATIONS BUT NOT INDICATED ON THE DRAWINGS. ALL WORK INDICATED ON THE DRAWINGS OR REQUIRED IN THE SPECIFICATION IS IN THE CONTRACTOR'S SCOPE.

WHERE THE REQUIREMENTS OF ONE CONFLICT WITH THE OTHER, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL UNLESS WAIVED IN WRITING BY THE ARCHITECT. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR RESOLUTION BEFORE RELATED CONSTRUCTION COMMENCES.

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CSI DIVISION 08 - OPENINGS

08 1113 - HOLLOW METAL DOORS AND FRAMES ACCEPTABLE MANUFACTURERS, IF PRODUCT COMPLIES WITH SPECIFICATIONS:

AMWELD INTERNATIONAL CECO DOOR; OR CURRIES DEANSTEEL MANUFACTURING COMPANY, INC.

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT.

SUBMIT WARRANTY DATA

SUBMIT SHOP DRAWINGS INDICATING LOCATION, SIZE, HAND, SCHEDULED HARDWARE AND ELEVATION OF EACH DOOR AND FRAME.

PROVIDE 1-3/4" THICK. CONTINUOUSLY WELDED. SEAMLESS. 16 GAGE FACE SHEET DOORS, REINFORCED WITH 22 GAGE STIFFENERS AT 6" O.C. PRIME DOORS PER SDI A250.10. FRAMES SHALL BE MANUFACTURED FROM COLD ROLLED 16 GAUGE STEEL. FRAMES SHALL BE KNOCKDOWN, DOUBLE RETURN BACK BEND. FLUSH HAIRLINE MITER AT CORNER OF HEAD AND JAMB, CORNER REINFORCED WITH CONCEALED CLIP. EACH JAMB TO HAVE ONE COMPRESSION ANCHOR TO SECURELY HOLD FRAME BETWEEN STUDS AND MAINTAIN PROPER ALIGNMENT. FRAMES SHALL BE BONDERIZED AND RECEIVE ONE COAT OF FACTORY BAKED-ON PRIME COAT. MINIMUM REQUIREMENTS FOR HARDWARE REINFORCEMENTS ARE TO BE AS FOLLOWS: HINGE REINFORCING - 7 GA., LOCK/STRIKE REINFORCING - 14 GA. X TEMPLATE. PROVIDE THREE FRAME ANCHORS PER JAMB, (AND TWO T HEAD FOR OPENINGS WIDER THAN 42"). PROVIDE LOOSE STOPS FOR GLASS IN WINDOWS. COMPLY WITH NFPA 80 AND IN FIRE RATED ASSEMBLIES AND BEAR HERSEY/WARNOCK LABEL FOR INDICATED RATING FACTORY PREP FRAMES FOR TEMPLATED HARDWARE ACCORDING TO SDI A250.6

FULLY COORDINATE WITH HARDWARE SUPPLIER FOR DOOR PREPARATION AND REINFORCEMENT. FIT AND HANG DOORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS TO MAINTAIN MANUFACTURER RECOMMENDED CLEARANCES. DOORS SHALL OPERATE SMOOTHLY AND QUIETLY AFTER ADJUSTMENT. HINGE SHIMS ARE ACCEPTABLE TO ACHIEVE CLEARANCES. INSTALL TO COMPLY WITH SDI A250.11. INSTALL SQUARE, PLUMB, ALIGNED AND WITHOUT TWIST. INSTALLATION SHALL BE BY TRADESMEN WITH THREE YEARS MINIMUM VERIFIABLE EXPERIENCE INSTALLING HOLLOW METAL WORK.

08 3113 - ACCESS DOORS AND FRAMES SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT.

SUBMIT PRODUCT SCHEDULE FOR ACCESS DOORS AND FRAMES.

SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ACUDOR PRODUCTS, INC., BABCOCK-DAVIS, J. L. INDUSTRIES, INC., OR MILCOR; HART & COOLEY, INC.

FLUSH ACCESS DOORS WITH EXPOSED FLANGES FOR USE IN MASONRY WALLS AS INDICATED SHALL HAVE FACE OF DOOR FLUSH WITH FRAME; WITH CONCEALED FLANGE FOR GYPSUM BOARD INSTALLATION AND CONCEALED HINGE, GASKETING PIANO HINGES. DOOR SHALL BE METALLIC-COATED STEEL SHEET, NOMINAL 0.064 INCH, 16 GAGE, FACTORY PRIMED. FRAME SHALL BE SAME MATERIAL, THICKNESS, AND FINISH AS DOOR. LATCH AND LOCK: SHALL BE CAM LATCH, KEY OPERATED WITH INTERIOR RELEASE.

FLUSH ACCESS DOORS WITH CONCEALED FLANGES FOR USE IN DRYWALL PARTITIONS AND SUSPENDED GYPSUM BOARD CEILINGS AS INDICATED SHALL HAVE FACE OF DOOR FLUSH WITH FRAME, WITH EXPOSED FLANGE AND CONCEALED HINGE, GASKETING PIANO HINGES, AND SHALL BE WALL OR CEILING MOUNTED AS INDICATED. DOOR SHALL BE METALLIC-COATED STEEL SHEET, NOMINAL 0.064 INCH, 16 GAGE, FACTORY PRIMED. FRAME SHALL BE SAME MATERIAL, THICKNESS, AND FINISH AS DOOR. LATCH AND LOCK: SHALL BE CAM LATCH, KEY OPERATED WITH INTERIOR RELEASE. MATERIALS: STEEL PLATES, SHAPES, AND BARS SHALL COMPLY WITH ASTM A36/A36M. METALLIC-COATED STEEL SHEET SHALL COMPLY WITH ASTM A653/A653M, COMMERCIAL STEEL (CS), TYPE B; WITH MINIMUM G60 OR A60 METALLIC COATING. FRAME ANCHORS SHALL BE SAME MATERIAL AS DOOR FACE. INSERTS, BOLTS, AND ANCHOR FASTENERS SHALL BE HOT-DIP GALVANIZED STEEL ACCORDING TO ASTM A153/A153M OR ASTM F2329.

FOR METAL SURFACES EXPOSED TO VIEW IN THE COMPLETED WORK, PROVIDE MATERIALS WITH SMOOTH, FLAT SURFACES WITHOUT BLEMISHES. DO NOT USE MATERIALS WITH EXPOSED PITTING, SEAM MARKS, ROLLER MARKS, ROLLED TRADE NAMES, OR ROUGHNESS. GRIND EXPOSED WELDS SMOOTH AND FLUSH WITH ADJACENT SURFACES. FURNISH MOUNTING HOLES, ATTACHMENT DEVICES AND FASTENERS OF TYPE REQUIRED TO SECURE ACCESS DOORS TO TYPES OF SUPPORTS INDICATED.

FURNISH NUMBER OF LATCHES AND LOCKS REQUIRED TO HOLD DOORS TIGHTLY CLOSED. FURNISH TWO KEYS PER LOCK AND KEY ALL LOCKS ALIKE. WHERE INDICATED, PREPARE DOOR PANEL TO ACCEPT CYLINDER SPECIFIED IN SECTION 087100 "DOOR HARDWARE."

APPLY MANUFACTURER'S STANDARD, LEAD- AND CHROMATE-FREE, UNIVERSAL PRIMER IMMEDIATELY AFTER SURFACE PREPARATION AND PRETREATMENT.

COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING ACCESS DOORS AND FRAMES. ADJUST DOORS AND HARDWARE, AFTER INSTALLATION, FOR PROPER OPERATION.

08 7100 - DOOR HARDWARE

ACCEPTABLE MANUFACTURERS, IF PRODUCT COMPLIES WITH SPECIFICATIONS:

CAL-ROYAL PRODUCTS, INC. DORMA HAGER COMPANIES IVES; AN ALLEGION BRAND MCKINNEY, AS ASSA ABLOY COMPANY

STANLEY COMMERCIAL HARDWARE

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT

SUBMIT HARDWARE SCHEDULE

PROVIDE SCHEDULED HARDWARE OF PRODUCTS EQUAL TO DORMA-USA. PROVIDE GRADE 1 AS DEFINED BY BHMA A156 FOR RESPECTIVE PRODUCTS AND LISTED FOR HEAVY-DUTY USE. COMPLY WITH NFPA 80 FOR RATED DOORS. FINISH, UNLESS INDICATED OTHERWISE, SHALL BE: SATIN ALUMINUM 627 (US27) FINISH. ADAAG/TAS COMPLIANT. COORDINATE KEYING WITH OWNER. PROVIDE ALL HARDWARE NECESSARY TO PROPERLY OPERATE DOORS, TO COMPLY WITH LIFE SAFETY AND BUILDING CODES, AND TO COMPLY WITH OWNER'S HARDWARE REQUIREMENTS WHETHER OR NOT INDICATED ON DRAWINGS. FURNISH ALL NECESSARY TEMPLATING INFORMATION TO APPROPRIATE PARTIES. PROVIDE AND COORDINATE LOCK CYLINDERS FOR PRE-ENGINEERED BUILDING PERSONNEL DOORS. REFER TO PRE-ENGINEERED BUILDING FOR RELATED HARDWARE.

HARDWARE SHALL BE INSTALLED BY PERSONNEL ACCEPTABLE TO THE MANUFACTURER. MOUNT HARDWARE IN ACCORDANCE WITH ANSI/SDI A250.8. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. COORDINATE LOCK FUNCTION AND KEYING REQUIREMENTS WITH OWNER BY MEETING OR WRITTEN COMMUNICATION PROVIDE TEN EACH MASTER KEYS AND THREE CHANGE KEYS PER DOOR. PROVIDE MANUFACTURER'S FIVE (5) YEAR WARRANTY FOR LOCKS AND TWO (2) YEAR WARRANTY FOR OTHER HARDWARE.

CSI DIVISION 09 - FINISHES

09 2116 - GYPSUM BOARD SUSPENSION SYSTEM ACCEPTABLE MANUFACTURERS, IF PRODUCT COMPLIES WITH SPECIFICATIONS: CERTAINTEED CORPORATION UNITED STATES GYPSUM (USG)

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT

PROVIDE METAL SUSPENSION SYSTEMS COMPLYING ASTM C754. SUSPENSION SYSTEM SHALL CONSISTS OF HANGER ANCHORAGE DEVICES, HANGERS, FRAMING SYSTEM, AND ALL REQUIRED ACCESSORIES. HANGER ANCHORAGE DEVICES SHALL BE SCREWS, CLIPS, BOLTS, OR OTHER DEVICES COMPATIBLE WITH STRUCTURE FOR CEILING HANGERS AND VHOSE SUITABILITY HAS BEEN PROVEN THROUGH STANDARD CONSTRUCTION PRACTICES OR CERTIFIED TEST DATA. HANGERS SHALL BE STEEL WIRE OR RODES, SIZES TO COMPLY WITH REQUIREMENTS OF ASTM C754 FOR CEILING AREA AND LOADS TO BE SUPPORTED. FRAMING SYSTEM SHALL CONSISTS OF MAIN RUNNERS, CROSS FURRING, AND FURRING NCHORAGES. MAIN RUNNERS SHALL BE COLD-ROLLED "C" SHAPED STEEL HANNELS, 16 GAUGE MINIMUM, GALVANIZED OR PAINTED WITH RUST-INHIBITIVE PAINT. CROSS FURRING SHALL BE HAT-SHAPED STEEL FURRING CHANNELS, ASTM C645, 7/8 INCH HIGH, 25 GAUGE, GALVANIZED. FURRING ANCHORAGE DEVICES SHALL BE 16 GAUGE GALVANIZED WIRE TIES, ANUFACTURER'S STANDARD WIRE-TYPE CLIPS, BOLTS, NAILS, OR SCREWS RECOMMENDED BY MANUFACTURER AND COMPLYING WITH ASTM

SECURE HANGERS OR RODS TO STRUCTURAL SUPPORT BY CONNECTING DIRECTLY TO SUPPORT WHERE POSSIBLE; OTHERWISE CONNECT TO INSERTS, CLIPS OR OTHER ANCHORAGE DEVICES OR FASTENERS INDICATED. SPACE MAIN RUNNERS, HANGERS AND FURRING ACCORDING TO REQUIREMENTS OF ASTM C754, EXCEPT AS OTHERWISE INDICATED. WHERE SPACING OF STRUCTURAL MEMBERS, OR WIDTH OF DUCTS OR OTHER EQUIPMENT, PREVENTS REGULAR SPACING OF HANGERS, PROVIDE SUPPLEMENTAL HANGERS AND SUSPENSION MEMBERS AND REINFORCE NEAREST AFFECTED HANGERS TO SPAN EXTRA DISTANCE. INSTALL METAL SUSPENSION SYSTEM PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

09 2216 - METAL FRAMING

ACCEPTABLE MANUFACTURERS, IF PRODUCT COMPLIES WITH SPECIFICATIONS: CEMCO

CLARKDIETRICH BUILDING SYSTEMS MARINOWARE

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT

COMPLY WITH ASTM C 645, PROVIDE STUDS AT 16" ON CENTER WITH TOP AND BOTTOM RUNNERS. TOP BRACE PARTITIONS TO BUILDING STRUCTURE AT 48" O.C. MAXIMUM. PROVIDE THE MINIMUM STUD SIZES AS DEFINED BY S.S.M.A. FOR UNBRACED LENGTHS. PROVIDE BASIS-OF-DESIGN CLARKDIETRICH FAST TOP CLIPS (FTC).

FRAME PARTITIONS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, INSTALL IN ACCORDANCE WITH ASTM C 754 & ASTM C 840. ALL STUDS, JOISTS AND ACCESSORIES 16 GA. OR HEAVIER SHALL BE FORMED FROM STEEL WITH A MINIMUM YIELD STRENGTH OF 50 KSI. 18 GA. MEMBERS SHALL BE FORMED FROM STEEL WITH A MINIMUM YIELD STRENGTH OF 33 KSI. ALL STUDS, JOISTS, AND ACCESSORIES SHALL BE GALVANIZED PER ASTM A-525. CLASS G-60. CLIP ANGLES AND OTHER CONNECTORS ARE TO BE ONE GAUGE THICKNESS GREATER THAN THE MEMBERS THEY CONNECT. SCREWS ARE TO BE LONG ENOUGH SO THAT AT LEAST THREE (3) THREADS ARE VISIBLE ON THE OPPOSITE SIDE OF THE CONNECTED SHEETS. WELDING TO BE PER AWS D1.3 - "STRUCTURAL WELDING CODE - SHEET STEEL". TOUCH-UP ALL WELDED AREAS WITH ZINC-RICH PRIMER PAINT. THE PHYSICAL AND STRUCTURAL PROPERTIES ISTED BY STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) SHALL BE CONSIDERED THE MINIMUM PERMITTED FOR ALL FRAMING MEMBERS. SUBMIT MANUFACTURER'S PRODUCT DATA FOR REVIEW FOR ALL STUDS, JOISTS, AND ACCESSORIES PRIOR TO ORDERING ANY MATERIAL.

09 2813 - CEMENTITOUS BACKING BOARDS

SUBMIT PRODUCT DATA FOR CEMENTITIOUS BACKING BOARDS.

FOR FIRE-RESISTANCE-RATED ASSEMBLIES, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM E119 BY AN INDEPENDENT TESTING AGENCY.

CEMENTITIOUS BACKER UNITS SHALL BE ANSI A118.9 OR ASTM C1325, TYPE A WITH MANUFACTURER'S STANDARD EDGES AS MANUFACTURED BY CUSTOM BUILDING PRODUCTS, GEORGIA-PACIFIC GYPSUM LLC OR USG CORPORATION, OF 5/8-INCH THICKNESS. MOLD RESISTANCE: ASTM D3273, SCORE OF 10 AS RATED ACCORDING TO ASTM D3274. PROVIDE MAXIMUM LENGTHS AND WIDTHS AVAILABLE THAT WILL MINIMIZE JOINTS IN EACH AREA AND THAT CORRESPOND WITH SUPPORT SYSTEM INDICATED.

FOR FASTENING CEMENTITIOUS BACKER UNITS, USE SCREWS OF TYPE AND SIZE RECOMMENDED BY PANEL MANUFACTURER.

INSTALL TILE BACKING PANELS AND TREAT JOINTS ACCORDING TO ANSI A108.11 AND MANUFACTURER'S WRITTEN INSTRUCTIONS FOR TYPE OF APPLICATION INDICATED. FINISH ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND TO RECEIVE CERAMIC TILE.

09 2900 - GYPSUM BOARD

ACCEPTABLE MANUFACTURERS, IF PRODUCT COMPLIES WITH SPECIFICATIONS & WITH LISTED FIRE-RATED ASSEMBLIES: CERTAINTEED CORPORATION GEORGIA PACIFIC CORP. NATIONAL GYPSUM CO.

UNITED STATES GYPSUM COMPANY (USG)

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT

GYPSUM BOARD FOR WALLS AND CEILINGS SHALL BE TYPE X COMPLYING WITH ASTM C 1396/C 1396M. GYPSUM BOARD AT CEILINGS SHALL BE NON-SAG TYPE. PROVIDE MOISTURE & MOLD RESISTANT BOARD, FOR BACKING OF TILE, COMPLYING WITH ASTM D 3274, SCORING 10 WHEN TESTED IN ACCORDANCE WITH ASTM D 3273. PROVIDE GALVANIZED METAL CORNER BEAD AT ALL OUTSIDE CORNERS OF DRYWALL. PROVIDE DRYWALL SCREWS, JOINT TAPE AND DRYWALL COMPOUND RECOMMENDED BY MANUFACTURER AND COMPLYING WITH APPLICABLE CODE REQUIREMENTS. FINISH GYPSUM BOARD IN ACCORDANCE WITH GYPSUM ASSOCIATION GA-214-07: LEVEL 1 AT ALL LOCATIONS CONCEALED FROM VIEW LEVEL 2 AT TILE SUBSTRATE LEVEL 4 AT ALL EXPOSED LOCATIONS UNLESS NOTED OTHERWISE.

FABRICATE AND INSTALL SYSTEMS TO COMPLY WITH ASTM C754, ASTM 840, AND GYPSUM ASSOCIATION GA-216. ENSURE THAT FRAMING TO RECEIVE GYPSUM BOARD IS PLUMB, STRAIGHT AND FLUSH WITH ROUGH OPENINGS SQUARE AND INCLUDES BLOCKING FOR ALL EQUIPMENT, FITTINGS, ACCESSORIES AND ITEMS INDICATED AND AS REQUIRED BY OTHER TRADES TO SUPPORT WORK IN AND ATTACHED TO PARTITIONS.

PROVIDE GALVANIZED METAL "J" EDGE MOLD AND/OR GALVANIZED METAL CONTROL JOINT WHERE INDICATED. INSTALL CONTROL JOINTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND DETAILS FOR INTENDED USE AND FIRE-RATING.

CSI DIVISION 09 - FINISHES

09 3013 - CERAMIC TILING

SUBMIT PRODUCT DATA FOR EACH TYPE OF CERAMIC MOSAIC AND GLAZED WALL TILE AND WATERPROOF MEMBRANE PRODUCT.

SUBMIT FOR SELECTION, SAMPLES OF MANUFACTURERS FULL RANGE OF SOLID COLOR, MATTE FINISH, CERAMIC MOSAIC TILE.

SUBMIT FOR VERIFICATION, ASSEMBLED SAMPLES OF SELECTED TILE MOUNTED ON A RIGID PANEL, WITH GROUTED JOINTS, FOR EACH TYPE AND COMPOSITION OF TILE AND FOR EACH COLOR AND FINISH REQUIRED.

SUBMIT QUALIFICATION DATA FOR INSTALLER.

FURNISH EXTRA MATERIALS THAT MATCH AND ARE FROM SAME PRODUCTION RUNS AS PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS: QUANTITY OF FULL-SIZE TILE AND TRIM UNITS EQUAL TO 3 PERCENT OF AMOUNT INSTALLED FOR EACH TYPE, COMPOSITION, COLOR, PATTERN, AND SIZE INDICATED.

INSTALLER'S PROJECT SUPERVISOR SHALL HOLD THE INTERNATIONAL MASONRY INSTITUTE'S FOREMAN CERTIFICATION, OR INSTALLERS PROJECT CREW SHALL BE RECOGNIZED BY THE U.S. DEPARTMENT OF LABOR AS JOURNEYMAN TILE LAYERS, OR PROJECT CREW SHALL INCLUDE AT LEAST ONE INSTALLER THAT HAS COMPLETED THE ADVANCED CERTIFICATION FOR TILE INSTALLERS (ACT) CERTIFICATION FOR INSTALLATION OF MEMBRANES SHOWER RECEPTORS GAUGED PORCELAIN TILE/GAUGED PORCELAIN TILE PANELS AND SLABS.

MOCKUPS: BUILD MOCKUPS TO VERIFY SELECTIONS MADE UNDER SAMPLE SUBMITTALS AND TO DEMONSTRATE AESTHETIC EFFECTS AND SET QUALITY STANDARDS FOR MATERIALS AND EXECUTION. BUILD MOCKUP OF EACH TYPE OF FLOOR TILE AND OF EACH WALL TILE INSTALLATION. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, APPROVED MOCKUPS MAY BECOME PART OF THE COMPLETED WORK IF UNDISTURBED AT TIME OF SUBSTANTIAL COMPLETION.

PROVIDE STANDARD-GRADE, FACTORY-MOUNTED MOSAIC CERAMIC UNGLAZED TILE BY AMERICAN OLEAN, DALTILE, OR MARAZZI USA, THAT COMPLIES WITH ANSI A137.1 FOR TYPES, COMPOSITIONS, AND OTHER CHARACTERISTICS INDICATED. PROVIDE TILE INSTALLATION MATERIALS COMPLYING WITH ANSI A108.02, ANSI STANDARDS REFERENCED IN OTHER PART 2 ARTICLES, ANSI STANDARDS REFERENCED BY TCNA INSTALLATION METHODS SPECIFIED IN TILE INSTALLATION SCHEDULES, AND OTHER REQUIREMENTS SPECIFIED.

AT FLOORS, PROVIDE VITREOUS OR IMPERVIOUS NATURAL CLAY OR PORCELAIN MOSAIC TILE CERTIFIED BY THE PORCELAIN TILE CERTIFICATION AGENCY, 2 X 2 INCHES X 1/4-INCH THICK, PLAIN FACE WITH CUSHION EDGES, SLIP RESISTANT SURFACE WITH ABRASIVE ADMIXTURE AND DYNAMIC COEFFICIENT OF FRICTION OF NOT LESS THAN 0.42, CLEAR GLAZED MATTE FINISH, SOLID COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE. COORDINATE TRIM UNITS WITH SIZES AND COURSING OF ADJOINING FLAT TILE WHERE APPLICABLE AND MATCHING CHARACTERISTICS OF ADJOINING FLAT TILE. PROVIDE MANUFACTURER'S STANDARD 2 X 1-INCH COVED BASE COVE AND 2 X 2 STANDARD SURFACE BULLNOSE CORNER. GROUT COLOR SHALL BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

ON WALLS, PROVIDE GLAZED TILE, 2 X 2 INCHES X 1/4-INCH THICK, RECTIFIED, PLAIN FACE WITH CUSHION EDGES, CLEAR GLAZED MATTE FINISH, SOLID COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE. MOUNTING SHALL BE FACTORY BACK-MOUNTED PRE-GROUTED SHEETS OF TILES. COORDINATE TRIM UNITS WITH SIZES AND COURSING OF ADJOINING FLAT TILE WHERE APPLICABLE AND MATCHING CHARACTERISTICS OF ADJOINING FLAT TILE. PROVIDE MANUFACTURER'S STANDARD 2 X 2 STANDARD SURFACE BULLNOSE CORNER. GROUT COLOR SHALL BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

PROVIDE WATERPROOF MEMBRANE, FABRIC-REINFORCED, FLUID-APPLIED SYSTEM CONSISTING OF LIQUID-LATEX RUBBER OR ELASTOMERIC POLYMER AND CONTINUOUS FABRIC REINFORCEMENT THAT COMPLIES WITH ANSI A118.10 AND IS RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION INDICATED. INCLUDE REINFORCEMENT AND ACCESSORIES RECOMMENDED BY MANUFACTURER. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY CUSTOM BUILDING PRODUCTS, LATICRETE INTERNATIONAL, INC., OR PAREX USA, INC.

PROVIDE SAND-PORTLAND CEMENT GROUT COMPLYING WITH ANSI A108.10 AND CONSISTING OF WHITE OR GRAY CEMENT AND WHITE OR COLORED AGGREGATE AS REQUIRED TO PRODUCE COLOR INDICATED. STANDARD CEMENT GROUT SHALL COMPLY WITH ANSI A118.6; HIGH-PERFORMANCE TILE GROUT SHALL COMPLY WITH ANSI A118.7 AND IF POLYMER TYPE SHALL BE DRY, RE-DISPERSIBLE FORM, PREPACKAGED WITH OTHER DRY INGREDIENTS OR LIQUID-LATEX FORM FOR ADDITION TO PREPACKAGED DRY-GROUT MIX. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, GROUT MATERIALS SHALL BE ARDEX AMERICAS, CUSTOM BUILDING PRODUCTS, LATICRETE INTERNATIONAL, INC., OR PAREX USA, INC.

EXAMINE SUBSTRATES, AREAS, AND CONDITIONS WHERE TILE WILL BE INSTALLED, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK. VERIFY THAT SUBSTRATES FOR SETTING TILE ARE FIRM; DRY; CLEAN; FREE OF COATINGS THAT ARE INCOMPATIBLE WITH TILE-SETTING MATERIALS, INCLUDING CURING COMPOUNDS AND OTHER SUBSTANCES THAT CONTAIN SOAP, WAX, OIL, OR SILICONE; AND COMPLY WITH FLATNESS TOLERANCES REQUIRED BY ANSI A108.01 FOR INSTALLATIONS INDICATED. VERIFY THAT CONCRETE SUBSTRATES FOR TILE FLOORS INSTALLED WITH THINSET MORTAR COMPLY WITH SURFACE FINISH REQUIREMENTS IN ANSI A108.01 FOR INSTALLATIONS INDICATED. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

FILL CRACKS, HOLES, AND DEPRESSIONS IN CONCRETE SUBSTRATES FOR TILE FLOORS INSTALLED WITH THINSET MORTAR WITH TROWEL-ABLE LEVELING AND PATCHING COMPOUND SPECIFICALLY RECOMMENDED BY TILE-SETTING MATERIAL MANUFACTURER. WHERE INDICATED, PREPARE SUBSTRATES TO RECEIVE WATERPROOF MEMBRANE.

FOR TILE EXHIBITING COLOR VARIATIONS, VERIFY THAT TILE HAS BEEN FACTORY BLENDED AND PACKAGED SO TILE UNITS TAKEN FROM ONE PACKAGE SHOW SAME RANGE OF COLORS AS THOSE TAKEN FROM OTHER PACKAGES AND MATCH APPROVED SAMPLES. IF NOT FACTORY BLENDED, EITHER RETURN TO MANUFACTURER OR BLEND TILES AT PROJECT SITE BEFORE INSTALLING.

COMPLY WITH TCNA'S "HANDBOOK FOR CERAMIC, GLASS, AND STONE TILE INSTALLATION" FOR TCNA INSTALLATION METHODS SPECIFIED IN TILE INSTALLATION SCHEDULES. COMPLY WITH PARTS OF THE ANSI A108 SERIES "SPECIFICATIONS FOR INSTALLATION OF CERAMIC TILE" THAT ARE REFERENCED IN TCNA INSTALLATION METHODS, SPECIFIED IN TILE INSTALLATION SCHEDULES, AND APPLY TO TYPES OF SETTING AND GROUTING MATERIALS USED. FOLLOW PROCEDURES IN THE ANSI A108 SERIES OF TILE INSTALLATION STANDARDS FOR PROVIDING 95 PERCENT MORTAR COVERAGE.

CSI DIVISION 09 - FINISHES

09 3013 - CERAMIC TILING (CONTINUED)

EXTEND TILE WORK INTO RECESSES AND UNDER OR BEHIND EQUIPMENT AND FIXTURES TO FORM COMPLETE COVERING WITHOUT INTERRUPTIONS UNLESS OTHERWISE INDICATED. TERMINATE WORK NEATLY AT OBSTRUCTIONS, EDGES, AND CORNERS WITHOUT DISRUPTING PATTERN OR JOINT ALIGNMENTS. ACCURATELY FORM INTERSECTIONS AND RETURNS. PERFORM CUTTING AND DRILLING OF TILE WITHOUT MARRING VISIBLE SURFACES. CAREFULLY GRIND CUT EDGES OF TILE ABUTTING TRIM, FINISH, OR BUILT-IN ITEMS FOR STRAIGHT ALIGNED JOINTS. FIT TILE CLOSELY TO ELECTRICAL OUTLETS, PIPING, FIXTURES, AND OTHER PENETRATIONS SO PLATES. COLLARS. OR COVERS OVERLAP. TILF

PROVIDE MANUFACTURER'S STANDARD TRIM SHAPES WHERE NECESSARY TO ELIMINATE EXPOSED TILE EDGES. LAY TILE IN GRID PATTERN UNLESS OTHERWISE INDICATED. LAY OUT TILE WORK AND CENTER TILE FIELDS IN BOTH DIRECTIONS IN EACH SPACE OR ON EACH WALL AREA. LAY OUT TILE WORK TO MINIMIZE THE USE OF PIECES THAT ARE LESS THAN HALF OF A TILE. PROVIDE UNIFORM JOINT WIDTHS UNLESS OTHERWISE INDICATED.

INSTALL TILE WITH 1/8-INCH JOINT WIDTHS. PROVIDE EXPANSION JOINTS AND OTHER SEALANT-FILLED JOINTS, INCLUDING CONTROL, CONTRACTION, AND ISOLATION JOINTS, WHERE INDICATED. FORM JOINTS DURING INSTALLATION OF SETTING MATERIALS, MORTAR BEDS, AND TILE. DO NOT SAW-CUT JOINTS AFTER INSTALLING TILES. WHERE JOINTS OCCUR IN CONCRETE SUBSTRATES, LOCATE JOINTS IN TILE SURFACES DIRECTLY ABOVE THEM.

FLOOR SEALER: APPLY FLOOR SEALER TO GROUT JOINTS IN TILE FLOORS ACCORDING TO FLOOR-SEALER MANUFACTURER'S WRITTEN INSTRUCTIONS. AS SOON AS FLOOR SEALER HAS PENETRATED GROUT JOINTS, REMOVE EXCESS SEALER AND SEALER FROM TILE FACES BY WIPING WITH SOFT CLOTH.

INSTALL WATERPROOF MEMBRANE TO COMPLY WITH ANSI A108.13 AND MANUFACTURER'S WRITTEN INSTRUCTIONS TO PRODUCE WATERPROOF MEMBRANE OF UNIFORM THICKNESS THAT IS BONDED SECURELY TO SUBSTRATE. TURN MEMBRANE UP ON VERTICAL SURFACES FULL-HEIGHT AT SHOWER ENCLOSURES AND 4"-6" ON ALL OTHER WALLS. INSTALL CRACK ISOLATION MEMBRANE TO COMPLY WITH ANSI A108.17 AND MANUFACTURER'S WRITTEN INSTRUCTIONS TO PRODUCE MEMBRANE OF UNIFORM THICKNESS THAT IS BONDED SECURELY TO SUBSTRATE.

CERAMIC TILE INSTALLATION SCHEDULE PROVIDE UP TO FOUR COLORS OF EACH TYPE OF TILE.

- INTERIOR FLOOR INSTALLATIONS, CONCRETE SUBFLOOR: TCNA F122: THINSET MORTAR ON WATERPROOF MEMBRANE. 1. CERAMIC TILE TYPE: 2X2 MOSAIC UN-GLAZED, SLIP-RESISTANT
- CERAMIC TILE TITLE 222 MOSAIC UN-GLAZED, SLIF-RESISTANT
 THINSET MORTAR: IMPROVED MODIFIED DRY-SET MORTAR.
 GROUT: WATER-CLEANABLE EPOXY GROUT.

INTERIOR WALL INSTALLATIONS, MASONRY OR CONCRETE: TCNA W202: THINSET MORTAR. 1. CERAMIC TILE TYPE: 2X2 MOSAIC GLAZED, SOLID COLOR, MATTE

- FINISH. 2. THINSET MORTAR: IMPROVED MODIFIED DRY-SET MORTAR.
- 3. GROUT: HIGH-PERFORMANCE UNSANDED GROUT.

INTERIOR WALL INSTALLATIONS, METAL STUDS OR FURRING: TCNA W244C OR TCNA W244F: THINSET MORTAR ON CEMENTITIOUS BACKER UNITS OR FIBER-CEMENT BACKER BOARD OVER VAPOR-RETARDER MEMBRANE. 1. CERAMIC TILE TYPE: 2X2 MOSAIC GLAZED, SOLID COLOR, MATTE

- FINISH.
- THINSET MORTAR: IMPROVED MODIFIED DRY-SET MORTAR.
 GROUT: HIGH-PERFORMANCE UNSANDED GROUT.

