STEPHEN F. AUSTIN STATE UNIVERSITY

NACOGDOCHES, TEXAS

INVITATION TO BID

FAILURE TO SIGN WILL DISQUALIFY BID

Bid No.: FIRE-PROTECT-2016
ADDENDUM NO. 2

Due Date: 04/19/16 at 3:00 P.M.

Show bid opening and bid invitation number in lower left hand corner of sealed bid envelope and return sealed bids to:

Stephen F. Austin State University
P. O. Box 13030, SFA Station
2124 Wilson Drive
Nacogdoches, Texas 75962-3030
Phone (936) 468-2206
FAX (936) 468-4282 (See 2.3 reverse side)

Signature City Zip

Printed Name

VENDOR NAME AND ADDRESS

Name of Firm

Mailing Address

City State Zip

PHONE/FAX

Phone

FAX

EMAIL

See Instruction 2.10 on Back for Vendor ID Number
Is Vendor a State of Texas certified HUB? ☐ Yes

Delivery in _____ Days Cash Disc._____ % _____Days

Check all that apply if Preference Claimed under Rule 34 TAC 20.38

__ Supplies, materials or equipment: produced in TX/offered by TX bidders*
__ Agricultural products grown in TX
__ Agricultural products offered by TX bidders*
__ USA produced supplies, materials or equipment
__ Products produced at facilities located on formerly contaminated property
__ Products of persons with mental or physical disabilities
__ Products made of recycled, remanufactured, or environmentally sensitive materials
__ Energy efficient products
__ Rubberized asphalt paving material
__ Recycled motor oil and lubricants
__ Products and services from economically depressed or blighted areas

*By signing this bid, bidder certifies that if a Texas address is shown as the address of the bidder, bidder qualifies as a Texas resident Bidder as defined in Rule 34 TAC 20.38.

IF QUOTING OTHER THAN THE REFERENCED ITEM(S) BELOW, BROCHURE AND/OR SPECIFICATIONS SHOULD BE ENCLOSED.
ALL BIDS WILL BE CONSIDERED F.O.B. DESTINATION UNLESS OTHERWISE NOTED.

AWARD NOTICE: Stephen F. Austin State University (SFASU) reserves the right to make an award on the basis of low line item bid, low total of line items, or in any other combination that will serve the best interest of SFASU and to reject any and all bid items in the sole discretion of SFASU.

Item No.	Description	Qty. & Unit	Unit Price	Extension
	Quote price on quantity and unit of measure, extend and show total. If error in extension, unit price shall govern. Items for state use are exempt from state sales and federal excise tax. Do not include tax in your bid.			
	ADDENDUM NO. 2 **THIS ADDENDUM MUST BE ACKNOWLEDGED IN ORDER FOR THE RESPONSE TO RECEIVE CONSIDERATION. FAILURE TO ACKNOWLEDGE THE ADDENDUM WILL RESULT IN DISQUALIFICATION OF THE RESPONSE.** **CLARIFICATIONS** Reference Exhibit A for Engineer's Addendum No. 2 documenting clarifications to the Project Manual.			

EXHIBIT A

PROJECT MANUAL AND DRAWINGS

GOODWIN • LASITER • STRONG
ENGINEERING • ARCHITECTURE • INTERIOR DESIGN • SURVEYING

LUFKIN • GROESBECK • BRYAN/COLLEGE STATION
www.glstexas.com

April 13, 2016

ADDENDUM NUMBER TWO (002)

Mr. Bruce Lanham
SFASU
Box 13031
Nacogdoches, TX 75962

Re: SFA –Fire Protection Systems for Mays Hall, Hall 10 and Hall 14
G-L-S JOB NO. 501108, 501109, and 501110

NOTICE TO BIDDERS:

This addendum shall be considered a part of the contract documents for the above named project and incorporated with the issued documents and specifications dated 3-30-2016, and all addenda issued thereof. This Addendum Number Two (002) dated April 13, 2016, shall govern and take precedence. This Addendum consists of 1- 8 1/2" x 11" sheet. This Addendum applies to all three fire protection projects at SFA: Hall 10, Hall 14 and Mays Hall.

Clarifications:

1. Painting of any exposed sprinkler piping, access panels, and any touch up painting shall be completed by the University.

2. Replace any existing stand pipes with new stand pipes. Provide new value boxes as well. At Hall 10, replace existing 2" stand pipe with new 2 ½" stand pipe. Tie new stand pipe into existing 3" waterline located in building crawlspace.

3. Contractor shall coordinate testing of fire alarm / fire sprinkler system with the University and Simplex.

4. CPVC approved plastic pipe may be used where allowed by NFPA13R. Underground piping, piping into the building, and standpipes must be steel / Iron per the specification.

5. Flexible drop connections shall be permitted if and where allowed by the code.

Mark V. Strong, AIA
Principal Architect
MVS/cp

1609 S. CHESTNUT • SUITE 202
LUFKIN, TEXAS • 75901

PHONE: 936-637-4900
FAX: 936-637-6330
admin@glstexas.com

T.B.P.E. FIRM NO. 413

T.B.P.L.S. FIRM NO. 10110900

STEPHEN F. AUSTIN STATE UNIVERSITY

NACOGDOCHES, TEXAS

INVITATION TO BID

FAILURE TO SIGN WILL DISQUALIFY BID

Bid No.: FIRE-PROTECT-2016
ADDENDUM NO. 1

Due Date: 04/19/16 at 3:00 P.M.

Show bid opening and bid invitation number in lower left hand corner of sealed bid envelope and return sealed bids to:

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P. O. Box 13030, SFA Station
2124 Wilson Drive
Nacogdoches, Texas 75962-3030
Phone (936) 468-2206
FAX (936) 468-4282 (See 2.3 reverse side)

Signature City Zip

Printed Name

VENDOR NAME AND ADDRESS

Name of Firm

Mailing Address

City State Zip

PHONE/FAX

Phone

FAX

EMAIL

See Instruction 2.10 on Back for Vendor ID Number
Is Vendor a State of Texas certified HUB? ☐ Yes

Delivery in _____ Days Cash Disc._____ % _____Days

Check all that apply if Preference Claimed under Rule 34 TAC 20.38

__ Supplies, materials or equipment: produced in TX/offered by TX bidders*
__ Agricultural products grown in TX
__ Agricultural products offered by TX bidders*
__ USA produced supplies, materials or equipment
__ Products produced at facilities located on formerly contaminated property
__ Products of persons with mental or physical disabilities
__ Products made of recycled, remanufactured, or environmentally sensitive materials
__ Energy efficient products
__ Rubberized asphalt paving material
__ Recycled motor oil and lubricants
__ Products and services from economically depressed or blighted areas

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ALL BIDS WILL BE CONSIDERED F.O.B. DESTINATION UNLESS OTHERWISE NOTED.

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Item No.	Description	Qty. & Unit	Unit Price	Extension
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	ADDENDUM NO. 1 **THIS ADDENDUM MUST BE ACKNOWLEDGED IN ORDER FOR THE RESPONSE TO RECEIVE CONSIDERATION. FAILURE TO ACKNOWLEDGE THE ADDENDUM WILL RESULT IN DISQUALIFICATION OF THE RESPONSE.** **PRE-BID MEETING/SITE VISIT SIGN-IN SHEETS** The sign-in sheets from the mandatory pre-bid meeting/site visit held 04/6/16 are attached. **SPECIFICATIONS** Reference Exhibit A for Engineer's Addendum No. 1 documenting changes to the Project Manual.			

STEPHEN F. AUSTIN STATE UNIVERSITY
Invitation To Bid #FIRE-PROTECT-2016 Addendum No. 2
CONTINUATION PAGE

QUESTIONS

Q: Will we rework existing fire system to fit?
A: Yes.

Q: Can we get copy of drawings from last year on previous resident hall 16 fire protection drawings?
A: Yes, drawings included with addendum to project manual.

Q: Will there be any issues related to concealed heads?
A: Will need to look at this again in each resident hall.

Q: Is the ceiling plaster?
A: Yes.

Q: Is the asbestos survey completed?
A: Yes.

Q: Is it the same 4" fire line?
A: Yes.

Q: Will rooms be empty of furniture?
A: No.

Q: Will floor protection be required?
A: Yes floor protection is required in all areas of work including stairwells.

Q: Who do we contact for Hall access?
A: Jim Radar at (936)468-6601 after 10am.

Q: Mays Hall upper floor wings have a plaster ceiling above suspended ceiling. Is it okay to cut a hole for pipe hanger?
A: Yes.

Q: Does the plaster need to be patched?
A: No.

Q: Mays Hall has solid beam across hallway so how do we handle?
A: Expose sprinkler pipe.

INVITATION TO BID #ITB -FIRE-PROTECT-2016

PRE-BID MEETING HELD April 6, 2016 1:30pm

SIGN IN SHEET

Company Name: Alliance Construction Serive Email: Paul @ Alliance Construction Service.com

Representative Name: Paul Meek Phone: 318-218-0051 Fax:

Address: 9525 Pleasant Hill Rd City: Shreveport St/Zip: 71106

CONTACT FOR HUB PAPERWORK (name, phone, email): EMAIL

Company Name: ALLIANCE CONSTRUCTION SERVICE Email: MARVIN@ALLIANCECONSTRUCTIONSERVICE.COM

Representative Name: MARVIN JORDAN Phone: 318-422-0158 Fax: 318-797-7352

Address: 9525 PLEASANT HILL RD. City: SHREVEPORT LOUISIANA St/Zip: 71106

CONTACT FOR HUB PAPERWORK (name, phone, email):

Company Name: Acumen Enterprises, Inc. Email: Stephen@acumen-enterprises.com

Representative Name: Stephen Ysebaert Phone: 972-572-0701 Fax: 972-572-0889

Address: 1504 Falcon Dr. City: DeSoto St/Zip: TX 75115

CONTACT FOR HUB PAPERWORK (name, phone, email): Stephen Ysebaert, 972-572-0701, Stephen@acumen-enterprises.com

Please Print Legibly

INVITATION TO BID #ITB -FIRE-PROTECT-2016

PRE-BID MEETING HELD April 6, 2016 1:30pm

SIGN IN SHEET

Company Name: AFPG - MUTUAL SPRINKLERS Email: CHARLES.MARTIN@AFPGUSA.US

Representative Name: CHARLES MARTIN Phone: 903-939-2066 Fax: 903-939-2019

Address: 12440 Hwy 155 S. #1A City: Tyler St/Zip: TX 75703

CONTACT FOR HUB PAPERWORK (name, phone, email): CASON SHRODE 903-939-2066 CASON.SHRODE@AFPGUSA.US

Company Name: AFPG Mutual Sprinklers Email: Cory.Carpenter@afpgusa.us

Representative Name: Cory Carpenter Phone: 903-216-2473 Fax: 903-939-2019

Address: 12440 HWY 155 S. Unit 1A City: Tyler St/Zip: TX 75703

CONTACT FOR HUB PAPERWORK (name, phone, email): Cason Shrode 903-939-2066 cason.shrode@afpgusa.us

---

Company Name: Email:

Representative Name: Phone: Fax:

Address: City: St/Zip:

CONTACT FOR HUB PAPERWORK (name, phone, email):

Please Print Legibly

INVITATION TO BID #ITB -FIRE-PROTECT-2016

PRE-BID MEETING HELD April 6, 2016 1:30pm

SIGN IN SHEET

Company Name: Northwest Fire Protection Email: Joe@nwfireprot.net

Representative Name: Joe Stubblefield Phone: 479-646-8934 Fax:

Address: 2434 Vicksburg City: Ft. Smith, AR St/Zip: 72908

CONTACT FOR HUB PAPERWORK (name, phone, email): Joe Stubblefield

---

Company Name: JE KINGHAM Email: rfleenor@jekcc.com

Representative Name: RONNIE FLEENOR Phone: 936-564-3329 Fax: 936-569-7544

Address: 312 OLD TYLER ROAD City: HACKDEGAES St/Zip: 75563

CONTACT FOR HUB PAPERWORK (name, phone, email): JAMIE ANDRESS jandress@jekcc.com

---

Company Name: Email:

Representative Name: Phone: Fax:

Address: City: St/Zip:

CONTACT FOR HUB PAPERWORK (name, phone, email):

Please Print Legibly

EXHIBIT A

PROJECT MANUAL AND DRAWINGS

GOODWIN • LASITER • STRONG
ENGINEERING • ARCHITECTURE • INTERIOR DESIGN • SURVEYING

LUFKIN • GROESBECK • BRYAN/COLLEGE STATION
www.glstexas.com

April 8, 2016

ADDENDUM NUMBER ONE (001)

Mr. Bruce Lanham
SFASU
Box 13031
Nacogdoches, TX 75962

Re: SFA –Fire Protection Systems for Mays Hall, Hall 10 and Hall 14
G-L-S JOB NO. 501108, 501109, and 501110

NOTICE TO BIDDERS:

This addendum shall be considered a part of the contract documents for the above named project and incorporated with the issued documents and specifications dated 3-30-2016, and all addenda issued thereof. This Addendum Number One (001) dated April 8, 2016, shall govern and take precedence. This Addendum consists of 2- 8 1/2" x 11" sheet, and 6 - 30"x42" sheets. This Addendum applies to all three fire protection projects at SFA: Hall 10, Hall 14 and Mays Hall.

Clarifications:

1. Attached for **reference only** are submittal drawings of Sprinkler project at Hall 16 completed in 2015. The drawings shall in no way be used to complete any of the work for Hall 10, Hall 14 or Mays Hall.

2. Protect existing floors and walls from damage during demolition and installation. Clean up any debris from these areas after work is complete.

3. For access to any of the three facilities during bidding, Contact Jim Rader at SFASU Housing after 10:00AM at 936-468-6601.

4. Any demolition or penetrations to existing plaster located **above** lay in ceilings is not required to be patched. Holes may be cut into plaster for pipe hangers.

5. Any piping required to cross an existing structural concrete beam shall be run exposed as necessary around the beam. Do not cut or drill through beam.

6. For sprinkler heads at all sidewall locations, use Reliable F1 Res 44 (semi recessed) with F2 escutcheon or approved equal.

7. All metal (flush) access panels shall be a minimum of 10" x 10" or as required for adequate access. All metal access panels shall be lockable and keyed the same.

1609 S. CHESTNUT • SUITE 202
LUFKIN, TEXAS • 75901

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FAX: 936-637-6330
admin@glstexas.com

T.B.P.E. FIRM NO. 413

T.B.P.L.S. FIRM NO. 10110900

8. Provide backflow prevention at each main fire line as per the requirements of the local governing body and or utility provider.

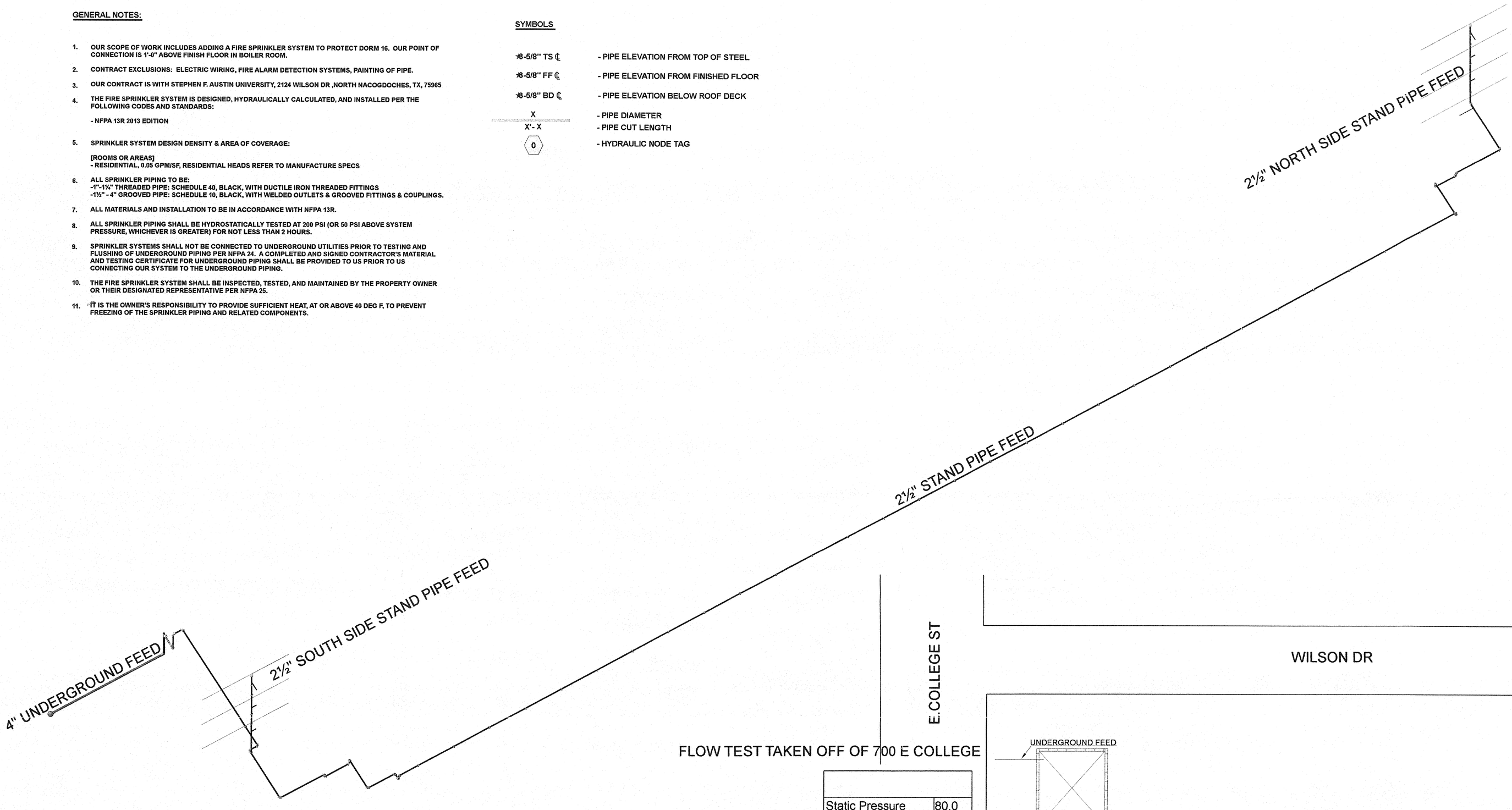
Mark V. Strong, AIA
Principal Architect
MVS/cp

GENERAL NOTES:

1. OUR SCOPE OF WORK INCLUDES ADDING A FIRE SPRINKLER SYSTEM TO PROTECT DORM 16. OUR POINT OF CONNECTION IS 1'-0" ABOVE FINISH FLOOR IN BOILER ROOM.
2. CONTRACT EXCLUSIONS: ELECTRIC WIRING, FIRE ALARM DETECTION SYSTEMS, PAINTING OF PIPE.
3. OUR CONTRACT IS WITH STEPHEN F. AUSTIN UNIVERSITY, 2124 WILSON DR ,NORTH NACOGDOCHES, TX, 75965
4. THE FIRE SPRINKLER SYSTEM IS DESIGNED, HYDRAULICALLY CALCULATED, AND INSTALLED PER THE FOLLOWING CODES AND STANDARDS:
   - NFPA 13R 2013 EDITION
5. SPRINKLER SYSTEM DESIGN DENSITY & AREA OF COVERAGE:
   [ROOMS OR AREAS]
   - RESIDENTIAL, 0.05 GPM/SF, RESIDENTIAL HEADS REFER TO MANUFACTURE SPECS
6. ALL SPRINKLER PIPING TO BE:
   -1"-1¼" THREADED PIPE: SCHEDULE 40, BLACK, WITH DUCTILE IRON THREADED FITTINGS
   -1½" - 4" GROOVED PIPE: SCHEDULE 10, BLACK, WITH WELDED OUTLETS & GROOVED FITTINGS & COUPLINGS.
7. ALL MATERIALS AND INSTALLATION TO BE IN ACCORDANCE WITH *NFPA 13R*.
8. ALL SPRINKLER PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI (OR 50 PSI ABOVE SYSTEM PRESSURE, WHICHEVER IS GREATER) FOR NOT LESS THAN 2 HOURS.
9. SPRINKLER SYSTEMS SHALL NOT BE CONNECTED TO UNDERGROUND UTILITIES PRIOR TO TESTING AND FLUSHING OF UNDERGROUND PIPING PER NFPA 24. A COMPLETED AND SIGNED CONTRACTOR'S MATERIAL AND TESTING CERTIFICATE FOR UNDERGROUND PIPING SHALL BE PROVIDED TO US PRIOR TO US CONNECTING OUR SYSTEM TO THE UNDERGROUND PIPING.
10. THE FIRE SPRINKLER SYSTEM SHALL BE INSPECTED, TESTED, AND MAINTAINED BY THE PROPERTY OWNER OR THEIR DESIGNATED REPRESENTATIVE PER NFPA 25.
11. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SUFFICIENT HEAT, AT OR ABOVE 40 DEG F, TO PREVENT FREEZING OF THE SPRINKLER PIPING AND RELATED COMPONENTS.

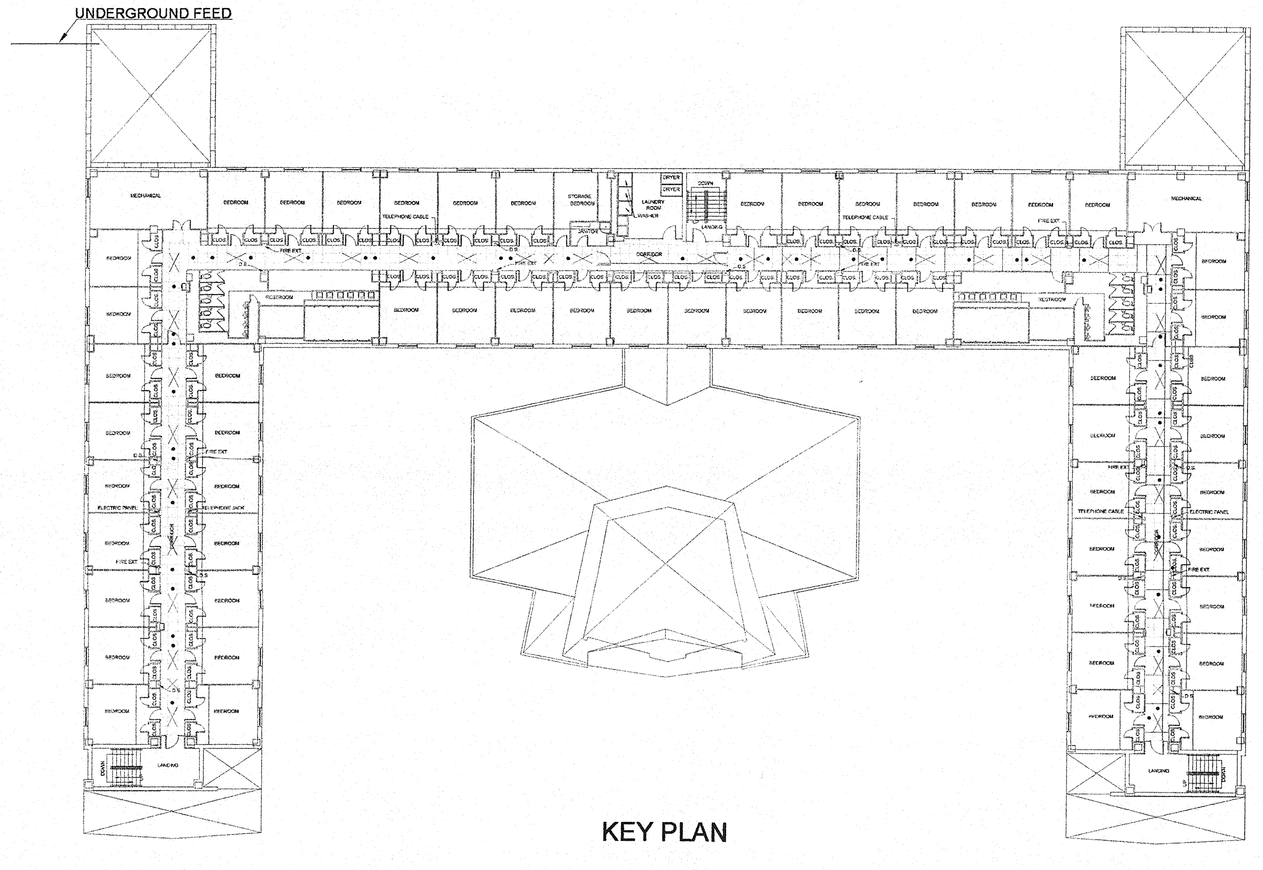
SYMBOLS

8-5/8" TS ℄	- PIPE ELEVATION FROM TOP OF STEEL
8-5/8" FF ℄	- PIPE ELEVATION FROM FINISHED FLOOR
8-5/8" BD ℄	- PIPE ELEVATION BELOW ROOF DECK
X	- PIPE DIAMETER
X'- X	- PIPE CUT LENGTH
0	- HYDRAULIC NODE TAG



FLOW TEST TAKEN OFF OF 700 E COLLEGE

Static Pressure	80.0
Residual Pressure:	70.0
Flow	1163.0



KEY PLAN

1/8"=1'-0"
0' 2' 4' 8'

AMERICAN FIRE PROTECTION GROUP, INC.
www.afpgusa.com

MUTUAL SPRINKLERS, Inc.
12440 Hwy 155 S, Unit 1A Tyler, Texas 75703
Texas State License SCR-G-1734091
Phone (903) 939-2066 Fax (903) 939-2019
AMERICAN FIRE PROTECTION GROUP, INC

I HAVE REVIEWED THESE PLANS AND CERTIFY THAT THEY COMPLY WITH THE ADOPTED NFPA STANDARDS
MUTUAL SPRINKLERS Inc.
12440 Hwy 155 S. Unit 1A
Tyler, Texas 75703
Phone (903) 939-2066
Fax (903) 939-2019
Texas State License SCR-G-1734091
RME SIGNATURE:
PRINTED RME NAME: Brian Dyer
RME #: G-1795178 DATE: 5/8/2015
☐ AS-SUILT ☒ SUBMITTAL ☐ OTHER

REVISIONS:
1 xx/xx/xx xxxxxxxxxxxxxx
2
3

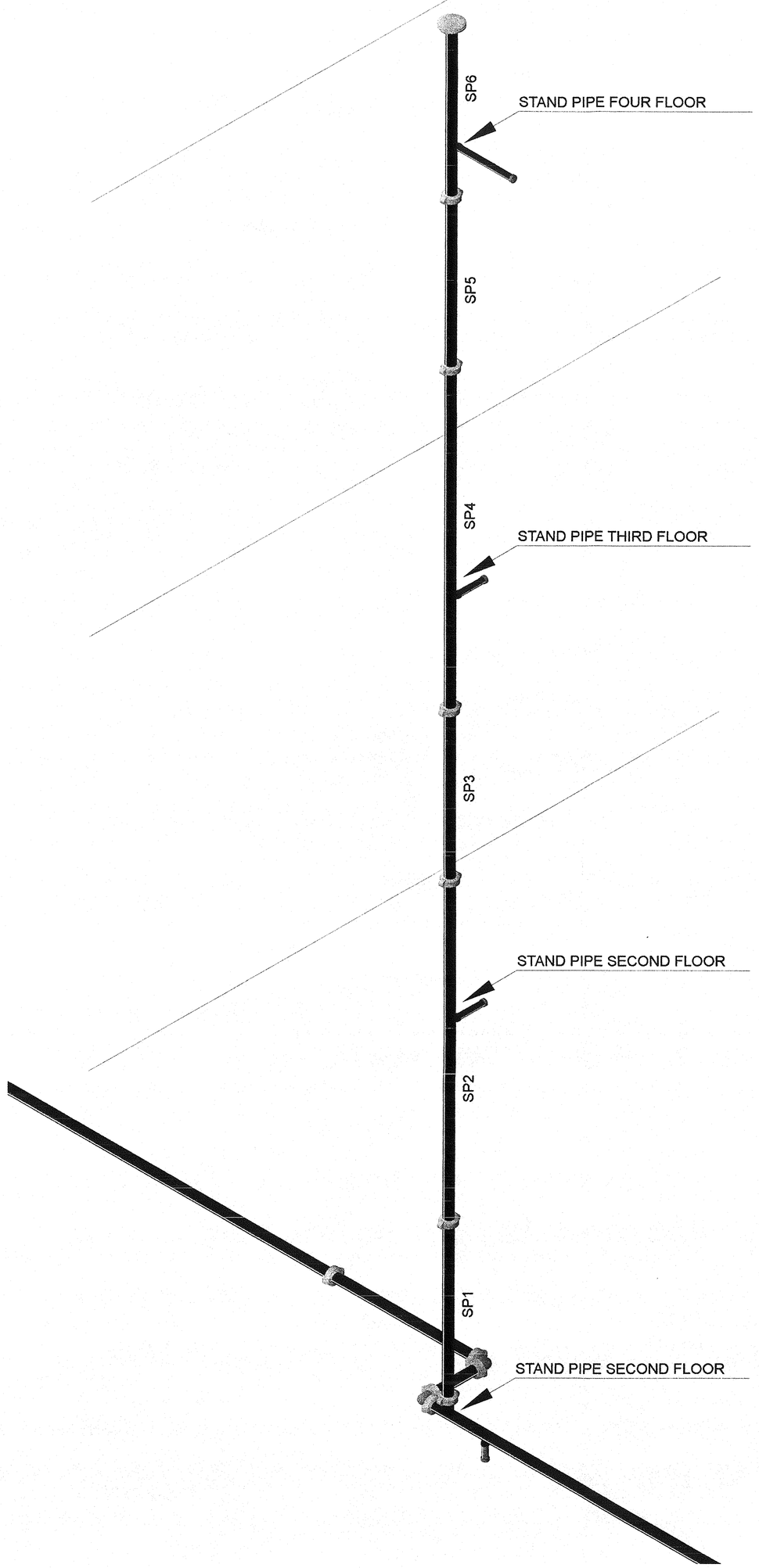
JOB NAME: SFA HALL 16
2117 Wilson Dr North
Nacogdoches, TX 75965

SHEET NAME: FIRE SPRINKLER PLAN, NOTES, & DETAILS

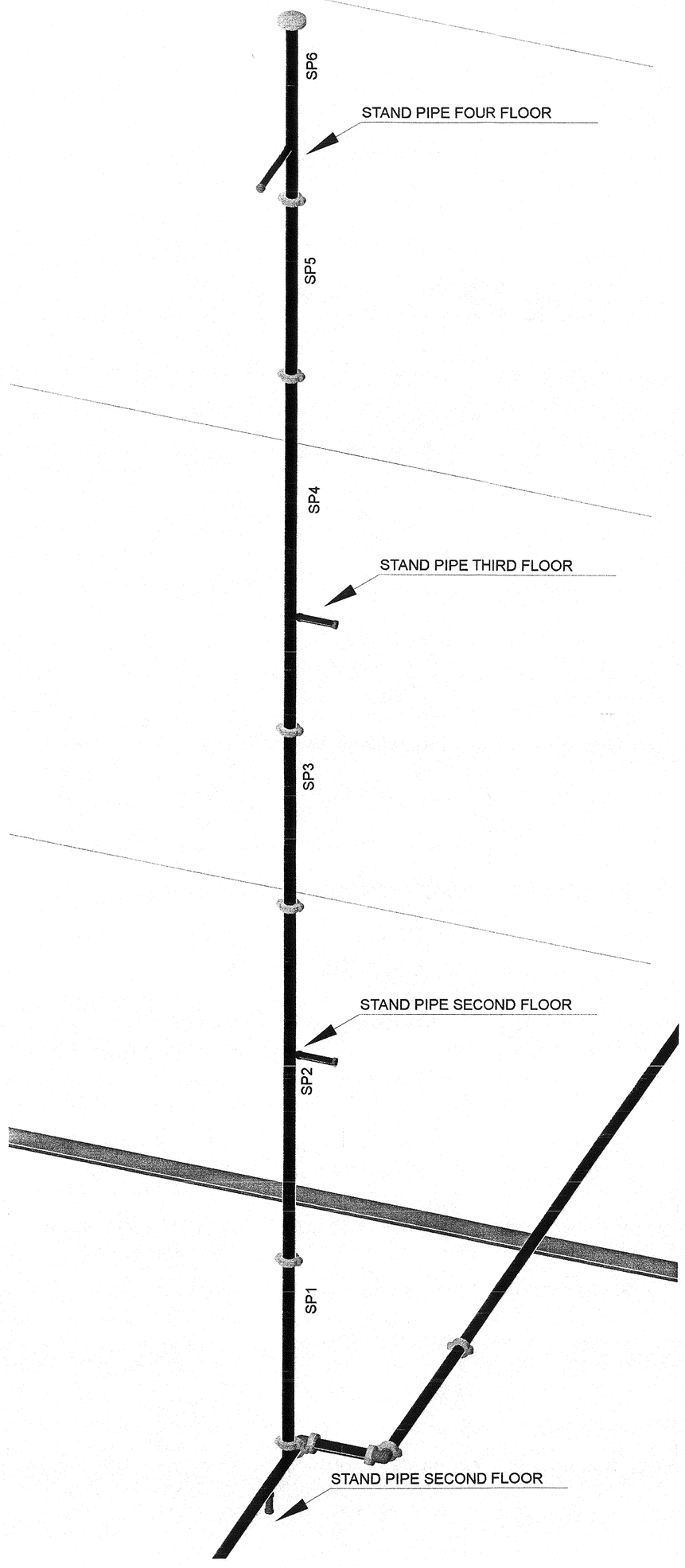
DRAWN BY: F.Gomez
DATE: 5/8/2015
JOB #: 31150021
SCALE (UNO): 1'-8"=1'-0
SHEET NO: FP1

PLOT DATE: 05/08/15 FILE NAME: SFA 1st Floor

STAND PIPE FEED SOUTH SIDE



STAND PIPE FEED NORTH SIDE



RISER DETAIL NORTH SIDE FIRST FLOOR

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6. ALL SPRINKLER PIPING TO BE:
   -1"-1¼" THREADED PIPE: SCHEDULE 40, BLACK, WITH DUCTILE IRON THREADED FITTINGS
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10. THE FIRE SPRINKLER SYSTEM SHALL BE INSPECTED, TESTED, AND MAINTAINED BY THE PROPERTY OWNER OR THEIR DESIGNATED REPRESENTATIVE PER NFPA 25.
11. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SUFFICIENT HEAT, AT OR ABOVE 40 DEG F, TO PREVENT FREEZING OF THE SPRINKLER PIPING AND RELATED COMPONENTS.

SYMBOLS

★12" TS ℄	- PIPE ELEVATION FROM TOP OF STEEL
★10'-6" FF ℄	- PIPE ELEVATION FROM FINISHED FLOOR
★12" BD ℄	- PIPE ELEVATION BELOW ROOF DECK
X	- PIPE DIAMETER
X'- X	- PIPE CUT LENGTH
⬡ 0	- HYDRAULIC NODE TAG

BACKFLOW DETAIL SOUTH SIDE FEED

FIELD USE ONLY

PLOT DATE: 05/08/15 FILE NAME: SFA 1st Floor

1/8"=1'-0"
0' 2' 4' 8'

N

AMERICAN FIRE PROTECTION GROUP, INC.
www.afpgusa.com

MUTUAL SPRINKLERS, Inc.
12440 Hwy 155 S, Unit 1A Tyler, Texas 75703
Texas State License SCR-G-1734091
Phone (214) 349-2221 Fax (214) 349-2281
AMERICAN FIRE PROTECTION GROUP, INC

I HAVE REVIEWED THESE PLANS AND CERTIFY THAT THEY COMPLY WITH THE ADOPTED NFPA STANDARDS

MUTUAL SPRINKLERS, Inc.
12440 Hwy 155 S, Unit 1A
Tyler, Texas 75703
Phone (903) 939-2066
Fax (903) 939-2019
Texas State License SCR-G-1734091

RME SIGNATURE:

PRINTED RME NAME: Brian Dyer

RME #: G-1293126 DATE: 5/8/2015

☐ AS-BUILT ☒ SUBMITTAL ☐ OTHER

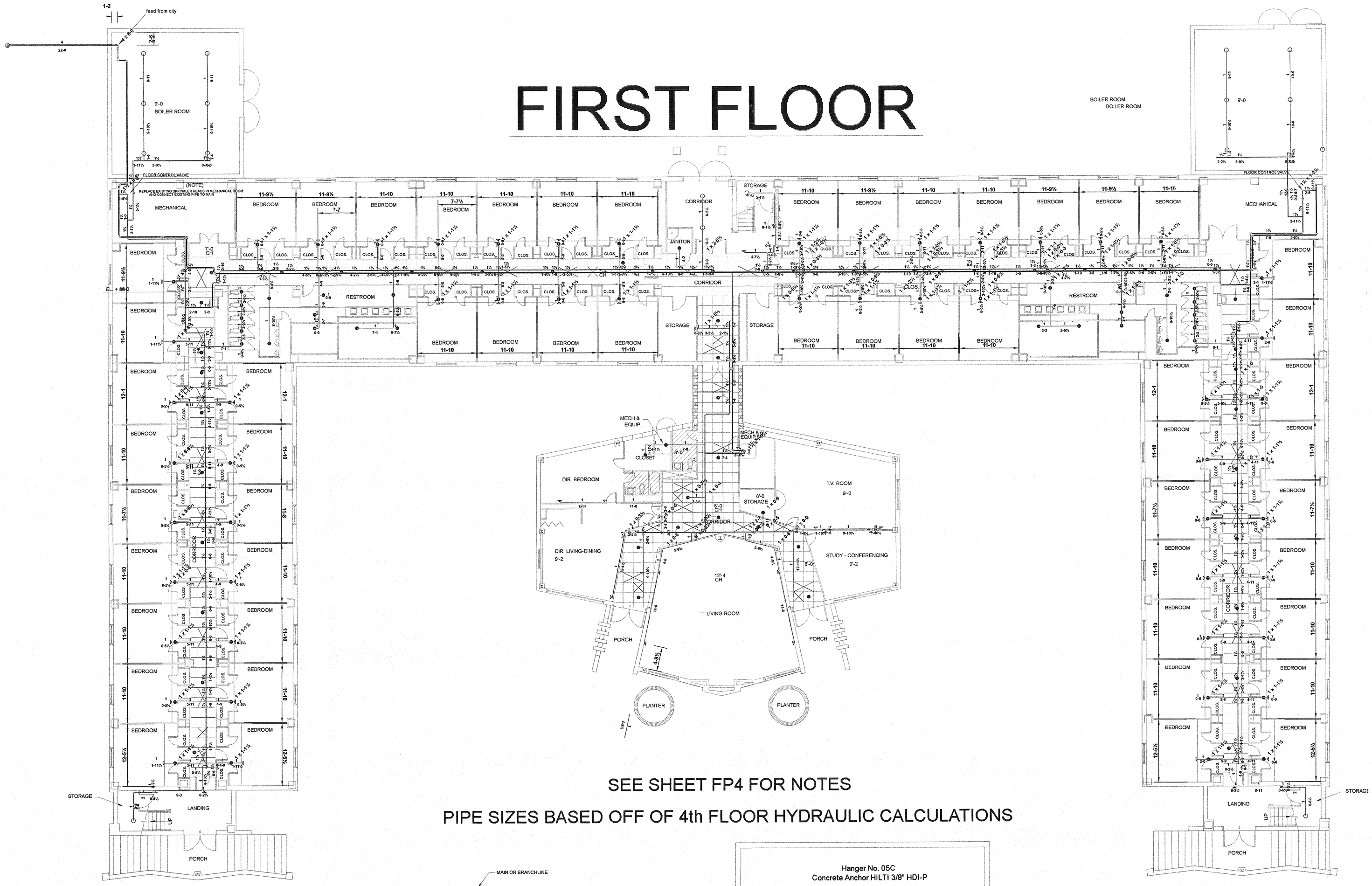
REVISIONS:
1 xx/xx/xx xxxxxxxxxxxxx
2
3

JOB NAME: SFA HALL 16
2117 Wilson Dr North
Nacogdoches, TX 75965

SHEET NAME: FIRE SPRINKLER PLAN, NOTES, & DETAILS

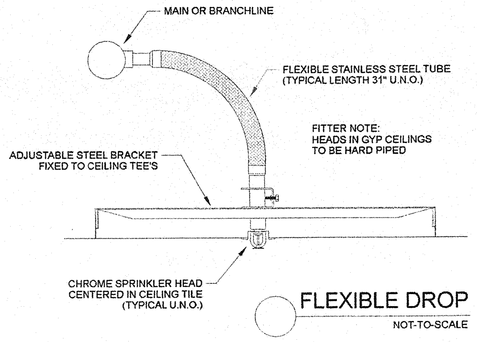
DRAWN BY: F.Gomez
DATE: 5/8/2015
JOB #: 31150021
SCALE (UNO): 1/8"=1'-0
SHEET NO: FP2

FIRST FLOOR

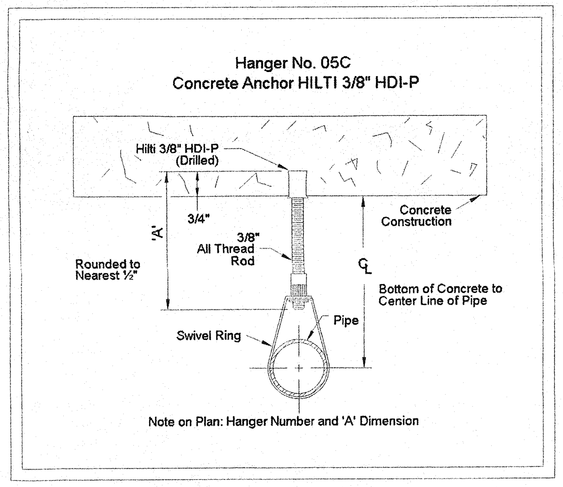


SEE SHEET FP4 FOR NOTES

PIPE SIZES BASED OFF OF 4th FLOOR HYDRAULIC CALCULATIONS



FLEXIBLE DROP
NOT-TO-SCALE



1/8"=1'-0"
0' 2' 4' 8'

N

AMERICAN FIRE PROTECTION GROUP, INC.
www.afpgusa.com

MUTUAL SPRINKLERS, Inc.
12440 Hwy 155 S Unit 1a, Tyler, Texas 75703
Texas State License SCR-G-1734091
Phone (903) 939-2066 Fax (903) 939-2019
AMERICAN FIRE PROTECTION GROUP, INC

I HAVE REVIEWED THESE PLANS AND CERTIFY THAT THEY COMPLY WITH THE ADOPTED NFPA STANDARDS

MUTUAL SPRINKLERS, Inc.
12440 Hwy 155 S. Unit 1A
Tyler, Texas 75703
Phone (903) 939-2066
Fax (903) 939-2019
Texas State License SCR-G-1734091

RME SIGNATURE:
PRINTED RME NAME: Brian Dale
RME #: G-1735178 DATE: 5/8/2015
☐ AS-BUILT ☒ SUBMITTAL ☐ OTHER

Sprinkler Legend

Symbol	SIN	Qty	K-Factor	Type	Size	Response	Finish	Temp	Note
	R3531	74	4.4	Sidewall	½	Quick	White	155°F	HSW
		17	8	Upright	½	Quick	Brass	200°F	
	RA0616	132	4.9	Pendent	½	Quick	White	165°F	CONCEALED
		Total = 223							

REVISIONS:
1 xxxxxxx
2
3

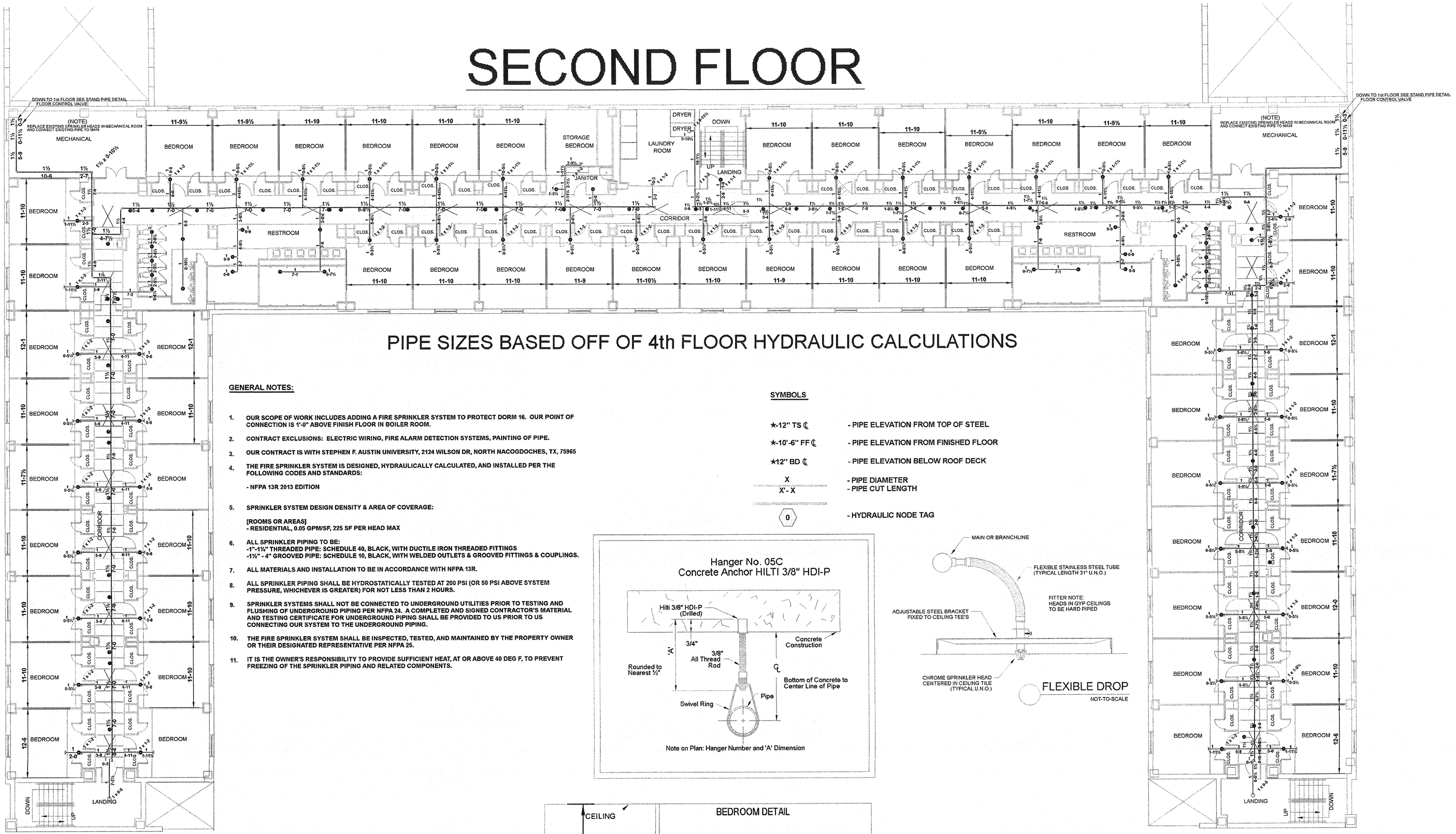
JOB NAME: SFA HALL 16
2117 Wilson Dr North
Nacogdoches, TX 75965

SHEET NAME: FIRE SPRINKLER PLAN, NOTES, & DETAILS

DRAWN BY: F.Gomez
DATE: 5/8/2015
JOB #: 3115002:1
SCALE (UNO): 1/8"=1'-0
SHEET NO: FP3

PLOT DATE: 05/08/15 FILE NAME: SFA 1st Floor

SECOND FLOOR



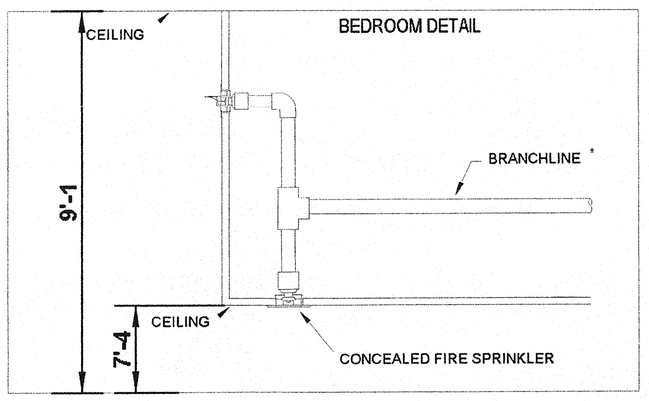
PIPE SIZES BASED OFF OF 4th FLOOR HYDRAULIC CALCULATIONS

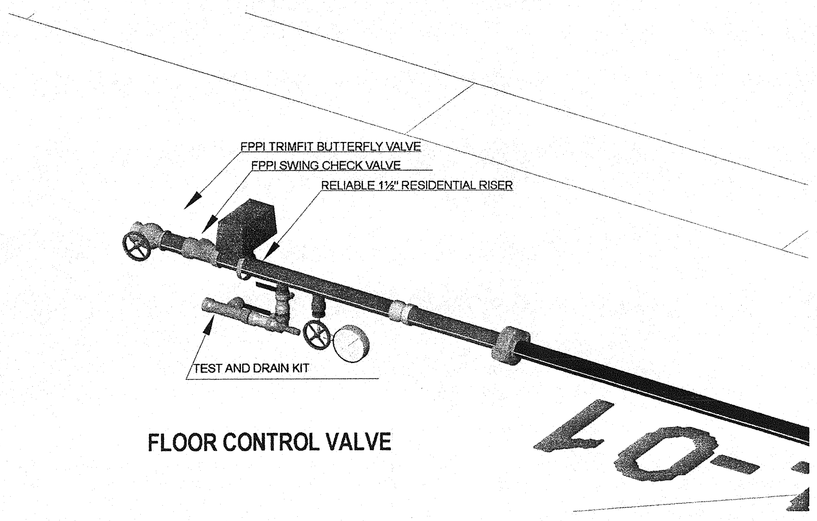
GENERAL NOTES:

1. OUR SCOPE OF WORK INCLUDES ADDING A FIRE SPRINKLER SYSTEM TO PROTECT DORM 16. OUR POINT OF CONNECTION IS 1'-0" ABOVE FINISH FLOOR IN BOILER ROOM.
2. CONTRACT EXCLUSIONS: ELECTRIC WIRING, FIRE ALARM DETECTION SYSTEMS, PAINTING OF PIPE.
3. OUR CONTRACT IS WITH STEPHEN F. AUSTIN UNIVERSITY, 2124 WILSON DR, NORTH NACOGDOCHES, TX, 75965
4. THE FIRE SPRINKLER SYSTEM IS DESIGNED, HYDRAULICALLY CALCULATED, AND INSTALLED PER THE FOLLOWING CODES AND STANDARDS:
   - NFPA 13R 2013 EDITION
5. SPRINKLER SYSTEM DESIGN DENSITY & AREA OF COVERAGE:
   [ROOMS OR AREAS]
   - RESIDENTIAL, 0.05 GPM/SF, 225 SF PER HEAD MAX
6. ALL SPRINKLER PIPING TO BE:
   -1"-1½" THREADED PIPE: SCHEDULE 40, BLACK, WITH DUCTILE IRON THREADED FITTINGS
   -1½" - 4" GROOVED PIPE: SCHEDULE 10, BLACK, WITH WELDED OUTLETS & GROOVED FITTINGS & COUPLINGS.
7. ALL MATERIALS AND INSTALLATION TO BE IN ACCORDANCE WITH NFPA 13R.
8. ALL SPRINKLER PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI (OR 50 PSI ABOVE SYSTEM PRESSURE, WHICHEVER IS GREATER) FOR NOT LESS THAN 2 HOURS.
9. SPRINKLER SYSTEMS SHALL NOT BE CONNECTED TO UNDERGROUND UTILITIES PRIOR TO TESTING AND FLUSHING OF UNDERGROUND PIPING PER NFPA 24. A COMPLETED AND SIGNED CONTRACTOR'S MATERIAL AND TESTING CERTIFICATE FOR UNDERGROUND PIPING SHALL BE PROVIDED TO US PRIOR TO US CONNECTING OUR SYSTEM TO THE UNDERGROUND PIPING.
10. THE FIRE SPRINKLER SYSTEM SHALL BE INSPECTED, TESTED, AND MAINTAINED BY THE PROPERTY OWNER OR THEIR DESIGNATED REPRESENTATIVE PER NFPA 25.
11. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SUFFICIENT HEAT, AT OR ABOVE 40 DEG F, TO PREVENT FREEZING OF THE SPRINKLER PIPING AND RELATED COMPONENTS.

SYMBOLS

- ★-12" TS ℄ - PIPE ELEVATION FROM TOP OF STEEL
- ★-10'-6" FF ℄ - PIPE ELEVATION FROM FINISHED FLOOR
- ★12" BD ℄ - PIPE ELEVATION BELOW ROOF DECK
- X / X'- X - PIPE DIAMETER / PIPE CUT LENGTH
- ⬡ 0 - HYDRAULIC NODE TAG





FLOOR CONTROL VALVE

DORM 16 DESIGNED PER NFPA 13R (2013)

PER NFPA 13R PARAGRAPH 6.6.2
SPRINKLERS SHALL NOT BE REQUIRED WHERE THE BATHROOM AREA DOES NOT EXCEED 55 SQ FT.

PER NFPA 13R PARAGRAPH 4.6.3.3.1
SHADOW AREAS SHALL BE PERMITTED IN THE PROTECTION AREA OF A SPRINKLER AS LONG AS THE CUMULATIVE DRY AREAS DO NOT EXCEED 15 SQUARE FEET PER SPRINKLER.

1/8"=1'-0"
0' 2' 4' 8'

AMERICAN FIRE PROTECTION GROUP, INC.
www.afpgusa.com

MUTUAL SPRINKLERS, Inc.
12440 Hwy 155 S, Unit 1A Tyler, Texas 75703
Texas State License SCR-G-1734091
Phone (903) 939-2066 Fax (903) 939-2019
AMERICAN FIRE PROTECTION GROUP, INC

I HAVE REVIEWED THESE PLANS AND CERTIFY THAT THEY COMPLY WITH THE ADOPTED NFPA STANDARDS.