09 9113 - PAINTING

SHERWIN-WILLIAMS

ACCEPTABLE MANUFACTURERS, IF PRODUCT COMPLIES WITH SPECIFICATIONS: KELLY-MOORE PAINTS

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT

SUBMIT SAMPLES OF MANUFACTURER'S FULL RANGE OF COLORS FOR SELECTION

BASIS-OF-DESIGN: SHERWIN WILLIAMS PROMAR 200 SYSTEM UTILIZING PRIMING AND OTHER PRODUCTS RECOMMENDED BY MANUFACTURER FOR APPLICATION. MAINTAIN ENVIRONMENTAL CONDITIONS WITHIN LIMITS RECOMMENDED BY MANUFACTURER FOR OPTIMUM RESULTS.

THE OWNER MAY SELECT, ALLOCATE, AND VARY COLORS ON DIFFERENT SURFACES THROUGHOUT THE WORK, SUBJECT TO THE FOLLOWING: • EXTERIOR WORK: A MAXIMUM OF THREE DIFFERENT COLORS WILL BE

- USED FOR TRIM, DOORS, MISCELLANEOUS WORK, AND METAL WORK.
 INTERIOR WORK: A MAXIMUM OF THREE DIFFERENT PIGMENTED COLORS WILL BE USED, WITH VARIATION FOR TRIM AND WALL
- SURFACES.
 DARK TONES: A MAXIMUM OF ONE DARK TONE WILL BE USED AS ACCENT COLOR FOR INTERIOR.

FOR GYPSUM BOARD, PROVIDE EGGSHELL PAINT OVER MEDIUM ORANGE PEEL TEXTURE; FOR WOOD TRIM AND SILLS, PROVIDE SEMIGLOSS PAINT; FOR HOLLOW METAL FRAMES AND OTHER METAL SUBSTRATES – ALKYD SEMI-GLOSS PAINT; CONCRETE FLOOR SEALER SHALL BE ARMORSEAL TREAD-PLEX CLEAR OR APPROVED FOUAL.

THE SURFACE MUST BE DRY AND IN SOUND CONDITION. REMOVE OIL, DUST, DIRT, LOOSE RUST, PEELING PAINT OR OTHER CONTAMINATION TO ENSURE GOOD ADHESION.

INSTALL COATINGS IN FULL ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. APPLY AS MANY COATS AS NECESSARY FOR COMPLETE HIDE AND UNIFORM APPEARANCE. TOUCH UP COATINGS AFTER SUBSTANTIAL COMPLETION, FOLLOWING MANUFACTURER'S RECOMMENDATIONS FOR TOUCH UPS AND REPAIRS.

CSI DIVISION 10 - SPECIALTIES

10 1423 - PANEL SIGNAGE SUBMIT PRODUCT DATA FOR PANEL SIGNS.

SUBMIT SHOP DRAWINGS FOR PANEL SIGNS. INCLUDE FABRICATION AND INSTALLATION DETAILS AND ATTACHMENTS TO OTHER WORK. SHOW SIGN MOUNTING HEIGHTS, LOCATIONS OF SUPPLEMENTARY SUPPORTS TO BE PROVIDED BY OTHER INSTALLERS, AND ACCESSORIES. SHOW MESSAGE LIST, TYPESTYLES, GRAPHIC ELEMENTS, INCLUDING RAISED CHARACTERS AND BRAILLE, AND LAYOUT FOR EACH SIGN AT LEAST HALF SIZE.

SUBMIT SAMPLES OF MANUFACTURER'S FULL RANGE OF COLORS FOR SELECTION

SUBMIT SAMPLES FOR EACH EXPOSED PRODUCT AND FOR EACH COLOR AND TEXTURE SPECIFIED.

SUBMIT SAMPLE WARRANTY IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF SIGNS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD OF FIVE (5) YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

SUBMIT MAINTENANCE DATA.

SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY MOHAWK, ASI SIGN SYSTEMS, INC., OR BEST SIGN SYSTEMS, INC. BASIS OF DESIGN IS MOHAWK ADA 1000 SYSTEM.

PANEL SIGN SHALL HAVE SMOOTH, UNIFORM SURFACES; WITH MESSAGE AND CHARACTERS HAVING UNIFORM FACES, SHARP CORNERS, AND PRECISELY FORMED LINES AND PROFILES, COMPLY WITH APPLICABLE PROVISIONS IN THE USDOJ'S "2010 ADA STANDARDS FOR ACCESSIBLE DESIGN" AND ICC A117.1, AND CONSIST OF PLASTIC-LAMINATE FACE LAMINATED TO CONTRASTING PHENOLIC CORE TO PRODUCE COMPOSITE SHEET WITH CHARACTERS ENGRAVED THROUGH PLASTIC-LAMINATE FACE SHEET TO EXPOSE CONTRASTING PHENOLIC CORE. FINISH PERIMETER EDGES SMOOTH, WITH SQUARE CUT EDGES. INTEGRAL ACRYLIC SHEET COLOR AND PLASTIC-LAMINATE COLOR AND PATTERN SHALL BE AS SELECTED BY ARCHITECT FROM FULL RANGE OF INDUSTRY COLORS. SURFACE MOUNTED TO WALL WITH CONCEALED ANCHORS UNLESS INDICATED TO BE EXPOSED.

ACRYLIC SHEET SHALL BE ASTM D4802, TYPE UVF (UV FILTERING). VINYL FILM SHALL BE UV-RESISTANT VINYL FILM OF NOMINAL THICKNESS INDICATED, WITH PRESSURE-SENSITIVE, PERMANENT ADHESIVE ON BACK; DIE CUT TO FORM CHARACTERS OR IMAGES AS INDICATED ON DRAWINGS AND SUITABLE FOR EXTERIOR APPLICATIONS.

PROVIDE MANUFACTURER'S STANDARD SIGN ASSEMBLIES ACCORDING TO REQUIREMENTS INDICATED. SURFACE-ENGRAVED GRAPHICS: MACHINE ENGRAVE CHARACTERS AND OTHER GRAPHIC DEVICES INTO INDICATED SIGN SURFACE TO PRODUCE PRECISELY FORMED COPY, INCISED TO UNIFORM DEPTH. ENGRAVED PLASTIC LAMINATE: ENGRAVE THROUGH EXPOSED FACE PLY OF PLASTIC-LAMINATE SHEET TO EXPOSE CONTRASTING CORE PLY.

INSTALL SIGNS USING MOUNTING METHODS INDICATED AND ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALL SIGNS LEVEL, PLUMB, TRUE TO LINE, AND AT LOCATIONS AND HEIGHTS INDICATED, WITH SIGN SURFACES FREE OF DISTORTION AND OTHER DEFECTS IN APPEARANCE. INSTALL SIGNS SO THEY DO NOT PROTRUDE OR OBSTRUCT ACCORDING TO THE ACCESSIBILITY STANDARD. BEFORE INSTALLATION, VERIFY THAT SIGN SURFACES ARE CLEAN AND FREE OF MATERIALS OR DEBRIS THAT WOULD IMPAIR INSTALLATION.

MOUNT SIGNS USING A TEMPLATE TO DRILL HOLES IN SUBSTRATE ALIGNING WITH STUDS ON BACK OF SIGN. REMOVE LOOSE DEBRIS FROM HOLE AND SUBSTRATE SURFACE. FOR MASONRY SUBSTRATES: FILL HOLES WITH ADHESIVE. LEAVE RECESS SPACE IN HOLE FOR DISPLACED ADHESIVE. PLACE SIGN IN POSITION AND PUSH UNTIL FLUSH TO SURFACE, EMBEDDING STUDS IN HOLES. TEMPORARILY SUPPORT SIGN IN POSITION UNTIL ADHESIVE FULLY SETS.

FOR THIN OR HOLLOW SURFACES: PLACE SIGN IN POSITION AND FLUSH TO SURFACE, INSTALL WASHERS AND NUTS ON STUDS PROJECTING THROUGH OPPOSITE SIDE OF SURFACE, AND TIGHTEN.

REMOVE TEMPORARY PROTECTIVE COVERINGS AND STRIPPABLE FILMS AS SIGNS ARE INSTALLED.

10 2800 - ACCESSORIES

SEE ACCESSORIES SCHEDULE ON DRAWINGS

SUBMIT PRODUCT DATA FOR EACH TYPE OF PRODUCT

INSTALL ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT ACCESSORIES TO COMPLY WITH ADAAG/TAS TECHNICAL REQUIREMENTS. COORDINATE WITH DRYWALL FRAMERS TO PROVIDE BLOCKING FOR ALL MOUNTED ACCESSORIES.



TECHNICAL SPECIFICATIONS ON THIS SHEET ARE INTENDED FOR USE WITH THE ISSUED CONSTRUCTION DRAWINGS.

THESE SPECIFICATIONS AND THE DRAWINGS ARE COMPLIMENTARY AND SOME PRODUCTS AND MATERIALS ARE ONLY INDICATED ON THE DRAWINGS, NOT IN THESE SPECIFICATIONS. LIKEWISE, SOME ITEMS OF THE WORK ARE DESCRIBED ONLY IN THE SPECIFICATIONS BUT NOT INDICATED ON THE DRAWINGS. ALL WORK INDICATED ON THE DRAWINGS OR REQUIRED IN THE SPECIFICATION IS IN THE CONTRACTOR'S SCOPE.

WHERE THE REQUIREMENTS OF ONE CONFLICT WITH THE OTHER, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL UNLESS WAIVED IN WRITING BY THE ARCHITECT. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR RESOLUTION BEFORE RELATED CONSTRUCTION COMMENCES.

		S PACE	Residence and a lincorporater		The TORONEW TEXAS 75604	003)753-0653 FAX (903)753-8803 website: www.johnsonpace.com	TBPE F-4691 / TBAE BR361	
			STARK HALL R R RENOVATION	607 FI DFR STRFFT		KII GORE TY 75663		
	BY DATE	CT 06/29/2022	CT 07/22/2022					
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			SPECIFICATIONS					
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CSI DI	VISION	23 05 - COMMON WORK RESULTS FOR HVAC	CSI	DIVISIO	ON 23 05 - COMMON WORK RESULTS FOR HVAC	CS		ON 23 05 - C
ART 1 -	GENERA	L	2.5	ESCUT	CHEONS	3.3	B PIPIN	IG JOINT CONSTR
.1		Y THIS SECTION INCLUDES THE FOLLOWING		A.	DESCRIPTION: MANUFACTURED WALL AND CEILING ESCUTCHEONS AND FLOOR PLATES, WITH AN ID TO CLOSELY FIT AROUND PIPE,		A.	JOIN PIPE AI REQUIREME
	Α.	1. PIPING MATERIALS AND INSTALLATION INSTRUCTIONS			TUBE, AND INSULATION OF INSULATED PIPING AND AN OD THAT		D	SYSTEMS.
		2. DIELECTRIC FITTINGS.		В.	ONE-PIECE, DEEP-PATTERN TYPE: DEEP-DRAWN, BOX-SHAPED		Б.	PLAIN ENDS
		 MECHANICAL SLEEVE SEALS. SLEEVES. 		C.	ONE-PIECE, CAST-BRASS TYPE: WITH SET SCREW.		U.	OUTSIDE OF
		5. ESCUTCHEONS. 6. GROUT.		D.	1. FINISH: POLISHED CHROME SPLIT-CASTING, CAST-BRASS TYPE: WITH CONCEALED HINGE AND		D.	SOLDERED UNLESS OT
		 HVAC DEMOLITION. EQUIPMENT INSTALLATION REQUIREMENTS COMMON TO 			SET SCREW. 1. FINISH: POLISHED CHROME			JOINTS ACC HANDBOOK,
		EQUIPMENT SECTIONS. 9. CONCRETE BASES.	2.6	GROUT	т		E.	ASTM B 32. BRAZED JOI
		10. SUPPORTS AND ANCHORAGES.		A.	DESCRIPTION: ASTM C 1107, GRADE B, NONSHRINK AND NONMETALLIC, DRY HYDRAULIC-CEMENT GROUT.			"Brazing H Phosphori
	definiti A.	DNS FINISHED SPACES: SPACES OTHER THAN MECHANICAL AND			1. CHARACTERISTICS: POST-HARDENING, VOLUME- ADJUSTING, NONSTAINING, NONCORROSIVE,		F.	THREADED
		ELECTRICAL EQUIPMENT ROOMS, FURRED SPACES, PIPE AND DUCT CHASES, UNHEATED SPACES IMMEDIATELY BELOW ROOF, SPACES			NONGASEOUS, AND RECOMMENDED FOR INTERIOR AND EXTERIOR APPLICATIONS.			USING SHAF BURRS AND
		ABOVE CEILINGS, UNEXCAVATED SPACES, CRAWLSPACES, AND			 DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH. PACKAGING: PREMIXED AND FACTORY PACKAGED. 			FOLLOWS: 1. AF
	В.	EXPOSED, INTERIOR INSTALLATIONS: EXPOSED TO VIEW INDOORS.	PART	3- EXECU	JTION			E> IS
	C		3.1	HVAC				2. D/ Fl
	0.	OUTDOORS OR SUBJECT TO OUTDOOR AMBIENT TEMPERATURES	•	A.	REFER TO DIVISION 01 SECTION "CUTTING AND PATCHING" AND			D/
	D	LOCATIONS.		R	GENERAL DEMOLITION REQUIREMENTS AND PROCEDURES.		G.	WELDED JO
	D.	AND PROTECTED FROM PHYSICAL CONTACT BY BUILDING		D.	EQUIPMENT, AND COMPONENTS INDICATED TO BE REMOVED.		ц	ACCORDING
	E.	CONCEALED, EXTERIOR INSTALLATIONS: CONCEALED FROM VIEW			INDICATED TO BE REMOVED AND CAP OR PLUG		11.	TYPE, AND
		CONTACT BY BUILDING OCCUPANTS BUT SUBJECT TO OUTDOOR			MATERIAL.			
		AMBIENT TEMPERATURES. EXAMPLES INCLUDE INSTALLATIONS WITHIN UNHEATED SHELTERS.			2. PIPING TO BE ABAINDONED IN PLACE: DRAIN PIPING AND CAP OR PLUG PIPING WITH SAME OR COMPATIBLE PIPING		I.	JOINING SU
	SUBMITT	ALS			3. DUCTS TO BE REMOVED: REMOVE PORTION OF DUCTS			FOLLOWING 1. C
	Α.	WELDING CERTIFICATES.			INDICATED TO BE REMOVED AND PLUG REMAINING DUCTS WITH SAME OR COMPATIBLE DUCTWORK MATERIAL.			PF C ^r
	quality A.	ASSURANCE STEEL SUPPORT WELDING: QUALIFY PROCESSES AND OPERATORS			4. DUCTS TO BE ABANDONED IN PLACE: CAP OR PLUG DUCTS WITH SAME OR COMPATIBLE DUCTWORK			2. Cl A ^l
	В.	ACCORDING TO AWS D1.1, "STRUCTURAL WELDING CODESTEEL." STEEL PIPE WELDING: QUALIFY PROCESSES AND OPERATORS			MATERIAL. 5. EQUIPMENT TO BE REMOVED: DISCONNECT AND CAP			3. P\ A ⁽
		ACCORDING TO ASME BOILER AND PRESSURE VESSEL CODE: SECTION IX. "WEI DING AND BRAZING OF ALLECATIONS."			6. SERVICES AND REMOVE EQUIPMENT. 6. EQUIPMENT TO BE REMOVED AND REINSTALLED:			A
		1. COMPLY WITH PROVISIONS IN ASME B31 SERIES, "CODE FOR PRESSURE PIPING."			DISCONNECT AND CAP SERVICES AND REMOVE, CLEAN, AND STORE EQUIPMENT: WHEN APPROPRIATE			4. P'
		2. CERTIFY THAT EACH WELDER HAS PASSED AWS			REINSTALL, RECONNECT, AND MAKE EQUIPMENT OPERATIONAL		.I	AS PLASTIC PR
	C	ELECTRICAL CHARACTERISTICS FOR UNAC FOUNDARIES FOR UNACTEDISTICS FOR UNAC FOUNDARIES FOR UNACTEDISTICS FOR UNACTEDISTINACTEDISTICS FOR UNACTEDISTICS FOR UNA			7. EQUIPMENT TO BE REMOVED AND SALVAGED: DISCONNECT AND CAP SERVICES AND DEMOVE		о. К	
	υ.	OF HIGHER ELECTRICAL CHARACTERISTICS MAY BE FURNISHED		C			IX.	
		AND CONNECTING ELECTRICAL SERVICES, CIRCUIT BREAKERS, AND		Ο.			L.	
		CONDULT SIZES ARE APPROPRIATELY MODIFIED. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES ARE SPECIFIED, EQUIPMENT			UNDERVICEABLE FORTIONS AND REPLACE WITH NEW PRODUCTS OF EQUAL CAPACITY AND QUALITY.			JUIN ACCOF
		SHALL COMPLY WITH REQUIREMENTS.	3.2	PIPING	SYSTEMS - COMMON REQUIREMENTS			2. PL Fl
F	PRODUC	TS		A.	AND DIVISION 23 SECTIONS SPECIFYING PIPING SYSTEMS.		M.	
	joining A.	MATERIALS PIPE-FLANGE GASKET MATERIALS: ASME B16.21, NONMETALLIC,		В.	DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED			MANUFACTU
		FLAT, ASBESTOS-FREE, 1/8-INCH MAXIMUM THICKNESS UNLESS THICKNESS OR SPECIFIC MATERIAL IS INDICATED.			LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER	3.4	+ PIPIN A.	IG CONNECTIONS MAKE CONN
E	3.	PLASTIC, PIPE-FLANGE GASKET, BOLTS, AND NUTS: TYPE AND MATERIAL RECOMMENDED BY PIPING SYSTEM MANUFACTURER.			DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION			OTHERWISE 1. IN
(С.	UNLESS OTHERWISE INDICATED. SOLDER FILLER METALS: ASTM B 32. LEAD-FRFF ALLOYS INCLUDE		C.	DRAWINGS. INSTALL PIPING IN CONCEALED LOCATIONS, UNLESS OTHERWISE			AE T(
с Г)	WATER-FLUSHABLE FLUX ACCORDING TO ASTM B 813. BRAZING FILLER METALS: AWS 45.8 ROLD SERIES OF BAG1 LINEESS			INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.			2. IN
с.		OTHERWISE INDICATED. WEI DING FILLER METAL SC COMPLY WITH AWS D10.12		D.	INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR			С 3. П
F.	•	SOLVENT CEMENTS FOR JOINING PLASTIC PIPING:			PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED			FI FI
		 PVC PIPING: ASTM D 2564. INCLUDE PRIMER ACCORDING TO ASTM E 656 		E.	INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW			4. W
זור				F.	INSTALL PIPING TO PERMIT VALVE SERVICING.			0
Dii A.	ELECT	DESCRIPTION: COMBINATION FITTING OF COPPER ALLOY AND		Э. Н.	INSTALL FILLING AT INDICATED SLOPES. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANCES IN DIRECTION AND DRANGU	3.5	i EQUI	
		FERKOUS MATERIALS WITH THREADED, SOLDER-JOINT, PLAIN, OR WELD-NECK END CONNECTIONS THAT MATCH PIPING SYSTEM		I. 1			A.	
E	3.	INSULATING MATERIAL: SUITABLE FOR SYSTEM FLUID, PRESSURE,		J. К.	SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO		В.	
().	AND TEMPERATURE. DIELECTRIC UNIONS: FACTORY-FABRICATED, UNION ASSEMBLY,		L.	INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILINGS,		~	OTHERWISE
D		FOR 250-PSIG MINIMUM WORKING PRESSURE AT 180 DEG F DIELECTRIC FLANGES: FACTORY-FABRICATED, COMPANION-FLANGE		М.	AND FLOORS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND		Ċ.	AND REPAIF
		ASSEMBLY, FOR 150- OR 300-PSIG MINIMUM WORKING PRESSURE AS REQUIRED TO SUIT SYSTEM PRESSURES.			MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR AND ROOF SLABS.			EQUIPMENT INTERFERE
E.		DIELECTRIC COUPLINGS: GALVANIZED-STEEL COUPLING WITH INERT AND NONCORROSIVE, THERMOPLASTIC LINING; THREADED ENDS:		N.	ABOVEGROUND, EXTERIOR-WALL PIPE PENETRATIONS: SEAL PENETRATIONS USING SLEEVES AND MECHANICAL SLEEVE SEALS.		D.	FITTINGS TO INSTALL EC
F.		AND 300-PSIG MINIMUM WORKING PRESSURE AT 225 DEG F DIELECTRIC NIPPLES: ELECTROPLATED STEEL NIPPI F WITH INFRT			SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH ANNULAR CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL	3.6	S CON	INSTALLED CRETE BASES.
• •		AND NONCORROSIVE, THERMOPLASTIC LINING; PLAIN, THREADED, OR GROOVED ENDS; AND 300-PSIG MINIMUM WORKING PRESSURE			SLEEVE SEALS. 1. INSTALL STEEL PIPE FOR SLEEVES SMALLER THAN 6		Α.	CONCRETE ACCORDING
		AT 225 DEG F			INCHES IN DIAMETER. 2. INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES 6 INCHES			INSTRUCTIC 1. C
ME ^	CHAN				AND LARGER IN DIAMETER. 3. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT TYPE			IN R
А		FIELD ASSEMBLY, TO FILL ANNULAR SPACE BETWEEN PIPE AND						2. IN
В		SLEEVE. SEALING ELEMENTS: EPDM INTERLOCKING LINKS SHAPED TO FIT			SLEEVE. ASSEMBLE MECHANICAL SLEEVE SEALS AND			IN T
		SURFACE OF PIPE. INCLUDE I YPE AND NUMBER REQUIRED FOR PIPE MATERIAL AND SIZE OF PIPE.			TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE			3. IN
C.		PRESSURE PLATES: STAINLESS STEEL. INCLUDE TWO FOR EACH SEALING ELEMENT.		-	SEALING ELEMENTS TO EXPAND AND MAKE WATERTIGHT SEAL.			SI Cr
D.		CONNECTING BOLTS AND NUTS: STAINLESS S TEEL OF LENGTH REQUIRED TO SECURE PRESSURE PLATES TO SEALING ELEMENTS.		Ο.	UNDERGROUND, EXTERIOR-WALL PIPE PENETRATIONS: INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES. SEAL PIPE PENETRATIONS			CC 4. Pl
		INCLUDE ONE FOR EACH SEALING ELEMENT.			USING MECHANICAL SLEEVE SEALS. SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH ANNULAR CLEAR SPACE BETWEEN PIPE AND			SI
S A	iLEEVES	GALVANIZED-STEEL SHEET: 0.0239-INCH MINIMUM THICKNESS:			SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEALS. 1. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT TYPE			5. IN
Ē	3.	ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT. STEEL PIPE: ASTM A 53, TYPE E, GRADE B. SCHEDULE 40.			AND NUMBER OF SEALING ELEMENTS REQUIRED FOR PIPE MATERIAL AND SIZE. POSITION PIPE IN CENTER OF			Pf 6. IN
C.		GALVANIZED, PLAIN ENDS. CAST IRON: CAST OR FABRICATED "WALL PIPE" FOUIVAI FNT TO			SLEEVE. ASSEMBLE MECHANICAL SLEEVE SEALS AND INSTALL IN ANNULAR SPACE BETWEEN PIPE AND SLEEVE.			M. 7. U'
		DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL WATERSTOP, UNI ESS OTHERWISE INDICATED			TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE SEALING ELEMENTS TO EXPAND AND MAKF WATERTIGHT			Cr
D).	STACK SLEEVE FITTINGS: MANUFACTURED, CAST-IRON SLEEVE		Р	SEAL. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING	27	7 FRF(
		BOLTS AND NUTS FOR MEMBRANE FLASHING.			OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS, SEAL PIPE PENETRATIONS WITH EIDESTOP	3.7	A.	REFER TO D
ļ	E.	1. UNDERDECK CLAMP: CLAMPING RING WITH SET SCREWS. MOLDED PVC: PERMANENT, WITH NAILING FLANGE FOR ATTACHING			MATERIALS. REFER TO DIVISION 07 SECTION "PENETRATION EIRESTODDING" FOR MATERIALS		В.	CUT, FIT, AN
F	:	PVC PIPE: ASTM D 1785, SCHEDULE 40.		Q.	VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGHING-IN.		~	SUPPORT A
G.		MULDED PE: REUSABLE, PE, TAPERED-CUP SHAPED, AND SMOOTH- OUTER SURFACE WITH NAILING FLANGE FOR ATTACHING TO		К.	THESE SPECIFICATIONS FOR ROUGHING-IN REQUIREMENTS.		Ú.	FIELD WELD
		WUUDEN FORMS.						

)5 -	COMMON	WORK	RESUL	TS FOF	R HVAC

CONSTRUCTION

I PIPE AND FITTINGS ACCORDING TO THE FOLLOWING UIREMENTS AND DIVISION 23 SECTIONS SPECIFYING PIPING TFMS.

M ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL IN ENDS OF STEEL PIPE. IOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND

SIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY. DERED JOINTS: APPLY ASTM B 813, WATER-FLUSHABLE FLUX, ESS OTHERWISE INDICATED, TO TUBE END. CONSTRUCT ITS ACCORDING TO ASTM B 828 OR CDA'S "COPPER TUBE DBOOK," USING LEAD-FREE SOLDER ALLOY COMPLYING WITH

ZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S AZING HANDBOOK," "PIPE AND TUBE" CHAPTER, USING COPPER-SPHORUS BRAZING FILLER METAL COMPLYING WITH AWS A5.8. EADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ORDING TO ASME B1.20.1. CUT THREADS FULL AND CLEAN NG SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE RS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS

APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED.

DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS.

DED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS D10.12, NG QUALIFIED PROCESSES AND WELDING OPERATORS ORDING TO PART 1 "QUALITY ASSURANCE" ARTICLE. NGED JOINTS: SELECT APPROPRIATE GASKET MATERIAL, SIZE,

E, AND THICKNESS FOR SERVICE APPLICATION. INSTALL KET CONCENTRICALLY POSITIONED. USE SUITABLE RICANTS ON BOLT THREADS. STIC PIPING SOLVENT-CEMENT JOINTS: CLEAN AND DRY

ING SURFACES. JOIN PIPE AND FITTINGS ACCORDING TO THE OWING:

COMPLY WITH ASTM F 402, FOR SAFE-HANDLING PRACTICE OF CLEANERS, PRIMERS, AND SOLVENT CEMENTS.

CPVC PIPING: JOIN ACCORDING TO ASTM D 2846/D 2846M APPENDIX. PVC PRESSURE PIPING: JOIN SCHEDULE NUMBER

ASTM D 1785, PVC PIPE AND PVC SOCKET FITTINGS ACCORDING TO ASTM D 2672. JOIN OTHER-THAN-SCHEDULE-NUMBER PVC PIPE AND SOCKET FITTINGS ACCORDING TO ASTM D 2855. PVC NONPRESSURE PIPING: JOIN ACCORDING TO

ASTM D 2855. STIC PRESSURE PIPING GASKETED JOINTS: JOIN ACCORDING ASTM D 3139. STIC NONPRESSURE PIPING GASKETED JOINTS: JOIN

ORDING TO ASTM D 3212. PIPING HEAT-FUSION JOINTS: CLEAN AND DRY JOINING FACES BY WIPING WITH CLEAN CLOTH OR PAPER TOWELS.

ACCORDING TO ASTM D 2657. PLAIN-END PIPE AND FITTINGS: USE BUTT FUSION. PLAIN-END PIPE AND SOCKET FITTINGS: USE SOCKET

FUSION. RGLASS BONDED JOINTS: PREPARE PIPE ENDS AND FITTINGS, LY ADHESIVE, AND JOIN ACCORDING TO PIPE IUFACTURER'S WRITTEN INSTRUCTIONS.

ECTIONS

E CONNECTIONS ACCORDING TO THE FOLLOWING, UNLESS

IERWISE INDICATED: INSTALL UNIONS, IN PIPING NPS 2 AND SMALLER, ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL FLANGES, IN PIPING NPS 2-1/2 AND LARGER,

ADJACENT TO FLANGED VALVES AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. DRY PIPING SYSTEMS: INSTALL DIELECTRIC UNIONS AND FLANGES TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS. WET PIPING SYSTEMS: INSTALL DIELECTRIC COUPLING

AND NIPPLE FITTINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.

STALLATION - COMMON REQUIREMENTS

TALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM LESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED. TALL EQUIPMENT LEVEL AND PLUMB. PARALLEL AND PENDICULAR TO OTHER BUILDING SYSTEMS AND IPONENTS IN EXPOSED INTERIOR SPACES, UNLESS

IERWISE INDICATED. TALL HVAC EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT IPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM ERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FINGS TO ACCESSIBLE LOCATIONS. TALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING

TALLED AT REQUIRED SLOPE. ASES.

ICRETE BASES: ANCHOR EQUIPMENT TO CONCRETE BASE ORDING TO EQUIPMENT MANUFACTURER'S WRITTEN RUCTIONS AND ACCORDING TO SEISMIC CODES AT PROJECT. CONSTRUCT CONCRETE BASES OF DIMENSIONS INDICATED, BUT NOT LESS THAN 4 INCHES LARGER IN

BOTH DIRECTIONS THAN SUPPORTED UNIT. INSTALL DOWEL RODS TO CONNECT CONCRETE BASE TO CONCRETE FLOOR. UNLESS OTHERWISE INDICATED, INSTALL DOWEL RODS ON 18-INCH CENTERS AROUND THE FULL PERIMETER OF THE BASE.

INSTALL EPOXY-COATED ANCHOR BOLTS FOR SUPPORTED EQUIPMENT THAT EXTEND THROUGH CONCRETE BASE, AND ANCHOR INTO STRUCTURAL CONCRETE FLOOR.

PLACE AND SECURE ANCHORAGE DEVICES. USE SUPPORTED EQUIPMENT MANUFACTURER'S SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT. INSTALL ANCHOR BOLTS ACCORDING TO ANCHOR-BOLT MANUFACTURER'S WRITTEN INSTRUCTIONS. USE 3000-PSI, 28-DAY COMPRESSIVE-STRENGTH CONCRETE AND REINFORCEMENT AS SPECIFIED IN

METAL SUPPORTS AND ANCHORAGES

DIVISION 03 SECTION "CAST-IN-PLACE"

ER TO DIVISION 05 SECTION "METAL FABRICATIONS" FOR UCTURAL STEEL. , FIT, AND PLACE MISCELLANEOUS METAL SUPPORTS

URATELY IN LOCATION, ALIGNMENT, AND ELEVATION TO PORT AND ANCHOR HVAC MATERIALS AND EQUIPMENT. D WELDING: COMPLY WITH AWS D1.1.

CSI DIVISION 23 05 - COMMON WORK RESULTS FOR HVAC

- 3.8 ERECTION OF WOOD SUPPORTS AND ANCHORAGES CUT, FIT, AND PLACE WOOD GROUNDS, NAILERS, BLOCKING, AND Α. ANCHORAGES TO SUPPORT, AND ANCHOR HVAC MATERIALS AND
 - EQUIPMENT. SELECT FASTENER SIZES THAT WILL NOT PENETRATE MEMBERS IF Β. OPPOSITE SIDE WILL BE EXPOSED TO VIEW OR WILL RECEIVE FINISH MATERIALS. TIGHTEN CONNECTIONS BETWEEN MEMBERS. INSTALL FASTENERS WITHOUT SPLITTING WOOD MEMBERS.
 - ATTACH TO SUBSTRATES AS REQUIRED TO SUPPORT APPLIED C. LOADS.
- 3.9 GROUTING MIX AND INSTALL GROUT FOR HVAC EQUIPMENT BASE BEARING Α. SURFACES, PUMP AND OTHER EQUIPMENT BASE PLATES, AND ANCHORS.
 - CLEAN SURFACES THAT WILL COME INTO CONTACT WITH GROUT. PROVIDE FORMS AS REQUIRED FOR PLACEMENT OF GROUT. AVOID AIR ENTRAPMENT DURING PLACEMENT OF GROUT.
 - PLACE GROUT, COMPLETELY FILLING EQUIPMENT BASES. PLACE GROUT ON CONCRETE BASES AND PROVIDE SMOOTH
 - BEARING SURFACE FOR EQUIPMENT. PLACE GROUT AROUND ANCHORS. G
 - CURE PLACED GROUT.

H.