MUTUAL SPRINKLERS, Inc.
12440 Hwy 155 S Unit 1A
Tyler, Texas 75703
Phone (903) 393-2066
Fax (903) 939-2019
Texas State License SCR-G-1734091

RME SIGNATURE:
PRINTED RME NAME: Brian Cain
RME #: G-1735179 DATE: 5/8/2015
☐ AS-BUILT ☒ SUBMITTAL ☐ OTHER

Sprinkler Legend

Symbol	Qty	K-Factor	Type	Size	Response	Finish	Temp	Note
●	119	4.9	Pendent	½	Quick	White	165°F	CONCEALED
▽	58	4.4	Sidewall	½	Quick	White	155°F	HSW
○	3	5.6	Upright	½	Quick	Brass	200°F	UPRIGHT
SIN	R40616	R3261	R41425					
								Total = 180

REVISIONS:
1 xx/xx/xx xxxxxxxxxxxxxx
2
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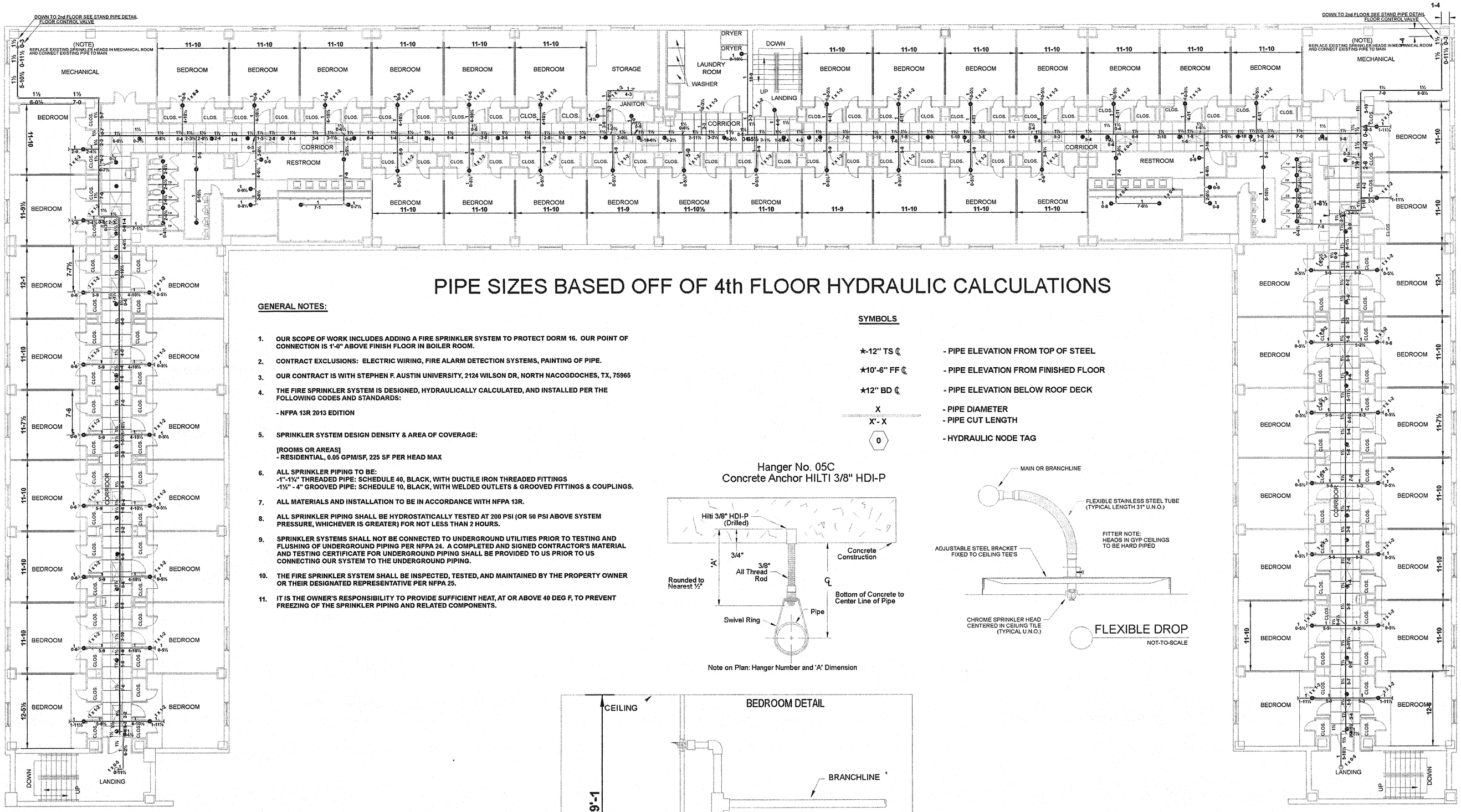
JOB NAME: SFA HALL 16
2117 Wilson Dr North
Nacogdoches, TX 75965

SHEET NAME: FIRE SPRINKLER PLAN, NOTES, & DETAILS

DRAWN BY: F.Gomez
DATE: 5/8/2015
JOB #: 31150021
SCALE (UNO): 1/8"=1'-0"
SHEET NO: FP4

PLOT DATE: 05/08/15 FILE NAME: SFA 2nd Floor

THIRD FLOOR



PIPE SIZES BASED OFF OF 4th FLOOR HYDRAULIC CALCULATIONS

GENERAL NOTES:

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SYMBOLS

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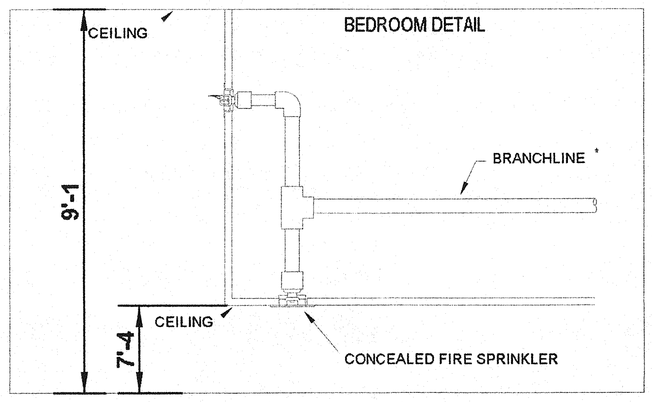
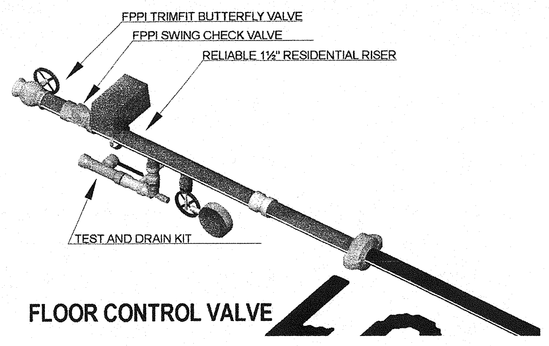
★10'-6" FF ℄	- PIPE ELEVATION FROM FINISHED FLOOR
★12" BD ℄	- PIPE ELEVATION BELOW ROOF DECK
X	- PIPE DIAMETER
X'- X	- PIPE CUT LENGTH
0	- HYDRAULIC NODE TAG

Hanger No. 05C
Concrete Anchor HILTI 3/8" HDI-P

Note on Plan: Hanger Number and 'A' Dimension

FLEXIBLE DROP
NOT-TO-SCALE





FLOOR CONTROL VALVE

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1/8"=1'-0"
0' 2' 4' 8'

AMERICAN FIRE PROTECTION GROUP, INC.
www.afpgusa.com

MUTUAL SPRINKLERS, Inc.
12440 Hwy 155 S, Unit 1A, Tyler, Texas 75703
Texas State License SCR-G-1734091
Phone (903) 939-2066 Fax (903) 939-2019
AMERICAN FIRE PROTECTION GROUP, INC

I HAVE REVIEWED THESE PLANS AND CERTIFY THAT THEY COMPLY WITH THE ADOPTED NFPA STANDARDS
MUTUAL SPRINKLERS Inc
12440 Hwy 155 S Unit 1A
Tyler, Texas 75703
Phone (903) 363-2066
Fax (903) 939-2019
Texas State License SCR-G-1734091
RME SIGNATURE:
PRINTED RME NAME: Brian Cole
RME #: G-1735178 DATE: 5/8/2015
☐ AS-BUILT ☒ SUBMITTAL ☐ OTHER

Sprinkler Legend

Symbol	S/N	Qty.	K-Factor	Type	Size	Response	Finish	Temp	Note
●	RA5618	124	4.9	Pendent	½	Quick	White	155°F	CONCEALED
▼	RA1527	5	5.6	Sidewall	½	Quick	White	155°F	HSW
○	RA1425	54	5.6	Upright	½	Quick	Brass	200°F	UPRIGHT
		Total = 183							

REVISIONS:
1 xx/xx/xx xxxxxxxxxxxxxx
2
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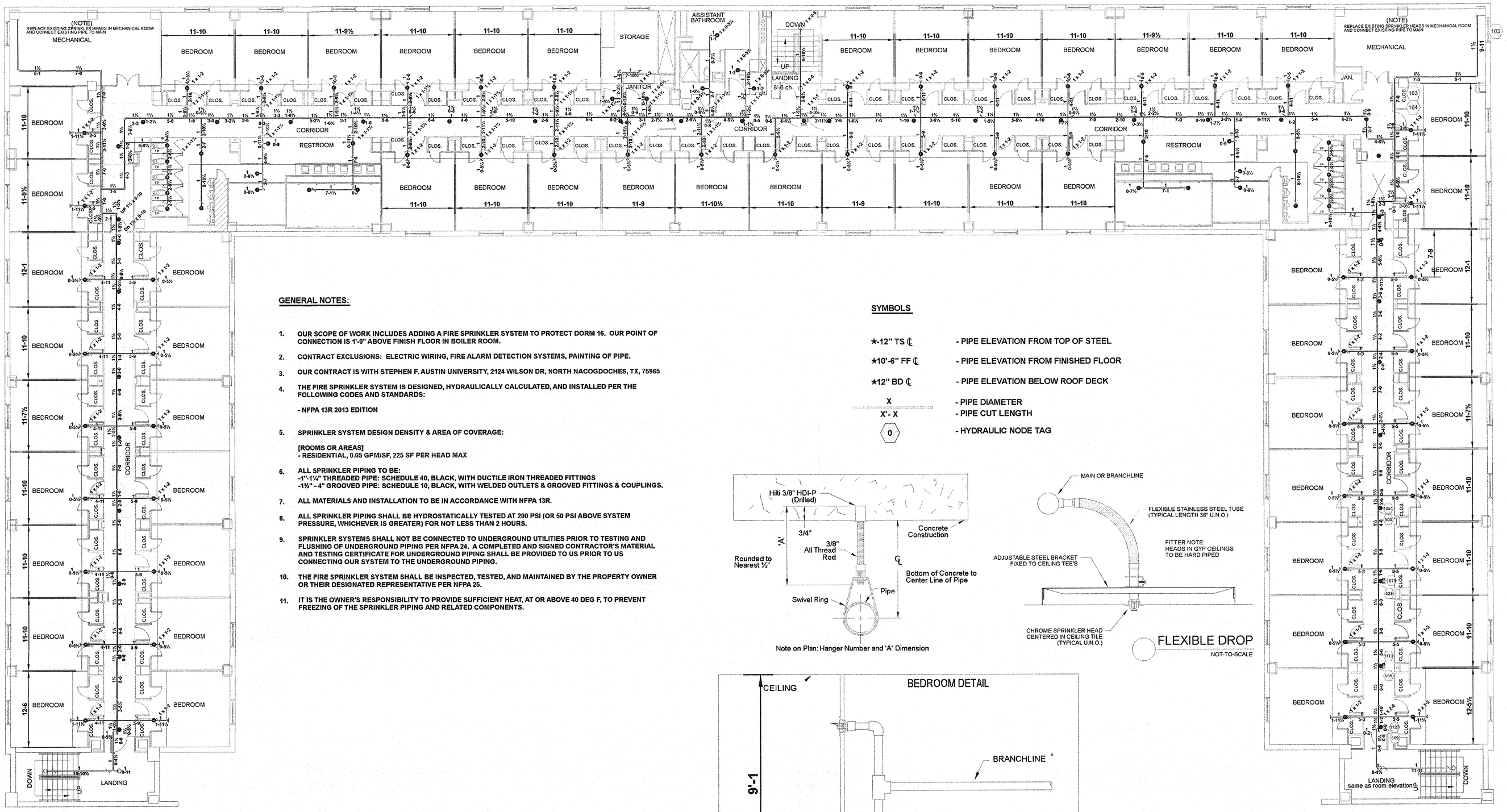
JOB NAME: SFA DORM 16
2117 Wilson Dr North
Nacogdoches, TX 75965

SHEET NAME: FIRE SPRINKLER PLAN, NOTES, & DETAILS

DRAWN BY: F.Gomez
DATE: 5/8/2015
JOB #: 31150021
SCALE (UNO): 1/8"=1'-0"
SHEET NO: FP5

PLOT DATE: 05/08/15 FILE NAME: SFA 3rd Floor

FOURTH FLOOR



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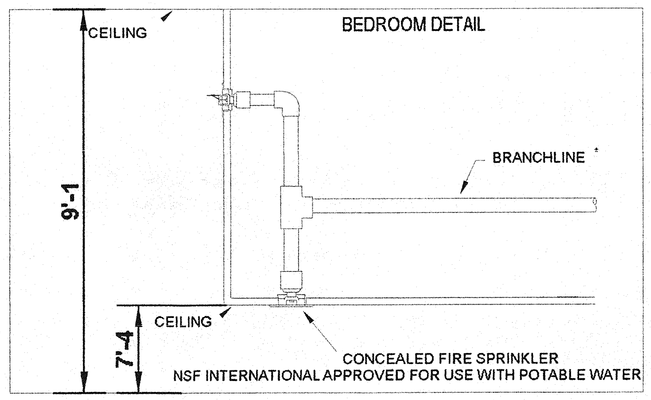
X - PIPE DIAMETER

X'- X - PIPE CUT LENGTH

⬡ 0 - HYDRAULIC NODE TAG



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1/8"=1'-0"
0' 2' 4' 8'

PLOT DATE: 05/08/15 FILE NAME: SFA 4th Floor

N

AMERICAN FIRE PROTECTION GROUP, INC.
www.afpgusa.com

MUTUAL SPRINKLERS, INC.
12440 Hwy 155 S Unit 1A, Tyler, Texas 75703
Texas State License SCR-G-1734091
Phone (903) 939-2066 Fax (903) 939-2019
AMERICAN FIRE PROTECTION GROUP, INC

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12440 Hwy 155 S Unit 1A
Tyler, Texas 75703
Phone (903) 939-2066
Fax (903) 939-2019
Texas State License SCR-G-1734091

RME SIGNATURE:

PRINTED RME NAME: Adrian Ochs

RME #: G-1750376 DATE: 5/8/2015

☐ AS-BUILT ☒ SUBMITTAL ☐ OTHER

Sprinkler Legend

Symbol	SIN	Qty	K-Factor	Type	Size	Response	Finish	Temp	Note
●	RA2016	125	4.9	Pendent	½	Quick	White	165°F	CONCEALED
○		6	5.6	Upright	½	Quick	Brass	200°F	
◁	RA1425	55	4.4	Sidewall	½	Quick	Chrome	155°F	
◁	F3531								
		Total = 187							

REVISIONS:
1 xx/xx/xx xxxxxxxxxxxxx
2
3

JOB NAME: SFA DORM 16
2117 Wilson Dr North
Nacogdoches, TX 75965

SHEET NAME: FIRE SPRINKLER PLAN, NOTES, & DETAILS

DRAWN BY: F.Gomez
DATE: 5/8/2015
JOB #: 31150021
SCALE (UNO): 1/8"=1'-0"
SHEET NO: FP6

STEPHEN F. AUSTIN STATE UNIVERSITY

NACOGDOCHES, TEXAS

INVITATION TO BID

FAILURE TO SIGN WILL DISQUALIFY BID

Bid No. FIRE-PROTECT-2016

Due Date: 04/19/16 at 3:00 P.M.

Signature City Zip

Printed Name

VENDOR NAME AND ADDRESS PHONE/FAX

Name of Firm Phone

Mailing Address FAX

City State Zip EMAIL

Show bid opening and bid invitation number in lower left hand corner of sealed bid envelope and return sealed bids to:

Stephen F. Austin State University
P. O. Box 13030, SFA Station
2124 Wilson Drive
Nacogdoches, Texas 75962-3030
Phone (936) 468-2206
FAX (936) 468-4282 (See 2.3 reverse side)

See Instruction 2.11 on Back for Vendor ID Number Is Vendor a State of Texas certified HUB? ☐ Yes	Delivery in _____ Days Cash Disc._____ % _____Days

Check all that apply if Preference Claimed under Rule 34 TAC 20.38

__ Supplies, materials or equipment: produced in TX/offered by TX bidders*
__ Agricultural products grown in TX
__ Agricultural products offered by TX bidders*
__ USA produced supplies, materials or equipment
__ Products produced at facilities located on formerly contaminated property
__ Products of persons with mental or physical disabilities
__ Products made of recycled, remanufactured, or environmentally sensitive materials
__ Energy efficient products
__ Rubberized asphalt paving material
__ Recycled motor oil and lubricants
__ Products and services from economically depressed or blighted areas

*By signing this bid, bidder certifies that if a Texas address is shown as the address of the bidder, bidder qualifies as a Texas resident Bidder as defined in Rule 34 TAC 20.38.

IF QUOTING OTHER THAN THE REFERENCED ITEM(S) BELOW, BROCHURE AND/OR SPECIFICATIONS SHOULD BE ENCLOSED.
ALL BIDS WILL BE CONSIDERED F.O.B. DESTINATION UNLESS OTHERWISE NOTED.

AWARD NOTICE: Stephen F. Austin State University (SFA) reserves the right to make an award on the basis of low line item bid, low total of line items, or in any other combination that will serve the best interest of SFA and to reject any and all bid items in the sole discretion of SFA.

Item No.	Description	Qty. & Unit	Unit Price	Extension
	Quote price on quantity and unit of measure, extend and show total. If error in extension, unit price shall govern. Items for state use are exempt from state sales and federal excise tax. Do not include tax in your bid.			
	Provide all material, labor, tools, insurance and related service to add fire protection to Residence Hall locations herein on the campus of Stephen F. Austin State University in accordance with the specifications, project manual and drawings herein and attached.			
	1. Hall 10	1 LOT		
	2. Hall 14	1 LOT		
	3. Mays Hall	1 LOT		
	NOTE: The University will accept responses directly from fire protection vendors; subcontracting through a general contractor is not required as the University will provide project oversight.			
	SPECIFICATIONS The Engineer's Project Manual and Drawings are attached in Exhibit A.			

STEPHEN F. AUSTIN STATE UNIVERSITY
Invitation To Bid #FIRE-PROTECT-2016
CONTINUATION PAGE

CAMPUS MAP
Campus map is attached in Exhibit B.

MANDATORY PRE-BID MEETING
A MANDATORY pre-bid conference and site visit is scheduled for 1:30p.m., Wednesday, April 6, 2016 in the Physical Plant Training Room, 2104 Wilson Drive, Nacogdoches, Texas on the campus of Stephen F. Austin State University. A site visit is scheduled after the pre-bid meeting.

Failure to attend the pre-bid conference and site visit will forfeit consideration of the Respondent's bid.

HUB SUBCONTRACTING PLAN
Each respondent is required to make a good faith effort to subcontract with historically underutilized businesses and shall submit a HUB Subcontracting Plan using the HUB Subcontracting Plan documents provided in Exhibit C.

Stephen F. Austin State University is committed to making a good faith effort to increase business with historically underutilized businesses (HUBs) by contracting with HUBs either directly or indirectly through subcontracting opportunities. Respondents are encouraged to actively seek to subcontract or partner with HUBs in an effort to create an environment that actively acknowledges and values diversity.

The University has determined that subcontracting opportunities are probable under this contract.

The University's HUB goal for this procurement is:
32.9% for special trades contracts.

Each HUB subcontracting plan will be evaluated independently of the response. If the HSP does not reflect a good faith effort to subcontract with HUBs, the entire response will be disqualified.

All questions regarding the HUB Subcontracting Plan may be directed to the Vendor Relations Manager, Manny Guerrero, 936-468-4529, guerreromg@sfasu.edu.

Failure to submit the HUB Subcontracting Plan will disqualify the entire response from consideration.

CONTACT INFORMATION
Questions relating to the solicitation document, HUB subcontracting plan, or the response may be directed to Director of Procurement, Kay Johnson, 936-468-4037.

Questions pertaining to the drawings and specifications may be directed to Bruce Lanham, Manager of Construction Services, 936-468-4574.

STEPHEN F. AUSTIN STATE UNIVERSITY
Invitation To Bid #FIRE-PROTECT-2016
CONTINUATION PAGE

BID BOND

The cost of all bonds must be included in the response.

A bid bond or bid security in the form of a Certified or Cashier's check on a State or National Bank in the State of Texas, or a Bid Bond from a Surety Company authorized to transact business in the State of Texas, and made payable to Stephen F. Austin State University **in the amount of 5% of the largest proposed amount** must accompany each response as a guarantee that, if awarded the Purchase Order, the Contractor will execute the required Performance and Payment Bonds, if required, in such form and with such Sureties as SFA may prescribe or approve.

Responses submitted without a bid bond or bid security will not be considered.

PERFORMANCE AND PAYMENT BONDS

The cost of all bonds must be included in the response.

Performance bonds are required on contracts exceeding $100,000. Payments bonds are required on contracts exceeding $25,000. Refer to Article V. in the Uniform General Conditions.

Should the Contractor fail to execute and return the required Performance and Payment Bonds within fifteen (15) days after the date of notice of award, the Bid Guarantee shall become the property of SFA, not as a penalty but as liquidated damages.

PARKING ON CAMPUS

All vehicles parked on the University campus must properly display a valid parking permit and comply with all University parking rules. The Parking and Traffic Office supervises and coordinates all parking transportation and traffic related functions on the campus. Permits expire each August 31.

Contractor shall be responsible for obtaining parking permits from the Parking and Traffic Office and for resolving, should they arise, any parking regulation disputes and violations. The Parking and Traffic Office telephone number is 936-468-7275.

CONTRACT DOCUMENTS

After award the University will issue a General Contractor contract document. This base contract document will be “AIA 101 1997 Standard Form of Agreement between Owner and Contractor where the basis of payment if a stipulated sum”. The contract will be modified by SFA as needed to be in compliance with the Uniform and Supplementary General Conditions and state law.

STEPHEN F. AUSTIN STATE UNIVERSITY
Invitation To Bid #FIRE-PROTECT-2016
CONTINUATION PAGE

UNIFORM AND SUPPLEMENTARY GENERAL CONDITIONS

The attached Uniform General Conditions (UGC) and Supplementary General Conditions (SGC), Exhibit D, are an integral part of this document. The respondent is responsible for reading and being familiar with all of the requirements of the Uniform and Supplementary General Conditions. Failure to consider all the requirements of the UGC and SGC does not relieve the Contractor from the obligation to fulfill all requirements of the UGC and SGC.

LIQUIDATED DAMAGES

The liquidated damages are standard in our contract document at $2000 per calendar day.

PREVAILING WAGE RATES

In accordance with Texas Gov't Code 2258.022, Stephen F. Austin State University completed a determination of wage rates for Nacogdoches County. The attached "Minimum Wage Rate Determination" provides additional documentation about the determination and requirements for compensation. The total hourly compensation to each worker must equal or exceed the minimum wage rates stated in the "2015 SFA Prevailing Wage" attachment, Total Column. See Exhibit E.

The attached "Worker Wage Rate Form" is to be used by the construction manager and all subcontractors engaged in this project. The completed notice must be accepted by all workers involved in the project and delivered to the Physical Plant prior to substantial completion or with pay applications. Separate Worker Wage Rates Forms are to be completed for each worker engaged in multiple classifications. See Exhibit E.

For additional information regarding the applicability of Prevailing Wage Rates refer to Uniform General Conditions, Article 2, Paragraph 2.2.

PROJECT COMPLETION

The University requires that the job be performed and completed, including clean-up by July 31, 2016. Work shall begin around May 16, 2016 and is to be coordinated with Bruce Lanham, Manager of Construction Services.

ITEMS BELOW APPLY TO AND BECOME PART OF TERMS AND CONDITIONS OF QUOTATIONS. ANY EXCEPTIONS THERETO MUST BE IN WRITING AND SUBMITTED WITH INVITATION TO BID.

1. **BIDDER AFFIRMATIONS:** Signing this bid with a false statement is a material breach of contract and shall void the submitted bid or any resulting contracts. By signature hereon affixed, the bidder hereby certifies that:

1.1 The bidder has not given, offered to give, 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 bid.

1.2 Pursuant to 15 U.S.C. Sec. 1, et seq. And Tex. Bus. & Comm. Code Sec 15.01, et seq. neither the bidder or the firm, corporation, partnership, or institution represented by the bidder, or anyone acting for such firm, corporation, or institution has violated the antitrust laws of this State or the Federal antitrust laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in such line of business.

1.3 Pursuant to Texas Government Code, Title 10, Subtitle D, Section 2155.004(a), the bidder has not received compensation for participation in the preparation of the specifications for this solicitation.

1.4 If applicable, pursuant to Texas Family Code, Title 5, Subtitle D, Section 231.006(d), regarding child support, the bidder certifies that the individual or business entity named in this bid is not ineligible to receive the specified payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate. Furthermore, any bidder subject to Section 231.006 must include names and Social Security numbers of each person with at least 25% ownership of the business entity submitting the bid. This information must be provided prior to award.

1.5 Pursuant to Texas Government Code, Title 10, Subtitle D, Section 2155.004(b), the vendor certifies that the individual or business entity named in this bid or contract is not ineligible to receive the specified contract and acknowledges that this contract may be terminated and payment withheld if this certification is inaccurate.

1.6 Bidder agrees that pursuant to Section 403.0551, Texas Government Code, any payments due under this contract will be applied towards any debt, including but not limited to delinquent taxes and child support, that is owed to the State of Texas or any agency of the State of Texas, until such debt or delinquent taxes are paid in full.

1.7 Bidder certifies that they are in compliance with Texas Government Code, Title 6, Subtitle B, Section 669.003, relating to contracting with executive head of a State agency. If Section 669.003 applies, the bidder will complete the following information in order for the bid to be evaluated:

Name of former Executive: _____

Name of State Agency: _____

Date of separation from State Agency: _____

Position with bidder: _____

Date of employment with bidder: _____

1.8 Bidder agrees to comply with Texas Government Code 2155.4441, relating to the use of service contracts for products produced in the State of Texas.

1.9 By signature hereon, the Respondent hereby certifies that he/she is not currently delinquent in the payment of any franchise taxes owed the State of Texas.

2. **BIDDING REQUIREMENTS:**

2.1 Bids should be submitted on this form. Each bid shall be placed in a separate envelope completely and properly identified. When sending bids via overnight delivery, bidder is advised to confirm whether SFA delivery location is a guaranteed AM delivery.

2.2 SFA offers facsimile or email service as a convenience only. The only telephone number for FAX submission of bids is 936-468-4282. The only email for email submission of bids is bids@sfasu.edu. The University shall not be responsible for bids or portions of bids received late, illegible, incomplete, or otherwise non-responsive due to failure of electronic equipment, technology error, or operator error. Confirmation of facsimile or email bids is not required.

2.3 Bids must be time stamped in the SFA Procurement & Property Services Office on or before the hour and date specified for the bid opening. Late bids will not be considered under any circumstances. Late bids properly identified will be returned to the bidder unopened.

2.4 Bids are requested to be firm for acceptance for a minimum of 30 days from opening date. Bid cannot be altered or amended after opening time. No bid can be withdrawn after opening time without the approval of the University based on a written acceptable reason.

2.5 Telephone quotations are not acceptable when in response to this Invitation To Bid.

2.6 Stephen F. Austin State University reserves the right to accept or reject all or any part of any bids, to waive minor technicalities, to re-advertise if deemed necessary, and to award the bid to best serve the interests of the University.

2.7 All electrical items must meet all applicable OSHA standards and regulations, and bear the appropriate listing from US, FMRC or NEMA.

2.8 All items shall be new, in first class condition, with containers suitable for shipment and storage. New shall not be construed as excluding recycled or remanufactured products.

2.9 Any catalog, brand name or manufacturer's reference used in this bid is descriptive (not restrictive).

2.10 Stephen F. Austin State University will not be bound by any oral statement or representation contrary to the written specifications of this ITB and any associated addenda.

2.11 Bids should give Payee ID Number, full firm name and address of bidder. The Payee ID Number is the taxpayer number assigned and used by the Comptroller of Public Accounts of Texas. If this number is not known, complete the following:

Enter Federal Employer's Identification Number

_____

Sole Owner should also enter SSN# below

_____

3. **TIE BIDS** - Awards will be made in accordance with Rule 34 TAC 20.36 (b) (3) and 20.38 (preferences).

4. **PATENTS OR COPYRIGHTS** – The Contractor agrees to protect Stephen F. Austin State University from claims involving infringement of patents or copyrights.

5. **PAYMENT** - Vendor shall submit an itemized invoice showing Purchase Order Number. Payment will be made Net 30 from date of receipt of goods/services or invoice, whichever is later. Late fees will be incurred in accordance with Texas Government Code 2251.

6. **DELIVERY:**

6.1 Bids should show the number of days required to place material in designated location under normal conditions. Failure to state delivery time obligates bidder to complete delivery in 14 calendar days. A five day difference in delivery promise may break tie bids. Unrealistic short or long delivery promises may cause the bid to be disregarded.

6.2 Delivery shall be made during normal working hours only, unless prior approval for early or late delivery has been obtained.

6.3 If delay is foreseen, contractor shall give written notice. The University has the right to extend delivery date if reasons appear valid. Contractor must keep the University advised at all times of status of order. Default in promised delivery (without accepted reasons) or failure to meet specifications, authorizes the University to purchase supplies elsewhere and charge full increase, if any, in cost and handling to defaulting contractor.

6.4 No substitutions or cancellations are permitted without prior written approval.

7. **ALTERNATE DISPUTE RESOLUTION:**
Pursuant to Chapter 2260 of the Texas Government Code, any dispute arising under a contract for goods and services for which this chapter applies must be resolved under the provisions of this chapter.

8. **PUBLIC INFORMATION ACT:**
Information, documentation, and other material in connection with this solicitation or any resulting contract may be subject to public disclosure pursuant to Chapter 552 of the Texas Government Code (the "Public Information Act").

7. **NOTE TO BIDDERS:**

7.1 Any terms and conditions attached to a solicitation will not be considered unless specifically referred to on this solicitation and may result in disqualification.

7.2 The Contractor shall defend, indemnify and hold harmless the State of Texas, all of its officers, agents and employees from and against all claims, actions, suits, demands, proceedings, costs, damages, and liabilities, arising out of, connected with, or resulting from any acts or omissions of contractor or any agent, employee, subcontractor, or supplier in the execution or performance of this contract.

7.3 Contractor understands that acceptance of funds under this contract acts as acceptance of the authority of the State Auditor's Office or any successor agency, or Stephen F. Austin's Internal Audit Services, to conduct an audit or investigation in connection with those funds. Contractor further agrees to cooperate fully with the State Auditor's Office or its successor, or Stephen F. Austin's Internal Audit Services in the conduct of the audit or investigation, including providing all records requested. Contractor will ensure that this clause concerning the authority to audit funds received indirectly by subcontractors through Contractor and the requirement to cooperate is included in any subcontract awards.

EXHIBIT A

PROJECT MANUAL AND DRAWINGS

PROJECT MANUAL

FOR

STEPHEN F. AUSTIN STATE UNIVERSITY
HALL 10 FIRE PROTECTION SYSTEM

MARCH 2016

GOODWIN • LASITER • STRONG

ENGINEERING • ARCHITECTURE • INTERIOR DESIGN • SURVEYING

EAST TEXAS OFFICE:
1609 S CHESTNUT • SUITE 202 • LUFKIN, TEXAS • 75901
[936] 637-4900 • FAX [936] 637-6330

CENTRAL TEXAS OFFICE:
4077 CROSS PARK DR • SUITE 100 • BRYAN, TEXAS • 77802
[979] 776-9700 • FAX [979] 776-3838

TBPE FIRM REGISTRATION NO. 413
TBPLS FIRM REGISTRATION NO. 10110900

G-L-S NO. 501110

Project Manual For:

STEPHEN F. AUSTIN STATE UNIVERSITY
HALL 10 FIRE PROTECTION SYSTEM

Goodwin-Lasiter-Strong Project # 501110

CIVIL ENGINEER

OWNER:

STEPHEN F. AUSTIN STATE UNIVERSITY
NACOGDOCHES, TEXAS

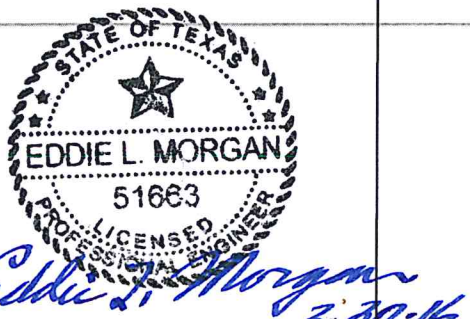
STRUCTURAL ENGINEER

ENGINEER / ARCHITECT / INTERIOR DESIGNER:

GOODWIN- LASITER-STRONG
1609 South Chestnut, Suite 202
Lufkin, TX 75901
(936) 637-4900
TBPE FIRM REGISTRATION NO. 413

ARCHITECT

INTERIOR DESIGNER



MECHANICAL, ELECTRICAL
& PLUMBING ENGINEER

STEPHEN F. AUSTIN STATE UNIVERSITY
HALL 10 FIRE PROTECTION SYSTEM

GLS PROJECT # 501110

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SECTION 00810
WAGE RATES AND REGULATIONS

PART 1 - GENERAL

1.1 WAGE RATES AND REGULATIONS

A. Contractor and subcontractor shall not pay less than the wage rates determined by SFASU Wage Study.

B. Contractors and Subcontractors shall comply with all state and federal laws regarding (but not limited to) laws of labor, minimum wage, safety, and equal employment.

C. All employees of Contractors and subcontractors working on the construction project must be covered by workers' compensation insurance, and the Contractor shall provide written certification of such. Texas Labor Code 406.097.

SECTION 01085

APPLICABLE STANDARDS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Throughout the Contract Documents, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics.

B. Materials and workmanship are required by the Contract Documents to meet or exceed the specifically named codes and standards.

C. Deliver to the Engineer required proof that the materials or workmanship, or both, meet or exceed the requirements of the specifically named code or standard.

D. Contractors are to be aware of the following federal and state laws regarding underground excavations:

FEDERAL LAW
49 United States Code, Section 60123 Paragraph (d)(1)(B)

Criminal Penalties: Penalty for not using one-call notification system or not heeding location information markings.

"A person shall be fined under Title 18, imprisoned for not more than 5 years, or both, if the person knowingly and willfully engages in an excavation activity without paying attention to appropriate location information or markings the operator of the pipeline facility establishes.

29 CFR PART 1926 Paragraph 1926.651 Subparagraph (b)(3)

OSHA Regulation: "When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means."

TEXAS LAW
Texas Underground Facility Damage Prevention and Safety Act (H.B. 2295)

On Oct. 1, 1998:

1. All Excavators must begin calling Notification Centers **48 hours** prior to digging.
2. All Excavators must begin immediately notifying underground facility operator when damage occurs to a facility.
3. Civil Penalties become enforceable.
   See Texas Revised Civil Statues, ART. 9033, for complete details of this law.

1.2 QUALITY ASSURANCE

A. Verify the detailed requirements of the specifically named codes and standards. Verify that the items procured for use in this work meet or exceed the specified requirements.

B. The Engineer may reject items incorporated into the work which fail to meet the specified minimum requirements. Non-complying items accepted by the Engineer may be subject to an adjustment in the Contract Amount as approved by the Engineer and the Owner.

C. Applicable standards listed in these Specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:

AASHTO =	American Association of State Highway and Transportation Officials, 341 National Press Building, Washington, D.C. 20004.
ACI =	American Concrete Institute, Box 19150, Redford Station, Detroit, Michigan 48219.
AISC =	American Institute of Steel Construction, Inc., 1221 Avenue of the Americas, New York, New York 10020.
ANSI =	American National Standards Institute (successor to USASI and ASA) 1430 Broadway, New York, New York 10018.
ASME =	American Society of Mechanical Engineers, 345 East 47th Street, New York, New York 10017
ASTM =	American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.
AWS =	American Welding Society, Inc., 2501 N. W. 7th Street, Miami, Florida 33125.
AWWA =	American Water Works Association, Inc., 6666 West Quincy Avenue, Denver, Colorado 80235.
CRSI =	Concrete Reinforcing Steel Institute, 228 North LaSalle Street, Chicago, Illinois 60610.
CS =	Commercial Standard of NBS, U.S. Department of Commerce, Government Printing Office, Washington, D.C. 20402.
NEC =	National Electrical Code (see NFPA).
NEMA =	National Electrical Manufacturers Association, 155 East 44th Street, New York, New York 10017.
NFPA =	National Fire Protection Association, 470 Atlantic Avenue, Boston, Massachusetts 02210.
TXDOT =	Texas Department of Transportation - Standard Specifications for Construction of Highways, Streets and Bridges (1993 or Latest Revision)
OSHA =	Occupational Safety and Health Administration, Room S-4004, U.S. Department of Labor, 200 Constitution Avenue NW, Washington, D.C. 20210.
SDI =	Steel Deck Institute, 135 Addison Avenue, Elmhurst, Illinois 60125.
SSPC =	Steel Structures Painting Council, 4400 5th Avenue, Pittsburgh, Pennsylvania 15213
UL =	Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago, Illinois 60611.
IBC =	International Building Code.
NAAMM =	National Association of Architectural Metal Manufacturers.
TAS =	Texas Accessibility Standards

SECTION 01200

PROJECT MEETINGS

PART 1—GENERAL

1.1 MEETINGS

A. Prior to beginning the Work, the Contractor, the Mechanical Subcontractor and other subcontractors as may be designated by the Architect, shall meet with the Architect and Engineers to resolve questions pertaining to the Work and to establish basic administrative procedures. This meeting shall be held at locations determined by the Architect.

B. Meet with the Owner and Architect at Project Site or other designated locations at such intervals directed by Architect to maintain an optimum degree of communication between all interested parties including selected subcontractors and suppliers at such times as their interests may be involved.

PART 2—PRODUCTS (Not Used)

PART 3—EXECUTION

3.1 NOTIFICATION OF ARCHITECT / ENGINEER

A. Notify the Architect / Engineer at any time there is need of clarification or interpretation of the Contract Documents.

B. Notify the Architect 48 hours in advance of the following stages of construction:
   1. Completion of roughing in of fire suppression (prior to concealment).
   2. Installation of sprinkler heads.
   3. Patching and repair of masonry, plaster or sheet rock.
   4. Installation of ceiling tiles.

SECTION 01700

PROJECT CLOSEOUT

PART 1—GENERAL

1.1 FINAL CLEAN-UP

A. Leave all areas clean and free of all unsightly accumulations and complete surface treatments, washing or polishing as specified.

B. Immediately prior to final inspection and acceptance, all tile surfaces shall be cleaned by mopping with a non-harmful soap or detergent and water, rinsing and drying. All other floor and wall surfaces, including projections, shall be cleaned and dusted and left in such condition that all areas can be occupied and used without further cleaning. Wash all interior and exterior glass on both faces, removing all labels and marks, paint and caulking streaks or spots. All metal surfaces, including hardware, shall be cleaned, polished and left free of marks or dust.

C. Clean all plumbing fixtures, trim, utilities, and equipment provided under the Mechanical Work and all electrical fixtures provided under the Electrical Work.

D. Remove all tools, scaffolding, and surplus materials from the Project Site.

1.2 FINAL INSPECTION

Refer to ARTICLE 9, "GENERAL CONDITIONS".

1.3 GUARANTEES, BONDS AND AFFIDAVITS

Each specific installation will not be considered complete under the "TERMS OF PAYMENT" of the "GENERAL CONDITIONS" to the Contract until all of the information has been received. Refer to each section for the specific guarantees, bonds and affidavits required.

1.4 PROJECT RECORD DRAWINGS

At completion of Project, but prior to final acceptance thereof, Contractor shall furnish to Architect a complete set of Project Record Drawings. These shall consist of a complete set of prints maintained in good condition on which all changes have been clearly and accurately recorded in RED pencil as the job progressed. Evidence of current up-dating of these drawings shall be presented at each monthly Progress Meeting.

1.5 MAINTENANCE AND OPERATING INSTRUCTIONS

A. REQUIRED INFORMATION Contractor shall furnish to Architect two (2) copies of the following listed materials for equipment and material furnished and installed by him. All of the material shall be clearly and accurately identified, including its location on the Project. These shall all be neatly and systematically assembled into one or more heavy-duty type plastic notebooks, properly indexed and identified. All operating and maintenance information shall be bound separate from all other material.

1. Each Approved Shop Drawing on all Heating, Ventilating and Air Conditioning Equipment and all other motorized or operating equipment including all final comments, reduced to 8-1/2" X 11" or 11" X 17".
2. Complete detailed parts lists and/or assembly drawings of equipment in item (1). Provide name and phone numbers of distributors where replacement parts may be purchased, including air filters.
3. Each manufacturer's specification, including tabulation of sizes and identifying numbers for all installed material and equipment such as traps, valves, special fittings, gauges, motor starters, electrical devices and equipment. This applicable item in each brochure shall be clearly defined and marked.
4. MSDS documentation on materials used shall be compiled and transferred to the Owner upon project completion.

1.6 CLOSE-OUT MANUAL

Contractor shall furnish to Architect two (2) copies of the following listed materials. All of the material shall be clearly and accurately identified. These shall all be neatly and systematically assembled into one or more heavy-duty type plastic notebooks, properly indexed and identified.

A. List of Subcontractors: Provide a list of all subcontractors who performed work on the project. The list shall include the name, address, telephone number, fax number, and e-mail address along with a brief description of work performed by each sub. The list shall be organized by work performed under each specification section.

B. Warranties: The Contractor shall provide to the Owner, before final payment is processed, warranties from each Subcontractor stating: their name, address, phone number, project name, address, and Owner, and work performed.

C. Release of Liens: The Contractor shall provide to the Owner, before Final Payment is processed, release and waiver of liens, claims, security interest or encumbrances arising out of the Contract on the A.I.A. forms G706A. Forms will be required of each Subcontractor and the General Contractor.

D. The Contractor Shall provide to the Owner, A.I.A. Form G707, Consent of Surety to Final Payment; and A.I.A. Form G706, Contractor's Affidavit of Payment of Debts of Claims.

E. Asbestos: See SECTION 00811, SUPPLEMENTARY GENERAL CONDITIONS, Item 17.

SECTION 02050
DEMOLITION, CUTTING AND PATCHING

PART 1 - GENERAL

1.1 DEMOLITION

A. Do all demolition required to accommodate new work.

B. Any salvageable materials shall be tagged and returned to the Owner's Representative, if Owner so desires.

1.2 CUTTING AND PATCHING

A. Employ a skilled and experienced installer to perform cutting and patching new Work; restore Work with new Products.

B. Submit written request in advance of cutting or altering structural or building enclosure elements.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
1. Fit the several parts together, to integrate with other Work.
2. Uncover Work to install or correct ill-timed Work.
3. Remove and replace defective and non-conforming Work.
4. Remove samples or installed Work for testing.
5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Cut masonry and concrete materials using masonry saw or core drill. Restore Work with new Products in accordance with requirements of Contract Documents.

E. Fit Work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction ; completely seal voids.

F. Fir Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

G. Refinish surfaces to match adjacent finishes.

H. Whenever a surface, item, or material is required to be patched, it shall be patched with the same material so that upon completion the patched area shall be indistinguishable from surrounding surfaces.

SECTION 13930

WET PIPE SPRINKLER SYSTEM-NFPA 13R

PART 1 GENERAL

1.1 SYSTEM DESCRIPTION

A. Provide labor, materials, equipment, tools and services and perform operations required for, and reasonably incidental to, the providing of fire protection systems, which shall include one (1) automatic wet pipe sprinkler system per 52,000 sq ft of each building area.

B. The full extent of Fire Sprinkler piping work is not indicated by drawings and schedules. The successful Contractor shall prepare and submit drawings and schedules for approval by the requirements of this section, and is hereby defined to include (but is not necessarily limited to) standpipes, sectional control valves in each wing on each floor, feed and cross main piping, branch line piping, test valves, test conditions and sprinklers. Fire Sprinklers shall be installed to serve the entire building.

C. A preliminary sprinkler layout is shown on the plans. The successful Contractor shall prepare shop drawings for the hydraulically designed sprinkler system and secure approval of same from the Local City Authorities and Texas State Insurance Authorities Review Board Owner's Insurance Carrier. Approved plans and submittals shall be submitted to the Architect for approval before any materials are fabricated. Final sprinkler layout shall meet all the requirements of above entities and the governing authorities.

.

D. The Contractor shall obtain from the City a water flow test close as possible to the proposed building addition use this information for the basis of design of the hydraulically designed system.

1.2 REFERENCED DOCUMENTS

A. Comply with General Requirements and referenced documents.

B. Comply with Division 15 Sections, as applicable. Refer to other Divisions for coordination of work with other trades, as required.

1.3 GOVERNING AUTHORITIES

A. The automatic sprinkler system shall comply with applicable State and City codes, with the requirements of other authorities having jurisdiction, and with the requirements of NFPA #13R, NFPA #14 and NFPA #20.

B. Comply with all requirements of the Local Authorities and Owner's Insurance Carrier. Provide sprinkler products that are Underwriters Laboratories listed or Factory Mutual approved.

1.4. SUBMITTALS

A. Submit coordinated shop drawings and details of each fire protection system to, and receive approval from, the governing authorities before the submittal is forwarded to the Architect and before installation work is started.

B. Submit to the Architect, upon completion of each system, a certificate stating that the work has been completed and tested in accordance with NFPA #13R, #14 and #20 that there are no defects in the system and that it is operational. Test procedures and certificate format shall be in accordance with NFPA #13R, NFPA #14 and NFPA #20 unless otherwise directed by the governing authorities.

C. Submit to the Architect upon completion of the system, manufacturer data of all products incorporated this work.

D. Submit the following Products Data, Shop Drawings and Samples:

	Product	Shop Drawings	Samples
Heads	X	X	X
Valves and	X	X	
Pipe and	X	X	
Jointing Method	X		
System Layout		X	

1.5 MAINTENANCE STOCK, FIRE SPRINKLER

Maintenance Stock: For each style and temperature range required, furnish an additional two (2) fire sprinklers for every 100 units installed, but not less than six (6) units of each type.

1.6. COORDINATION

The Contractor shall examine all other work shown on the plans and such work installed at the job site. The sprinkler system contractor shall coordinate the routing of his work with the other construction trades to avoid interference with the other installations. Pipe routing shall be located as required to avoid equipment, plumbing drain pipe, heating and air conditioning piping, ductwork, light fixtures, and electrical buss ducts. This Contractor shall provide pipe offsets, etc., as required to complete the installation. Shop prefabricated piping, pipe hangers, etc., shall be modified as required to fit the job site conditions.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Cover and protect materials in transit and at site. Material not properly protected and stored and which is damaged of defaced during construction shall be rejected.

B. Storage and protection of materials shall be provided.

PART 2 PRODUCTS

2.1 MATERIALS

Materials shall comply with the requirements of NFPA #13R, NFPA #14 and NFPA 20.

2.2 PIPE AND FITTINGS

A. Underground: Class 150, ductile iron with poly wrap or class 200 C-900 PVC pipe and mechanical joint ductile iron fittings.

B. Above Grade, Indoor Piping: ASTM A-53, Schedule 40, black steel pipe. Provide pipe and fittings as follows:
   1. Schedule 10 allowed in pipe sizes per NFPA #13R, NFPA #14 and NFPA #20.
   2. Pipe Size 2 Inch and Smaller: Class 150 ductile iron, threaded fittings, ANSI B16.3. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.
   3. Pipe Size 2-1/2 Inch Larger: Class 150 or 300 (as required) ductile iron, threaded fittings, ANSI B16.3; or with forged steel, threaded fittings; or cast iron flanged fittings, Class 250, ANSI B16.1; or listed mechanical grooved couplings. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.

C. Outdoors or Exposed to Moisture: Same as specified for "Above Grade, Indoor Piping", except pipe shall be galvanized.

D. Fire Sprinkler Drain Piping:
   1. Pipe size 2" and smaller: Black steel pipe and fittings: Pipe weight: Schedule 10; Fittings: Class 125 cast iron screwed; fittings: class 150 ductile iron, screwed. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.

   2. Pipe size 2-1/2" and larger: Black steel pipe and fittings: Pipe weight: Schedule 10; Fittings: Wrought iron, Schedule 10, fittings grooved couplings and fittings. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.

2.3 VALVES

A. General: Conform to the requirements of NFPA #13R, NFPA #14 and NFPA #20.

B. Check Valves: Provide NIBCO No. G917W or equal, check valves 2-1/2" and larger with automatic ball drips for fire department connections.

C. Sectional Valves: Provide indicating iron gate control valve, outside-screw-and-yoke (OS&Y), 175 LB rated working pressure, of size and end types indicated: 2" and smaller: NIBCO T-104-0 or equal. 2-1/2" and larger: Crane 467, NIBCO GD-4765-8N or equal 2" to 1 PART 11. AUTOMATIC SPRINKLERS

2.4 SPRINKLERS

A. Fire Sprinklers: Provide standard Bulb-Type automatic recessed fire sprinklers with 155 Deg. F., or as required by NFPA #13R, operating temperature of the following style and finish:

NOTE: Sprinkler heads shall be limited to 225 sq. ft. coverage and 130 sq. ft. for ordinary hazard area. Sprinkler heads to be located in center of lay-in ceiling tiles.

1. Sprinkler Finish: Cast brass (in non-exposed areas) and chrome or white plated (in occupied areas).
2. Upright pendent type in mechanical spaces without ceilings shall be equal to Tyco Series TY-B. Sprinkler Finish: Cast brass (in non-exposed areas) and chrome plated (in occupied areas).
3. Provide fully-concealed pendent type in all finished areas with ceiling or soffit with factory escutcheon equal to Tyco fully-concealed pendent sprinkler head Model Series RFII or other fully-concealed Tyco type or equivalent that meets NFPA #13R.

4. Provide fully-concealed sidewall type in all finished areas with factory escutcheon equal to Viking fully-concealed sidewall sprinkler head Model Series "Freedom" or other fully-concealed Tyco type or equivalent that meets NFPA #13R.

B. Emergency Head Storage Cabinet: Provide a red, baked enamel, steel sprinkler cabinet to store the extra sprinklers and wrenches, as required by NFPA #13R.

2.5 ACCESSORIES

A. Tamper Switches: Provide tamper switches equal to Potter Model PCVS-1, 2 on all control valves for connection to the fire alarm system.

B. Water Flow Detectors: Provide water flow detectors equal to Potter-VSR. Provide a water flow detector at the main fire protection piping entrance to the building or system, in addition to other locations shown, specified, or required to detect any flow in the system for any cause. If flow is detected, sound a local alarm. See fire alarm section or connection to fire alarm system.

C. Pressure Gauges: Provide 3-1/3 inch diameter pressure gauges equal to Ashcroft No. 35-W-1005-P-02L-XUL-300# with a range of 0-300 psig, include gauge cock.

D. Water-Motor Gong: Provide 10" weatherproof, red enameled finished, electric gong as indicated.

E. Ball Drips: Provide ball drips equal to NIBCO RG-22000 or 22100, ball drips for piping between check valves and fire department connections. Extend drain line from each ball drip to point of disposal as shown on the Drawings, or as directed.

F. Hangers and Supports: Provide hangers and supports as required by NFPA #13R.

G. Outside Fire Department Connections: Flush wall or free-standing (type as shown or Drawings or as directed by Architect) type devices shall be equal to Potter-Roemer No. 5710 or 5761, 2-way, Fire Department Connection with individual drop clapper valves, plugs, chain and escutcheon lettered "AUTO.SPKR". Entire unit shall have polished chrome finish; size shall be 2-1/2" x 2-1/2" x 4". Install appropriate connections per City of Nacogdoches.

H. Where the building has a stage the area shall have a standpipe system as required by the Fire Code. The standpipe system shall be provided on each side of the stage and be equipped with a fire hose cabinet. The hose cabinet shall be equal to Potter Roemer series 1000.

2.6 PROTECTION OF ELECTRICAL EQUIPMENT

Where required, provide metal hoods or shields to protect electrical equipment and bus ducts from sprinkler discharge.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install automatic sprinkler system where shown on the Drawings or as noted. Installation shall comply with the requirements of NFPA #13R, these Specifications, and the governing authorities, and with the manufacturer's written instructions. Coordinate with other work, including plumbing piping, as necessary to interface components of fire sprinkler properly with other work.

B. Welding shall comply with the requirements of State Insurance Authorities. No butt welds are allowed.

C. Provide pipe offsets as required. Modify shop pre-fabricated piping, pipe hangers, and other components as required to fit the job site conditions.

D. Installation of hoods and shields for protection of electrical equipment shall be in accordance with any approved details, included as part of the coordinated shop drawings.

E. Install sectional valves in inlet piping at the bottom of each riser and floor as indicated or required.

F. Install air vents at the high points of the sprinkler piping.

G. Install a tamper switch on each sectional valve and on all other shut-off valves.

H. Install drain piping at all low points of the sprinkler piping. Coordinate drain point with Architect.

I. Thrust blocks shall be of size required for the soil bearing strength and against compacted soil.

J. Install water flow detectors at each take-off from a sprinkler riser or for each zone.

K. Install manual shut-off at each audible alarm station.

L. Install heads in all locations, pendant or upright, as required.

M. Center heads in two directions in 2'-0" x 2'-0" ceiling tile and provide piping offsets as required. In ceilings that are 2' x 4' center head in one half of the 2'-0" x 4'-0" tile.

N. Piping shall be installed with offsets so to align with building structure. All mains and branch piping shall be located so that the piping is concealed.

3.2. IDENTIFICATION

Apply signage to identify purposed and functions of controls, and to identify drains, test, and alarm valves. Provide letter sizes and styles as selected by the Architect from NFPA's suggested styles.

3.3 CLEANING AND FLUSHING

Prior to connecting sprinkler piping for flushing, flush water feed mains, lead-in connections and control portions or sprinkler piping. After sprinkler piping installation has been completed, and before piping is placed in service, flush each sprinkler system under pressure to remove foreign substances as required by NFPA #13R and NFPA-14. Continue flushing until water is clear, and check to ensure that debris has not clogged sprinklers.

3.4 TESTS

A. After flushing each system, hydrostatically test sprinkler piping in accordance with NFPA #13R, NFPA #14 and NFPA #20. Check system for leakage at joints. Measure hydrostatic pressure at low point of each system or zone being tested.

B. Repair or replace piping system as required eliminating leakage in accordance with NFPA Standards, then retest as specified to demonstrate compliance.

3.5 CERTIFICATION

Before final approval of the fire protection systems is requested, provide the Architect a statement that all requirements of the State Board of Insurance and/or Owner's Insurance Carrier as required, City Building Inspection and Fire Departments have been met in the installation of the fire protection systems. Provide owner training of personnel for proper use and maintenance of all new equipment.

END OF SECTION

SECTION 15010

MECHANICAL

PART 1—GENERAL

1.1 SCOPE

The scope of the mechanical phase of this project shall include all labor, materials, equipment, etc., required to fulfill the intent of the Contract Documents and shall include the work specified under the subsequent sections of Division 15 of these specifications.

1.2 RELATED DOCUMENTS

All applicable provisions of Divisions 0 and 1 govern work under this Division. Refer to these articles in the specifications for additional information.

1.3 REFERENCE STANDARDS

A. All work shall be performed in full accord with the latest editions of the applicable state, and national building codes and local ordinances.

B. Refer to each section for applicable codes and reference standards.

1.4 FEES, PERMITS AND TAXES

The Contractor shall make arrangements for and pay for all inspection fees, connections fees permits required by local authorities. The Contractor shall also pay all taxes levied for labor and materials associated with work under this Division.

1.5 SUBMITTALS

A. The symbol "<S>" indicates a requirement for submittals.

B. Refer to SECTION 01300 for additional information on submittals.

C. Refer to AIA General Conditions.

D. In addition to the requirements of the above referenced portions of this specification, all Subcontractors proposing to do work under this Division shall comply with the following additional requirements:

1. These specifications and drawings are intended to indicate a standard of quality for materials and equipment which is established by the listing of manufacturers' names and catalog numbers and/or by referenced standards. Materials and equipment that do not comply with these standards of quality will not be considered for substitution.
2. As soon as practicable and within thirty (30) days after the award of the contract and before beginning the fabrication of any material or the installation of any equipment, data shall be submitted for approval on equipment and materials where noted. Materials (pipe, fittings, etc.) may be enlisted with the name of the manufacturer and identifying catalogue numbers. Data for equipment shall include manufacturer's name, catalogue data, diagrams, drawings and other descriptive data as required or requested by the Architect/Engineer for evaluation.

3. Notwithstanding any reference in the specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalogue number, such references shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product material, fixture, form or type of construction which in the judgment of the Architect/Engineer expressed in writing, is equal to that specified.
4. All data shall be carefully examined and shall be forwarded for approval with a signed certification to the effect that the data has been carefully checked and found to be correct with respect to dimensions and available space and that the equipment complies with all requirements for the specifications.
5. Point out in writing all deviations between the plans and specifications and the materials submitted.
6. It is understood that proof of equality is the responsibility of the Contractor and/or supplier and that it is not the responsibility of the Architect/Engineer to prove the inequality of the proposed substitutions. Furthermore the decisions of the Architect/Engineer are final.

E. While it is not the intention of the Architect/Engineer to discriminate against any manufacturer of equipment which is equal to specified equipment, a strict interpretation of such equality will be exercised by the Architect/Engineer in considering any equipment offered as a substitute for equipment offered as a substitute for equipment named in the specification. It shall be the responsibility of the Contractor to submit with each request for approval of substitute material or equipment, sufficient data to show conclusively that it is equal to the material or equipment specified.

F. Contractor shall submit shop drawings and/or diagrams for approval and for job coordination in all cases where significant deviations from the contract drawings are contemplated because of job conditions, interferences, or substitutions of equipment, or when requested by the Architect/Engineer for purposes of clarification of the Contractor's intent. He shall also submit detailed shop drawings, rough-in sheets, etc., for all special or custom built items of equipment.

G. Should any substitute items be submitted and disapproved, then those items must be furnished exactly as described herein.

H. The Architect/Engineer's review of shop drawings and/or submittal data shall not relieve the Contractor of responsibility for deviations from the contract drawings or specifications.

I. The size of mechanical equipment shown on the drawings is based on the dimensions of a particular manufacturer. While other manufacturers may be acceptable, it is the responsibility of the Contractor to determine if the equipment he proposes to furnish will fit in the space. Shop drawings shall be prepared when required by the Architect/Engineer or Owner to indicate a suitable arrangement.

J. Space allocations and utility rough-ins have been designed on the basis of equipment items named by manufacturer and model number. If any equipment not so named is offered which differs substantially in dimension or configuration from the named equipment, provide scaled shop drawings showing that the substitute can be installed in the same space available without interfering with other trades or with access for operation and maintenance in the completed project. The Installer shall coordinate final rough-in locations with actual equipment furnished.

1.6 OPERATING AND MAINTENANCE MANUALS AND INSTRUCTIONS

A. The symbol "<OM>" indicates a requirement for operating and maintenance manuals to be furnished.

B. The Owner's operating personnel shall be instructed by the Contractor on how to start and operate each item of equipment. Safety features shall be pointed out, particularly the possible trouble shooting which might be done to remedy operating problems.

C. The Owner's operating personnel shall be thoroughly instructed in the operation of the control system. Instruction should include an explanation of the control system and system sequence of operation, the proper set points of each thermostat, etc., and how to change the settings to accommodate overheating and overcooling, or incorrect humidity. Instructions shall include an explanation of components which should not be tampered with or control settings which should not be changed except by authorized personnel of the Control Manufacturer. Thermostat keys shall be turned over to the Owner.

D. Relative to the air conditioning system, instruct the Owner's operating personnel in the following:
   1. Removal of service access panels from equipment. If special tools are required, turn over to the Owner at last one set.
   2. Method of removing air filters.
   3. Method of cleaning permanent type air filters.
   4. How to drain and fill all piping and equipment.
   5. How to vent air from the system.
   6. Location of concealed valves, traps, air splitters, automatic valves and dampers, etc., requiring periodic maintenance and location of access to them.

E. Provide (2) two copies of operating and maintenance manuals. Manuals shall be bound in large ring, loose-leaf binders and contain the following:
   1. Manufacturer's instructions and/or installation manual.
   2. Manufacturer's service manual.
   3. Manufacturer's lubrication chart listing types of lubricant to be used on each item of equipment and recommended frequency of lubrication.
   4. Electrical diagrams of each equipment "packaged" control system.
   5. Diagrams of automatic temperature control systems, identifying each item by name, location and number showing sequence of operation. Each component of a control system shall be identified. All diagrams shall be up-to-date, reflecting any on-the-job changes.
   6. Parts lists and identifying part numbers with prices of each part. The name and address of the nearest distributor from which parts can be obtained.

1.7 WARRANTY

Contractor shall warrant all workmanship, material, equipment systems etc., provided by him for a period of one year after substantial completion of the project. This warranty means that Contractor shall make good to the Owner, at no cost, any defects that become apparent during the year following substantial completion. This warranty is in addition to any other guarantees or warranties and is not intended to limit such other guarantees or warranties.