WLJ ENGINEERING INC. Firm No. 9968

PLUM	BING		PL	UMBING	
PART 1 -	GENERA	L	2.2	TRANS A.	TION FITTINGS AWWA TRANSITION
1.1 SEE EDIT	SUMMAF	RUCTION NO. 3 IN THE EVALUATIONS FOR DISCUSSION ABOUT			PRESSURE RATING COMPATIBLE WITH,
HOW THIS	S SECTIO	N SUPPLEMENTS OTHER DIVISION 22 SECTIONS. THIS SECTION INCLUDES THE FOLLOWING:			1. MANUFAC a.
		1. PIPING MATERIALS AND INSTALLATION			b. c.
		INSTRUCTIONS COMMON TO MOST PIPING SYSTEMS.			
		 TRANSITION FITTINGS. DIELECTRIC FITTINGS. 			d. e.
		 MECHANICAL SLEEVE SEALS. SLEEVES. 			f. 2. UNDERGF
		6. ESCUTCHEONS. 7. GROUT.			3. UNDERGE
		 PLUMBING DEMOLITION. EQUIPMENT INSTALLATION REQUIREMENTS 		5	AWWA C2 4. ABOVEGF
		10. PAINTING AND FINISHING.		В.	PLASTIC-TO-METAL ONE-PIECE FITTING
		11.CONCRETE BASES.12.SUPPORTS AND ANCHORAGES.			EQUIVALENT DIMEN
2				C	
	7.	ELECTRICAL EQUIPMENT ROOMS, FURRED SPACES, PIPE CHASES, UNHEATED SPACES IMMEDIATELY BELOW ROOF		0.	FITTING WITH MANU
		SPACES ABOVE CEILINGS, UNEXCAVATED SPACES, CRAWLSPACES, AND TUNNELS.			ONE SOLVENT-CEM 1. MANUFAC
	В.	EXPOSED, INTERIOR INSTALLATIONS: EXPOSED TO VIEW INDOORS. EXAMPLES INCLUDE FINISHED OCCUPIED SPACES		D.	a. PLASTIC-TO-METAL
	C.	AND MECHANICAL EQUIPMENT ROOMS. EXPOSED, EXTERIOR INSTALLATIONS: EXPOSED TO VIEW			AND PVC FOUR-PAF CEMENT-JOINT END
		OUTDOORS OR SUBJECT TO OUTDOOR AMBIENT TEMPERATURES AND WEATHER CONDITIONS. EXAMPLES			1. MANUFAC a.
	D.	INCLUDE ROOFTOP LOCATIONS. CONCEALED, INTERIOR INSTALLATIONS: CONCEALED FROM		E.	FLEXIBLE TRANSITI
		VIEW AND PROTECTED FROM PHYSICAL CONTACT BY BUILDING OCCUPANTS. EXAMPLES INCLUDE ABOVE CEILINGS			ELASTOMERIC SLEE JOINED, AND CORR
	E.	AND IN CHASES. CONCEALED, EXTERIOR INSTALLATIONS: CONCEALED FROM			END. 1. MANUFAC
		VIEW AND PROTECTED FROM WEATHER CONDITIONS AND PHYSICAL CONTACT BY BUILDING OCCUPANTS BUT SUBJECT			a. b.
		TO OUTDOOR AMBIENT TEMPERATURES. EXAMPLES INCLUDE INSTALLATIONS WITHIN UNHEATED SHELTERS.			c. d.
	F.	THE FOLLOWING ARE INDUSTRY ABBREVIATIONS FOR PLASTIC MATERIALS:	2.3	DIELEC	TRIC FITTINGS
		1. ABS: ACRYLONITRILE-BUTADIENE-STYRENE PLASTIC.		A.	DESCRIPTION: CON AND FERROUS MAT
		2. CPVC: CHLORINATED POLYVINYL CHLORIDE PLASTIC.			PLAIN, OR WELD-NE PIPING SYSTEM MA
		 PE: POLYETHYLENE PLASTIC. PVC: POLYVINYL CHLORIDE PLASTIC. 		B.	INSULATING MATER PRESSURE, AND TE
	G.	THE FOLLOWING ARE INDUSTRY ABBREVIATIONS FOR RUBBER MATERIALS:		C.	DIELECTRIC UNIONS ASSEMBLY, FOR 250
		1. EPDM: ETHYLENE-PROPYLENE-DIENE TERPOLYMER RUBBER.			180 DEG F. 1. MANUFAC
		2. NBR: ACRYLONITRILE-BUTADIENE RUBBER.			a. b.
3	SUBMITT A.	PRODUCT DATA: FOR THE FOLLOWING:			с. d.
		IRANSITION FITTINGS. DIELECTRIC FITTINGS.			e. f.
	P	 MECHANICAL SLEEVE SEALS. ESCUTCHEONS. 		P	
				D.	FLANGE ASSEMBLY
	A.	STEEL SUPPORT WELDING: QUALIFY PROCESSES AND			PRESSURES.
	D	WELDING CODESTEEL."			1. MANOFAC a.
	D.				D. C.
		QUALIFICATIONS."		F	U.
		"CODE FOR PRESSURE PIPING." CERTIFY THAT FACH WEI DER HAS PASSED AWS		Ε.	FOR FIELD ASSEMB
		QUALIFICATION TESTS FOR WELDING PROCESSES			POLYETHYLENE BO
	C.	ELECTRICAL CHARACTERISTICS FOR PLUMBING EQUIPMENT: EQUIPMENT OF HIGHER ELECTRICAL CHARACTERISTICS MAY			1. MANUFAC a.
		BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL			b. c.
		SERVICES, CIRCUIT BREAKERS, AND CONDUIT SIZES ARE APPROPRIATELY MODIFIED. IF MINIMUM ENERGY RATINGS			d. 2. SEPARATI
		OR EFFICIENCIES ARE SPECIFIED, EQUIPMENT SHALL COMPLY WITH REQUIREMENTS.			BOLTS AN MINIMUM
5	DELIVER	Y, STORAGE, AND HANDLING		F.	TO SUIT S DIELECTRIC COUPL
	A.	DELIVER PIPES AND TUBES WITH FACTORY-APPLIED END CAPS. MAINTAIN END CAPS THROUGH SHIPPING, STORAGE,			WITH INERT AND NO THREADED ENDS; A
		AND HANDLING TO PREVENT PIPE END DAMAGE AND TO PREVENT ENTRANCE OF DIRT, DEBRIS, AND MOISTURE.			PRESSURE AT 225 D 1. MANUFAC
	В.	STORE PLASTIC PIPES PROTECTED FROM DIRECT SUNLIGHT. SUPPORT TO PREVENT SAGGING AND BENDING.			a. b.
	COORDI	NATION		G.	DIELECTRIC NIPPLE
	A.	ARRAINGE FUR PIPE SPACES, CHASES, SLOTS, AND OPENINGS IN BUILDING STRUCTURE DURING PROGRESS OF			I HKEADED, OR GRO
	B.	CONSTRUCTION, TO ALLOW FOR PLUMBING INSTALLATIONS. COORDINATE INSTALLATION OF REQUIRED SUPPORTING			1. MANUFAC a.
		AND OTHER STRUCTURAL COMPONENTS AS THEY ARE			D. C.
	C.	CONSTRUCTED. COORDINATE REQUIREMENTS FOR ACCESS PANELS AND		MEQUA	
		DOORS FOR PLUMBING ITEMS REQUIRING ACCESS THAT ARE CONCEALED BEHIND FINISHED SURFACES. ACCESS PANELS	2.4	MECHA A.	DESCRIPTION: MOD
		DOORS AND FRAMES."			PIPE AND SLEEVE
RT 2 -		TS ROOF CURRS: GALVANIZED-STEEL SHEET: WITH MITERED			a.
	А.	AND WELDED CORNERS; 1-1/2-INCH- THICK, RIGID			D. C.
		1-1/2-INCH WOOD NAILER. SIZE AS REQUIRED TO FIT ROOF OPENING AND VENTILATOR BASE FLANGE BOLTS AND NUTS:			2. SEALING
		ASME B18.2.1, CARBON STEEL, UNLESS OTHERWISE			TYPE AND AND SIZE
	В.	PLASTIC, PIPE-FLANGE GASKET, BOLTS, AND NUTS: TYPE AND MATERIAL RECOMMENDED BY PIPING SYSTEM			3. PRESSUR STAINLES
	C.	MANUFACTURER, UNLESS OTHERWISE INDICATED. SOLDER FILLER METALS: ASTM B 32 LEAD_FREE ALLOYS			4. CONNECT
	J.	INCLUDE WATER-FLUSHABLE FLUX ACCORDING TO ASTM B 813.			OF LENG
	D.	BRAZING FILLER METALS: AWS A5.8, BCUP SERIES, COPPER- PHOSPHORUS ALLOYS FOR GENERAL -DUITY BRAZING			EACH SEA
		UNLESS OTHERWISE INDICATED; AND AWS A5.8, BAG1, SILVER	2.5		GAI VANIZED-STEE
	E.	INDICATED. WELDING FILLER METALS: COMPLY WITH AWS D10 12 FOP		17.	
	<u>_</u> .	WELDING MATERIALS APPROPRIATE FOR WALL THICKNESS AND CHEMICAL ANALYSIS OF STEFL PIPE BEING WELDED		В.	STEEL PIPE: ASTM
	F.	SOLVENT CEMENTS FOR JOINING PLASTIC PIPING: 1. ABS PIPING: ASTM D 2235		C.	CAST IRON: CAST C
		 CPVC PIPING: ASTM F 493. PVC PIPING: ASTM D 2564. INCLUDE PRIMER 			INTEGRAL WATERS
		ACCORDING TO ASTM F 656. 4. PVC TO ABS PIPING TRANSITION: ASTM D 3138			

CSI DIVISION 22 05 00 - COMMON WORK RESULTS FOR	CSI DIVISION 22 05 00 - COMMON WORK RESULTS FOR	CSI DIVISION 22 05 00 - COMMON WORK RESULTS FOR	CSI DIVISION 22 05 00 - COMMON WORK RESULTS FOR	CSI DIVISION 22 05 00 - COMMON WORK RESUPTION PLUMBING
PLUMBING	PLUMBING	PLUMBING	PLUMBING	
PART 1 - GENERAL	2.2 TRANSITION FITTINGS	D. STACK SLEEVE FITTINGS: MANUFACTURED, CAST-IRON	i. BARE PIPING IN UNFINISHED SERVICE	U. REFER TO EQUIPMENT SPECIFICATIONS IN OTHER
	A AWWA TRANSITION COUPLINGS: SAME SIZE AS AND WITH	SLEEVE WITH INTEGRAL CLAMPING FLANGE INCLUDE	SPACES: ONE-PIECE, STAMPED-STEEL	OF THESE SPECIFICATIONS FOR ROUGHING IN
1.1 SUMMARY	PRESSURE RATING AT LEAST EQUAL TO AND WITH ENDS	CLAMPING RING AND BOLTS AND NUTS FOR MEMBRANE	TYPE WITH CONCEALED OR EXPOSED-	REQUIREMENTS.
SEE EDITING INSTRUCTION NO. 3 IN THE EVALUATIONS FOR DISCUSSION ABOUT	COMPATIBLE WITH, PIPING TO BE JOINED.	FLASHING.	RIVET HINGE AND SET SCREW OR SPRING	
HOW THIS SECTION SUPPLEMENTS OTHER DIVISION 22 SECTIONS. A. THIS SECTION INCLUDES THE FOLLOWING:	1. MANUFACTURERS: a. CASCADE WATERWORKS MFG. CO.	1. UNDERDECK CLAMP: CLAMPING RING WITH SET SCREWS.	CLIPS. j. BARE PIPING IN EQUIPMENT ROOMS:	3.3 PIPING JOINT CONSTRUCTION A. JOIN PIPE AND FITTINGS ACCORDING TO THE FOL DECLIPERATION OF AND DIVISION OF SECTIONS OPEN
1. PIPING MATERIALS AND INSTALLATION	 DRESSER INDUSTRIES, INC.; DMD DIV. C. FORD METER BOX COMPANY, INCORPORATED (THE): PIPE PRODUCTS 	E. MOLDED PVC: PERMANENT, WITH NAILING FLANGE FOR ATTACHING TO WOODEN FORMS. E. PVC PIPE: ASTM D 1785, SCHEDULE 40	K. BARE PIPING IN EQUIPMENT ROOMS: ONE-PIECE STAMPED-STEEL TYPE WITH	REQUIREMENTS AND DIVISION 22 SECTIONS SPEC PIPING SYSTEMS. B REAM ENDS OF PIPES AND TUBES AND REMOVE F
2. TRANSITION FITTINGS.	DIV.	G. MOLDED PE: REUSABLE, PE, TAPERED-CUP SHAPED, AND	SET SCREW OR SPRING CLIPS.	BEVEL PLAIN ENDS OF STEEL PIPE.
	d. JCM INDUSTRIES.	SMOOTH-OUTER SURFACE WITH NAILING FLANGE FOR	I. BARE PIPING AT FLOOR PENETRATIONS IN	C. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM I
 DIELECTRIC FITTINGS. MECHANICAL SLEEVE SEALS. 	e. SMITH-BLAIR, INC. f. VIKING JOHNSON.	ATTACHING TO WOODEN FORMS.	EQUIPMENT ROOMS: ONE-PIECE, FLOOR- PLATE TYPE.	OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMB D. SOLDERED JOINTS: APPLY ASTM B 813, WATER-F
5. SLEEVES. 6. ESCUTCHEONS.	2. UNDERGROUND PIPING NPS 1-1/2 AND SMALLER: MANUFACTURED FITTING OR COUPLING.	2.6 ESCUTCHEONS A. DESCRIPTION: MANUFACTURED WALL AND CEILING ESCUTCHEONS AND FLOOD DI ATES, WITH AN ID TO CLOSELY	2. EXISTING PIPING: USE THE FOLLOWING: a. CHROME-PLATED PIPING: SPLIT-CASTING, CAST DRASS TYPE WITH CHROME DI ATED	FLUX, UNLESS OTHERWISE INDICATED, TO TUBE E CONSTRUCT JOINTS ACCORDING TO ASTM B 828
 GROUT. PLUMBING DEMOLITION. EQUIPMENT INSTALLATION REQUIREMENTS 	3. UNDERGROUND PIPING NPS 2 AND LARGER: AWWA C219, METAL SLEEVE-TYPE COUPLING. ABOVEGROUND PRESSURE PIPING ⁻ PIPE FITTING	FIT AROUND PIPE, TUBE, AND INSULATION OF INSULATED PIPING AND AN OD THAT COMPLETELY COVERS OPENING	FINISH. b INSULATED PIPING [®] SPLIT-PLATED	ALLOY COMPLYING WITH ASTM B 32.
COMMON TO EQUIPMENT SECTIONS.	B. PLASTIC-TO-METAL TRANSITION FITTINGS: CPVC AND PVC	B. ONE-PIECE, DEEP-PATTERN TYPE: DEEP-DRAWN, BOX-	STAMPED-STEEL TYPE WITH CONCEALED	"BRAZING HANDBOOK," "PIPE AND TUBE" CHAPTER
10. PAINTING AND FINISHING.	ONE-PIECE FITTING WITH MANUFACTURER'S SCHEDULE 80	SHAPED BRASS WITH POLISHED CHROME-PLATED FINISH.	OR EXPOSED-RIVET HINGE AND SPRING	COPPER-PHOSPHORUS BRAZING FILLER METAL C
 CONCRETE BASES. SUPPORTS AND ANCHORAGES. 	EQUIVALENT DIMENSIONS; ONE END WITH THREADED BRASS INSERT, AND ONE SOLVENT-CEMENT-JOINT END.	C. ONE-PIECE, CAST-BRASS TYPE: WITH SET SCREW. 1. FINISH: POLISHED CHROME-PLATED AND ROUGH	CLIPS. c. BARE PIPING AT WALL AND FLOOR	WITH AWS A5.8. F. THREADED JOINTS: THREAD PIPE WITH TAPERED THREADED ACCORDING TO ACCORDINACTINACCORDING TO ACCORDINACTINACCORDINACCORDINACTINACORDINACTINACTINACTINACTINACTINACTINACTINA
1.2 DEFINITIONS	1. MANUFACTURERS: a. ESLON THERMOPLASTICS. C. PLASTIC-TO-METAL TRANSITION ADAPTORS: ONE-PIECE	BRASS. D. SPLIT-CASTING, CAST-BRASS TYPE: WITH CONCEALED HINGE AND SET SCREW	PENETRATIONS IN FINISHED SPACES: SPLIT-CASTING, CAST-BRASS TYPE WITH CHROME-PLATED FINISH	AND CLEAN USING SHARP DIES. REAM THREADED TO REMOVE BURRS AND RESTORE FULL ID
ELECTRICAL EQUIPMENT ROOMS, FURRED SPACES, PIPE	FITTING WITH MANUFACTURER'S SDR 11 EQUIVALENT	1. FINISH: POLISHED CHROME-PLATED AND ROUGH	d. BARE PIPING AT WALL AND FLOOR	FITTINGS AND VALVES AS FOLLOWS:
CHASES, UNHEATED SPACES IMMEDIATELY BELOW ROOF,	DIMENSIONS; ONE END WITH THREADED BRASS INSERT, AND	BRASS.	PENETRATIONS IN FINISHED SPACES:	1. APPLY APPROPRIATE TAPE OR THREAD
SPACES ABOVE CEILINGS, UNEXCAVATED SPACES, CRAWLSPACES, AND TUNNELS.	ONE SOLVENT-CEMENT-JOINT END.	E. ONE-PIECE, STAMPED-STEEL TYPE: WITH SET SCREW OR	SPLIT-PLATE, STAMPED-STEEL TYPE WITH	TO EXTERNAL PIPE THREADS UNLESS D
	1. MANUFACTURERS:	SPRING AND CHROME-PLATED FINISH.	CONCEALED HINGE AND SPRING CLIPS.	THREADING IS SPECIFIED.
B. EXPOSED, INTERIOR INSTALLATIONS: EXPOSED TO VIEW INDOORS. EXAMPLES INCLUDE FINISHED OCCUPIED SPACES AND MECHANICAL FOLIDMENT ROOMS.	a. THOMPSON PLASTICS, INC. OR EQUAL D. PLASTIC-TO-METAL TRANSITION UNIONS: MSS SP-107, CPVC	F. SPLIT-PLATE, STAMPED-STEEL TYPE: WITH CONCEALED OR EXPOSED-RIVET HINGE, SET SCREW OR SPRING CLIPS, AND CHROME PLATED FINISH	e. BARE PIPING AT CEILING PENETRATIONS IN FINISHED SPACES: SPLIT-CASTING, CAST BRASS TYPE WITH CHROME PLATED	2. DAMAGED THREADS: DO NOT USE PIPE FITTINGS WITH THREADS THAT ARE COF DAMAGED. DO NOT USE PIPE SECTION
C. EXPOSED, EXTERIOR INSTALLATIONS: EXPOSED TO VIEW	CEMENT-JOINT END, RUBBER O-RING, AND UNION NUT.	G. ONE-PIECE, FLOOR-PLATE TYPE: CAST-IRON FLOOR PLATE.	FINISH.	G. WELDED JOINTS: CONSTRUCT JOINTS ACCORDIN
OUTDOORS OR SUBJECT TO OUTDOOR AMBIENT	1. MANUFACTURERS:	H. SPLIT-CASTING, FLOOR-PLATE TYPE: CAST BRASS WITH	f. BARE PIPING AT CEILING PENETRATIONS	
TEMPERATURES AND WEATHER CONDITIONS. EXAMPLES INCLUDE ROOFTOP LOCATIONS.	a. NIBCO INC. OR EQUAL E. FLEXIBLE TRANSITION COUPLINGS FOR UNDERGROUND	CONCEALED HINGE AND SET SCREW.	IN FINISHED SPACES: SPLIT-PLATE, STAMPED-STEEL TYPE WITH CONCEALED	AWS D10.12, USING QUALIFIED PROCESSES AND V OPERATORS ACCORDING TO PART 1 "QUALITY AS
D. CONCEALED, INTERIOR INSTALLATIONS: CONCEALED FROM VIEW AND PROTECTED FROM PHYSICAL CONTACT BY PUIL DING OCCUPANTS: EXAMPLES INCLUDE ABOVE CELLINGS	NONPRESSURE DRAINAGE PIPING: ASTM C 1173 WITH ELASTOMERIC SLEEVE, ENDS SAME SIZE AS PIPING TO BE JOINED, AND CORPOSION DESISTANT METAL BAND ON EACH	2.7 GROUT A. DESCRIPTION: ASTM C 1107, GRADE B, NONSHRINK AND	g. BARE PIPING IN UNFINISHED SERVICE	ARTICLE. H. FLANGED JOINTS: SELECT APPROPRIATE GASKE
AND IN CHASES.	END.	1. CHARACTERISTICS: POST-HARDENING, VOLUME-	TYPE WITH POLISHED CHROME-PLATED	INSTALL GASKET CONCENTRICALLY POSITIONED.
E. CONCEALED. EXTERIOR INSTALLATIONS: CONCEALED FROM	1. MANUFACTURERS:	ADJUSTING, NONSTAINING, NONCORROSIVE.	OR ROUGH-BRASS FINISH.	SUITABLE LUBRICANTS ON BOLT THREADS.
VIEW AND PROTECTED FROM WEATHER CONDITIONS AND	a. CASCADE WATERWORKS MFG. CO.	NONGASEOUS, AND RECOMMENDED FOR INTERIOR	h. BARE PIPING IN UNFINISHED SERVICE	I. PLASTIC PIPING SOLVENT-CEMENT JOINTS: CLEA
PHYSICAL CONTACT BY BUILDING OCCUPANTS BUT SUBJECT	b. FERNCO, INC.	AND EXTERIOR APPLICATIONS.	SPACES: SPLIT-PLATE, STAMPED-STEEL	JOINING SURFACES. JOIN PIPE AND FITTINGS ACC
TO OUTDOOR AMBIENT TEMPERATURES. EXAMPLES INCLUDE	c. MISSION RUBBER COMPANY.	2. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE	TYPE WITH CONCEALED OR EXPOSED-	THE FOLLOWING:
INSTALLATIONS WITHIN UNHEATED SHELTERS.	d. PLASTIC ODDITIES, INC.	STRENGTH.	RIVET HINGE AND SET SCREW OR SPRING	1. COMPLY WITH ASTM F 402 FOR SAFE-H/
F. THE FOLLOWING ARE INDUSTRY ABBREVIATIONS FOR PLASTIC MATERIALS: 1 ABS: ACRYLONITRILE-BUTADIENE-STYRENE	2.3 DIELECTRIC FITTINGS	3. PACKAGING: PREMIXED AND FACTORY PACKAGED.	i. BARE PIPING IN EQUIPMENT ROOMS: SPI IT-CASTING CAST-BRASS TYPE	CEMENTS. 2 ABS PIPING: JOIN ACCORDING TO ASTA
PLASTIC.	AND FERROUS MATERIALS WITH THREADED, SOLDER-JOINT,	3.1 PLUMBING DEMOLITION	j. BARE PIPING IN EQUIPMENT ROOMS:	ASTM D 2661 APPENDIXES.
2. CPVC: CHLORINATED POLYVINYL CHLORIDE	PLAIN, OR WELD-NECK END CONNECTIONS THAT MATCH		SPLIT-PLATE, STAMPED-STEEL TYPE WITH	3. CPVC PIPING: JOIN ACCORDING TO
PLASTIC.	PIPING SYSTEM MATERIALS.	A. REFER TO DIVISION 01 SECTION "CUTTING AND PATCHING"	SET SCREW OR SPRING CLIPS.	ASTM D 2846/D 2846M APPENDIX.
3. PE: POLYETHYLENE PLASTIC.	B. INSULATING MATERIAL: SUITABLE FOR SYSTEM FLUID,	AND DIVISION 02 SECTION "SELECTIVE STRUCTURE	k. BARE PIPING AT FLOOR PENETRATIONS IN	4. PVC PRESSURE PIPING: JOIN SCHEDUL
4. PVC: POLYVINYL CHLORIDE PLASTIC. G. THE FOLLOWING ARE INDUSTRY ABBREVIATIONS FOR DUBBED MATERIALS:	PRESSURE, AND TEMPERATURE. C. DIELECTRIC UNIONS: FACTORY-FABRICATED, UNION ASSEMBLY, FOR 250, DSIG MINIMUM WORKING PRESSURE AT	DEMOLITION" FOR GENERAL DEMOLITION REQUIREMENTS AND PROCEDURES. DISCONNECT, DEMOLISH, AND REMOVE PLUMBING SYSTEMS	EQUIPMENT ROOMS: SPLIT-CASTING, FLOOR-PLATE TYPE.	ASTM D 1785, PVC PIPE AND PVC SOCKE ACCORDING TO ASTM D 2672. JOIN OTH
1. EPDM: ETHYLENE-PROPYLENE-DIENE TERPOLYMER	180 DEG F.	EQUIPMENT, AND COMPONENTS INDICATED TO BE REMOVED.	N. PERMANENT SLEEVES ARE NOT REQUIRED FOR HOLES.	FITTINGS ACCORDING TO ASTM D 2855.
RUBBER.	1. MANUFACTURERS:	1. PIPING TO BE REMOVED: REMOVE PORTION OF	FORMED BY REMOVABLE PE SLEEVES.	5. PVC NONPRESSURE PIPING: JOIN ACCO
2. NBR: ACRYLONITRILE-BUTADIENE RUBBER.	a. CAPITOL MANUFACTURING CO.	PIPING INDICATED TO BE REMOVED AND CAP OR	O. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE	ASTM D 2855.
	b. CENTRAL PLASTICS COMPANY.	PLUG REMAINING PIPING WITH SAME OR	AND MASONRY WALLS AND CONCRETE FLOOR AND ROOF	6. PVC TO ABS NONPRESSURE TRANSITIO
1.3 SUBMITTALS A. PRODUCT DATA: FOR THE FOLLOWING:	C. ECLIPSE, INC. d. EPCO SALES, INC. ABOT INDUSTRIES INTERNATIONAL INC.	COMPATIBLE PIPING MATERIAL. 2. PIPING TO BE ABANDONED IN PLACE: DRAIN PIPING AND CAP OR PLUG PIPING WITH SAME OR	SLABS. P. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS. CYPSUM ROADD PARTITIONS AND	JOIN ACCORDING TO ASTM D 3138 APPE J. PLASTIC PRESSURE PIPING GASKETED JOINTS: J
 DIELECTRIC FITTINGS. MECHANICAL SLEEVE SEALS. 	f. WATTS INDUSTRIES, INC.; WATER	COMPATIBLE PIPING MATERIAL.	CONCRETE FLOOR AND ROOF SLABS.	K. PLASTIC NONPRESSURE PIPING GASKETED JOINT
	PRODUCTS DIV.	3. EQUIPMENT TO BE REMOVED: DISCONNECT AND	1. CUT SLEEVES TO LENGTH FOR MOUNTING FLUSH	ACCORDING TO ASTM D 3139.
4.ESCUTCHEONS.B.WELDING CERTIFICATES.	g. ZURN INDUSTRIES, INC.; WILKINS DIV. D. DIELECTRIC FLANGES: FACTORY-FABRICATED, COMPANION-	CAP SERVICES AND REMOVE EQUIPMENT.4. EQUIPMENT TO BE REMOVED AND REINSTALLED:	WITH BOTH SURFACES. a. EXCEPTION: EXTEND SLEEVES	L. PE PIPING HEAT-FUSION JOINTS: CLEAN AND DRY SURFACES BY WIPING WITH CLEAN CLOTH OR PA
1.4 QUALITY ASSURANCE	FLANGE ASSEMBLY, FOR 150- OR 300-PSIG MINIMUM WORKING PRESSURE AS REQUIRED TO SUIT SYSTEM	DISCONNECT AND CAP SERVICES AND REMOVE, CLEAN, AND STORE EQUIPMENT; WHEN APPROPRIATE REINSTALL RECONNECT AND MAKE	INSTALLED IN FLOORS OF MECHANICAL EQUIPMENT AREAS OR OTHER WET AREAS 2 INCHES ABOVE FINISHED FLOOR	TOWELS. JOIN ACCORDING TO ASTM D 2657. 1. PLAIN-END PIPE AND FITTINGS: USE BUTT FUSION 2. PLAIN END PIPE AND SOCKET EITTINGS: USE SOC
OPERATORS ACCORDING TO AWS D1.1, "STRUCTURAL	1. MANUFACTURERS:	EQUIPMENT OPERATIONAL.	LEVEL. EXTEND CAST-IRON SLEEVE	FUSION.
WELDING CODESTEEL."	a. CAPITOL MANUFACTURING CO.	5. EQUIPMENT TO BE REMOVED AND SALVAGED:	FITTINGS BELOW FLOOR SLAB AS	FIBERGLASS BONDED JOINTS: PREPARE PIPE ENDS AND FI
B. STEEL PIPE WELDING: QUALIFY PROCESSES AND OPERATORS ACCORDING TO ASME BOILER AND PRESSURE	b. CENTRAL PLASTICS COMPANY.c. EPCO SALES, INC.	DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT AND DELIVER TO OWNER.	REQUIRED TO SECURE CLAMPING RING IF RING IS SPECIFIED.	APPLY ADHESIVE, AND JOIN ACCORDING TO PIPE MANUFAC WRITTEN INSTRUCTIONS.
VESSEL CODE: SECTION IX, "WELDING AND BRAZING QUALIFICATIONS."	d. WATTS INDUSTRIES, INC.; WATER PRODUCTS DIV.	C. IF PIPE, INSULATION, OR EQUIPMENT TO REMAIN IS DAMAGED IN APPEARANCE OR IS UNSERVICEABLE, REMOVE DAMAGED OR LINEEDVICEABLE PORTIONS AND REPLACE WITH NEW	INSTALL SLEEVES IN NEW WALLS AND SLABS AS NEW WALLS AND SLABS ARE CONSTRUCTED. INSTALL SLEEVES THAT ARE LARCE ENOUGH TO	3.4 PIPING CONNECTIONS
"CODE FOR PRESSURE PIPING."	FOR FIELD ASSEMBLY. INCLUDE FLANGES, FULL-FACE- OR	PRODUCTS OF EQUAL CAPACITY AND QUALITY.	PROVIDE 1/4-INCH ANNULAR CLEAR SPACE	UNLESS OTHERWISE INDICATED:
2. CERTIFY THAT EACH WELDER HAS PASSED AWS	RING-TYPE NEOPRENE OR PHENOLIC GASKET, PHENOLIC OR		BETWEEN SLEEVE AND PIPE OR PIPE INSULATION.	1. INSTALL UNIONS, IN PIPING NPS 2 AND 5
QUALIFICATION TESTS FOR WELDING PROCESSES	POLYETHYLENE BOLT SLEEVES, PHENOLIC WASHERS, AND STEEL BACKING WASHERS.	3.2 PIPING SYSTEMS - COMMON REQUIREMENTS	USE THE FOLLOWING SLEEVE MATERIALS:	ADJACENT TO EACH VALVE AND AT FINA
INVOLVED AND THAT CERTIFICATION IS CURRENT.		A. INSTALL PIPING ACCORDING TO THE FOLLOWING	a. PVC OR STEEL PIPE SLEEVES: FOR PIPES	CONNECTION TO EACH PIECE OF EQUIP
C. ELECTRICAL CHARACTERISTICS FOR PLUMBING EQUIPMENT: EQUIPMENT OF HIGHER ELECTRICAL CHARACTERISTICS MAY BE FURNISHED PROVIDED SUCH PROPOSED FOURMENT IS	1. MANUFACTURERS: a. ADVANCE PRODUCTS & SYSTEMS, INC.	REQUIREMENTS AND DIVISION 22 SECTIONS SPECIFYING PIPING SYSTEMS. DRAWING PLANS SCHEMATICS AND DIAGRAMS INDICATE	b. STEEL SHEET SLEEVES: FOR PIPES NPS 6 AND LARGER PENETRATING GYPSIM	2. INSTALL FLANGES, IN PIPING NPS 2-1/2 A LARGER, ADJACENT TO FLANGED VALVE EINAL CONNECTION TO FACH PIECE OF
APPROVED IN WRITING AND CONNECTING ELECTRICAL	c. CENTRAL PLASTICS COMPANY.	GENERAL LOCATION AND ARRANGEMENT OF PIPING	BOARD PARTITIONS.	3. DRY PIPING SYSTEMS: INSTALL DIELEC
SERVICES, CIRCUIT BREAKERS, AND CONDUIT SIZES ARE	d. PIPELINE SEAL AND INSULATOR, INC.	SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS	c. STACK SLEEVE FITTINGS: FOR PIPES	UNIONS AND FLANGES TO CONNECT PIF
APPROPRIATELY MODIFIED. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES ARE SPECIFIED, EQUIPMENT SHALL	2. SEPARATE COMPANION FLANGES AND STEEL BOLTS AND NUTS SHALL HAVE 150- OR 300-PSIG	WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN	PENETRATING FLOORS WITH MEMBRANE WATERPROOFING. SECURE FLASHING	4. WET PIPING SYSTEMS: INSTALL DIELEC
COMPLY WITH REQUIREMENTS.	MINIMUM WORKING PRESSURE WHERE REQUIRED TO SUIT SYSTEM PRESSURES.	CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS	BETWEEN CLAMPING FLANGES. INSTALL SECTION OF CAST-IRON SOIL PIPE TO EXTEND SUBEVE TO 2 INCHES ADOVE	COUPLING AND NIPPLE FITTINGS TO CO PIPING MATERIALS OF DISSIMILAR META
A. DELIVER PIPES AND TUBES WITH FACTORY-APPLIED END	WITH INERT AND NONCORROSIVE, THERMOPLASTIC LINING;	C. INSTALL PIPING IN CONCEALED LOCATIONS, UNLESS	FINISHED FLOOR LEVEL. REFER TO	3.5 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS
CAPS. MAINTAIN END CAPS THROUGH SHIPPING, STORAGE,	THREADED ENDS; AND 300-PSIG MINIMUM WORKING	OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS	DIVISION 07 SECTION "SHEET METAL	A. INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIF
AND HANDLING TO PREVENT PIPE END DAMAGE AND TO PREVENT ENTRANCE OF DIRT, DEBRIS, AND MOISTURE.	PRESSURE AT 225 DEG F.	AND SERVICE AREAS.	FLASHING AND TRIM" FOR FLASHING.	HEADROOM UNLESS SPECIFIC MOUNTING HEIGHT
	1. MANUFACTURERS:	D. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN	• SEAL SPACE OUTSIDE OF	INDICATED.
B. STORE PLASTIC PIPES PROTECTED FROM DIRECT SUNLIGHT. SUPPORT TO PREVENT SAGGING AND BENDING.	a. CALPICO, INC. b. LOCHINVAR CORP. C. DIELECTRIC NIRRIES: ELECTRORIATED STEEL NIRRIE WITH	EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNI ESS SPECIFICALLY INDICATED OTHERWISE	SLEEVE FITTINGS WITH GROUT. 4. EXCEPT FOR UNDERGROUND WALL PENETRATIONS, SEAL ANNUL AR SPACE BETWEEN SLEEVE AND DIPE	B. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLE PERPENDICULAR TO OTHER BUILDING SYSTEMS / COMPONENTS IN EXPOSED INTERIOR SPACES. IN
1.6 COORDINATION	INERT AND NONCORROSIVE, THERMOPLASTIC LINING; PLAIN,	E. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW	OR PIPE INSULATION, USING JOINT SEALANTS	OTHERWISE INDICATED.
A. ARRANGE FOR PIPE SPACES, CHASES, SLOTS, AND OPENINGS	THREADED, OR GROOVED ENDS; AND 300-PSIG MINIMUM	SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.	APPROPRIATE FOR SIZE, DEPTH, AND LOCATION OF	C. INSTALL PLUMBING EQUIPMENT TO FACILITATE S
IN BUILDING STRUCTURE DURING PROGRESS OF	WORKING PRESSURE AT 225 DEG F.	F. INSTALL PIPING TO PERMIT VALVE SERVICING.	JOINT. REFER TO DIVISION 07 SECTION "JOINT	MAINTENANCE, AND REPAIR OR REPLACEMENT OF
CONSTRUCTION, TO ALLOW FOR PLUMBING INSTALLATIONS.	1. MANUFACTURERS:	G. INSTALL PIPING AT INDICATED SLOPES.	SEALANTS" FOR MATERIALS AND INSTALLATION.	COMPONENTS. CONNECT EQUIPMENT FOR EASE
B. COORDINATE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES IN POURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE	a. PERFECTION CORP. b. PRECISION PLUMBING PRODUCTS, INC. c. SIQUX CHIEF MANUFACTURING CO. INC.	 INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS 	Q. ABOVEGROUND, EXTERIOR-WALL PIPE PENETRATIONS: SEAL PENETRATIONS USING SLEEVES AND MECHANICAL SLEEVE SEALS, SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH	DISCONNECTING, WITH MINIMUM INTERFERENCE INSTALLATIONS. EXTEND GREASE FITTINGS TO A
CONSTRUCTED.	d. VICTAULIC CO. OF AMERICA.	J. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION.	ANNULAR CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR	D. INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FO
C. COORDINATE REQUIREMENTS FOR ACCESS PANELS AND		K. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING	INSTALLING MECHANICAL SLEEVE SEALS.	INSTALLED AT REQUIRED SLOPE.
DOORS FOR PLUMBING ITEMS REQUIRING ACCESS THAT ARE	2.4 MECHANICAL SLEEVE SEALS	EQUAL TO OR GREATER THAN SYSTEM OPERATING	1. INSTALL STEEL PIPE FOR SLEEVES SMALLER THAN 6	3.6 PAINTING
CONCEALED BEHIND FINISHED SURFACES. ACCESS PANELS	A. DESCRIPTION: MODULAR SEALING ELEMENT UNIT, DESIGNED	PRESSURE.	INCHES IN DIAMETER.	
AND DOORS ARE SPECIFIED IN DIVISION 08 SECTION "ACCESS DOORS AND FRAMES."	FOR FIELD ASSEMBLY, TO FILL ANNULAR SPACE BETWEEN PIPE AND SLEEVE 1 MANUFACTURERS:	L. INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILINGS, AND FLOORS ACCORDING TO THE FOLLOWING: 1 NEW PIPING:	2. INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES 6 INCHES AND LARGER IN DIAMETER. 3. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT	A. PAINTING OF PLUMBING SYSTEMS, EQUIPMENT, A COMPONENTS IS SPECIFIED IN DIVISION 09 SECTI "INTERIOR PAINTING" AND "EXTERIOR PAINTING."
PART 2 - PRODUCTS	a. ADVANCE PRODUCTS & SYSTEMS, INC.	a. PIPING WITH FITTING OR SLEEVE	TYPE AND NUMBER OF SEALING ELEMENTS	B. DAMAGE AND TOUCHUP: REPAIR MARRED AND D/
A. ROOF CURBS: GALVANIZED-STEEL SHEET; WITH MITERED	b. CALPICO, INC.	PROTRUDING FROM WALL: ONE-PIECE,	REQUIRED FOR PIPE MATERIAL AND SIZE. POSITION	FACTORY-PAINTED FINISHES WITH MATERIALS AN
AND WELDED CORNERS; 1-1/2-INCH- THICK, RIGID	c. METRAFLEX CO.	DEEP-PATTERN TYPE.	PIPE IN CENTER OF SLEEVE. ASSEMBLE	PROCEDURES TO MATCH ORIGINAL FACTORY FIN
FIBERGLASS INSULATION ADHERED TO INSIDE WALLS; AND	d. PIPELINE SEAL AND INSULATOR, INC.	b. CHROME-PLATED PIPING: ONE-PIECE,	MECHANICAL SLEEVE SEALS AND INSTALL IN	
1-1/2-INCH WOOD NAILER. SIZE AS REQUIRED TO FIT ROOF OPENING AND VENTILATOR BASE.FLANGE BOLTS AND NUTS: ASME B18.2.1. CARBON STEEL, UNLESS OTHERWISE	2. SEALING ELEMENTS: EPDM OR NBR INTERLOCKING LINKS SHAPED TO FIT SURFACE OF PIPE. INCLUDE TYPE AND NUMBER REQUIRED FOR PIPE MATERIAL	CAST-BRASS TYPE WITH POLISHED CHROME-PLATED FINISH.	ANNULAR SPACE BETWEEN PIPE AND SLEEVE. TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE SEALING ELEMENTS TO EXPAND AND MAKE	
INDICATED.	AND SIZE OF PIPE.	STAMPED-STEEL TYPE WITH SPRING	WATERTIGHT SEAL.	
B. PLASTIC, PIPE-FLANGE GASKET, BOLTS, AND NUTS: TYPE	3. PRESSURE PLATES: PLASTIC, CARBON STEEL, OR	CLIPS.	R. UNDERGROUND, EXTERIOR-WALL PIPE PENETRATIONS:	
AND MATERIAL RECOMMENDED BY PIPING SYSTEM	STAINLESS STEEL. INCLUDE TWO FOR EACH	d. BARE PIPING AT WALL AND FLOOR	INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES. SEAL PIPE	
MANUFACTURER, UNLESS OTHERWISE INDICATED.	SEALING ELEMENT.	PENETRATIONS IN FINISHED SPACES:	PENETRATIONS USING MECHANICAL SLEEVE SEALS. SELECT	
 SOLDER FILLER METALS: ASTM B 32, LEAD-FREE ALLOYS. INCLUDE WATER-FLUSHABLE FLUX ACCORDING TO ASTM B 813. 	4. CONNECTING BOLTS AND NUTS: STAINLESS STEEL OF LENGTH REQUIRED TO SECURE PRESSURE PLATES TO SEALING FLEMENTS INCLUDE ONE FOR	ONE-PIECE, CAST-BRASS TYPE WITH POLISHED CHROME-PLATED FINISH. e. BARE PIPING AT WALL AND FLOOP	SLEEVE SIZE TO ALLOW FOR T-INCH ANNULAR CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEFVF SFALS.	
D. BRAZING FILLER METALS: AWS A5.8, BCUP SERIES, COPPER- PHOSPHORUS ALLOYS FOR GENERAL-DUTY BRAZING,	EACH SEALING ELEMENT.	PENETRATIONS IN FINISHED SPACES: ONE-PIECE, STAMPED-STEEL TYPE.	1. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT TYPE AND NUMBER OF SEALING ELEMENTS	
UNLESS OTHERWISE INDICATED; AND AWS A5.8, BAG1, SILVER	2.5 SLEEVES	f. BARE PIPING AT CEILING PENETRATIONS	REQUIRED FOR PIPE MATERIAL AND SIZE. POSITION	
ALLOY FOR REFRIGERANT PIPING, UNLESS OTHERWISE	A. GALVANIZED-STEEL SHEET: 0.0239-INCH MINIMUM	IN FINISHED SPACES: ONE-PIECE OR	PIPE IN CENTER OF SLEEVE. ASSEMBLE	
E. WELDING FILLER METALS: COMPLY WITH AWS D10.12 FOR WELDING MATERIALS APPROPRIATE FOR WALL THICKNESS	LONGITUDINAL JOINT. B. STEEL PIPE: ASTM A 53. TYPE F. GRADE B. SCHEDULE 40	a. BARE PIPING AT CFILING PENFTRATIONS	INECTIANUAL SLEEVE SEALS AND INSTALL IN ANNULAR SPACE BETWEEN PIPE AND SLEEVE. TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT	
AND CHEMICAL ANALYSIS OF STEEL PIPE BEING WELDED.	GALVANIZED, PLAIN ENDS.	IN FINISHED SPACES: ONE-PIECE,	CAUSE SEALING ELEMENTS TO EXPAND AND MAKE	
F. SOLVENT CEMENTS FOR JOINING PLASTIC PIPING:	C. CAST IRON: CAST OR FABRICATED "WALL PIPE" EQUIVALENT	STAMPED-STEEL TYPE OR SPLIT-PLATE,	WATERTIGHT SEAL.	
 ABS PIPING: ASTM D 2235. CPVC PIPING: ASTM F 493. DVC PIPING: ASTM F 493. 	TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL WATERSTOP, UNLESS OTHERWISE INDICATED.	STAMPED-STEEL TYPE WITH CONCEALED HINGE AND SET SCREW.	S. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT	
YUG PIPING: ASTM D 2564. INCLUDE PRIMER ACCORDING TO ASTM F 656. PVC TO ARS PIPING TRANSITION: ASTM D 2129		n. BARE PIPING IN UNFINISHED SERVICE SPACES: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED CHROME REATED OR	PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. REFER TO DIVISION 07 SECTION "PENETRATION FIRESTOPPING" FOR MATERIALS	
G. FIBERGLASS PIPE ADHESIVE: AS FURNISHED OR RECOMMENDED BY PIPE MANUFACTURER.		ROUGH-BRASS FINISH.	T. VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGHING-IN.	