1.8 DEFINITIONS

The following words and phrases as used herein are hereby defined:

A. "Provide": Furnish and install all material and labor required for a complete installation ready for operation in accordance with the intent of the Contract Documents.

B. "As required": Indicates that the Contractor shall perform the work or provide the material as indicated in accordance with manufacturer's installation instructions; and in accordance with applicable codes or regulations; and in a workmanlike manner as defined by good local practice.

C. "Or equal": Indicates that the Contractor may substitute equipment by another manufacturer if the features of the equipment indicated by manufacturer's name and/or described are, in the judgment of the Architect/Engineer, adequate. Submittals for approval are required where indicated.

D. "Contractor": Where the word "Contractor" is used, then refer to the Contractor engaged to execute the work under this division of the specifications only, even though he maybe technically described as a sub-contractor.

E. "Intent of the Contract Documents": The specific intent of these documents is to provide to the Owner, in a thoroughly functional condition, all the various systems, equipment, etc., indicated herein. Final authority over interpretation of the "intent" shall rest with the Architect/Engineer.

F. "Shall": Indicates a mandatory requirement.

1.9 INSPECTION OF THE SITE

A. The drawings are prepared from the best information available and reflect all conditions commensurate with this information. However, the contractor should visit the site prior to submitting a proposal and should verify the locations, sizes, depths, pressures, etc., of all existing utilities and familiarize himself with working conditions, hazards, existing grades, soil conditions will impair the proper operation of the utilities, the Architect/Engineer should be notified in writing.

B. All proposals shall take these existing conditions and any revision required into consideration.

1.10 CONSTRUCTION REQUIREMENTS

A. The Contractor shall be responsible for getting his material and apparatus into the building and shall carefully lay out his work at the site to conform to the structural conditions, to provide proper grading of lines, to avoid all obstructions and to conform to the details of the installation supplied by the manufacturer of the equipment to be installed. Furnish all necessary pipe lines and control lines whether indicated on the drawings or not. The drawings do not give exact details as to elevations of pipe lines nor do they show exact locations of pipe to scale.

B. Piping elevations shall be handled by giving precedence to pipes which require a stated grade for proper operation. Devices necessary for installation and support of pipes, and equipment(such as sleeves, inserts, etc.) shall be located and installed as the construction progresses in order to allow completion of each phase of the work in the proper sequence.

C. Drawings showing the extent and arrangement of the work of a particular trade shall be used together with drawings showing extend and arrangement of work of other trades to insure that the Contractor in laying out and installing his work shall do so in a manner such that the work of the several trades may progress in the most direct, workmanlike and harmonious manner.

D. The Contractor shall be responsible for the proper location and size of slots, holes or openings in the building structure pertaining to his work, and for the correct location of pipe sleeves. The drawings indicate the extend and general arrangement of the various systems, but if any departures from these drawings are deemed necessary by the Contractor, detailed drawings and descriptions of these departures and a statement of the reasons therefore shall be submitted to the Architect/Engineer as soon as practicable.

No departures from the arrangements shown on the drawings shall be made without prior written approval of Architect/Engineer.

E. In general, piping and ductwork in finished areas of the building shall be run concealed unless noted and directed otherwise. Should any conditions arise which would cause any piping or ductwork to be exposed in finished areas, it shall be immediately called to the Architect/Engineer's attention. In unfinished spaces such as equipment rooms, all pipe and duct shall be run as high as possible, shall be run to a continuous grade and shall be grouped wherever it is feasible to do so.

F. Equipment shall be installed in such a manner to make oiling devices and parts requiring service and maintenance readily accessible.

G. All pipe, duct, etc., shall be cut accurately to measurements established at the building and shall be worked into place without springing or forcing. All ducts and pipes run exposed in machinery and equipment rooms shall be installed parallel to the building planes except that the lines shall be sloped to obtain the proper pitch. Piping and ducts run above furred ceilings, etc., shall be similarly installed, except as otherwise shown. All pipe openings shall be kept closed during construction until the systems are closed with final connections.

H. The construction details of the building are illustrated on the Architectural and Structural drawings. The trades shall acquaint themselves with the details before submitting their bid as no allowance will be made because of unfamiliarity with these details. For new construction, place all inserts to accommodate the ultimate installation of pipe hangers in the forms before concrete is poured and set sleeves in forms before construction. For existing construction, all required inserts shall be "drilled-in" and all openings required through concrete or masonry shall be "saw-cut" or "core drilled" with tools specifically designed for this purpose. Explosive or compression driven inserts shall only be allowed for use as approved by SMACNA and the manufacturer of these devices. All concealed lines shall be installed as required by the pace of the job to precede the general construction.

I. The mechanical plans do not give exact locations of outlet, fixtures, equipment items, etc. The exact location of each item shall be determined by reference to the general plans and to all detail drawings, equipment drawings, roughing-in drawings, etc., by measurements at the building and in cooperation with other trades. Minor relocations necessitated by the conditions at the site or directed by the Owner shall be made without additional cost to the Owner.

J. All oiling devices and all parts of equipment requiring adjustment shall be easily accessible. Equipment shall be so located and installed as to permit convenient and safe maintenance

and future replacement. The trade furnishing the equipment shall be responsible prior to ordering same in the event that equipment specified and/or approved is incompatible with this requirement.

1.11 SLEEVES

A. Each and every pipe and duct, regardless of material, which passes through a concrete slab, (except slab on grade), masonry wall, roof or other portion of the building structure shall be free from the structure and shall pass through a sleeve furnished and installed by the Subcontractor responsible for the work involved.

B. Above grade and dry location sleeves shall be constructed from 20 to 22 gauge galvanized steel and shall be flush on both sides of wall surface penetrated. The sleeves shall be sized to allow free passage of the pipe to be inserted, and when this pipe is to be insulated, the sleeves shall be large enough to pass the insulation. Floor sleeves located in pipe chases shall extend up two inches (2") above the floor slab.

C. Sleeves passing through walls or floors on or below grade and/or in moist areas shall be constructed of galvanized steel, schedule 40 pipe and shall be designed with suitable flange in the center of the floor or wall to form a waterproof passage. After the pipes have been installed in the sleeves, void space around the pipe shall be caulked to insure a waterproof penetration. Fire ratings of rated walls and floors shall be maintained by the use of approved materials.

1.12 ISOLATION

A. Transmission of perceptible vibration, structure-borne noise, or objectionable air borne noise to occupied areas by equipment installed under this contract will not be permitted.

B. The isolation supplier shall be a firm or individual capable of dealing effectively with vibration and noise characteristics, effects and criteria and have facilities and capabilities for measuring and evaluating such disturbances and the preparation of drawing and installation instructions.

1.13 CONSTRUCTION SAFETY

Contractor assumes all responsibility regarding the safety of his personnel on the project during construction. The Contract Documents do not include materials, procedures, components, etc., required to insure construction safety. Refer to General Conditions and Supplementary General Conditions for additional information.

1.14 DAMAGE

A. Contractor shall be responsible for damage to project caused by Contractor's failure to recognize hazards associated with items such as leaks, scheduling of work, inexperienced workmen, excessive cutting, etc.

B. Contractor shall repair, at no expense to the Owner, any such damage to the satisfaction of the Owner.

C. Contractor shall familiarize himself with working conditions to the extent that he shall be responsible for damage to concealed piping, wiring and other equipment to remain and shall repair any damage caused by his negligence at no cost to the Owner.

1.15 FLOOR, CEILING AND WALL PLATES

In addition to the requirements of the above referenced portions of this specification, all Subcontractors shall furnish a chromium plated sectional escutcheon in each finished space on each pipe of hanger rod penetrating a wall, floor or ceiling. Escutcheons shall be sized to fit snugly to all lines and where the lines are insulated, the escutcheons shall be fit snugly over the insulation. Where required, these plates shall be provided with set screws so that they fit snugly against the finished surface. All equipment rooms are classified as finished space.

1.16 SAFETY GUARDS

Contractor shall furnish and install all safety guards required. All belt driven equipment, projecting shafts and other rotating parts shall be enclosed or adequately guarded.

1.17 STORAGE OF MATERIALS

Each Contractor shall provide space for storage of materials, equipment or tools at ground level. Any storage contemplated within the building will be allowed only upon specific approval of the Architect/Engineer.

1.18 LOCAL CUSTOMS

Each Sub-contractor shall comply with local customs as to which particular trade shall install any part or parts of any work or equipment specified herein.

1.19 MANUFACTURER'S DIRECTIONS

The manufacturer’s published directions shall be followed in the delivery, storage, protection, installation, piping and wiring of all equipment and material. The Contractor shall promptly notify the Architect/Engineer in writing of any conflict between the requirements of the contract documents and the manufacturer’s directions and shall obtain the Architect/Engineer's instructions before proceeding with the work. Any such work performed that does not comply with the manufacturers' directions shall have deficiencies corrected at no cost to the Owner.

PART 2—PRODUCTS

2.1 MATERIALS

All materials shall be new and free from defects at the time of installation. Materials or equipment damaged in shipment or otherwise damaged prior to installation shall not be repaired at the job site, but shall be replaced with new materials.

2.2 MANUFACTURER'S REQUIREMENTS

When a manufacturer's name appears in these specifications, it is not to be construed that the manufacturer does not have to meet the full requirements of the specifications or that his standard cataloged item will be acceptable.

2.3 SERVICE AND REPAIR PARTS

All equipment installed on this project shall have local representation, local factory authorized service, and a local stock of repair parts.

2.4 FLAME SPREAD PROPERTIES OF MATERIALS

All materials and adhesives used for air conditioning filters, acoustical lining, and insulation shall conform to NFPA and UL life, safety and flame spread properties of materials. The composite classifications shall not exceed 25 for a flame spread rating and 50 for a smoke developed rating for these classifications as listed for the basic materials. The finishes, adhesives, etc., specified for each system and shall be such when completely assembled.

2.5 ACCESS PANELS

Provide flush mounted metal access panels and frames with concealed hinges and key actuated locks for all concealed and otherwise inaccessible valves, parts, fittings, equipment, filters, etc. and as required for inspection or service.

PART 3—EXECUTION

3.1 WORKMANSHIP

A. All work shall be done by experienced craftsmen skilled in the applicable trade.

B. Unprofessional and incomplete work shall be rejected and corrected at no additional expense.

3.2 PROTECTION OF EQUIPMENT

A. The Contractor shall continuously maintain adequate protection of stored materials and installed equipment. Fixtures and equipment, whether located inside or outside, shall be tightly covered with sheet polyethylene or waterproof tarpaulin as protection against dirt, rust, moisture and abuse from other trades. Adequate air circulation shall be provided under any protective sheet to prevent condensate build up.

B. Materials and equipment shall not be stored directly on the ground. Ductwork, piping and equipment shall not be used by other trades as supports for scaffolds or personnel. At the completion of the work, equipment, fixtures, exposed supports and piping shall be cleaned of loose dirt, construction debris, over spray, etc., to the satisfaction of the Architect/Engineer. Repairs made necessary by damage shall be paid for by the Contractor.

3.3 PROTECTION OF STRUCTURE

Contractor in performing his work shall take particular care not to damage the structure. All finished floors and step treads shall be covered to prevent any damage by workmen or their tools and equipment during the construction of the building. In addition, each Contractor shall protect any materials on the job site whether a part of this contract or the property of another Contractor.

3.4 FOUNDATIONS

Equipment shall be set in place on the bases, leveled and aligned by means of shims, piped, then grouted in, in that order. After grouting, the forms shall be removed and the surfaces of the foundation shall be hand-rubbed with carborundum. Concrete work shall conform to the requirements of General Specifications, Concrete Work, of this specification.

3.5 CONFLICTS, INTERFERENCES AND COORDINATION BETWEEN TRADES

A. The drawings are not to be construed as shop drawings, but indicate the extent, general location, arrangement, etc., of piping systems and equipment.

B. Each trade shall coordinate its work with that of the other trades. Piping interference shall be handled by giving precedence to pipe lines which require a stated grade for proper operation. Where space requirements conflict, the following order of precedence shall be observed:

1. Building lines
2. Structural members
3. Soil and drain piping
4. Vent piping
5. Refrigerant piping
6. Condensate piping
7. Supply ductwork
8. Exhaust ductwork
9. Domestic water
10. Electrical conduit
11. Natural gas piping

C. In the event of conflicts between specifications and drawings, drawings shall take precedence over specifications except in matters pertaining to quality, applications, and coordination between trades, which shall be governed by specifications.

D. In the event of conflict between codes, as interpreted by the authority having jurisdiction and the contract documents, the codes shall govern.

E. In the event of conflict between manufacturer's installation instructions and the drawings, the manufacturer's installation instructions shall govern.

3.6 CUTTING AND PATCHING

A. Contractor shall not cut any structural element or any finished work without permission from the Architect/Engineer.

B. Contractor shall cut and patch all paving as required by the installation of buried piping, including utilities.

3.7 CONCRETE WORK

All forming, reinforcing and concrete as indicated such as equipment bases, plumbing stack support pads, grease interceptors, catch basin and headwalls, shall conform to applicable portion of Division 3 CONCRETE.

3.8 PAINTING

A. All exposed piping, equipment, etc., shall be left clean and free from rust or grease and ready for the paint.

B. Where equipment finishes are damaged, Contractor shall obtain matching color touch-up paint from the equipment's manufacturer and paint as required.

3.9 LUBRICATION

Contractor shall provide all lubricants for the operation of all equipment until acceptance. The Contractor shall be required to protect all bearings during the installation and shall thoroughly grease steel shafts to prevent corrosion. All motors and other equipment shall be provided with covers as required for proper protection during construction. All equipment bearings requiring periodic lubrication shall be provided with proper fittings for this purpose. Where equipment requiring such lubrication is not readily accessible due to location, copper tubing extensions shall be provided in addition to lubrication fittings.

3.10 ELECTRICAL WORK

The electrical design and drawings are based on the equipment scheduled and shown on the drawings and should any mechanical equipment requiring changes to the electrical design be approved, the required electrical changes shall be made at the expense of the trade furnishing the changed equipment and at no cost to the Owner.

3.11 EQUIPMENT CONNECTION

Contractor shall bring required services to equipment items furnished under other sections of this specification or by the Owner, Make final connections, and leave equipment ready for operation. Where it is necessary for Contractors performing work covered by this section to make final connections to items of equipment being furnished by Contractors under other sections, all such work shall be performed in a neat and workmanlike manner and all materials shall be of quality and finish normally used for such installation.

3.12 OPERATING PRIOR TO COMPLETION

When any piece of mechanical or electrical equipment is operable and it is to the advantage of the Contractor to operate the equipment, he may do so providing that he properly cleans the equipment, installs clean filter media, properly adjusts and completes all punch list items before final acceptance by the Owner. The date of acceptance and the start of the warranty may not be the same date.

3.13 EQUIPMENT AND ARRANGEMENTS

All equipment shall be installed in a manner to permit access to all surfaces requiring access. All valves, motors, drives, lubrication devices, filters and other necessary items shall be installed in a position to allow removal for service without disassembly of another part.

3.14 EXECUTION OF WORK

The Contractor shall plan, schedule and execute his work and that of any of his Subcontractors so as not to interfere with the work of other trades or Contractors in the building or on the premises.

3.15 FLASHING AND WATERPROOFING

All building penetrations to outside shall be flashed and counter flashed as required to eliminate leaks.

3.16 TESTS

All tests shall be made by Contractor and repeated until approved by the Architect/Engineer. Piping systems shall not be covered or otherwise concealed until tests have been made and approvals

obtained. Notify the Architect/Engineer four days prior to tests to allow for scheduling. Test the piping systems as indicated in applicable articles.

3.17 FINAL OBSERVATIONS

It shall be the duty of the Contractor to make a careful inspection trip of the entire project, assuring himself that the work on the project is ready for final acceptance, before calling upon the Architect/Engineer to make a final observation.

3.18 DEMOLITION AND SALVAGE

A. Where demolition of equipment or materials is required Contractor shall minimize cutting and exercise all due caution to leave undamaged surfaces, material and equipment meant to remain.

B. All existing items that are to be removed shall remain the property of the Owner unless declared as unsalvageable. Unsalvageable materials shall become the property of the Contractor and be removed from the site. Items declared as Owner's property shall be neatly stored on the site as directed by the Owner.

SECTION 15010

MECHANICAL

PART 1—GENERAL

1.1 SCOPE

The scope of the mechanical phase of this project shall include all labor, materials, equipment, etc., required to fulfill the intent of the Contract Documents and shall include the work specified under the subsequent sections of Division 15 of these specifications.

1.2 RELATED DOCUMENTS

All applicable provisions of Divisions 0 and 1 govern work under this Division. Refer to these articles in the specifications for additional information.

1.3 REFERENCE STANDARDS

A. All work shall be performed in full accord with the latest editions of the applicable state, and national building codes and local ordinances.

B. Refer to each section for applicable codes and reference standards.

1.4 FEES, PERMITS AND TAXES

The Contractor shall make arrangements for and pay for all inspection fees, connections fees permits required by local authorities. The Contractor shall also pay all taxes levied for labor and materials associated with work under this Division.

1.5 SUBMITTALS

A. The symbol "<S>" indicates a requirement for submittals.

B. Refer to SECTION 01300 for additional information on submittals.

C. Refer to AIA General Conditions.

D. In addition to the requirements of the above referenced portions of this specification, all Subcontractors proposing to do work under this Division shall comply with the following additional requirements:

1. These specifications and drawings are intended to indicate a standard of quality for materials and equipment which is established by the listing of manufacturers' names and catalog numbers and/or by referenced standards. Materials and equipment that do not comply with these standards of quality will not be considered for substitution.
2. As soon as practicable and within thirty (30) days after the award of the contract and before beginning the fabrication of any material or the installation of any equipment, data shall be submitted for approval on equipment and materials where noted. Materials (pipe, fittings, etc.) may be enlisted with the name of the manufacturer and identifying catalogue numbers. Data for equipment shall include manufacturer's name, catalogue data, diagrams, drawings and other

descriptive data as required or requested by the Architect/Engineer for evaluation.

3. Notwithstanding any reference in the specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalogue number, such references shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product material, fixture, form or type of construction which in the judgment of the Architect/Engineer expressed in writing, is equal to that specified.
4. All data shall be carefully examined and shall be forwarded for approval with a signed certification to the effect that the data has been carefully checked and found to be correct with respect to dimensions and available space and that the equipment complies with all requirements for the specifications.
5. Point out in writing all deviations between the plans and specifications and the materials submitted.
6. It is understood that proof of equality is the responsibility of the Contractor and/or supplier and that it is not the responsibility of the Architect/Engineer to prove the inequality of the proposed substitutions. Furthermore the decisions of the Architect/Engineer are final.

E. While it is not the intention of the Architect/Engineer to discriminate against any manufacturer of equipment which is equal to specified equipment, a strict interpretation of such equality will be exercised by the Architect/Engineer in considering any equipment offered as a substitute for equipment offered as a substitute for equipment named in the specification. It shall be the responsibility of the Contractor to submit with each request for approval of substitute material or equipment, sufficient data to show conclusively that it is equal to the material or equipment specified.

F. Contractor shall submit shop drawings and/or diagrams for approval and for job coordination in all cases where significant deviations from the contract drawings are contemplated because of job conditions, interferences, or substitutions of equipment, or when requested by the Architect/Engineer for purposes of clarification of the Contractor's intent. He shall also submit detailed shop drawings, rough-in sheets, etc., for all special or custom built items of equipment.

G. Should any substitute items be submitted and disapproved, then those items must be furnished exactly as described herein.

H. The Architect/Engineer's review of shop drawings and/or submittal data shall not relieve the Contractor of responsibility for deviations from the contract drawings or specifications.

I. The size of mechanical equipment shown on the drawings is based on the dimensions of a particular manufacturer. While other manufacturers may be acceptable, it is the responsibility of the Contractor to determine if the equipment he proposes to furnish will fit in the space. Shop drawings shall be prepared when required by the Architect/Engineer or Owner to indicate a suitable arrangement.

J. Space allocations and utility rough-ins have been designed on the basis of equipment items named by manufacturer and model number. If any equipment not so named is offered which differs substantially in dimension or configuration from the named equipment, provide scaled shop drawings showing that the substitute can be installed in the same space available without interfering with other trades or with access for

operation and maintenance in the completed project. The Installer shall coordinate final rough-in locations with actual equipment furnished.

1.6 OPERATING AND MAINTENANCE MANUALS AND INSTRUCTIONS

A. The symbol "<OM>" indicates a requirement for operating and maintenance manuals to be furnished.

B. The Owner's operating personnel shall be instructed by the Contractor on how to start and operate each item of equipment. Safety features shall be pointed out, particularly the possible trouble shooting which might be done to remedy operating problems.

C. The Owner's operating personnel shall be thoroughly instructed in the operation of the control system. Instruction should include an explanation of the control system and system sequence of operation, the proper set points of each thermostat, etc., and how to change the settings to accommodate overheating and overcooling, or incorrect humidity. Instructions shall include an explanation of components which should not be tampered with or control settings which should not be changed except by authorized personnel of the Control Manufacturer. Thermostat keys shall be turned over to the Owner.

D. Relative to the air conditioning system, instruct the Owner's operating personnel in the following:
1. Removal of service access panels from equipment. If special tools are required, turn over to the Owner at last one set.
2. Method of removing air filters.
3. Method of cleaning permanent type air filters.
4. How to drain and fill all piping and equipment.
5. How to vent air from the system.
6. Location of concealed valves, traps, air splitters, automatic valves and dampers, etc., requiring periodic maintenance and location of access to them.

E. Provide (2) two copies of operating and maintenance manuals. Manuals shall be bound in large ring, loose-leaf binders and contain the following:
1. Manufacturer's instructions and/or installation manual.
2. Manufacturer's service manual.
3. Manufacturer's lubrication chart listing types of lubricant to be used on each item of equipment and recommended frequency of lubrication.
4. Electrical diagrams of each equipment "packaged" control system.
5. Diagrams of automatic temperature control systems, identifying each item by name, location and number showing sequence of operation. Each component of a control system shall be identified. All diagrams shall be up-to-date, reflecting any on-the-job changes.
6. Parts lists and identifying part numbers with prices of each part. The name and address of the nearest distributor from which parts can be obtained.

1.7 WARRANTY

Contractor shall warrant all workmanship, material, equipment systems etc., provided by him for a period of one year after substantial completion of the project. This warranty means that Contractor shall make good to the Owner, at no cost, any defects that become apparent during the year following substantial completion. This warranty is in addition to any other guarantees or warranties and is not intended to limit such other guarantees or warranties.

1.8 DEFINITIONS

The following words and phrases as used herein are hereby defined:

A. "Provide": Furnish and install all material and labor required for a complete installation ready for operation in accordance with the intent of the Contract Documents.

B. "As required": Indicates that the Contractor shall perform the work or provide the material as indicated in accordance with manufacturer's installation instructions; and in accordance with applicable codes or regulations; and in a workmanlike manner as defined by good local practice.

C. "Or equal": Indicates that the Contractor may substitute equipment by another manufacturer if the features of the equipment indicated by manufacturer's name and/or described are, in the judgment of the Architect/Engineer, adequate. Submittals for approval are required where indicated.

D. "Contractor": Where the word "Contractor" is used, then refer to the Contractor engaged to execute the work under this division of the specifications only, even though he maybe technically described as a sub-contractor.

E. "Intent of the Contract Documents": The specific intent of these documents is to provide to the Owner, in a thoroughly functional condition, all the various systems, equipment, etc., indicated herein. Final authority over interpretation of the "intent" shall rest with the Architect/Engineer.

F. "Shall": Indicates a mandatory requirement.

1.9 INSPECTION OF THE SITE

A. The drawings are prepared from the best information available and reflect all conditions commensurate with this information. However, the contractor should visit the site prior to submitting a proposal and should verify the locations, sizes, depths, pressures, etc., of all existing utilities and familiarize himself with working conditions, hazards, existing grades, soil conditions will impair the proper operation of the utilities, the Architect/Engineer should be notified in writing.

B. All proposals shall take these existing conditions and any revision required into consideration.

1.10 CONSTRUCTION REQUIREMENTS

A. The Contractor shall be responsible for getting his material and apparatus into the building and shall carefully lay out his work at the site to conform to the structural conditions, to provide proper grading of lines, to avoid all obstructions and to conform to the details of the installation supplied by the manufacturer of the equipment to be installed. Furnish all necessary pipe lines and control lines whether indicated on the drawings or not. The drawings do not give exact details as to elevations of pipe lines nor do they show exact locations of pipe to scale.

B. Piping elevations shall be handled by giving precedence to pipes which require a stated grade for proper operation. Devices necessary for installation and support of pipes, and equipment(such as sleeves, inserts, etc.) shall be located and installed as the

construction progresses in order to allow completion of each phase of the work in the proper sequence.

C. Drawings showing the extent and arrangement of the work of a particular trade shall be used together with drawings showing extend and arrangement of work of other trades to insure that the Contractor in laying out and installing his work shall do so in a manner such that the work of the several trades may progress in the most direct, workmanlike and harmonious manner.

D. The Contractor shall be responsible for the proper location and size of slots, holes or openings in the building structure pertaining to his work, and for the correct location of pipe sleeves. The drawings indicate the extend and general arrangement of the various systems, but if any departures from these drawings are deemed necessary by the Contractor, detailed drawings and descriptions of these departures and a statement of the reasons therefore shall be submitted to the Architect/Engineer as soon as practicable.

No departures from the arrangements shown on the drawings shall be made without prior written approval of Architect/Engineer.

E. In general, piping and ductwork in finished areas of the building shall be run concealed unless noted and directed otherwise. Should any conditions arise which would cause any piping or ductwork to be exposed in finished areas, it shall be immediately called to the Architect/Engineer's attention. In unfinished spaces such as equipment rooms, all pipe and duct shall be run as high as possible, shall be run to a continuous grade and shall be grouped wherever it is feasible to do so.

F. Equipment shall be installed in such a manner to make oiling devices and parts requiring service and maintenance readily accessible.

G. All pipe, duct, etc., shall be cut accurately to measurements established at the building and shall be worked into place without springing or forcing. All ducts and pipes run exposed in machinery and equipment rooms shall be installed parallel to the building planes except that the lines shall be sloped to obtain the proper pitch. Piping and ducts run above furred ceilings, etc., shall be similarly installed, except as otherwise shown. All pipe openings shall be kept closed during construction until the systems are closed with final connections.

H. The construction details of the building are illustrated on the Architectural and Structural drawings. The trades shall acquaint themselves with the details before submitting their bid as no allowance will be made because of unfamiliarity with these details. For new construction, place all inserts to accommodate the ultimate installation of pipe hangers in the forms before concrete is poured and set sleeves in forms before construction. For existing construction, all required inserts shall be "drilled-in" and all openings required through concrete or masonry shall be "saw-cut" or "core drilled" with tools specifically designed for this purpose. Explosive or compression driven inserts shall only be allowed for use as approved by SMACNA and the manufacturer of these devices. All concealed lines shall be installed as required by the pace of the job to precede the general construction.

I. The mechanical plans do not give exact locations of outlet, fixtures, equipment items, etc. The exact location of each item shall be determined by reference to the general plans and to all detail drawings, equipment drawings, roughing-in drawings, etc., by measurements at the building and in cooperation with other trades. Minor relocations

necessitated by the conditions at the site or directed by the Owner shall be made without additional cost to the Owner.

J. All oiling devices and all parts of equipment requiring adjustment shall be easily accessible. Equipment shall be so located and installed as to permit convenient and safe maintenance and future replacement. The trade furnishing the equipment shall be responsible prior to ordering same in the event that equipment specified and/or approved is incompatible with this requirement.

1.11 SLEEVES

A. Each and every pipe and duct, regardless of material, which passes through a concrete slab, (except slab on grade), masonry wall, roof or other portion of the building structure shall be free from the structure and shall pass through a sleeve furnished and installed by the Subcontractor responsible for the work involved.

B. Above grade and dry location sleeves shall be constructed from 20 to 22 gauge galvanized steel and shall be flush on both sides of wall surface penetrated. The sleeves shall be sized to allow free passage of the pipe to be inserted, and when this pipe is to be insulated, the sleeves shall be large enough to pass the insulation. Floor sleeves located in pipe chases shall extend up two inches (2") above the floor slab.

C. Sleeves passing through walls or floors on or below grade and/or in moist areas shall be constructed of galvanized steel, schedule 40 pipe and shall be designed with suitable flange in the center of the floor or wall to form a waterproof passage. After the pipes have been installed in the sleeves, void space around the pipe shall be caulked to insure a waterproof penetration. Fire ratings of rated walls and floors shall be maintained by the use of approved materials.

1.12 ISOLATION

A. Transmission of perceptible vibration, structure-borne noise, or objectionable air borne noise to occupied areas by equipment installed under this contract will not be permitted.

B. The isolation supplier shall be a firm or individual capable of dealing effectively with vibration and noise characteristics, effects and criteria and have facilities and capabilities for measuring and evaluating such disturbances and the preparation of drawing and installation instructions.

1.13 CONSTRUCTION SAFETY

Contractor assumes all responsibility regarding the safety of his personnel on the project during construction. The Contract Documents do not include materials, procedures, components, etc., required to insure construction safety. Refer to General Conditions and Supplementary General Conditions for additional information.

1.14 DAMAGE

A. Contractor shall be responsible for damage to project caused by Contractor's failure to recognize hazards associated with items such as leaks, scheduling of work, inexperienced workmen, excessive cutting, etc.

B. Contractor shall repair, at no expense to the Owner, any such damage to the satisfaction of the Owner.

C. Contractor shall familiarize himself with working conditions to the extent that he shall be responsible for damage to concealed piping, wiring and other equipment to remain and shall repair any damage caused by his negligence at no cost to the Owner.

1.15 FLOOR, CEILING AND WALL PLATES

In addition to the requirements of the above referenced portions of this specification, all Subcontractors shall furnish a chromium plated sectional escutcheon in each finished space on each pipe of hanger rod penetrating a wall, floor or ceiling. Escutcheons shall be sized to fit snugly to all lines and where the lines are insulated, the escutcheons shall be fit snugly over the insulation. Where required, these plates shall be provided with set screws so that they fit snugly against the finished surface. All equipment rooms are classified as finished space.

1.16 SAFETY GUARDS

Contractor shall furnish and install all safety guards required. All belt driven equipment, projecting shafts and other rotating parts shall be enclosed or adequately guarded.

1.17 STORAGE OF MATERIALS

Each Contractor shall provide space for storage of materials, equipment or tools at ground level. Any storage contemplated within the building will be allowed only upon specific approval of the Architect/Engineer.

1.18 LOCAL CUSTOMS

Each Sub-contractor shall comply with local customs as to which particular trade shall install any part or parts of any work or equipment specified herein.

1.19 MANUFACTURER'S DIRECTIONS

The manufacturer’s published directions shall be followed in the delivery, storage, protection, installation, piping and wiring of all equipment and material. The Contractor shall promptly notify the Architect/Engineer in writing of any conflict between the requirements of the contract documents and the manufacturer’s directions and shall obtain the Architect/Engineer's instructions before proceeding with the work. Any such work performed that does not comply with the manufacturers' directions shall have deficiencies corrected at no cost to the Owner.

PART 2—PRODUCTS

2.1 MATERIALS

All materials shall be new and free from defects at the time of installation. Materials or equipment damaged in shipment or otherwise damaged prior to installation shall not be repaired at the job site, but shall be replaced with new materials.

2.2 MANUFACTURER'S REQUIREMENTS

When a manufacturer's name appears in these specifications, it is not to be construed that the manufacturer does not have to meet the full requirements of the specifications or that his standard cataloged item will be acceptable.

2.3 SERVICE AND REPAIR PARTS

All equipment installed on this project shall have local representation, local factory authorized service, and a local stock of repair parts.

2.5 FLAME SPREAD PROPERTIES OF MATERIALS

All materials and adhesives used for air conditioning filters, acoustical lining, and insulation shall conform to NFPA and UL life, safety and flame spread properties of materials. The composite classifications shall not exceed 25 for a flame spread rating and 50 for a smoke developed rating for these classifications as listed for the basic materials. The finishes, adhesives, etc., specified for each system and shall be such when completely assembled.

2.5 ACCESS PANELS

Provide flush mounted metal access panels and frames with concealed hinges and key actuated locks for all concealed and otherwise inaccessible valves, parts, fittings, equipment, filters, etc. and as required for inspection or service.

PART 3—EXECUTION

3.1 WORKMANSHIP

A. All work shall be done by experienced craftsmen skilled in the applicable trade.

B. Unprofessional and incomplete work shall be rejected and corrected at no additional expense.

3.2 PROTECTION OF EQUIPMENT

A. The Contractor shall continuously maintain adequate protection of stored materials and installed equipment. Fixtures and equipment, whether located inside or outside, shall be tightly covered with sheet polyethylene or waterproof tarpaulin as protection against dirt, rust, moisture and abuse from other trades. Adequate air circulation shall be provided under any protective sheet to prevent condensate build up.

B. Materials and equipment shall not be stored directly on the ground. Ductwork, piping and equipment shall not be used by other trades as supports for scaffolds or personnel. At the completion of the work, equipment, fixtures, exposed supports and piping shall be cleaned of loose dirt, construction debris, over spray, etc., to the satisfaction of the Architect/Engineer. Repairs made necessary by damage shall be paid for by the Contractor.

3.3 PROTECTION OF STRUCTURE

Contractor in performing his work shall take particular care not to damage the structure. All finished floors and step treads shall be covered to prevent any damage by workmen or their tools and equipment during the construction of the building. In addition, each Contractor shall protect any materials on the job site whether a part of this contract or the property of another Contractor.

3.4 FOUNDATIONS

Equipment shall be set in place on the bases, leveled and aligned by means of shims, piped, then grouted in, in that order. After grouting, the forms shall be removed and the surfaces of the foundation shall be hand-rubbed with carborundum. Concrete work shall conform to the requirements of General Specifications, Concrete Work, of this specification.

3.5 CONFLICTS, INTERFERENCES AND COORDINATION BETWEEN TRADES

A. The drawings are not to be construed as shop drawings, but indicate the extent, general location, arrangement, etc., of piping systems and equipment.

B. Each trade shall coordinate its work with that of the other trades. Piping interference shall be handled by giving precedence to pipe lines which require a stated grade for proper operation. Where space requirements conflict, the following order of precedence shall be observed:

1. Building lines
2. Structural members
3. Soil and drain piping
4. Vent piping
5. Refrigerant piping
6. Condensate piping
7. Supply ductwork
8. Exhaust ductwork
9. Domestic water
10. Electrical conduit
11. Natural gas piping

C. In the event of conflicts between specifications and drawings, drawings shall take precedence over specifications except in matters pertaining to quality, applications, and coordination between trades, which shall be governed by specifications.

D. In the event of conflict between codes, as interpreted by the authority having jurisdiction and the contract documents, the codes shall govern.

E. In the event of conflict between manufacturer's installation instructions and the drawings, the manufacturer's installation instructions shall govern.

3.6 CUTTING AND PATCHING

A. Contractor shall not cut any structural element or any finished work without permission from the Architect/Engineer.

B. Contractor shall cut and patch all paving as required by the installation of buried piping, including utilities.

3.7 CONCRETE WORK

All forming, reinforcing and concrete as indicated such as equipment bases, plumbing stack support pads, grease interceptors, catch basin and headwalls, shall conform to applicable portion of Division 3 CONCRETE.

3.8 PAINTING

A. All exposed piping, equipment, etc., shall be left clean and free from rust or grease and ready for the paint.

B. Where equipment finishes are damaged, Contractor shall obtain matching color touch-up paint from the equipment's manufacturer and paint as required.

3.9 LUBRICATION

Contractor shall provide all lubricants for the operation of all equipment until acceptance. The Contractor shall be required to protect all bearings during the installation and shall thoroughly grease steel shafts to prevent corrosion. All motors and other equipment shall be provided with covers as required for proper protection during construction. All equipment bearings requiring periodic lubrication shall be provided with proper fittings for this purpose. Where equipment requiring such lubrication is not readily accessible due to location, copper tubing extensions shall be provided in addition to lubrication fittings.

3.10 ELECTRICAL WORK

The electrical design and drawings are based on the equipment scheduled and shown on the drawings and should any mechanical equipment requiring changes to the electrical design be approved, the required electrical changes shall be made at the expense of the trade furnishing the changed equipment and at no cost to the Owner.

3.11 EQUIPMENT CONNECTION

Contractor shall bring required services to equipment items furnished under other sections of this specification or by the Owner, Make final connections, and leave equipment ready for operation. Where it is necessary for Contractors performing work covered by this section to make final connections to items of equipment being furnished by Contractors under other sections, all such work shall be performed in a neat and workmanlike manner and all materials shall be of quality and finish normally used for such installation.

3.12 OPERATING PRIOR TO COMPLETION

When any piece of mechanical or electrical equipment is operable and it is to the advantage of the Contractor to operate the equipment, he may do so providing that he properly cleans the equipment, installs clean filter media, properly adjusts and completes all punch list items before final acceptance by the Owner. The date of acceptance and the start of the warranty may not be the same date.

3.13 EQUIPMENT AND ARRANGEMENTS

All equipment shall be installed in a manner to permit access to all surfaces requiring access. All valves, motors, drives, lubrication devices, filters and other necessary items shall be installed in a position to allow removal for service without disassembly of another part.

3.14 EXECUTION OF WORK

The Contractor shall plan, schedule and execute his work and that of any of his Subcontractors so as not to interfere with the work of other trades or Contractors in the building or on the premises.

3.15 FLASHING AND WATERPROOFING

All building penetrations to outside shall be flashed and counter flashed as required to eliminate leaks.

3.16 TESTS

All tests shall be made by Contractor and repeated until approved by the Architect/Engineer. Piping systems shall not be covered or otherwise concealed until tests have been made and approvals obtained. Notify the Architect/Engineer four days prior to tests to allow for scheduling. Test the piping systems as indicated in applicable articles.

3.17 FINAL OBSERVATIONS

It shall be the duty of the Contractor to make a careful inspection trip of the entire project, assuring himself that the work on the project is ready for final acceptance, before calling upon the Architect/Engineer to make a final observation.

3.18 DEMOLITION AND SALVAGE

A. Where demolition of equipment or materials is required Contractor shall minimize cutting and exercise all due caution to leave undamaged surfaces, material and equipment meant to remain.

B. All existing items that are to be removed shall remain the property of the Owner unless declared as unsalvageable. Unsalvageable materials shall become the property of the Contractor and be removed from the site. Items declared as Owner's property shall be neatly stored on the site as directed by the Owner.

SECTION 16721

FIRE ALARM SYSTEM(S) EXTENSION

PART 1—GENERAL

1.1 DESCRIPTION

This Section governs the installation of pull stations, control panels, annuniciator panels, horn/strobe units and detectors to extend the existing **Simplex 4100ES Fire Alarm System**. Contractor to add the additional Devices to the Graphic Floor Plans on the Fireworks Computers in Physical Plant and Police Department. To the extent possible, reuse existing components. Where additional components are required, to the extent possible, match existing components.

1.2 SCOPE OF WORK.

Contractor to provide all necessary Simplex Equipment to connect the Sprinkler System Connections

1.3 SUBMITTALS

Submit manufacturers' data for all components required for complete installation.

PART 2—PRODUCTS

Provide equipment and wiring compatible with existing fire alarm system. Install new horn/strobe units where indicated on the drawings. Ensure all existing equipment is functioning properly.

PART 3—EXECUTION

3.1 INSTALLATION

Install per manufacturer's specifications.

3.2 TESTING

Set and check out system for proper operation upon completion.

Hall 10 Fire Protection System

STEPHEN F. AUSTIN STATE UNIVERSITY NACOGDOCHES, TEXAS

Hall 10 Fire Protection System - 501110

DRAWING INDEX

SHEET	
TS	TITLE SHEET
M1	SPRINKLER PLAN
M2	SPRINKLER PLAN
M3	SPRINKLER PLAN

STATE OF TEXAS
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51663
LICENSED
PROFESSIONAL ENGINEER
Eddie L. Morgan
3-30-16
MECHANICAL, ELECTRICAL & PLUMBING ENGINEER

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TBPLS FIRM REGISTRATION: #10110900

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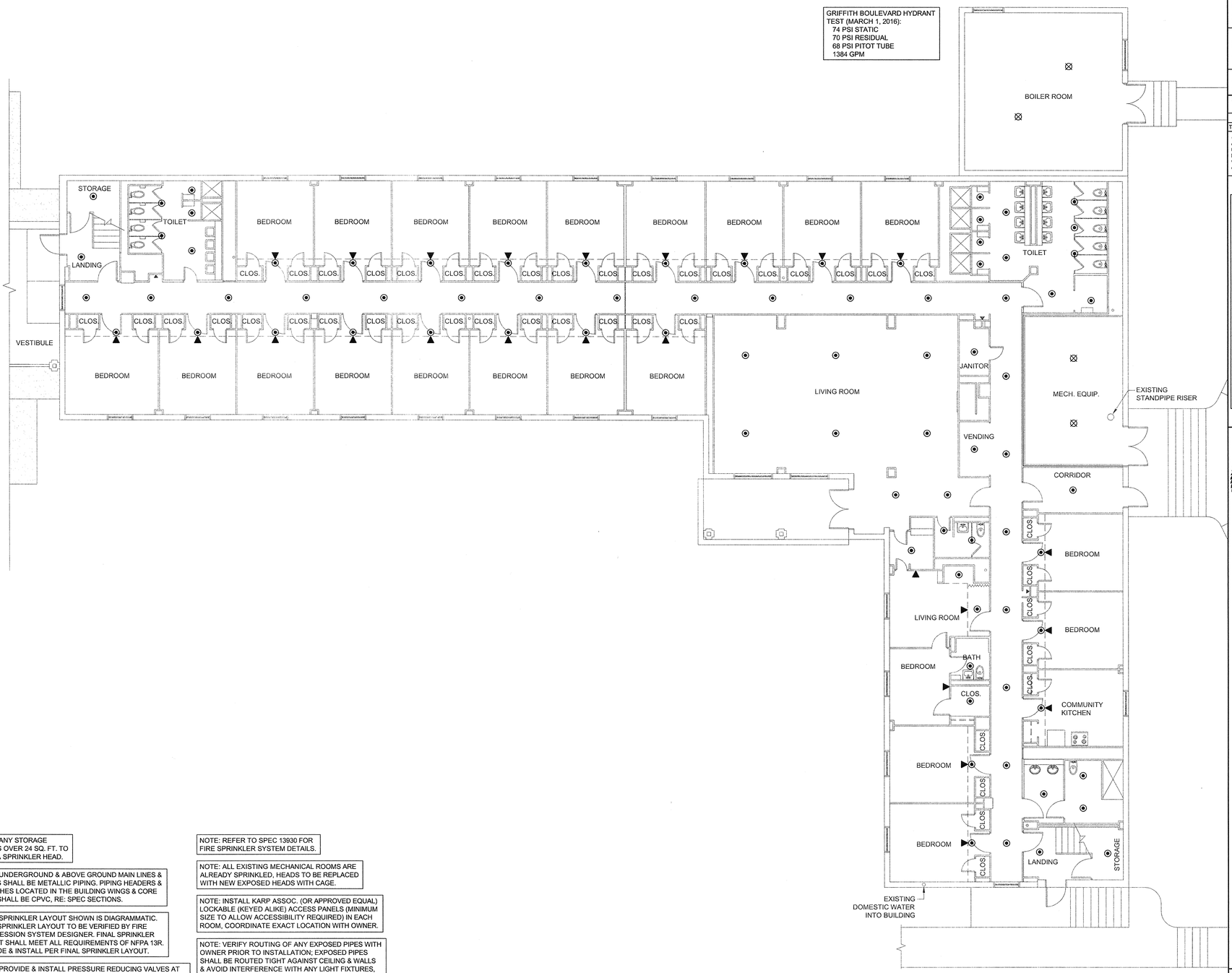
Hall 10 Fire Protection System - 501110

GOODWIN · LASITER · STRONG

- PENDANT SPRINKLER FULLY CONCEALED
- SIDEWALL SPRINKLER FULLY CONCEALED
- EXPOSED SPRINKLER WITH CAGE

GRIFFITH BOULEVARD HYDRANT TEST (MARCH 1, 2016):
74 PSI STATIC
70 PSI RESIDUAL
68 PSI PITOT TUBE
1384 GPM



NOTE: ANY STORAGE ROOMS OVER 24 SQ. FT. TO HAVE A SPRINKLER HEAD.

NOTE: UNDERGROUND & ABOVE GROUND MAIN LINES & RISERS SHALL BE METALLIC PIPING. PIPING HEADERS & BRANCHES LOCATED IN THE BUILDING WINGS & CORE AREA SHALL BE CPVC, RE: SPEC SECTIONS.

NOTE: SPRINKLER LAYOUT SHOWN IS DIAGRAMMATIC. FINAL SPRINKLER LAYOUT TO BE VERIFIED BY FIRE SUPPRESSION SYSTEM DESIGNER. FINAL SPRINKLER LAYOUT SHALL MEET ALL REQUIREMENTS OF NFPA 13R. PROVIDE & INSTALL PER FINAL SPRINKLER LAYOUT.

NOTE: PROVIDE & INSTALL PRESSURE REDUCING VALVES AT EACH SPRINKLER BRANCH LINE & AT EACH FIRE DEPARTMENT CONNECTION TO REDUCE LINE OUTLET PRESSURE TO NOT MORE THAN 165 P.S.I. AT MAXIMUM INLET PRESSURE.

NOTE: SPRINKLER ACTIVATION TO BE INTERLOCKED WITH EXISTING FIRE ALARM SYSTEM (SIMPLEX). AUGMENT EXISTING FIRE ALARM SYSTEM AS NECESSARY, RE: SPEC SECTIONS.

NOTE: REFER TO SPEC 13930 FOR FIRE SPRINKLER SYSTEM DETAILS.

NOTE: ALL EXISTING MECHANICAL ROOMS ARE ALREADY SPRINKLED, HEADS TO BE REPLACED WITH NEW EXPOSED HEADS WITH CAGE.

NOTE: INSTALL KARP ASSOC. (OR APPROVED EQUAL) LOCKABLE (KEYED ALIKE) ACCESS PANELS (MINIMUM SIZE TO ALLOW ACCESSIBILITY REQUIRED) IN EACH ROOM, COORDINATE EXACT LOCATION WITH OWNER.

NOTE: VERIFY ROUTING OF ANY EXPOSED PIPES WITH OWNER PRIOR TO INSTALLATION; EXPOSED PIPES SHALL BE ROUTED TIGHT AGAINST CEILING & WALLS & AVOID INTERFERENCE WITH ANY LIGHT FIXTURES, AC GRILLES, SWITCHES, RECEPTACLES, ETC.

NOTE: PATCHING OF WALL & CEILING PENETRATIONS TO BE DONE BY CONTRACTOR, TOUCH-UP PAINTING TO BE DONE BY OWNER. CONTRACTOR TO PROTECT ALL EXISTING SURFACES (FLOORS, WALLS, CEILINGS, BUILT-IN CABINETS, ETC.) & CLEAN UP ALL AREAS AFTER INSTALLATION IS COMPLETE.

N

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

FIRST FLOOR SPRINKLER PLAN

1/8"=1'-0"

NO.	DATE	ISSUED FOR
	3-29-16	BID

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DRAWN BY: ANM | APP'D BY: ELM | PLOT SCALE: 1:1

TBPE FIRM REGISTRATION: #413

TBPLS FIRM REGISTRATION: #10110900

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STATE OF TEXAS
EDDIE L. MORGAN
51663
LICENSED PROFESSIONAL ENGINEER

Eddie L. Morgan 3-29-16

HALL 10 FIRE PROTECTION SYSTEM
STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX
SPRINKLER PLAN

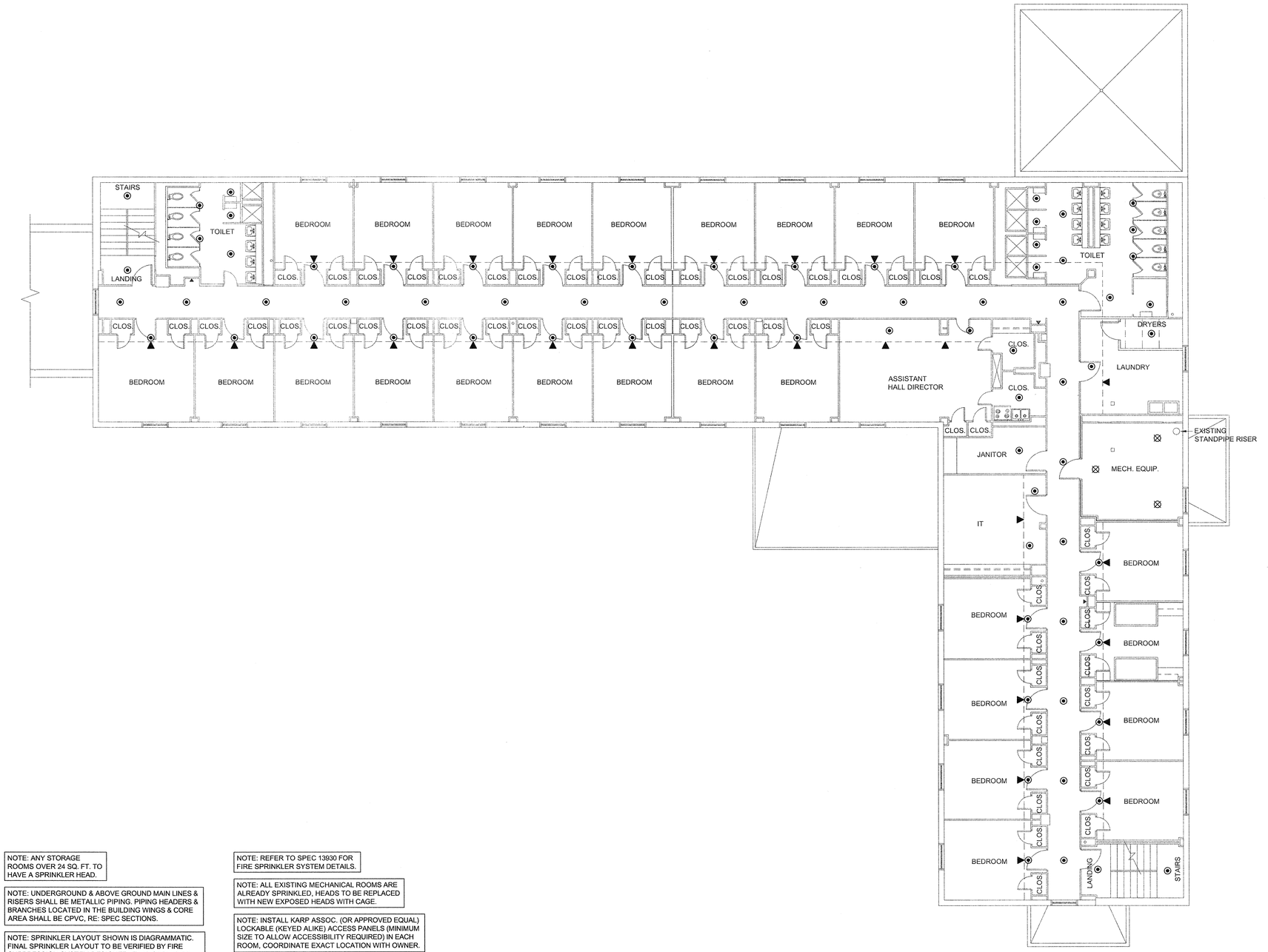
CONTRACT NO. 501110

SHEET NO.

M1

16
15
14
13

- ⊙ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊠ EXPOSED SPRINKLER WITH CAGE



NOTE: ANY STORAGE ROOMS OVER 24 SQ. FT. TO HAVE A SPRINKLER HEAD.

NOTE: UNDERGROUND & ABOVE GROUND MAIN LINES & RISERS SHALL BE METALLIC PIPING. PIPING HEADERS & BRANCHES LOCATED IN THE BUILDING WINGS & CORE AREA SHALL BE CPVC, RE: SPEC SECTIONS.

NOTE: SPRINKLER LAYOUT SHOWN IS DIAGRAMMATIC. FINAL SPRINKLER LAYOUT TO BE VERIFIED BY FIRE SUPPRESSION SYSTEM DESIGNER. FINAL SPRINKLER LAYOUT SHALL MEET ALL REQUIREMENTS OF NFPA 13R. PROVIDE & INSTALL PER FINAL SPRINKLER LAYOUT.

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NOTE: VERIFY ROUTING OF ANY EXPOSED PIPES WITH OWNER PRIOR TO INSTALLATION; EXPOSED PIPES SHALL BE ROUTED TIGHT AGAINST CEILING & WALLS & AVOID INTERFERENCE WITH ANY LIGHT FIXTURES, AC GRILLES, SWITCHES, RECEPTACLES, ETC.

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N

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

SECOND FLOOR SPRINKLER PLAN

1/8"=1'-0"

NO.	DATE	ISSUED FOR
	3-29-16	BID

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DRAWN BY: ANM | APP'D BY: ELM | PLOT SCALE: 1:1

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STATE OF TEXAS · EDDIE L. MORGAN · 51863 · REGISTERED PROFESSIONAL ENGINEER

Eddie L. Morgan 3-30-16

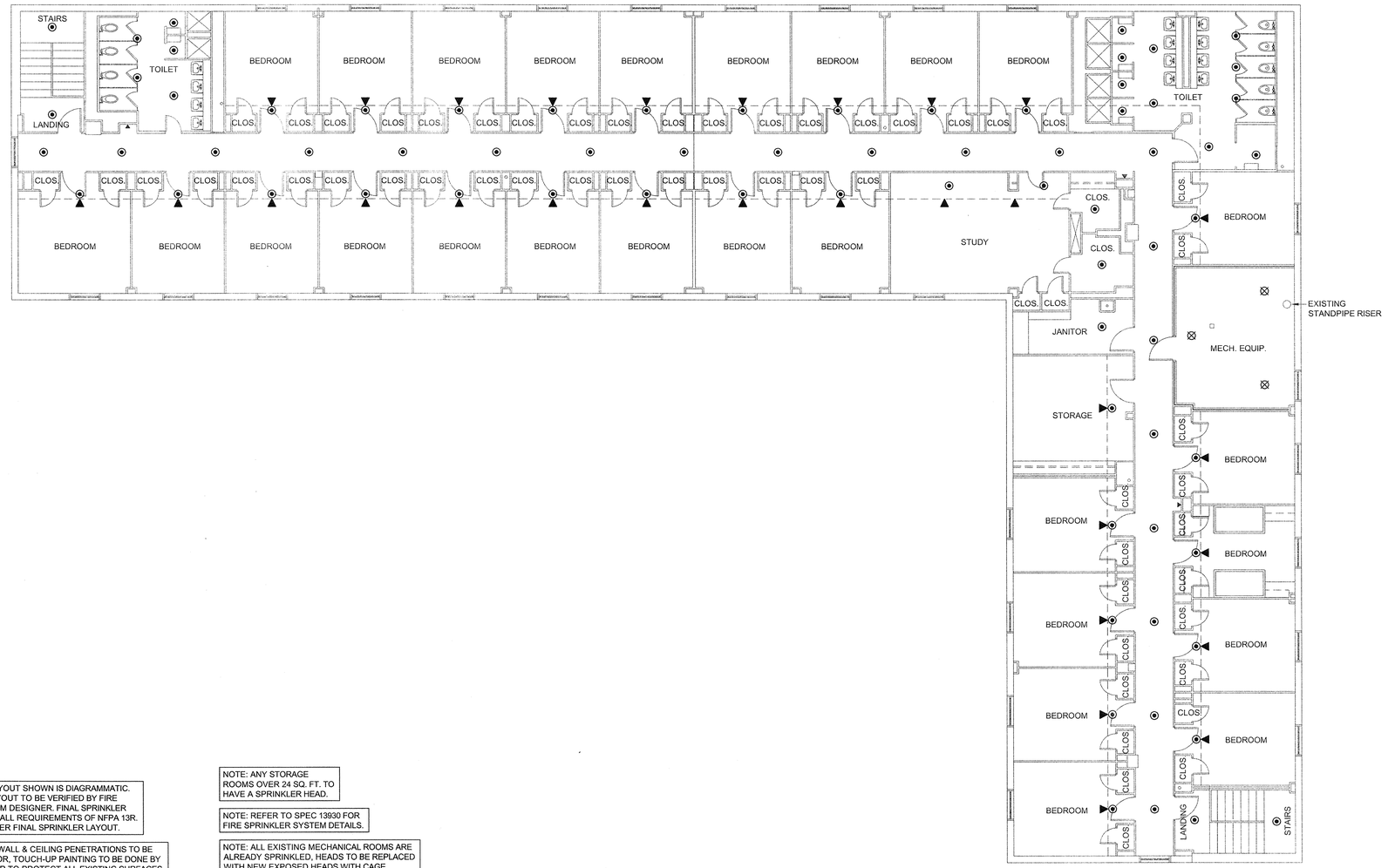
HALL 10 FIRE PROTECTION SYSTEM
STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX
SPRINKLER PLAN

CONTRACT NO. 501110

SHEET NO. M2

16 | 15 | 14 | 13

- ⊙ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊠ EXPOSED SPRINKLER WITH CAGE



NOTE: SPRINKLER LAYOUT SHOWN IS DIAGRAMMATIC. FINAL SPRINKLER LAYOUT TO BE VERIFIED BY FIRE SUPPRESSION SYSTEM DESIGNER. FINAL SPRINKLER LAYOUT SHALL MEET ALL REQUIREMENTS OF NFPA 13R. PROVIDE & INSTALL PER FINAL SPRINKLER LAYOUT.

NOTE: PATCHING OF WALL & CEILING PENETRATIONS TO BE DONE BY CONTRACTOR, TOUCH-UP PAINTING TO BE DONE BY OWNER. CONTRACTOR TO PROTECT ALL EXISTING SURFACES (FLOORS, WALLS, CEILINGS, BUILT-IN CABINETS, ETC.) & CLEAN UP ALL AREAS AFTER INSTALLATION IS COMPLETE.

NOTE: PROVIDE & INSTALL PRESSURE REDUCING VALVES AT EACH SPRINKLER BRANCH LINE & AT EACH FIRE DEPARTMENT CONNECTION TO REDUCE LINE OUTLET PRESSURE TO NOT MORE THAN 165 P.S.I. AT MAXIMUM INLET PRESSURE.

NOTE: SPRINKLER ACTIVATION TO BE INTERLOCKED WITH EXISTING FIRE ALARM SYSTEM (SIMPLEX). AUGMENT EXISTING FIRE ALARM SYSTEM AS NECESSARY, RE: SPEC SECTIONS.

NOTE: PROVIDE NEW WALL-MOUNTED SPRINKLER VALVE BOXES TO CUT-OFF NORTH WING, SOUTH WING, & FIRST FLOOR CENTRAL CORE SEPARATELY AT EACH FLOOR. LOCATE ADJACENT TO EXISTING HOSE VALVE BOXES. COORDINATE WITH OWNER & ARCHITECT & SUBMIT DATA.

NOTE: ANY STORAGE ROOMS OVER 24 SQ. FT. TO HAVE A SPRINKLER HEAD.

NOTE: REFER TO SPEC 13930 FOR FIRE SPRINKLER SYSTEM DETAILS.

NOTE: ALL EXISTING MECHANICAL ROOMS ARE ALREADY SPRINKLED, HEADS TO BE REPLACED WITH NEW EXPOSED HEADS WITH CAGE.

NOTE: INSTALL KARP ASSOC. (OR APPROVED EQUAL) LOCKABLE (KEYED ALIKE) ACCESS PANELS (MINIMUM SIZE TO ALLOW ACCESSIBILITY REQUIRED) IN EACH ROOM, COORDINATE EXACT LOCATION WITH OWNER.

NOTE: VERIFY ROUTING OF ANY EXPOSED PIPES WITH OWNER PRIOR TO INSTALLATION; EXPOSED PIPES SHALL BE ROUTED TIGHT AGAINST CEILING & WALLS & AVOID INTERFERENCE WITH ANY LIGHT FIXTURES, AC GRILLES, SWITCHES, RECEPTACLES, ETC.

NOTE: UNDERGROUND & ABOVE GROUND MAIN LINES & RISERS SHALL BE METALLIC PIPING. PIPING HEADERS & BRANCHES LOCATED IN THE BUILDING WINGS & CORE AREA SHALL BE CPVC, RE: SPEC SECTIONS.

N

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

THIRD FLOOR SPRINKLER PLAN

1/8"=1'-0"

NO.	DATE	ISSUED FOR
	3-29-16	BID

D:\501\501110\06-CD\MEP\501110-M3.DWG

DRAWN BY: ANM | APP'D BY: ELM | PLOT SCALE: 1:1

TBPE FIRM REGISTRATION: #413

TBPLS FIRM REGISTRATION: #10109900

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3-29-16

HALL 10 FIRE PROTECTION SYSTEM
STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX
SPRINKLER PLAN

CONTRACT NO. 501110

SHEET NO. M3

13 14 15 16

PROJECT MANUAL

FOR

STEPHEN F. AUSTIN STATE UNIVERSITY
HALL 14 FIRE SPRINKLER SYSTEM

MARCH 2016

GOODWIN • LASITER • STRONG

ENGINEERING • ARCHITECTURE • INTERIOR DESIGN • SURVEYING

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TBPLS FIRM REGISTRATION NO. 10110900

G-L-S NO. 501109

CIVIL ENGINEER

Project Manual For:

STEPHEN F. AUSTIN STATE UNIVERSITY
HALL 14 FIRE SPRINKLER SYSTEM

Goodwin-Lasiter-Strong Project # 501109

OWNER:

STEPHEN F. AUSTIN STATE UNIVERSITY
NACOGDOCHES, TEXAS

STRUCTURAL ENGINEER

ARCHITECT

ENGINEER / ARCHITECT / INTERIOR DESIGNER:

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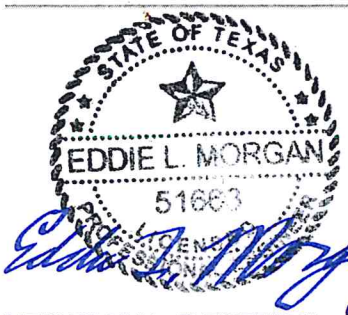

MECHANICAL, ELECTRICAL
& PLUMBING ENGINEER

STEPHEN F. AUSTIN STATE UNIVERSITY
HALL 14 FIRE SPRINKLER SYSTEM

GLS PROJECT # 501109

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M2	SPRINKLER PLAN
M3	SPRINKLER PLAN
M4	SPRINKLER PLAN

SECTION 00810
WAGE RATES AND REGULATIONS

PART 1

1.1 WAGE RATES AND REGULATIONS

A. Contractor and subcontractor shall not pay less than the wage rates determined by SFASU Wage Study.

B. Contractors and Subcontractors shall comply with all state and federal laws regarding (but not limited to) laws of labor, minimum wage, safety, and equal employment.

C. All employees of Contractors and subcontractors working on the construction project must be covered by workers' compensation insurance, and the Contractor shall provide written certification of such. Texas Labor Code 406.097.

SECTION 01085

APPLICABLE STANDARDS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Throughout the Contract Documents, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics.

B. Materials and workmanship are required by the Contract Documents to meet or exceed the specifically named codes and standards.

C. Deliver to the Engineer required proof that the materials or workmanship, or both, meet or exceed the requirements of the specifically named code or standard.

D. Contractors are to be aware of the following federal and state laws regarding underground excavations:

FEDERAL LAW
49 United States Code, Section 60123 Paragraph (d)(1)(B)

Criminal Penalties: Penalty for not using one-call notification system or not heeding location information markings.

"A person shall be fined under Title 18, imprisoned for not more than 5 years, or both, if the person knowingly and willfully engages in an excavation activity without paying attention to appropriate location information or markings the operator of the pipeline facility establishes.

29 CFR PART 1926 Paragraph 1926.651 Subparagraph (b)(3)

OSHA Regulation: "When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means."

TEXAS LAW
Texas Underground Facility Damage Prevention and Safety Act (H.B. 2295)

On Oct. 1, 1998:

1. All Excavators must begin calling Notification Centers **48 hours** prior to digging.
2. All Excavators must begin immediately notifying underground facility operator when damage occurs to a facility.
3. Civil Penalties become enforceable.
   See Texas Revised Civil Statues, ART. 9033, for complete details of this law.

1.2 QUALITY ASSURANCE

A. Verify the detailed requirements of the specifically named codes and standards. Verify that the items procured for use in this work meet or exceed the specified requirements.

B. The Engineer may reject items incorporated into the work which fail to meet the specified minimum requirements. Non-complying items accepted by the Engineer may be subject to an adjustment in the Contract Amount as approved by the Engineer and the Owner.

C. Applicable standards listed in these Specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:

AASHTO =	American Association of State Highway and Transportation Officials, 341 National Press Building, Washington, D.C. 20004.
ACI =	American Concrete Institute, Box 19150, Redford Station, Detroit, Michigan 48219.
AISC =	American Institute of Steel Construction, Inc., 1221 Avenue of the Americas, New York, New York 10020.
ANSI =	American National Standards Institute (successor to USASI and ASA) 1430 Broadway, New York, New York 10018.
ASME =	American Society of Mechanical Engineers, 345 East 47th Street, New York, New York 10017
ASTM =	American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.
AWS =	American Welding Society, Inc., 2501 N. W. 7th Street, Miami, Florida 33125.
AWWA =	American Water Works Association, Inc., 6666 West Quincy Avenue, Denver, Colorado 80235.
CRSI =	Concrete Reinforcing Steel Institute, 228 North LaSalle Street, Chicago, Illinois 60610.
CS =	Commercial Standard of NBS, U.S. Department of Commerce, Government Printing Office, Washington, D.C. 20402.
NEC =	National Electrical Code (see NFPA).
NEMA =	National Electrical Manufacturers Association, 155 East 44th Street, New York, New York 10017.
NFPA =	National Fire Protection Association, 470 Atlantic Avenue, Boston, Massachusetts 02210.
TXDOT =	Texas Department of Transportation - Standard Specifications for Construction of Highways, Streets and Bridges (1993 or Latest Revision)
OSHA =	Occupational Safety and Health Administration, Room S-4004, U.S. Department of Labor, 200 Constitution Avenue NW, Washington, D.C. 20210.
SDI =	Steel Deck Institute, 135 Addison Avenue, Elmhurst, Illinois 60125.
SSPC =	Steel Structures Painting Council, 4400 5th Avenue, Pittsburgh, Pennsylvania 15213
UL =	Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago, Illinois 60611.
IBC =	International Building Code.
NAAMM =	National Association of Architectural Metal Manufacturers.
TAS =	Texas Accessibility Standards

SECTION 01200

PROJECT MEETINGS

PART 1—GENERAL

1.1 MEETINGS

A. Prior to beginning the Work, the Contractor, the Mechanical Subcontractor and other subcontractors as may be designated by the Architect, shall meet with the Architect and Engineers to resolve questions pertaining to the Work and to establish basic administrative procedures. This meeting shall be held at locations determined by the Architect.

B. Meet with the Owner and Architect at Project Site or other designated locations at such intervals directed by Architect to maintain an optimum degree of communication between all interested parties including selected subcontractors and suppliers at such times as their interests may be involved.

PART 2—PRODUCTS (Not Used)

PART 3—EXECUTION

3.1 NOTIFICATION OF ARCHITECT / ENGINEER

A. Notify the Architect / Engineer at any time there is need of clarification or interpretation of the Contract Documents.

B. Notify the Architect 48 hours in advance of the following stages of construction:
   1. Completion of roughing in of fire suppression (prior to concealment).
   2. Installation of sprinkler heads.
   3. Patching and repair of masonry, plaster or sheet rock.
   4. Installation of ceiling tiles.

SECTION 01700

PROJECT CLOSEOUT

PART 1—GENERAL

1.1 FINAL CLEAN-UP

A. Leave all areas clean and free of all unsightly accumulations and complete surface treatments, washing or polishing as specified.

B. Immediately prior to final inspection and acceptance, all tile surfaces shall be cleaned by mopping with a non-harmful soap or detergent and water, rinsing and drying. All other floor and wall surfaces, including projections, shall be cleaned and dusted and left in such condition that all areas can be occupied and used without further cleaning. Wash all interior and exterior glass on both faces, removing all labels and marks, paint and caulking streaks or spots. All metal surfaces, including hardware, shall be cleaned, polished and left free of marks or dust.

C. Clean all plumbing fixtures, trim, utilities, and equipment provided under the Mechanical Work and all electrical fixtures provided under the Electrical Work.

D. Remove all tools, scaffolding, and surplus materials from the Project Site.

1.2 FINAL INSPECTION

Refer to ARTICLE 9, "GENERAL CONDITIONS".

1.3 GUARANTEES, BONDS AND AFFIDAVITS

Each specific installation will not be considered complete under the "TERMS OF PAYMENT" of the "GENERAL CONDITIONS" to the Contract until all of the information has been received. Refer to each section for the specific guarantees, bonds and affidavits required.

1.4 PROJECT RECORD DRAWINGS

At completion of Project, but prior to final acceptance thereof, Contractor shall furnish to Architect a complete set of Project Record Drawings. These shall consist of a complete set of prints maintained in good condition on which all changes have been clearly and accurately recorded in RED pencil as the job progressed. Evidence of current up-dating of these drawings shall be presented at each monthly Progress Meeting.

1.5 MAINTENANCE AND OPERATING INSTRUCTIONS

A. REQUIRED INFORMATION Contractor shall furnish to Architect two (2) copies of the following listed materials for equipment and material furnished and installed by him. All of the material shall be clearly and accurately identified, including its location on the Project. These shall all be neatly and systematically assembled into one or more heavy-duty type plastic notebooks, properly indexed and identified. All operating and maintenance information shall be bound separate from all other material.

1. Each Approved Shop Drawing on all Heating, Ventilating and Air Conditioning Equipment and all other motorized or operating equipment including all final comments, reduced to 8-1/2" X 11" or 11" X 17".
2. Complete detailed parts lists and/or assembly drawings of equipment in item (1). Provide name and phone numbers of distributors where replacement parts may be purchased, including air filters.
3. Each manufacturer's specification, including tabulation of sizes and identifying numbers for all installed material and equipment such as traps, valves, special fittings, gauges, motor starters, electrical devices and equipment. This applicable item in each brochure shall be clearly defined and marked.
4. MSDS documentation on materials used shall be compiled and transferred to the Owner upon project completion.

1.6 CLOSE-OUT MANUAL

Contractor shall furnish to Architect two (2) copies of the following listed materials. All of the material shall be clearly and accurately identified. These shall all be neatly and systematically assembled into one or more heavy-duty type plastic notebooks, properly indexed and identified.

A. List of Subcontractors: Provide a list of all subcontractors who performed work on the project. The list shall include the name, address, telephone number, fax number, and e-mail address along with a brief description of work performed by each sub. The list shall be organized by work performed under each specification section.

B. Warranties: The Contractor shall provide to the Owner, before final payment is processed, warranties from each Subcontractor stating: their name, address, phone number, project name, address, and Owner, and work performed.

C. Release of Liens: The Contractor shall provide to the Owner, before Final Payment is processed, release and waiver of liens, claims, security interest or encumbrances arising out of the Contract on the A.I.A. forms G706A. Forms will be required of each Subcontractor and the General Contractor.

D. The Contractor Shall provide to the Owner, A.I.A. Form G707, Consent of Surety to Final Payment; and A.I.A. Form G706, Contractor's Affidavit of Payment of Debts of Claims.

E. Asbestos: See SECTION 00811, SUPPLEMENTARY GENERAL CONDITIONS, Item 17.

SECTION 02050
DEMOLITION, CUTTING AND PATCHING

PART 1

1.1 DEMOLITION

A. Do all demolition required to accommodate new work.

B. Any salvageable materials shall be tagged and returned to the Owner's Representative, if Owner so desires.

1.2 CUTTING AND PATCHING

A. Employ a skilled and experienced installer to perform cutting and patching new Work; restore Work with new Products.

B. Submit written request in advance of cutting or altering structural or building enclosure elements.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and non-conforming Work.
   4. Remove samples or installed Work for testing.
   5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Cut masonry and concrete materials using masonry saw or core drill. Restore Work with new Products in accordance with requirements of Contract Documents.

E. Fit Work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction ; completely seal voids.

F. Fir Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

G. Refinish surfaces to match adjacent finishes.

H. Whenever a surface, item, or material is required to be patched, it shall be patched with the same material so that upon completion the patched area shall be indistinguishable from surrounding surfaces.

SECTION 13930

WET PIPE SPRINKLER SYSTEM-NFPA 13R

PART 1 GENERAL

1.1 SYSTEM DESCRIPTION

A. Provide labor, materials, equipment, tools and services and perform operations required for, and reasonably incidental to, the providing of fire protection systems, which shall include one (1) automatic wet pipe sprinkler system per 52,000 sq ft of each building area.

B. The full extent of Fire Sprinkler piping work is not indicated by drawings and schedules. The successful Contractor shall prepare and submit drawings and schedules for approval by the requirements of this section, and is hereby defined to include (but is not necessarily limited to) standpipes, sectional control valves in each wing on each floor, feed and cross main piping, branch line piping, test valves, test conditions and sprinklers. Fire Sprinklers shall be installed to serve the entire building.

C. A preliminary sprinkler layout is shown on the plans. The successful Contractor shall prepare shop drawings for the hydraulically designed sprinkler system and secure approval of same from the Local City Authorities and Texas State Insurance Authorities Review Board Owner's Insurance Carrier. Approved plans and submittals shall be submitted to the Architect for approval before any materials are fabricated. Final sprinkler layout shall meet all the requirements of above entities and the governing authorities.

.

D. The Contractor shall obtain from the City a water flow test close as possible to the proposed building addition use this information for the basis of design of the hydraulically designed system.

1.2 REFERENCED DOCUMENTS

A. Comply with General Requirements and referenced documents.

B. Comply with Division 15 Sections, as applicable. Refer to other Divisions for coordination of work with other trades, as required.

1.3 GOVERNING AUTHORITIES

A. The automatic sprinkler system shall comply with applicable State and City codes, with the requirements of other authorities having jurisdiction, and with the requirements of NFPA #13R, NFPA #14 and NFPA #20.

B. Comply with all requirements of the Local Authorities and Owner's Insurance Carrier. Provide sprinkler products that are Underwriters Laboratories listed or Factory Mutual approved.

1.4. SUBMITTALS

A. Submit coordinated shop drawings and details of each fire protection system to, and receive approval from, the governing authorities before the submittal is forwarded to the Architect and before installation work is started.

B. Submit to the Architect, upon completion of each system, a certificate stating that the work has been completed and tested in accordance with NFPA #13R, #14 and #20 that there are no defects in the system and that it is operational. Test procedures and certificate format shall be in accordance with NFPA #13R, NFPA #14 and NFPA #20 unless otherwise directed by the governing authorities.

C. Submit to the Architect upon completion of the system, manufacturer data of all products incorporated this work.

D. Submit the following Products Data, Shop Drawings and Samples:

	Product	Shop Drawings	Samples
Heads	X	X	X
Valves and	X	X	
Pipe and	X	X	
Jointing Method	X		
System Layout		X	

1.5 MAINTENANCE STOCK, FIRE SPRINKLER

Maintenance Stock: For each style and temperature range required, furnish an additional two (2) fire sprinklers for every 100 units installed, but not less than six (6) units of each type.

1.6. COORDINATION

The Contractor shall examine all other work shown on the plans and such work installed at the job site. The sprinkler system contractor shall coordinate the routing of his work with the other construction trades to avoid interference with the other installations. Pipe routing shall be located as required to avoid equipment, plumbing drain pipe, heating and air conditioning piping, ductwork, light fixtures, and electrical buss ducts. This Contractor shall provide pipe offsets, etc., as required to complete the installation. Shop prefabricated piping, pipe hangers, etc., shall be modified as required to fit the job site conditions.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Cover and protect materials in transit and at site. Material not properly protected and stored and which is damaged of defaced during construction shall be rejected.

B. Storage and protection of materials shall be provided.

PART 2 PRODUCTS

2.1 MATERIALS

Materials shall comply with the requirements of NFPA #13R, NFPA #14 and NFPA 20.

2.2 PIPE AND FITTINGS

A. Underground: Class 150, ductile iron with poly wrap or class 200 C-900 PVC pipe and mechanical joint ductile iron fittings.

B. Above Grade, Indoor Piping: ASTM A-53, Schedule 40, black steel pipe. Provide pipe and fittings as follows:
   1. Schedule 10 allowed in pipe sizes per NFPA #13R, NFPA #14 and NFPA #20.
   2. Pipe Size 2 Inch and Smaller: Class 150 ductile iron, threaded fittings, ANSI B16.3. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.
   3. Pipe Size 2-1/2 Inch Larger: Class 150 or 300 (as required) ductile iron, threaded fittings, ANSI B16.3; or with forged steel, threaded fittings; or cast iron flanged fittings, Class 250, ANSI B16.1; or listed mechanical grooved couplings. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.

C. Outdoors or Exposed to Moisture: Same as specified for "Above Grade, Indoor Piping", except pipe shall be galvanized.

D. Fire Sprinkler Drain Piping:
   1. Pipe size 2" and smaller: Black steel pipe and fittings: Pipe weight: Schedule 10; Fittings: Class 125 cast iron screwed; fittings: class 150 ductile iron, screwed. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.

   2. Pipe size 2-1/2" and larger: Black steel pipe and fittings: Pipe weight: Schedule 10; Fittings: Wrought iron, Schedule 10, fittings grooved couplings and fittings. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.

2.3 VALVES

A. General: Conform to the requirements of NFPA #13R, NFPA #14 and NFPA #20.

B. Check Valves: Provide NIBCO No. G917W or equal, check valves 2-1/2" and larger with automatic ball drips for fire department connections.

C. Sectional Valves: Provide indicating iron gate control valve, outside-screw-and-yoke (OS&Y), 175 LB rated working pressure, of size and end types indicated: 2" and smaller: NIBCO T-104-0 or equal. 2-1/2" and larger: Crane 467, NIBCO GD-4765-8N or equal 2" to 1 PART 11. AUTOMATIC SPRINKLERS

2.4 SPRINKLERS

A. Fire Sprinklers: Provide standard Bulb-Type automatic recessed fire sprinklers with 155 Deg. F., or as required by NFPA #13R, operating temperature of the following style and finish:

NOTE: Sprinkler heads shall be limited to 225 sq. ft. coverage and 130 sq. ft. for ordinary hazard area. Sprinkler heads to be located in center of lay-in ceiling tiles.

1. Sprinkler Finish: Cast brass (in non-exposed areas) and chrome or white plated (in occupied areas).
2. Upright pendent type in mechanical spaces without ceilings shall be equal to Tyco Series TY-B. Sprinkler Finish: Cast brass (in non-exposed areas) and chrome plated (in occupied areas).
3. Provide fully-concealed pendent type in all finished areas with ceiling or soffit with factory escutcheon equal to Tyco fully-concealed pendent sprinkler head Model Series RFII or other fully-concealed Tyco type or equivalent that meets NFPA #13R.

4. Provide fully-concealed sidewall type in all finished areas with factory escutcheon equal to Viking fully-concealed sidewall sprinkler head Model Series "Freedom" or other fully-concealed Tyco type or equivalent that meets NFPA #13R.

B. Emergency Head Storage Cabinet: Provide a red, baked enamel, steel sprinkler cabinet to store the extra sprinklers and wrenches, as required by NFPA #13R.

2.5 ACCESSORIES

A. Tamper Switches: Provide tamper switches equal to Potter Model PCVS-1, 2 on all control valves for connection to the fire alarm system.

B. Water Flow Detectors: Provide water flow detectors equal to Potter-VSR. Provide a water flow detector at the main fire protection piping entrance to the building or system, in addition to other locations shown, specified, or required to detect any flow in the system for any cause. If flow is detected, sound a local alarm. See fire alarm section or connection to fire alarm system.

C. Pressure Gauges: Provide 3-1/3 inch diameter pressure gauges equal to Ashcroft No. 35-W-1005-P-02L-XUL-300# with a range of 0-300 psig, include gauge cock.

D. Water-Motor Gong: Provide 10" weatherproof, red enameled finished, electric gong as indicated.

E. Ball Drips: Provide ball drips equal to NIBCO RG-22000 or 22100, ball drips for piping between check valves and fire department connections. Extend drain line from each ball drip to point of disposal as shown on the Drawings, or as directed.

F. Hangers and Supports: Provide hangers and supports as required by NFPA #13R.

G. Outside Fire Department Connections: Flush wall or free-standing (type as shown or Drawings or as directed by Architect) type devices shall be equal to Potter-Roemer No. 5710 or 5761, 2-way, Fire Department Connection with individual drop clapper valves, plugs, chain and escutcheon lettered "AUTO.SPKR". Entire unit shall have polished chrome finish; size shall be 2-1/2" x 2-1/2" x 4". Install appropriate connections per City of Nacogdoches.

H. Where the building has a stage the area shall have a standpipe system as required by the Fire Code. The standpipe system shall be provided on each side of the stage and be equipped with a fire hose cabinet. The hose cabinet shall be equal to Potter Roemer series 1000.

2.6 PROTECTION OF ELECTRICAL EQUIPMENT

Where required, provide metal hoods or shields to protect electrical equipment and bus ducts from sprinkler discharge.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install automatic sprinkler system where shown on the Drawings or as noted. Installation shall comply with the requirements of NFPA #13R, these Specifications, and the governing authorities, and with the manufacturer's written instructions. Coordinate with other work, including plumbing piping, as necessary to interface components of fire sprinkler properly with other work.

B. Welding shall comply with the requirements of State Insurance Authorities. No butt welds are allowed.

C. Provide pipe offsets as required. Modify shop pre-fabricated piping, pipe hangers, and other components as required to fit the job site conditions.

D. Installation of hoods and shields for protection of electrical equipment shall be in accordance with any approved details, included as part of the coordinated shop drawings.

E. Install sectional valves in inlet piping at the bottom of each riser and floor as indicated or required.

F. Install air vents at the high points of the sprinkler piping.

G. Install a tamper switch on each sectional valve and on all other shut-off valves.

H. Install drain piping at all low points of the sprinkler piping. Coordinate drain point with Architect.

I. Thrust blocks shall be of size required for the soil bearing strength and against compacted soil.

J. Install water flow detectors at each take-off from a sprinkler riser or for each zone.

K. Install manual shut-off at each audible alarm station.

L. Install heads in all locations, pendant or upright, as required.

M. Center heads in two directions in 2'-0" x 2'-0" ceiling tile and provide piping offsets as required. In ceilings that are 2' x 4' center head in one half of the 2'-0" x 4'-0" tile.

N. Piping shall be installed with offsets so to align with building structure. All mains and branch piping shall be located so that the piping is concealed.

3.2. IDENTIFICATION

Apply signage to identify purposed and functions of controls, and to identify drains, test, and alarm valves. Provide letter sizes and styles as selected by the Architect from NFPA's suggested styles.

3.3 CLEANING AND FLUSHING

Prior to connecting sprinkler piping for flushing, flush water feed mains, lead-in connections and control portions or sprinkler piping. After sprinkler piping installation has been completed, and before piping is placed in service, flush each sprinkler system under pressure to remove foreign substances as required by NFPA #13R and NFPA-14. Continue flushing until water is clear, and check to ensure that debris has not clogged sprinklers.

3.4 TESTS

A. After flushing each system, hydrostatically test sprinkler piping in accordance with NFPA #13R, NFPA #14 and NFPA #20. Check system for leakage at joints. Measure hydrostatic pressure at low point of each system or zone being tested.

B. Repair or replace piping system as required eliminating leakage in accordance with NFPA Standards, then retest as specified to demonstrate compliance.

3.5 CERTIFICATION

Before final approval of the fire protection systems is requested, provide the Architect a statement that all requirements of the State Board of Insurance and/or Owner's Insurance Carrier as required, City Building Inspection and Fire Departments have been met in the installation of the fire protection systems. Provide owner training of personnel for proper use and maintenance of all new equipment.

END OF SECTION

SECTION 15010

MECHANICAL

PART 1—GENERAL

1.1 SCOPE

The scope of the mechanical phase of this project shall include all labor, materials, equipment, etc., required to fulfill the intent of the Contract Documents and shall include the work specified under the subsequent sections of Division 15 of these specifications.

1.2 RELATED DOCUMENTS

All applicable provisions of Divisions 0 and 1 govern work under this Division. Refer to these articles in the specifications for additional information.

1.3 REFERENCE STANDARDS

A. All work shall be performed in full accord with the latest editions of the applicable state, and national building codes and local ordinances.

B. Refer to each section for applicable codes and reference standards.

1.4 FEES, PERMITS AND TAXES

The Contractor shall make arrangements for and pay for all inspection fees, connections fees permits required by local authorities. The Contractor shall also pay all taxes levied for labor and materials associated with work under this Division.

1.5 SUBMITTALS

A. The symbol "<S>" indicates a requirement for submittals.

B. Refer to SECTION 01300 for additional information on submittals.

C. Refer to AIA General Conditions.

D. In addition to the requirements of the above referenced portions of this specification, all Subcontractors proposing to do work under this Division shall comply with the following additional requirements:

1. These specifications and drawings are intended to indicate a standard of quality for materials and equipment which is established by the listing of manufacturers' names and catalog numbers and/or by referenced standards. Materials and equipment that do not comply with these standards of quality will not be considered for substitution.
2. As soon as practicable and within thirty (30) days after the award of the contract and before beginning the fabrication of any material or the installation of any equipment, data shall be submitted for approval on equipment and materials where noted. Materials (pipe, fittings, etc.) may be enlisted with the name of the manufacturer and identifying catalogue numbers. Data for equipment shall include manufacturer's name, catalogue data, diagrams, drawings and other descriptive data as required or requested by the Architect/Engineer for evaluation.

3. Notwithstanding any reference in the specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalogue number, such references shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product material, fixture, form or type of construction which in the judgment of the Architect/Engineer expressed in writing, is equal to that specified.
4. All data shall be carefully examined and shall be forwarded for approval with a signed certification to the effect that the data has been carefully checked and found to be correct with respect to dimensions and available space and that the equipment complies with all requirements for the specifications.
5. Point out in writing all deviations between the plans and specifications and the materials submitted.
6. It is understood that proof of equality is the responsibility of the Contractor and/or supplier and that it is not the responsibility of the Architect/Engineer to prove the inequality of the proposed substitutions. Furthermore the decisions of the Architect/Engineer are final.

E. While it is not the intention of the Architect/Engineer to discriminate against any manufacturer of equipment which is equal to specified equipment, a strict interpretation of such equality will be exercised by the Architect/Engineer in considering any equipment offered as a substitute for equipment offered as a substitute for equipment named in the specification. It shall be the responsibility of the Contractor to submit with each request for approval of substitute material or equipment, sufficient data to show conclusively that it is equal to the material or equipment specified.

F. Contractor shall submit shop drawings and/or diagrams for approval and for job coordination in all cases where significant deviations from the contract drawings are contemplated because of job conditions, interferences, or substitutions of equipment, or when requested by the Architect/Engineer for purposes of clarification of the Contractor's intent. He shall also submit detailed shop drawings, rough-in sheets, etc., for all special or custom built items of equipment.

G. Should any substitute items be submitted and disapproved, then those items must be furnished exactly as described herein.

H. The Architect/Engineer's review of shop drawings and/or submittal data shall not relieve the Contractor of responsibility for deviations from the contract drawings or specifications.

I. The size of mechanical equipment shown on the drawings is based on the dimensions of a particular manufacturer. While other manufacturers may be acceptable, it is the responsibility of the Contractor to determine if the equipment he proposes to furnish will fit in the space. Shop drawings shall be prepared when required by the Architect/Engineer or Owner to indicate a suitable arrangement.

J. Space allocations and utility rough-ins have been designed on the basis of equipment items named by manufacturer and model number. If any equipment not so named is offered which differs substantially in dimension or configuration from the named equipment, provide scaled shop drawings showing that the substitute can be installed in the same space available without interfering with other trades or with access for operation and maintenance in the completed project. The Installer shall coordinate final rough-in locations with actual equipment furnished.

1.6 OPERATING AND MAINTENANCE MANUALS AND INSTRUCTIONS

A. The symbol "<OM>" indicates a requirement for operating and maintenance manuals to be furnished.

B. The Owner's operating personnel shall be instructed by the Contractor on how to start and operate each item of equipment. Safety features shall be pointed out, particularly the possible trouble shooting which might be done to remedy operating problems.

C. The Owner's operating personnel shall be thoroughly instructed in the operation of the control system. Instruction should include an explanation of the control system and system sequence of operation, the proper set points of each thermostat, etc., and how to change the settings to accommodate overheating and overcooling, or incorrect humidity. Instructions shall include an explanation of components which should not be tampered with or control settings which should not be changed except by authorized personnel of the Control Manufacturer. Thermostat keys shall be turned over to the Owner.

D. Relative to the air conditioning system, instruct the Owner's operating personnel in the following:
   1. Removal of service access panels from equipment. If special tools are required, turn over to the Owner at last one set.
   2. Method of removing air filters.
   3. Method of cleaning permanent type air filters.
   4. How to drain and fill all piping and equipment.
   5. How to vent air from the system.
   6. Location of concealed valves, traps, air splitters, automatic valves and dampers, etc., requiring periodic maintenance and location of access to them.

E. Provide (2) two copies of operating and maintenance manuals. Manuals shall be bound in large ring, loose-leaf binders and contain the following:
   1. Manufacturer's instructions and/or installation manual.
   2. Manufacturer's service manual.
   3. Manufacturer's lubrication chart listing types of lubricant to be used on each item of equipment and recommended frequency of lubrication.
   4. Electrical diagrams of each equipment "packaged" control system.
   5. Diagrams of automatic temperature control systems, identifying each item by name, location and number showing sequence of operation. Each component of a control system shall be identified. All diagrams shall be up-to-date, reflecting any on-the-job changes.
   6. Parts lists and identifying part numbers with prices of each part. The name and address of the nearest distributor from which parts can be obtained.

1.7 WARRANTY

Contractor shall warrant all workmanship, material, equipment systems etc., provided by him for a period of one year after substantial completion of the project. This warranty means that Contractor shall make good to the Owner, at no cost, any defects that become apparent during the year following substantial completion. This warranty is in addition to any other guarantees or warranties and is not intended to limit such other guarantees or warranties.

1.8 DEFINITIONS

The following words and phrases as used herein are hereby defined:

A. "Provide": Furnish and install all material and labor required for a complete installation ready for operation in accordance with the intent of the Contract Documents.

B. "As required": Indicates that the Contractor shall perform the work or provide the material as indicated in accordance with manufacturer's installation instructions; and in accordance with applicable codes or regulations; and in a workmanlike manner as defined by good local practice.

C. "Or equal": Indicates that the Contractor may substitute equipment by another manufacturer if the features of the equipment indicated by manufacturer's name and/or described are, in the judgment of the Architect/Engineer, adequate. Submittals for approval are required where indicated.

D. "Contractor": Where the word "Contractor" is used, then refer to the Contractor engaged to execute the work under this division of the specifications only, even though he maybe technically described as a sub-contractor.

E. "Intent of the Contract Documents": The specific intent of these documents is to provide to the Owner, in a thoroughly functional condition, all the various systems, equipment, etc., indicated herein. Final authority over interpretation of the "intent" shall rest with the Architect/Engineer.

F. "Shall": Indicates a mandatory requirement.

1.9 INSPECTION OF THE SITE

A. The drawings are prepared from the best information available and reflect all conditions commensurate with this information. However, the contractor should visit the site prior to submitting a proposal and should verify the locations, sizes, depths, pressures, etc., of all existing utilities and familiarize himself with working conditions, hazards, existing grades, soil conditions will impair the proper operation of the utilities, the Architect/Engineer should be notified in writing.

B. All proposals shall take these existing conditions and any revision required into consideration.

1.10 CONSTRUCTION REQUIREMENTS

A. The Contractor shall be responsible for getting his material and apparatus into the building and shall carefully lay out his work at the site to conform to the structural conditions, to provide proper grading of lines, to avoid all obstructions and to conform to the details of the installation supplied by the manufacturer of the equipment to be installed. Furnish all necessary pipe lines and control lines whether indicated on the drawings or not. The drawings do not give exact details as to elevations of pipe lines nor do they show exact locations of pipe to scale.

B. Piping elevations shall be handled by giving precedence to pipes which require a stated grade for proper operation. Devices necessary for installation and support of pipes, and equipment(such as sleeves, inserts, etc.) shall be located and installed as the construction progresses in order to allow completion of each phase of the work in the proper sequence.

C. Drawings showing the extent and arrangement of the work of a particular trade shall be used together with drawings showing extend and arrangement of work of other trades to insure that the Contractor in laying out and installing his work shall do so in a manner such that the work of the several trades may progress in the most direct, workmanlike and harmonious manner.

D. The Contractor shall be responsible for the proper location and size of slots, holes or openings in the building structure pertaining to his work, and for the correct location of pipe sleeves. The drawings indicate the extend and general arrangement of the various systems, but if any departures from these drawings are deemed necessary by the Contractor, detailed drawings and descriptions of these departures and a statement of the reasons therefore shall be submitted to the Architect/Engineer as soon as practicable.

No departures from the arrangements shown on the drawings shall be made without prior written approval of Architect/Engineer.

E. In general, piping and ductwork in finished areas of the building shall be run concealed unless noted and directed otherwise. Should any conditions arise which would cause any piping or ductwork to be exposed in finished areas, it shall be immediately called to the Architect/Engineer's attention. In unfinished spaces such as equipment rooms, all pipe and duct shall be run as high as possible, shall be run to a continuous grade and shall be grouped wherever it is feasible to do so.

F. Equipment shall be installed in such a manner to make oiling devices and parts requiring service and maintenance readily accessible.

G. All pipe, duct, etc., shall be cut accurately to measurements established at the building and shall be worked into place without springing or forcing. All ducts and pipes run exposed in machinery and equipment rooms shall be installed parallel to the building planes except that the lines shall be sloped to obtain the proper pitch. Piping and ducts run above furred ceilings, etc., shall be similarly installed, except as otherwise shown. All pipe openings shall be kept closed during construction until the systems are closed with final connections.

H. The construction details of the building are illustrated on the Architectural and Structural drawings. The trades shall acquaint themselves with the details before submitting their bid as no allowance will be made because of unfamiliarity with these details. For new construction, place all inserts to accommodate the ultimate installation of pipe hangers in the forms before concrete is poured and set sleeves in forms before construction. For existing construction, all required inserts shall be "drilled-in" and all openings required through concrete or masonry shall be "saw-cut" or "core drilled" with tools specifically designed for this purpose. Explosive or compression driven inserts shall only be allowed for use as approved by SMACNA and the manufacturer of these devices. All concealed lines shall be installed as required by the pace of the job to precede the general construction.

I. The mechanical plans do not give exact locations of outlet, fixtures, equipment items, etc. The exact location of each item shall be determined by reference to the general plans and to all detail drawings, equipment drawings, roughing-in drawings, etc., by measurements at the building and in cooperation with other trades. Minor relocations necessitated by the conditions at the site or directed by the Owner shall be made without additional cost to the Owner.

J. All oiling devices and all parts of equipment requiring adjustment shall be easily accessible. Equipment shall be so located and installed as to permit convenient and safe maintenance

and future replacement. The trade furnishing the equipment shall be responsible prior to ordering same in the event that equipment specified and/or approved is incompatible with this requirement.

1.11 SLEEVES

A. Each and every pipe and duct, regardless of material, which passes through a concrete slab, (except slab on grade), masonry wall, roof or other portion of the building structure shall be free from the structure and shall pass through a sleeve furnished and installed by the Subcontractor responsible for the work involved.

B. Above grade and dry location sleeves shall be constructed from 20 to 22 gauge galvanized steel and shall be flush on both sides of wall surface penetrated. The sleeves shall be sized to allow free passage of the pipe to be inserted, and when this pipe is to be insulated, the sleeves shall be large enough to pass the insulation. Floor sleeves located in pipe chases shall extend up two inches (2") above the floor slab.

C. Sleeves passing through walls or floors on or below grade and/or in moist areas shall be constructed of galvanized steel, schedule 40 pipe and shall be designed with suitable flange in the center of the floor or wall to form a waterproof passage. After the pipes have been installed in the sleeves, void space around the pipe shall be caulked to insure a waterproof penetration. Fire ratings of rated walls and floors shall be maintained by the use of approved materials.

1.12 ISOLATION

A. Transmission of perceptible vibration, structure-borne noise, or objectionable air borne noise to occupied areas by equipment installed under this contract will not be permitted.

B. The isolation supplier shall be a firm or individual capable of dealing effectively with vibration and noise characteristics, effects and criteria and have facilities and capabilities for measuring and evaluating such disturbances and the preparation of drawing and installation instructions.

1.13 CONSTRUCTION SAFETY

Contractor assumes all responsibility regarding the safety of his personnel on the project during construction. The Contract Documents do not include materials, procedures, components, etc., required to insure construction safety. Refer to General Conditions and Supplementary General Conditions for additional information.

1.14 DAMAGE

A. Contractor shall be responsible for damage to project caused by Contractor's failure to recognize hazards associated with items such as leaks, scheduling of work, inexperienced workmen, excessive cutting, etc.

B. Contractor shall repair, at no expense to the Owner, any such damage to the satisfaction of the Owner.

C. Contractor shall familiarize himself with working conditions to the extent that he shall be responsible for damage to concealed piping, wiring and other equipment to remain and shall repair any damage caused by his negligence at no cost to the Owner.

1.15 FLOOR, CEILING AND WALL PLATES

In addition to the requirements of the above referenced portions of this specification, all Subcontractors shall furnish a chromium plated sectional escutcheon in each finished space on each pipe of hanger rod penetrating a wall, floor or ceiling. Escutcheons shall be sized to fit snugly to all lines and where the lines are insulated, the escutcheons shall be fit snugly over the insulation. Where required, these plates shall be provided with set screws so that they fit snugly against the finished surface. All equipment rooms are classified as finished space.

1.16 SAFETY GUARDS

Contractor shall furnish and install all safety guards required. All belt driven equipment, projecting shafts and other rotating parts shall be enclosed or adequately guarded.

1.17 STORAGE OF MATERIALS

Each Contractor shall provide space for storage of materials, equipment or tools at ground level. Any storage contemplated within the building will be allowed only upon specific approval of the Architect/Engineer.

1.18 LOCAL CUSTOMS

Each Sub-contractor shall comply with local customs as to which particular trade shall install any part or parts of any work or equipment specified herein.

1.19 MANUFACTURER'S DIRECTIONS

The manufacturer’s published directions shall be followed in the delivery, storage, protection, installation, piping and wiring of all equipment and material. The Contractor shall promptly notify the Architect/Engineer in writing of any conflict between the requirements of the contract documents and the manufacturer’s directions and shall obtain the Architect/Engineer's instructions before proceeding with the work. Any such work performed that does not comply with the manufacturers' directions shall have deficiencies corrected at no cost to the Owner.

PART 2—PRODUCTS

2.1 MATERIALS

All materials shall be new and free from defects at the time of installation. Materials or equipment damaged in shipment or otherwise damaged prior to installation shall not be repaired at the job site, but shall be replaced with new materials.

2.2 MANUFACTURER'S REQUIREMENTS

When a manufacturer's name appears in these specifications, it is not to be construed that the manufacturer does not have to meet the full requirements of the specifications or that his standard cataloged item will be acceptable.

2.3 SERVICE AND REPAIR PARTS

All equipment installed on this project shall have local representation, local factory authorized service, and a local stock of repair parts.

2.4 FLAME SPREAD PROPERTIES OF MATERIALS

All materials and adhesives used for air conditioning filters, acoustical lining, and insulation shall conform to NFPA and UL life, safety and flame spread properties of materials. The composite classifications shall not exceed 25 for a flame spread rating and 50 for a smoke developed rating for these classifications as listed for the basic materials. The finishes, adhesives, etc., specified for each system and shall be such when completely assembled.

2.5 ACCESS PANELS

Provide flush mounted metal access panels and frames with concealed hinges and key actuated locks for all concealed and otherwise inaccessible valves, parts, fittings, equipment, filters, etc. and as required for inspection or service.

PART 3—EXECUTION

3.1 WORKMANSHIP

A. All work shall be done by experienced craftsmen skilled in the applicable trade.

B. Unprofessional and incomplete work shall be rejected and corrected at no additional expense.

3.2 PROTECTION OF EQUIPMENT

A. The Contractor shall continuously maintain adequate protection of stored materials and installed equipment. Fixtures and equipment, whether located inside or outside, shall be tightly covered with sheet polyethylene or waterproof tarpaulin as protection against dirt, rust, moisture and abuse from other trades. Adequate air circulation shall be provided under any protective sheet to prevent condensate build up.

B. Materials and equipment shall not be stored directly on the ground. Ductwork, piping and equipment shall not be used by other trades as supports for scaffolds or personnel. At the completion of the work, equipment, fixtures, exposed supports and piping shall be cleaned of loose dirt, construction debris, over spray, etc., to the satisfaction of the Architect/Engineer. Repairs made necessary by damage shall be paid for by the Contractor.

3.3 PROTECTION OF STRUCTURE

Contractor in performing his work shall take particular care not to damage the structure. All finished floors and step treads shall be covered to prevent any damage by workmen or their tools and equipment during the construction of the building. In addition, each Contractor shall protect any materials on the job site whether a part of this contract or the property of another Contractor.

3.4 FOUNDATIONS

Equipment shall be set in place on the bases, leveled and aligned by means of shims, piped, then grouted in, in that order. After grouting, the forms shall be removed and the surfaces of the foundation shall be hand-rubbed with carborundum. Concrete work shall conform to the requirements of General Specifications, Concrete Work, of this specification.

3.5 CONFLICTS, INTERFERENCES AND COORDINATION BETWEEN TRADES

A. The drawings are not to be construed as shop drawings, but indicate the extent, general location, arrangement, etc., of piping systems and equipment.

B. Each trade shall coordinate its work with that of the other trades. Piping interference shall be handled by giving precedence to pipe lines which require a stated grade for proper operation. Where space requirements conflict, the following order of precedence shall be observed:

1. Building lines
2. Structural members
3. Soil and drain piping
4. Vent piping
5. Refrigerant piping
6. Condensate piping
7. Supply ductwork
8. Exhaust ductwork
9. Domestic water
10. Electrical conduit
11. Natural gas piping

C. In the event of conflicts between specifications and drawings, drawings shall take precedence over specifications except in matters pertaining to quality, applications, and coordination between trades, which shall be governed by specifications.

D. In the event of conflict between codes, as interpreted by the authority having jurisdiction and the contract documents, the codes shall govern.

E. In the event of conflict between manufacturer's installation instructions and the drawings, the manufacturer's installation instructions shall govern.

3.6 CUTTING AND PATCHING

A. Contractor shall not cut any structural element or any finished work without permission from the Architect/Engineer.

B. Contractor shall cut and patch all paving as required by the installation of buried piping, including utilities.

3.7 CONCRETE WORK

All forming, reinforcing and concrete as indicated such as equipment bases, plumbing stack support pads, grease interceptors, catch basin and headwalls, shall conform to applicable portion of Division 3 CONCRETE.

3.8 PAINTING

A. All exposed piping, equipment, etc., shall be left clean and free from rust or grease and ready for the paint.

B. Where equipment finishes are damaged, Contractor shall obtain matching color touch-up paint from the equipment's manufacturer and paint as required.

3.9 LUBRICATION

Contractor shall provide all lubricants for the operation of all equipment until acceptance. The Contractor shall be required to protect all bearings during the installation and shall thoroughly grease steel shafts to prevent corrosion. All motors and other equipment shall be provided with covers as required for proper protection during construction. All equipment bearings requiring periodic lubrication shall be provided with proper fittings for this purpose. Where equipment requiring such lubrication is not readily accessible due to location, copper tubing extensions shall be provided in addition to lubrication fittings.

3.10 ELECTRICAL WORK

The electrical design and drawings are based on the equipment scheduled and shown on the drawings and should any mechanical equipment requiring changes to the electrical design be approved, the required electrical changes shall be made at the expense of the trade furnishing the changed equipment and at no cost to the Owner.

3.11 EQUIPMENT CONNECTION

Contractor shall bring required services to equipment items furnished under other sections of this specification or by the Owner, Make final connections, and leave equipment ready for operation. Where it is necessary for Contractors performing work covered by this section to make final connections to items of equipment being furnished by Contractors under other sections, all such work shall be performed in a neat and workmanlike manner and all materials shall be of quality and finish normally used for such installation.

3.12 OPERATING PRIOR TO COMPLETION

When any piece of mechanical or electrical equipment is operable and it is to the advantage of the Contractor to operate the equipment, he may do so providing that he properly cleans the equipment, installs clean filter media, properly adjusts and completes all punch list items before final acceptance by the Owner. The date of acceptance and the start of the warranty may not be the same date.

3.13 EQUIPMENT AND ARRANGEMENTS

All equipment shall be installed in a manner to permit access to all surfaces requiring access. All valves, motors, drives, lubrication devices, filters and other necessary items shall be installed in a position to allow removal for service without disassembly of another part.

3.14 EXECUTION OF WORK

The Contractor shall plan, schedule and execute his work and that of any of his Subcontractors so as not to interfere with the work of other trades or Contractors in the building or on the premises.

3.15 FLASHING AND WATERPROOFING

All building penetrations to outside shall be flashed and counter flashed as required to eliminate leaks.

3.16 TESTS

All tests shall be made by Contractor and repeated until approved by the Architect/Engineer. Piping systems shall not be covered or otherwise concealed until tests have been made and approvals

obtained. Notify the Architect/Engineer four days prior to tests to allow for scheduling. Test the piping systems as indicated in applicable articles.

3.17 FINAL OBSERVATIONS

It shall be the duty of the Contractor to make a careful inspection trip of the entire project, assuring himself that the work on the project is ready for final acceptance, before calling upon the Architect/Engineer to make a final observation.

3.18 DEMOLITION AND SALVAGE

A. Where demolition of equipment or materials is required Contractor shall minimize cutting and exercise all due caution to leave undamaged surfaces, material and equipment meant to remain.

B. All existing items that are to be removed shall remain the property of the Owner unless declared as unsalvageable. Unsalvageable materials shall become the property of the Contractor and be removed from the site. Items declared as Owner's property shall be neatly stored on the site as directed by the Owner.

SECTION 16721

FIRE ALARM SYSTEM(S) EXTENSION

PART 1—GENERAL

1.1 DESCRIPTION

This Section governs the installation of pull stations, control panels, annuniciator panels, horn/strobe units and detectors to extend the existing **Simplex 4100U Fire Alarm System**. Contractor to add the additional Devices to the Graphic Floor Plans on the Fireworks Computers in Physical Plant and Police Department. To the extent possible, reuse existing components. Where additional components are required, to the extent possible, match existing components.

1.2 SCOPE OF WORK.

Contractor to provide all necessary Simplex Equipment to connect the Sprinkler System Connections

1.3 SUBMITTALS

Submit manufacturers' data for all components required for complete installation.

PART 2—PRODUCTS

Provide equipment and wiring compatible with existing fire alarm system. Install new horn/strobe units where indicated on the drawings. Ensure all existing equipment is functioning properly.

PART 3—EXECUTION

3.1 INSTALLATION

Install per manufacturer's specifications.

3.2 TESTING

Set and check out system for proper operation upon completion.

Hall 14 Fire Protection System

STEPHEN F. AUSTIN STATE UNIVERSITY NACOGDOCHES, TEXAS

Hall 14 Fire Protection System - 501109

DRAWING INDEX

SHEET	
TS	TITLE SHEET
M1	SPRINKLER PLAN
M2	SPRINKLER PLAN
M3	SPRINKLER PLAN
M4	SPRINKLER PLAN

STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER

Eddie L. Morgan
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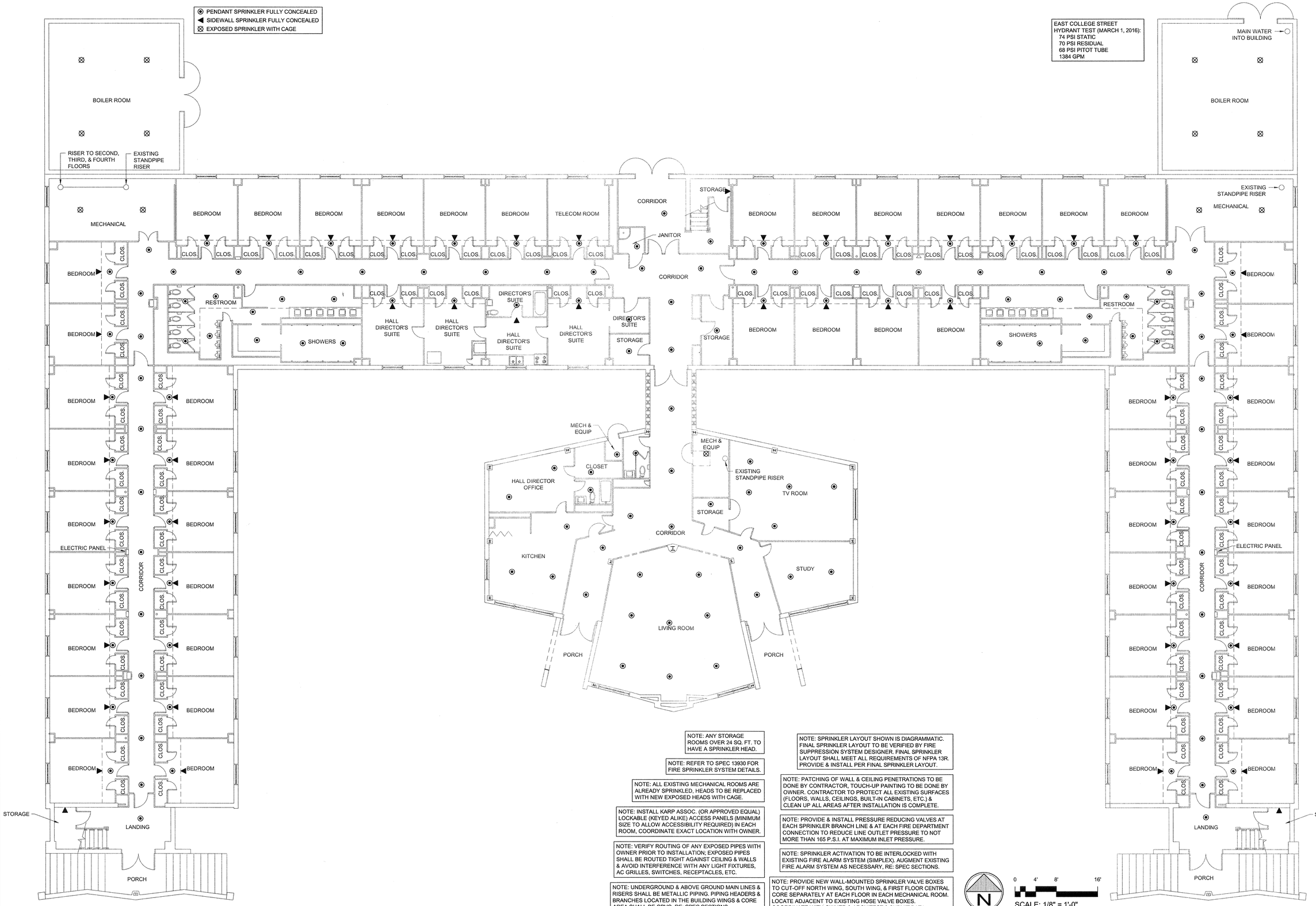
Hall 14 Fire Protection System - 501109

- ⊙ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊠ EXPOSED SPRINKLER WITH CAGE

EAST COLLEGE STREET
HYDRANT TEST (MARCH 1, 2016):
74 PSI STATIC
70 PSI RESIDUAL
68 PSI PITOT TUBE
1384 GPM



NOTE: ANY STORAGE ROOMS OVER 24 SQ. FT. TO HAVE A SPRINKLER HEAD.

NOTE: REFER TO SPEC 13930 FOR FIRE SPRINKLER SYSTEM DETAILS.

NOTE: ALL EXISTING MECHANICAL ROOMS ARE ALREADY SPRINKLED, HEADS TO BE REPLACED WITH NEW EXPOSED HEADS WITH CAGE.

NOTE: INSTALL KARP ASSOC. (OR APPROVED EQUAL) LOCKABLE (KEYED ALIKE) ACCESS PANELS (MINIMUM SIZE TO ALLOW ACCESSIBILITY REQUIRED) IN EACH ROOM, COORDINATE EXACT LOCATION WITH OWNER.

NOTE: VERIFY ROUTING OF ANY EXPOSED PIPES WITH OWNER PRIOR TO INSTALLATION; EXPOSED PIPES SHALL BE ROUTED TIGHT AGAINST CEILING & WALLS & AVOID INTERFERENCE WITH ANY LIGHT FIXTURES, AC GRILLES, SWITCHES, RECEPTACLES, ETC.

NOTE: UNDERGROUND & ABOVE GROUND MAIN LINES & RISERS SHALL BE METALLIC PIPING. PIPING HEADERS & BRANCHES LOCATED IN THE BUILDING WINGS & CORE AREA SHALL BE CPVC, RE: SPEC SECTIONS.

NOTE: SPRINKLER LAYOUT SHOWN IS DIAGRAMMATIC. FINAL SPRINKLER LAYOUT TO BE VERIFIED BY FIRE SUPPRESSION SYSTEM DESIGNER. FINAL SPRINKLER LAYOUT SHALL MEET ALL REQUIREMENTS OF NFPA 13R. PROVIDE & INSTALL PER FINAL SPRINKLER LAYOUT.

NOTE: PATCHING OF WALL & CEILING PENETRATIONS TO BE DONE BY CONTRACTOR, TOUCH-UP PAINTING TO BE DONE BY OWNER. CONTRACTOR TO PROTECT ALL EXISTING SURFACES (FLOORS, WALLS, CEILINGS, BUILT-IN CABINETS, ETC.) & CLEAN UP ALL AREAS AFTER INSTALLATION IS COMPLETE.

NOTE: PROVIDE & INSTALL PRESSURE REDUCING VALVES AT EACH SPRINKLER BRANCH LINE & AT EACH FIRE DEPARTMENT CONNECTION TO REDUCE LINE OUTLET PRESSURE TO NOT MORE THAN 165 P.S.I. AT MAXIMUM INLET PRESSURE.

NOTE: SPRINKLER ACTIVATION TO BE INTERLOCKED WITH EXISTING FIRE ALARM SYSTEM (SIMPLEX). AUGMENT EXISTING FIRE ALARM SYSTEM AS NECESSARY, RE: SPEC SECTIONS.

NOTE: PROVIDE NEW WALL-MOUNTED SPRINKLER VALVE BOXES TO CUT-OFF NORTH WING, SOUTH WING, & FIRST FLOOR CENTRAL CORE SEPARATELY AT EACH FLOOR IN EACH MECHANICAL ROOM. LOCATE ADJACENT TO EXISTING HOSE VALVE BOXES. COORDINATE WITH OWNER & ARCHITECT & SUBMIT DATA.