ON 22 05 00 - COMMON WORK RESULTS FOR	CSI DIVISION 22 05 00 - COMMON WORK RESULTS FOR	VING
G	PLUMBING	
G REFER TO EQUIPMENT SPECIFICATIONS IN OTHER SECTIONS OF THESE SPECIFICATIONS FOR ROUGHING-IN REQUIREMENTS. IG JOINT CONSTRUCTION JOIN PIPE AND FITTINGS ACCORDING TO THE FOLLOWING REQUIREMENTS AND DIVISION 22 SECTIONS SPECIFYING PIPING SYSTEMS. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY. SOLDERED JOINTS: APPLY ASTM B 813, WATER-FLUSHABLE FLUX, UNLESS OTHERWISE INDICATED, TO TUBE END. CONSTRUCT JOINTS ACCORDING TO ASTM B 828 OR CDA'S "COPPER TUBE HANDBOOK," USING LEAD-FREE SOLDER ALLOY COMPLYING WITH ASTM B 32. BRAZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S "BRAZING HANDBOOK," "PIPE AND TUBE" CHAPTER, USING COPPER-PHOSPHORUS BRAZING FILLER METAL COMPLYING WITH AWS A5.8. THEFADED JOINTS: THEFAD DIPE WITH TAPEDED DIPE	PLUMBING 3.7 CONCRETE BASES A. CONCRETE BASES: ANCHOR EQUIPMENT TO CONCRETE BASE ACCORDING TO EQUIPMENT MANUFACTURER'S WRITTEN INSTRUCTIONS AND ACCORDING TO SEISMIC CODES AT PROJECT. 1. CONSTRUCT CONCRETE BASES OF DIMENSIONS INDICATED, BUT NOT LESS THAN 4 INCHES LARGER IN BOTH DIRECTIONS THAN SUPPORTED UNIT. 2. INSTALL DOWEL RODS TO CONNECT CONCRETE BASE TO CONCRETE FLOOR. UNLESS OTHERWISE INDICATED, INSTALL DOWEL RODS ON 18-INCH CENTERS AROUND THE FULL PERIMETER OF THE BASE. 3. INSTALL EPOXY-COATED ANCHOR BOLTS FOR SUPPORTED EQUIPMENT THAT EXTEND THROUGH CONCRETE BASE, AND ANCHOR INTO STRUCTURAL CONCRETE FLOOR. 4. PLACE AND SECURE ANCHORAGE DEVICES. USE SUPPORTED EQUIPMENT MANUFACTURER'S SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO DE EMPEDDED	OTIZZZ2022 OTIZZZ2022 OTIZZZ2022 OTIZZZ2022
 THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS: 1. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED. 2. DAMAGED THREADS: DO NOT USE PIPE OR PIPE EITINGS WITH THREADS THAT ARE CORPORED OR 	 ITEMS TO BE EMBEDDED. 5. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT. 6. INSTALL ANCHOR BOLTS ACCORDING TO ANCHOR- BOLT MANUFACTURER'S WRITTEN INSTRUCTIONS. 7. USE 3000-PSI, 28-DAY COMPRESSIVE-STRENGTH CONCRETE AND REINFORCEMENT AS SPECIFIED IN DIVISION 03 SECTION "CAST-IN-PLACE CONCRETE". 	WALT JOHNSON
 FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS. WELDED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS D10.12, USING QUALIFIED PROCESSES AND WELDING OPERATORS ACCORDING TO PART 1 "QUALITY ASSURANCE" ARTICLE. FLANGED JOINTS: SELECT APPROPRIATE GASKET MATERIAL, SIZE, TYPE, AND THICKNESS FOR SERVICE APPLICATION. INSTALL GASKET CONCENTRICALLY POSITIONED. USE SUITABLE LUBRICANTS ON BOLT THREADS. PLASTIC PIPING SOLVENT-CEMENT JOINTS: CLEAN AND DRY JOINING SURFACES. JOIN PIPE AND FITTINGS ACCORDING TO THE FOLLOWING: COMPLY WITH ASTM F 402 FOR SAFE-HANDLING PRACTICE OF CLEANERS, PRIMERS, AND SOLVENT CEMENTS. ABS PIPING: JOIN ACCORDING TO ASTM D 2235 AND ASTM D 2661 APPENDIXES. CPVC PIPING: JOIN ACCORDING TO ASTM D 2846/D 2846M APPENDIX. 	 3.8 ERECTION OF METAL SUPPORTS AND ANCHORAGES A. REFER TO DIVISION 05 SECTION "METAL FABRICATIONS" FOR STRUCTURAL STEEL. B. CUT, FIT, AND PLACE MISCELLANEOUS METAL SUPPORTS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION TO SUPPORT AND ANCHOR PLUMBING MATERIALS AND EQUIPMENT. C. FIELD WELDING: COMPLY WITH AWS D1.1. 3.9 ERECTION OF WOOD SUPPORTS AND ANCHORAGES A. CUT, FIT, AND PLACE WOOD GROUNDS, NAILERS, BLOCKING, AND ANCHORAGES TO SUPPORT, AND ANCHOR PLUMBING MATERIALS AND EQUIPMENT. B. SELECT FASTENER SIZES THAT WILL NOT PENETRATE MEMBERS IF OPPOSITE SIDE WILL BE EXPOSED TO VIEW OR WILL RECEIVE FINISH MATERIALS. TIGHTEN CONNECTIONS BETWEEN MEMBERS. INSTALL FASTENERS WITHOUT SPLITTING WOOD MEMBERS. C. ATTACH TO SUBSTRATES AS REQUIRED TO SUPPORT APPLIED LOADS. 	RE COLLEGE R.R. RENOVATION DER STREET RE, TX 75662
 PVC PRESSURE PIPING: JOIN SCHEDULE NUMBER ASTM D 1785, PVC PIPE AND PVC SOCKET FITTINGS ACCORDING TO ASTM D 2672. JOIN OTHER-THAN- SCHEDULE-NUMBER PVC PIPE AND SOCKET FITTINGS ACCORDING TO ASTM D 2855. PVC NONPRESSURE PIPING: JOIN ACCORDING TO ASTM D 2855. PVC TO ABS NONPRESSURE TRANSITION FITTINGS: JOIN ACCORDING TO ASTM D 3138 APPENDIX. PLASTIC PRESSURE PIPING GASKETED JOINTS: JOIN ACCORDING TO ASTM D 3139. PLASTIC NONPRESSURE PIPING GASKETED JOINTS: JOIN ACCORDING TO ASTM D 3212. PE PIPING HEAT-FUSION JOINTS: CLEAN AND DRY JOINING SURFACES BY WIPING WITH CLEAN CLOTH OR PAPER TOWELS. JOIN ACCORDING TO ASTM D 2657. 	 3.10 GROUTING A. MIX AND INSTALL GROUT FOR PLUMBING EQUIPMENT BASE BEARING SURFACES, PUMP AND OTHER EQUIPMENT BASE PLATES, AND ANCHORS. B. CLEAN SURFACES THAT WILL COME INTO CONTACT WITH GROUT C. PROVIDE FORMS AS REQUIRED FOR PLACEMENT OF GROUT. D. AVOID AIR ENTRAPMENT DURING PLACEMENT OF GROUT. E. PLACE GROUT, COMPLETELY FILLING EQUIPMENT BASES. F. PLACE GROUT ON CONCRETE BASES AND PROVIDE SMOOTH BEARING SURFACE FOR EQUIPMENT. G. PLACE GROUT AROUND ANCHORS. H. CURE PLACED GROUT. 	KILGOR STARK HALL 607 ELD KILGOR

- BEVEL PLAIN ENDS OF STEEL PIPE. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM I OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEME SOLDERED JOINTS: APPLY ASTM B 813, WATER-F FLUX, UNLESS OTHERWISE INDICATED, TO TUBE CONSTRUCT JOINTS ACCORDING TO ASTM B 828
- "COPPER TUBE HANDBOOK," USING LEAD-FREE S ALLOY COMPLYING WITH ASTM B 32. BRAZED JOINTS: CONSTRUCT JOINTS ACCORDIN "BRAZING HANDBOOK," "PIPE AND TUBE" CHAPTER
- COPPER-PHOSPHORUS BRAZING FILLER METAL C WITH AWS A5.8. THREADED JOINTS: THREAD PIPE WITH TAPERED THREADS ACCORDING TO ASME B1.20.1. CUT THE
- AND CLEAN USING SHARP DIES. REAM THREADED TO REMOVE BURRS AND RESTORE FULL ID. JOIN FITTINGS AND VALVES AS FOLLOWS: 1. APPLY APPROPRIATE TAPE OR THREAD
- TO EXTERNAL PIPE THREADS UNLESS D THREADING IS SPECIFIED. 2. DAMAGED THREADS: DO NOT USE PIPE
- FITTINGS WITH THREADS THAT ARE CO DAMAGED. DO NOT USE PIPE SECTIONS
- CRACKED OR OPEN WELDS. WELDED JOINTS: CONSTRUCT JOINTS ACCORDIN AWS D10.12, USING QUALIFIED PROCESSES AND OPERATORS ACCORDING TO PART 1 "QUALITY AS
- ARTICLE. FLANGED JOINTS: SELECT APPROPRIATE GASKE SIZE, TYPE, AND THICKNESS FOR SERVICE APPLIC INSTALL GASKET CONCENTRICALLY POSITIONED.
- SUITABLE LUBRICANTS ON BOLT THREADS. PLASTIC PIPING SOLVENT-CEMENT JOINTS: CLEA JOINING SURFACES. JOIN PIPE AND FITTINGS AC
- THE FOLLOWING: 1. COMPLY WITH ASTM F 402 FOR SAFE-HAM PRACTICE OF CLEANERS, PRIMERS, AND
- CEMENTS. ABS PIPING: JOIN ACCORDING TO ASTM 2.
- ASTM D 2661 APPENDIXES. 3. CPVC PIPING: JOIN ACCORDING TO
- ASTM D 2846/D 2846M APPENDIX. 4. PVC PRESSURE PIPING: JOIN SCHEDUL ASTM D 1785, PVC PIPE AND PVC SOCKI
- ACCORDING TO ASTM D 2672. JOIN OTH SCHEDULE-NUMBER PVC PIPE AND SOC FITTINGS ACCORDING TO ASTM D 2855. PVC NONPRESSURE PIPING: JOIN ACCC 5.
- ASTM D 2855.
- PVC TO ABS NONPRESSURE TRANSITIO 6. JOIN ACCORDING TO ASTM D 3138 APPE PLASTIC PRESSURE PIPING GASKETED JOINTS: J
- ACCORDING TO ASTM D 3139. PLASTIC NONPRESSURE PIPING GASKETED JOINT ACCORDING TO ASTM D 3212.
- PE PIPING HEAT-FUSION JOINTS: CLEAN AND DRY SURFACES BY WIPING WITH CLEAN CLOTH OR PAP TOWELS. JOIN ACCORDING TO ASTM D 2657.
- PLAIN-END PIPE AND FITTINGS: USE BUTT FUSION. PLAIN-END PIPE AND SOCKET FITTINGS: USE SOCKET FUSION.

FIBERGLASS BONDED JOINTS: PREPARE PIPE ENDS AND FITTINGS, APPLY ADHESIVE, AND JOIN ACCORDING TO PIPE MANUFACTURER'S WRITTEN INSTRUCTIONS.

PIPING CONNECTIONS

- MAKE CONNECTIONS ACCORDING TO THE FOLLOWING, UNLESS OTHERWISE INDICATED:
- INSTALL UNIONS, IN PIPING NPS 2 AND SMALLER, ADJACENT TO EACH VALVE AND AT FINAL
- CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL FLANGES, IN PIPING NPS 2-1/2 AND 2. LARGER, ADJACENT TO FLANGED VALVES AND AT
- FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. DRY PIPING SYSTEMS: INSTALL DIELECTRIC 3.
- UNIONS AND FLANGES TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS. 4. WET PIPING SYSTEMS: INSTALL DIELECTRIC
- COUPLING AND NIPPLE FITTINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
- EQUIPMENT INSTALLATION COMMON REQUIREMENTS Α. INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE
- HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND
- COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED. INSTALL PLUMBING EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF
- COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS.
- INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.
- PAINTING PAINTING OF PLUMBING SYSTEMS, EQUIPMENT, AND Α. COMPONENTS IS SPECIFIED IN DIVISION 09 SECTIONS "INTERIOR PAINTING" AND "EXTERIOR PAINTING." DAMAGE AND TOUCHUP: REPAIR MARRED AND DAMAGED FACTORY-PAINTED FINISHES WITH MATERIALS AND PROCEDURES TO MATCH ORIGINAL FACTORY FINISH.



WLJ ENGINEERING INC. Firm No. 9968

A CONTRACTOR	WALT JOHNSON											
			KII GORE TY 75660									
	BY DATE	GWF 06/29/22	GWF 07/22/2022									
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CSI DIVISION 26 - BASIC ELECTRICAL REQUIREMENTS	CSI DIVISION 26 - BASIC ELECTRICAL REQUIREMENTS	CSI DIVISION 26 - BASIC ELECTRICAL REQUIREMENTS	CSI DIVISION 26 - BASIC ELECTRICAL REQUIREMENTS
PART 1 - GENERAL	C. VERIFICATION OF DIMENSIONS: COORDINATE PROPER	1.11 SPACE AND EQUIPMENT ARRANGEMENT	F. SPECIAL NOTE: DO NOT UNDERTAKE CUTTING, BORING, OR
1.1 WORK INCLUDES	THE WORK OF ALL TRADES. VISIT THE PREMISES AND BECOME THOPOLICIEN & FAMILIARIZE WITH ALL DETAILS OF	DRAWINGS IS APPROXIMATE AND BASED ON THE DIMENSIONS	G. REFER TO CIVIL ENGINEERING CONSTRUCTION DOCUMENTS
CONSISTING OF THE FOLLOWING:	THE WORK AND WORKING CONDITIONS, TO VERIFY ALL	MANUFACTURERS MAY BE ACCEPTABLE, DETERMINE IF THE	
LIGHTING AS SHOWN ON PLANS, INCLUDING	ANY DISCREPANCY BEFORE PERFORMING ANY WORK.	SPACE.	A. PROVIDE CONDUIT AND DUCT SLEEVES, PITCH POCKETS, AND
FEEDERS, GROUNDING, SWITCHBOARDS,	FACILITATE A COMPLETE INSTALLATION AT NO ADDITIONAL	ALL SURFACES. INSTALL ALL NAMEPLATES TO BE VIEWED	AND INSTALLED BY A QUALIFIED CONTRACTOR ALL ROOF
CIRCUITS, LINE VOLTAGE CONTROL WIRING,	D. THE ELECTRICAL DRAWINGS ARE NOT INTENDED	C. INSTALL ALL EQUIPMENT AND PIPING IN A MANNER TO	CONTRACTOR.
EQUIPMENT SHOWN ON DRAWINGS.	DIAGRAMMATIC BY THEIR NATURE AND ARE NOT INTENDED TO SHOW EVERY CONNECTION IN DETAIL OR EVERY PIPE OR	ACCESS AND MAINTENANCE OF SYSTEMS AND EQUIPMENT.	1.18 OPERATION PRIOR TO COMPLETION
2. PROVIDE ALL FINAL CONNECTIONS TO EQUIPMENT	SUBJECT TO THE REQUIREMENTS OF STANDARDS	INSTALLATION OF CONDUIT AND PANELS WHICH BLOCKS	A. WHEN ANY PIECE OF ELECTRICAL EQUIPMENT IS OPERABLE
FURNISHED BY OTHER TRADES.		PERSONNEL ACCESS TO ALL PARTS OF CHASES OR	AND IT IS TO THE ADVANTAGE OF THE CONTRACTOR TO
3. MAKE CONNECTIONS TO ALL MOTORS,	REFERENCED ELSEWHERE IN THESE SPECIFICATIONS, AND	MECHANICAL SPACES IS PROHIBITED. STRICTLY OBSERVE	OPERATE THE EQUIPMENT FOR A PURPOSE OTHER THAN
ELECTRICALLY OPERATED EQUIPMENT, AND LINE	STRUCTURAL AND ARCHITECTURAL CONDITIONS.	THE WORKING CLEARANCES AS DEFINED BY THE NEC.	TESTING (FOR A PERIOD LONGER THAN ONE HOUR), THE
VOLTAGE CONTROLS.	INVESTIGATE STRUCTURAL AND FINISH CONDITIONS AND	1.12 PROTECTION	CONTRACTOR MAY DO SO, PROVIDING THAT THE OPERATION
4. ALL CONDUITS, SLEEVES AND SUPPORT SYSTEMS	COORDINATE WITH THE SEPARATE TRADES TO AVOID		IS PROPERLY SUPERVISED, AND THE CONSTRUCTION
REQUIRED FOR ALL SYSTEMS AND ALL CABLE	INTERFERENCE BETWEEN THE VARIOUS PHASES OF WORK.	A. TAKE PRECAUTIONS AT ALL TIMES, AS MAY BE NECESSARY,	INSPECTOR HAS GIVEN WRITTEN PERMISSION. DO NOT
TRAYS.	ORGANIZE AND LAYOUT WORK SO THAT IT WILL BE	TO PROPERLY PROTECT ALL MATERIALS AND EQUIPMENT	COMMENCE WARRANTY PERIOD UNTIL SUCH TIME AS THE
5. FURNISH TEMPORARY ELECTRICAL POWER AND	CONCEALED IN FURRED CHASES AND SUSPENDED CEILINGS,	FROM DAMAGE FROM THE TIME OF DELIVERY UNTIL THE	EQUIPMENT IS OPERATED FOR THE BENEFICIAL USE OF THE
LIGHTING, INSTALLED, AND MAINTAINED FOR ALL	ETC., IN FINISHED PORTIONS OF THE BUILDING, UNLESS	COMPLETION OF THE WORK. INCLUDE THE ERECTION OF ALL	OWNER, OR DATE OF SUBSTANTIAL COMPLETION,
CONSTRUCTION LIGHTING ONLY AFTER IT IS	SPECIFICALLY NOTED TO BE EXPOSED. INSTALL ALL WORK PARALLEL OR PERPENDICULAR TO THE LINES OF THE	ADEQUATELY PROTECT ANY ITEMS STORED IN THE OPEN ON	B. DO NO OPERATE EQUIPMENT, EVEN FOR TEST PURPOSES,
6. PROVIDE MISCELLANEOUS ITEMS REQUIRED FOR A	E. PHYSICALLY ARRANGE THE SYSTEMS TO FIT IN THE SPACE	SURROUNDING WORK; THE CRIBBING OF ANY ITEMS ABOVE	CLEAN OF DUST, DIRT AND DEBRIS.
SPECIFICALLY CALLED FOR ON THE DRAWINGS OR	CLEARANCES WHEN THE DRAWINGS DO NOT GIVE EXACT	ITEMS IN THE INCOMPLETE BUILDING WITH TARPAULINS OR	OR NOT THE EQUIPMENT HAS OR HAS NOT BEEN OPERATED,
THE OWNER (NUTS AND BOLTS, MASONRY	TRAYS. INSTALL EXPOSED CONDUIT AND CABLE TRAY	ELECTRIC HEATERS IN ELECTRICAL SWITCHGEAR AND	ALL DEFICIENCY LIST ITEMS BEFORE FINAL ACCEPTANCE BY
ANCHORS, CONDUIT AND FOURPMENT SUPPORTS	SYSTEMS TRUE AND SOLIARE TO THE BUILDING	SIMIL AR EQUIPMENT TO PREVENT MOISTURE DAMAGE	
DRILLING WELDING, SCAFFOLDING, CRANE	CONSTRUCTION AND LOCATE AS HIGH AS POSSIBLE AGAINST	FAILURE TO COMPLY WITH THE INSTRUCTIONS ABOVE WILL	COMMENCE THE DATE OF ACCEPTANCE AND PERFORMANCE
SERVICE FTC.)	THE STRUCTURE IN A NEAT AND WORKMANI IKE MANNER	BE SUFFICIENT CAUSE FOR THE REJECTION OF THE ITEMS IN	CERTIFICATION ON THE SAME DATE
1.2 REFERENCES, STANDARDS, AND REGULATORY REQUIREMENTS: THE	THE DRAWINGS DO NOT SHOW ALL REQUIRED OFFSETS, AND	QUESTION. B TAKE PARTICULAR CARE NOT TO DAMAGE THE BUILDING	1.19 CI FANING AND PAINTING
FOLLOWING STATE AND LOCAL CODES, ORDINANCES, AND INDUSTRY	AREAS.	STRUCTURE IN PERFORMING WORK. COVER ALL FINISHED	A. DO NOT PAINT THE FOLLOWING MATERIALS: COPPER,
STANDARDS SHALL BE COMPLIED WITH ON THIS PROJECT AS APPLICABLE.	E STORAGE AT SITE: DO NOT RECEIVE MATERIAL OR	FLOORS AND FINISHED SURFACES TO PREVENT ANY DAMAGE	GAI VANIZED METAL STAINI ESS STEEL FIBERGLASS, AND
A. THE "AUTHORITY HAVING JURISDICTION" OVER THE PROJECT	EQUIPMENT AT THE JOB SITE UNTIL THERE IS SUITABLE	BY WORKERS OR THEIR TOOLS AND EQUIPMENT DURING THE	PLASTICS SUCH AS PVC, PVDF, POLYPROPYLENE, ETC.
DESCRIBED BY THESE DOCUMENTS IS THE CITY OF KILCORE	SPACE PROVIDED TO PROPERLY PROTECT FOURIENT FROM	CONSTRUCTION OF THE RUILDING	B. THOROLIGHLY CLEAN MATERIALS AND FOULIPMENT SURFACES
TEXAS. AS SUCH, IT IS REQUIRED THAT THE INSTALLATION	RUST, DRIP, HUMIDITY, AND DUST DAMAGE.	1.13 SUPERVISION	OF CEMENT, PLASTER, AND OTHER FOREIGN MATERIALS AND
MEET THE MINIMUM STANDARDS PRESCRIBED IN THE LATEST	G. CONFORMANCE WITH AGENCY REQUIREMENTS: PROVIDE	A. PROVIDE A COMPETENT SUPERINTENDENT OR FOREMAN ON	REMOVE ALL OIL AND GREASE. IF PAINTING IS REGUIRED
EDITIONS OF THE FOLLOWING LISTED CODES AND	MATERIALS OR EQUIPMENT SPECIFIED TO BE APPROVED,	BEHALF OF EACH TRADE OPERATION.	CAREFULLY WIPE SUCH SURFACES AND HAVE ALL CRACKS
STANDARDS, WHICH ARE MADE A PART OF THESE	LISTED, TESTED, OR LABELED BY THE UNDERWRITERS'	B. ASSURE THAT EACH SUPERINTENDENT STUDIES ALL	AND CORNERS SCRAPED OUT. BRUSH DOWN EXPOSED
SPECIFICATIONS.	LABORATORIES, INC. (UL) OR THE CANADIAN STANDARDS	DRAWINGS AND IS FAMILIAR WITH THE WORK TO BE	METAL WORK WITH STEEL BRUSHES TO REMOVE RUST AND OTHER SPOTS, LEFT SMOOTH AND CLEAN.
B. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI): ALL	ASSOCIATION (CSA), SUBMIT PROOF THAT THE ITEMS	COORDINATED WITH AND PERFORMED BY OTHER TRADES.	
CURRENT EDITIONS OF APPLICABLE MANUALS AND STANDARDS	FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS CONFORM TO SUCH REQUIREMENTS. THE LABEL OF THE	COORDINATE THE WORK OF ALL TRADES AND, BEFORE MATERIAL IS FABRICATED OR INSTALLED, ASSURE THAT THE	PROTECT EQUIPMENT NAMEPLATES FROM BEING PAINTED; AFFORD SUITABLE PROTECTION TO THE PLATES TO PREVENT THEIR BEING RENDERED ILLEGIBLE
C. UNDERWRITERS' LABORATORIES (UL)	UNDERWRITERS LABORATORIES, INC., OR THE CANADIAN	WORK WILL NOT CAUSE AN INTERFERENCE WITH ANOTHER TRADE. RESOLVE WHERE INTERFERENCES ARE	DUE TO THE PAINTING OPERATION OR RECEIVING ANY OVERSPRAY OR SPATTER.
D. CANADIAN STANDARDS ASSOCIATION (CSA)	STANDARDS ASSOCIATION, APPLIED TO THE ITEM WILL BE		PART 2 - EXECUTION
E. INSULATED CABLE ENGINEERS ASSOCIATION (ICEA)F. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS	ACCEPTABLE AS SUFFICIENT EVIDENCE THAT THE ITEMS CONFORM TO SUCH REQUIREMENTS.	ENCOUNTERED AT THE JOB SITE BY THE SUPERINTENDENTS INVOLVED. REFER THE MATTER TO THE ENGINEER, FOR A	2.1 INSTALLATION METHODS
(IEEE)	H. NAMEPLATES: PROVIDE MANUFACTURER'S NAME, ADDRESS,	RULING, WHERE INTERFERENCES CANNOT BE RESOLVED	A. SUPPORT: SUPPORT ALL WIRING, CABLE TRAYS AND
G. AMERICAN SOCIETY OF TESTING MATERIALS (ASTM): ALL	AND CATALOG NUMBER ON A PLATE SECURELY ATTACHED TO	WITHOUT MAJOR CHANGES TO THE DRAWINGS. THE	CONDUITS FROM THE BUILDING STRUCTURE BY MEANS OF
CURRENT EDITIONS OF APPLICABLE MANUALS AND	THE ITEM OF EQUIPMENT ON EACH MAJOR COMPONENT OF	ENGINEERS DECISION IS FINAL.	HANGER RODS OR CLAMPS FASTENED TO THE BUILDING
STANDARDS	EQUIPMENT. PROVIDE LEGIBLE DATA ON NAMEPLATES AT		STRUCTURE AS HEREIN SPECIFIED.
H. NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS	THE TIME OF FINAL INSPECTION. DO NOT IN ANY	1.14 SITE OBSERVATION	B. CUT ALL CONDUITS, ETC., TO MEASUREMENTS ESTABLISHED
(NFPA):	CIRCUMSTANCE PAINT OVER ANY NAMEPLATE FOR ANY	A. DO NOT CONSTRUE SITE OBSERVATION BY THE ARCHITECT,	FROM THE ACTUAL BUILDING CONDITIONS AND WORK INTO
1. NFPA NO. 33, SPRAY APPLICATION USING	REASON. RESTORE NEW OR EXISTING NAMEPLATE THAT IS	ENGINEER, OWNER OR ANY REPRESENTATIVE OF THE	PLACE WITHOUT SPRINGING OR FORCING. INSTALL ALL
FLAMMABLE AND COMBUSTIBLE MATERIALS	PAINTED OVER, THE NAMEPLATE SHALL BE RESTORED TO AS	OWNER, FOR THE EXPRESS PURPOSE OF VERIFYING	CONDUIT RUNS EXPOSED IN MACHINERY AND EQUIPMENT
2. NFPA NO. 70, NATIONAL ELECTRICAL CODE	NEW CONDITION, OR REPLACED WITH A NEW NAMEPLATE	COMPLIANCE BY THE CONTRACTOR WITH THE CONTRACT	CONDUIT RUNS IN FURRED CEILINGS, ETC., SIMILARLY,
3. NFPA NO. 90A, AIR CONDITIONING SYSTEMS	PROVIDED BY THE MANUFACTURER	DOCUMENTS, AS CONSTRUCTION SUPERVISION NOR	
4. NFPA NO. 91, BLOWER & EXHAUST SYSTEMS 5. NFPA NO. 101, LIFE SAFETY CODE	1.5 COORDINATION OF THE CONTRACT DOCUMENTS	WHICH THE WORK IS BEING PERFORMED AS BEING A SAFE	FURRED CEILINGS AND IN OTHER CONCEALED SPACES.
6. NFPA NO. 241, STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION AND DEMOLITION	A. SHOULD THE DRAWINGS OR SPECIFICATIONS CONFLICT WITHIN THEMSELVES, OR WITH EACH OTHER, THE DEQUIDEMENT WITH THE OPERATEST QUANTITY AND/OP THE	B. THE SAFETY OF THE WORKERS ON THE SITE IS THE DESPONSIBILITY OF THE CONTRACTOR BY ENTERING THE	UNTIL THE SYSTEMS ARE CLOSED WITH FINAL CONNECTIONS.
7. NFPA NO. 255, METHOD OF TEST OF SURFACE BURNING CHARACTERISTICS OF BUILDING	HIGHEST QUALITY SHALL PREVAIL. THE DECISION OF THE	SITE, THE CONTRACTOR, SUBCONTRACTORS, AND THEIR	ROOFS, ETC., REGARDLESS OF MATERIAL FOR THE PASSAGE
MATERIALS 8 NEPA NO. 258, STANDARD RESEARCH TEST METHOD	SHALL BE FINAL.	FOR THEIR SAFETY AND ACCEPT COMPLETE RESPONSIBILITY	THROUGH SLEEVES. SET SLEEVES BEFORE CONCRETE IS
FOR DETERMINING SMOKE GENERATION OF SOLID	1.6 FUTURE WORK A PERFORM WORK DESCRIBED IN THE DRAWINGS UNDER THIS	THEM HARM.	ANY PART OF THE CONCRETE WILL NOT BE PERMITTED
I. NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION	CONTRACT. CERTAIN EQUIPMENT AND SYSTEMS HAVE BEEN	1.15 GUARANTEE	ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE
	SIZED TO ANTICIPATE A POSSIBLE FUTURE ADDITION TO THE	A WARRANTY ALL LABOR AND MATERIALS FURNISHED AND	INSTALLATION OF SUFFYES AND THE SEALING OF SUFFYES
AND STANDARDS	BUILDING. PROVIDE AND INSTALL THE EQUIPMENT AND	INSTALLED UNDER THIS CONTRACT FOR A PERIOD OF ONE (1)	EXCEPT ROOF SLEEVES.
J. LOCAL FIRE DEPARTMENT AND THE STATE FIRE MARSHALL.	SYSTEMS AS SHOWN IN THE DRAWINGS AND SCHEDULES. OF	YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER.	
AS MAY BE APPLICABLE TO CONSTRUCTION ON THIS SITE	THE SIZES, CAPACITIES AND DIMENSIONS INDICATED.	WARRANTY CERTAIN WORK AND MATERIALS FOR A LONGER	2.2 REQUIRED INSPECTIONS
K. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA): ALL		PERIOD WHEN SO SPECIFIED. COVER THE REPAIR OR	A. NOTIFY THE CONSTRUCTION INSPECTOR PRIOR TO THE
APPLICABLE SAFETY STANDARDS	1.7 SUBMITTALS	REPLACEMENT WITH THE WARRANTY, AND WITHOUT	INSTALLATION OF ANY CEILING MATERIAL, GYPSUM,
L. TEXAS OCCUPATIONAL SAFETY ACT: ALL APPLICABLE	A. MARK ALL SUBMITTAL LITERATURE TO INDICATE THE PRECISE	ADDITIONAL COST TO THE OWNER, ANY DEFECTIVE MATERIAL	PLASTER, OR ACOUSTICAL BOARD, SO THAT ARRANGEMENT
SAFETY STANDARDS	SELECTION OF MATERIALS AND EQUIPMENT BEING	OR FAULTY WORKMANSHIP.	CAN BE MADE FOR AN INSPECTION OF THE ABOVE-CEILING
M. INTERNATIONAL BUILDING CODE, LATEST EDITION	SUBMITTED. NOTE THAT IF THE SPECIFIC MODEL OR	B. FURNISH ALL NECESSARY SERVICE TO EACH SYSTEM, SUCH	AREA ABOUT TO BE "SEALED" OFF. GIVE AS MUCH ADVANCE
N. REFER TO SPECIFICATION SECTIONS HEREINAFTER BOUND	MATERIAL IS NOT INDICATED IN THE SUBMITTAL, AND THERE	AS ADJUSTMENT OF CONTROLS, MECHANICAL REPAIR OF	NOTICE AS POSSIBLE, BUT NO LESS THAN FIVE (5) WORKING DAYS.
FOR ADDITIONAL CODES AND STANDARDS.	IS MORE THAN ONE CHOICE POSSIBLE, THE SUBMITTAL MAY	EQUIPMENT AND OTHER WORK REQUIRING SPECIALIZED	
O. COMPLY WITH ALL APPLICABLE STATE AND NATIONAL CODES	BE REJECTED, AND A RE-SUBMITTAL WILL BE REQUIRED.	TRAINING, AT NO COST TO THE OWNER, FOR A PERIOD OF	B. ALL ABOVE-CEILING AREAS WILL BE SUBJECT TO A FORMAL
ON MATERIALS AND WORKMANSHIP, SPECIFICATIONS, AND	B. CHANGES IN CONTRACT REQUIREMENTS ARE NOT GRANTED	ONE (1) YEAR, CONCURRENT WITH THE WARRANTY PERIOD	INSPECTION BEFORE CEILINGS ARE INSTALLED, OR
INDUSTRY STANDARDS. IN ALL CASES WHERE	AND DO NOT IMPLY BY APPROVAL OF SUBMITTED	SPECIFIED ABOVE. DO NOT INCLUDE REPAIR OF DAMAGE	INSTALLATION IS OTHERWISE CONCEALED FROM VIEW.
UNDERWRITERS' LABORATORIES, INC. HAS ESTABLISHED	ALTERNATIVE MATERIALS AND EQUIPMENT. CHANGES WILL	DUE TO FIRE UNLESS THE FIRE RESULTS FROM FAULTY	COMPLETE AND INSTALL ALL ELECTRICAL WORK AT AND
STANDARDS FOR A PARTICULAR TYPE OF MATERIAL, SUCH	ONLY BE AFFECTED THROUGH THE CHANGE ORDER	MATERIALS OR WORKMANSHIP ON THE PART OF THE	ABOVE THE CEILING, INCLUDING ITEMS SUPPORTED BY THE
MATERIAL SHALL COMPLY WITH THESE STANDARDS.	PROCESS, IN WRITING.	CONTRACTOR, STORM, VANDALISM, OR OTHER FACTORS	CEILING GRID, SUCH AS LIGHTING FIXTURES, IN ACCORDANCE
EVIDENCE OF COMPLIANCE SHALL BE THE UL "LABEL" OR	1.8 MATERIALS AND WORKMANSHIP	ENTIRELY BEYOND THE CONTROL OF THE CONTRACTOR, AND	WITH CONTRACT REQUIREMENTS, INCLUDING POWER TO
"LISTING" UNDER RE-EXAMINATION SERVICE.		DO NOT INCLUDE SUCH ROUTINE SERVICE AS OILING	LIGHTING FIXTURES, FANS, AND OTHER POWERED ITEMS AND
P. WHEN REFERENCE IS MADE TO UL LISTINGS IT CAN BE	A. PROVIDE NEW MATERIALS, UNLESS NOTED OTHERWISE, FREE	MOTORS, CLEANING OR REPLACING FILTERS, REPLACING	ALL CONDUIT SUPPORTS. PROVIDE ADEQUATE LIGHTING TO
CONSIDERED TO MEAN A MUTUALLY RECOGNIZED TESTING	FROM ALL DEFECTS, SUITABLE FOR THE INTENDED USE, AND	BLOWN FUSES (UNLESS CAUSED BY DEFECTIVE	PERMIT THOROUGH INSPECTION OF ALL ABOVE-CEILING
LABORATORY. COMPARABLE TESTING STANDARDS FROM THE CANADIAN STANDARDS ASSOCIATION (CSA) CAN BE	B. INSTALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE MANI LEACT LIDED'S DECOMMENDATIONS AND THE DEST	NOT REQUIRING OF THE EQUIPMENT), NOR ANY OTHER WORK NOT REQUIRING SPECIAL SKILL. THE ABOVE ITEMS DERTAINING TO DOLITINE SEDVICING OF THE FOURIENT AND	ITEMS. THE INSPECTION WILL INCLUDE REPRESENTATIVES OF THE FOLLOWING: GENERAL CONTRACTOR AND EACH
	STANDARD PRACTICE FOR THE TYPE OF WORK INVOLVED.	MOTORS, CLEANING OR REPLACING FILTERS, OR REPLACING FUSES ARE THE RESPONSIBILITY OF THE OWNED UNLESS A	SUBCONTRACTOR HAVING WORK ABOVE THE CEILING, ENGINEER(S) OF RECORD, CONSTRUCTION INSPECTOR(S),
A. LICENSED ELECTRICAL CONTRACTOR OPERATING UNDER A	RESPECTIVE TRADES, AND THE INSTALLATIONS SHALL PROVIDE A NEAT AND WORKMANI IKE MANNER AS DEFINED IN	SERVICE AGREEMENT IS MADE BETWEEN THE CONTRACTOR AND THE OWNER.	AND THE MAINTENANCE STAFF. COURDINATE AREAS TO BE INSPECTED AND THE TIME OF INSPECTION WITH THE CONSTRUCTION INSPECTOR
STATE OF TEXAS OR LICENSED BY A CITY IN TEXAS WITH A	THE NEC.	C. FAILURE TO PERFORM UNDER THESE REQUIREMENTS, THE	C. THE PURPOSE OF THIS INSPECTION IS TO VERIFY THE
POPULATION OF 50 000 OR GREATER THAT ISSUES LICENSES	D. REPLACE MATERIALS OR EQUIPMENT DAMAGED IN SHIPMENT	UNIFORM AND SPECIAL GENERAL CONDITIONS GOVERN ANY	COMPLETENESS AND OTALLY OF THE INSTALLATION OF THE
BASED ON PASSING A WRITTEN TEST AND DEMONSTRATING EXPERIENCE.	OR OTHERWISE DAMAGED PRIOR TO INSTALLATION, AT THE JOB SITE WITH NEW MATERIALS OR EQUIPMENT. UNI FSS	REQUIRED REMEDIES THE OWNER MAY BE FORCED TO TAKE.	ELECTRICAL SYSTEMS AND QUALITY OF THE INSTALLATION OF THE ELECTRICAL SYSTEMS AND ANY OTHER SPECIAL ABOVE CEILING SYSTEMS OF ACE THE CEILING SUDDODTS (TEE DAD
B. PROVIDE UNRESTRICTED JOURNEYMAN LICENSED	SPECIAL PERMISSION HAS BEEN GRANTED BY THE OWNER.	1.16 CUTTING AND PATCHING	OR LATH) IN SO THAT ACCESS PANEL AND LIGHT FIXTURE
ELECTRICIANS OR LICENSED UNRESTRICTED MASTER	E. PROVIDE MATERIALS NEW OF STANDARD CURRENT	A. GENERAL: PROVIDE OPENINGS IN ALL NEW OR EXISTING	
ELECTRICIANS BY THE STATE OF TEXAS OR LICENSED BY A CITY IN TEXAS WITH A POPULATION OF 50,000 OR GREATER	PRODUCTS OF MANUFACTURER'S LATEST DESIGN. ALL COMPONENTS BY THE SAME MANUFACTURER TO BE	CONSTRUCTION INDICATED IN THE DRAWINGS, OR AS NECESSARY FOR THE PROPER INSTALLATION OF ALL	AND ACCESS PROVISIONS MAY BE EVALUATED. D. DO NOT INSTALL CEILING MATERIALS UNTIL THE RESULTING
THAT ISSUES LICENSES BASED ON PASSING A WRITTEN TEST	MECHANICALLY AND ELECTRICALLY COMPATIBLE WITH	SYSTEMS INCLUDED IN THE PROJECT.	DEFICIENCY LIST, FROM THIS INSPECTION, IS SATISFIED AND
AND DEMONSTRATING EXPERIENCE. THE UNRESTRICTED	RATING OF APPARATUS IN WHICH INSTALLED. PROVIDE	B. METHODS OF CUTTING: MAKE OPENINGS CUT THROUGH	THE CONSTRUCTION INSPECTOR HAS GIVEN APPROVAL.
MASTER ELECTRICIAN NEED NOT BE PRESENT ON WORK	SIMILAR EQUIPMENT TO BE IDENTICAL. FOR EXAMPLE,	CONCRETE AND MASONRY WITH MASONRY SAWS OR CORE	2.3 TESTING
LOCATIONS AT ALL TIMES ELECTRICAL WORK IS BEING DONE,	PROVIDE PANELBOARDS TO BE OF THE SAME	DRILLS AND AT SUCH LOCATIONS ACCEPTABLE TO THE	
BUT THE UNRESTRICTED MASTER ELECTRICIAN MUST	MANUFACTURER AND OF THE SAME STYLE.	CONSTRUCTION INSPECTOR AND DESIGN ENGINEER. DO NOT	A. PROVIDE INSULATION RESISTANCE TEST ON EACH 480, 240,
APPROVE WORK PERFORMED BY THE UNRESTRICTED		USE IMPACT-TYPE EQUIPMENT, EXCEPT WHERE	AND 208 VOLT FEEDER CONDUCTOR BEFORE AND AFTER
JOURNEYMAN ELECTRICIAN.	1.9 FLAME SPREAD PROPERTIES OF MATERIALS	SPECIFICALLY ACCEPTABLE TO THE DESIGN ARCHITECT AND	INSTALLATION. MAKE TESTS WITH A 500 VDC MEGGER.
	A. PROVIDE MATERIALS AND ADHESIVES INCORPORATED INTO	ENGINEER. CORE DRILL OPENINGS IN PRE-CAST CONCRETE	REPLACE ANY CONDUCTOR FOUND TO BE DEFECTIVE.
1.4 GENERAL MATERIALS AND EQUIPMENT REQUIREMENTS A. DO NOT USE ASBESTOS-CONTAINING, OR SOLVENT BASED, OD LEAD CONTAINING, OR SOLVENT BASED,	THIS PROJECT THAT CONFORM TO NEPA STANDARD 255, "METHOD OF TEST OF SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS" - DO NOT EVOLUTION	SLABS FOR CONDUITS, OUTLET BOXES, ETC., TO EXACT SIZE. C. RESTORATION: FINISH AND CLOSE ALL OPENINGS AROUND	B. REPLACE ALL DEFECTIVE FIXTURES OR DEVICES FOUND DURING TESTING.
OR LEAD CONTAINING MATERIALS ON THIS PROJECT. REMOVE AND DISPOSE ANY PROHIBITED MATERIALS AS	OF BUILDING MATERIALS". DO NOT EXCEED CLASSIFICATION OF A FLAME SPREAD RATING OF 25, NOR EXCEED A SMOKE DEVELOPED BATING OF 50, 500 ALL MATERIALO A DUVENTED	PENETRATING MATERIALS AS SPECIFIED, OR RESTORED TO "AS-NEW" CONDITIONS, UNDER THE APPROPRIATE	C. TEST ALL RECEPTACLES AND LIGHT SWITCHES TO VERIFY THEY ARE CONNECTED PROPERLY.
REQUIRED BY LOCAL, STATE, AND FEDERAL REQUIREMENTS	FINISHES, ETC., SPECIFIED FOR EACH SYSTEM.	SPECIFICATION SECTION FOR THE MATERIALS INVOLVED,	D. CHECK ALL HVAC MOTORS AND LINE VOLTAGE CONTROLS TO
THAT ARE INSTALLED, INCLUDING THE UNDERLYING		AND MATCH REMAINING SURROUNDING MATERIALS OR	VERIFY CORRECT OPERATION.
B. PROVIDE RESPONSIBILITY FOR FITTING MATERIALS AND	1.10 MANUFACTURER'S RECOMMENDATIONS	HINISHES. D. MASONRY: PROVIDE AND INSTALL LINTELS, OR OTHER	E. INSPECT ALL PANELBOARDS PRIOR TO INSTALLING COVERS TO VERIFY CORRECT WIRING CONNECTIONS AND COLOR-
AFFARATUS SECIFIED IN THIS DIVISION INTO THE BUILDING AND CAREFULLY LAY OUT THE SPECIFIED WORK AT THE SITE TO CONFORM WITH THE STRUCTURAL CONDITIONS TO AVOID	RECOMMENDATIONS IN THE DELIVERY, STORAGE, PROTECTION, INSTALLATION, AND WIRING OF ALL FOURIPMENT	STRUCTURAL SUPPORTS, WHERE OPENINGS ARE CUT THROUGH MASONRY WALLS TO PROTECT THE REMAINING	CODING PROCEDURES.
ALL OBSTRUCTIONS, TO CONFORM TO THE DETAILS OF THE INSTALL ATION AND THEREBY TO PROVIDE AN INTEGRATED	AND MATERIAL. PROMPTLY NOTIFY THE ENGINEER, IN WRITING, OF ANY CONFLICT BETWEEN THE REQUIREMENTS	CUTTING OPERATION TO PREVENT ANY DAMAGE TO THE	
INSTALLATION OPERATING AS A COMPLETE SET OF SYSTEMS.	OF THE CONTRACT DOCUMENTS AND THE MANUFACTURERS' DIRECTIONS, OBTAIN THE ENGINEER'S GUIDANCE BEFORE	STRUCTURAL MEMBERS, SUPPORTS, ETC., OF THE PROPER SIZE AND SHAPE AND INSTALLED IN A MANNED ACCEDITABLE	
	PROCEEDING WITH THE WORK. BEAR ALL COSTS ARISING IN CONNECTION WITH THE DEFICIENCIES, SHOULD THE	TO THE DESIGN ENGINEER. E. PLASTER: COMPLETE ALL MECHANICAL WORK IN APEAS	
	CONTRACTOR PERFORM ANY SUCH WORK THAT DOES NOT COMPLY WITH THE MANUFACTURERS' DIRECTIONS OR SUCH	CONTAINING PLASTER PRIOR TO THE APPLICATION OF THE FINISH PLASTER COAT. CUTTING OF FINISH PLASTER COAT IS	
	INSTRUCTIONS FROM THE OWNER.	NOT PERMITTED.	

ROOF PENETRATIONS AND FLASHING

OPERATION PRIOR TO COMPLETION

- WHEN ANY PIECE OF ELECTRICAL EQUIPMENT IS OPERABLE AND IT IS TO THE ADVANTAGE OF THE CONTRACTOR TO OPERATE THE EQUIPMENT FOR A PURPOSE OTHER THAN TESTING (FOR A PERIOD LONGER THAN ONE HOUR), THE CONTRACTOR MAY DO SO, PROVIDING THAT THE OPERATION IS PROPERLY SUPERVISED, AND THE CONSTRUCTION INSPECTOR HAS GIVEN WRITTEN PERMISSION. DO NOT COMMENCE WARRANTY PERIOD UNTIL SUCH TIME AS THE EQUIPMENT IS OPERATED FOR THE BENEFICIAL USE OF THE OWNER, OR DATE OF SUBSTANTIAL COMPLETION, WHICHEVER OCCURS FIRST.
- DO NO OPERATE EQUIPMENT, EVEN FOR TEST PURPOSES, B. UNTIL IT HAS BEEN THOROUGHLY SWEPT AND VACUUMED CLEAN OF DUST, DIRT AND DEBRIS.
- PROPERLY CLEAN EQUIPMENT REGARDLESS OF WHETHER OR NOT THE EQUIPMENT HAS OR HAS NOT BEEN OPERATED, INSTALL CLEAN FILTERS, PROPERLY ADJUST, AND COMPLETE ALL DEFICIENCY LIST ITEMS BEFORE FINAL ACCEPTANCE BY THE OWNER AS DESCRIBED IN THE FOLLOWING PARAGRAPH COMMENCE THE DATE OF ACCEPTANCE AND PERFORMANCE CERTIFICATION ON THE SAME DATE.

CLEANING AND PAINTING

INSTALLATION METHODS

REQUIRED INSPECTIONS

- TEST ALL RECEPTACLES AND LIGHT SWITCHES TO VERIFY THEY ARE CONNECTED PROPERLY.
- CHECK ALL HVAC MOTORS AND LINE VOLTAGE CONTROLS TO VERIFY CORRECT OPERATION. INSPECT ALL PANELBOARDS PRIOR TO INSTALLING COVERS
- TO VERIFY CORRECT WIRING CONNECTIONS AND COLOR-CODING PROCEDURES.

CSI DIVISION 26 - BASIC ELECTRICAL REQUIREMENTS 2.4 SUBSTANTIAL COMPLETION REQUIREMENTS THE FOLLOWING ARE REQUIRED FOR THE PROJECT TO BE SUBSTANTIALLY COMPLETE: INSTALL ALL ELECTRICAL EQUIPMENT AND HAVE THE SYSTEM COMPLETELY OPERATIONAL AS SPECIFIED. THIS INCLUDES THE FOLLOWING: a. MAIN PANELS, DISTRIBUTION PANELS, AND TRANSFORMERS, DISCONNECT SWITCH AND TRANSFER b. SWITCH ENCLOSURES, WIREWAYS, RACEWAYS, AND C. ENCLOSURES, IDENTIFICATION FOR ELECTRICAL d. SYSTEMS, CABLES, WIRES, AND DEVICES, LIGHTS, CONTACTORS, AND PHOTOCELLS AS-BUILT DRAWING DOCUMENTS. COMPLETE TESTING OF ALL SYSTEMS AS 2. SPECIFIED. COMPLETE ALL SPECIFIED TRAINING. Β. A PUNCH-LIST WILL BE COMPILED AT A FORMALLY ANNOUNCED COMPLETION INSPECTION. IF THERE IS AN ITEM THAT HAS BEEN FOUND THAT WOULD PREVENT THE STATE FROM BEING ABLE TO OCCUPY AND USE THE FACILITY FOR

ITS INTENDED USE, THEN SUBSTANTIAL COMPLETION SHALL

MANAGER IN CONSULTATION WITH THE ARCHITECT(S) AND

NOT BE DECLARED. DECLARATION OF SUBSTANTIAL

COMPLETION WILL BE DETERMINED BY THE PROJECT

ENGINEER(S) OF RECORD.



WLJ ENGINEERING INC. Firm No. 9968







BID ALTERNATES - FIRST FLOOR SCALE: 1/8" = 1'-0"



BID ALTERNATES - FLOORS 2 THRU 8 SCALE: 1/8" = 1'-0"



C. FIELD VERIFY ALL EXISTING CONDITIONS AND FINISHES PRIOR TO BIDDING.



3 TYPICAL RESIDENT ROOM WINDOW SCALE: NTS

HNSOI PACE ဝြလိုန် COLLEGE R. RENOVATION STREET TX 75662 Ŭ Å R ELDEI GORE, ШN 2 HALL Ο G ARK HA \vdash Ś ALTERNATES Β ISSUED FOR E BID 0 δ GO.



SCALE: 3/4" = 1'-0"





THE CONTRACTOR SHALL ACCEPT ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE SUBCONTRACTORS' FAILURE TO OBTAIN AND/OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE IF ANY ERROR, OMISSION, INCONSISTENCY, AMBIGUITIES OR CONFLICTS WITH EXISTING

THE ENGINEER WILL NOT HAVE CONTROL OVER, CHARGE OF, OR RESPONSIBILITY FOR, THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK,

ALL WORK TO CONFORM TO 2012 INTERNATIONAL BUILDING CODE AND ALL OTHER

BEFORE SUBMITTING SHOP DRAWINGS, ORDERING ANY MATERIAL OR COMMENCEMENT

THE CONTRACTOR MUST FAMILIARIZE HIMSELF WITH EACH DETAIL CONTAINED IN THE DRAWINGS AND REPORT ANY DETAILS NOT REFERENCED FOR SPECIAL INSTRUCTIONS

CONTACT PROPER AUTHORITIES TO LOCATE EXISTING UNDERGROUND UTILITIES PRIOR

STRUCTURAL STEEL: ALL FABRICATION AND ERECTION SHALL CONFORM TO THE LATEST EDITION OF ANSI/AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" AND AWS D1.1 "STRUCTURAL WELDING CODE". ROLLED WIDE FLANGE SECTIONS TO BE ASTM-A992. ELECTRODES E70XX. SHOP CONNECTIONS BOLTED OR WELDED. FIELD CONNECTIONS BOLTED WITH A325-N BOLTS, INSUTALLED BY <u>SNUG-TIGHT</u> METHOD, UNLESS WELDED CONNECTIONS ARE NOTED ON DRAWINGS. ALL STEEL TO RECEIVE SHOP PRIME COAT OF PAINT AS REQUIRED BY SPECIFICATIONS. STEEL SHALL BE GALVANIZED, ASTM A525.

ANCHOR BOLTS ASTM F1554, GRADE 36. PROVIDE HEX HEADED ANCHOR BOLTS UNLESS SHOWN OTHERWISE IN DETAILS. IN LIEU OF HEADED BOLTS CONTRACTOR MAY USE ROD THREADED ON EACH END, OR ALL THREAD, AND NUTS WITH MECHANICALLY DEFORMED THREADS TO LOCK THE NUT ONTO THE BOLT SHAFT. THREADED ROD TO BE ASTM A36.

STRUCTURAL STEEL ERECTION, WHETHER OR NOT SPECIFIC OSHA DETAILS ARE SHOWN ON THESE DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND REGULATIONS. THE DESIGN PROFESSIONAL DOES NOT ASSUME ANY RESPONSIBILITY

BUILDING SHALL BE ADEQUATELY SIZED AND ANCHORED. THIS BRACING SHALL REMAIN











REMOVE, SALVAGE, CLEAN AND STORE FOR RE-INSTALLATION IN THE SAME LOCATION, THE EXISTING WINDOW ON EACH FLOOR TO TRANSFER MATERIAL INTO THE INTAKE HOPPER OF THE RUBBISH CHUTE. CONTRACTOR MAY, AT HIS DISCRETION, REMOVE/SALVAGE/REPLACE ONLY THE GLAZED OR SPANDREL PANEL OF THE WINDOW IF THIS ALLOWS ADEQUATE ACCESS.





ARCHITECTURAL SITE PLAN SCALE: 1" = 40'-0"

		S PACE		The LONGVIEW, TEXAS 75604	(903)753-0663 FAX (903)753-8803 (903)753-0663 FAX (903)753-8803 (903)753	TBPE F-4691/TBAE BR361	5
	NILGORE CULLEGE	STAPK HALL P DENOVATION	RN7 FI DER STREFT		KII GORE TY 75660		
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PROTECT ALL SURFACES IN ELEVATOR CAB AND STAIRWELLS GRASS AREA - CONTRACTOR SHALL BLOCK SOD ALL DISTURBED AREAS WITHIN THE SUBJECT BOUNDARY

NOT PAVED OR OTHERWISE COVERED. ALL AREAS DISTURBED OUTSIDE THE PROPERTY BOUNDARY SHALL ALSO BE BLOCK SODDED AND COVER SHALL BE ESTABLISHED TO PREVENT EROSION. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY WATERING UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.