N

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

COED DORM

FIRST FLOOR SPRINKLER PLAN

1/8"=1'-0" | 1

NO.	DATE	ISSUED FOR
	3-29-16	BID

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TBPE FIRM REGISTRATION: #413

TBPLS FIRM REGISTRATION: #10110900

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STATE OF TEXAS · EDDIE L. MORGAN · 51663 · LICENSED PROFESSIONAL ENGINEER

Eddie L. Morgan 3-29-16

HALL 14 FIRE PROTECTION SYSTEM

STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX

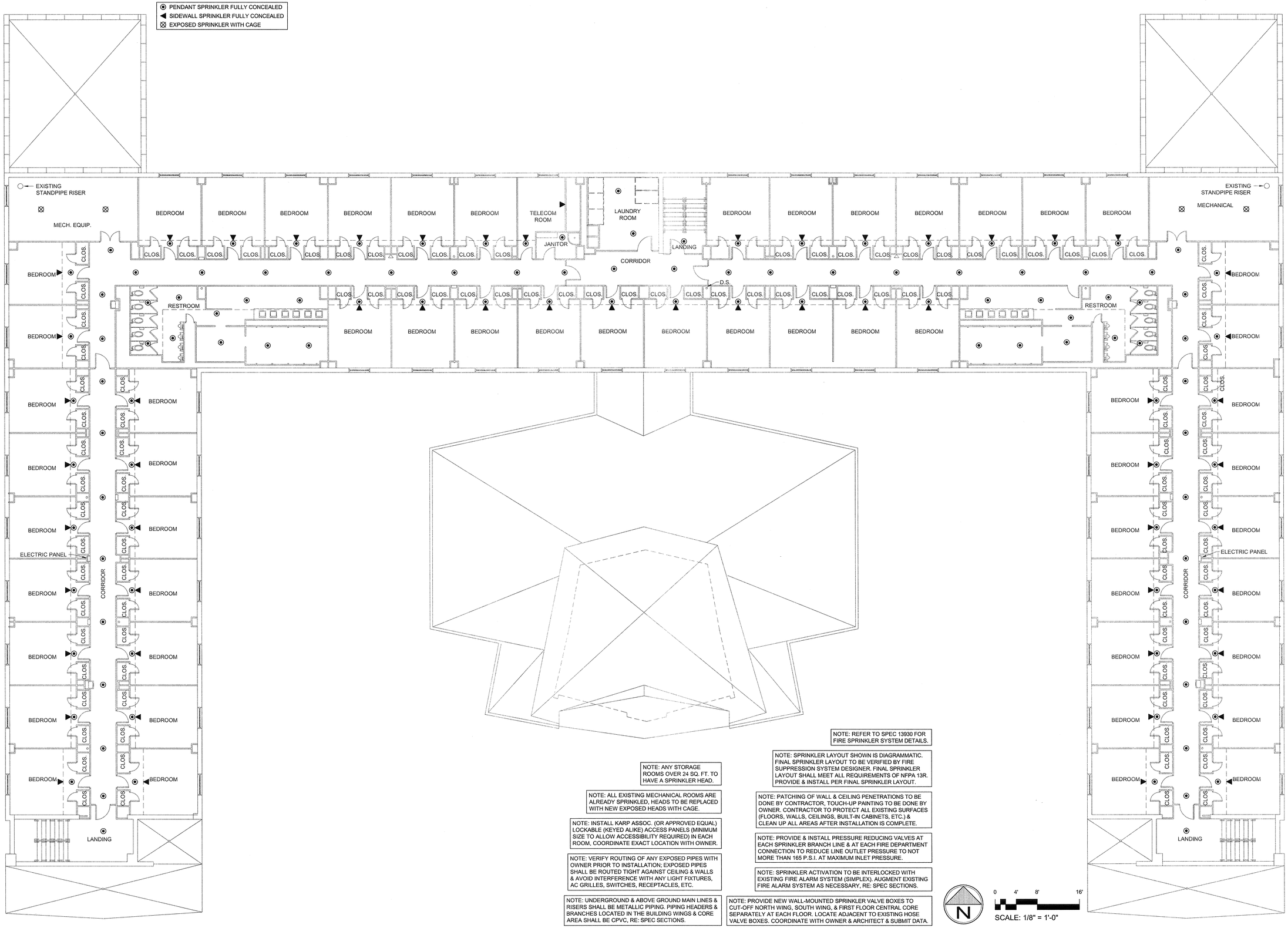
SPRINKLER PLAN

CONTRACT NO. 501109

SHEET NO.

M1

- ⦿ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊠ EXPOSED SPRINKLER WITH CAGE



NOTE: ANY STORAGE ROOMS OVER 24 SQ. FT. TO HAVE A SPRINKLER HEAD.

NOTE: ALL EXISTING MECHANICAL ROOMS ARE ALREADY SPRINKLED, HEADS TO BE REPLACED WITH NEW EXPOSED HEADS WITH CAGE.

NOTE: INSTALL KARP ASSOC. (OR APPROVED EQUAL) LOCKABLE (KEYED ALIKE) ACCESS PANELS (MINIMUM SIZE TO ALLOW ACCESSIBILITY REQUIRED) IN EACH ROOM, COORDINATE EXACT LOCATION WITH OWNER.

NOTE: VERIFY ROUTING OF ANY EXPOSED PIPES WITH OWNER PRIOR TO INSTALLATION; EXPOSED PIPES SHALL BE ROUTED TIGHT AGAINST CEILING & WALLS & AVOID INTERFERENCE WITH ANY LIGHT FIXTURES, AC GRILLES, SWITCHES, RECEPTACLES, ETC.

NOTE: UNDERGROUND & ABOVE GROUND MAIN LINES & RISERS SHALL BE METALLIC PIPING. PIPING HEADERS & BRANCHES LOCATED IN THE BUILDING WINGS & CORE AREA SHALL BE CPVC, RE: SPEC SECTIONS.

NOTE: REFER TO SPEC 13930 FOR FIRE SPRINKLER SYSTEM DETAILS.

NOTE: SPRINKLER LAYOUT SHOWN IS DIAGRAMMATIC. FINAL SPRINKLER LAYOUT TO BE VERIFIED BY FIRE SUPPRESSION SYSTEM DESIGNER. FINAL SPRINKLER LAYOUT SHALL MEET ALL REQUIREMENTS OF NFPA 13R. PROVIDE & INSTALL PER FINAL SPRINKLER LAYOUT.

NOTE: PATCHING OF WALL & CEILING PENETRATIONS TO BE DONE BY CONTRACTOR, TOUCH-UP PAINTING TO BE DONE BY OWNER. CONTRACTOR TO PROTECT ALL EXISTING SURFACES (FLOORS, WALLS, CEILINGS, BUILT-IN CABINETS, ETC.) & CLEAN UP ALL AREAS AFTER INSTALLATION IS COMPLETE.

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NOTE: SPRINKLER ACTIVATION TO BE INTERLOCKED WITH EXISTING FIRE ALARM SYSTEM (SIMPLEX), AUGMENT EXISTING FIRE ALARM SYSTEM AS NECESSARY, RE: SPEC SECTIONS.

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N

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

SECOND FLOOR SPRINKLER PLAN

1/8"=1'-0" | 1

NO.	DATE	ISSUED FOR
	3-29-16	BID

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JRT	ELM	1:1

TBPE FIRM REGISTRATION: #413

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3-30-16

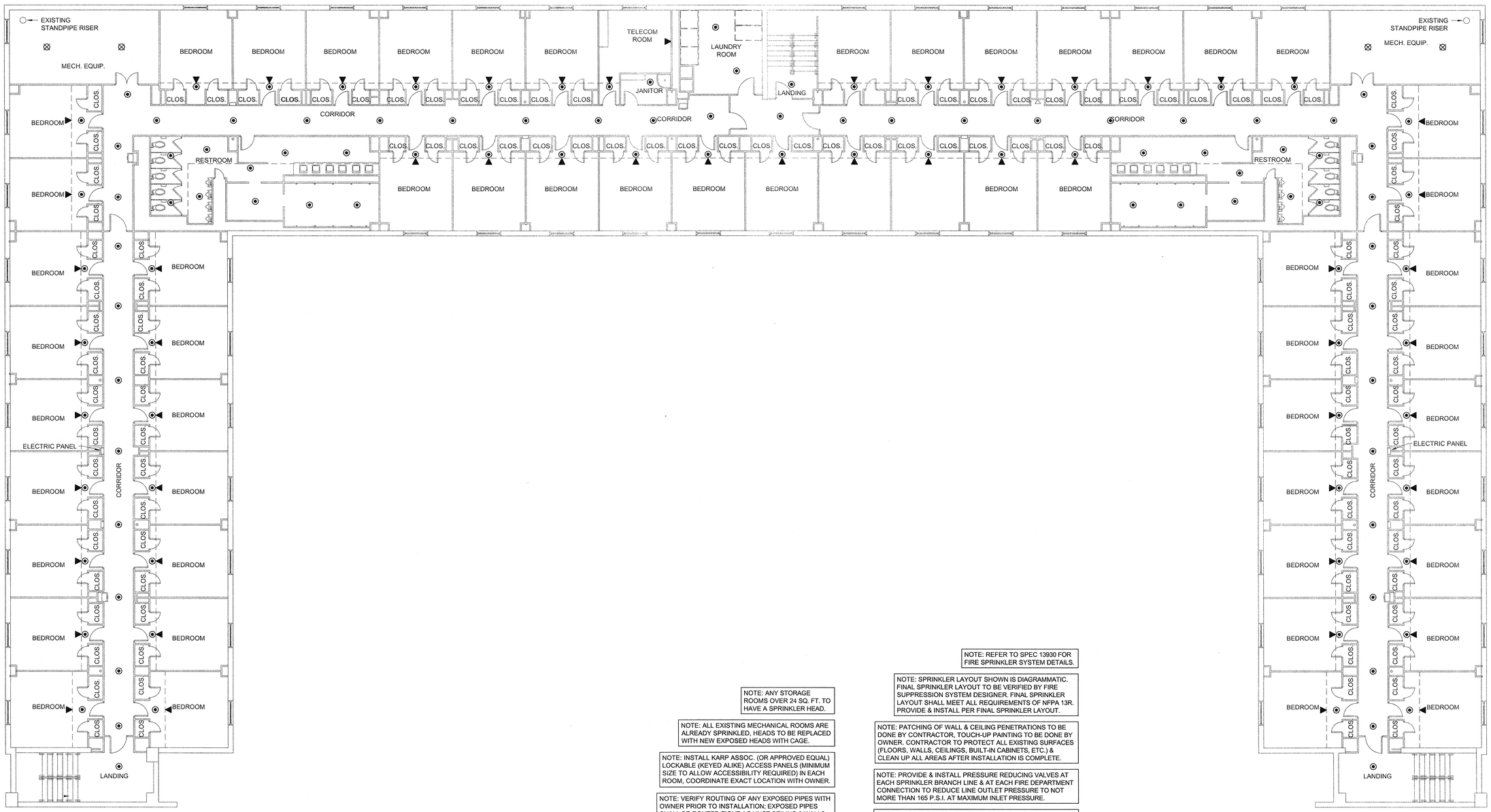
HALL 14 FIRE PROTECTION SYSTEM
STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX
SPRINKLER PLAN

CONTRACT NO. 501109

SHEET NO.

M2

- ⊙ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊠ EXISTING SPRINKLER WITH CAGE



NOTE: REFER TO SPEC 13930 FOR FIRE SPRINKLER SYSTEM DETAILS.

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N

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

THIRD FLOOR SPRINKLER PLAN

1/8"=1'-0" | 1

NO.	DATE	ISSUED FOR
	3-29-16	BID

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STATE OF TEXAS
EDDIE L. MORGAN
51683
REGISTERED PROFESSIONAL ENGINEER
3.30.16

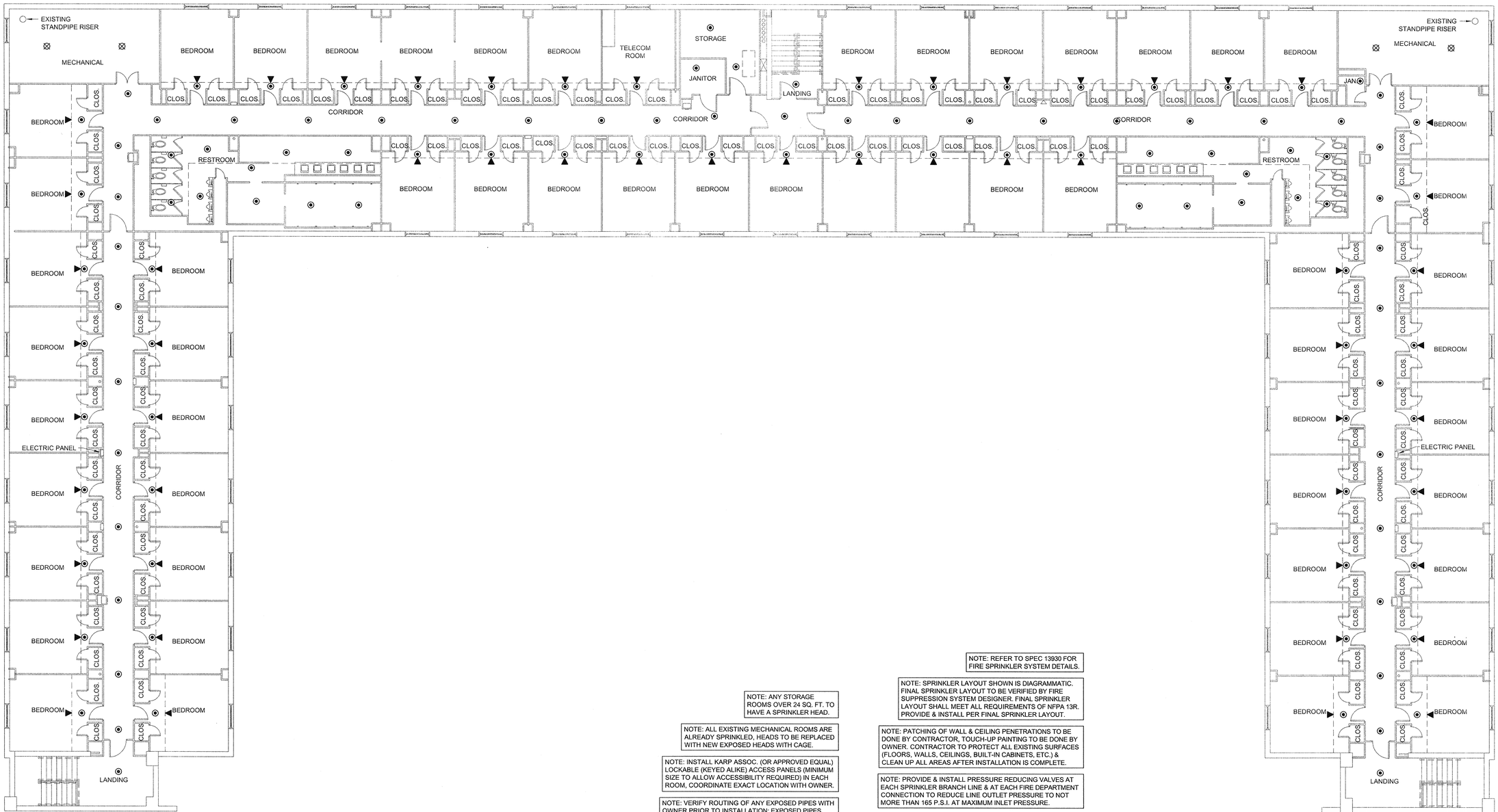
HALL 14 FIRE PROTECTION SYSTEM
STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX
SPRINKLER PLAN

CONTRACT NO. 501109

SHEET NO.

M3

- ⊙ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊠ EXISTING SPRINKLER WITH CAGE



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N

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

FOURTH FLOOR SPRINKLER PLAN

1/8"=1'-0" | 1

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HALL 14 FIRE PROTECTION SYSTEM
STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX
SPRINKLER PLAN

CONTRACT NO. 501109

SHEET NO. M4

PROJECT MANUAL

FOR

STEPHEN F. AUSTIN STATE UNIVERSITY
MAYS HALL FIRE PROTECTION SYSTEM

MARCH 2016

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[979] 776-9700 • FAX [979] 776-3838

TBPE FIRM REGISTRATION NO. 413
TBPLS FIRM REGISTRATION NO. 10110900

G-L-S NO. 501108

Project Manual For:

STEPHEN F. AUSTIN STATE UNIVERSITY
MAYS HALL FIRE PROTECTION SYSTEM

Goodwin-Lasiter-Strong Project # 501108

CIVIL ENGINEER

OWNER:

STEPHEN F. AUSTIN STATE UNIVERSITY
NACOGDOCHES, TEXAS

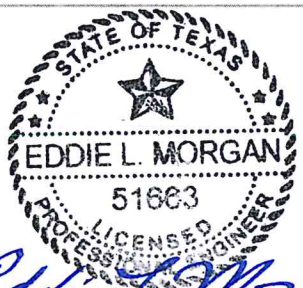
STRUCTURAL ENGINEER

ARCHITECT

ENGINEER / ARCHITECT / INTERIOR DESIGNER:

GOODWIN- LASITER-STRONG
1609 South Chestnut, Suite 202
Lufkin, TX 75901
(936) 637-4900
TBPE FIRM REGISTRATION NO. 413

INTERIOR DESIGNER



MECHANICAL, ELECTRICAL & PLUMBING ENGINEER

STEPHEN F. AUSTIN STATE UNIVERSITY
MAYS HALL FIRE PROTECTION

GLS PROJECT # 501108

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TS	TITLE SHEET
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M2	SPRINKLER PLAN
M3	SPRINKLER PLANS

SECTION 00810
WAGE RATES AND REGULATIONS

PART 1

1.1 WAGE RATES AND REGULATIONS

A. Contractor and subcontractor shall not pay less than the wage rates determined by SFASU Wage Study.

B. Contractors and Subcontractors shall comply with all state and federal laws regarding (but not limited to) laws of labor, minimum wage, safety, and equal employment.

C. All employees of Contractors and subcontractors working on the construction project must be covered by workers' compensation insurance, and the Contractor shall provide written certification of such. Texas Labor Code 406.097.

SECTION 01085

APPLICABLE STANDARDS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Throughout the Contract Documents, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics.

B. Materials and workmanship are required by the Contract Documents to meet or exceed the specifically named codes and standards.

C. Deliver to the Engineer required proof that the materials or workmanship, or both, meet or exceed the requirements of the specifically named code or standard.

D. Contractors are to be aware of the following federal and state laws regarding underground excavations:

FEDERAL LAW
49 United States Code, Section 60123 Paragraph (d)(1)(B)

Criminal Penalties: Penalty for not using one-call notification system or not heeding location information markings.

"A person shall be fined under Title 18, imprisoned for not more than 5 years, or both, if the person knowingly and willfully engages in an excavation activity without paying attention to appropriate location information or markings the operator of the pipeline facility establishes.

29 CFR PART 1926 Paragraph 1926.651 Subparagraph (b)(3)

OSHA Regulation: "When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means."

TEXAS LAW
Texas Underground Facility Damage Prevention and Safety Act (H.B. 2295)

On Oct. 1, 1998:

1. All Excavators must begin calling Notification Centers **48 hours** prior to digging.
2. All Excavators must begin immediately notifying underground facility operator when damage occurs to a facility.
3. Civil Penalties become enforceable.
   See Texas Revised Civil Statues, ART. 9033, for complete details of this law.

1.2 QUALITY ASSURANCE

A. Verify the detailed requirements of the specifically named codes and standards. Verify that the items procured for use in this work meet or exceed the specified requirements.

B. The Engineer may reject items incorporated into the work which fail to meet the specified minimum requirements. Non-complying items accepted by the Engineer may be subject to an adjustment in the Contract Amount as approved by the Engineer and the Owner.

C. Applicable standards listed in these Specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:

AASHTO =	American Association of State Highway and Transportation Officials, 341 National Press Building, Washington, D.C. 20004.
ACI =	American Concrete Institute, Box 19150, Redford Station, Detroit, Michigan 48219.
AISC =	American Institute of Steel Construction, Inc., 1221 Avenue of the Americas, New York, New York 10020.
ANSI =	American National Standards Institute (successor to USASI and ASA) 1430 Broadway, New York, New York 10018.
ASME =	American Society of Mechanical Engineers, 345 East 47th Street, New York, New York 10017
ASTM =	American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.
AWS =	American Welding Society, Inc., 2501 N. W. 7th Street, Miami, Florida 33125.
AWWA =	American Water Works Association, Inc., 6666 West Quincy Avenue, Denver, Colorado 80235.
CRSI =	Concrete Reinforcing Steel Institute, 228 North LaSalle Street, Chicago, Illinois 60610.
CS =	Commercial Standard of NBS, U.S. Department of Commerce, Government Printing Office, Washington, D.C. 20402.
NEC =	National Electrical Code (see NFPA).
NEMA =	National Electrical Manufacturers Association, 155 East 44th Street, New York, New York 10017.
NFPA =	National Fire Protection Association, 470 Atlantic Avenue, Boston, Massachusetts 02210.
TXDOT =	Texas Department of Transportation - Standard Specifications for Construction of Highways, Streets and Bridges (1993 or Latest Revision)
OSHA =	Occupational Safety and Health Administration, Room S-4004, U.S. Department of Labor, 200 Constitution Avenue NW, Washington, D.C. 20210.
SDI =	Steel Deck Institute, 135 Addison Avenue, Elmhurst, Illinois 60125.
SSPC =	Steel Structures Painting Council, 4400 5th Avenue, Pittsburgh, Pennsylvania 15213
UL =	Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago, Illinois 60611.
IBC =	International Building Code.
NAAMM =	National Association of Architectural Metal Manufacturers.
TAS =	Texas Accessibility Standards

SECTION 01200

PROJECT MEETINGS

PART 1—GENERAL

1.1 MEETINGS

A. Prior to beginning the Work, the Contractor, the Mechanical Subcontractor and other subcontractors as may be designated by the Architect, shall meet with the Architect and Engineers to resolve questions pertaining to the Work and to establish basic administrative procedures. This meeting shall be held at locations determined by the Architect.

B. Meet with the Owner and Architect at Project Site or other designated locations at such intervals directed by Architect to maintain an optimum degree of communication between all interested parties including selected subcontractors and suppliers at such times as their interests may be involved.

PART 2—PRODUCTS (Not Used)

PART 3—EXECUTION

3.1 NOTIFICATION OF ARCHITECT / ENGINEER

A. Notify the Architect / Engineer at any time there is need of clarification or interpretation of the Contract Documents.

B. Notify the Architect 48 hours in advance of the following stages of construction:
   1. Completion of roughing in of fire suppression (prior to concealment).
   2. Installation of sprinkler heads.
   3. Patching and repair of masonry, plaster or sheet rock.
   4. Installation of ceiling tiles.

SECTION 01700

PROJECT CLOSEOUT

PART 1—GENERAL

1.1 FINAL CLEAN-UP

A. Leave all areas clean and free of all unsightly accumulations and complete surface treatments, washing or polishing as specified.

B. Immediately prior to final inspection and acceptance, all tile surfaces shall be cleaned by mopping with a non-harmful soap or detergent and water, rinsing and drying. All other floor and wall surfaces, including projections, shall be cleaned and dusted and left in such condition that all areas can be occupied and used without further cleaning. Wash all interior and exterior glass on both faces, removing all labels and marks, paint and caulking streaks or spots. All metal surfaces, including hardware, shall be cleaned, polished and left free of marks or dust.

C. Clean all plumbing fixtures, trim, utilities, and equipment provided under the Mechanical Work and all electrical fixtures provided under the Electrical Work.

D. Remove all tools, scaffolding, and surplus materials from the Project Site.

1.2 FINAL INSPECTION

Refer to ARTICLE 9, "GENERAL CONDITIONS".

1.3 GUARANTEES, BONDS AND AFFIDAVITS

Each specific installation will not be considered complete under the "TERMS OF PAYMENT" of the "GENERAL CONDITIONS" to the Contract until all of the information has been received. Refer to each section for the specific guarantees, bonds and affidavits required.

1.4 PROJECT RECORD DRAWINGS

At completion of Project, but prior to final acceptance thereof, Contractor shall furnish to Architect a complete set of Project Record Drawings. These shall consist of a complete set of prints maintained in good condition on which all changes have been clearly and accurately recorded in RED pencil as the job progressed. Evidence of current up-dating of these drawings shall be presented at each monthly Progress Meeting.

1.5 MAINTENANCE AND OPERATING INSTRUCTIONS

A. REQUIRED INFORMATION Contractor shall furnish to Architect two (2) copies of the following listed materials for equipment and material furnished and installed by him. All of the material shall be clearly and accurately identified, including its location on the Project. These shall all be neatly and systematically assembled into one or more heavy-duty type plastic notebooks, properly indexed and identified. All operating and maintenance information shall be bound separate from all other material.

1. Each Approved Shop Drawing on all Heating, Ventilating and Air Conditioning Equipment and all other motorized or operating equipment including all final comments, reduced to 8-1/2" X 11" or 11" X 17".
2. Complete detailed parts lists and/or assembly drawings of equipment in item (1). Provide name and phone numbers of distributors where replacement parts may be purchased, including air filters.
3. Each manufacturer's specification, including tabulation of sizes and identifying numbers for all installed material and equipment such as traps, valves, special fittings, gauges, motor starters, electrical devices and equipment. This applicable item in each brochure shall be clearly defined and marked.
4. MSDS documentation on materials used shall be compiled and transferred to the Owner upon project completion.

1.6 CLOSE-OUT MANUAL

Contractor shall furnish to Architect two (2) copies of the following listed materials. All of the material shall be clearly and accurately identified. These shall all be neatly and systematically assembled into one or more heavy-duty type plastic notebooks, properly indexed and identified.

A. List of Subcontractors: Provide a list of all subcontractors who performed work on the project. The list shall include the name, address, telephone number, fax number, and e-mail address along with a brief description of work performed by each sub. The list shall be organized by work performed under each specification section.

B. Warranties: The Contractor shall provide to the Owner, before final payment is processed, warranties from each Subcontractor stating: their name, address, phone number, project name, address, and Owner, and work performed.

C. Release of Liens: The Contractor shall provide to the Owner, before Final Payment is processed, release and waiver of liens, claims, security interest or encumbrances arising out of the Contract on the A.I.A. forms G706A. Forms will be required of each Subcontractor and the General Contractor.

D. The Contractor Shall provide to the Owner, A.I.A. Form G707, Consent of Surety to Final Payment; and A.I.A. Form G706, Contractor's Affidavit of Payment of Debts of Claims.

E. Asbestos: See SECTION 00811, SUPPLEMENTARY GENERAL CONDITIONS, Item 17.

SECTION 02050
DEMOLITION, CUTTING AND PATCHING

PART 1

1.1 DEMOLITION

A. Do all demolition required to accommodate new work.

B. Any salvageable materials shall be tagged and returned to the Owner's Representative, if Owner so desires.

1.2 CUTTING AND PATCHING

A. Employ a skilled and experienced installer to perform cutting and patching new Work; restore Work with new Products.

B. Submit written request in advance of cutting or altering structural or building enclosure elements.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and non-conforming Work.
   4. Remove samples or installed Work for testing.
   5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Cut masonry and concrete materials using masonry saw or core drill. Restore Work with new Products in accordance with requirements of Contract Documents.

E. Fit Work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction ; completely seal voids.

F. Fir Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

G. Refinish surfaces to match adjacent finishes.

H. Whenever a surface, item, or material is required to be patched, it shall be patched with the same material so that upon completion the patched area shall be indistinguishable from surrounding surfaces.

SECTION 13930

WET PIPE SPRINKLER SYSTEM-NFPA 13R

PART 1 GENERAL

1.1 SYSTEM DESCRIPTION

A. Provide labor, materials, equipment, tools and services and perform operations required for, and reasonably incidental to, the providing of fire protection systems, which shall include one (1) automatic wet pipe sprinkler system per 52,000 sq ft of each building area.

B. The full extent of Fire Sprinkler piping work is not indicated by drawings and schedules. The successful Contractor shall prepare and submit drawings and schedules for approval by the requirements of this section, and is hereby defined to include (but is not necessarily limited to) standpipes, sectional control valves in each wing on each floor, feed and cross main piping, branch line piping, test valves, test conditions and sprinklers. Fire Sprinklers shall be installed to serve the entire building.

C. A preliminary sprinkler layout is shown on the plans. The successful Contractor shall prepare shop drawings for the hydraulically designed sprinkler system and secure approval of same from the Local City Authorities and Texas State Insurance Authorities Review Board Owner's Insurance Carrier. Approved plans and submittals shall be submitted to the Architect for approval before any materials are fabricated. Final sprinkler layout shall meet all the requirements of above entities and the governing authorities.

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D. The Contractor shall obtain from the City a water flow test close as possible to the proposed building addition use this information for the basis of design of the hydraulically designed system.

1.2 REFERENCED DOCUMENTS

A. Comply with General Requirements and referenced documents.

B. Comply with Division 15 Sections, as applicable. Refer to other Divisions for coordination of work with other trades, as required.

1.3 GOVERNING AUTHORITIES

A. The automatic sprinkler system shall comply with applicable State and City codes, with the requirements of other authorities having jurisdiction, and with the requirements of NFPA #13R, NFPA #14 and NFPA #20.

B. Comply with all requirements of the Local Authorities and Owner's Insurance Carrier. Provide sprinkler products that are Underwriters Laboratories listed or Factory Mutual approved.

1.4. SUBMITTALS

A. Submit coordinated shop drawings and details of each fire protection system to, and receive approval from, the governing authorities before the submittal is forwarded to the Architect and before installation work is started.

B. Submit to the Architect, upon completion of each system, a certificate stating that the work has been completed and tested in accordance with NFPA #13R, #14 and #20 that there are no defects in the system and that it is operational. Test procedures and certificate format shall be in accordance with NFPA #13R, NFPA #14 and NFPA #20 unless otherwise directed by the governing authorities.

C. Submit to the Architect upon completion of the system, manufacturer data of all products incorporated this work.

D. Submit the following Products Data, Shop Drawings and Samples:

	Product	Shop Drawings	Samples
Heads	X	X	X
Valves and	X	X	
Pipe and	X	X	
Jointing Method	X		
System Layout		X	

1.5 MAINTENANCE STOCK, FIRE SPRINKLER

Maintenance Stock: For each style and temperature range required, furnish an additional two (2) fire sprinklers for every 100 units installed, but not less than six (6) units of each type.

1.6. COORDINATION

The Contractor shall examine all other work shown on the plans and such work installed at the job site. The sprinkler system contractor shall coordinate the routing of his work with the other construction trades to avoid interference with the other installations. Pipe routing shall be located as required to avoid equipment, plumbing drain pipe, heating and air conditioning piping, ductwork, light fixtures, and electrical buss ducts. This Contractor shall provide pipe offsets, etc., as required to complete the installation. Shop prefabricated piping, pipe hangers, etc., shall be modified as required to fit the job site conditions.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Cover and protect materials in transit and at site. Material not properly protected and stored and which is damaged of defaced during construction shall be rejected.

B. Storage and protection of materials shall be provided.

PART 2 PRODUCTS

2.1 MATERIALS

Materials shall comply with the requirements of NFPA #13R, NFPA #14 and NFPA 20.

2.2 PIPE AND FITTINGS

A. Underground: Class 150, ductile iron with poly wrap or class 200 C-900 PVC pipe and mechanical joint ductile iron fittings.

B. Above Grade, Indoor Piping: ASTM A-53, Schedule 40, black steel pipe. Provide pipe and fittings as follows:
   1. Schedule 10 allowed in pipe sizes per NFPA #13R, NFPA #14 and NFPA #20.
   2. Pipe Size 2 Inch and Smaller: Class 150 ductile iron, threaded fittings, ANSI B16.3. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.
   3. Pipe Size 2-1/2 Inch Larger: Class 150 or 300 (as required) ductile iron, threaded fittings, ANSI B16.3; or with forged steel, threaded fittings; or cast iron flanged fittings, Class 250, ANSI B16.1; or listed mechanical grooved couplings. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.

C. Outdoors or Exposed to Moisture: Same as specified for "Above Grade, Indoor Piping", except pipe shall be galvanized.

D. Fire Sprinkler Drain Piping:
   1. Pipe size 2" and smaller: Black steel pipe and fittings: Pipe weight: Schedule 10; Fittings: Class 125 cast iron screwed; fittings: class 150 ductile iron, screwed. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.

   2. Pipe size 2-1/2" and larger: Black steel pipe and fittings: Pipe weight: Schedule 10; Fittings: Wrought iron, Schedule 10, fittings grooved couplings and fittings. CPVC pipe and fittings allowed per NFPA #13R. Compatibility documentation must be provided from manufacturers.

2.3 VALVES

A. General: Conform to the requirements of NFPA #13R, NFPA #14 and NFPA #20.

B. Check Valves: Provide NIBCO No. G917W or equal, check valves 2-1/2" and larger with automatic ball drips for fire department connections.

C. Sectional Valves: Provide indicating iron gate control valve, outside-screw-and-yoke (OS&Y), 175 LB rated working pressure, of size and end types indicated: 2" and smaller: NIBCO T-104-0 or equal. 2-1/2" and larger: Crane 467, NIBCO GD-4765-8N or equal 2" to 1 PART 11. AUTOMATIC SPRINKLERS

2.4 SPRINKLERS

A. Fire Sprinklers: Provide standard Bulb-Type automatic recessed fire sprinklers with 155 Deg. F., or as required by NFPA #13R, operating temperature of the following style and finish:

NOTE: Sprinkler heads shall be limited to 225 sq. ft. coverage and 130 sq. ft. for ordinary hazard area. Sprinkler heads to be located in center of lay-in ceiling tiles.

1. Sprinkler Finish: Cast brass (in non-exposed areas) and chrome or white plated (in occupied areas).
2. Upright pendent type in mechanical spaces without ceilings shall be equal to Tyco Series TY-B. Sprinkler Finish: Cast brass (in non-exposed areas) and chrome plated (in occupied areas).
3. Provide fully-concealed pendent type in all finished areas with ceiling or soffit with factory escutcheon equal to Tyco fully-concealed pendent sprinkler head Model Series RFII or other fully-concealed Tyco type or equivalent that meets NFPA #13R.
4. Provide fully-concealed sidewall type in all finished areas with factory escutcheon equal to Viking fully-concealed sidewall sprinkler head Model Series "Freedom" or other fully-concealed Tyco type or equivalent that meets NFPA #13R.

B. Emergency Head Storage Cabinet: Provide a red, baked enamel, steel sprinkler cabinet to store the extra sprinklers and wrenches, as required by NFPA #13R.

2.5 ACCESSORIES

A. Tamper Switches: Provide tamper switches equal to Potter Model PCVS-1, 2 on all control valves for connection to the fire alarm system.

B. Water Flow Detectors: Provide water flow detectors equal to Potter-VSR. Provide a water flow detector at the main fire protection piping entrance to the building or system, in addition to other locations shown, specified, or required to detect any flow in the system for any cause. If flow is detected, sound a local alarm. See fire alarm section or connection to fire alarm system.

C. Pressure Gauges: Provide 3-1/3 inch diameter pressure gauges equal to Ashcroft No. 35-W-1005-P-02L-XUL-300# with a range of 0-300 psig, include gauge cock.

D. Water-Motor Gong: Provide 10" weatherproof, red enameled finished, electric gong as indicated.

E. Ball Drips: Provide ball drips equal to NIBCO RG-22000 or 22100, ball drips for piping between check valves and fire department connections. Extend drain line from each ball drip to point of disposal as shown on the Drawings, or as directed.

F. Hangers and Supports: Provide hangers and supports as required by NFPA #13R.

G. Outside Fire Department Connections: Flush wall or free-standing (type as shown or Drawings or as directed by Architect) type devices shall be equal to Potter-Roemer No. 5710 or 5761, 2-way, Fire Department Connection with individual drop clapper valves, plugs, chain and escutcheon lettered "AUTO.SPKR". Entire unit shall have polished chrome finish; size shall be 2-1/2" x 2-1/2" x 4". Install appropriate connections per City of Nacogdoches.

H. Where the building has a stage the area shall have a standpipe system as required by the Fire Code. The standpipe system shall be provided on each side of the stage and be equipped with a fire hose cabinet. The hose cabinet shall be equal to Potter Roemer series 1000.

2.6 PROTECTION OF ELECTRICAL EQUIPMENT

Where required, provide metal hoods or shields to protect electrical equipment and bus ducts from sprinkler discharge.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install automatic sprinkler system where shown on the Drawings or as noted. Installation shall comply with the requirements of NFPA #13R, these Specifications, and the governing authorities, and with the manufacturer's written instructions. Coordinate with other work, including plumbing piping, as necessary to interface components of fire sprinkler properly with other work.

B. Welding shall comply with the requirements of State Insurance Authorities. No butt welds are allowed.

C. Provide pipe offsets as required. Modify shop pre-fabricated piping, pipe hangers, and other components as required to fit the job site conditions.

D. Installation of hoods and shields for protection of electrical equipment shall be in accordance with any approved details, included as part of the coordinated shop drawings.

E. Install sectional valves in inlet piping at the bottom of each riser and floor as indicated or required.

F. Install air vents at the high points of the sprinkler piping.

G. Install a tamper switch on each sectional valve and on all other shut-off valves.

H. Install drain piping at all low points of the sprinkler piping. Coordinate drain point with Architect.

I. Thrust blocks shall be of size required for the soil bearing strength and against compacted soil.

J. Install water flow detectors at each take-off from a sprinkler riser or for each zone.

K. Install manual shut-off at each audible alarm station.

L. Install heads in all locations, pendant or upright, as required.

M. Center heads in two directions in 2'-0" x 2'-0" ceiling tile and provide piping offsets as required. In ceilings that are 2' x 4' center head in one half of the 2'-0" x 4'-0" tile.

N. Piping shall be installed with offsets so to align with building structure. All mains and branch piping shall be located so that the piping is concealed.

3.2. IDENTIFICATION

Apply signage to identify purposed and functions of controls, and to identify drains, test, and alarm valves. Provide letter sizes and styles as selected by the Architect from NFPA's suggested styles.

3.3 CLEANING AND FLUSHING

Prior to connecting sprinkler piping for flushing, flush water feed mains, lead-in connections and control portions or sprinkler piping. After sprinkler piping installation has been completed, and before piping is placed in service, flush each sprinkler system under pressure to remove foreign substances as required by NFPA #13R and NFPA-14. Continue flushing until water is clear, and check to ensure that debris has not clogged sprinklers.

3.4 TESTS

A. After flushing each system, hydrostatically test sprinkler piping in accordance with NFPA #13R, NFPA #14 and NFPA #20. Check system for leakage at joints. Measure hydrostatic pressure at low point of each system or zone being tested.

B. Repair or replace piping system as required eliminating leakage in accordance with NFPA Standards, then retest as specified to demonstrate compliance.

3.5 CERTIFICATION

Before final approval of the fire protection systems is requested, provide the Architect a statement that all requirements of the State Board of Insurance and/or Owner's Insurance Carrier as required, City Building Inspection and Fire Departments have been met in the installation of the fire protection systems. Provide owner training of personnel for proper use and maintenance of all new equipment.

END OF SECTION

SECTION 15010

MECHANICAL

PART 1—GENERAL

1.1 SCOPE

The scope of the mechanical phase of this project shall include all labor, materials, equipment, etc., required to fulfill the intent of the Contract Documents and shall include the work specified under the subsequent sections of Division 15 of these specifications.

1.2 RELATED DOCUMENTS

All applicable provisions of Divisions 0 and 1 govern work under this Division. Refer to these articles in the specifications for additional information.

1.3 REFERENCE STANDARDS

A. All work shall be performed in full accord with the latest editions of the applicable state, and national building codes and local ordinances.

B. Refer to each section for applicable codes and reference standards.

1.4 FEES, PERMITS AND TAXES

The Contractor shall make arrangements for and pay for all inspection fees, connections fees permits required by local authorities. The Contractor shall also pay all taxes levied for labor and materials associated with work under this Division.

1.5 SUBMITTALS

A. The symbol "<S>" indicates a requirement for submittals.

B. Refer to SECTION 01300 for additional information on submittals.

C. Refer to AIA General Conditions.

D. In addition to the requirements of the above referenced portions of this specification, all Subcontractors proposing to do work under this Division shall comply with the following additional requirements:

1. These specifications and drawings are intended to indicate a standard of quality for materials and equipment which is established by the listing of manufacturers' names and catalog numbers and/or by referenced standards. Materials and equipment that do not comply with these standards of quality will not be considered for substitution.
2. As soon as practicable and within thirty (30) days after the award of the contract and before beginning the fabrication of any material or the installation of any equipment, data shall be submitted for approval on equipment and materials where noted. Materials (pipe, fittings, etc.) may be enlisted with the name of the manufacturer and identifying catalogue numbers. Data for equipment shall include manufacturer's name, catalogue data, diagrams, drawings and other descriptive data as required or requested by the Architect/Engineer for evaluation.

3. Notwithstanding any reference in the specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalogue number, such references shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product material, fixture, form or type of construction which in the judgment of the Architect/Engineer expressed in writing, is equal to that specified.
4. All data shall be carefully examined and shall be forwarded for approval with a signed certification to the effect that the data has been carefully checked and found to be correct with respect to dimensions and available space and that the equipment complies with all requirements for the specifications.
5. Point out in writing all deviations between the plans and specifications and the materials submitted.
6. It is understood that proof of equality is the responsibility of the Contractor and/or supplier and that it is not the responsibility of the Architect/Engineer to prove the inequality of the proposed substitutions. Furthermore the decisions of the Architect/Engineer are final.

E. While it is not the intention of the Architect/Engineer to discriminate against any manufacturer of equipment which is equal to specified equipment, a strict interpretation of such equality will be exercised by the Architect/Engineer in considering any equipment offered as a substitute for equipment offered as a substitute for equipment named in the specification. It shall be the responsibility of the Contractor to submit with each request for approval of substitute material or equipment, sufficient data to show conclusively that it is equal to the material or equipment specified.

F. Contractor shall submit shop drawings and/or diagrams for approval and for job coordination in all cases where significant deviations from the contract drawings are contemplated because of job conditions, interferences, or substitutions of equipment, or when requested by the Architect/Engineer for purposes of clarification of the Contractor's intent. He shall also submit detailed shop drawings, rough-in sheets, etc., for all special or custom built items of equipment.

G. Should any substitute items be submitted and disapproved, then those items must be furnished exactly as described herein.

H. The Architect/Engineer's review of shop drawings and/or submittal data shall not relieve the Contractor of responsibility for deviations from the contract drawings or specifications.

I. The size of mechanical equipment shown on the drawings is based on the dimensions of a particular manufacturer. While other manufacturers may be acceptable, it is the responsibility of the Contractor to determine if the equipment he proposes to furnish will fit in the space. Shop drawings shall be prepared when required by the Architect/Engineer or Owner to indicate a suitable arrangement.

J. Space allocations and utility rough-ins have been designed on the basis of equipment items named by manufacturer and model number. If any equipment not so named is offered which differs substantially in dimension or configuration from the named equipment, provide scaled shop drawings showing that the substitute can be installed in the same space available without interfering with other trades or with access for operation and maintenance in the completed project. The Installer shall coordinate final rough-in locations with actual equipment furnished.

1.6 OPERATING AND MAINTENANCE MANUALS AND INSTRUCTIONS

A. The symbol "<OM>" indicates a requirement for operating and maintenance manuals to be furnished.

B. The Owner's operating personnel shall be instructed by the Contractor on how to start and operate each item of equipment. Safety features shall be pointed out, particularly the possible trouble shooting which might be done to remedy operating problems.

C. The Owner's operating personnel shall be thoroughly instructed in the operation of the control system. Instruction should include an explanation of the control system and system sequence of operation, the proper set points of each thermostat, etc., and how to change the settings to accommodate overheating and overcooling, or incorrect humidity. Instructions shall include an explanation of components which should not be tampered with or control settings which should not be changed except by authorized personnel of the Control Manufacturer. Thermostat keys shall be turned over to the Owner.

D. Relative to the air conditioning system, instruct the Owner's operating personnel in the following:
   1. Removal of service access panels from equipment. If special tools are required, turn over to the Owner at last one set.
   2. Method of removing air filters.
   3. Method of cleaning permanent type air filters.
   4. How to drain and fill all piping and equipment.
   5. How to vent air from the system.
   6. Location of concealed valves, traps, air splitters, automatic valves and dampers, etc., requiring periodic maintenance and location of access to them.

E. Provide (2) two copies of operating and maintenance manuals. Manuals shall be bound in large ring, loose-leaf binders and contain the following:
   1. Manufacturer's instructions and/or installation manual.
   2. Manufacturer's service manual.
   3. Manufacturer's lubrication chart listing types of lubricant to be used on each item of equipment and recommended frequency of lubrication.
   4. Electrical diagrams of each equipment "packaged" control system.
   5. Diagrams of automatic temperature control systems, identifying each item by name, location and number showing sequence of operation. Each component of a control system shall be identified. All diagrams shall be up-to-date, reflecting any on-the-job changes.
   6. Parts lists and identifying part numbers with prices of each part. The name and address of the nearest distributor from which parts can be obtained.

1.7 WARRANTY

Contractor shall warrant all workmanship, material, equipment systems etc., provided by him for a period of one year after substantial completion of the project. This warranty means that Contractor shall make good to the Owner, at no cost, any defects that become apparent during the year following substantial completion. This warranty is in addition to any other guarantees or warranties and is not intended to limit such other guarantees or warranties.

1.8 DEFINITIONS

The following words and phrases as used herein are hereby defined:

A. "Provide": Furnish and install all material and labor required for a complete installation ready for operation in accordance with the intent of the Contract Documents.

B. "As required": Indicates that the Contractor shall perform the work or provide the material as indicated in accordance with manufacturer's installation instructions; and in accordance with applicable codes or regulations; and in a workmanlike manner as defined by good local practice.

C. "Or equal": Indicates that the Contractor may substitute equipment by another manufacturer if the features of the equipment indicated by manufacturer's name and/or described are, in the judgment of the Architect/Engineer, adequate. Submittals for approval are required where indicated.

D. "Contractor": Where the word "Contractor" is used, then refer to the Contractor engaged to execute the work under this division of the specifications only, even though he maybe technically described as a sub-contractor.

E. "Intent of the Contract Documents": The specific intent of these documents is to provide to the Owner, in a thoroughly functional condition, all the various systems, equipment, etc., indicated herein. Final authority over interpretation of the "intent" shall rest with the Architect/Engineer.

F. "Shall": Indicates a mandatory requirement.

1.9 INSPECTION OF THE SITE

A. The drawings are prepared from the best information available and reflect all conditions commensurate with this information. However, the contractor should visit the site prior to submitting a proposal and should verify the locations, sizes, depths, pressures, etc., of all existing utilities and familiarize himself with working conditions, hazards, existing grades, soil conditions will impair the proper operation of the utilities, the Architect/Engineer should be notified in writing.

B. All proposals shall take these existing conditions and any revision required into consideration.

1.10 CONSTRUCTION REQUIREMENTS

A. The Contractor shall be responsible for getting his material and apparatus into the building and shall carefully lay out his work at the site to conform to the structural conditions, to provide proper grading of lines, to avoid all obstructions and to conform to the details of the installation supplied by the manufacturer of the equipment to be installed. Furnish all necessary pipe lines and control lines whether indicated on the drawings or not. The drawings do not give exact details as to elevations of pipe lines nor do they show exact locations of pipe to scale.

B. Piping elevations shall be handled by giving precedence to pipes which require a stated grade for proper operation. Devices necessary for installation and support of pipes, and equipment(such as sleeves, inserts, etc.) shall be located and installed as the construction progresses in order to allow completion of each phase of the work in the proper sequence.

C. Drawings showing the extent and arrangement of the work of a particular trade shall be used together with drawings showing extend and arrangement of work of other trades to insure

that the Contractor in laying out and installing his work shall do so in a manner such that the work of the several trades may progress in the most direct, workmanlike and harmonious manner.

D. The Contractor shall be responsible for the proper location and size of slots, holes or openings in the building structure pertaining to his work, and for the correct location of pipe sleeves. The drawings indicate the extend and general arrangement of the various systems, but if any departures from these drawings are deemed necessary by the Contractor, detailed drawings and descriptions of these departures and a statement of the reasons therefore shall be submitted to the Architect/Engineer as soon as practicable.

No departures from the arrangements shown on the drawings shall be made without prior written approval of Architect/Engineer.

E. In general, piping and ductwork in finished areas of the building shall be run concealed unless noted and directed otherwise. Should any conditions arise which would cause any piping or ductwork to be exposed in finished areas, it shall be immediately called to the Architect/Engineer's attention. In unfinished spaces such as equipment rooms, all pipe and duct shall be run as high as possible, shall be run to a continuous grade and shall be grouped wherever it is feasible to do so.

F. Equipment shall be installed in such a manner to make oiling devices and parts requiring service and maintenance readily accessible.

G. All pipe, duct, etc., shall be cut accurately to measurements established at the building and shall be worked into place without springing or forcing. All ducts and pipes run exposed in machinery and equipment rooms shall be installed parallel to the building planes except that the lines shall be sloped to obtain the proper pitch. Piping and ducts run above furred ceilings, etc., shall be similarly installed, except as otherwise shown. All pipe openings shall be kept closed during construction until the systems are closed with final connections.

H. The construction details of the building are illustrated on the Architectural and Structural drawings. The trades shall acquaint themselves with the details before submitting their bid as no allowance will be made because of unfamiliarity with these details. For new construction, place all inserts to accommodate the ultimate installation of pipe hangers in the forms before concrete is poured and set sleeves in forms before construction. For existing construction, all required inserts shall be "drilled-in" and all openings required through concrete or masonry shall be "saw-cut" or "core drilled" with tools specifically designed for this purpose. Explosive or compression driven inserts shall only be allowed for use as approved by SMACNA and the manufacturer of these devices. All concealed lines shall be installed as required by the pace of the job to precede the general construction.

I. The mechanical plans do not give exact locations of outlet, fixtures, equipment items, etc. The exact location of each item shall be determined by reference to the general plans and to all detail drawings, equipment drawings, roughing-in drawings, etc., by measurements at the building and in cooperation with other trades. Minor relocations necessitated by the conditions at the site or directed by the Owner shall be made without additional cost to the Owner.

J. All oiling devices and all parts of equipment requiring adjustment shall be easily accessible. Equipment shall be so located and installed as to permit convenient and safe maintenance and future replacement. The trade furnishing the equipment shall be responsible prior to ordering same in the event that equipment specified and/or approved is incompatible with this requirement.

1.11 SLEEVES

A. Each and every pipe and duct, regardless of material, which passes through a concrete slab, (except slab on grade), masonry wall, roof or other portion of the building structure shall be free from the structure and shall pass through a sleeve furnished and installed by the Subcontractor responsible for the work involved.

B. Above grade and dry location sleeves shall be constructed from 20 to 22 gauge galvanized steel and shall be flush on both sides of wall surface penetrated. The sleeves shall be sized to allow free passage of the pipe to be inserted, and when this pipe is to be insulated, the sleeves shall be large enough to pass the insulation. Floor sleeves located in pipe chases shall extend up two inches (2") above the floor slab.

C. Sleeves passing through walls or floors on or below grade and/or in moist areas shall be constructed of galvanized steel, schedule 40 pipe and shall be designed with suitable flange in the center of the floor or wall to form a waterproof passage. After the pipes have been installed in the sleeves, void space around the pipe shall be caulked to insure a waterproof penetration. Fire ratings of rated walls and floors shall be maintained by the use of approved materials.

1.12 ISOLATION

A. Transmission of perceptible vibration, structure-borne noise, or objectionable air borne noise to occupied areas by equipment installed under this contract will not be permitted.

B. The isolation supplier shall be a firm or individual capable of dealing effectively with vibration and noise characteristics, effects and criteria and have facilities and capabilities for measuring and evaluating such disturbances and the preparation of drawing and installation instructions.

1.13 CONSTRUCTION SAFETY

Contractor assumes all responsibility regarding the safety of his personnel on the project during construction. The Contract Documents do not include materials, procedures, components, etc., required to insure construction safety. Refer to General Conditions and Supplementary General Conditions for additional information.

1.14 DAMAGE

A. Contractor shall be responsible for damage to project caused by Contractor's failure to recognize hazards associated with items such as leaks, scheduling of work, inexperienced workmen, excessive cutting, etc.

B. Contractor shall repair, at no expense to the Owner, any such damage to the satisfaction of the Owner.

C. Contractor shall familiarize himself with working conditions to the extent that he shall be responsible for damage to concealed piping, wiring and other equipment to remain and shall repair any damage caused by his negligence at no cost to the Owner.

1.15 FLOOR, CEILING AND WALL PLATES

In addition to the requirements of the above referenced portions of this specification, all Subcontractors shall furnish a chromium plated sectional escutcheon in each finished space on each pipe of hanger rod penetrating a wall, floor or ceiling. Escutcheons shall be sized to fit snugly to all lines and where the lines are insulated, the escutcheons shall be fit snugly over the insulation. Where required, these plates shall be provided with set screws so that they fit snugly against the finished surface. All equipment rooms are classified as finished space.

1.16 SAFETY GUARDS

Contractor shall furnish and install all safety guards required. All belt driven equipment, projecting shafts and other rotating parts shall be enclosed or adequately guarded.

1.17 STORAGE OF MATERIALS

Each Contractor shall provide space for storage of materials, equipment or tools at ground level. Any storage contemplated within the building will be allowed only upon specific approval of the Architect/Engineer.

1.18 LOCAL CUSTOMS

Each Sub-contractor shall comply with local customs as to which particular trade shall install any part or parts of any work or equipment specified herein.

1.19 MANUFACTURER'S DIRECTIONS

The manufacturer’s published directions shall be followed in the delivery, storage, protection, installation, piping and wiring of all equipment and material. The Contractor shall promptly notify the Architect/Engineer in writing of any conflict between the requirements of the contract documents and the manufacturer’s directions and shall obtain the Architect/Engineer's instructions before proceeding with the work. Any such work performed that does not comply with the manufacturers' directions shall have deficiencies corrected at no cost to the Owner.

PART 2—PRODUCTS

2.1 MATERIALS

All materials shall be new and free from defects at the time of installation. Materials or equipment damaged in shipment or otherwise damaged prior to installation shall not be repaired at the job site, but shall be replaced with new materials.

2.2 MANUFACTURER'S REQUIREMENTS

When a manufacturer's name appears in these specifications, it is not to be construed that the manufacturer does not have to meet the full requirements of the specifications or that his standard cataloged item will be acceptable.

2.3 SERVICE AND REPAIR PARTS

All equipment installed on this project shall have local representation, local factory authorized service, and a local stock of repair parts.

2.4 FLAME SPREAD PROPERTIES OF MATERIALS

All materials and adhesives used for air conditioning filters, acoustical lining, and insulation shall conform to NFPA and UL life, safety and flame spread properties of materials. The composite classifications shall not exceed 25 for a flame spread rating and 50 for a smoke developed rating for these classifications as listed for the basic materials. The finishes, adhesives, etc., specified for each system and shall be such when completely assembled.

2.5 ACCESS PANELS

Provide flush mounted metal access panels and frames with concealed hinges and key actuated locks for all concealed and otherwise inaccessible valves, parts, fittings, equipment, filters, etc. and as required for inspection or service.

PART 3—EXECUTION

3.1 WORKMANSHIP

A. All work shall be done by experienced craftsmen skilled in the applicable trade.

B. Unprofessional and incomplete work shall be rejected and corrected at no additional expense.

3.2 PROTECTION OF EQUIPMENT

A. The Contractor shall continuously maintain adequate protection of stored materials and installed equipment. Fixtures and equipment, whether located inside or outside, shall be tightly covered with sheet polyethylene or waterproof tarpaulin as protection against dirt, rust, moisture and abuse from other trades. Adequate air circulation shall be provided under any protective sheet to prevent condensate build up.

B. Materials and equipment shall not be stored directly on the ground. Ductwork, piping and equipment shall not be used by other trades as supports for scaffolds or personnel. At the completion of the work, equipment, fixtures, exposed supports and piping shall be cleaned of loose dirt, construction debris, over spray, etc., to the satisfaction of the Architect/Engineer. Repairs made necessary by damage shall be paid for by the Contractor.

3.3 PROTECTION OF STRUCTURE

Contractor in performing his work shall take particular care not to damage the structure. All finished floors and step treads shall be covered to prevent any damage by workmen or their tools and equipment during the construction of the building. In addition, each Contractor shall protect any materials on the job site whether a part of this contract or the property of another Contractor.

3.4 FOUNDATIONS

Equipment shall be set in place on the bases, leveled and aligned by means of shims, piped, then grouted in, in that order. After grouting, the forms shall be removed and the surfaces of the foundation shall be hand-rubbed with carborundum. Concrete work shall conform to the requirements of General Specifications, Concrete Work, of this specification.

3.5 CONFLICTS, INTERFERENCES AND COORDINATION BETWEEN TRADES

A. The drawings are not to be construed as shop drawings, but indicate the extent, general location, arrangement, etc., of piping systems and equipment.

B. Each trade shall coordinate its work with that of the other trades. Piping interference shall be handled by giving precedence to pipe lines which require a stated grade for proper operation. Where space requirements conflict, the following order of precedence shall be observed:

1. Building lines
2. Structural members
3. Soil and drain piping
4. Vent piping
5. Refrigerant piping
6. Condensate piping
7. Supply ductwork
8. Exhaust ductwork
9. Domestic water
10. Electrical conduit
11. Natural gas piping

C. In the event of conflicts between specifications and drawings, drawings shall take precedence over specifications except in matters pertaining to quality, applications, and coordination between trades, which shall be governed by specifications.

D. In the event of conflict between codes, as interpreted by the authority having jurisdiction and the contract documents, the codes shall govern.

E. In the event of conflict between manufacturer's installation instructions and the drawings, the manufacturer's installation instructions shall govern.

3.6 CUTTING AND PATCHING

A. Contractor shall not cut any structural element or any finished work without permission from the Architect/Engineer.

B. Contractor shall cut and patch all paving as required by the installation of buried piping, including utilities.

3.7 CONCRETE WORK

All forming, reinforcing and concrete as indicated such as equipment bases, plumbing stack support pads, grease interceptors, catch basin and headwalls, shall conform to applicable portion of Division 3 CONCRETE.

3.8 PAINTING

A. All exposed piping, equipment, etc., shall be left clean and free from rust or grease and ready for the paint.

B. Where equipment finishes are damaged, Contractor shall obtain matching color touch-up paint from the equipment's manufacturer and paint as required.

3.9 LUBRICATION

Contractor shall provide all lubricants for the operation of all equipment until acceptance. The Contractor shall be required to protect all bearings during the installation and shall thoroughly grease steel shafts to prevent corrosion. All motors and other equipment shall be provided with covers as required for proper protection during construction. All equipment bearings requiring periodic lubrication shall be provided with proper fittings for this purpose. Where equipment requiring such lubrication is not readily accessible due to location, copper tubing extensions shall be provided in addition to lubrication fittings.

3.10 ELECTRICAL WORK

The electrical design and drawings are based on the equipment scheduled and shown on the drawings and should any mechanical equipment requiring changes to the electrical design be approved, the required electrical changes shall be made at the expense of the trade furnishing the changed equipment and at no cost to the Owner.

3.11 EQUIPMENT CONNECTION

Contractor shall bring required services to equipment items furnished under other sections of this specification or by the Owner, Make final connections, and leave equipment ready for operation. Where it is necessary for Contractors performing work covered by this section to make final connections to items of equipment being furnished by Contractors under other sections, all such work shall be performed in a neat and workmanlike manner and all materials shall be of quality and finish normally used for such installation.

3.12 OPERATING PRIOR TO COMPLETION

When any piece of mechanical or electrical equipment is operable and it is to the advantage of the Contractor to operate the equipment, he may do so providing that he properly cleans the equipment, installs clean filter media, properly adjusts and completes all punch list items before final acceptance by the Owner. The date of acceptance and the start of the warranty may not be the same date.

3.13 EQUIPMENT AND ARRANGEMENTS

All equipment shall be installed in a manner to permit access to all surfaces requiring access. All valves, motors, drives, lubrication devices, filters and other necessary items shall be installed in a position to allow removal for service without disassembly of another part.

3.14 EXECUTION OF WORK

The Contractor shall plan, schedule and execute his work and that of any of his Subcontractors so as not to interfere with the work of other trades or Contractors in the building or on the premises.

3.15 FLASHING AND WATERPROOFING

All building penetrations to outside shall be flashed and counter flashed as required to eliminate leaks.

3.16 TESTS

All tests shall be made by Contractor and repeated until approved by the Architect/Engineer. Piping systems shall not be covered or otherwise concealed until tests have been made and approvals

obtained. Notify the Architect/Engineer four days prior to tests to allow for scheduling. Test the piping systems as indicated in applicable articles.

3.17 FINAL OBSERVATIONS

It shall be the duty of the Contractor to make a careful inspection trip of the entire project, assuring himself that the work on the project is ready for final acceptance, before calling upon the Architect/Engineer to make a final observation.

3.18 DEMOLITION AND SALVAGE

A. Where demolition of equipment or materials is required Contractor shall minimize cutting and exercise all due caution to leave undamaged surfaces, material and equipment meant to remain.

B. All existing items that are to be removed shall remain the property of the Owner unless declared as unsalvageable. Unsalvageable materials shall become the property of the Contractor and be removed from the site. Items declared as Owner's property shall be neatly stored on the site as directed by the Owner.

SECTION 16721

FIRE ALARM SYSTEM(S) EXTENSION

PART 1—GENERAL

1.1 DESCRIPTION

This Section governs the installation of pull stations, control panels, annuniciator panels, horn/strobe units and detectors to extend the existing **Simplex 4010 Fire Alarm System**. Contractor to add the additional Devices to the Graphic Floor Plans on the Fireworks Computers in Physical Plant and Police Department. To the extent possible, reuse existing components. Where additional components are required, to the extent possible, match existing components.

1.2 SCOPE OF WORK.

Contractor to provide all necessary Simplex Equipment to connect the Sprinkler System Connections

1.3 SUBMITTALS

Submit manufacturers' data for all components required for complete installation.

PART 2—PRODUCTS

Provide equipment and wiring compatible with existing fire alarm system. Install new horn/strobe units where indicated on the drawings. Ensure all existing equipment is functioning properly.

PART 3—EXECUTION

3.1 INSTALLATION

Install per manufacturer's specifications.

3.2 TESTING

Set and check out system for proper operation upon completion.

Mays Hall Fire Protection System

STEPHEN F. AUSTIN STATE UNIVERSITY NACOGDOCHES, TEXAS

Mays Hall Fire Protection System - 501108

DRAWING INDEX

SHEET	
TS	TITLE SHEET
M1	SPRINKLER PLANS
M2	SPRINKLER PLAN
M3	SPRINKLER PLANS

STATE OF TEXAS
EDDIE L. MORGAN
51663
REGISTERED PROFESSIONAL ENGINEER

Eddie L. Morgan
3-30-16
MECHANICAL, ELECTRICAL
& PLUMBING ENGINEER

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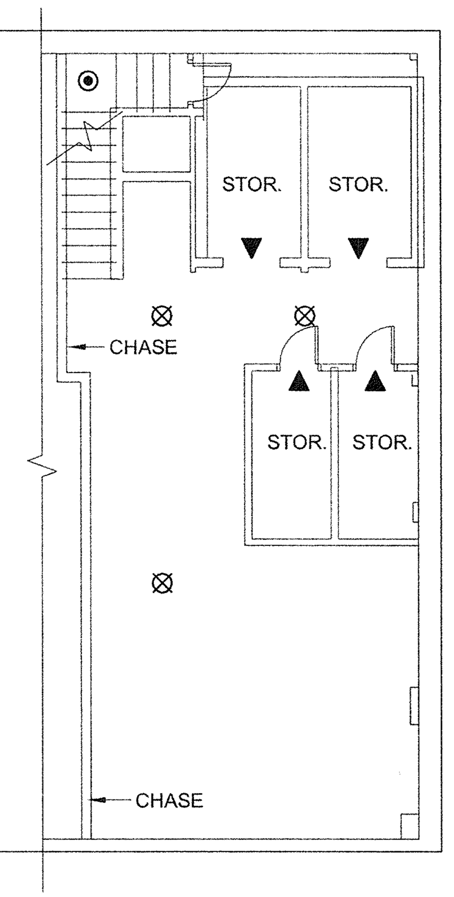
Mays Hall Fire Protection System - 501108

12

8

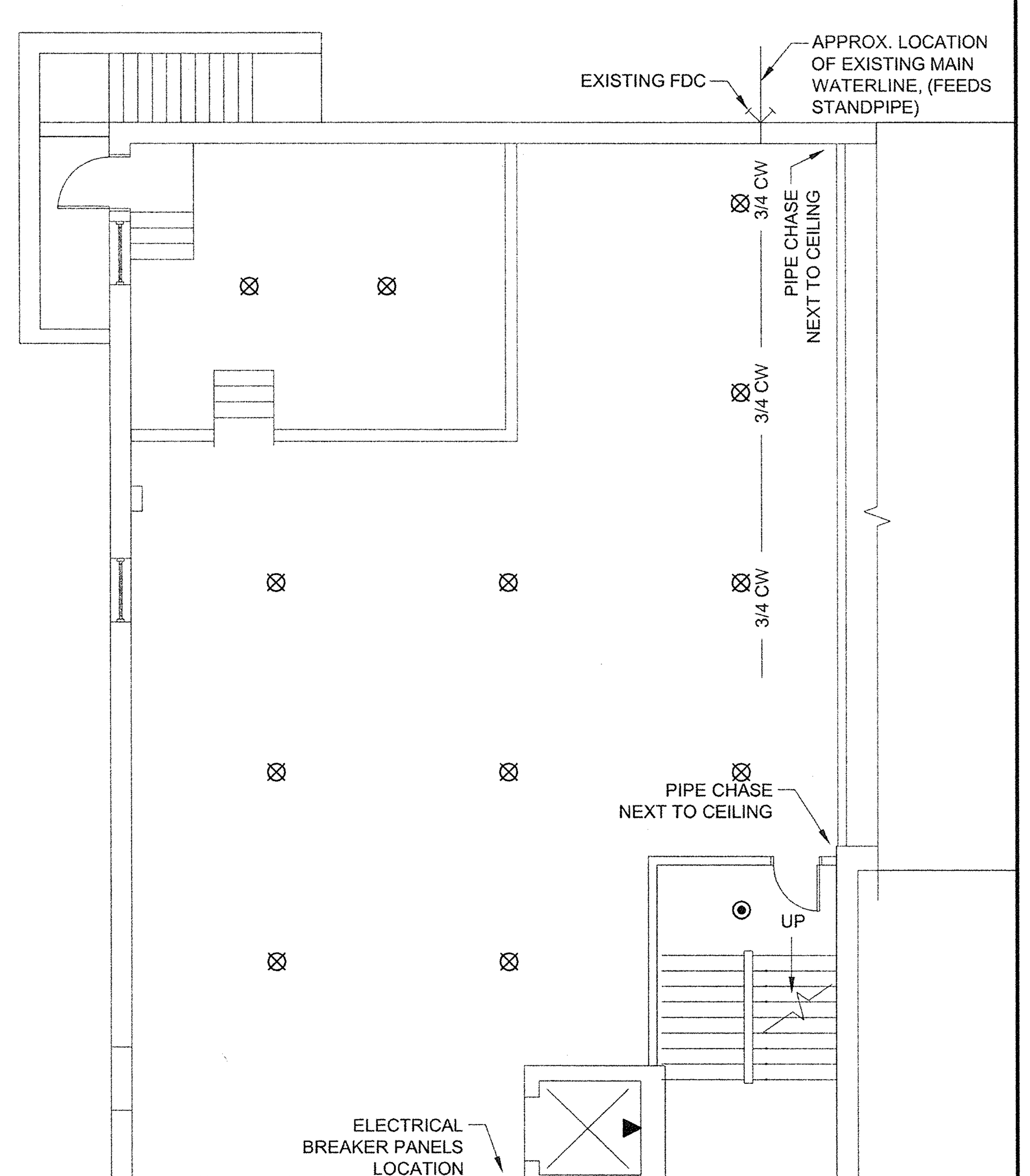
4

- ◉ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊗ EXPOSED SPRINKLER WITH CAGE



- ◉ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊗ EXPOSED SPRINKLER WITH CAGE

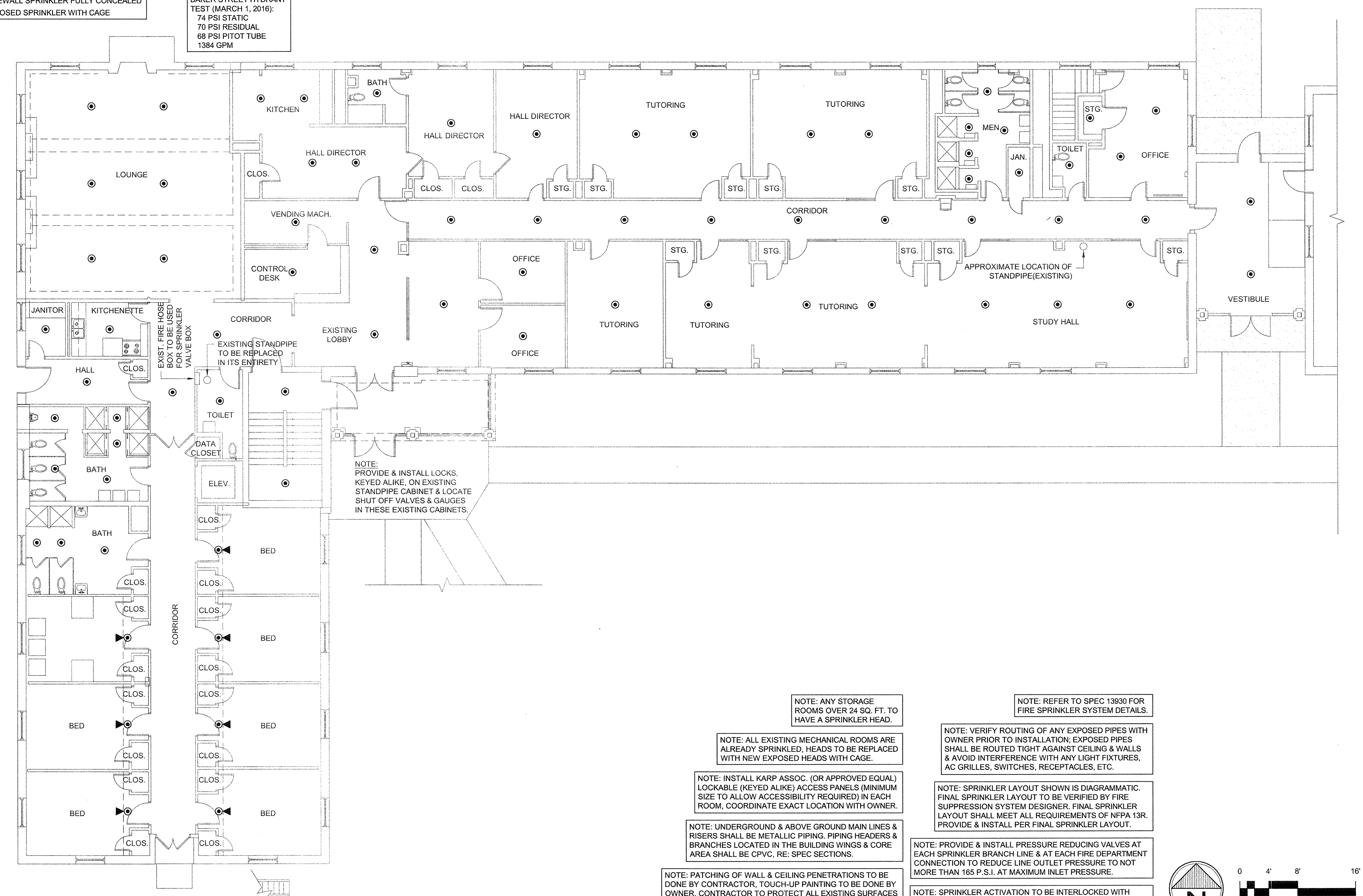
BASEMENT SPRINKLER PLAN 1/8"=1'-0" 15



- ◉ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊗ EXPOSED SPRINKLER WITH CAGE

BASEMENT SPRINKLER PLAN 1/8"=1'-0" 13

BAKER STREET HYDRANT TEST (MARCH 1, 2016):
74 PSI STATIC
70 PSI RESIDUAL
68 PSI PITOT TUBE
1384 GPM



NOTE: ANY STORAGE ROOMS OVER 24 SQ. FT. TO HAVE A SPRINKLER HEAD.

NOTE: ALL EXISTING MECHANICAL ROOMS ARE ALREADY SPRINKLED, HEADS TO BE REPLACED WITH NEW EXPOSED HEADS WITH CAGE.

NOTE: INSTALL KARP ASSOC. (OR APPROVED EQUAL) LOCKABLE (KEYED ALIKE) ACCESS PANELS (MINIMUM SIZE TO ALLOW ACCESSIBILITY REQUIRED) IN EACH ROOM, COORDINATE EXACT LOCATION WITH OWNER.

NOTE: UNDERGROUND & ABOVE GROUND MAIN LINES & RISERS SHALL BE METALLIC PIPING. PIPING HEADERS & BRANCHES LOCATED IN THE BUILDING WINGS & CORE AREA SHALL BE CPVC, RE: SPEC SECTIONS.

NOTE: PATCHING OF WALL & CEILING PENETRATIONS TO BE DONE BY CONTRACTOR, TOUCH-UP PAINTING TO BE DONE BY OWNER. CONTRACTOR TO PROTECT ALL EXISTING SURFACES (FLOORS, WALLS, CEILINGS, BUILT-IN CABINETS, ETC.) & CLEAN UP ALL AREAS AFTER INSTALLATION IS COMPLETE.

NOTE: REFER TO SPEC 13930 FOR FIRE SPRINKLER SYSTEM DETAILS.

NOTE: VERIFY ROUTING OF ANY EXPOSED PIPES WITH OWNER PRIOR TO INSTALLATION; EXPOSED PIPES SHALL BE ROUTED TIGHT AGAINST CEILING & WALLS & AVOID INTERFERENCE WITH ANY LIGHT FIXTURES, AC GRILLES, SWITCHES, RECEPTACLES, ETC.

NOTE: SPRINKLER LAYOUT SHOWN IS DIAGRAMMATIC. FINAL SPRINKLER LAYOUT TO BE VERIFIED BY FIRE SUPPRESSION SYSTEM DESIGNER. FINAL SPRINKLER LAYOUT SHALL MEET ALL REQUIREMENTS OF NFPA 13R. PROVIDE & INSTALL PER FINAL SPRINKLER LAYOUT.

NOTE: PROVIDE & INSTALL PRESSURE REDUCING VALVES AT EACH SPRINKLER BRANCH LINE & AT EACH FIRE DEPARTMENT CONNECTION TO REDUCE LINE OUTLET PRESSURE TO NOT MORE THAN 165 P.S.I. AT MAXIMUM INLET PRESSURE.

NOTE: SPRINKLER ACTIVATION TO BE INTERLOCKED WITH EXISTING FIRE ALARM SYSTEM (SIMPLEX). AUGMENT EXISTING FIRE ALARM SYSTEM AS NECESSARY, RE: SPEC SECTIONS.

FIRST FLOOR SPRINKLER PLAN 1/8"=1'-0" 1

NO.	DATE	ISSUED FOR
	3-29-16	BID

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DRAWN BY:	APPV'D BY:	PLOT SCALE:
ANM	ELM	1:1

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4077 CROSS PARK DR. STE. 100 · BRYAN, TEXAS 77802 · (979) 776-9700

STATE OF TEXAS · EDDIE L. MORGAN · 51663 · LICENSED PROFESSIONAL ENGINEER
Eddie L. Morgan 3.30.16

MAYS HALL FIRE PROTECTION SYSTEM
STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX
SPRINKLER PLANS

CONTRACT NO. 501108

SHEET NO.

M1

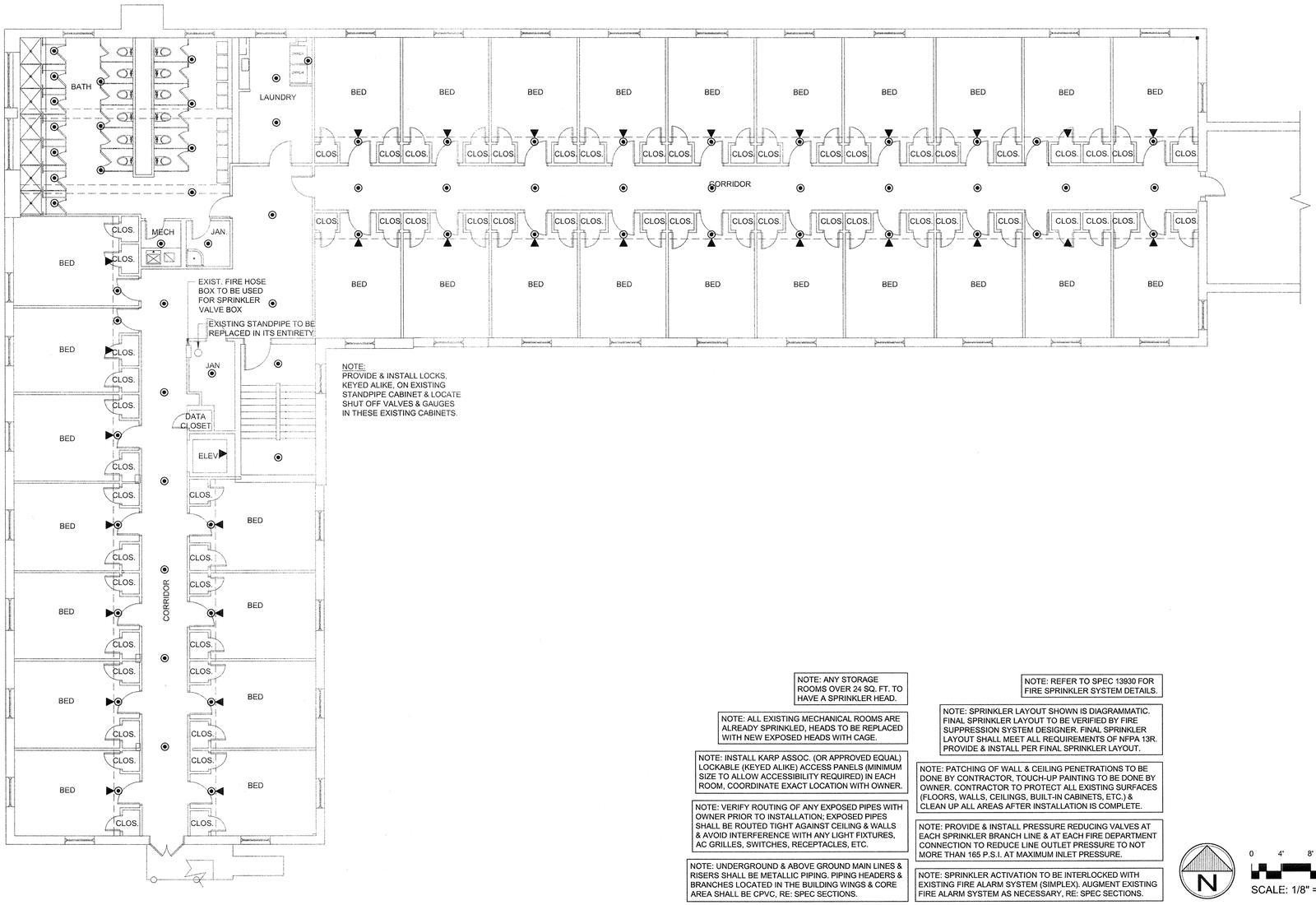
16 | 12 | 8 | 4

15

14

13

- ⊙ PENDANT SPRINKLER FULLY CONCEALED
- ◀ SIDEWALL SPRINKLER FULLY CONCEALED
- ⊠ EXPOSED SPRINKLER WITH CAGE



NOTE:
PROVIDE & INSTALL LOCKS, KEYED ALIKE, ON EXISTING STANDPIPE CABINET & LOCATE SHUT OFF VALVES & GAUGES IN THESE EXISTING CABINETS.

NOTE: ANY STORAGE ROOMS OVER 24 SQ. FT. TO HAVE A SPRINKLER HEAD.

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NOTE: REFER TO SPEC 13930 FOR FIRE SPRINKLER SYSTEM DETAILS.

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N

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

SECOND FLOOR SPRINKLER PLAN

1/8"=1'-0"

1

NO.	DATE	ISSUED FOR
	3-29-16	BID

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STATE OF TEXAS
EDDIE L. MORGAN
51663
REGISTERED PROFESSIONAL ENGINEER
3.30.16

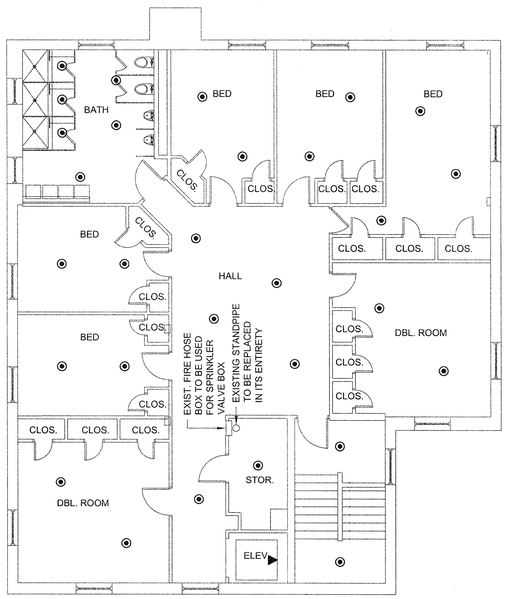
MAYS HALL FIRE PROTECTION SYSTEM
STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX
SPRINKLER PLAN

CONTRACT NO.
501108

SHEET NO.
M2

16 | 12 | 8 | 4

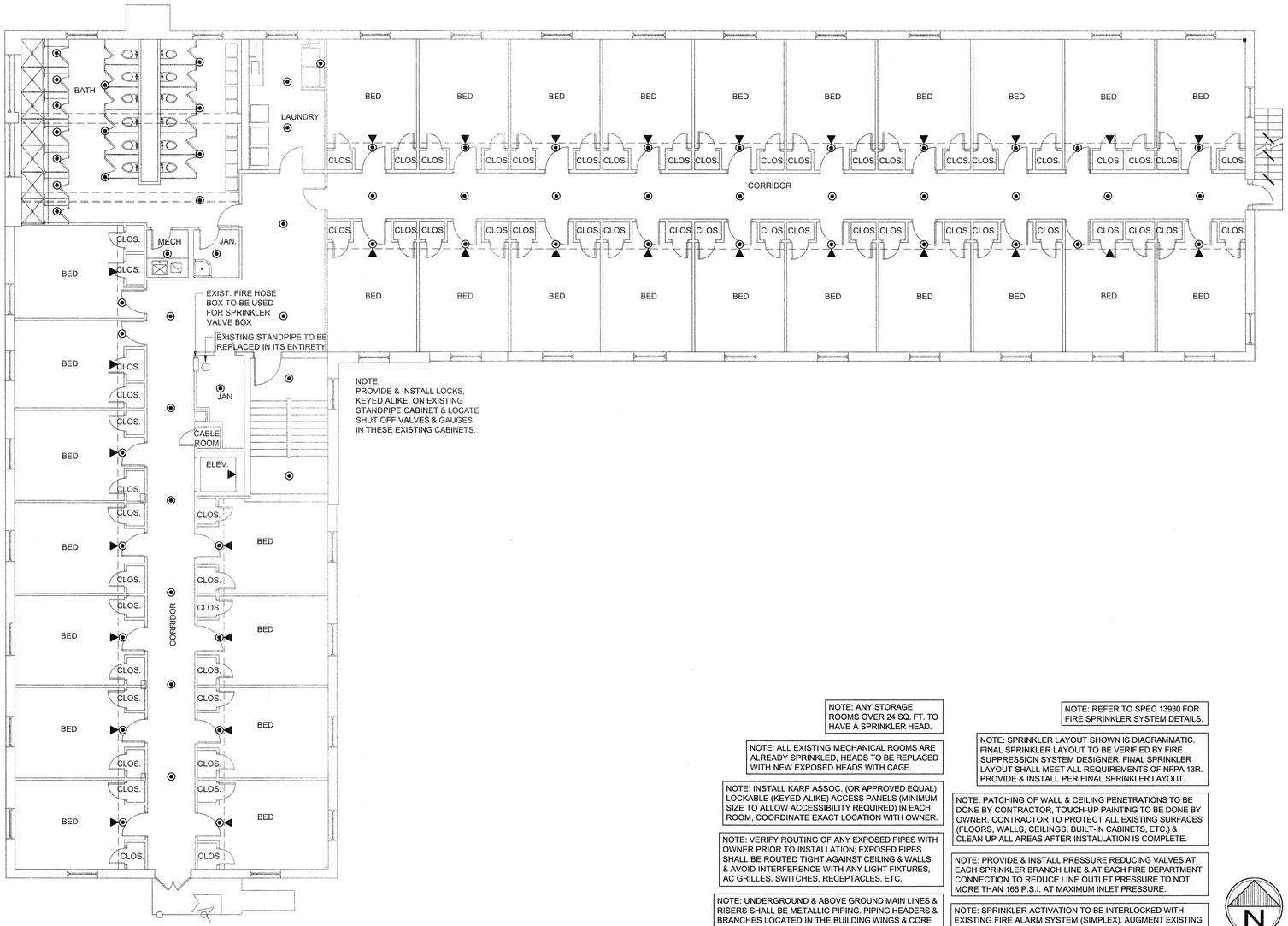
15



◉ PENDANT SPRINKLER FULLY CONCEALED
◀ SIDEWALL SPRINKLER FULLY CONCEALED
⊠ EXPOSED SPRINKLER WITH CAGE

FOURTH FLOOR SPRINKLER PLAN 1/8"=1'-0" | 13

◉ PENDANT SPRINKLER FULLY CONCEALED
◀ SIDEWALL SPRINKLER FULLY CONCEALED
⊠ EXPOSED SPRINKLER WITH CAGE



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N

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

THIRD FLOOR SPRINKLER PLAN 1/8"=1'-0" | 1

NO.	DATE	ISSUED FOR
	3-29-16	BID

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3-29-16

MAYS HALL FIRE PROTECTION SYSTEM
STEPHEN F. AUSTIN STATE COLLEGE
NACOGDOCHES, TX
SPRINKLER PLANS

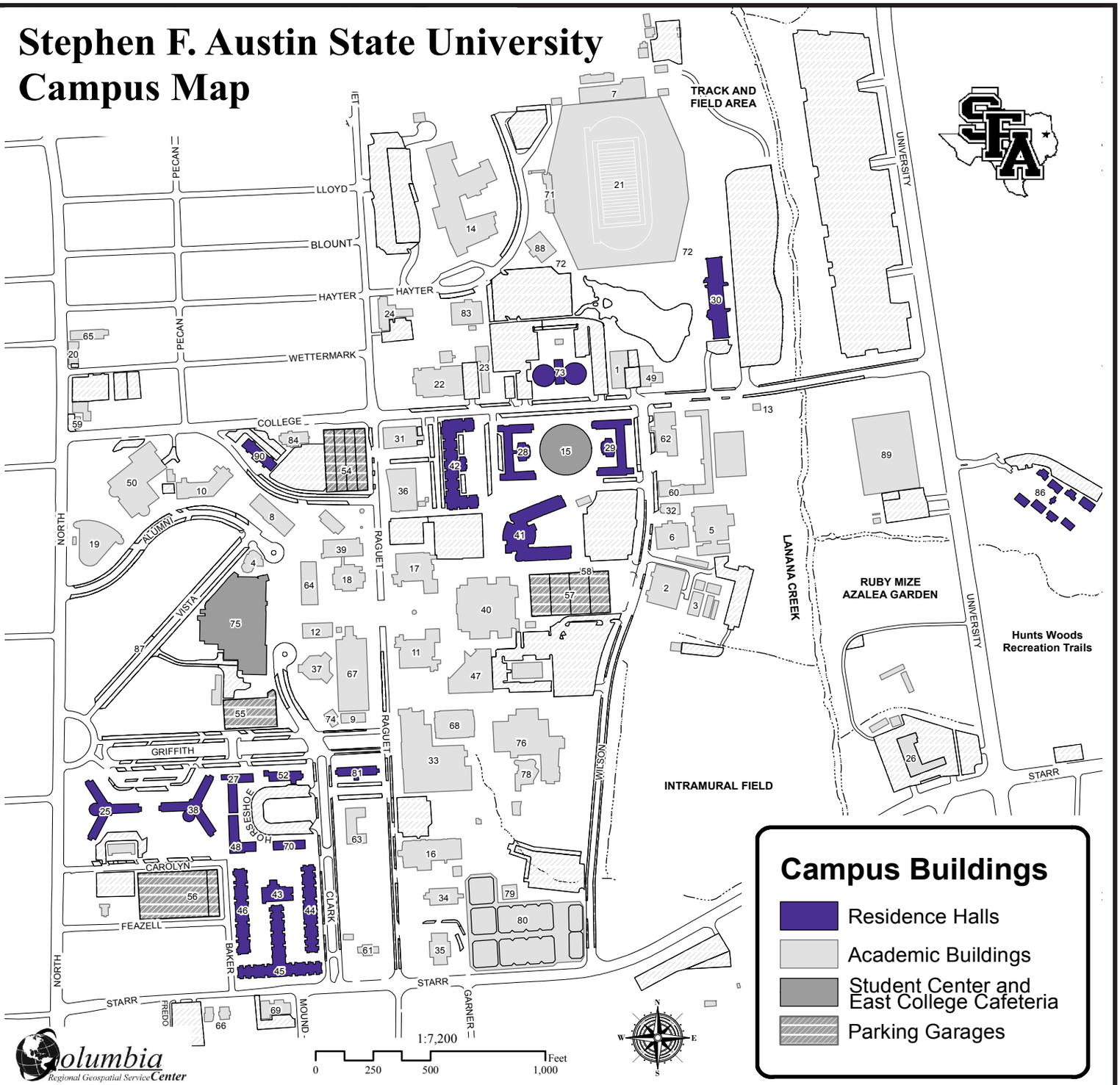
CONTRACT NO. 501108

SHEET NO.
M3

EXHIBIT B

CAMPUS MAP

Stephen F. Austin State University Campus Map



Campus Buildings

- Residence Halls
- Academic Buildings
- Student Center and East College Cafeteria
- Parking Garages

Columbia Regional Geospatial Service Center

1. AG SHOP AND SOILS LAB
2. AGRICULTURE BUILDING
3. AGRICULTURE GREENHOUSE
4. ALUMNI OFFICE (TRACIE D. PEARMAN)
5. ART BUILDING
6. ART STUDIO
7. ATHLETICS FIELD HOUSE / SPORTS MEDICINE
8. AUSTIN BUILDING (SFA ADMINISTRATION)
9. BIOLOGY GREENHOUSE
10. BOYNTON (PAUL L.)
11. BUSINESS BUILDING (R. E. MCGEE)
12. CHEMISTRY BUILDING
13. CHILDREN'S ARBORETUM SHELTER
14. EARLY CHILDHOOD RESEARCH CENTER (JANICE PATTILLO)
15. EAST COLLEGE CAFETERIA
16. EDUCATION ANNEX
17. EDUCATION BUILDING (MCKIBBEN)
18. FERGUSON LIBERAL ARTS BUILDING
19. FINE ARTS (L. E. GRIFFITH)
20. FINE ARTS (McKINNEY)
21. FOOTBALL STADIUM (HOMER BRYCE)
22. FORESTRY BUILDING (ARTHUR TEMPLE)
23. FORESTRY GREENHOUSE
24. FORESTRY LABORATORIES
25. GRIFFITH HALL
26. GROUNDS AND TRANSPORTATION
27. HALL 10
28. HALL 14
29. HALL 16
30. HALL 20
31. HEALTH SERVICES (STEPHEN B. TUCKER)
32. HOUSING OPERATIONS ANNEX
33. HPE (LUCILLE NORTON)
34. HUMAN SCIENCES BUILDING NORTH
35. HUMAN SCIENCES BUILDING SOUTH
36. HUMAN SERVICES
37. KENNEDY AUDITORIUM
38. KERR HALL
39. LIBERAL ARTS NORTH (VERA DUGAS)
40. LIBRARY (R.W. STEEN)
41. LUMBERJACK LANDING
42. LUMBERJACK LODGE
43. LUMBERJACK VILLAGE COMMUNITY BLDG
44. LUMBERJACK VILLAGE E
45. LUMBERJACK VILLAGE S
46. LUMBERJACK VILLAGE W
47. MATH BUILDING
48. MAYS HALL
49. MILITARY SCIENCE BUILDING
50. MUSIC BUILDING (WRIGHT)
52. NORTH HALL
54. PARKING GARAGE (AIKMAN DRIVE)
55. PARKING GARAGE (STUDENT CENTER)
56. PARKING GARAGE III
57. PARKING GARAGE IV
58. PERMITS AND CITATIONS
59. PHONE JACKS
60. PHYSICAL PLANT ADMINISTRATION
61. PRESIDENT'S HOME (JUANITA C. BOYNTON)
62. PURCHASING AND CENTRAL STORES
63. RESIDENCE LIFE OPERATIONS
64. RUSK (THOMAS J.) BUILDING
65. SCENE SHOP
66. SCHOOL OF ART FILM HOUSE
67. SCIENCE BUILDING (E.L. MILLER)
68. SHELTON GYM
69. SOCIAL WORK BUILDING
70. SOUTH HALL
71. STADIUM PRESS BOX
72. STADIUM TICKET BOOTH
73. STEEN HALL
74. STONE FORT
75. STUDENT CENTER (BAKER PATTILLO)
76. STUDENT RECREATION CENTER
78. SWIMMING POOL (OUTDOOR)
79. TENNIS COMPLEX (SCHLIEF)
80. TENNIS COURTS
81. TODD HALL
83. U.S. FOREST SERVICE
84. UNIVERSITY POLICE
86. UNIVERSITY WOODS
87. VISITOR INFORMATION CENTER
88. WELLNESS CENTER (JIMMY W. MURPHY)
89. WILLIAM R. JOHNSON COLISEUM
90. WISELY HALL

NOT SHOWN:

AG RESEARCH CENTER (WALTER TODD) - 13760 HWY 259
MUSIC PREP HOUSE - 3028 RAGUET ST.
NURSING BUILDING (DEWITT) - 5707 NORTH ST.
SAFETY OFFICE - 430 E. AUSTIN
SCIENCE RESEARCH CENTER - 7308 HWY 59 N.
STUDENT TECHNICAL SUPPORT - 514 E. AUSTIN ST.
THE ART CENTER @ THE OPERA HOUSE – 329 E. MAIN ST.
TUCKER HOUSE - 2900 RAGUET ST.

UPDATED SEPTEMBER 30, 2011

EXHIBIT C

HUB SUBCONTRACTING PLAN

HUB Subcontracting Plan (HSP)
QUICK CHECKLIST

While this HSP Quick Checklist is being provided to merely assist you in readily identifying the sections of the HSP form that you will need to complete, it is very important that you adhere to the instructions in the HSP form and instructions provided by the contracting agency.

➤ **If you will be awarding all of the subcontracting work you have to offer under the contract to only Texas certified HUB vendors, complete:**

- ☐ Section 1 - Respondent and Requisition Information
- ☐ Section 2 a. - Yes, I will be subcontracting portions of the contract.
- ☐ Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors.
- ☐ Section 2 c. - Yes
- ☐ Section 4 - Affirmation
- ☐ GFE Method A (Attachment A) - Complete an Attachment A for each of the subcontracting opportunities you listed in Section 2 b.

➤ **If you will be subcontracting any portion of the contract to Texas certified HUB vendors and Non-HUB vendors, and the aggregate percentage of all the subcontracting work you will be awarding to the Texas certified HUB vendors with which you do not have a *continuous contract** in place for more than five (5) years *meets or exceeds* the HUB Goal the contracting agency identified in the "Agency Special Instructions/Additional Requirements", complete:**

- ☐ Section 1 - Respondent and Requisition Information
- ☐ Section 2 a. - Yes, I will be subcontracting portions of the contract.
- ☐ Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors and Non-HUB vendors.
- ☐ Section 2 c. - No
- ☐ Section 2 d. - Yes
- ☐ Section 4 - Affirmation
- ☐ GFE Method A (Attachment A) - Complete an Attachment A for each of the subcontracting opportunities you listed in Section 2 b.

➤ **If you will be subcontracting any portion of the contract to Texas certified HUB vendors and Non-HUB vendors or only to Non-HUB vendors, and the aggregate percentage of all the subcontracting work you will be awarding to the Texas certified HUB vendors with which you do not have a *continuous contract** in place for more than five (5) years *does not meet or exceed* the HUB Goal the contracting agency identified in the "Agency Special Instructions/Additional Requirements", complete:**

- ☐ Section 1 - Respondent and Requisition Information
- ☐ Section 2 a. - Yes, I will be subcontracting portions of the contract.
- ☐ Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors and Non-HUB vendors.
- ☐ Section 2 c. - No
- ☐ Section 2 d. - No
- ☐ Section 4 - Affirmation
- ☐ GFE Method B (Attachment B) - Complete an Attachment B for each of the subcontracting opportunities you listed in Section 2 b.

➤ **If you will not be subcontracting any portion of the contract and will be fulfilling the entire contract with your own resources (i.e., employees, supplies, materials and/or equipment, including transportation and delivery, complete:**

- ☐ Section 1 - Respondent and Requisition Information
- ☐ Section 2 a. - No, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources.
- ☐ Section 3 - Self Performing Justification
- ☐ Section 4 - Affirmation

***Continuous Contract**: Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service, to include transportation and delivery under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.*

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HUB Subcontracting Plan (HSP)

In accordance with Texas Gov't Code §2161.252, the contracting agency has determined that subcontracting opportunities are probable under this contract. Therefore, all respondents, including State of Texas certified Historically Underutilized Businesses (HUBs) must complete and submit this State of Texas HUB Subcontracting Plan (HSP) with their response to the bid requisition (solicitation).

NOTE: Responses that do not include a completed HSP shall be rejected pursuant to Texas Gov't Code §2161.252(b).

The HUB Program promotes equal business opportunities for economically disadvantaged persons to contract with the State of Texas in accordance with the goals specified in the 2009 State of Texas Disparity Study. The statewide HUB goals defined in 34 Texas Administrative Code (TAC) §20.13 are:

- ***11.2 percent for heavy construction other than building contracts,***
- ***21.1 percent for all building construction, including general contractors and operative builders' contracts,***
- ***32.9 percent for all special trade construction contracts,***
- ***23.7 percent for professional services contracts,***
- ***26.0 percent for all other services contracts, and***
- ***21.1 percent for commodities contracts.***

- - Agency Special Instructions/Additional Requirements - -

In accordance with 34 TAC §20.14(d)(1)(D)(iii), a respondent (prime contractor) may demonstrate good faith effort to utilize Texas certified HUBs for its subcontracting opportunities if the total value of the respondent's subcontracts with Texas certified HUBs meets or exceeds the statewide HUB goal or the agency specific HUB goal, whichever is higher. When a respondent uses this method to demonstrate good faith effort, the respondent must identify the HUBs with which it will subcontract. If using existing contracts with Texas certified HUBs to satisfy this requirement, only the aggregate percentage of the contracts expected to be subcontracted to HUBs with which the respondent does not have a continuous contract in place for more than five (5) years shall qualify for meeting the HUB goal. This limitation is designed to encourage vendor rotation as recommended by the 2009 Texas Disparity Study.*

The HUB Subcontracting GOAL for this procurement is: 32.9% for Special trades.
Vendors are required to provide a minimum 7 working days notice to notice of subcontracting opportunities.

Failure to submit a HUB Subcontracting Plan will disqualify the entire response from consideration. The HUB Subcontracting Plan (HSP) will be evaluated independently of the response. If the HSP does not reflect a good faith effort to subcontract with HUBs, the entire response will be disqualified.

SECTION-1 RESPONDENT AND REQUISITION INFORMATION

a. Respondent (Company) Name: _____ State of Texas VID #: _____

Point of Contact: _____ Phone #: _____

E-mail Address: _____ Fax #: _____

b. Is your company a State of Texas certified HUB? ☐ **- Yes** ☐ **- No**

c. Requisition #: _____ Bid Open Date: _____ (mm/dd/yyyy)

Enter your company's name here: _____ Requisition #: _____

SECTION-2: RESPONDENT's SUBCONTRACTING INTENTIONS

After dividing the contract work into reasonable lots or portions to the extent consistent with prudent industry practices, and taking into consideration the scope of work to be performed under the proposed contract, including all potential subcontracting opportunities, the respondent must determine what portions of work, **including contracted staffing, goods, services, transportation and delivery will be subcontracted**. Note: In accordance with 34 TAC §20.11., a "Subcontractor" means a person who contracts with a prime contractor to work, to supply commodities, or to contribute toward completing work for a governmental entity.

a. Check the appropriate box (Yes or No) that identifies your subcontracting intentions:

☐ - *Yes*, I will be subcontracting portions of the contract. (If *Yes*, complete Item b of this SECTION and continue to Item c of this SECTION.)

☐ - *No*, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources, including employees, goods, services, transportation and delivery. (If *No*, continue to SECTION 3 and SECTION 4.)

b. List all the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

Item #	Subcontracting Opportunity Description	HUBs		Non-HUBs
		Percentage of the contract expected to be subcontracted to HUBs with which you do not have a continuous contract* in place for more than five (5) years.	**Percentage of the contract expected to be subcontracted to HUBs with which you have a continuous contract* in place for more than five (5) years.**	Percentage of the contract expected to be subcontracted to non-HUBs.
1		%	%	%
2		%	%	%
3		%	%	%
4		%	%	%
5		%	%	%
6		%	%	%
7		%	%	%
8		%	%	%
9		%	%	%
10		%	%	%
11		%	%	%
12		%	%	%
13		%	%	%
14		%	%	%
15		%	%	%
	Aggregate percentages of the contract expected to be subcontracted:	**%**	**%**	**%**

(Note: If you have more than fifteen subcontracting opportunities, a continuation sheet is available online at http://window.state.tx.us/procurement/prog/hub/hub-subcontracting-plan/).

c. Check the appropriate box (Yes or No) that indicates whether you will be using **only** Texas certified HUBs to perform **all** of the subcontracting opportunities you listed in SECTION 2, Item b.

☐ - *Yes* (If *Yes*, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed.)

☐ - *No* (If *No*, continue to Item d, of this SECTION.)

d. Check the appropriate box (Yes or No) that indicates whether the aggregate expected percentage of the contract you will subcontract **with Texas certified HUBs** with which you **do not** have a **continuous contract*** in place with for **more than five (5) years**, meets or exceeds the HUB goal the contracting agency identified on page 1 in the "**Agency Special Instructions/Additional Requirements**."

☐ - *Yes* (If *Yes*, continue to SECTION 4 **and** complete an "HSP Good Faith Effort - Method A (Attachment A)" for **each** of the subcontracting opportunities you listed.)

☐ - *No* (If *No*, continue to SECTION 4 **and** complete an "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed.)

***Continuous Contract**: Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service, to include transportation and delivery under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.*

Enter your company's name here: _____ Requisition #: _____

SECTION-2 RESPONDENT's SUBCONTRACTING INTENTIONS (CONTINUATION SHEET)

This page can be used as a continuation sheet to the HSP Form's page 2, Section 2, Item b. Continue listing the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

Item #	Subcontracting Opportunity Description	HUBs		Non-HUBs
		Percentage of the contract expected to be subcontracted to HUBs with which you do not have a continuous contract* in place for more than five (5) years.	**Percentage of the contract expected to be subcontracted to HUBs with which you have a continuous contract* in place for more than five (5) years.**	**Percentage of the contract expected to be subcontracted to non-HUBs.**
16		%	%	%
17		%	%	%
18		%	%	%
19		%	%	%
20		%	%	%
21		%	%	%
22		%	%	%
23		%	%	%
24		%	%	%
25		%	%	%
26		%	%	%
27		%	%	%
28		%	%	%
29		%	%	%
30		%	%	%
31		%	%	%
32		%	%	%
33		%	%	%
34		%	%	%
35		%	%	%
36		%	%	%
37		%	%	%
38		%	%	%
39		%	%	%
40		%	%	%
41		%	%	%
42		%	%	%
43		%	%	%
	Aggregate percentages of the contract expected to be subcontracted:	**%**	**%**	**%**

***Continuous Contract**: Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service, to include transportation and delivery under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.*

Enter your company's name here: _____ Requisition #: _____

SECTION-3 SELF PERFORMING JUSTIFICATION (If you responded "No" to SECTION 2, Item a, you must complete this SECTION and continue to SECTION 4.)

If you responded "No" to SECTION 2, Item a, in the space provided below explain how your company will perform the entire contract with its own employees, supplies, materials and/or equipment, to include transportation and delivery.

SECTION-4: AFFIRMATION

As evidenced by my signature below, I affirm that I am an authorized representative of the respondent listed in SECTION 1, and that the information and supporting documentation submitted with the HSP is true and correct. Respondent understands and agrees that, if awarded any portion of the requisition:

- The respondent will provide notice as soon as practical to all the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor for the awarded contract. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity they (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.
- The respondent must submit monthly compliance reports (Prime Contractor Progress Assessment Report – PAR) to the contracting agency, verifying its compliance with the HSP, including the use of and expenditures made to its subcontractors (HUBs and Non-HUBs). (The PAR is available at http://www.window.state.tx.us/procurement/prog/hub/hub-forms/progressassessmentrpt.xls).
- The respondent must seek approval from the contracting agency prior to making any modifications to its HSP, including the hiring of additional or different subcontractors and the termination of a subcontractor the respondent identified in its HSP. If the HSP is modified without the contracting agency's prior approval, respondent may be subject to any and all enforcement remedies available under the contract or otherwise available by law, up to and including debarment from all state contracting.
- The respondent must, upon request, allow the contracting agency to perform on-site reviews of the company's headquarters and/or work-site where services are being performed and must provide documentation regarding staffing and other resources.

Signature	Printed Name	Title	Date (mm/dd/yyyy)

Reminder:

- If you responded "Yes" to SECTION 2, Items c or d, you must complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.
- If you responded "No" SECTION 2, Items c and d, you must complete an "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.

HSP Good Faith Effort - Method A (Attachment A)

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Enter your company's name here: _____ Requisition #: _____

IMPORTANT: If you responded "*Yes*" to **SECTION 2, Items c** or **d** of the completed HSP form, you must submit a completed "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed in **SECTION 2, Item b** of the completed HSP form. You may photo-copy this page or download the form at http://window.state.tx.us/procurement/prog/hub/hub-forms/hub-sbcont-plan-gfe-achm-a.pdf

SECTION A-1: SUBCONTRACTING OPPORTUNITY

Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: _____ Description: _____

SECTION A-2: SUBCONTRACTOR SELECTION

List the subcontractor(s) you selected to perform the subcontracting opportunity you listed above in SECTION A-1. Also identify whether they are a Texas certified HUB and their Texas Vendor Identification (VID) Number or federal Employer Identification Number (EIN), the approximate dollar value of the work to be subcontracted, and the expected percentage of work to be subcontracted. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at http://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp. HUB status code "**A**" signifies that the company is a Texas certified HUB.

Company Name	Texas certified HUB	Texas VID or federal EIN Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.	Approximate Dollar Amount	Expected Percentage of Contract
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%

REMINDER: As specified in SECTION 4 of the completed HSP form, if you (respondent) are awarded any portion of the requisition, you are required to provide notice as soon as practical to all the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity they (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.

HSP Good Faith Effort - Method B (Attachment B)

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Enter your company's name here: _____ Requisition #: _____

IMPORTANT*:** If you responded "No***" to **SECTION 2, Items c** and **d** of the completed HSP form, you must submit a completed "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed in **SECTION 2, Item b** of the completed HSP form. You may photo-copy this page or download the form at http://window.state.tx.us/procurement/prog/hub/hub-forms/hub-sbcont-plan-gfe-achm-b.pdf.

SECTION B-1: SUBCONTRACTING OPPORTUNITY

Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: _____ Description: _____

SECTION B 2: MENTOR PROTÉGÉ PROGRAM

If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting its Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the subcontracting opportunity listed in **SECTION B-1**, constitutes a good faith effort to subcontract with a Texas certified HUB towards that specific portion of work.

Check the appropriate box (Yes or No) that indicates whether you will be subcontracting the portion of work you listed in SECTION B-1 to your Protégé.

☐ - Yes (If *Yes*, to continue to SECTION B-4.)

☐ - No / Not Applicable (If *No* or *Not Applicable*, continue to SECTION B-3 and SECTION B-4.)

SECTION B 3: NOTIFICATION OF SUBCONTRACTING OPPORTUNITY

When completing this section you MUST comply with items a, b, c and d, thereby demonstrating your Good Faith Effort of having notified Texas certified HUBs and trade organizations or development centers about the subcontracting opportunity you listed in SECTION B-1. Your notice should include the scope of work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person. When sending notice of your subcontracting opportunity, you are encouraged to use the attached HUB Subcontracting Opportunity Notice form, which is also available online at http://www.window.state.tx.us/procurement/prog/hub/hub-subcontracting-plan.

Retain supporting documentation (i.e., certified letter, fax, e-mail) demonstrating evidence of your good faith effort to notify the Texas certified HUBs and trade organizations or development centers. Also, be mindful that a working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.

a. Provide written notification of the subcontracting opportunity you listed in SECTION B-1, to three (3) or more Texas certified HUBs. Unless the contracting agency specified a different time period, you must allow the HUBs at least seven (7) working days to respond to the notice prior to your submitting your bid response to the contracting agency. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at http://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp. HUB status code "**A**" signifies that the company is a Texas certified HUB.

b. List the **three (3) Texas certified HUBs** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the company's Texas Vendor Identification (VID) Number, the date you sent notice to that company, and indicate whether it was responsive or non-responsive to your subcontracting opportunity notice.

Company Name	Texas VID (Do not enter Social Security Numbers.)	Date Notice Sent (mm/dd/yyyy)	Did the HUB Respond?
			☐ - Yes ☐ - No
			☐ - Yes ☐ - No
			☐ - Yes ☐ - No

c. Provide written notification of the subcontracting opportunity you listed in SECTION B-1 to two (2) or more trade organizations or development centers in Texas to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. Unless the contracting agency specified a different time period, you must provide your subcontracting opportunity notice to trade organizations or development centers at least seven (7) working days prior to submitting your bid response to the contracting agency. A list of trade organizations and development centers that have expressed an interest in receiving notices of subcontracting opportunities is available on the Statewide HUB Program's webpage at http://www.window.state.tx.us/procurement/prog/hub/mwb-links-1/.

d. List **two (2) trade organizations or development centers** you notified regarding the subcontracting opportunity you listed in SECTION B-1.Include the date when you sent notice to it and indicate if it accepted or rejected your notice.

Trade Organizations or Development Centers	Date Notice Sent (mm/dd/yyyy)	Was the Notice Accepted?
		☐ - Yes ☐ - No
		☐ - Yes ☐ - No

HSP Good Faith Effort - Method B (Attachment B) Cont.

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Enter your company's name here: _____ Requisition #: _____

SECTION B-4: SUBCONTRACTOR SELECTION

Enter the item number and description of the subcontracting opportunity you listed in **SECTION 2, Item b,** of the completed HSP form for which you are completing the attachment.

a. Enter the item number and description of the subcontracting opportunity for which you are completing this Attachment B continuation page.

Item Number: _____ Description: _____

b. List the subcontractor(s) you selected to perform the subcontracting opportunity you listed in **SECTION B-1**. Also identify whether they are a Texas certified HUB and their Texas Vendor Identification (VID) Number or federal Emplioyer Identification Number (EIN), the approximate dollar value of the work to be subcontracted, and the expected percentage of work to be subcontracted. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at http://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp. HUB status code "**A**" signifies that the company is a Texas certified HUB.

Company Name	Texas certified HUB	Texas VID or federal EIN Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.	Approximate Dollar Amount	Expected Percentage of Contract
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%
	☐ - Yes ☐ - No		$	%

c. If any of the subcontractors you have selected to perform the subcontracting opportunity you listed in **SECTION B-1** is **not** a Texas certified HUB, provide written justification for your selection process (attach additional page if necessary):

REMINDER: As specified in SECTION 4 of the completed HSP form, if you (respondent) are awarded any portion of the requisition, you are required to provide notice as soon as practical to **all** the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity it (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.

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HUB Subcontracting Opportunity Notification Form

In accordance with Texas Gov't Code, Chapter 2161, each state agency that considers entering into a contract with an expected value of $100,000 or more shall, before the agency solicits bids, proposals, offers, or other applicable expressions of interest, determine whether subcontracting opportunities are probable under the contract. The state agency I have identified below in Section B has determined that subcontracting opportunities are probable under the requisition to which my company will be responding.

34 Texas Administrative Code, §20.14 requires all respondents (prime contractors) bidding on the contract to provide notice of each of their subcontracting opportunities to at least three (3) Texas certified HUBs (who work within the respective industry applicable to the subcontracting opportunity), and allow the HUBs at least seven (7) working days to respond to the notice prior to the respondent submitting its bid response to the contracting agency. In addition, at least seven (7) working days prior to submitting its bid response to the contracting agency, the respondent must provide notice of each of its subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code, §20.11(19)(C).

We respectfully request that vendors interested in bidding on the subcontracting opportunity scope of work identified in Section C, Item 2, reply no later than the date and time identified in Section C, Item 1. Submit your response to the point-of-contact referenced in Section A.

SECTION: A PRIME CONTRACTOR'S INFORMATION

Company Name: _____ State of Texas VID #: _____

Point-of-Contact: _____ Phone #: _____

E-mail Address: _____ Fax #: _____

SECTION: B CONTRACTING STATE AGENCY AND REQUISITION INFORMATION

Agency Name: _____

Point-of-Contact: _____ Phone #: _____

Requisition #: _____ Bid Open Date: _____ (mm/dd/yyyy)

SECTION: C SUBCONTRACTING OPPORTUNITY RESPONSE DUE DATE, DESCRIPTION, REQUIREMENTS AND RELATED INFORMATION

1. Potential Subcontractor's Bid Response Due Date:

If you would like for our company to consider your company's bid for the subcontracting opportunity identified below in Item 2,

we must receive your bid response no later than _____ (Central Time) on _____ (Date (mm/dd/yyyy)).

In accordance with 34 TAC §20.14, each notice of subcontracting opportunity shall be provided to at least three (3) Texas certified HUBs, and allow the HUBs at least seven (7) working days to respond to the notice prior to submitting our bid response to the contracting agency. In addition, at least seven (7) working days prior to us submitting our bid response to the contracting agency, we must provide notice of each of our subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code, §20.11(19)(C).

(A working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.)

2. Subcontracting Opportunity Scope of Work:

3. Required Qualifications: ☐ - Not Applicable

4. Bonding/Insurance Requirements: ☐ - Not Applicable

5. Location to review plans/specifications: ☐ - Not Applicable

EASY HUB LOOKUP on the CMBL

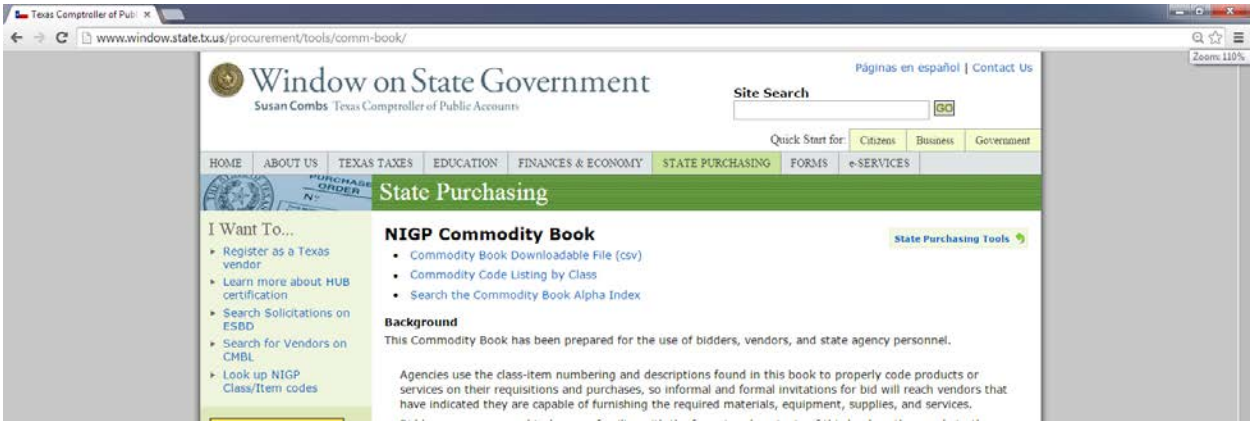
In accordance with Texas Administrative Code 20.14, the following HUB lookup procedures have been developed utilizing the Comptroller of Public Accounts website to identify possible HUB Vendors for subcontracting opportunities.