TYPICAL FLOOR PLAN - FLOORS 2 THRU 8 SCALE: 1/4" = 1'-0"

J

- A. SAW-CUT AND REMOVE PORTION OF EXISTING DOUBLE-WYTHE, LOAD BEARING CLAY MASONRY WALL AS REQUIRED TO INSTALL NEW SCHEDULED DOOR. REPAIR RESULTING EXPOSED MASONRY SURFACES AS
- SAW-CUT AND REMOVE PORTION OF EXISTING DOUBLE-WYTHE CLAY MASONRY WALL AS REQUIRED TO WIDEN EXISTING OPENING TO RECEIVE NEW SCHEDULED DOOR. REFER TO STRUCTURAL PLANS FOR NEW LINTEL DETAIL AS APPLICABLE. REPAIR RESULTING EXPOSED MASONRY SURFACES AS NECESSARY SO
- . REMOVE EXISTING MASONRY WALL, FINISH TILE AND ALL HOSTED ELEMENTS / ACCESSORIES COMPLETE
- REMOVE EXISTING PLUMBING FIXTURE COMPLETE. REMOVE AND RE-ROUTE EXISTING WATER AND/OR DRAIN LINES AS REQUIRED TO INSTALL NEW PLUMBING FIXTURES IN LOCATIONS SHOWN ON PROPOSED
- . REMOVE EXISTING FLOOR TILE COMPLETE. CLEAN AND PREPARE NEWLY EXPOSED CONCRETE SLAB AS
- REMOVE ANY AND ALL REMAINING WALL TILE FROM EXISTING WALLS AFTER INTERIOR WALL DEMOLITION.
- I. GRIND 2'x2' AREA OF EXISTING 2" CONCRETE TOPPING AT 2% SLOPE MAXIMUM TO NEWLY CORED FLOOR







TYPICAL SECTION @ SHOWER 10 IYPICAL OLU SCALE: 1 1/2" = 1'-0"









CEILING SYMBOL LEGEND

DOOR TYPE 'A' SCALE: NTS

DOOR SCHEDULE

DOOR MATERIAL INSULATED H.M. INSULATED H.M.	Finish Type Paint A Paint A	E FRAME MA HOLLOW HOLLOW	FRAME ATERIAL FINIS METAL PAIN METAL PAIN	SH TYPE IT 2 IT 1	HARDWARE LR LR,SH,TH	MARK 101 201	CON FIRST FLOOR RESTR STANDARD BATHING	IMENTS ROOMS BROOMS	SOON DRATED CITURE • SURVEYING MI SUITE 100.	XAS 75604 (903)753-8803 tsonpace.com BAE BR361
INSULATED H.M. FOR EACH DOOR UI I OWNER AND CITY F	PAINT A PAINT A NLESS INDICATED OTHE REQUIREMENTS. DWNER.	HOLLOW	METAL PAIN HARDWARE K LP L/ LR L/ MFR A S SH S TH TI	IT 1 EY: ATCH SET - PA ATCH SET - PR LL HARDWARE ECTION 084113 PRING HINGE (HRESHOLD - A	LR,SH,TH LR,SH,TH RIVACY FUNCTION (E NOT OTHERWISE 3 FOR ALUMINUM E (1 PER DOOR) DA COMPLIANT AN	202 (ANSI F75) LE ANSI F76) LE LISTED IS PR INTRANCE DO D FOR MOIST	HANDICAPPED BATH	ING ROOMS	INCORPC INCORPC 1201 NW LOOP 28	TTM LONGVIEW, TE (903)753-0663 FAX website: www.johr TBPE F-4691 / T
SCHEDULED 2"	HED. 2". La	SCHEDULED 2" = 1'-10"2"	SCHED. 2". SF PA	andrel pane Int to matcf	EL - H FRAME				A SISTER AND A SIS	A PARTY OF TELL
FRAME T	<u>[YPE '1'</u>	FRAM	<u>Е ТҮРЕ '2'</u> тs						ATION	
RESTROOI MARK M GB1 Au GB2 Au	ROOM FII ROOM NUMBER 001 R.F 002 R.F 101 ST 102 H.G 103 H.G 104 ST 105 JA 106 ST 107 H.G 108 H.G 109 ST FLOOR A A CERAN B EXISTI C RESE D 4" CEF E NO BA F EXISTI WALLS G G FULI H H PAINT J RESEF CEILINGS K K MOIST SUSPE L L NEW G GRID M M PAINT	ROOM NAME ROOM NAME ROOM NAME R. R. D. BATH C. BATH D. BATH C. BATH D. BATH C.	REA SCHED NREA SCHED Name B F B F B F A C BASE C <	ULE FINISH FINISH H H G G G G G G G G G G G G G G G G G	SP CEILIN M EXISTI M EXISTI K 7'-2" X 7'-2"	IT Perime NG 34 NG 22 J 23 J 2 NG 22 J 33 J 22 NG 22 J 33 J 22 NG 22 J 33 J 22 NG 22 J 33 J 22 Stablar, 36" Grab Bar, 36"	ROOM DATA values are accurate in e provided for use as a your own risk. ster Area '-10" 69 SF 6'-3" 43 SF 9'-2" 34 SF 2'-4" 48 SF 9'-2" 34 SF 9'-2" 34 SF 9'-2" 34 SF 9'-2" 34 SF 2'-4" 48 SF 9'-2" 34 SF 2'-4" 48 SF 9'-2" 34 SF 2'-4" 48 SF 9'-2" 34 SF	most cases, courtesy at ROOM Volume NUMBER 617 CF 001 386 CF 002 236 CF 101 330 CF 102 330 CF 103 236 CF 104 296 CF 105 236 CF 106 330 CF 108 236 CF 109	REVISIONS NO. DESCRIPTION DATE DATE NO. DESCRIPTION DV DATE DATE 0 ISSUED FOR PERMIT JCT 06/29/2022 STARK HALL R.R. RENC 1 ISSUED FOR BIDDING JCT 07/22/2022 STARK HALL R.R. RENC 0 ISSUED FOR BIDDING JCT 07/22/2022 STARK HALL R.R. RENC	KILGORE, TX 756
GB3AiMIRAiPTDAiRBHAiSC1AiSC2AiSCRAiSSLAiSSRAiTPDAi	nerican Specialties Inc. nerican Specialties Inc.	3874 8287 0210 7340-3 1200-V36 + 120 1200-V42 + 120 1204-2 + 1 9343 8206-1 8206-1 0039	Snap Fla 24"x36" Paper To S Robe Ho 0-SHU x 6 Shower 0-SHU x 7 Shower 204-1 Shower Profile ™ L Folding 3 R Folding 3 Toilet Ti	inge (1-1/2" O.E Mirror - Framele owel Dispenser ok - Single - Sa Curtain - 8 Ga. V Curtain Rod - 1- - Soap Dispense Shower Seat - L Shower Seat - L Ssue Dispenser	D) Smooth - Horizonta ess - Polished Plate (- Multi, C-Fold - Surfa atin Stainless Steel - S White Vinyl - 36"W x White Vinyl - 42"W x -1/4" Dia. Bar, Stainle ser - Liquid - Surface -Shaped, Left Hand, -Shaped, Right Hand - Low Profile, Jumbo	al Grab Bar, 18 Glass - 1/4" Th ace Mounted Surface Mount 72"H + 6 Shov 72"H + 7 Shov ess Steel + Sho Mounted ADA - Solid P d, ADA - Solid Roll - Surface	3-1/8" x 33-1/8" ick ed ver Curtain Hooks (120 wer Curtain Hooks (120 ower Curtain Rod End henolic, White - 33"W Phenolic, White - 33"W Mounted	0-V36 + 1200-SHU x 6) 10-V42 + 1200-SHU x 7) Flanges - One Pair	ENLARGED PLAN, INTERIOR ELEVATIONS, SCHEDULES & DETAILS	ISSUED FOR BIDDING
									ISSUE DATE: 07/22/2022 SCALE: As indicated REVISION NO:	~
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AC ARCONDITIONING EAT ENTERING AR NO NORMALLY OPEN NUMBER AC ACETYLENE EAT ENTERING AR NIS NOT O SOALE AGA AGERYLENE ERR ENERGY OFFICENCY OA OUTSEE AR AFF ADOVE FINISHED FLOOR EFF EFF.OENCY OA OUTSEE AR AFG ADOVE FINISHED FRACE EMCS ENERGY MONITORING AND P PCLE AFG ADOVE FINISHED FRACE EMCS ENERGY MONITORING AND P PARE AFG ADOVE FINISHED FRACE EMCS ENERGY MONITORING AND P PARE AFG ARONE FINISHED FLOOR EFF EFFLOENCY PA PCLE ARGE ADOVE FINISHED FLOOR F FARRENHEIT PA PARE ARCH ARGON ECUTERE! F FARRENHEIT RPM RETURN AR ARCH ADOVE FINISHED FLOOR F FARRENHEIT RPM RETURN AR ARCH ADOVE FINISHED FLOOR F FEET PER MINUTE SA SUPPLY AR ARCH ADOVERNEED FLOOR FP FEET PER MINUTE SA SUPPLY AR ARCH ADOVERNEED FLOOR GPM GALLON FRINTER SA SUPPLY AR BAS BULDIO FINISHED FLOOR G	MEC	HANICAL ABBREVIATI	ONS			
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AND ARE CONNECTIONING FPM FEET PER MINUTE SA SUPPLY AR BAS BUILDING AUTOMATION ENGINEERS FT FEET, FEOT SEER SEASON SEER SEASON BFF BELOW FINISHED FLOOR GAL GALLONS PER MINUTE SMAGNA SHEET METAL AND AR CONTINUED IN CONTINUED IN CONTINUED IN SASOC. SMAGNA SHEET METAL AND AR CONTINUED IN SASOC. BFG BELOW FINISHED FLOOR GPM GALLONS PER MINUTE SO FT SOUARE FEET BSB BRANCH SELECTOR BOX HVAC HEATING, VENTILATING, AND ARC CONDITIONING SS SATATIC PRESSURE BTUH BELOW GRADE HVAC HEATING, VENTILATING, AND ARC CONDITIONING SS SANTARY SEWER: STAILARS STEEL BTUH BERMACH SELECTOR BOX HVAC HEATING, VENTILATING, AND ARC CONDITIONING SS SANTARY SEWER: STAILARS STEEL BTUH BERMACH SELECTOR BOX HVAC HEATING, VENTILATING, AND ARC CONDITIONING SS SANTARY SEWER: STAILARS STEEL CQ CELSUS HVAC HEATING, VENTILATING, AND ARC CONDITIONING SS SANTARY SEWER: STAILARS STEEL CQ CONDENSATE DRAIN HVAC HEATING, VENTILATING, AND ARC CONDITIONING SS SANTARY SEWER: STAILARS STEEL CQ CONDENSATE DRAIN HVAC HERTIZN VENTILATING, NOTED </td <td>ASHRAE</td> <td>AMERICAN SOCIETY OF</td> <td>FLA</td> <td>FULL LOAD AMPS</td> <td></td> <td>MINUTE</td>	ASHRAE	AMERICAN SOCIETY OF	FLA	FULL LOAD AMPS		MINUTE
BAS BUILDING AUTOMATION SYSTEM FT FEET, FOOT SEER SESR SATURD EFF DELAY RATIO BFF BELOW FINISHED FLOOR GAL GALLONS PER MINUTE CONTRACTORS NATIONAL ASSOC. BFG BELOW FINISHED FLOOR GPM GALLONS PER MINUTE SO FT SOUARE FEET BG BELOW GRADE HP HORSEPOWER SO FT SOUARE FEET BSB BRANCH SELECTOR BOX HVAC HEATING, VENTIATING, AND AR CONDITIONING CONTRACTORS NATIONAL ASSOC. SO FT SOUARE FEET BSB BRANCH SELECTOR BOX HVAC HEATING, VENTIATING, AND AR CONDITIONING CONTRACTORS NATIONAL ASSOC. SO FT SOUARE FEET BSB BRANCH SELECTOR BOX HVAC HEATING, VENTIATING, AND AR CONDITIONING CONTRACTORS NATIONAL ASSOC. SO FT SOUARE FEET BTUH BRANCH SELECTOR BOX HVAC MEATING SO FT STATUCATRONATION STATUATES STELE BTUH BRANCH SELECTOR BOX HVAC PAGETIC HOT WATER TSTAT T-STAT THERMONATION STATUATES STELE CQ CONDENSATE DRAIN HVAC HERTIZ UON NOINTED STATUATRONATION NOTED </td <td></td> <td>AND AIR CONDITIONING ENGINEERS</td> <td>FPM</td> <td>FEET PER MINUTE</td> <td>SA</td> <td>SUPPLY AIR</td>		AND AIR CONDITIONING ENGINEERS	FPM	FEET PER MINUTE	SA	SUPPLY AIR
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COCARBON MONOXIDEMBHTHOUSAND BTUHVFDVARIABLE FREQUENCY DRIVECO2CARBON DIOXIDEMBHTHOUSAND BTUHVTRVENT THRU ROOFCO2CARBON DIOXIDEMCAMINIMUM CIRCUIT AMPACITYWWATT / WASTECOPCOEFFICIENT OF PERFORMANCEMCBMAIN CIRCUIT BREAKERWBWET BULBCUCONDENSING UNITMCBMAIN CIRCUIT BREAKERWBWET BULBCWCONDENSER WATERMLOMAIN LUG ONLYWGWATER GAUGEDBDRY BULBMCPMAXIMUM OVERCURRENT PROTECTIONWGWATER GAUGEDCWDOMESTIC COLD WATERNCNORMALLY CLOSED; NOISE CRITERIAVEN SULLVEN SULLDCWDOMESTIC WATERNFANORMALLY CLOSED; NOISE PROTECTION ASSOC.VEN SULLVEN SULLDXDIRECT DIGITAL CONTROL PROTECT WATERNFPA PROTECTION ASSOC.VEN SULLVEN SULLDXDIRECT EXPANSIONNGNATURAL GASVEN SULLVEN SULLEAEXHAUST AIRNGNATURAL GASVEN SULLVEN SULL	CHWS	CHILLED WATER SUPPLY	I WT		VD	VOLUME DAMPER
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EA EXHAUST AIR NG NATURAL GAS	DX	DIRECT EXPANSION		PROTECTION ASSOC.		
	EA	EXHAUST AIR	NG	NATURAL GAS		

1.	THE HVAC SYSTEM SHOWN ON THE DRAWINGS IS ONLY DIAGRAMMATIC. ALL ITEMS REQUIRED TO MAKE THE SYSTEM COMPLETE AND IN SAFE WORKING ORDER SHALL BE PROVIDED. ALL WORK SHALL BE COORDINATED WITH (TRADES. EQUIPMENT SHOWN ON THE FLOOR PLANS AND ELEVATIONS ILLUSTRATE THE ARRANGEMENT AND SPACE ALLOCATIONS. THE CONTRACTOR SHALL VERIFY THE SPACE REQUIREMENTS FOR EACH SYSTEM COMPONEI MANUFACTURER CERTIFIED SHOP DRAWINGS AND MAKE THE NECESSARY ADJUSTMENTS IN EQUIPMENT PLACEMENT AND CONNECTION IN ORDER TO ACCOMMODATE THE EXACT EQUIPMENT TO BE INSTALLED.
2.	CONTRACTOR IS RESPONSIBLE FOR FILING/PAYING FOR PERMITS AND CERTIFICATES OF INSPECTION THAT PERTAIN TO WORK DONE BY CONTRACTOR. CONTRACTOR SHALL DELIVER COPIES OF ALL PERMITS AND CERTIFICATE
3.	CONTRACTOR SHALL PROVIDE JOB SPECIFIC SUBMITTALS ON ALL SCHEDULED EQUIPMENT AND MISCELLANEOUS DEVICES INSTALLED UNDER THIS SCOPE OF WORK. SUBMITTALS SHALL INCLUDE BUT NOT BE LIMITED TO PROD
4	DIMENSIONED DRAWINGS, PERFORMANCE DATA, ELECTRICAL DATA, CERTIFICATIONS.
ч.	WORK.
5.	ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE IN SCHEDULES OR SPECIFICATIONS. THE WARRANTY PERIOD SHALL BEGIN AT THE BENEFICIAL OCCUPANCY OF THE FACILITY.
6.	AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE SET OF AS-BUILDS, OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND SHALL INSTRUCT OWNER'S MAINTE PERSONNEL ON ALL OPERATING PROCEDURES.
7.	ALL ROOF AND WALL PENETRATIONS MADE UNDER THIS SCOPE OF WORK SHALL BE MADE AND FLASHED BY THIS CONTRACTOR UNLESS NOTED OTHERWISE.
	UNLESS NOTED OTHERWISE, ALL HANGERS, RODS, ANGLES, STRUT CHANNELS, ATTACHMENTS, ANCHORS, STRAPS, BOLTS, NUTS, WASHERS AND SCREWS SHALL BE GALVANIZED OR BE OF SIMILAR MATERIAL AS COMPONENT E SUPPORTED ALL ALL THREAD RODS SHALL HAVE EXCESS LENGTH CUT OFE TO A MAXIMUM LENGTH OF 1" ABOVE/BELOW ATTACHMENT
	ALL EQUIPMENT SHALL BE INSTALLED AS PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
).	AIR HANDLING EQUIPMENT SHALL NOT BE OPERATED WITHOUT SPECIFIED AIR FILTRATION IN PLACE. ALL FILTERS SHALL BE REPLACED PRIOR TO AIR BALANCE.
1.	INSTALL COMMERCIAL GRADE, FIRE RESISTANT, FLEXIBLE DUCT CONNECTORS AT ALL PIECES OF MOTORIZED AIR HANDLING EQUIPMENT.
2.	ALL DUCTWORK AND PIPING SHALL BE INSTALLED PARALLEL/PERPENDICULAR TO BUILDING COLUMN LINES UNLESS NOTED OTHERWISE.
3.	ALL DUCTWORK SHALL BE G-90 GALVANIZED SHEET METAL AND SHALL COMPLY WITH THE LATEST EDITION OF SMACNA LOW PRESSURE +/- 2" W.G. DUCT CONSTRUCTION STANDARDS UNLESS NOTED OTHERWISE.
4.	ALL BRANCH DUCT TAKE-OFFS SHALL BE INSTALLED AS SHOWN ON MECHANICAL DETAIL SHEETS.
5.	ALL DUCT DIMENSIONS SHOWN ON PLANS ARE INTERNAL UNLESS NOTED OTHERWISE.
17.	ALL ROUND DUCT FLBOWS SHALL BE RADIUS FLBOWS.
18.	AFTER THE DUCTWORK IS INSTALLED AND SEALED, AND BEFORE IT IS INSULATED, A TRAVERSE SHALL BE PERFORMED AS NEAR THE FAN AS POSSIBLE. THAT VALUE SHALL BE COMPARED TO THE TOTAL AIRFLOW AS MEASURED
	GRILLES. THIS TEST SHALL BE PERFORMED BEFORE THE INSULATION IS APPLIED AND IS NOT PART OF THE FINAL TEST AND BALANCE. THIS TEST DOES NOT NEED TO BE PERFORMED BY THE TEST AND BALANCE CONTRACTOR.
19. 20	PROVIDE AND INSTALL SMOKE DETECTORS IN THE RETURN AIR PLENUM OF EACH UNIT AHEAD OF THE FRESH AIR INTAKE AS APPLICABLE BY CODE.
•	VAPOR BARRIER OF 3" WIDE U.L. LISTED FOIL TAPE SHALL BE APPLIED TO ALL SEAMS AND JOINTS SHALL BE STAP
	ALL OUTDOOR SUPPLY, RETURN DUCTS, AND ANY OUTDOOR DUCTS SERVING AN ENERGY RECOVERY UNIT SHALL BE INSULATED WITH MINIMUM R-8 FOIL FACED, RIGID BOARD INSULATION AND WRAPPED WITH AN ALUMINUM JA VAPOR BARRIER SHALL BE APPLIED TO ALL INSULATION SEAMS AND JOINTS WITH 3" WIDE U.L. LISTED FOIL TAPE. ALL SEAMS AND JOINTS OF ALUMINUM JACKET SHALL BE SEALED WITH SILICONE CAULKING AS PER MANUFACTU INSTALLATION INSTRUCTIONS.
22.	PROVIDE AND INSTALL FIRE/SMOKE DAMPERS AS REQUIRED BY THE INTERNATIONAL MECHANICAL CODE. INSTALL LOW LEAK ACCESS DOORS WITH VISION PANEL AT EACH DAMPER IN ACCESSIBLE LOCATION TO ALLOW FOR MAINTENANCE, INSPECTION AND TESTING. PROVIDE 3"X3" RED VINYL LABEL FOR EACH ACCESS DOOR WITH MINIMUM 1" WHITE LETTERS "FIRE/SMOKE DAMPER ACCESS".
3.	DUCT RUN OUTS TO DIFFUSERS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.
4.	R-6 INSULATED FLEX DUCT SHALL BE INSTALLED AT EACH CEILING DIFFUSER/GRILLE. FLEX DUCT SHALL NOT EXCEED 5' IN LENGTH (U.N.O.) AND SHALL NOT MAKE ANY BENDS GREATER THAN 30°. FLEX DUCT SHALL NOT PENET THROUGH ANY ROOF ELOOR OR WALLS AND SHALL BE INSTALLED FREE OF KINKS AND SAGS
	INSULATE BACK PANS OF ALL CEILING MOUNT GRILLES/DIFFUSERS WITH R-6 FOIL FACED DUCT WRAP. A VAPOR BARRIER SHALL BE APPLIED TO ALL SEAMS AND JOINTS USING 3" WIDE U.L. LISTED FOIL TAPE.
	PAINT THE INSIDE OF ALL GALVANIZED RETURN/EXHAUST AIR GRILLE BOOTS FLAT BLACK SO THAT NO METAL IS VISIBLE FROM INSIDE ROOM.
	HVAC CONTRACTOR SHALL HIRE AN INDEPENDENT CERTIFIED BALANCE CONTRACTOR TO PROVIDE A COMPLETE AIR AND HYDRONIC BALANCE OF ALL SYSTEMS AT THE END OF THE PROJECT. BALANCE REPORT SHALL INCLUE BE LIMITED TO EQUIPMENT NAME PLATE DATA, MODEL NUMBER, SERIAL NUMBER, MOTOR DATA, FAN RPM, BELTS/PULLEY SIZES, TOTAL AIRFLOW, FILTER A.P.D., COIL A.P.D. TOTAL SYSTEM STATIC PRESSURE, AIRFLOW AT EACH TOTAL OUTSIDE AIRFLOW, TOTAL WATER FLOW, TOTAL W.P.D.
28.	SEAL ALL DUCT AND PIPE PENETRATIONS THROUGH FIRE/SMOKE BARRIERS AS PER I.M.C.
9.	SEAL ALL DUCTS WITH U.L. 181 WATER BASED FIBER REINFORCED DUCT SEALER TO MEET SEAL CLASS 'A' PER THE LATEST EDITION OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE".
0.	ALL FRESH AIR INTAKES MUST BE AT LEAST 10' FROM SEWER VENTS, EXHAUST OUTLETS, AND ADJACENT BUILDINGS OR PROPERTY LINES UNLESS NOTED OTHERWISE.
1.	PROVIDE AND INSTALL VOLUME DAMPERS FOR ALL SUPPLY, RETURN AND EXHAUST DUCT RUN OUTS TO DIFFUSERS/GRILLES. THE DAMPERS SHALL BE LOCATED AS NEAR AS POSSIBLE TO THE BRANCH TAKE OFF. ALL DAMPER CONSTRUCTED WITH 3/8" CONTINUOUS ROD, 1 1/2"STAND-OFF AND LOCKING QUAD.
2.	PROVIDE AND INSTALL A MANUAL VOLUME DAMPER AND MOTORIZED DAMPER IN EACH OUTSIDE AIR BRANCH DUCT SERVING A FAN COIL UNIT/FURNACE.
3.	CONTRACTOR SHALL INCLUDE CONDENSATE DRAIN PIPING TO EACH HVAC UNIT. ALL CONDENSATE DRAIN PIPING SHALL BE INSULATED WITH MINIMUM 3/4" THICK ARMAFLEX PIPE INSULATION WITH GLUED SEAMS AND JOINTS.
4.	PROVIDE AND INSTALL DIELECTRIC UNIONS AND/OR FLANGES AT ALL PIPING MATERIAL TRANSITIONS TO DISSIMILAR MATERIAL.
35.	ALL PIPING SHALL BE SUPPORTED AS PER ASME B31 CODE. VERTICAL PIPING SHALL BE SUPPORTED AT EACH FLOOR LEVEL WITH PIPE RISER CLAMPS.
6.	PROVIDE AND INSTALL PIPING IDENTIFICATION WITH PREFORMED PLASTIC PIPE WRAPS EQUAL TO CRAFTMARK "SPECMARK" CONFORMING TO ASME (ANSI) 2007 SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS. LABELS CONTAIN SYSTEM AND FLOW DIRECTION. LABELS SHALL BE PLACED IN EACH ROOM, AT MAXIMUM 50' INTERVALS, NEAR EACH VALVE AND AT EACH BRANCH.
7.	PROVIDE AND INSTALL 4"X24" VINYL DUCT LABELS WITH 2 1/4" LETTERS FOR ALL DUCT SYSTEMS. LABELS SHALL BE BLUE WITH WHITE LETTERS FOR SUPPLY AIR, GREEN WITH WHITE LETTERS FOR ALL RETURN AIR, MAKE UP AIF AIR, RELIEF AIR AND OUTSIDE AIR. LABELS SHALL BE INSTALLED IN EACH ROOM, AT MAXIMUM SPACING OF 50' AND ON EACH SIDE OF WALL PENETRATIONS. DO NOT LABEL EXPOSED DUCT UNLESS DIRECTED BY ARCHITECT.
38.	PROVIDE AND INSTALL ENGRAVED PLASTIC NAME PLATES FOR EACH PIECE OF MECHANICAL EQUIPMENT. NAME PLATE SHALL INCLUDE AS APPLICABLE: UNIT I.D., MOTOR VOLTAGE, PHASE, H.P., DESIGN AIRFLOW, DESIGN STAT AND QUANTITY OF FILTERS, NOMINAL TONNAGE, NOMINAL BTU (KW) INPUT, RATED GAS PRESSURE, DESIGN WATER FLOW, DESIGN HEAD. LETTERS SHALL BE A MINIMUM HEIGHT OF 3/8".
).	ALL REFRIGERANT PIPING SHALL BE TYPE 'L' HARD DRAWN 'ACR' COPPER PIPING AND SHALL BE INSTALLED USING CONTINUOUS NITROGEN PURGE. PIPING SHALL BE INSTALLED ON STRUT CHANNEL TRAPEZE PIPE HANGERS AND SHALL BE INSTALLED USING CONTINUOUS NITROGEN PURGE. PIPING SHALL BE INSTALLED ON STRUT CHANNEL TRAPEZE PIPE HANGERS AND SHALL BE INSTALLED USING CONTINUOUS NITROGEN PURGE. PIPING SHALL BE INSTALLED ON STRUT CHANNEL TRAPEZE PIPE HANGERS AND SHALL BE INSTALLED USING CONTINUOUS NITROGEN PURGE. PIPING SHALL BE INSTALLED ON STRUT CHANNEL TRAPEZE PIPE HANGERS AND SHALL BE INSTALLED USING CONTINUOUS NITROGEN PURGE. PIPING SHALL BE INSTALLED ON STRUT CHANNEL TRAPEZE PIPE HANGERS AND SHALL BE INSTALLED USING CONTINUOUS NITROGEN PURGE.
).	ALL REFRIGERANT PIPING INSTALLED INSIDE WALL CAVITY SHALL BE TYPE 'L' ANNEALED 'ACR' AND BE INSTALLED IN A CONTINUOUS SCHEDULE 40 PVC PIPE SLEEVE. TERMINATE SLEEVE 4" BEYOND PIPING EXIT OF WALL CAVIT IOINTS SHALL BE ALLOWED INSIDE SLEEVE
1	INSULATE ALL REFRIGERANT PIPING WITH 1" THICK ARMAFI FX PIPF INSULATION WITH GLUED SEAMS AND JOINTS
 2.	ALL OUTDOOR REFRIGERANT PIPING INSULATION SHALL BE WRAPPED WITH AN ALUMINUM JACKET. ALL SEAMS AND JOINTS OF ALUMINUM JACKET SHALL BE SEALED WITH SILICONE CAULKING AS PER MANUFACTURERS INSTAL
	INSTRUCTIONS.
	ALL THERMOSTATS OR OPERABLE CONTROLS SHALL BE INSTALLED AT 48" A.F.F. UNLESS NOTED OTHERWISE.

	MECHANICAL LI	EGEND AND SYMBOLS				/EYING
TH OTHER NENT USING		PLY AIR DIFFUSER - ROWS INDICATE PATTERN.	12"Ø	ROUND DUCTWORK SIZE (INCHES)		rure • Survi Suite 100, AS 75604 303)753-8803 303)753-8803 303)753-8803 303)753-8803 303)753-8803 303)753-8803 303)753-8803 303
ATES OF	RET	URN/TRANSFER AIR GRILLE	12/12	SIZE (INCHES). FIRST NUMBER IS SIDE SHOWN	A A A A A A A A A A A A A A A A A A A	ARCHITEC ARCHITEC W LOOP 281 GVIEW, TEX GVIEW, TEX :: www.johnsv :: F 4691 / TB
ODUCT DATA,	EXH	AUST GRILLE		FLEXIBLE DUCT (5'-0" MAXIMUM LENGTH)	 DQZ	NGINEE RING 1201 N LON (903)75; websit
VER THE	SUF	PLY AIR PLENUM SLOT DIFFUSER		DUCTWORK SIZE TRANSITIONS		
HE DATE OF		RMOSTAT ("X" INDICATES I CONTROLLED)				INIL
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	MO'			DIFFUSER/GRILLE/REGISTER LABEL:	and the second	07122120
NT BEING		IPER	A 200	"200" - AIRFLOW (CFM)		NOSN
	FD.	FIRE DAMPER		MECHANICAL EQUIPMENT	STATE OF 7	WALT JOH
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	SHEET INDEX					
	M0.0 MECHA	NICAL LEGEND & GENERAL NOTES			AT	L a.
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	M1.2 2nd THF	RU 8th FLOOR MECHANICAL PLAN				TRE 75
APLED. A	M1.3 ROOF M					S S.
I JACKET. A CTURERS	WB.U WECHA	NICAL SCHEDULES & DETAILS			,	DEF RE,
R	IMPORTANT INF	ORMATION				ELI
	SHOULD THE DRAWIN OTHER, THE REQUIR	IGS OR SPECIFICATIONS CONF	FLICT WITHIN THE UANTITY AND/OF	EMSELVES, OR WITH EACH R THE HIGHEST QUALITY SHALL		(IL(
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LUDE BUT NOT	ALL WRITTEN NOTES READ AND UNDERST RESPONSIBILITY OF A	ON THIS SHEET AND ALL OTHE DOD BY THE GENERAL CONTRALL CONTRACTORS TO COORD	ER SHEETS CONT ACTOR AND ALL S NATE WITH EAC	TAINED IN THESE PLANS SHALL BE SUB-CONTRACTORS. IT IS THE CH OTHER TO DELIVER COMPLETE,	STA)
ACH GRILLE,	FUNCTIONING STATE	WIS AS SHOWN IN THESE FLAN	0.			
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WLJ ENGINEERING INC. Firm No. 9968

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MECHANICAL NOTES

REFER TO M0.0 FOR GENERAL NOTES AND LEGEND.

- 2 ROUTING OF DUCTWORK SHOWN IS DIAGRAMMATIC AND IS NOT SHOWN IN EXACT LOCATIONS. CONTRACTOR SHALL INSTALL DUCTWORK WITH THE LEAST AMOUNT OF SPACE USED AS POSSIBLE.
- ALL DUCTWORK SHALL BE MOUNTED AS HIGH AS POSSIBLE UNLESS OTHERWISE NOTED. CONTRACTOR SHALL COORDINATE DUCTWORK LAYOUT WITH ALL OTHER DISCIPLINES TO AVOID INTERFERENCES.
- DUCTWORK SHALL BE INSTALLED PARALLEL TO BUILDING LINE UNLESS NOTED OTHERWISE.
- 5 PROVIDE MANUAL DAMPER AT ALL BRANCH TAKE-OFFS.

TAG NOTES

- EXISTING EXHAUST AIR DUCT TO BE REMOVED.
- EXISTING EXHAUST AIR DUCT TO REMAIN.
- NEW MAKE-UP AIR DUCT DOWN FROM ROOF. REFER TO ELEVATION (1/M3.0) FOR SIZING AND ROUTING. FURNISH & INSTALL GRILLE PER SCHEDULE.
- EXISTING EXHAUST AIR DUCT DOWN FROM ROOF. REFER TO ELEVATION (1/M3.0) FOR SIZE AND ROUTING INFORMATION. FURNISH & INSTALL GRILLE PER SCHEDULE.
- NEW DUCTWORK TO BE ROUTED THRU OR AROUND EXISTING CMU WALLS AS NEEDED. FIELD VERIFY EXISTING CONDITIONS.



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- NEW DUCTWORK TO BE ROUTED THRU EXISTING CMU WALLS AS NEEDED. INSTALL WITH FIRE DAMPER WITH A 1-1/2 HOUR RATING. FIELD VERIFY EXISTING CONDITIONS. FURNISH & INSTALL GRILLE PER SCHEDULE.
- CEILING SPACE IS TIGHT. COORDINATE WITH OTHER TRADES TO ENSURE INSTALLATION.
- G AIR DEVICE IN WALL TO BE REMOVED AND HOLE TO BE PATCHED.





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903-762-6599 walt@wljengineering.com 7674 Cherokee Trace Gilmer, Texas 75644

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MECHANICAL NOTES

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- 4 DUCTWORK SHALL BE INSTALLED PARALLEL TO BUILDING LINE UNLESS NOTED OTHERWISE.
- 5 PROVIDE MANUAL DAMPER AT ALL BRANCH TAKE-OFFS.

TAG NOTES

- DEDICATED OUTSIDE AIR UNIT (DOAU-1). MOUNTED ON ROOF. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. REFER TO 2/M1.3 FOR ADDITIONAL INFORMATION.
- EXHAUST AND MAKE-UP AIR DUCTS THRU EXTERIOR WALL.
- EXHAUST AND MAKE-UP AIR DUCTS OVERHEAD. FIELD VERIFY LOCATIONS OF EXISTING PIPING AND STRUCTURE.
- NEW MAKE-UP AIR DUCT THRU FLOOR. REFER TO ELEVATION (1/M3.0) FOR SIZE AND ROUTING.
- NEW EXHAUST AIR DUCT TO CONNECT TO EXISTING AIR DUCT. REFER TO ELEVATION (1/M3.0) FOR ADDITIONAL INFORMATION.
- EXISTING EXHAUST FAN ON ROOF TO BE REMOVED AND HOLE THRU ROOF TO BE CAPPED WEATHER TIGHT.
- G EXISTING EXHAUST AIR DUCT TO BE REMOVED. EXHAUST FAN ON ROOF TO BE





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												DEDICA		R AIR UNIT	SCHEDULE]
		AIRF	LOW (CFM)					CC	OLING				E	LECTRIC HEATIN	IG		ELEC	TRICAL									-
													OUTPUT														
MARK	LOCATION	SUPPLY	EXHAUST AIR	ESP (IN WC)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	TOTAL CAP (MBH)	SENS CAP (MBH)	J EER IEER CAPACITY (MBH) CFM INPUT (KW) VOLTS PH							MCA	MOCP	WEIGHT (LBS)	MANUFACTURER		MODEL	MODEL			
DOAU-1	ROOFTOP	2970	3300	0.75 in-wg	78 °F	70 °F	55 °F	54 °F	150	78	11.5	13.7	128	2970	37.6	208	3	154	175	2381	AAON	RN-013-8-0-FA	09-15A:VEKE-U0A-DCD-00	A-0DEC0NF-00-D0C00)0VB		
DOAUSC						DOALL WITH FRV SEQUE		N·																			
1. DIGI	TAL SCROLL COMPRE	FSSOR			<u>-</u>			<u></u>			TECO METAL PR	ODUCTS															
2. ELE(TRIC HEAT WITH SC	R CONTROL				1. DOAU SUPPLY AND) EXHAUST FAN SHA	LL RUN CONTINUO	USLY DURING NORMAL		• RN-B. EXT	3000 CFM															
3. DIRT	Y FILTER ALARM					BUILDING OPERATI	ION OR AS REQUIRE	ED BY OWNER.			• 14 GAUGE	ALVANIZED S	STEEL														
4. DOU	BLE WALL CONSTRU	CTION				2. DOAU SUPPLY FAN	I SHALL BE CONSTA	NT VOLUME AND S	HALL DELIVER A SET AIF	RFLOW	• 1.5" INSULA	FION ON WAL	LS														
5. SING	LE POINT POWER CO	ONNECTION				TO EACH AREA OF	THE BUILDING REQ	UIRING OUTSIDE A	R AS SHOWN ON PLANS	5.	 1" INSULAT 	ON ON FLOOP	R														
6. FAC	FORY MOUNTED AND	WIRED VFD'S				DOAU EXHAUST FA	AN SHALL BE CONST	ANT VOLUME AND	SHALL EXHAUST A SET		 TURNING V 	NES IN SUPP	PLY SECTION														
7. LOW	AMBIENT CONTROL					AIRFLOW FROM EA	ACH AREA REQUIRIN	IG EXHAUST AS SH	OWN ON PLANS.		 TERMINATI 	ON STRIP WIT	"H 1" X 4" WOOD NAILE	2													
8. MOL	8. MODULATING HOT GAS REHEAT 4. DURING OPERATION, UNIT SHALL CONTINUALLY MONITOR OUTSIDE AIR AND EXHAUST																										
9. VAR	ABLE SPEED ENERG									EL AND																	
		STOTENI (BAO) INTE VISTINO EACILITY																									
	LITY BAS PERSONNE		DAS. COURDINATE PU			6 HOT GAS REHEAT (COU SHALL MODUL	ΔΤΕ ΤΟ ΡΕΗΕΔΤ ΟΙ	SCHARGE AIR TO DELIVI																		
12 SMO	KE DETECTOR	- L .			,	NEUTRAL AIR AS S	CHEDULED (65°F-72	°F)																			
13. CON	DENSATE DRAIN PAN	OVERFLOW SWIT	СН		-	7. WHEN OUTDOOR A	AR TEMPERATURES	ARE BELOW DISCH	ARGE AIR TEMPERATUR	RE																	
14. NON	FUSED DISCONNECT	T FOR FIELD INSTA	LLATION			SETPOINT AND DO	NOT REQUIRE DEH	UMIDIFICATION, TH	E COMPRESSOR SHALL	CYCLE																	
15. VOL	AGE/PHASE MONITC	DR				OFF AND THE ELEC	CTRIC REHEAT COIL	SHALL MODULATE	TO MAINTAIN DESIRED														_				
16. COIL	/HAIL GUARDS					DISCHARGE AIR TE	EMPERATURE SETPO	DINT AS SCHEDULE	D (65°F-72°F).													AIR DEVICE SCHEDUL	E				
17. INTE	RNAL FAN/MOTOR VI	IBRATION ISOLATO	RS																							I	
18. MICF	ROPROCESSOR CONT	TROLLER WITH DIG	SITAL DISPLAY																						IZE	_	
19. DUC	I MOUNTED SUPPLY	AIR DEW POINT/T	MP SENSOR FOR FIE														MARK	SERVICE	MOUNTING			DESCRIPTION		WIDTH	LENGTH	MANUFACTURE	<u>-R MODEL</u>
20. FAC	URY INSTALLED OU	ISIDE AIR, EXHAU	STAIR TEMPERATURE	AND HUMIDH Y													A	SUPPLY	SURFACE		L	OUVERED FACE GRILLE		5"	6"	PRICE	610
01 06" T																	В	EXHAUST	SURFACE		L	OUVERED FACE GRILLE		5"	6"	PRICE	635
∠1. 30 I 22 DID⊏	CONDENSATE DRAIN		IOWN ON PLANS																								
22. FAC	ORY START-UP																NOTES	S									
24. ACC	EPTABLE ALTERNATE	E MANUFACTURES	DAIKIN, TRANE														<u></u>	<u>-</u>									





2 BRANCH RUNOUT AIR DEVICE CONNECTION - SQUARE DUCT SCALE: NTS

UNITS SHALL BE FURNISHED WITH APPROPRIATE FRAMES, ETC. FOR SIDEWALL OR CEILING MOUNTING. 1

FINISH / PAINT COLOR SHALL BE AS DETERMINED BY OWNER'S REPRESENTATIVE. 2 SOUND VALUES SHALL NOT EXCEED 30 NC (ROOM), UNLESS OTHERWISE NOTED. 3

4 PROVIDE ALL NECESSARY ACCESSORIES FOR COMPLETE INSTALLATION.







			STARK HALL R R RENOVATION	GOT FI DER STREFT	KII GORF TY 75663	
REVISIONS	NO. DESCRIPTION BY DATE	0 ISSUED FOR PERMIT GWF 06/29/22	1 ISSUED FOR BIDDING GWF 07/22/2022			
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PLUM	IBING ABBREVIATIONS	5			
A/C	AIR CONDITIONING			NO	NORMALLY OPEN; NUMBER
AC	ACETYLENE	EAT	ENTERING AIR TEMPERATURE	NTS	NOT TO SCALE
ADA	AMERICANS WITH DISABILITIES ACT	EER	ENERGY EFFIECENCY RATIO	OA	OUTSIDE AIR
AFF	ABOVE FINISHED FLOOR	EFF	EFFICIENCY	OD	OUTSIDE DIAMETER
AFG	ABOVE FINISHED GRADE	EMCS	ENERGY MONITORING AND	Ρ	POLE
AFUE	ANNUAL FUEL UTILIZATION	EWC		PH	PHASE
		EWC		PSI	POUNDS PER SQUARE
			TEMPERATURE	RA	RETURN AIR
ARUN	ARCHITECTURAL	F	FAHRENHEIT	RPM	REVOLUTIONS PER
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION,	FLA	FULL LOAD AMPS	S۵	
	AND AIR CONDITIONING ENGINEERS	FPM	FEET PER MINUTE	SEER	
BAS	BUILDING AUTOMATION	FT	FEET, FOOT	OLLIN	EFFIDIENCY RATIO
555	SYSTEM	GAL	GALLON	SMACNA	SHEET METAL AND AIR CONDITIONING
BFF	BELOW FINISHED FLOOR	GPM	GALLONS PER MINUTE		CONTRACTORS NATIONAL ASSOC.
BFG	BELOW FINISHED GRADE	HP	HORSEPOWER	SP	STATIC PRESSURE
BG	BELOW GRADE	HTG	HEATING	SQ FT	SQUARE FEET
BSB	BRANCH SELECTOR BOX	HVAC	HEATING, VENTILATING, AND AIR CONDITIONING	SS	SANITARY SEWER;
BIOH	PER HOUR	HW	DOMESTIC HOT WATER	TOTAT	STAINLESS STEEL
С	CELSIUS	HWR	DOMESTIC HOT WATER	1-51A1	
CA	COMPRESSED AIR		RETURN	TAS	STANDARD
CD	CONDENSATE DRAIN	HZ	HERTZ	UON	UNLESS OTHERWISE
CFM	CUBIC FEET PER MINUTE	IN	INCHES	V	VOLT / VENT
CHW	CHILLED WATER	KW	KILOWATT	VAV	
CHWR	CHILLED WATER RETURN	LAT	LEAVING AIR TEMPERATURE	VD	VOLUME DAMPER
CHWS	CHILLED WATER SUPPLY	LWT	LEAVING WATER	VFD	
CO	CARBON MONOXIDE	МРЦ			DRIVE
CO2	CARBON DIOXIDE	MCA		VTR	VENT THRU ROOF
COP	COEFFICIENT OF PERFORMANCE	MOA	AMPACITY	W	WATT / WASTE
CU	CONDENSING UNIT	MCB	MAIN CIRCUIT BREAKER	WB	WET BULB
CW	CONDENSER WATER	MIN	MINIMUM	WC	WATER COLUMN
DB	DRY BULB	MLO	MAIN LUG ONLY	WG	WATER GAUGE
dB	DECIBELS	MOCP	MAXIMUM OVERCURRENT PROTECTION		
DCW	DOMESTIC COLD WATER	NC	NORMALLY CLOSED; NOISE		
DDC	DIRECT DIGITAL CONTROL	NF	NON-FUSED		
DW	DOMESTIC WATER	NFPA	NATIONAL FIRE		
DX	DIRECT EXPANSION		PROTECTION ASSOC.		
EA	EXHAUST AIR	NG	NATURAL GAS		

LUMBING NOTES: THE PLUMBING SYSTEM SHOWN ON THE DRAWINGS IS ONLY DIAGRAMMATIC. ALL ITEMS REQUIRED TO MAKE THE SYSTEM COMPLETE AND IN SAFE WORKING ORDER SHALL BE PROVIDED. ALL WORK SHALL BE COORDINATED WITH TRADES AND UTILITIES. EQUIPMENT SHOWN ON THE FLOOR PLANS AND ELEVATIONS ILLUSTRATE THE ARRANGEMENT AND SPACE ALLOCATIONS. THE CONTRACTOR SHALL VERIFY THE SPACE REQUIREMENTS FOR EACH SYSTEM C USING MANUFACTURER CERTIFIED SHOP DRAWINGS AND MAKE THE NECESSARY ADJUSTMENTS IN EQUIPMENT PLACEMENT AND CONNECTION IN ORDER TO ACCOMMODATE THE EXACT EQUIPMENT TO BE INSTALLED. CONTRACTOR IS RESPONSIBLE FOR FILING/PAYING FOR PERMITS AND CERTIFICATES OF INSPECTION THAT PERTAIN TO WORK DONE BY CONTRACTOR. CONTRACTOR SHALL DELIVER COPIES OF ALL PERMITS AND CERTIFICATES OF INSPECTION TO OWNER/CONSTRUCTION MANAGER. CONTRACTOR SHALL PROVIDE JOB SPECIFIC SUBMITTALS ON ALL SCHEDULED EQUIPMENT, MISCELLANEOUS VALVES, ACCESSORIES AND DEVICES INSTALLED UNDER THIS SCOPE OF WORK. SUBMITTALS SHALL INCLUDE BUT NOT E TO PRODUCT DATA, DIMENSIONED DRAWINGS, PERFORMANCE DATA, ELECTRICAL DATA, CERTIFICATIONS. THE PLUMBING SYSTEM SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE INTERNATIONAL PLUMBING CODE, INTERNATIONAL FUEL GAS CODE, INTERNATIONAL ENERGY CONSERVATION CODE AND ANY OTHER AUTHORIT JURISDICTION OVER THE WORK. ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE IN SCHEDULES OR SPECIFICATIONS. THE WARRANTY PERIOD SHALL BEGIN AT THE DATI BENEFICIAL OCCUPANCY OF THE FACILITY. AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE SET OF AS-BUILTS, OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND SHALL INSTRUCT OWNER'S MAINTENANCE PERSONNEL ON ALL OPERATING PROCEDURES. ALL UTILITIES SHALL BE FIELD VERIFIED FOR LOCATION BY THE PLUMBING CONTRACTOR PRIOR TO INSTALLATION OF ANY PLUMBING SYSTEMS. CLEAN-OUTS SHALL BE INSTALLED AS REQUIRED BY INTERNATIONAL PLUMBING CODE. CLEAN-OUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. COORDINATE ALL CLEAN-OUT LOCATIONS WITH OWNER PRIOR TO INSTALL ALL PIPING PENETRATIONS THROUGH PARTITIONS AND FLOORS SHALL BE SLEEVED AND PATCHED TO MAINTAIN PARTITION AND FLOOR FIRE/SMOKE RATINGS. . ALL ROOF AND WALL PENETRATIONS MADE UNDER THIS SCOPE OF WORK SHALL BE MADE AND FLASHED BY THIS CONTRACTOR UNLESS NOTED OTHERWISE. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL EQUIPMENT WITH OTHER TRADES PRIOR TO INSTALLATION. . COORDINATE ALL FLOOR PENETRATIONS WITH OWNERS REPRESENTATIVE PRIOR TO CONSTRUCTION. UNLESS NOTED OTHERWISE, ALL HANGERS, RODS, ANGLES, STRUT CHANNELS, ATTACHMENTS, ANCHORS, STRAPS, BOLTS, NUTS, WASHERS AND SCREWS SHALL BE GALVANIZED OR BE OF SIMILAR MATERIAL AS COMPONENT BEING SUPPORTED. ALL ALL-THREAD RODS SHALL HAVE EXCESS LENGTH CUT OFF TO A MAXIMUM LENGTH OF 1" ABOVE/BELOW ATTACHMENT. 4. ALL PIPING VERTICAL PIPING SHALL BE SUPPORTED AT BASE AND AT EACH FLOOR LEVEL. 5. ALL PIPING SHALL BE INSTALLED PARALLEL/PERPENDICULAR TO BUILDING COLUMN LINES UNLESS NOTED OTHERWISE. 6. INSTALL PIPING SUPPORTS WITHIN 12" OF EACH ELBOW AND FITTING OR FITTING GROUP. . INSTALL UNIONS/FLANGE CONNECTIONS AT VALVES AND AT CONNECTIONS TO EQUIPMENT. . ALL SEWER VENTS MUST BE AT LEAST 10' FROM ANY OUTSIDE AIR INTAKE AND OPERABLE WINDOW UNLESS NOTED OTHERWISE. . PROVIDE AND INSTALL DIELECTRIC UNIONS AND/OR FLANGES AT ALL PIPING MATERIAL TRANSITIONS TO DISSIMILAR MATERIAL. PROVIDE AND INSTALL PIPING IDENTIFICATION WITH PREFORMED PLASTIC PIPE WRAPS EQUAL TO CRAFTMARK "SPECMARK" CONFORMING TO ASME (ANSI) 2007 SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS. LABELS SHAL SYSTEM AND FLOW DIRECTION. LABELS SHALL BE PLACED IN EACH ROOM, AT MAXIMUM 50' INTERVALS, NEAR EACH VALVE AND AT EACH BRANCH. PROVIDE AND INSTALL ENGRAVED PLASTIC NAME PLATES FOR EACH PIECE OF PLUMBING EQUIPMENT. NAME PLATE SHALL INCLUDE AS APPLICABLE: UNIT I.D., MOTOR VOLTAGE, PHASE, H.P., DESIGN WATER FLOW, DESIGN HEAD, N BTU INPUT (KW) AND RATED GAS PRESSURE. LETTERS SHALL BE A MINIMUM OF 3/8". . PROVIDE 1/2" HOT AND COLD WATER TO EACH FIXTURE AS REQUIRED U.N.O.. INSTALL ISOLATION VALVES AT EACH PIPING BRANCH TO FIXTURE UNLESS NOTED OTHERWISE. . PROVIDE INDIRECT WASTE CONNECTORS AS REQUIRED BY CODE. . VACUUM BREAKERS ARE REQUIRED ON JANITOR'S SINK, HOSE BIBBS, SHOWERS THAT HAVE HOSES AND ANY OTHER FIXTURE THAT IS CAPABLE OF RECEIVING HOSES. . ALL HORIZONTAL WATER PIPING SHOWN ON THIS PLAN IS ROUTED ABOVE CEILING UNLESS NOTED OTHERWISE. . INSTALL ONE-PIECE, DEEP PATTERN TYPE ESCUTCHEONS AT ALL PIPING PENETRATIONS THROUGH INTERIOR WALLS, CEILINGS, AND FLOORS THAT ARE EXPOSED AND/OR CONCEALED IN MILLWORK. . INSTALL ALL WASTE AND VENT RISERS AS TIGHT AS POSSIBLE TO STRUCTURE. 8. FURNISH TRAP GUARDS ON FLOOR DRAINS NOT SPECIFIED TO BE INSTALLED WITH AN AUTOMATIC TRAP PRIMER. . MAKE CHANGES IN DIRECTION FOR STORM DRAIN, SANITARY SEWER AND VENT PIPING USING APPROPRIATE FITTINGS AS PER INTERNATIONAL PLUMBING CODE. CHANGES IN DIRECTION OF FLOW GREATER THAN 90 DEGREES SHAL PERMITTED. ONLY STANDARD SIZES OF PIPE AND FITTINGS SHALL BE INSTALLED. REDUCING DRAINAGE PIPE SIZES IN THE DIRECTION OF FLOW SHALL NOT BE PERMITTED. . BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED AS REQUIRED PER THE PLUMBING CODE AND LOCAL CODES. CONTRACTOR SHALL TEST ALL WATER, GAS, SANITARY SEWER AND VENT PIPING AS PER THE INTERNATIONAL PLUMBING CODE AND AUTHORITY HAVING JURISDICTION FOR A PERIOD OF 24 HOURS PRIOR TO FLOOR, CEILING, AND N UP AND PRIOR TO INSTALLING PIPE INSULATION AS APPLICABLE. . PROVIDE WATER HAMMER ARRESTERS AT FIXTURES AS REQUIRED BY CODE. . ALL PIPING, FITTINGS, VALVES AND PIPING SPECIALTIES SHALL HAVE A PRESSURE RATING GRATER THAN OR EQUAL TO MAXIMUM POSSIBLE SYSTEM PRESSURE. . ALL HOT AND COLD WATER PIPING SHALL BE INSULATED WITH INSULATION EQUAL TO OWENS CORNING 'ASJ MAX' JACKETED FIBERGLASS PIPE INSULATION WITH MASTIC VAPOR BARRIER APPLIED ON ALL SEAMS AND JOINTS. INSTA COVERED FITTING INSULATION AT ALL FITTINGS AND VALVES. ALL INSULATION MATERIALS INSTALLED INDOORS SHALL HAVE A FLAME-SPREAD INDEX AND SMOKE DEVELOPED INDEX OF LESS THAN 25/50. ALL INSULATION MATERIAL INSTALLED OUTDOORS SHALL HAVE A FLAME-SPREAD INDEX AND SMOKE DEVELOPED INDEX OF LESS THAN 75/150. PIPING INSTALLED WITH IN THE BUILDING THERMAL ENVELOPE SHALL BE AS FOLLOWS: INSULATION THICKNESS FOR HOT WATER PIPING < 140°F AND < 1 1/2" NPS, AND ALL COLD WATER PIPING SHALL BE 1" THICK. INSULATION THICKNESS FOR HOT WATER PIPING < 140°F AND < 1 1/2" NPS, AND ALL COLD WATER PIPING SHALL BE 1" THICK. INSULATION THICKNESS FOR HOT WATER PIPING < 140°F AND < 1 1/2" NPS, AND ALL COLD WATER PIPING SHALL BE 1" THICK. 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INSTALL JACKET WITH 2" OVERLAP AT ALL SEAMS AND JOINTS IN A MANNER TO SHED WATER. SEA JOINTS WITH WEATHER PROOF SEALANT AS RECOMMENDED BY MANUFACTURER. SECURE JACKET WITH STAINLESS STEEL BANDS AND BAND CLAMPS. BANDS SHALL BE INSTALLED AT MAXIMUM INTERVALS OF 12" O.C. AND AT END. 2. ALL STORM DRAIN PIPING INSIDE BUILDING WITHIN 15' OF ROOF DRAIN OR TO THE FIRST VERTICAL DROP (WHICH EVER IS GREATER) SHALL BE INSULATED WITH 1" THICK INSULATION EQUAL TO OWENS CORNING 'ASJ MAX' JACKETED FIBERGLASS PIPE INSULATION WITH MASTIC VAPOR BARRIER APPLIED ON ALL SEAMS AND JOINTS. INSTALL PVC COVERED FITTING INSULATION AT ALL FITTINGS. 9. ALL ISOLATION/SHUT-OFF VALVES OTHER THAN INDIVIDUAL FIXTURE STOPS SHALL BE LEAD FREE, TWO PIECE, THREADED, FULL PORT BALL VALVES WITH STAINLESS STEEL BALL AND TRIM. 0. ALL ROOF TOP PIPING SUPPORTS SHALL BE EQUAL TO MAPA PRODUCTS MT-8S OR MT-2R SERIES PIPE SUPPORTS WITH 1/2" RUBBER PADS. ALL DOMESTIC WATER INSTALLED UNDERGROUND SHALL BE BY ONE OF THE FOLLOWING MATERIALS: TYPE 'K' ANNEALED COPPER WITH BRAZED JOINTS, CROSS-LINKED POLYETHYLENE TUBING (PEX/UPONOR), SCHEDULE 40 POLYE CHLORIDE TUBING (PVC) WITH SOLVENT WELDED JOINTS AND FITTINGS, SCHEDULE 40 CHLORINATED POLYVINYL CHLORIDE TUBING (CPVC) WITH SOLVENT WELDED JOINTS AND FITTINGS. ALL DOMESTIC WATER PIPING INSTALLED UNDER BUILDING SLAB SHALL BE BY ONE OF THE FOLLOWING MATERIALS: TYPE 'K' ANNEALED COPPER, CROSS-LINKED POLYETHYLENE TUBING (PEX/UPONOR). PIPING UNDER BUILDING SLAB BE CONTINUOUS. NO JOINTS SHALL BE PERMITTED UNDER BUILDING SLAB. . ALL DOMESTIC WATER INSTALLED ABOVE GROUND SHALL BE BY ONE OF THE FOLLOWING MATERIALS: TYPE 'L' HARD DRAWN COPPER WITH SOLDERED JOINTS AND FITTINGS, CROSS-LINKED POLYETHYLENE TUBING (PEX/UPONOR), 40 POLYVINYL CHLORIDE TUBING (PVC) WITH SOLVENT WELDED JOINTS AND FITTINGS, SCHEDULE 40 CHLORINATED POLYVINYL CHLORIDE TUBING (CPVC) WITH SOLVENT WELDED JOINTS AND FITTINGS. 4. ALL STORM DRAIN PIPING, SANITARY SEWER AND VENT PIPING ABOVE GROUND SHALL BE BY ONE OF THE FOLLOWING MATERIALS: NO-HUB CAST IRON SOIL PIPE AND FITTINGS WITH HEAVY DUTY SHIELDED COUPLINGS, SCHEDULE PIPE AND SOLVENT WELDED FITTINGS AND JOINTS. 5. ALL STORM DRAIN PIPING, SANITARY SEWER AND VENT PIPING BELOW GROUND SHALL BE SCHEDULE 40 PVC DWV PIPE AND SOLVENT WELDED FITTINGS AND JOINTS. 16. ALL NATURAL GAS PLUG VALVES SHALL BE CAST IRON, LUBRICATED, FULL PORT, 1/4 TURN WRENCH OPERATED PLUG VALVES WITH 200 PSI WOG RATING AND SHALL MEET ALL APPLICABLE ASME/ANSI STANDARDS FOR SYSTEM PRE . ALL NATURAL GAS BALL VALVES SHALL BE THREADED BRONZE/BRASS BALL VALVES WITH 1/4 TURN LEVER AND SHALL MEET ALL ASME/ANSI STANDARDS FOR SYSTEM PRESSURE. 18. ALL NATURAL GAS APPLIANCE SHUT-OFF VALVES SHALL BE LOCATED WITHIN 72" OF APPLIANCE AND SHALL BE EASILY ACCESSIBLE. 9. ALL NATURAL GAS PIPING TO REGULATORS AND APPLIANCES SHALL BE INSTALLED WITH A MINIMUM 6" SEDIMENT TRAP/DRIP LEG. i0. ALL ABOVE GROUND NATURAL GAS PIPING ≤ 5 PSI AND ≤ 2 1/2" NPS SHALL BE SCHEDULE 40 STEEL PIPE WITH THREADED FITTINGS AND JOINTS. . ALL ABOVE GROUND NATURAL GAS PIPING > 5 PSI OR > 2 1/2" NPS SHALL BE SCHEDULE 40 STEEL PIPE WITH WELDED AND/OR FLANGED FITTINGS AND JOINTS. . ALL NATURAL GAS PIPING INSTALLED UNDER GROUND SHALL BE POLYETHYLENE WITH HEAT-FUSION JOINTS AND FITTINGS. ALL RISERS OUT OF GROUND SHALL BE ANODELESS RISERS. ALL UNDERGROUND PIPING SHALL BE INSTA TRACER WIRE AND WARNING TAPE. 3. NATURAL GAS PIPING WITH SYSTEM PRESSURE > 5 PSI SHALL NOT BE PERMITTED INSIDE OF BUILDING UNLESS NOTED OTHERWISE. 4. INSTALL STRAINER / SCREEN ON INLET OF EACH PRESSURE REGULATOR AND AUTOMATIC OR ELECTRICALLY OPERATED VALVE. 55. ALL OUTDOOR NATURAL GAS PIPING SHALL BE PAINTED YELLOW WITH HEAVY DUTY INDUSTRIAL GRADE PAINT. 6. ALL COMPRESSED AIR PIPING SHALL BE SCHEDULE 40 STEEL PIPE AND FITTINGS. FOR PIPING ≤ 2 1/2" NPS, FITTINGS AND JOINTS SHALL BE THREADED. FOR PIPING > 2 1/2" NPS, FITTINGS AND JOINTS SHALL BE WELDED AND/OR FL

PLUMBING SYMBOLS AND LEGENDS			
PIPING TYPES SANITARY WASTE VENT HOT WATER HOT WATER RETURN	FITTING ———— FCO ———— WCO ———— GCO DGCO	SS FLOOR CLEANOUT WALL CLEANOUT GRADE CLEANOUT	HUNCORPORATE CORPORATE NG-ARCHITECTURE • SURV NG-VIEW, TEXAS 75604 753-0663 FAX (903)753-8803 stile: www.johnsonpace.com
COLD WATER NG NATURAL GAS		DOUBLE GRADE CLEANOUT	
DESIGNATIONS		RELIEF VALVE UNION	
	OPE)	PIPE TURNING AND RISING UP PIPE TURNING AND	
EQUIPMENT	U	DROPPING DOWN TEE OUT OF TOP OF PIPE	
]	CAP ON END OF PIPE	2000
(R) HB HOSE BIBB			NSON NSON
REGULATOR			ALT JOH
SHEET INDEX			
P0.0 PLUMBING LEGEND & GENERAL NOTES			
P2.0 SANITARY SEWER PLAN			Z
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ALL WRITTEN NOTES ON THIS SHEET AND A	LL OTHER SHEETS CONTAINE	ED IN THESE PLANS SHALL BE CONTRACTORS IT IS THE	HAI HAI 07 E
RESPONSIBILITY OF ALL CONTRACTORS TO FUNCTIONING SYSTEMS AS SHOWN IN THE	COORDINATE WITH EACH OT	THER TO DELIVER COMPLETE,	
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N 2 1st FLOOR PLUMBING PLAN SCALE: 1/4" = 1'-0"

2nd THRU 8th FLOOR - DOMESTIC WATER PLAN SCALE: 1/4" = 1'-0"

PLUMBING NOTES

- REFER TO P0.0 FOR GENERAL NOTES AND LEGEND.
- ROUTING OF PIPING SHOWN IS DIAGRAMMATIC AND IS NOT SHOWN IN EXACT LOCATIONS. CONTRACTOR SHALL INSTALL PIPING WITH THE LEAST AMOUNT OF SPACE USED AS POSSIBLE.
- ALL PIPING SHALL BE MOUNTED AS HIGH AS POSSIBLE UNLESS NOTED OTHERWISE. CONTRACTOR SHALL COORDINATE PIPING LAYOUT WITH ALL OTHER DISCIPLINES TO AVOID INTERFERENCES.
- 4 PIPING SHALL BE INSTALLED PARALLEL TO BUILDING LINE UNLESS NOTED OTHERWISE.
- PROVIDE ISOLATION VALVE AT ALL DOMESTIC WATER BRANCH TAKE-OFFS.
- PROVIDE TRAP PRIMER SYSTEM FOR ALL FLOOR DRAINS
- TAG NOTES
- EXISTING TOILET TO REMAIN.
- EXISTING SINK TO BE RELOCATED WITHIN SAME BATHROOM AS SHOWN. REFER TO ARCHITECTURE FOR ADDITIONAL INFORMATION. REROUTE EXISTING SANITARY AND DOMESTIC WATER AS NEEDED TO NEW LOCATION.
- EXISTING SANITARY SEWER STUB UP. SIZE AND LOCATION ASSUMED. FIELD VERIFY CONDITIONS. EXISTING STACK SERVES UPPER FLOORS. NEW SANITARY STACK TO BE ROUTED TO THIS LOCATIONS THRU FIRST FLOOR CEILING.
- PROVIDE COLD WATER PIPING TO SHOWER DRAIN (SH-1) FOR TRAP PRIMER CONNECTION.
- PROVIDE COLD WATER PIPING TO FLOOR DRAIN (FD-1) FOR TRAP PRIMER CONNECTION.
- DOMESTIC WATER STACK. REFER TO DETAIL XXX FOR ADDITIONALINFORMATION. EXISTING CONDITIONS ASSUMED FIELD VERIFY EXISTING PIPING SYSTEM BEFORE BEGINING WORK.
- EXISTING MOPSINK TO REMAIN. CONNECT EXISTING DOMESTIC WATER PIPING SYSTEM TO NEW PIPING AS NEEDED.
- MECHANICAL DUCTWORK IN THIS AREA COORDINATE WITH MECHANICAL CONTRACTOR . CEILING SPACE IS TIGHT.
- NEW SANITARY PIPING DROPPING DOWN FROM SECOND FLOOR. ROUTE PIPING OVERHEAD AS SHOWN TO EXISTING SANITARY SEWER STUB UP. CONNECT TO EXISTING PIPE.
- BALNACING VALVE INSTALLED AT EACH FLOOR RETURN HOT WATER LINE.