To that end the following easy step by step instructions to identify NIGP codes and search for potential HUB subcontractors is provided by Stephen F. Austin State University. In addition, the University may have already completed searches that may be beneficial and include a list of potential HUB subcontractors that may be used by the Respondent. If you have a hard time reading the webpages cited, increase the page view to 200% or better.

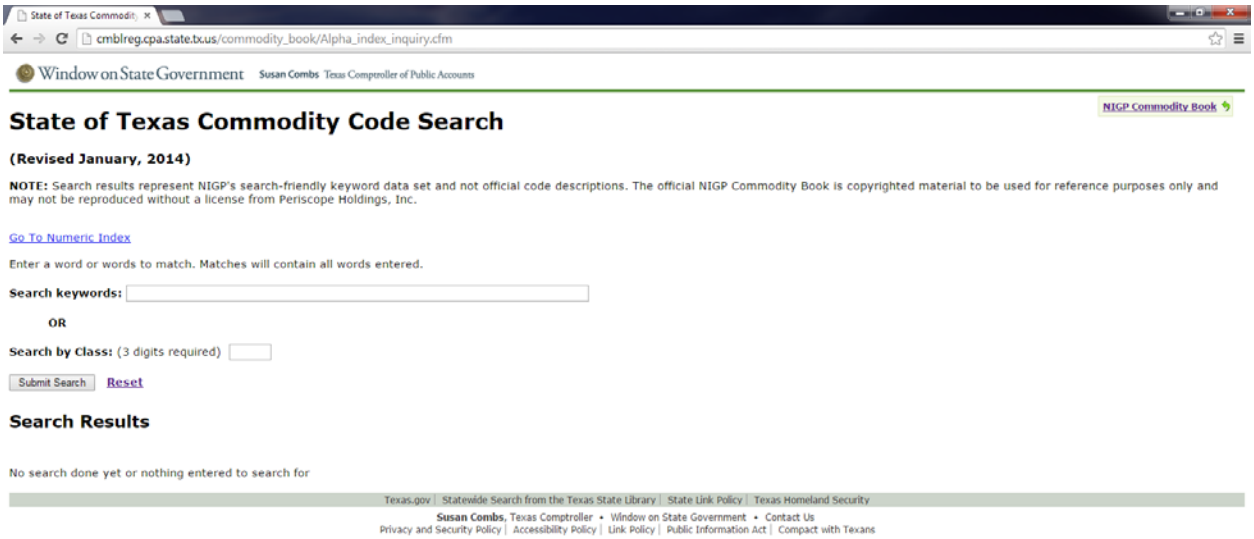
For assistance with this instruction or further assistance in identifying potential HUB subcontractors, please contact Manny Guerrero, Vendor Relations Manager at 936-468-4529.

STEP 1: After identifying what areas that are going to be subcontracted for the project go to the following web address at Window on State Government:

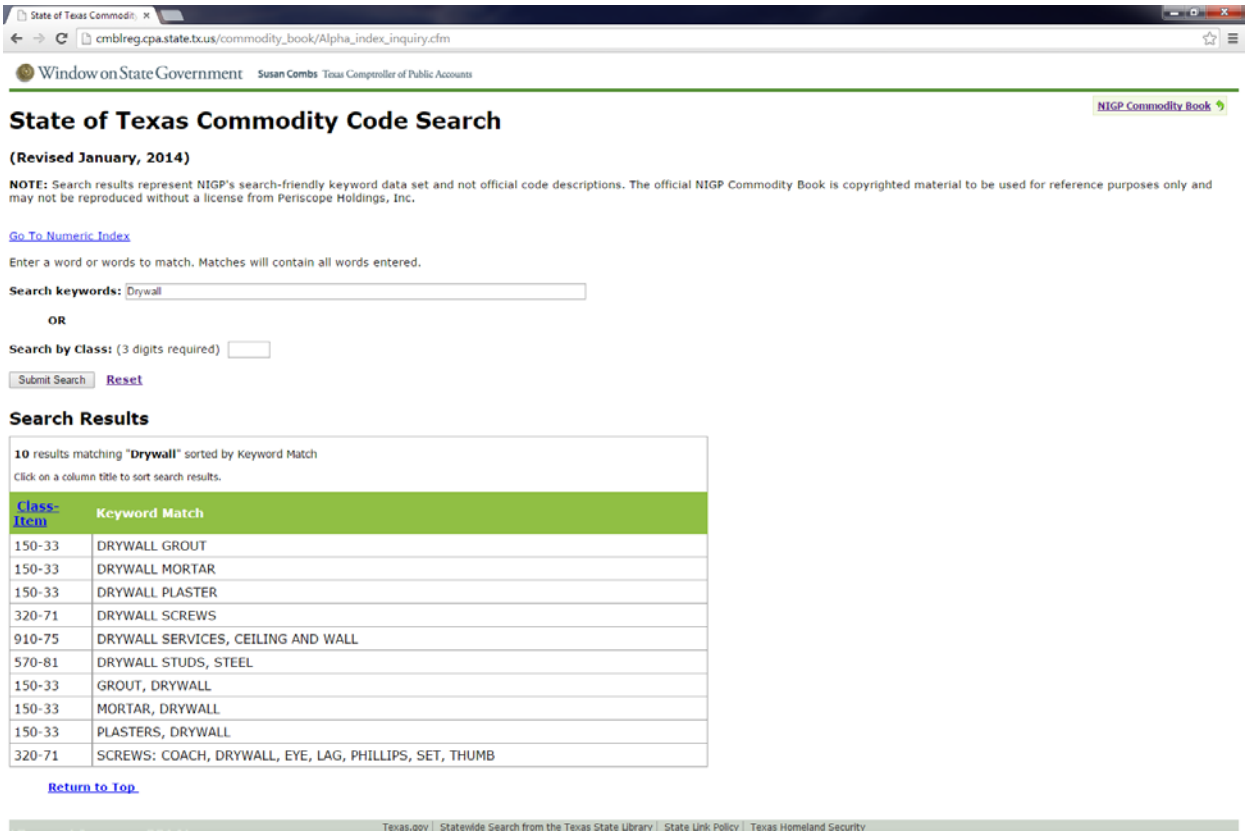
http://www.window.state.tx.us/procurement/tools/comm-book/



Under NIGP Commodity Book double click Search the Commodity Book Alpha Index. The following page will display:



Type in the item you are looking for in Search keywords: (for this example we are looking for drywall services)



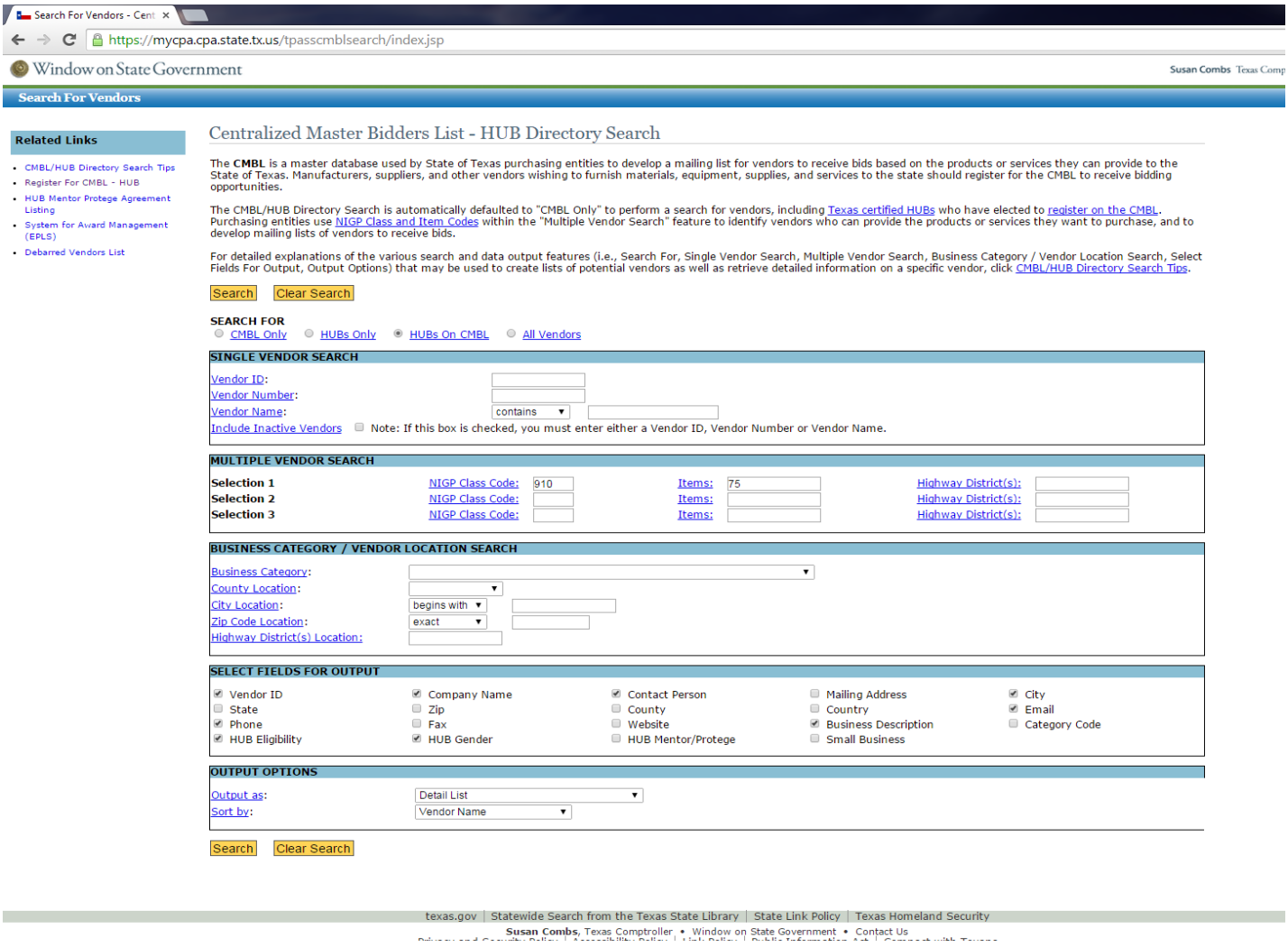
The page will list Keyword Match for drywall. In this example the Class-Item for Drywall Services, Ceiling and Wall is 910-75. You can do the same for other items that you will be subcontracting. Remember to write down the Class and Item numbers. Once you have completed collecting all Class and Item numbers you can precede to Step 2.

STEP 2: With the Class and Item numbers you can search for HUB Vendors on the Centralized Master Bidders List – HUB Directory Search. Go to the following web address at Window on State Government:

https://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp

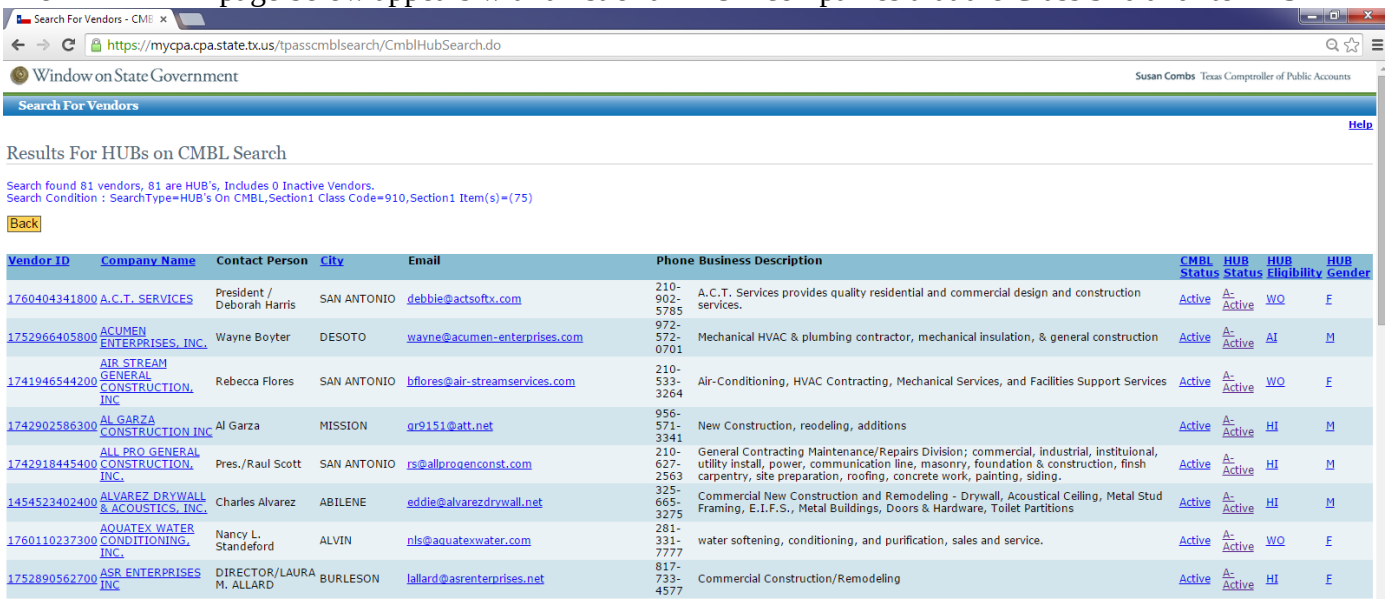
The EXAMPLE below is how the form should be filled out. Search for HUBs on CMBL; Selection 1: Class-Item; Select Fields For Output (Vendor ID, Company Name, Contact Person, City, Email, Phone, Business Description, HUB Eligibility, HUB Gender)

For the example below we are searching for NIGP Class Code 910, Items 75.



Once all the information has been entered – CLICK Search.

The EXAMPLE page below appears with a list of all HUB companies that are Class 910 and Item 75



Search For Vendors - CMB

https://mycpa.cpa.state.tx.us/tpasscmblsearch/CmblHubSearch.do

Window on State Government — Susan Combs Texas Comptroller of Public Accounts

Search For Vendors

Help

Results For HUBs on CMBL Search

Search found 81 vendors, 81 are HUB's, Includes 0 Inactive Vendors.
Search Condition : SearchType=HUB's On CMBL,Section1 Class Code=910,Section1 Item(s)=(75)

Back

Vendor ID	Company Name	Contact Person	City	Email	Phone	Business Description	CMBL Status	HUB Status	HUB Eligibility	HUB Gender
1760404341800	A.C.T. SERVICES	President / Deborah Harris	SAN ANTONIO	debbie@actsoftx.com	210-902-5785	A.C.T. Services provides quality residential and commercial design and construction services.	Active	A-Active	WO	F
1752966405800	ACUMEN ENTERPRISES, INC.	Wayne Boyter	DESOTO	wayne@acumen-enterprises.com	972-572-0701	Mechanical HVAC & plumbing contractor, mechanical insulation, & general construction	Active	A-Active	AI	M
1741946544200	AIR STREAM GENERAL CONSTRUCTION, INC	Rebecca Flores	SAN ANTONIO	bflores@air-streamservices.com	210-533-3264	Air-Conditioning, HVAC Contracting, Mechanical Services, and Facilities Support Services	Active	A-Active	WO	F
1742902586300	AL GARZA CONSTRUCTION INC	Al Garza	MISSION	gr9151@att.net	956-571-3341	New Construction, reodeling, additions	Active	A-Active	HI	M
1742918445400	ALL PRO GENERAL CONSTRUCTION, INC.	Pres./Raul Scott	SAN ANTONIO	rs@allprogenconst.com	210-627-2563	General Contracting Maintenance/Repairs Division; commercial, industrial, institutional, utility install, power, communication line, masonry, foundation & construction, finsh carpentry, site preparation, roofing, concrete work, painting, siding.	Active	A-Active	HI	M
1454523402400	ALVAREZ DRYWALL & ACOUSTICS, INC.	Charles Alvarez	ABILENE	eddie@alvarezdrywall.net	325-665-3275	Commercial New Construction and Remodeling - Drywall, Acoustical Ceiling, Metal Stud Framing, E.I.F.S., Metal Buildings, Doors & Hardware, Toilet Partitions	Active	A-Active	HI	M
1760110237300	AQUATEX WATER CONDITIONING, INC.	Nancy L. Standeford	ALVIN	nls@aquatexwater.com	281-331-7777	water softening, conditioning, and purification, sales and service.	Active	A-Active	WO	F
1752890562700	ASR ENTERPRISES INC	DIRECTOR/LAURA M. ALLARD	BURLESON	lallard@asrenterprises.net	817-733-4577	Commercial Construction/Remodeling	Active	A-Active	HI	F

For this EXAMPLE there are 81 HUB Vendors that have listed Class Code 910 Item 75 and say that they can provide the service.

YOU ARE REQUIRED TO SELECT THREE (3) HUB VENDORS TO CONTACT.

When looking for HUB Vendors to support you at SFA look for these vendors that are close to Nacogdoches and east Texas. If none can be found in our area, expand your search to the Dallas/Fort Worth area, Austin and Houston market areas.

NOTES:

1) SELECTING HUBS THAT ARE EL PASO, AND FAR WEST TEXAS DOES NOT SHOW GOOD FAITH IN YOUR SELECTION PROCESS.
2) IF YOU DO NOT UNDERSTAND THESE DIRECTIONS OR NEED ASSITANCE PLEASE CONTACT THE SFA PROCUREMENT OFFICE FOR HELP.

POTENTIAL HUB SUBCONTRACTORS PROVIDED WITH

Invitation to Bid: #FIRE-PROTECT-2016
Issued by Stephen F. Austin State University
Closing Date/Time: April 19, 2016 3:00pm

This list of potential HUB subcontractors is provided for information only and SFA does not endorse, recommend, nor attest to the capabilities of any company or individual listed. A complete list of State certified HUBs can be searched on-line at https://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp

The Respondent is responsible for compliance with the Good Faith Effort requirements outlined in the Invitation to Bid and HUB Subcontracting Plan documents.

NIGP Class Code – vendors in the following commodity class codes are identified on the following pages. The vendor is responsible to identify all commodity classes that may represent subcontracting opportunities.

912-20 – Construction, Fire Protection

936-33 – Fire Protection Equipment and Systems Including Fire Hydrants, Fire Sprinkler Systems

ARBER, INC.	Pres./ROBERT M. LOZANO	1716 S SAN MARCOS STE 120	SAN ANTONIO	TX	78207-7050	corporate@arberinc.com	210-736-6200	Arber's will diligently protect the intellectual and physical assets with the use of security and fire alarms, CCTV, access control, integrated systems and Commissioned and Non-Commissioned Security Officers.	Active	HI	M
INTEGRA FIRE PROTECTION, LLC	James Auden	10850 SWITZER AVE SUITE 105	DALLAS	TX	75238	james@integrafireprotection.com	214-613-2146	Installation & Service of fire protection sprinkler systems	Active	HI	M
3 C ELECTRIC, LLC	Wacey Hoyle	7859 BREEZEWOOD DR	IOLA	TX	77861-3936	hoyle3celectric@yahoo.com	979-676-1885	Electrical contracting for residential, commercial, and industrial.	Active	WO	F
A-ALARM FIRE & SECURITY SYSTEMS	CATHY RESTIVO	PO BOX 7654	WACO	TX	76714-7654	cathy.restivo@a1firesec.com	800-456-8787	Sales and Service of Fire Alarm Systems, Burglar Alarm Systems, Camera - Surveilance Systems, Cat-5 & Cat-6 Cabling Systems, Fire Extinguishers, Access Control Card Systems, and Fire Sprinkler System.	Active	WO	F
ADVANCED SECURITY CONTRACTORS INC	VIRGINIA ROBINSON	135 RIO WEST DRIVE	EL PASO	TX	79932	virginia@ascsecure.com	915-845-0272	Installs, maintains and services the following: Burglar alarms, fire alarms, closed circuit television, access control. Bosch, Vicon, Hirsch-Identive, GE Security, SAY, i3Int'l,IQinvision certified	Active	HI	F
AMIGO SERVICES, INC.	President - Sylvia A. Villanueva	5916 WISDOM CREEK	DALLAS	TX	75249-2822	amigoservices@sbcglobal.net	972-979-0280	INSPECTION, INSTALLATION, SERVICE AND REPAIR OF FIRE SPRINKLERS, FIRE ALARMS, FIRE PUMPS, AND BACKFLOW PREVENTERS. INSPECTION OF FIRE EXTINGUISHERS.	Active	HI	F
AUDIO-VIDEO I CORP.	Pamela E Beckham	P.O. BOX 8	AMARILLO	TX	79105-0008	pbeckham@audio-videocorp.com	806-379-7700	Electronic Equipment & Services	Active	WO	F
LOST PINES OFFICE SERVICES	Debra S Hyatt	122 HOUSTON CT	PAIGE	TX	78659-5056	lostpinesofficeservices@gmail.com	512-497-3379	Provide administrative consulting, bookkeeping and sales of fire protection materials	Active	WO	F
STEPHENS FIRE PROTECTION GROUP LLC	ALLISON STEPHENS	409 N CEDAR RIDGE CIR	ROBINSON	TX	76706-5685	allison.stephens@stephensfpgroup.com	254-235-0942	Installation/Servicing/Maintenance/Inspection of Fire Protection Systems, which includes fire extinguishers,fixed fire suppression systems (Commercial kitchen hood suppression sys.)Exit lights,commercial kitchen hood filters, fire alarms, etc.	Active	WO	F
TOTAL PROTECTION SYSTEMS INC	LINDA L DONNELL	PO BOX 270837	CORPUS CHRISTI	TX	78427-0837	bids@totalprotection.com	361-289-2788	Design, sell, install, maintain and service integrated systems	Active	WO	F
VANGUARD FIRE SYSTEMS, L.P.	MM of GP/Cynthia Richter	2340 PATTERSON INDUSTRIAL DR	PFLUGERVILLE	TX	78660-8303	cindy@vgfire.com	512-989-1600	Design, Install, repair & maintain fire sprinklers,alarm and security systems.	Active	WO	F
A-ALARM FIRE & SECURITY SYSTEMS	CATHY RESTIVO	PO BOX 7654	WACO	TX	76714-7654	cathy.restivo@a1firesec.com	800-456-8787	Sales and Service of Fire Alarm Systems, Burglar Alarm Systems, Camera - Surveilance Systems, Cat-5 & Cat-6 Cabling Systems, Fire Extinguishers, Access Control Card Systems, and Fire Sprinkler System.	Active	WO	F

EXHIBIT D

UNIFORM GENERAL CONDITIONS and SUPPLEMENTARY GENERAL CONDITIONS

2010
Uniform General Conditions

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Article 1. Definitions

Unless the context clearly requires another meaning, the following terms have the meaning assigned herein.

1.1 *Application for Payment* means Contractor's monthly partial invoice for payment that includes any portion of the Work that has been completed for which an invoice has not been submitted and performed in accordance with the requirements of the Contract Documents. The Application for Payment accurately reflects the progress of the Work, is itemized based on the Schedule of Values, bears the notarized signature of Contractor, and shall not include subcontracted items for which Contractor does not intend to pay.

1.2 *Application for Final Payment* means Contractor's final invoice for payment that includes any portion of the Work that has been completed for which an invoice has not been submitted, amounts owing to adjustments to the final Contract Sum resulting from approved change orders, and release of remaining Contractor's retainage.

1.3 *Architect/Engineer (A/E)* means a person registered as an architect pursuant to Tex. Occ. Code Ann., Chapter 1051, as a landscape architect pursuant to Tex. Occ. Code Ann., Chapter 1052, a person licensed as a professional engineer pursuant Tex. Occ. Code Ann., Chapter 1001, and/or a firm employed by Owner or Design-Build Contractor to provide professional architectural or engineering services and to exercise overall responsibility for the design of a Project or a significant portion thereof, and to perform the contract administration responsibilities set forth in the Contract.

1.4 *Baseline Schedule* means the initial time schedule prepared by Contractor for Owner's information and acceptance that conveys Contractor's and Subcontractors" activities (including coordination and review activities required in the Contract Documents to be performed by A/E and ODR), durations, and sequence of work related to the entire Project to the extent required by the Contract Documents. The schedule clearly demonstrates the critical path of activities, durations and necessary predecessor conditions that drive the end date of the schedule. The Baseline Schedule shall not exceed the time limit current under the Contract Documents.

1.5 *Certificate of Final Completion* means the certificate issued by A/E that documents, to the best of A/E"s knowledge and understanding, Contractor's completion of all Contractor's Punchlist items and pre-final Punchlist items, final cleanup and Contractor's provision of Record Documents, operations and maintenance manuals, and all other closeout documents required by the Contract Documents.

1.6 *Change Order* means a written modification of the Contract between Owner and Contractor, signed by Owner, Contractor and A/E.

1.7 *Close-out Documents* mean the product brochures, submittals, product/equipment maintenance and operations instructions, manuals, and other documents/warranties, record documents, affidavit of payment, release of lien and claim, and as may be further defined, identified, and required by the Contract Documents.

1.8 *Contract* means the entire agreement between Owner and Contractor, including all of the Contract Documents.

1.9 *Contract Date* is the date when the agreement between Owner and Contractor becomes effective.

1.10 *Contract Documents* mean those documents identified as a component of the agreement (Contract) between Owner and Contractor. These may include, but are not limited to, Drawings; Specifications; General, Supplementary General, and Special Conditions; and all pre-bid and/or pre-proposal addenda.

1.11 *Contract Sum* means the total compensation payable to Contractor for completion of the Work in accordance with the terms of the Contract.

1.12 *Contract Time* means the period between the start date identified in the Notice to Proceed with construction and the Substantial Completion date identified in the Notice to Proceed or as subsequently amended by a Change Order.

1.13 *Contractor* means the individual, corporation, limited liability company, partnership, firm, or other entity contracted to perform the Work, regardless of the type of construction contract used, so that the term as used herein includes a Construction Manager-at-Risk or a Design-Build firm as well as a general or prime Contractor. The Contract Documents refer to Contractor as if singular in number.

1.14 *Construction Documents* mean the Drawings, Specifications, and other documents issued to build the Project. Construction Documents become part of the Contract Documents when listed in the Contract or any Change Order.

1.15 *Construction Manager-at-Risk*, in accordance with Tex. Gov't Code, Chapter 2166, means a sole proprietorship, partnership, corporation, or other legal entity that assumes the risk for construction, rehabilitation, alteration, or repair of a facility at the contracted price as a general contractor and provides consultation to Owner regarding construction during and after the design of the facility.

1.16 *Date of Commencement means* the date designated in the Notice to Proceed for Contractor to commence the Work.

1.17 *Day* means a calendar day unless otherwise specifically stipulated.

1.18 *Design-Build* means a project delivery method in which the detailed design and subsequent construction is provided through a single contract with a Design-Build firm; a team, partnership, or legal entity that includes design professionals and a builder. The Design-Build Project delivery shall be implemented in accordance with Tex. Gov't Code § 2166.2531.

1.19 *Drawings* mean that product of A/E which graphically depicts the Work.

1.20 *Final Completion* means the date determined and certified by A/E and Owner on which the Work is fully and satisfactorily complete in accordance with the Contract.

1.21 *Final Payment* means the last and final monetary compensation made to Contractor for any portion of the Work that has been completed and accepted for which payment has not been made, amounts owing to adjustments to the final Contract Sum resulting from approved change orders, and release of Contractor's retainage.

1.22 *Historically Underutilized Business (HUB)* pursuant to Tex. Gov't Code, Chapter 2161, means a business that is at least 51% owned by an Asian Pacific American, a Black American, a Hispanic American, a Native American and/or an American Woman; is an entity with its principal place of business in Texas; and has an owner residing in Texas with proportionate interest that actively participates in the control, operations, and management of the entity's affairs.

1.23 *Notice to Proceed* means written document informing Contractor of the dates beginning Work and the dates anticipated for Substantial Completion.

1.24 *Open Item List* means a list of work activities, Punchlist items, changes or other issues that are not expected by Owner and Contractor to be complete prior to Substantial Completion.

1.25 *Owner* means the State of Texas, and any agency of the State of Texas, acting through the responsible entity of the State of Texas identified in the Contract as Owner.

1.26 *Owner's Designated Representative (ODR)* means the individual assigned by Owner to act on its behalf and to undertake certain activities as specifically outlined in the Contract. ODR is the only party authorized to direct changes to the scope, cost, or time of the Contract.

1.27 *Project* means all activities necessary for realization of the Work. This includes design, contract award(s), execution of the Work itself, and fulfillment of all Contract and warranty obligations.

1.28 *Progress Assessment Report (PAR)* means the monthly compliance report to Owner verifying compliance with the HUB subcontracting plan (HSP).

1.29 *Proposed Change Order (PCO)* means a document that informs Contractor of a proposed change in the Work and appropriately describes or otherwise documents such change including Contractor's response of pricing for the proposed change.

1.30 *Punchlist* means a list of items of Work to be completed or corrected by Contractor after Substantial Completion. Punchlists indicate items to be finished, remaining Work to be performed, or Work that does not meet quality or quantity requirements as required in the Contract Documents.

1.31 *Record Documents* mean the drawing set, Specifications, and other materials maintained by Contractor that documents all addenda, Architect's Supplemental Instructions, Change Orders and postings and markings that record the as-constructed conditions of the Work and all changes made during construction.

1.32 *Request for Information (RFI)* means a written request by Contractor directed to A/E or ODR for a clarification of the information provided in the Contract Documents or for direction concerning information necessary to perform the Work that may be omitted from the Contract Documents.

1.33 *Samples* mean representative physical examples of materials, equipment, or workmanship used to confirm compliance with requirements and/or to establish standards for use in execution of the Work.

1.34 *Schedule of Values* means the detailed breakdown of the cost of the materials, labor, and equipment necessary to accomplish the Work as described in the Contract Documents, submitted by Contractor for approval by Owner and A/E.

1.35 *Shop Drawings* mean the drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data prepared by Contractor or its agents which detail a portion of the Work.

1.36 *Site* means the geographical area of the location of the Work.

1.37 *Special Conditions* mean the documents containing terms and conditions which may be unique to the Project. Special Conditions are a part of the Contract Documents and have precedence over the Uniform General Conditions and Supplementary General Conditions.

1.38 *Specifications* mean the written product of A/E that establishes the quality and/or performance of products utilized in the Work and processes to be used, including testing and verification for producing the Work.

1.39 *Subcontractor* means a business entity that enters into an agreement with Contractor to perform part of the Work or to provide services, materials, or equipment for use in the Work.

1.40 *Submittal Register* means a list provided by Contractor of all items to be furnished for review and approval by A/E and Owner and as identified in the Contract Documents including anticipated sequence and submittal dates.

1.41 *Substantial Completion* means the date determined and certified by Contractor, A/E, and Owner when the Work, or a designated portion thereof, is sufficiently complete, in accordance with the Contract, so as to be operational and fit for the use intended.

1.42 *Supplementary General Conditions* mean procedures and requirements that modify the Uniform General Conditions. Supplementary General Conditions, when used, have precedence over the Uniform General Conditions.

1.43 *Unit Price Work* means the Work, or a portion of the Work, paid for based on incremental units of measurement.

1.44 *Unilateral Change Order (ULCO)* means a Change Order issued by Owner without the complete agreement of Contractor, as to cost and/or time.

1.45 *Work* means the administration, procurement, materials, equipment, construction and all services necessary for Contractor, and/or its agents, to fulfill Contractor's obligations under the Contract.

1.46 *Work Progress Schedule* means the continually updated time schedule prepared and monitored by Contractor that accurately indicates all necessary appropriate revisions as required by the conditions of the Work and the Project while maintaining a concise comparison to the Baseline Schedule.

Article 2. Wage Rates and Other Laws Governing Construction

2.1 Environmental Regulations. Contractor shall conduct activities in compliance with applicable laws and regulations and other requirements of the Contract relating to the environment and its protection at all times. Unless otherwise specifically determined, Owner is responsible for obtaining and maintaining permits related to stormwater run-off. Contractor shall conduct operations consistent with stormwater run-off permit conditions. Contractor is responsible for all items it brings to the Site, including hazardous materials, and all such items brought to the Site by its Subcontractors and suppliers, or by other entities subject to direction of Contractor. Contractor shall not incorporate hazardous materials into the Work without prior approval of Owner, and shall provide an affidavit attesting to such in association with request for Substantial Completion inspection.

2.2 Wage Rates. Contractor shall not pay less than the wage scale of the various classes of labor as shown on the prevailing wage schedule provided by Owner in the bid or proposal specifications. The specified wage rates are minimum rates only. Owner is not bound to pay any claims for additional compensation made by any Contractor because the Contractor pays wages in excess of the applicable minimum rate contained in the Contract. The prevailing wage schedule is not a representation that qualified labor adequate to perform the Work is available locally at the prevailing wage rates.

2.2.1 Notification to Workers. Contractor shall post the prevailing wage schedule in a place conspicuous to all workers on the Project Site and shall notify each worker, in writing, of the following as they commence work on the Contract: the worker's job classification, the established minimum wage rate requirement for that classification, as well as the worker's actual wage. The notice must be delivered to and signed in acknowledgement of receipt by the worker and must list both the wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by Owner, Contractor shall furnish evidence of compliance with the Texas Prevailing Wage Law and the addresses of all workers.

2.2.1.1 Contractor shall submit a copy of each worker's wage-rate notification to ODR with the application for progress payment for the period during which the worker was engaged in activities on behalf of the Project.

2.2.1.2 The prevailing wage schedule is determined by Owner in compliance with Tex. Gov't Code, Chapter 2258. Should Contractor at any time become aware that a particular skill or trade not reflected on Owner's prevailing wage schedule will be or is being employed in the Work, whether by Contractor or by Subcontractor, Contractor shall promptly inform ODR of the proposed wage to be paid for the skill along with a justification for same and ODR shall promptly concur with or reject the proposed wage and classification.

Contractor is responsible for determining the most appropriate wage for a particular skill in relation to similar skills or trades identified on the prevailing wage schedule. In no case, shall any worker be paid less than the wage indicated for laborers.

2.2.2 Penalty for Violation. Contractor, and any Subcontractor, will pay to the State a penalty of sixty dollars ($60) for each worker employed for each day, or portion thereof, that the worker is paid less than the wage rates stipulated in the prevailing wage schedule.

2.2.3 Complaints of Violations.

2.2.3.1 Owner's Determination of Good Cause. Upon receipt of information concerning a violation, Owner will conduct an investigation in accordance with Tex. Gov't Code, Chapter 2258 and make an initial determination as to whether good cause exists that a violation occurred. Upon making a good cause finding, Owner will retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the prevailing wage schedule and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

2.2.3.2 No Extension of Time. If Owner's determination proves valid that good cause existed to believe a violation had occurred, Contractor is not entitled to an extension of time for any delay arising directly or indirectly from the arbitration procedures.

2.3 Venue for Suits. The venue for any suit arising from the Contract will be in a court of competent jurisdiction in Travis County, Texas, or as may otherwise be designated in the Supplementary General Conditions.

2.4 Licensing of Trades. Contractor shall comply with all applicable provisions of State law related to license requirements for skilled tradesmen, contractors, suppliers and or laborers, as necessary to accomplish the Work. In the event Contractor, or one of its Subcontractors, loses its license during the term of performance of the Contract, Contractor shall promptly hire or contract with a licensed provider of the service at no additional cost to Owner.

2.5 Royalties, Patents, and Copyrights. Contractor shall pay all royalties and license fees, defend suits or claims for infringement of copyrights and patent rights, and shall hold Owner harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by Owner or A/E. However, if Contractor has reason to believe that the required design, process, or product is an infringement of a copyright or a patent,

Contractor shall be responsible for such loss unless such information is promptly furnished to A/E.

2.6 State Sales and Use Taxes. Owner qualifies for exemption from certain State and local sales and use taxes pursuant to the provisions of Tex. Tax Code, Chapter 151. Upon request from Contractor, Owner shall furnish evidence of tax exempt status. Contractor may claim exemption from payment of certain applicable State taxes by complying with such procedures as prescribed by the State Comptroller of Public Accounts. Owner acknowledges not all items qualify for exemption. Owner is not obligated to reimburse Contractor for taxes paid on items that qualify for tax exemption.

Article 3. General Responsibilities of Owner and Contractor

3.1 Owner's General Responsibilities. Owner is the entity identified as such in the Contract and referred to throughout the Contract Documents as if singular in number.

3.1.1 Preconstruction Conference. Prior to, or concurrent with, the issuance of Notice to Proceed with construction, a conference will be convened for attendance by Owner, Contractor, A/E and appropriate Subcontractors. The purpose of the conference is to establish a working understanding among the parties as to the Work, the operational conditions at the Project Site, and general administration of the Project. Topics include communications, schedules, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, maintaining required records and all other matters of importance to the administration of the Project and effective communications between the Project team members.

3.1.2 Owner's Designated Representative. Prior to the start of construction, Owner will identify Owner's Designated Representative (ODR), who has the express authority to act and bind Owner to the extent and for the purposes described in the various Articles of the Contract, including responsibilities for general administration of the Contract.

3.1.2.1 Unless otherwise specifically defined elsewhere in the Contract Documents, ODR is the single point of contact between Owner and Contractor. Notice to ODR, unless otherwise noted, constitutes notice to Owner under the Contract.

3.1.2.2 All directives on behalf of Owner will be conveyed to Contractor and A/E by ODR in writing.

3.1.2.3 Owner will furnish or cause to be furnished, free of charge, the number of complete sets of the Drawings, Specifications, and addenda as provided in the Supplementary General Conditions or Special Conditions.

3.1.3 Owner Supplied Materials and Information.

3.1.3.1 Owner will furnish to Contractor those surveys describing the physical characteristics, legal description, limitations of the Site, Site utility locations, and other information used in the preparation of the Contract Documents.

3.1.3.2 Owner will provide information, equipment, or services under Owner's control to Contractor with reasonable promptness.

3.1.4 Availability of Lands. Owner will furnish, as indicated in the Contract, all required rights to use the lands upon which the Work occurs. This includes rights-of-way and easements for access and such other lands that are designated for use by Contractor. Contractor shall comply with all Owner identified encumbrances or restrictions specifically related to use of lands so furnished. Owner will obtain and pay for easements for permanent structures or permanent changes in existing facilities, unless otherwise required in the Contract Documents.

3.1.5 Limitation on Owner's Duties.

3.1.5.1 Owner will not supervise, direct, control or have authority over or be responsible for Contractor's means, methods, technologies, sequences or procedures of construction or the safety precautions and programs incident thereto. Owner is not responsible for any failure of Contractor to comply with laws and regulations applicable to the Work. Owner is not responsible for the failure of Contractor to perform or furnish the Work in accordance with the Contract Documents. Except as provided in Section 2.5, Owner is not responsible for the acts or omissions of Contractor, or any of its Subcontractors, suppliers or of any other person or organization performing or furnishing any of the Work on behalf of Contractor.

3.1.5.2 Owner will not take any action in contravention of a design decision made by A/E in preparation of the Contract Documents, when such actions are in conflict with statutes under which A/E is licensed for the protection of the public health and safety.

3.2 Role of Architect/Engineer. Unless specified otherwise in the Contract between Owner and Contractor, A/E shall provide general administration services for Owner during the construction phase of the project. Written correspondence, requests for information, and Shop Drawings/submittals shall be directed to A/E for action. A/E has the authority to act on behalf of Owner to the extent provided in the Contract Documents, unless otherwise modified by written instrument, which will be furnished to Contractor by ODR, upon request.

3.2.1 Site Visits.

3.2.1.1 A/E will make visits to the Site at intervals as provided in the A/E‟s Contract with Owner, to observe the progress and the quality of the various aspects of Contractor's executed Work and report findings to Owner.

3.2.1.2 A/E has the authority to interpret Contract Documents and inspect the Work for compliance and conformance with the Contract. Except as referenced in Paragraph 3.1.5.2, Owner retains the sole authority to accept or reject Work and issue direction for correction, removal, or replacement of Work.

3.2.2 Clarifications and Interpretations. It may be determined that clarifications or interpretations of the Contract Documents are necessary. Upon direction by ODR, such clarifications or interpretations will be provided by A/E consistent with the intent of the Contract Documents. A/E will issue these clarifications with reasonable promptness to Contractor as A/E‟s supplemental instruction ("ASI") or similar instrument. If Contractor believes that such clarification or interpretation justifies an adjustment in the Contract Sum or the Contract Time, Contractor shall so notify Owner in accordance with the provisions of Article 11.

3.2.3 Limitations on Architect/Engineer Authority. A/E is not responsible for:

3.2.3.1 Contractor's means, methods, techniques, sequences, procedures, safety, or programs incident to the Project, nor will A/E supervise, direct, control or have authority over the same;

3.2.3.2The failure of Contractor to comply with laws and regulations applicable to the furnishing or performing the Work;

3.2.3.3 Contractor's failure to perform or furnish the Work in accordance with the Contract Documents; or

3.2.3.4 Acts or omissions of Contractor, or of any other person or organization performing or furnishing any of the Work.

3.3 Contractor's General Responsibilities. Contractor is solely responsible for implementing the Work in full compliance with all applicable laws and the Contract Documents and shall supervise and direct the Work using the best skill and attention to assure that each element of the Work conforms to the Contract requirements. Contractor is solely responsible for all construction means, methods, techniques, safety, sequences, coordination and procedures.

3.3.1 Project Administration. Contractor shall provide Project administration for all Subcontractors, vendors, suppliers, and others involved in implementing the Work and shall coordinate administration efforts with those of A/E and ODR in accordance with these general conditions and other provisions of the Contract, and as outlined in the pre-construction conference.

3.3.2 Contractor's Management Personnel. Contractor shall employ a competent person or persons who will be present at the Project Site during the progress of the Work to supervise or oversee the work. The competent persons are subject to the approval of ODR. Contractor shall not change approved staff during the course of the project without the written approval of ODR unless the staff member leaves the employment of Contractor. Contractor shall provide additional quality control, safety and other staff as stated in the Supplementary General Conditions.

3.3.3 Labor. Contractor shall provide competent, suitably qualified personnel to survey, lay-out, and construct the Work as required by the Contract Documents and maintain good discipline and order at the Site at all times.

3.3.4 Services, Materials, and Equipment. Unless otherwise specified, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities, incidentals, and services necessary for the construction, performance, testing, start-up, inspection and completion of the Work.

3.3.5 Contractor General Responsibility. For Owner furnished equipment or material that will be in the care, custody, and control of Contractor, Contractor is responsible for damage or loss.

3.3.6 Non-Compliant Work. Should A/E and/or ODR identify Work as non-compliant with the Contract Documents, A/E and/or ODR shall communicate the finding to Contractor, and Contractor shall correct such Work at no additional cost to the Owner. The approval of Work by either A/E or ODR does not relieve Contractor from the obligation to comply with all requirements of the Contract Documents.

3.3.7 Subcontractors. Contractor shall not employ any Subcontractor, supplier or other person or organization, whether initially or as a substitute, against whom Owner shall have reasonable objection. Owner will communicate such objections in writing within ten (10) days of receipt of Contractor's intent to use such Subcontractor, supplier, or other person or organization. Contractor is not required to employ any Subcontractor, supplier or other person or organization to furnish any of the work to whom Contractor has reasonable objection. Contractor shall not substitute Subcontractors without the acceptance of Owner.

3.3.7.1 All Subcontracts and supply contracts shall be consistent with and bind the Subcontractors and suppliers to the terms and conditions of the Contract Documents including provisions of the Contract between Contractor and Owner.

3.3.7.2 Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with Contractor. Require all Subcontractors, suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with Owner only through Contractor. Contractor shall furnish to Owner a copy, at Owner's request, of each first-tier subcontract promptly after its execution. Contractor agrees that Owner has no obligation to review or approve the content of such contracts and that providing Owner such copies in no way relieves Contractor of any of the terms and conditions of the Contract, including, without limitation, any provisions of the Contract which require the Subcontractor to be bound to Contractor in the same manner in which Contractor is bound to Owner.

3.3.8 Continuing the Work. Contractor shall carry on the Work and adhere to the progress schedule during all disputes, disagreements, or alternative resolution processes with Owner. Contractor shall not delay or postpone any Work because of pending unresolved disputes, disagreements or alternative resolution processes, except as Owner and Contractor may agree in writing.

3.3.9 Cleaning. Contractor shall at all times, keep the Site and the Work clean and free from accumulation of waste materials or rubbish caused by the construction activities under the Contract. Contractor shall ensure that the entire Project is thoroughly cleaned prior to requesting Substantial Completion inspection and, again, upon completion of the Project prior to the final inspection.

3.3.10 Acts and Omissions of Contractor, its Subcontractors and Employees. Contractor shall be responsible for acts and omissions of his employees and all its Subcontractors, their agents and employees. Owner may, in writing, require Contractor to remove from the Project any of Contractor's or its Subcontractor's employees whom ODR finds to be careless, incompetent, unsafe, uncooperative, disruptive, or otherwise objectionable.

3.3.11 Indemnification of Owner. **Contractor covenants and agrees to FULLY INDEMNIFY and HOLD HARMLESS, Owner and the elected and appointed officials, employees, officers, directors, volunteers, and representatives of Owner, individually or collectively, from and against any and all costs, claims, liens, damages, losses, expenses, fees, fines, penalties, proceedings, actions, demands, causes of action, liability and suits of any kind and nature, including but not limited to, personal or bodily injury, death or property damage, made upon Owner directly or indirectly arising out of, resulting from or related to Contractor's activities under this Contract, including any acts or omissions of Contractor, or any agent, officer, director, representative, employee,**

consultant or the Subcontractor of Contractor, and their respective officers, agents, employees, directors and representatives while in the exercise of performance of the rights or duties under this Contract. The indemnity provided for in this paragraph does not apply to any liability resulting from the negligence of the Owner, its officers or employees, separate contractors or assigned contractors, in instances where such negligence causes personal injury, death or property damage. IN THE EVENT CONTRACTOR AND OWNER ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY WILL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, WITHOUT WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE STATE UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.

3.3.11.1 The provisions of this indemnification are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

3.3.11.2 Contractor shall promptly advise Owner in writing of any claim or demand against Owner or against Contractor which involves Owner and known to Contractor and related to or arising out of Contractor's activities under this Contract.

3.3.12 Ancillary Areas. Operate and maintain operations and associated storage areas at the site of the Work in accordance with the following:

3.3.12.1 Confine all Contractor operations, including storage of materials and employee parking upon the Site of Work, to areas designated by Owner.

3.3.12.2 Contractor may erect, at its own expense, temporary buildings that will remain its property. Remove such buildings and associated utility service lines upon completion of the Work, unless Contractor requests and Owner provides written consent that it may abandon such buildings and utilities in place.

3.3.12.3 Use only established roadways or construct and use such temporary roadways as may be authorized by Owner. Do not allow load limits of vehicles to exceed the limits prescribed by appropriate regulations or law. Provide protection to road surfaces, curbs, sidewalks, trees, shrubbery, sprinkler systems, drainage structures and other like existing improvements to prevent damage and repair any damage thereto at the expense of Contractor.

3.3.12.4 Owner may restrict Contractor's entry to the Site to specifically assigned entrances and routes.

3.3.13 Separate Contracts. Owner reserves the right to award other contracts in connection with other portions of the Project under these same or substantially similar contract conditions, including those portions related to insurance and waiver of subrogation. Owner reserves the right to perform operations related to the Project with Owner's own forces.

3.3.14 Under a system of separate contracts, the conditions described herein continue to apply except as may be amended by change order.

3.3.15 Contractor shall cooperate with other contractors or forces employed on the Project by Owner, including providing access to Site and Project information as requested.

3.3.16 Owner shall be reimbursed by Contractor for costs incurred by Owner which are payable to a separate contractor because of delays, improperly timed activities, or defective construction by Contractor. Owner will equitably adjust the Contract by Change Order for costs incurred by Contractor because of delays, improperly timed activities, damage to the Work or defective construction by a separate contractor.

Article 4. Historically Underutilized Business (HUB) Subcontracting Plan

4.1 General Description. The purpose of the Historically Underutilized Business (HUB) program is to promote equal business opportunities for economically disadvantaged persons (as defined by Tex. Gov't Code, Chapter 2161) to contract with the State of Texas in accordance with the goals specified in the State of Texas Disparity Study. The HUB program annual procurement utilization goals are defined in 34 T.A.C. §20.13(b).

4.1.1 State agencies are required by statute to make a good faith effort to assist HUBs in participating in contract awards issued by the State. 34 T.A.C. §20.13(b) outlines the State's policy to encourage the utilization of HUBs in State contracting opportunities through race, ethnic and gender neutral means.

4.1.2 A Contractor who contracts with the State in an amount of $100,000 or greater is required to make a good faith effort to award subcontracts to HUBs in accordance with 34 T.A.C. § 20.14(a)(2)(A) by submitting a HUB subcontracting plan within twenty-four (24) hours after the bid or response is due and complying with the HUB subcontracting plan after it is accepted by Owner and during the term of the Contract.

4.2 Compliance with Approved HUB Subcontracting Plan. Contractor, having been awarded this Contract in part by complying with the HUB program statute and rules, hereby covenants to continue to comply with the HUB program as follows:

4.2.1 Prior to adding or substituting a Subcontractor, promptly notify Owner in the event a change is required for any reason to the accepted HUB subcontracting plan.

4.2.2 Conduct the good-faith effort activities required and provide Owner with necessary documentation to justify approval of a change to the approved HUB subcontracting plan.

4.2.3 Cooperate in the execution of a Change Order or such other approval of the change in the HUB subcontracting plans as Contractor and Owner may agree to.

4.2.4 Maintain and make available to Owner upon request business records documenting compliance with the accepted HUB subcontracting plan.

4.2.5 Upon receipt of payment for performance of Work, submit to Owner a compliance report, in the format required by Owner that demonstrates Contractor's performance of the HUB subcontracting plan.

4.2.5.1 Progress Assessment Report (PAR): monthly compliance reports to Owner (contracting agency), verifying their compliance with the HUB subcontracting plan, including the use/expenditures they have made to Subcontractors. (The PAR is available at **http://www.window.state.tx.us/procurement/prog/hub/hub-forms/progressassessmentrpt.xls**).

4.2.6 Promptly and accurately explain and provide supplemental information to Owner to assist in Owner's investigation of Contractor's good-faith effort to fulfill the HUB subcontracting plan and the requirements under 34 T.A.C. § 20.14(a)(1).

4.3 Failure to Demonstrate Good-Faith Effort. Upon a determination by Owner that Contractor has failed to demonstrate a good-faith effort to fulfill the HUB subcontracting plan or any Contract covenant detailed above, Owner may, in addition to all other remedies available to it, report the failure to perform to the Comptroller of Public Accounts, Texas Procurement and Support Services Division, Historically Underutilized Business Program and may bar Contractor from future contracting opportunities with Owner.

Article 5. Bonds and Insurance

5.1 Construction Bonds. Contractor is required to tender to Owner, prior to commencing the Work, performance and payment bonds, as required by Tex. Gov't Code, Chapter 2253. On Construction Manager-at-Risk and Design-Build Projects the Owner shall require a security bond, as described in Subsection 5.1.2 below.

5.1.1 Bond Requirements. Each bond shall be executed by a corporate surety or sureties authorized to do business in the State of Texas and acceptable to Owner, on Owner's form, and in compliance with the relevant provisions of the Texas Insurance Code. If any bond is for more than ten (10) percent of the surety's capital and surplus, Owner may require certification that the company has reinsured the excess portion with one or more reinsurers authorized to do business in the State. A reinsurer may not reinsure for more than ten (10) percent of its capital and surplus. If a surety upon a bond loses its authority to do business in the State, Contractor shall, within thirty (30) days after such loss, furnish a replacement bond at no added cost to Owner.

5.1.1.1 A Performance bond is required if the Contract Sum is in excess of $100,000. The performance bond is solely for the protection of Owner. The performance bond is to be for the Contract Sum to guarantee the faithful performance of the Work in accordance with the Contract Documents. The form of the bond shall be approved by the Office of the Attorney General of Texas. The performance bond shall be effective through Contractor's warranty period.

5.1.1.2 A Payment bond is required if the Contract price is in excess of $25,000. The payment bond is to be for the Contract Sum and is payable to Owner solely for the protection and use of payment bond beneficiaries. The form of the bond shall be approved by the Office of the Attorney General of Texas.

5.1.2 Security Bond. The security bond provides protection to Owner if Contractor presents an acceptable guaranteed maximum price ("GMP") to Owner and 1) fails to execute the GMP; or 2) fails to deliver the required payment and performance bonds within the time period stated below.

5.1.3 When Bonds Are Due

5.1.3.1 Security bonds are due within ten (10) days of signing a Construction Manager-at-Risk or Design-Build Contract.

5.1.3.2 Payment and performance bonds are due within ten (10) days of Contractor's receipt of a fully executed GMP on a Construction Manager-at-Risk project or the Contract Sum for a Design-Build

project, or within ten (10) days of Contractor's receipt of a fully executed Contract on competitively bid or competitive sealed proposal projects.

5.1.4 Power of Attorney. Each bond shall be accompanied by a valid power of attorney (issued by the surety company and attached, signed and sealed with the corporate embossed seal, to the bond) authorizing the attorney-in-fact who signs the bond to commit the company to the terms of the bond, and stating any limit in the amount for which the attorney can issue a single bond.

5.1.5 Bond Indemnification. The process of requiring and accepting bonds and making claims there under shall be conducted in compliance with Tex. Gov't Code, Chapter 2253. IF FOR ANY REASON A STATUTORY PAYMENT OR PERFORMANCE BOND IS NOT HONORED BY THE SURETY, CONTRACTOR SHALL FULLY INDEMNIFY AND HOLD OWNER HARMLESS OF AND FROM ANY COSTS, LOSSES, OBLIGATIONS OR LIABILITIES IT INCURS AS A RESULT.

5.1.6 Furnishing Bond Information. Owner shall furnish certified copies of the payment bond and the related Contract to any qualified person seeking copies who complies with Tex. Gov't Code § 2253.026.

5.1.7 Claims on Payment Bonds. Claims on payment bonds must be sent directly to Contractor and his surety in accordance with Tex. Gov't Code § 2253.041. All payment bond claimants are cautioned that no lien exists on the funds unpaid to Contractor on such Contract, and that reliance on notices sent to Owner may result in loss of their rights against Contractor and/or his surety. Owner is not responsible in any manner to a claimant for collection of unpaid bills, and accepts no such responsibility because of any representation by any agent or employee.

5.1.8 Payment Claims when Payment Bond not required. The rights of Subcontractors regarding payment are governed by Tex. Prop. Code §§ 53.231 – 53.239 when the value of the Contract between Owner and Contractor is less than $25,000.00. These provisions set out the requirements for filing a valid lien on funds unpaid to Contractor as of the time of filing the claim, actions necessary to release the lien and satisfaction of such claim.

5.1.9 Sureties. A surety shall be listed on the US Department of the Treasury's Listing of Approved Sureties maintained by the Bureau of Financial Management Service (FMS), www.fms.treas.gov/c570, stating companies holding Certificates of Authority as acceptable sureties on Federal bonds and acceptable reinsuring companies (FMS Circular 570).

5.2 Insurance Requirements. Contractor shall carry insurance in the types and amounts indicated in this Article for the duration of the Contract. The insurance shall be evidenced by delivery to Owner of certificates of insurance executed by the insurer or its authorized agent stating coverages, limits, expiration dates and compliance with all applicable required provisions. Upon request, Owner, and/or its agents, shall be entitled to receive without expense, copies of the policies and all endorsements. Contractor shall update all expired policies prior to submission for monthly payment. Failure to update policies shall be reason for withholding of payment until renewal is provided to Owner.

5.2.1 Contractor shall provide and maintain all insurance coverage with the minimum amounts described below until the end of the warranty period unless otherwise stated in Supplementary General Conditions or Special Conditions. Failure to maintain insurance coverage, as required, is grounds for suspension of Work for cause pursuant to Article 14.

5.2.2 Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A.M. Best Company or similar rating company or otherwise acceptable to Owner.

5.2.2.1 Insurance Coverage Required.

5.2.2.1.1 Workers" Compensation. Insurance with limits as required by the Texas Workers" Compensation Act, with the policy endorsed to provide a waiver of subrogation as to Owner, employer's liability insurance of not less than:

$100,000 each accident;

$100,000 disease each employee ; and

$500,000 disease policy limit.

5.2.2.1.2 Commercial General Liability Insurance. Including premises, operations, independent contractors liability, products and completed operations and contractual liability, covering, but not limited to, the liability assumed under the indemnification provisions of this Contract, fully insuring Contractor's liability for bodily injury (including death) and property damage with a minimum limit of:

$1,000,000 per occurrence;

$2,000,000 general aggregate;

$2,000,000 products and completed operations aggregate; and

Coverage shall be on an "occurrence" basis.

The policy shall include coverage extended to apply to completed operations and explosion, collapse, and underground hazards. The policy shall include endorsement CG2503 Amendment of Aggregate Limits of Insurance (per Project) or its equivalent.

If the Work involves any activities within fifty (50) feet of any railroad, railroad protective insurance as may be required by the affected railroad, written for not less than the limits required by such railroad.

5.2.2.1.3 Asbestos Abatement Liability Insurance, including coverage for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos containing materials. *This requirement applies if the Work or the Project includes asbestos containing materials.