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2nd THRU 8th FLOOR - SANITARY SEWER - DEMOLITION SCALE: 1/4" = 1'-0" Ν

ABOVE 8TH FLOOR VENT STACK TO CONNECT TO EXISTING VENT

MARK	DESCRIPTION	MANUFACTURER
FD-1	3" FLOOR DRAIN	ZURN
LV-1a	WALL HUNG LAVATORY	KOHLER
LV-1b	WALL HUNG LAVATORY	KOHLER
LV-2	LAVATORY	CARAGREEN
SH-1	SHOWER	ZURN
WC	WATER CLOSET	AMERICAN STANDAR

PLUMBING NOTES

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- ROUTING OF PIPING SHOWN IS DIAGRAMMATIC AND IS NOT SHOWN IN EXACT LOCATIONS. CONTRACTOR SHALL INSTALL PIPING WITH THE LEAST AMOUNT OF SPACE USED AS POSSIBLE.
- ALL PIPING SHALL BE MOUNTED AS HIGH AS POSSIBLE UNLESS NOTED OTHERWISE. CONTRACTOR SHALL COORDINATE PIPING LAYOUT WITH ALL OTHER DISCIPLINES TO AVOID INTERFERENCES.
- 4 PIPING SHALL BE INSTALLED PARALLEL TO BUILDING LINE UNLESS NOTED OTHERWISE.
- PROVIDE ISOLATION VALVE AT ALL DOMESTIC WATER BRANCH TAKE-OFFS.
- 6 PROVIDE TRAP PRIMER SYSTEM FOR ALL FLOOR DRAINS

TAG NOTES

- A EXISTING SANITARY AND FIXTURES TO BE REMOVED
- EXISTING SANITARY AND FIXTURES TO REMAIN.
- MAIN STACK. REFER TO RISER DIAGRAM FOR ADDITIONAL INFORMATION. REFER TO I/P1.0 FOR CONTINUATION.
- CIRCUIT VENT LINE, REFER TO RISER DIAGRAM (4/P2.0) FOR ADDITIONAL INFORMATION.
- COMMON VENT LINE, REFER TO RISER DIAGRAM (4/P2.0) FOR ADDITIONAL INFORMATION.
- VENT STACK UP THRU BUILDING. REFER TO RISER (4/P2.0)

				CONNEC	TION SIZE	
	MODEL	REMARKS	W	V	CW	HW
	FD-2280-PV3-ST	FINISHED AREA FLOOR DRAIN W/ SQUARE TOP, PVC HUB, AND TRAP PRIMER CONNECTION	3"	2"		
	K-80179-R	WALL-MOUNT, VITREOUS CHINA. RIGHT HANDED, RECTANGULAR BASIN WITH OVERFLOW. SINGLE FAUCET HOLE ON LEFT SIDE. FAUCET: DELTA, #534LF-HGM-PP	1 1/2"	2"	1/2"	1/2"
	K-80179-L	WALL-MOUNT, VITREOUS CHINA. LEFT HANDED, RECTANGULAR BASIN WITH OVERFLOW. SINGLE FAUCET HOLE ON LEFT SIDE. FAUCET: DELTA, #534LF-HGM-PP	1 1/2"	2"	1/2"	1/2"
	DURAT SINK - OVAL II	LAVATORY WITH INTEGRATED COUNTERTOP. REFER TO ARCHITECTURAL FOR DIMENSIONS. PROVIDE WITH SINGLE FAUCET MOUNTED TO SIDE OF SINK. FAUCET: DELTA, #534LF-HGM-PP. PROVIDE WITH OPTIONAL OVERFLOW.	1 1/2"	2"	1/2"	1/2"
	Z7121-SS-LH-DV2P-HW	SHOWER HEAD: SINGLE HANDLE PRESSURE BALANCING MIXING SHOWER UNIT WITH VOLUME CONTROL, DRAIN: ZURN. FD-2280-PV3-ST	3"	2"	1/2"	1/2"
D	2854.128	ADA ACCESSIBLE, FLOOR MOUNTED, ELONGATED FLUSHOMETER VALVE TOILET, 1.28 GPM, VITREOUS CHINA, SEAT: AMERICAN STANDAPD #5001 100	3"	2"	1"	

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ELEC	CTRICAL ABBREVIATIO	DNS			
А	AMPERE	G	GROUND		
ΔFF	ABOVE FINISHED FLOOR	GA	GAUGE	NF	NON-FUSED
	ABOVE HINIGHED I LOOK	0A	UNUL	NO	NORMALLY OPEN, NUMBER
AIC	AMPERES INTERRUPTING CAPACITY	GFI/GFCI	ground fault Interrupter	NTS	NOT TO SCALE
AL	ALUMINUM	HDG	HOT DIPPED GALVANIZED	OD	OUTSIDE DIAMETER
AMPS	AMPERES	HP	HORSEPOWER	Р	POLE
С	CONDUIT	HZ	HERTZ	PH	PHASE
СВ	CIRCUIT BREAKER	ID	INTERNAL DIAMETER	PR	PAIR SHIELDED CABLE
CPB	CONCRETE PULL BOX	IG	ISOLATED GROUND	PVC	
CS	COMBINATION STARTER	JB, J	JUNCTION BOX		CONDOLL
ст		K)/A		SS	STAINLESS STEEL
01	CURRENT TRANSFORMER	ΝVΑ	KILOVOLI-AMPERE	TVSS	TRANSIENT VOLTAGE
CTC C/C	CENTER TO CENTER	KW	KILOWATT		SURGE SUPPRESSION
EGC	EQUIPMENT GROUNDING CONDUCTOR	LED	LIGHT EMITTING DIODE	UON	UNLESS OTHERWISE NOTED
FWC	ELECTRIC WATER COOLER	MCB	MAIN CIRCUIT BREAKER	UPS	UNINTERRUPTIBLE POWER SUPPLY
E		MH	MANHOLE	V	
F&I	FURNISH & INSTALL	MLO	MAIN LUGS ONLY	v	
FT	FEET			W	WATT
		NC	NORMALLY CLOSED	WP	WEATHERPROOF
				XFMR	TRANSFORMER

ELECTRICAL NOTES:

- THE ELECTRICAL SYSTEM SHOWN ON THE DRAWINGS IS ONLY DIAGRAMMATIC. ALL ITEMS REQUIRED TO MAKE THE SYSTEM COMPLETE AND IN SAFE WORKING ORDER SHALL BE PROVIDED. ALL WORK SHALL BE COORDINATED OTHER TRADES. EQUIPMENT SHOWN ON THE FLOOR PLANS AND ELEVATIONS ILLUSTRATE THE ARRANGEMENT AND SPACE ALLOCATIONS. THE CONTRACTOR SHALL VERIFY THE SPACE REQUIREMENTS FOR EACH SYSTEM COUSING MANUFACTURER CERTIFIED SHOP DRAWINGS AND MAKE THE NECESSARY ADJUSTMENTS IN EQUIPMENT PLACEMENT AND CONNECTION IN ORDER TO ACCOMMODATE THE EXACT EQUIPMENT TO BE INSTALLED.
 CONTRACTOR IS RESPONSIBLE FOR FILING/PAYING FOR PERMITS AND CERTIFICATES OF INSPECTION THAT PERTAIN TO WORK DONE BY CONTRACTOR. CONTRACTOR SHALL DELIVER COPIES OF ALL PERMITS AND CERTIFICATE OF INSPECTION THAT PERTAIN TO WORK DONE BY CONTRACTOR. CONTRACTOR SHALL DELIVER COPIES OF ALL PERMITS AND CERTIFICATES OF INSPECTION MANAGER ALL EQUIPMENT MANUALS (MAINTENANCE, INSTALLATION, USER, ETC.) FOR EQUIPMENT INSTALLED BY CONTRACTOR.
 CONTRACTOR SHALL PROVIDE JOB SPECIFIC SUBMITTALS ON ALL SCHEDULED EQUIPMENT AND ALL DEVICES, PANELS AND FIXTURES, INSTALLED UNDER THIS SCOPE OF WORK. SUBMITTALS SHALL INCLUDE BUT NOT BE LIMIT PRODUCT DATA, DIMENSIONED DRAWINGS, PERFORMANCE DATA, ELECTRICAL DATA, CERTIFICATIONS.
- 4. THE ELECTRICAL SYSTEM SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- 5. COORDINATE WORK WITH ALL OTHER TRADES AND DRAWINGS TO DETERMINE THE INTERFACE REQUIREMENTS NECESSARY TO PROPERLY INTEGRATE ALL MAJOR BUILDING SYSTEMS, MECHANICAL, PLUMBING, ELECTRICAL, LOW VOLTAGE AND SPRINKLER SYSTEMS.
- 6. THE ELECTRICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO CONDUIT, WIRE, BOXES AND FITTINGS SHALL BE NEW AND SHALL MEET NEMA AND ANSI STANDARDS AND BEAR THE U.L. LABEL.
- 7. ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE. THE WARRANTY PERIOD SHALL BEGIN AT THE DATE OF BENEFICIAL OCCUPANCY FACILITY.
- 8. AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE SET OF AS-BUILTS, OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND SHALL INSTRUCT OWNER'S MAINT PERSONNEL ON ALL OPERATING PROCEDURES.
- 9. ALL ROOF AND WALL PENETRATIONS MADE UNDER THIS SCOPE OF WORK SHALL BE MADE AND FLASHED BY THIS CONTRACTOR.
- 10. ALL HANGERS, RODS, ANGLES, STRUT CHANNELS, ATTACHMENTS, ANCHORS, STRAPS, BOLTS, NUTS, WASHERS AND SCREWS SHALL BE GALVANIZED OR BE OF SIMILAR MATERIAL AS COMPONENT BEING SUPPORTED. ALL ALL RODS SHALL HAVE EXCESS LENGTH CUT OFF TO A MAXIMUM LENGTH OF 1" ABOVE/BELOW ATTACHMENT.
- 11. ELECTRICAL CONTRACTOR SHALL VERIFY METERING REQUIREMENTS AND SUPPLY SERVICE WITH UTILITY COMPANY.
- 12. ALL WIRING DEVICES SHALL BE COMMERCIAL RATED FOR MINIMUM OF 20 AMPS.
- 13. SURGE PROTECTION SHALL BE PER NEC.
- 14. VERIFY LOCATION AND POWER REQUIREMENTS FOR ALL PLUMBING AND HVAC EQUIPMENT.
- 15. PROVIDE POWER AND/OR 24 VAC TRANSFORMERS FOR ALL LOW-VOLTAGE SYSTEMS.
- 16. TYPICAL MOUNTING HEIGHT OF 120V RECEPTACLES NOT LOCATED ABOVE COUNTERS SHALL BE 22" A.F.F. TO THE TOP OF BOX UNLESS NOTED OTHERWISE.
- 17. TYPICAL MOUNTING HEIGHT FOR ALL SWITCHES AND THERMOSTATS SHALL BE 48" A.F.F. TO TOP OF BOX UNLESS NOTED OTHERWISE.
- 18. ELECTRICAL CONTRACTOR SHALL VERIFY LOCATIONS OF ALL WALL CABINETS, KITCHEN TABLES AND EQUIPMENT IN ORDER TO LOCATE RECEPTACLES. SEE MILLWORK ELEVATIONS AND/OR VENDOR DRAWINGS.
- 19. SEE MECHANICAL PLANS FOR THERMOSTAT LOCATIONS.
- 20. PROVIDE PULL WIRE IN ALL EMPTY CONDUITS.
- 21. FURNISH ALL NECESSARY SLEEVES, INSERTS AND GROUTING FOR ALL WORK PASSING THROUGH OR ATTACHING TO WALLS, FLOORS AND/OR CEILINGS.
- 22. SEAL ALL CONDUITS AT TERMINATIONS THAT RUN BELOW THE SLAB TO MAKE THEM WATER TIGHT.
- 23. ALL JUNCTION BOXES SHALL BE ACCESSIBLE FOR FUTURE SERVICE PER NEC. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND POINTS OF ACCESS.
- 24. CONDUIT SHALL NOT BE ROUTED EXPOSED IN FINISHED AREAS UNLESS NOTED OTHERWISE.
- 25. CONDUITS SHALL NOT BE INSTALLED HORIZONTALLY IN SLAB OR STRUCTURAL FOOTINGS.
- 26. ALL CONDUITS BELOW GRADE SHALL BE PVC WITH RIGID STEEL LONG SWEEP ELBOWS.
- 27. ALL BELOW GRADE GROUNDING CONNECTIONS SHALL BE EXOTHERMIC NO EXCEPTIONS.
- 28. A SEPARATE INSULATED GROUNDING CONDUCTOR SHALL BE PULLED WITH THE CIRCUIT CONDUCTORS FOR GROUNDING WHETHER OR NOT INDICATED ON THE DRAWINGS. METAL RACEWAY OR CABLE ARMOR OR SHEATH SH USED AS AN EQUIPMENT GROUNDING CONDUCTOR.
- 29. ALL NON-DEDICATED RECEPTACLES WITHIN 6' OF ANY PLUMBING FIXTURE AND/OR SINK SHALL BE EQUIPPED WITH GFI.
- 30. ALL GFI RECEPTACLES SHALL BE CONNECTED SO THAT OTHER DEVICES ON THE SAME CIRCUIT AS GFI RECEPTACLES DO NOT DE-ENERGIZE UPON TRIPPING.
- 31. PROVIDE DISCONNECTS FOR ALL MECHANICAL EQUIPMENT THAT IS NOT PROVIDED INTEGRAL TO THE EQUIPMENT.
- 32. PROVIDE AND INSTALL RELAY TO SHUT DOWN POWER OF ALL AIR HANDLERS BY ACTIVATION OF ANY DUCT SMOKE DETECTOR AND FIRE ALARM SYSTEM. COORDINATE WITH MECHANICAL CONTRACTOR.
- 33. ELECTRICAL CONTRACTOR SHALL VERIFY BREAKER REQUIREMENTS FOR ALL HVAC EQUIPMENT BEFORE ORDERING PANELS AND DISCONNECT SWITCHES.
- 34. VERIFY EXACT POWER REQUIREMENTS, CONNECTION TYPE AND NEMA CONFIGURATION OF ALL OUTLETS REQUIRED FOR OWNER FURNISHED EQUIPMENT PRIOR TO ROUGH IN.
- 35. ELECTRICAL CONTRACTOR SHALL MAKE FINAL ELECTRICAL CONNECTIONS TO ALL OWNER PROVIDED EQUIPMENT.
- 36. ELECTRICAL CONTRACTOR SHALL INSTALL ALL LAMPS.
- 37. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OUTLET BOXES FOR LOW VOLTAGE SYSTEMS AND SHALL STUB CONDUIT 12" ABOVE CEILING.
- 38. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ALL CONDUIT AND CABLE PENETRATIONS THROUGH FIRE RATED PARTITIONS.
- 39. 120V CIRCUITS GREATER THAN 50' BUT LESS THAN 100' BETWEEN BREAKER PANEL AND FIRST DEVICE SHALL BE WIRED WITH #10 AWG BETWEEN PANEL AND FIRST DEVICE.
- 40. 120V CIRCUITS GREATER THAN 100' BETWEEN BREAKER PANEL AND FIRST DEVICE SHALL BE WIRED WITH #8 AWG BETWEEN PANEL AND FIRST DEVICE.
- 41. CONTRACTORS NEED TO MAKE SITE VISIT PRIOR TO BID. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS.
- 42. ALL PANEL BOARDS AND LOAD CENTERS SHALL RECEIVE ENGRAVED NAME PLATES WITH PANEL DESIGNATION, VOLTAGE, PHASE, NUMBER OF WIRES AND A TYPED DIRECTORY FOR PANEL BRANCH CIRCUIT IDENTIFICATION.
- 43. ALL PANEL BOARDS, LOAD CENTERS AND ASSOCIATED EQUIPMENT LOCATED OUTSIDE OF A CONDITIONED SPACE SHALL BE NEMA 3R.
- 44. OCCUPANCY SENSOR LOCATIONS AND QUANTITIES SHOWN ON DRAWINGS ARE DIAGRAMMATIC ONLY. CONTRACTOR SHALL PROVIDE LIGHTING SYSTEM CONTROLS LAYOUT AS PER LIGHTING VENDOR TO ASSURE COMPLETE OF ALL AREAS. LIGHTING CONTROLS LAYOUT SHALL INCLUDE BUT NOT BE LIMITED TO LOCATIONS OF SWITCHES, OCCUPANCY SENSORS, OCCUPANCY SENSOR MANUAL BYPASS SWITCHES, VACANCY SENSORS AND LIGHTING COORDINATE INSTALLATION WITH HVAC GRILLE LAYOUT.

	ELECTRICAL LEGENDS AND SYMBOLS	
. [GENERAL	ATE: S75604 37753-8803 37753-87753 377553 37753 37753 37753 37
	CIRCUIT BREAKER	RCHITECT IEW, TEXA Mujohnson 2691 / TBA
	TRANSFORMER SWITCHED POWER	
	CONTINUOUS POWER	
	P1 HOMERUN WITH PANEL BOARD CKT	
		5022
		Olizzi
	MOTOR STARTER	NOS SAL
	J JUNCTION BOX	JOHN JOHN
┟	RECEPTACLES	MALT
	DUPLEX QUAD	Constant in the second
	STANDARD 120V - 18" AFF	
	● 208-240V - 18" AFF	z
	BC = BELOW COUNTER EV = EAVE GFI = GROUND FAULT INTERRUPTER	м ч Ž ш
	WP = WEATHERPROOF GFI XX" = MOUNTED AT XX" AFF	
	FLOOR-MOUNTED STANDARD 120V	LL ZEN 75
	CEILING-MOUNTED STANDARD 120V	TX CO
		L E E L
	12" ABOVE CEILING; INSTALL PULL STRING	I S I I I S I
	FLOOR MOUNTED DATA PORT	
	SWITCHES	
	SINGLE POLE SWITCH SWITCH-DIMMER-VACANCY SENSOR, COMBINATION PIR/ULTRA)TA
	SUNIC, MANUAL ON/AUTOMATIC OFF	
	^S OS AUTOMATIC ON/AUTOMATIC OFF, MANUAL OVERRIDE SWITCH	
	\$ WALL/CEILING OCCUPANCY SENSOR, COMBINATION PIR/ ULTRA SONIC, AUTOMATIC ON/OFF	π 9/22 /2022
	WALL/CEILING VACANCY SENSOR, COMBINATION PIR/ULTRA SONIC, AUTOMATIC OFF	DB/ 06/21 07/22/
	V COMBINATION PIR/ULTRA SONIC, MANUAL ON/AUTOMATIC OFF	GWF GWF
-		SIONS
	E1.0 POWER PLAN	REV: REIO
	E1.1 ROOF ELECTRICAL PLAN	
	E2.0 LIGHTING PLAN	
		20 ←
_	IMPORTANT INFORMATION	
	SHOULD THE DRAWINGS OR SPECIFICATIONS CONFLICT WITHIN THEMSELVES, OR WITH EACH OTHER. THE REQUIREMENT WITH THE GREATEST QUANTITY AND/OR THE HIGHEST QUALITY SHALL	
	PREVAIL. THE DECISION OF THE ENGINEER OF RECORD FOR THE SYSTEM BEING INSTALLED SHALL	9
	ALL WRITTEN NOTES ON THIS SHEFT AND ALL OTHER SHEFTS CONTAINED IN THESE PLANS SHALL BE	RAL
	READ AND UNDERSTOOD BY THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS. IT IS THE RESPONSIBILITY OF ALL CONTRACTORS TO COORDINATE WITH FACH OTHER TO DELIVER COMPLETE	
	FUNCTIONING SYSTEMS AS SHOWN IN THESE PLANS.	
		FE
		CAL
		0_ 52
		UE DATE: 37/22/202 LE: 12" = 1'-I sion No:
	WLJ ENGINEERING INC.	ML 33
	Firm No. 9968	

903-762-6599 walt@wljengineering.com 7674 Cherokee Trace Gilmer, Texas 75644 В

Name: LVDP							
Location: JAN 30		Volt	ts: 12	20/20	8 Wye		
Mounting: SURFACE	F	hase	s: 3		,		
Enclosure: NEMA 1		Wire	es: 4				
		Mai	i n: 22	25 A	MLO		
Circuit Description	Trip				Trip	Circuit Description	СКТ
							2,4,6
	60 A				60 A	LV6	
							8,10,12
	60 A				60 A	LV7	
					1		
							14,16,18
	60 A				60 A	LV8	
							20
	60 A						22
							24

POWER NOTES

REFER TO E0.0 FOR GENERAL NOTES AND LEGEND.

- COORDINATE ALL WORK WITH MECHANICAL SYSTEMS, ROUTING CONDUIT AS HIGH AS POSSIBLE.
- REFER TO MECHANICAL CONTRACTOR FOR EXACT LOCATIONS OF EQUIPMENT.
- CONTRACTOR SHALL VERIFY ALL POWER REQUIREMENT OF EQUIPMENT BEFORE INSTALLATION OF CONDUIT, BREAKER OR WIRING.

TAG NOTES

- A FURNISH & INSTALL NEW 120/208V 3PH PANEL.
- FURNISH & INSTALL NEW 225A/3P BREAKER IN EXISTING MSB TO FEED NEW PANEL LVDP. IF BREAKER NOT AVAILABLE FROM SQUARE D, FURNISH AND INSTALL NEW 225A/3P ECB AND FEED FROM LINE SIDE OF MSB. TAP CONDUCTOR MUST BE 10' OR LESS. ECB SHALL HAVE SAME VOLTAGE & FAULT CURRENT RATINGS AS EXISTING MSB. REFER TO TAG NOTE 'C' FOR ECB LOCATION.
- ECB FOR ALTERNATE CONDITION. SEE NOTE 'B'.

		STARK HALL R.R. RENOVATION	607 FI DFR STRFFT	KILGORE, TX 75662	
	BY DATE	GWF 06/29/22 GWF 07/22/2022			
REVISIONS	NO. DESCRIPTION	1 ISSUED FOR BIDDING			
		POWER PLAN		ISSUED FOR BIDDING	
ISSUE DATE:	0112212022	: scale: As indicated	REVISION NO:	~	
B NO:	2084-008	AWN BY: CHECKED BY: APPROVED B GWF WLJ WLJ	IEET NO.:	E1.0	

WLJ ENGINEERING INC. Firm No. 9968 903-762-6599

lame:F:\Facilities\2084 Kilgore College\2084-008 Stark Hall Remodel\CAD\MEP\2084-001 - Stark Hall - MEP Set.nt

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POWER NOTES

- REFER TO E0.0 FOR GENERAL NOTES AND LEGEND.
- COORDINATE ALL WORK WITH MECHANICAL SYSTEMS, ROUTING CONDUIT AS HIGH AS POSSIBLE.
- 3 REFER TO MECHANICAL CONTRACTOR FOR EXACT LOCATIONS OF EQUIPMENT.
- CONTRACTOR SHALL VERIFY ALL POWER REQUIREMENT OF EQUIPMENT BEFORE INSTALLATION OF CONDUIT, BREAKER OR WIRING.

TAG NOTES

- A EXISTING 120/208V 3PH ELECTRICAL PANEL TO REMAIN
- B FURNISH & INSTALL NEW 208V 3PH DISCONNECT TO SERVE DOAU-1. MOUNTED ON UNISTRUT RACK. COORDINATE WITH MECHANICAL CONTRACTOR FOR COMPLETE INSTALLATION.
- C FURNISH & INSTALL NEW 175A/3P BREAKER IN EXISTING PANEL MCP-1 TO SERVE POWER TO NEW DEDICATED OUTDOOR AIR UNIT (DOAU-1). COORDINATE WITH MECHANICAL CONTRACTOR.

			I STARK HALL R R RENOVATION		607 FI DER STRFFT			
	BY DATE	GWF 06/29/22	GWF 07/22/2022					
REVISIONS	DESCRIPTION	ISSUED FOR PERMIT	ISSUED FOR BIDDING					
ISSUE DATE:	0112212022	: SCALE:	1/4" = 1'-0"		REVISION NO:		~	
JOB NO:	2004-000	JRAWN BY: CHECKED BY: APPROVED BY	GWF WI.I WI.I		SHEET NO .:	Ĭ	E1.1	

WLJ ENGINEERING INC. Firm No. 9968

N 1 2nd THRU 8th FLOOR LIGHTING PLAN SCALE: 1/4" = 1'-0"

				LIGHT FIXTURE SCHEDULE	
MARK	VOLTS	LAMPS	MANUFACTURER	MODEL	DESCRIPTION
A1	120 V	LED	LIGHTOLIER	S7R-8-40K-10	7" DIA. LED SURFACE MOUNTED LUMINAIRE WITH THE APPEARANCE OF A RECESSED DOWNLIGHT
					•

LIGHTING NOTES

- REFER TO E0.0 FOR GENERAL NOTES & LEGEND.
- COORDINATE FIXTURE LAYOUT WITH CEILING GRID, HVAC DEVICES, AND COMMUNICATION / SECURITY DEVICES.
- COORDINATE FINAL FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN.

LIGHTING CIRCUITS

LV2-6	 LIGHTS IN 2nd FLOOR RESTROOMS
LV3-6	 LIGHTS IN 3rd FLOOR RESTROOMS
LV4-6	 LIGHTS IN 4th FLOOR RESTROOMS
LV5-6	 LIGHTS IN 5th FLOOR RESTROOMS
LV6-6	 LIGHTS IN 6th FLOOR RESTROOMS
LV7-6	 LIGHTS IN 7th FLOOR RESTROOMS
LV8-6	 LIGHTS IN 8th FLOOR RESTROOMS

WLJ ENGINEERING INC. Firm No. 9968

Appendix B IFB#2021-STARK008 - Stark Residence Hall Renovation

COMPETITIVE BIDDING FORM

1.1 BID INFORMATION

- A. Bidder: _____
- B. Designated Contact for Bidder: _____
- C. Designated Contact's Phone Number: _____
- D. Project Name: Stark Residence Hall Renovation
- E. Project Location: Kilgore College, Stark Hall, 607 Elder Street, Kilgore, TX 75662
- F. Owner: Kilgore College
- G. Architect: Johnson & Pace, Inc.

1.2 BASE BID

- A. The undersigned, having carefully examined the Invitation for Bid Requirements, Conditions of the Contract, Drawings, Specifications, as prepared by Johnson & Pace, Inc., and all subsequent Addenda, having visited the site, and being familiar with all conditions and requirements of the work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Invitation for Bid Documents, for the stipulated sum of:
 - 1. _____Dollars (\$_____).

1.3 ALTERNATES

Bid costs (amount to be added to Base Bid) for each project alternative as described in Appendix B – Schedule A of this IFB document.

- 1. Alternative 1 Reglaze Windows:
- 2. Alternative 2 Paint Building Interior ______
- 3. Alternative 3 Hallway Floors
- 4. Alternative 4 Repair Stair Treads ______
- 5. Alternative 5 Replace Hallway Lighting ______
- 6. Alternative 6 New Ceiling Fans
- 7. Alternative 7 Lobby Restroom Finishes

1.4 TIME OF COMPLETION

- A. If awarded this contract, the Undersigned hereby agrees to execute the work as follows:
 - 1. Work can begin December 10, 2022, and be completed by _____ (Insert date).

INVITATION FOR BIDS FORM

- B. For those materials requiring protection from the elements, contractor shall make necessary provisions for storage on the jobsite. Owner may be able to provide storage facilities off site to be determined. Materials shall be appropriately insured during storage by contractor.
- C. It is imperative that the contractor make efficient use of his time and workers, in the progress of the work to meet the completion dates listed above.

1.5 EXTRA WORK

A. If extra work is ordered by the Owner, the Undersigned agrees to perform each work for net cost of all materials and labor furnished plus______% for overhead and profit.

1.6 SUBCONTRACTORS AND SUPPLIES

- A. The following companies shall execute subcontractors for the portions of the work indicated:
 - 1. Demolition Work: _____
 - 2. Tile Work:
 - 3. Interior Finishes Work:_____
 - 4. Mechanical Work:
 - 5. Plumbing Work:_____
 - 6. Electrical Work:

1.7 CONTRACTOR'S LICENSE

A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in Gregg County, Texas, and that all fees, permits, etc., pursuant to submitting the bid have been paid in full.

1.8 PROPOSER INFORMATION

- A. The undersigned confirms inclusion of information documenting how proposer meets the selection criteria.
 - 1. Cost for Services listed in sections 1.2 and 1.3 above.
 - Qualification and Reputation of the Bidder please attach a description of bidder's leadership team and the education/experience of those individuals who would be involved in this project. Include at least three (3) references for construction/renovation projects that have been completed within the past two (2) years.
 - 3. Past Relationship with the College and/or design team please attach a description of previous projects completed for the College and/or experience in working with Johnson & Pace, Inc. on renovation projects.
 - Specific experience in the scope of the proposed project please attach a description of experience in building/renovating projects that are substantially similar to this project and include at least three additional (3) references for substantially similar projects.

1.9 BID ACCEPTANCE

- A. Firm Name:
- B. Address: _____

C.	Phone/Fax:
D.	Authorized Signature:
E.	Title:
F.	Date:

Appendix B - Schedule A ALLOWANCES, ALTERNATES

1.1 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased ordecreased.
- B. Alternate: An amount proposed by proposers and stated on the IFB Form for certain work defined in the requirements that may be added to or deducted from the base proposal amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
- C. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.2 UNIT PRICES:

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Take measurements and compute quantities. Architect/Engineer will verify measurement/ quantities
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: If required a schedule of unit prices is included on the IFB Form.
- E. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Architect multiplied by unit sum/price for Work incorporated in or made necessary by the Work.

1.3 ALTERNATES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other work of the Contract.

C. Schedule:

1. Alternate #1 –

1.4 CHANGE PROCEDURES

- A. The Conditions of the Contract states that the Owner may order changes in the Work within the general scope of the Contract, consisting of additions, deletions or other revisions. If such revisions cause an increase or decrease in the Construction Managers or a Contractor's cost or time required for performance of the contract, an equitable adjustment may be made and confirmed in writing in the form of a Contract Change
- B. Architect will issue through the Construction manager or General Contractor supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.
- C. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 14 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
- D. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Construction Manager or General Contractor may initiate a claim by submitting a request for a change to Architect.
 - Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
- E. On Owner's approval of a work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Construction Manager/ General Contractor on AIA DocumentG701
- F. Work Change Directive: Architect may issue a Work Change Directive on AIA G714. Change Directive instructs Construction Manager / General Contractor to proceed with change in the Work, for inclusion in a future Change Order.
 - 1. Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or Contract Time.
 - 2. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive.

1.5 SCHEDULE OF VALUES

- A. The Construction Manager / General Contractor will submit a printed schedule on AIA Form G702 and G703. All contractors to coordinate and support the completion of this information by the CM /GC Coordination:
- B. Submit Schedule of Values within 14 days after the Contractor Agreement or upon Notification to Proceed.
 - 1. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of

Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.

- 2. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
- Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.

- 4. Sub-schedules for Phased Work: Where the work is separated into phases requiring separately phased payments, breakdown schedules showing values associated with each phase
- 5. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
- 6. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.
- 7. Forms filled out by hand will not be accepted.
- 8. Electronic media printout including equivalent information will be considered in lieu of standard form specified: If reviewed and approved by Architect.

APPENDIX C ADDENDA CHECKLIST

Bid of:

(Bidding Company's Name)

To: Kilgore College Ref.: Stark Hall Building Renovation IFB No.: 2021-STARK008

Ladies and Gentlemen:

The undersigned bidder hereby acknowledges receipt of the following Addenda to the captioned IFB (initial for each if applicable).

It is the bidder's responsibility to make sure they have obtained all addenda. Addenda, if any, will be posted on KC's website at <u>https://www.kilgore.edu/about/offices/procurement-services</u>

No. 1 _____ No. 2 _____ No. 3 _____ No. 4 _____ No. 5 _____

If no Addenda's available initial here.

Respectfully submitted,

Bidder: _____

By:			
(Authorized	Signature for Bidder)		
Printed Name:			
Title:			
Date:			

APPENDIX D

EXECUTION OF OFFER

By signature hereon, bidder offers and agrees to furnish to Kilgore College the products and/or services more particularly described in its bid, at the prices quoted in the bid, and to comply with all terms, conditions and requirements set forth in the IFB documents and contained herein.

By signature hereon, bidder affirms that she/he has not given, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to a public servant in connection with the submitted proposal.

By signature hereon, bidder certifies that the individual signing this document and the documents made part of the IFB is authorized to sign such documents on behalf of the company and to bind the company under any agreements or other contractual arrangements which may result from the submission of bidder's bid.

By signature hereon, bidder affirms that no compensation has been received for participation in the preparation of the specifications for this IFB. (ref. Section 2155.004 *Texas Government Code*).

Bidder represents and warrants that all articles and services quoted in response to this IFB meet or exceed the safety standards established and promulgated under the Federal Occupational Safety and Health Law (Public Law 91-596) and its regulations in effect or proposed as of the date of this solicitation.

By signature hereon, bidder signifies her/his compliance with all federal laws and regulations pertaining to Equal Employment Opportunities and Affirmative Action.

By signature hereon, bidder agrees to defend, indemnify, and hold harmless KC, all of its board members, agents and employees from and against all claims, actions, suits, demands, proceedings, costs and expenses (including reasonable attorneys' fees and court costs), damages, and liabilities, arising out of, connected with, or resulting from any negligent or willful acts or omissions of bidder or any agent, employee, subcontractor, or supplier of bidder in the execution or performance of any agreements or other contractual arrangements which may result from the submission of bidder's bid.

By signature hereon, bidder agrees to abide by and fully comply with KC's smoking policy. Bidder understands that this applies to the project at issue and bidder agrees that all persons working under or for bidder will abide by this policy in all respects.

Bidder:	EIN No:			
Address:				
Telephone:	Email:			
Office Name & Title (printed)				
Officer Signature:	Date:			