The combined single limit for bodily injury and property damage will be a minimum of $1,000,000 per occurrence.

*Specific requirement for claims-made form: Required period of coverage will be determined by the following formula: continuous coverage for life of the Contract, plus one (1) year (to provide coverage for the warranty period), and an extended discovery period for a minimum of five (5) years which shall begin at the end of the warranty period.

Employer's liability limits for asbestos abatement will be:

$500,000 each accident;

$500,000 disease each employee; and

$500,000 disease policy limit.

If this Contract is for asbestos abatement only, the all-risk builder's risk or all-risk installation floater (e) is not required.

5.2.2.1.4 Comprehensive Automobile Liability Insurance, covering owned, hired, and non-owned vehicles, with a minimum combined single limit for bodily injury (including death) and property damage of $1,000,000 per occurrence. No aggregate shall be permitted for this type of coverage.

Such insurance is to include coverage for loading and unloading hazards.

5.2.2.1.5 All-Risk Builder's Risk Insurance, if applicable (or all-risk installation floater for instances in which the project involves solely the installation of material and/or equipment). Coverage shall be all-risk, including, but not limited to, fire, extended coverage, vandalism and malicious mischief, theft and, if applicable, flood, earth movement and named storm. Builder's risk and installation floater limits shall be equal to 100 percent of the Contract Sum plus, if any, existing property and Owner-furnished equipment specified by Owner. The policy shall be written jointly in the names of Owner and Contractor. Subcontractors shall be named as additional insureds. The policy shall have endorsements as follows:

5.2.2.1.5.1 This insurance shall be specific as to coverage and not contributing insurance with any permanent insurance maintained on the property.

5.2.2.1.5.2 This insurance shall not contain an occupancy clause suspending or reducing coverage should Owner partially occupy the Site and before the parties have determined Substantial Completion.

5.2.2.1.5.3 Loss, if any, shall be adjusted with and made payable to Owner as trustee for the insureds as their interests may appear. Owner shall be named as loss payee.

5.2.2.1.5.4 For renovation projects or projects that involve portions of Work contained within an existing structure, refer to Supplementary General and Special Conditions for possible additional builder's risk insurance requirements.

5.2.2.1.5.5 For Owner furnished equipment or materials that will be in care, custody or control of Contractor, Contractor will be responsible for damage and loss.

5.2.2.1.5.6 For those properties located within a Tier 1 or 2 windstorm area, named storm coverage must be provided with limits specified by Owner.

5.2.2.1.5.7 For those properties located in flood prone areas, flood insurance coverage must be provided with limits specified by Owner.

5.2.2.1.5.8 Builder's risk insurance policy shall remain in effect until Substantial Completion.

5.2.2.1.6 "Umbrella" Liability Insurance. Contractor shall obtain, pay for and maintain umbrella liability insurance during the Contract term, insuring Contractor for an amount of not less than amount specified in the Supplementary General Conditions or Special Conditions that provides coverage at least as broad as and applies in excess and follows form of the primary liability coverages required hereinabove. The policy shall provide "drop down" coverage where underlying primary insurance coverage limits are insufficient or exhausted.

5.2.3 Policies must include the following clauses, as applicable:

5.2.3.1 This insurance shall not be canceled, materially changed, or non-renewed except after thirty (30) days written notice has been given to Owner.

5.2.3.2 It is agreed that Contractor's insurance shall be deemed primary with respect to any insurance or self insurance carried by Owner for liability arising out of operations under the Contract with Owner.

5.2.3.3 Owner, its officials, directors, employees, representatives, and volunteers are added as additional insureds as respects operations and activities of, or on behalf of the named insured performed under Contract with Owner. The additional insured status must cover completed operations as well. This is not applicable to workers" compensation policies.

5.2.3.4 A waiver of subrogation in favor of Owner shall be provided in all policies.

5.2.4 Without limiting any of the other obligations or liabilities of Contractor, Contractor shall require each Subcontractor performing work under the Contract, at Subcontractor's own expense, to maintain during the term of the Contract, the same stipulated minimum insurance including the required provisions and additional policy conditions as shown above. As an alternative, Contractor may include its Subcontractors as additional insureds on its own coverage as prescribed under these requirements. Contractor's certificate of insurance shall note in such event that Subcontractors are included as additional insureds and that Contractor agrees to provide workers" compensation for Subcontractors and their employees. Contractor shall obtain and monitor the certificates of insurance from each Subcontractor in order to assure compliance with the insurance requirements. Contractor must retain the certificates of insurance for the duration of the Contract plus five (5) years and shall have the responsibility of enforcing these insurance requirements among its Subcontractors. Owner shall be entitled, upon request and without expense, to receive copies of these certificates.

5.2.5 Workers" compensation insurance coverage must meet the statutory requirements of Tex. Lab. Code § 401.011(44) and specific to construction projects for public entities as required by Tex. Lab. Code § 406.096.

Article 6. Construction Documents, Coordination Documents, and Record Documents

6.1 Drawings and Specifications.

6.1.1 Copies Furnished. Contractor will be furnished, free of charge, the number of complete sets of the Drawings, Specifications, and Addenda as provided in the Supplementary General Conditions or Special Conditions. Additional complete sets of Drawings and Specifications, if requested, will be furnished at reproduction cost to the one requesting such additional sets. Electronic copies of such documents will be provided to Contractor without charge.

6.1.2 Ownership of Drawings and Specifications. All Drawings, Specifications and copies thereof furnished by A/E are to remain A/E‟s property. These documents are not to be used on any other project, and with the exception of the Contract record set and electronic versions needed for warranty operations, are to be returned to the A/E, upon request, following completion of the Work.

6.1.3 Interrelation of Documents. The Contract Documents as referenced in the Contract between Owner and Contractor are complimentary, and what is required by one shall be as binding as if required by all.

6.1.4 Resolution of Conflicts in Documents. Where conflicts may exist within the Contract Documents, the documents shall govern in the following order: (a) Change Orders, addenda, and written amendments to the Contract; (b) the Contract; (c) Drawings; (d) Specifications (but Specifications shall control over Drawings as to quality of materials); and (e) other Contract Documents. Among other categories of documents having the same order of precedence, the term or provision that includes the latest date shall control. Contractor shall notify A/E and ODR for resolution of the issue prior to executing the Work in question.

6.1.5 Contractor's Duty to Review Contract Documents. In order to facilitate its responsibilities for completion of the Work in accordance with and as reasonably inferable from the Contract Documents, prior to commencing the Work, Contractor shall examine and compare the Contract Documents, information furnished by Owner, relevant field measurements made by Contractor and any visible or reasonably anticipated conditions at the Site affecting the Work. This duty extends throughout the construction phase prior to commencing each particular work activity and/or system installation.

6.1.6 Discrepancies and Omissions in Drawings and Specifications.

6.1.6.1 Promptly report to ODR and to A/E the discovery of any apparent error, omission or inconsistency in the Contract Documents prior to execution of the Work.

6.1.6.2 It is recognized that Contractor is not acting in the capacity of a licensed design professional, unless it is performing as a Design-Build firm.

6.1.6.3 It is further recognized that Contractor's examination of Contract Documents is to facilitate construction and does not create an affirmative responsibility to detect errors, omissions or inconsistencies or to ascertain compliance with applicable laws, building codes or regulations, unless it is performing as a Design-Build firm or a Construction Manager-at-Risk.

6.1.6.4 When performing as a Design-Build firm, Contractor has sole responsibility for discrepancies, errors, and omissions in the Drawings and Specifications.

6.1.6.5 When performing as a Construction Manager-at-Risk, Contractor has a shared responsibility with A/E for discovery and resolution of discrepancies, errors, and omissions in the Contract Documents. In such case, Contractor's responsibility pertains to review, coordination, and recommendation of resolution strategies within budget constraints.

6.1.6.6 Contractor has no liability for errors, omissions, or inconsistencies unless Contractor knowingly failed to report a recognized problem to Owner or the Work is executed under a Design-Build or Construction Manager-at-Risk Contract as outlined above. Should Contractor fail to perform the examination and reporting obligations of these provisions, Contractor is responsible for avoidable costs and direct and/or consequential damages.

6.2 Requirements for Record Documents. Contractor shall:

6.2.1 Maintain at the Site one copy of all Drawings, Specifications, addenda, approved submittals, Contract modifications, and all Project correspondence. Keep current and maintain Drawings and Specifications in good order with postings and markings to record actual conditions of Work and show and reference all changes made during construction. Provide Owner and A/E access to these documents.

6.2.2 Maintain this record set of Drawings and Specifications which reflect the actual field conditions and representations of the Work performed, whether it be directed by addendum, Change Order or otherwise. Make available all records prescribed herein for reference and examination by Owner and its representatives and agents.

6.2.3 Update the Record Documents at least monthly prior to submission of periodic partial pay estimates. Failure to maintain current Record Documents constitutes cause for denial of a progress payment otherwise due.

6.2.4 Prior to requesting Substantial Completion inspection Contractor shall furnish a copy of its marked-up Record Documents and a preliminary copy of each instructional manual, maintenance and operating manual, parts catalog, wiring diagrams, spare parts, specified written warranties and like publications, or parts for all installed equipment, systems, and like items and as described in the Contract Documents.

6.2.5 Once determined acceptable by ODR with input from A/E, provide one (1) reproducible copy and one (1) electronic media copy of all Record Documents, unless otherwise required by the Supplementary General Conditions or Special Conditions.

6.2.6 Contractor shall be responsible for updating the Record Documents for all Contractor initiated documents and changes to the Contract Documents due to coordination and actual field conditions, including RFIs.

6.2.7 A/E shall be responsible for updating the Record Documents for any addenda, Change Orders, A/E supplemental instructions and any other alterations to the Contract Documents generated by A/E or Owner.

Article 7. Construction Safety

7.1 General. It is the duty and responsibility of Contractor and all of its Subcontractors to be familiar with, enforce and comply with all requirements of Public Law No. 91-596, 29 U.S.C. § 651 et. seq., the Occupational Safety and Health Act of 1970, (OSHA) and all amendments thereto. Contractor shall prepare a safety plan specific to the Project and submit it to ODR and A/E prior to commencing Work. In addition, Contractor and all of its Subcontractors shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property to protect them from damage, injury or loss and erect and maintain all necessary safeguards for such safety and protection.

7.2 Notices. Contractor shall provide notices as follows:

7.2.1 Notify owners of adjacent property including those that own or operate utility services and/or underground facilities, and utility owners, when prosecution of the Work may affect them or their facilities, and cooperate with them in the protection, removal, relocation and replacement, and access to their facilities and/or utilities.

7.2.2 Coordinate the exchange of material safety data sheets (MSDSs) or other hazard communication information required to be made available to or exchanged between or among employers at the site in connection with laws and regulations. Maintain a complete file of MSDSs for all materials in use on site throughout the construction phase and make such file available to Owner and its agents as requested.

7.3 Emergencies. In any emergency affecting the safety of persons or property, Contractor shall act to minimize, mitigate, and prevent threatened damage, injury or loss.

7.3.1 Have authorized agents of Contractor respond immediately upon call at any time of day or night when circumstances warrant the presence of Contractor to protect the Work or adjacent property from damage or to take such action pertaining to the Work as may be necessary to provide for the safety of the public.

7.3.2 Give ODR and A/E prompt notice of all such events.

7.3.3 If Contractor believes that any changes in the Work or variations from Contract Documents have been caused by its emergency response, promptly notify Owner within seventy-two (72) hours of the emergency response event.

7.3.4 Should Contractor fail to respond, Owner is authorized to direct other forces to take action as necessary and Owner may deduct any cost of remedial action from funds otherwise due Contractor.

7.4 Injuries. In the event of an incident or accident involving outside medical care for an individual on or near the Work, Contractor shall notify ODR and other parties as may be directed promptly, but no later than twenty-four (24) hours after Contractor learns that an event required medical care.

7.4.1 Record the location of the event and the circumstances surrounding it, by using photography or other means, and gather witness statements and other documentation which describes the event.

7.4.2 Supply ODR and A/E with an incident report no later than thirty-six (36) hours after the occurrence of the event. In the event of a catastrophic incident (one (1) fatality or three (3) workers hospitalized), barricade and leave intact the scene of the incident until all investigations are complete. A full set of incident investigation documents, including facts, finding of cause, and remedial plans shall be provided within one (1) week after occurrence, unless otherwise directed by legal counsel. Contractor shall provide ODR with written notification within one week of such catastrophic event if legal counsel delays submission of full report.

7.5 Environmental Safety. Upon encountering any previously unknown potentially hazardous material, or other materials potentially contaminated by hazardous material, Contractor shall immediately stop work activities impacted by the discovery, secure the affected area, and notify ODR immediately.

7.5.1 Bind all Subcontractors to the same duty.

7.5.2 Upon receiving such notice, ODR will promptly engage qualified experts to make such investigations and conduct such tests as may be reasonably necessary to determine the existence or extent of any environmental hazard. Upon completion of this investigation, ODR will issue a written report to Contractor identifying the material(s) found and indicate any necessary steps to be taken to treat, handle, transport or dispose of the material.

7.5.3 Owner may hire third-party Contractors to perform any or all such steps.

7.5.4 Should compliance with ODR's instructions result in an increase in Contractor's cost of performance, or delay the Work, Owner will make an equitable adjustment to the Contract Sum and/or the time of completion, and modify the Contract in writing accordingly.

7.6 Trenching Plan. When the project requires excavation which either exceeds a depth of four (4) feet, or results in any worker's upper body being positioned below grade level, Contractor is required to submit a trenching plan to ODR prior to commencing trenching operations unless an engineered plan is part of the Contract Documents. The plan is required to be prepared and sealed by a professional engineer registered in the State of Texas, and hired or employed by Contractor or Subcontractor to perform the work. Said engineer cannot be anyone who is otherwise either directly or indirectly engaged on this project.

Article 8. Quality Control

8.1 Materials & Workmanship. Contractor shall execute Work in a good and workmanlike matter in accordance with the Contract Documents. Contractor shall develop and provide a quality control plan specific to this Project and acceptable to Owner. Where Contract Documents do not specify quality standards, complete and construct all Work in compliance with generally accepted construction industry standards. Unless otherwise specified, incorporate all new materials and equipment into the Work under the Contract.

8.2 Testing.

8.2.1 Owner is responsible for coordinating and paying for routine and special tests required to confirm compliance with quality and performance requirements, except as stated below or otherwise required by the Contract Documents. Contractor shall provide the following testing:

8.2.1.1 Any test of basic material or fabricated equipment included as part of a submittal for a required item in order to establish compliance with the Contract Documents.

8.2.1.2 Any test of basic material or fabricated equipment offered as a substitute for a specified item on which a test may be required in order to establish compliance with the Contract Documents.

8.2.1.3 Preliminary, start-up, pre-functional and operational testing of building equipment and systems as necessary to confirm operational compliance with requirements of the Contract Documents.

8.2.1.4 All subsequent tests on original or replaced materials conducted as a result of prior testing failure.

8.2.2 All testing shall be performed in accordance with standard test procedures by an accredited laboratory, or special consultant as appropriate, acceptable to Owner. Results of all tests shall be provided promptly to ODR, A/E, and Contractor.

8.2.3 Non-Compliance (Test Results). Should any of the tests indicate that a material and/or system does not comply with the Contract requirements, the burden of proof remains with Contractor, subject to:

8.2.3.1 Contractor selection and submission of the laboratory for Owner acceptance.

8.2.3.2 Acceptance by Owner of the quality and nature of tests.

8.2.3.3 All tests taken in the presence of A/E and/or ODR, or their representatives.

8.2.3.4 If tests confirm that the material/systems comply with Contract Documents, Owner will pay the cost of the test.

8.2.3.5 If tests reveal noncompliance, Contractor will pay those laboratory fees and costs of that particular test and all future tests, of that failing Work, necessary to eventually confirm compliance with Contract Documents.

8.2.3.6 Proof of noncompliance with the Contract Documents will make Contractor liable for any corrective action which ODR determines appropriate, including complete removal and replacement of non-compliant work or material.

8.2.4 Notice of Testing. Contractor shall give ODR and A/E timely notice of its readiness and the date arranged so ODR and A/E may observe such inspection, testing, or approval.

8.2.5 Test Samples. Contractor is responsible for providing Samples of sufficient size for test purposes and for coordinating such tests with their Work Progress Schedule to avoid delay.

8.2.6 Covering Up Work. If Contractor covers up any Work without providing Owner an opportunity to inspect, Contractor shall, if requested by ODR, uncover and recover the work at Contractor's expense.

8.3 Submittals.

8.3.1 Contractor's Submittals. Contractor shall submit with reasonable promptness consistent with the Project schedule and in orderly sequence all Shop Drawings, Samples, or other information required by the Contract Documents, or subsequently required by Change Order. Prior to submitting, Contractor shall review each submittal for general compliance with Contract Documents and approve submittals for review by A/E and Owner by an approval stamp affixed to each copy. Submittal data presented without Contractor's stamp will be returned without review or comment, and any delay resulting from failure is Contractor's responsibility.

8.3.1.1 Contractor shall within twenty-one (21) days of the effective date of the Notice To Proceed with construction, submit to ODR and A/E, a submittal schedule/register, organized by specification section, listing all items to be furnished for review and approval by A/E and Owner. The list shall include Shop Drawings, manufacturer's literature, certificates of compliance, materials Samples, materials colors, guarantees, and all other items identified throughout the Specifications.

8.3.1.2 Contractor shall indicate the type of item, Contract requirements reference, and Contractor's scheduled dates for submitting the item along with the requested dates for approval answers from A/E and Owner. The submittal register shall indicate the projected dates for procurement of all included items and shall be updated at least monthly with actual approval and procurement dates. Contractor's Submittal Register must be reasonable in terms of the review time for complex submittals. Contractor's submittal schedule must be consistent with the Work Progress Schedule and identify critical submittals. Show and allow a minimum of fifteen (15) days duration after receipt by A/E and ODR for review and approval. If re-submittal required, allow a minimum of an additional fifteen (15) days for review. Submit the updated Submittal Register with each request for progress payment. Owner may establish routine review procedures and schedules for submittals at the preconstruction conference and/or elsewhere in the Contract Documents. If Contractor fails to update and provide the Submittal Register as required, Owner may, after seven (7) days notice to Contractor withhold a reasonable sum of money that would otherwise be due Contractor.

8.3.1.3 Contractor shall coordinate the Submittal Register with the Work Progress Schedule. Do not schedule Work requiring a submittal to begin prior to scheduling review and approval of the related submittal. Revise and/or update both schedules monthly to ensure consistency and current project data. Provide to ODR the updated Submittal Register and schedule with each application for progress payment. Refer to requirements for the Work Progress Schedule for inclusion of procurement activities therein. Regardless, the Submittal Register shall identify dates submitted and returned and shall be used to confirm status and disposition of particular items submitted, including approval or other action taken and other information not conveniently tracked through the Work Progress Schedule.

8.3.1.4 By submitting Shop Drawings, Samples or other required information, Contractor represents that it has determined and verified all applicable field measurements, field construction criteria, materials, catalog numbers and similar data; and has checked and coordinated each Shop Drawing and Sample with the requirements of the Work and the Contract Documents.

8.3.2 Review of Submittals. A/E and ODR review is only for conformance with the design concept and the information provided in the Contract Documents. Responses to submittals will be in writing. The approval of a separate item does not indicate approval of an assembly in which the item functions. The approval of a submittal does not relieve Contractor of responsibility for any

deviation from the requirements of the Contract unless Contractor informs A/E and ODR of such deviation in a clear, conspicuous, and written manner on the submittal transmittal and at the time of submission, and obtains Owner's written specific approval of the particular deviation.

8.3.3 Correction and Resubmission. Contractor shall make any corrections required to a submittal and resubmit the required number of corrected copies promptly so as to avoid delay, until submittal approval. Direct attention in writing to A/E and ODR, when applicable, to any new revisions other than the corrections requested on previous submissions.

8.3.4 Limits on Shop Drawing Review. Contractor shall not commence any Work requiring a submittal until review of the submittal under Subsection 8.3.2. Construct all such work in accordance with reviewed submittals. Comments incorporated as part of the review in Subsection 8.3.2 of Shop Drawings and Samples is not authorization to Contractor to perform extra work or changed work unless authorized through a Change Order. A/E's and ODR's review, if any, does not relieve Contractor from responsibility for defects in the Work resulting from errors or omissions of any kind on the submittal, regardless of any approval action.

8.3.5 No Substitutions Without Approval. ODR and A/E may receive and consider Contractor's request for substitution when Contractor agrees to reimburse Owner for review costs and satisfies the requirements of this section. If Contractor does not satisfy these conditions, ODR and A/E will return the request without action except to record noncompliance with these requirements. Owner will not consider the request if Contractor cannot provide the product or method because of failure to pursue the Work promptly or coordinate activities properly. Contractor's request for a substitution may be considered by ODR and A/E when:

8.3.5.1 The Contract Documents do not require extensive revisions; and

8.3.5.2 Proposed changes are in keeping with the general intent of the Contract Documents and the design intent of A/E and do not result in an increase in cost to Owner; and

8.3.5.3 The request is timely, fully documented, properly submitted and one or more of the following apply:

8.3.5.3.1 Contractor cannot provide the specified product, assembly or method of construction within the Contract Time;

8.3.5.3.2 The request directly relates to an "or-equal" clause or similar language in the Contract Documents;

8.3.5.3.3 The request directly relates to a "product design standard" or "performance standard" clause in the Contract Documents;

8.3.5.3.4 The requested substitution offers Owner a substantial advantage in cost, time, energy conservation or other considerations, after deducting additional responsibilities Owner must assume;

8.3.5.3.5 The specified product or method of construction cannot receive necessary approval by an authority having jurisdiction, and ODR can approve the requested substitution;

8.3.5.3.6 Contractor cannot provide the specified product, assembly or method of construction in a manner that is compatible with other materials and where Contractor certifies that the substitution will overcome the incompatibility;

8.3.5.3.7 Contractor cannot coordinate the specified product, assembly or method of construction with other materials and where Contractor certifies they can coordinate the proposed substitution; or

8.3.5.3.8 The specified product, assembly or method of construction cannot provide a warranty required by the Contract Documents and where Contractor certifies that the proposed substitution provides the required warranty.

8.3.6 Unauthorized Substitutions at Contractor's Risk. Contractor is financially responsible for any additional costs or delays resulting from unauthorized substitution of materials, equipment or fixtures other than those specified. Contractor shall reimburse Owner for any increased design or contract administration costs resulting from such unauthorized substitutions.

8.4 Field Mock-up.

8.4.1 Mock-ups shall be constructed prior to commencement of a specified scope of work to confirm acceptable workmanship.

8.4.1.1 As a minimum, field mock-ups shall be constructed for roofing systems, exterior veneer / finish systems, glazing systems, and any other Work requiring a mock-up as identified throughout the Contract Documents. Mock-ups for systems not part of the Project scope shall not be required.

8.4.1.2 Mock-ups may be incorporated into the Work if allowed by the Contract Documents and if acceptable to ODR. If mock-ups are freestanding, they shall remain in place until otherwise directed by Owner.

8.4.1.3 Contractor shall include field mock-ups in their Work Progress Schedule and shall notify ODR and A/E of readiness for review sufficiently in advance to coordinate review without delay.

8.5 Inspection During Construction.

8.5.1 Contractor shall provide sufficient, safe, and proper facilities, including equipment as necessary for safe access, at all reasonable times for observation and/or inspection of the Work by Owner and its agents.

8.5.2 Contractor shall not cover up any Work with finishing materials or other building components prior to providing Owner and its agents an opportunity to perform an inspection of the Work.

8.5.2.1 Should corrections of the Work be required for approval, Contractor shall not over up corrected Work until Owner indicates approval.

8.5.2.2 Contractor shall provide notification of at least five (5) working days or otherwise as mutually agreed, to ODR of the anticipated need for a cover-up inspection. Should ODR fail to make the necessary inspection within the agreed period, Contractor may proceed with cover-up Work, but is not relieved of responsibility for Work to comply with requirements of the Contract Documents.

Article 9. Construction Schedules

9.1 Contract Time. **TIME IS AN ESSENTIAL ELEMENT OF THE CONTRACT**. The Contract Time is the time between the dates indicated in the Notice to Proceed for commencement of the Work and for achieving Substantial Completion. The Contract Time can be modified only by Change Order. Failure to achieve Substantial Completion within the Contract Time as otherwise agreed to in writing will cause damage to Owner and may subject Contractor to liquidated damages as provided in the Contract Documents. If Contractor fails to achieve Final Completion in a reasonable time after Substantial Completion, Contractor shall be responsible for Owner's additional inspection, project management, and maintenance cost to the extent caused by Contractor's failure to achieve Final Completion.

9.2 Notice to Proceed. Owner will issue a Notice to Proceed which shall state the dates for beginning Work and for achieving Substantial Completion of the Work.

9.3 Work Progress Schedule. Refer to Supplementary General Conditions or Special Conditions for additional schedule requirements. Unless indicated otherwise in those documents, Contractor shall submit their initial Work Progress Schedule for the Work in relation to the entire Project not later than twenty-one (21) days after the effective date of the Notice to Proceed to ODR and A/E. Unless otherwise indicated in the Contract Documents, the Work Progress Schedule shall be computerized Critical Path Method (CPM) with fully editable logic. This initial schedule shall indicate the dates for starting and completing the various aspects required to complete the Work, including mobilization, procurement, installation, testing, inspection, delivery of Close-out Documents and acceptance of all the Work of the Contract. When acceptable to Owner, the initially accepted schedule shall be the Baseline Schedule for comparison to actual conditions throughout the Contract duration.

9.3.1 Schedule Requirements. Contractor shall submit electronic and paper copy of the initial Work Progress Schedule reflecting accurate and reliable representations of the planned progress of the Work, the Work to date if any, and of Contractor's actual plans for its completion. Contractor shall organize and provide adequate detail so the schedule is capable of measuring and forecasting the effect of delaying events on completed and uncompleted activities.

9.3.1.1 Contractor shall re-submit initial schedule as required to address review comments from A/E and ODR until such schedule is accepted as the Baseline Schedule.

9.3.1.2 Submittal of a schedule, schedule revision or schedule update constitutes Contractor's representation to Owner of the accurate depiction of all progress to date and that Contractor will follow the schedule as submitted in performing the Work.

9.3.2 Schedule Updates. Contractor shall update the Work Progress Schedule and the Submittal Register monthly, as a minimum, to reflect progress to date and current plans for completing the Work, while maintaining original schedule as Baseline Schedule and submit paper and electronic copies of the update to A/E and ODR as directed, but as a minimum with each request for payment. Owner has no duty to make progress payments unless accompanied by the updated Work Progress Schedule. Show the anticipated date of completion reflecting all extensions of time granted through Change Order as of the date of the update. Contractor may revise the Work Progress Schedule when in Contractor's judgment it becomes necessary for the management of the Work. Contractor shall identify all proposed changes to schedule logic to Owner and to A/E via an executive summary accompanying the updated schedule for review prior to final implementation of revisions into a revised Baseline Schedule. Schedule changes that materially impact Owner's operations shall be communicated promptly to ODR and shall not be incorporated into the revised Baseline Schedule without ODR"s consent.

9.3.3 The Work Progress Schedule is for Contractor's use in managing the Work and submittal of the schedule, and successive updates or revisions, is for the information of Owner and to demonstrate that Contractor has complied with requirements for planning the Work. Owner's acceptance of a schedule, schedule update or revision constitutes Owner's agreement to coordinate its own activities with Contractor's activities as shown on the schedule.

9.3.3.1 Acceptance of the Work Progress Schedule, or update and/or revision thereto does not indicate any approval of Contractor's proposed sequences and duration.

9.3.3.2 Acceptance of a Work Progress Schedule update or revision indicating early or late completion does not constitute Owner's consent, alter the terms of the Contract, or waive either Contractor's responsibility for timely completion or Owner's right to damages for Contractor's failure to do so.

9.3.3.3 Contractor's scheduled dates for completion of any activity or the entire Work do not constitute a change in terms of the Contract. Change Orders are the only method of modifying the Substantial Completion Date(s) and Contract Time.

9.4 Ownership of Float. Unless indicated otherwise in the Contract Documents, Contractor shall develop its schedule, pricing, and execution plan to provide a minimum of ten (10) percent total float at acceptance of the Baseline Schedule. Float time contained in the Work Progress Schedule is not for the exclusive benefit of Contractor or Owner, but belongs to the Project and may be consumed by either party as needed on a first-used basis.

9.5 Completion of Work. Contractor is accountable for completing the Work within the Contract Time stated in the Contract, or as otherwise amended by Change Order.

9.5.1 If, in the judgment of Owner, the work is behind schedule and the rate of placement of work is inadequate to regain scheduled progress to insure timely completion of the entire work or a separable portion thereof, Contractor, when so informed by Owner, shall immediately take action to increase the rate of work placement by:

9.5.1.1 An increase in working forces.

9.5.1.2 An increase in equipment or tools.

9.5.1.3 An increase in hours of work or number of shifts.

9.5.1.4 Expedite delivery of materials.

9.5.1.5 Other action proposed if acceptable to Owner.

9.5.2 Within ten (10) days after such notice from ODR, Contractor shall notify ODR in writing of the specific measures taken and/or planned to increase the rate of progress. Contactor shall include an estimate as to the date of scheduled progress recovery and an updated Work Progress Schedule illustrating Contractor's plan for achieving timely completion of the Project. Should ODR deem the plan of action inadequate, Contractor shall take additional steps or make adjustments as necessary to its plan of action until it meets with ODR"s approval.

9.6 Modification of the Contract Time.

9.6.1 Delays and extension of time as hereinafter described are valid only if executed in accordance with provisions set forth in Article 11.

9.6.2 When a delay defined herein as excusable prevents Contractor from completing the Work within the Contract Time, Contractor is entitled to an extension of time. Owner will make an equitable adjustment and extend the number of days lost because of excusable delay or Weather Days, as measured by Contractor's progress schedule. All extensions of time will be granted in calendar days. In no event, however, will an extension of time be granted for delays that merely extend the duration of non-critical activities, or which only consume float without delaying the project Substantial Completion date(s).

9.6.2.1 A "Weather Day" is a day on which Contractor's current schedule indicates Work is to be done, and on which inclement weather and related site conditions prevent Contractor from performing seven (7) continuous hours of Work between the hours of 7:00 a.m. and 6:00 p.m. Weather days are excusable delays. When weather conditions at

the site prevent work from proceeding, Contractor shall immediately notify ODR for confirmation of the conditions. At the end of each calendar month, submit to ODR and A/E a list of Weather Days occurring in that month along with documentation of the impact on critical activities. Based on confirmation by ODR, any time extension granted will be issued by Change Order. If Contractor and Owner cannot agree on the time extension, Owner may issue a ULCO for fair and reasonable time extension.

9.6.2.2 Excusable Delay. Contractor is entitled to an equitable adjustment of the Contract Time, issued via change order, for delays caused by the following:

9.6.2.2.1 Errors, omissions and imperfections in design, which A/E corrects by means of changes in the Drawings and Specifications.

9.6.2.2.2 Unanticipated physical conditions at the Site, which A/E corrects by means of changes to the Drawings and Specifications or for which ODR directs changes in the Work identified in the Contract Documents.

9.6.2.2.3 Changes in the Work that effect activities identified in Contractor's schedule as "critical" to completion of the entire Work, if such changes are ordered by ODR or recommended by A/E and ordered by ODR.

9.6.2.2.4 Suspension of Work for unexpected natural events (sometimes called "acts of God"), civil unrest, strikes or other events which are not within the reasonable control of Contractor.

9.6.2.2.5 Suspension of Work for convenience of ODR, which prevents Contractor from completing the Work within the Contract Time.

9.6.3 Contractor's relief in the event of such delays is the time impact to the critical path as determined by analysis of Contractor's schedule. In the event that Contractor incurs additional direct costs because of the excusable delays other than described in Subparagraph 9.6.2.2.4 and within the reasonable control of Owner, the Contract price and Contract Time are to be equitably adjusted by Owner pursuant to the provisions of Article 11.

9.7 No Damages for Delay. Contractor has no claim for monetary damages for delay or hindrances to the work from any cause, including without limitation any act or omission of Owner.

9.8 Concurrent Delay. When the completion of the Work is simultaneously delayed by an excusable delay and a delay arising from a cause not designated as excusable, Contractor may not be entitled to a time extension for the period of concurrent delay.

9.9 Other Time Extension Requests. Time extensions requested in association with changes to the Work directed or requested by Owner shall be included with Contractor's proposed costs for such change. Time extensions requested for inclement weather are covered by Paragraph 9.6.2.1 above. If Contractor believes that the completion of the Work is delayed by a circumstance other than for changes directed to the Work or weather, they shall give ODR written notice, stating the nature of the delay and the activities potentially affected, within five (5) days after the onset of the event or circumstance giving rise to the excusable delay. Contractor shall provide sufficient written evidence to document the delay. In the case of a continuing cause of delay, only one claim is necessary. State claims for extensions of time in numbers of whole or half days.

9.9.1 Within ten (10) days after the cessation of the delay, Contractor shall formalize its request for extension of time in writing to include a full analysis of the schedule impact of the delay and substantiation of the excusable nature of the delay. All changes to the Contract Time or made as a result of such claims is by Change Order, as set forth in Article 11.

9.9.2 No extension of time releases Contractor or the Surety furnishing a performance or payment bond from any obligations under the Contract or such a bond. Those obligations remain in full force until the discharge of the Contract.

9.9.3 Contents of Time Extension Requests. Contractor shall provide with each Time Extension Request a quantitative demonstration of the impact of the delay on project completion time, based on the Work Progress Schedule. Contractor shall include with Time Extension Requests a reasonably detailed narrative setting forth:

9.9.3.1 The nature of the delay and its cause; the basis of Contractor's claim of entitlement to a time extension.

9.9.3.2 Documentation of the actual impacts of the claimed delay on the critical path indicated in Contractor's Work Progress Schedule, and any concurrent delays.

9.9.3.3 Description and documentation of steps taken by Contractor to mitigate the effect of the claimed delay, including, when appropriate, the modification of the Work Progress Schedule.

9.9.4 Owner's Response. Owner will respond to the Time Extension Request by providing to Contractor written notice of the number of days granted, if any, and giving its reason if this number differs from the number of days requested by Contractor.

9.9.4.1 Owner will not grant time extensions for delays that do not affect the Contract Substantial Completion date.

9.9.4.2 Owner will respond to each properly submitted Time Extension Request within fifteen (15) days following receipt. If Owner cannot reasonably make a determination about Contractor's entitlement to a time extension within that time, Owner will notify Contractor in writing. Unless otherwise agreed by Contractor, Owner has no more than fifteen (15) additional days to prepare a final response. If Owner fails to respond within forty-five (45) days from the date the Time Extension Request is received, Contractor is entitled to a time extension in the amount requested.

9.10 Failure to Complete Work Within the Contract Time. **TIME IS AN ESSENTIAL ELEMENT OF THE CONTRACT.** Contractor's failure to substantially complete the Work within the Contract Time or to achieve Substantial Completion as required will cause damage to Owner. These damages shall be liquidated by agreement of Contractor and Owner, in the amount per day as set forth in the Contract Documents.

9.11 Liquidated Damages. Owner may collect liquidated damages due from Contractor directly or indirectly by reducing the Contract Sum in the amount of liquidated damages stated in the Supplementary General Conditions or Special Conditions.

Article 10. Payments

10.1 Schedule of Values. Contractor shall submit to ODR and A/E for acceptance a Schedule of Values accurately itemizing material and labor for the various classifications of the Work based on the organization of the specification sections and of sufficient detail acceptable to ODR. The accepted Schedule of Values will be the basis for the progress payments under the Contract.

10.1.1 No progress payments will be made prior to receipt and acceptance of the Schedule of Values, provided in such detail as required by ODR, and submitted not less than twenty-one (21) days prior to the first request for payment. The Schedule of Values shall follow the order of trade divisions of the Specifications and include itemized costs for general conditions, costs for preparing close out documents, fees, contingencies, and Owner cash allowances, if applicable, so that the sum of the items will equal the Contract price. As appropriate, assign each item labor and/or material values, the subtotal thereof equaling the value of the work in place when complete.

10.1.1.1 Owner requires that the Work items be inclusive of the cost of the Work items only. Any contract markups for overhead and profit, general conditions, etc., shall be contained within separate line items for those specific purposes which shall be divided into at least two (2) lines, one (1) for labor and one (1) for materials.

10.1.2 Contractor shall retain a copy of all worksheets used in preparation of its bid or proposal, supported by a notarized statement that the worksheets are true and complete copies of the documents used to prepare the bid or proposal. Make the worksheets available to ODR at the time of Contract execution. Thereafter Contractor shall grant Owner during normal business hours access to said copy of worksheets at any time during the period commencing upon execution of the Contract and ending one year after final payment.

10.2. Progress Payments. Contractor will receive periodic progress payments for Work performed, materials in place, suitably stored on Site, or as otherwise agreed to by Owner and Contractor. Payment is not due until receipt by ODR or his designee of a correct and complete Pay Application in electronic and/or hard copy format as set forth in Supplementary General Conditions, Special Conditions, and certified by A/E. Progress payments are made provisionally and do not constitute acceptance of work not in accordance with the Contract Documents. Owner will not process progress payment applications for Change Order Work until all parties execute the Change Order.

10.2.1 Preliminary Pay Worksheet. Once each month that a progress payment is to be requested, the Contractor shall submit to A/E and ODR a complete, clean copy of a preliminary pay worksheet or preliminary pay application, to include the following:

10.2.1.1 Contractor's estimate of the amount of Work performed, labor furnished and materials incorporated into the Work, using the established Schedule of Values;

10.2.1.2 An updated Work Progress Schedule including the executive summary and all required schedule reports;

10.2.1.3 HUB subcontracting plan Progress Assessment Report as required in Paragraph 4.2.5.1;

10.2.1.4 Such additional documentation as Owner may require as set forth in the Supplementary General Conditions or elsewhere in the Contract Documents; and

10.2.1.5 Construction payment affidavit.

10.2.2 Contractor's Application for Payment. As soon as practicable, but in no event later than seven (7) days after receipt of the preliminary pay worksheet, A/E and ODR will meet with Contractor to review the preliminary pay worksheet and to observe the condition of the Work. Based on this review, ODR and A/E may require modifications to the preliminary pay worksheet prior to the submittal of an Application for Payment, and will promptly notify Contractor of revisions necessary for approval. As soon as practicable, Contractor shall submit its Application for Payment on the appropriate and completed form, reflecting the required modifications to the Schedule of Values required by A/E and/or ODR. Attach all additional documentation required by ODR and/or A/E, as well as an affidavit affirming that all payrolls, bills for labor, materials, equipment, subcontracted work and other indebtedness connected with Contractor's Application for Payment are paid or will be paid within the time specified in Tex. Gov't Code, Chapter 2251. No Application for Payment is complete unless it fully reflects all required modifications, and attaches all required documentation including Contractor's affidavit.

10.2.3 Certification by Architect/Engineer. Within five (5) days or earlier following A/E's receipt of Contractor's formal Application for Payment, A/E will review the Application for Payment for completeness, and forward it to ODR. A/E will certify that the application is complete and payable, or that it is incomplete, stating in particular what is missing. If the Application for Payment is incomplete, Contractor shall make the required corrections and resubmit the Application for Payment for processing.

10.3 Owner's Duty to Pay. Owner has no duty to pay the Contractor except on receipt by ODR of: 1) a complete Application for Payment certified by A/E; 2) Contractor's updated Work Progress Schedule; and 3) confirmation that Contractor's record documentation at the Site is kept current.

10.3.1 Payment for stored materials and/or equipment confirmed by Owner and A/E to be on-site or otherwise properly stored is limited to eighty-five (85) percent of the invoice price or eighty-five (85) percent of the scheduled value for the materials or equipment, whichever is less.

10.3.2 Retainage. Owner will withhold from each progress payment, as retainage, five (5) percent of the total earned amount, the amount authorized by law, or as otherwise set forth in the Supplementary General Conditions or Special Conditions. Retainage is managed in conformance with Tex. Gov't Code, Chapter 2252, Subchapter B.

10.3.2.1 Contractor shall provide written consent of its surety for any request for reduction or release of retainage.

10.3.2.2 At least sixty-five (65) percent of the Contract, or such other discrete Work phase as set forth in Subsection 12.1.6 or Work package delineated in the Contract Documents, must be completed before Owner can consider a retainage reduction or release.

10.3.2.3 Contractor shall not withhold retainage from their Subcontractors and suppliers in amounts that are any percentage greater than that withheld in its Contract with Owner under this subsection, unless otherwise acceptable to Owner.

10.3.3 Price Reduction to Cover Loss. Owner may reduce any Application for Payment, prior to payment to the extent necessary to protect Owner from loss on account of actions of Contractor including, but not limited to, the following:

10.3.3.1 Defective or incomplete Work not remedied;

10.3.3.2 Damage to Work of a separate Contractor;

10.3.3.3 Failure to maintain scheduled progress or reasonable evidence that the Work will not be completed within the Contract Time;

10.3.3.4 Persistent failure to carry out the Work in accordance with the Contract Documents;

10.3.3.5 Reasonable evidence that the Work cannot be completed for the unpaid portion of the Contract Sum;

10.3.3.6 Assessment of fines for violations of prevailing wage rate law; or

10.3.3.7 Failure to include the appropriate amount of retainage for that periodic progress payment.

10.3.4 Title to all material and Work covered by progress payments transfers to Owner upon payment.

10.3.4.1 Transfer of title to Owner does not relieve Contractor and its Subcontractors of the sole responsibility for the care and protection of materials and Work upon which payments have been made until final acceptance, or the restoration of any damaged Work, or waive the right of Owner to require the fulfillment of all the terms of the Contract.

10.4 Progress Payments. Progress payments to Contractor do not release Contractor or its surety from any obligations under the Contract.

10.4.1 Upon Owner's request, Contractor shall furnish manifest proof of the status of Subcontractor's accounts in a form acceptable to Owner.

10.4.2 Pay estimate certificates must be signed by a corporate officer or a representative duly authorized by Contractor.

10.4.3 Provide copies of bills of lading, invoices, delivery receipts or other evidence of the location and value of such materials in requesting payment for materials.

10.4.4 For purposes of Tex. Gov't Code § 2251.021(a)(2), the date the performance of service is complete is the date when ODR approves the Application for Payment.

10.5 Off-Site Storage. With prior approval by Owner and in the event Contractor elects to store materials at an off-site location, abide by the following conditions, unless otherwise agreed to in writing by Owner.

10.5.1 Store materials in a commercial warehouse meeting the criteria stated below.

10.5.2 Provide insurance coverage adequate not only to cover materials while in storage, but also in transit from the off-site storage areas to the Project Site. Copies of duly authenticated certificates of insurance, made out to insure the State agency which is signatory to the Contract, must be filed with Owner's representative.

10.5.3 Inspection by Owner's representative is allowed at any time. Owner's inspectors must be satisfied with the security, control, maintenance, and preservation measures.

10.5.4 Materials for this Project are physically separated and marked for the Project in a sectioned-off area. Only materials which have been approved through the submittal process are to be considered for payment.

10.5.5 Owner reserves the right to reject materials at any time prior to final acceptance of the complete Contract if they do not meet Contract requirements regardless of any previous progress payment made.

10.5.6 With each monthly payment estimate, submit a report to ODR and A/E listing the quantities of materials already paid for and still stored in the off-site location.

10.5.7 Make warehouse records, receipts and invoices available to Owner's representatives, upon request, to verify the quantities and their disposition.

10.5.8 In the event of Contract termination or default by Contractor, the items in storage off-site, upon which payment has been made, will be promptly turned over to Owner or Owner's agents at a location near the jobsite as directed by ODR. The full provisions of performance and payment bonds on this Project cover the materials off-site in every respect as though they were stored on the Project Site.

10.6 Time for Payment by Contractor Pursuant to Tex. Gov't Code § 2255.022.

10.6.1 Contractor who receives a payment from a governmental entity shall pay Subcontractor the appropriate share of the payment not later than the tenth (10th) day after the date the vendor receives the payment.

10.6.2 The appropriate share is overdue on the eleventh (11th) day after the date Contractor receives the payment.

Article 11. Changes

11.1 Change Orders. A Change Order issued after execution of the Contract is a written order to Contractor, signed by ODR, Contractor, and A/E, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time can only be changed by Change Order. A Change Order signed by Contractor indicates his agreement therewith, including the adjustment in the Contract Sum and/or the Contract Time. ODR may issue a written authorization for Contractor to proceed with Work of a Change Order in advance of final execution by all parties in accordance with Section 11.9.

11.1.1 Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, and the Contract Sum and the Contract Time will be adjusted accordingly. All such changes in the Work shall be authorized by Change Order or ULCO, and shall be performed under the applicable conditions of the Contract Documents. If such changes cause an increase or decrease in Contractor's cost of, or time required for, performance of the Contract, an equitable adjustment shall be made and confirmed in writing in a Change Order or a ULCO.

11.1.2 It is recognized by the parties hereto and agreed by them that the Specifications and Drawings may not be complete or free from errors, omissions and imperfections or that they may require changes or additions in order for the Work to be completed to the satisfaction of Owner and that, accordingly, it is the express intention of the parties, notwithstanding any other provisions in this Contract, that any errors, omissions or imperfections in such Specifications and Drawings, or any changes in or additions to same or to the Work ordered by Owner and any resulting delays in the Work or increases in Contractor's costs and expenses arising out of such errors, shall not constitute or give rise to any claim, demand or cause of action of any nature whatsoever in favor of Contractor, whether for breach of Contract, or otherwise; provided, however, that Owner shall be liable to Contractor for the sum stated to be due Contractor in any Change Order approved and signed by both parties, it being agreed hereby that such sum, together with any extension of time contained in said Change Order, shall constitute full compensation to Contractor for all costs, expenses and damages to Contractor, as permitted under Tex. Gov't Code, Chapter 2260.

11.1.3 Procedures for administration of Change Orders shall be established by Owner and stated in Supplementary General Conditions, Special Conditions, or elsewhere in the Contract Documents.

11.1.4 No verbal order, verbal statement, or verbal direction of Owner or his duly appointed representative shall be treated as a change under this article or entitle Contractor to an adjustment.

11.1.5 Contractor agrees that Owner or any of its duly authorized representatives shall have access and the right to examine any directly pertinent books, documents, papers, and records of Contractor. Further, Contractor agrees to include in all its subcontracts a provision to the effect that Subcontractor agrees that Owner or any of its duly authorized representatives shall have access to and the right to examine any directly pertinent books, documents, papers and records of such Subcontractor relating to any claim arising from the Contract, whether or not the Subcontractor is a party to the claim. The period of access and examination described herein which relates to appeals under the Disputes article of the Contract, litigation, or the settlement of claims arising out of the performance of the Contract shall continue until final disposition of such claims, appeals or litigation.

11.2 Unit Prices. If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed in a Proposed Change Order that application of the agreed unit prices to the quantities of work proposed will cause substantial inequity to Owner or Contractor, the applicable unit prices shall be equitably adjusted as provided in the Supplementary General Conditions or Special Conditions or as agreed to by the parties and incorporated into a Change Order.

11.3 Claims for Additional Costs.

11.3.1 If Contractor wishes to make a claim for an increase in the Contract Sum not related to a requested change, they shall give Owner and A/E written notice thereof within twenty-one (21) days after the occurrence of the event giving rise to such claim, but, in any case before proceeding to execute the Work considered to be additional cost or time, except in an emergency endangering life or property in which case Contractor shall act in accordance with Subsection 7.2.1. No such claim shall be valid unless so made. If Owner and Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined as set forth under Article 15. Any change in the Contract Sum resulting from such claim shall be authorized by a Change Order or a ULCO.

11.3.2 If Contractor claims that additional cost is involved because of, but not limited to, 1) any written interpretation of the Contract Documents, 2) any order by Owner to stop the Work pursuant to Article 14 where Contractor was not at fault, or 3) any written order for a minor change in the Work issued pursuant to Section 11.4, Contractor shall make such claim as provided in Subsection 11.3.1.

11.3.3 Should Contractor or his Subcontractors fail to call attention of A/E to discrepancies or omissions in the Contract Documents, but claim additional costs for corrective Work after Contract award, Owner may assume intent to circumvent competitive bidding for necessary corrective Work. In such case,

Owner may choose to let a separate Contract for the corrective Work, or issue a ULCO to require performance by Contractor. Claims for time extensions or for extra cost resulting from delayed notice of patent Contract Document discrepancies or omissions will not be considered by Owner.

11.4 Minor Changes. A/E, with concurrence of ODR, will have authority to order minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time. Such changes shall be effected by written order which Contractor shall carry out promptly and record on as-built record documents.

11.5 Concealed Site Conditions. Contractor is responsible for visiting the Site and being familiar with local conditions such as the location, accessibility, and general character of the Site and/or building. If, in the performance of the Contract, subsurface, latent, or concealed conditions at the Site are found to be materially different from the information included in the Contract Documents, or if unknown conditions of an unusual nature are disclosed differing materially from the conditions usually inherent in Work of the character shown and specified, ODR and A/E shall be notified in writing of such conditions before they are disturbed. Upon such notice, or upon its own observation of such conditions, A/E, with the approval of ODR, will promptly make such changes in the Drawings and Specifications as they deem necessary to conform to the different conditions, and any increase or decrease in the cost of the Work, or in the time within which the Work is to be completed, resulting from such changes will be adjusted by Change Order, subject to the prior approval of ODR.

11.6 Extension of Time. All changes to the Contract Time shall be made as a consequence of requests as required under Section 9.6, and as documented by Change Order as provided under Section 11.1.

11.7 Administration of Change Order Requests. All changes in the Contract shall be administered in accordance with procedures approved by Owner, and when required, make use of such electronic information management system(s) as Owner may employ.

11.7.1 Routine changes in the construction Contract shall be formally initiated by A/E by means of a PCO form detailing requirements of the proposed change for pricing by Contractor. This action may be preceded by communications between Contractor, A/E and ODR concerning the need and nature of the change, but such communications shall not constitute a basis for beginning the proposed Work by Contractor. Except for emergency conditions described below, approval of Contractor's cost proposal by A/E and ODR will be required for authorization to proceed with the Work being changed. Owner will not be responsible for the cost of Work changed without prior approval and Contractor may be required to remove Work so installed.

11.7.2 All proposed costs for change order Work must be supported by itemized accounting of material, equipment and associated itemized installation costs in sufficient detail, following the outline and organization of the established

Schedule of Values, to permit analysis by A/E and ODR using current estimating guides and/or practices. Photocopies of Subcontractor and vendor proposals shall be furnished unless specifically waived by ODR. Contractor shall provide written response to a change request within twenty-one (21) days of receipt.

11.7.3 Any unexpected circumstance which necessitates an immediate change in order to avoid a delay in progress of the Work may be expedited by verbal communication and authorization between Contractor and Owner, with written confirmation following within twenty-four (24) hours. A limited scope not-to-exceed estimate of cost and time will be requested prior to authorizing Work to proceed. Should the estimate be impractical for any reason, ODR may authorize the use of detailed cost records of such work to establish and confirm the actual costs and time for documentation in a formal Change Order.

11.7.4 Emergency changes to save life or property may be initiated by Contractor alone (see Section 7.3) with the claimed cost and/or time of such work to be fully documented as to necessity and detail of the reported costs and/or time.

11.7.5 The method of incorporating approved Change Orders into the parameters of the accepted Schedule of Values must be coordinated and administered in a manner acceptable to ODR.

11.8 Pricing Change Order Work. The amounts that Contractor and/or its Subcontractor adds to a Change Order for profit and overhead will also be considered by Owner before approval is given. The amounts established hereinafter are the maximums that are acceptable to Owner.

11.8.1 For Work performed by its forces, Contractor will be allowed their actual costs for materials, the total amount of wages paid for labor, plus the total cost of State and Federal payroll taxes and of worker's compensation and comprehensive general liability insurance, plus additional bond and builders risk insurance cost if the change results in an increase in the premium paid by Contractor. To the total of the above costs, Contractor will be allowed to add a percentage as noted below to cover overhead and profit combined.

Allowable percentages for overhead and profit on any specific change shall not exceed fifteen (15) percent for the first $10,000 of value for self-performed work or portion thereof, ten (10) percent for the second $10,000 of value for self-performed work or portion thereof and seven and a half (7.5) percent for any value of the self-performed work that exceeds $20,000.

11.8.2 For subcontracted Work each affected Subcontractor shall figure its costs, overhead and profit as described above for Contractor's Work, all Subcontractor costs shall be combined, and to that total Subcontractor cost

Contractor will be allowed to add a maximum mark-up of ten (10) percent for the first $10,000 of subcontracted Work value or portion thereof, seven and half (7.5) percent for the second $10,000 of subcontracted Work value or portion thereof, and five (5) percent for any value of the subcontracted Work exceeding $20,000.

11.8.3 On changes involving both additions and deletions, percentages for overhead and profit will be allowed only on the net addition. Owner does not accept and will not pay for additional Contract cost identified as indirect or consequential damages.

11.8.4 For Contracts based on a Guaranteed Maximum Price (GMP), the Construction Manager-at-Risk or Design Builder shall NOT be entitled to a percentage mark-up on any Change Order Work unless the Change Order increases the Guaranteed Maximum Price.

11.9 Unilateral Change Order (ULCO). Owner may issue a written ULCO directing a change in the Work prior to reaching agreement with Contractor on the adjustment, if any, in the Contract price and/or the Contract Time.

11.9.1 Owner and Contractor shall negotiate for appropriate adjustments, as applicable, to the Contract Sum or the Contract Time arising out of a ULCO. As the changed Work is performed, Contractor shall submit its costs for such Work with its Application for Payment beginning with the next Application for Payment within thirty (30) days of the issuance of the ULCO. The Parties reserve their rights as to the disputed amount, subject to Article 15.

11.10 Final Resolution of Changes. Upon execution of a Change Order and /or a ULCO by Owner, Contractor and A/E, all costs and time issues regarding that change are final and not subject to adjustment.

Article 12. Project Completion and Acceptance

12.1 Closing Inspections.

12.1.1 Substantial Completion Inspection. When Contractor considers the entire Work or part thereof Substantially Complete, it shall notify ODR in writing that the Work will be ready for Substantial Completion inspection on a specific date. Contractor shall include with this notice Contractor's Punchlist to indicate that it has previously inspected all the Work associated with the request for inspection, noting items it has corrected and included all remaining work items with date scheduled for completion or correction prior to final inspection. The failure to include any items on this list does not alter the responsibility of Contractor to complete all Work in accordance with the Contract Documents. If any of the items on this list prevents the Project from being used as intended, Contractor shall not request a Substantial Completion Inspection. Owner and its representatives will review the list of items and schedule the requested inspection, or inform Contractor in writing that such an inspection is premature because the Work is not sufficiently advanced or conditions are not as represented on Contractor's list.

12.1.1.1 Prior to the Substantial Completion inspection, Contractor shall furnish a copy of its marked-up Record Documents and a preliminary copy of each instructional manual, maintenance and operating manual, parts catalog, wiring diagrams, spare parts, specified written warranties, and like publications or parts for all installed equipment, systems, and like items as described in the Contract Documents. Delivery of these items is a prerequisite for requesting the Substantial Completion inspection.

12.1.1.2 On the date requested by Contractor, or as mutually agreed upon pending the status of the Open Items List, A/E, ODR, Contractor, and other Owner representatives as determined by Owner will jointly attend the Substantial Completion inspection, which shall be conducted by ODR or their delegate. If ODR determines that the Work is Substantially Complete, ODR will issue a Certificate of Substantial Completion to be signed by A/E, Owner, and Contractor establishing the date of Substantial Completion and identifying responsibilities for security and maintenance. A/E will provide with this certificate a list of Punchlist items (the pre-final Punchlist) for completion prior to final inspection. This list may include items in addition to those on Contractor's Punchlist, which the inspection team deems necessary to correct or complete prior to final inspection. If Owner occupies the Project upon determination of Substantial Completion, Contractor shall complete all corrective Work at the convenience of Owner, without disruption to Owner's use of the Project for its intended purposes.

12.1.2 Final Inspection. Contractor shall complete the list of items identified on the pre-final Punchlist prior to requesting a final inspection. Unless otherwise specified, or otherwise agreed in writing by the parties as documented on the Certificate of Substantial Completion, Contractor shall complete and/or correct all Work within thirty (30) days of the Substantial Completion date. Upon completion of the pre-final Punchlist work, Contractor shall give written notice to ODR and A/E that the Work will be ready for final inspection on a specific date. Contractor shall accompany this notice with a copy of the updated pre-final Punchlist indicating resolution of all items. On the date specified or as soon thereafter as is practicable, ODR, A/E and Contractor will inspect the Work. A/E will submit to Contractor a final Punchlist of open items that the inspection team requires corrected or completed before final acceptance of the Work.

12.1.2.1 Correct or complete all items on the final Punchlist before requesting Final Payment. Unless otherwise agreed to in writing by the parties, complete this work within seven (7) days of receiving the final Punchlist. Upon completion of the final Punchlist, notify A/E and ODR in writing stating the disposition of each final Punchlist item. A/E, Owner, and Contractor shall promptly inspect the completed items. When the final Punchlist is complete, and the Contract is fully satisfied according to the Contract Documents ODR will issue a certificate establishing the date of Final Completion. Completion of all Work is a condition precedent to Contractor's right to receive Final Payment.

12.1.3 Annotation. Any Certificate issued under this Article may be annotated to indicate that it is not applicable to specified portions of the Work, or that it is subject to any limitation as determined by Owner.

12.1.4 Purpose of Inspection. Inspection is for determining the completion of the Work, and does not relieve Contractor of its overall responsibility for completing the Work in a good and competent fashion, in compliance with the Contract. Work accepted with incomplete Punchlist items or failure of Owner or other parties to identify Work that does not comply with the Contract Documents or is defective in operation or workmanship does not constitute a waiver of Owner's rights under the Contract or relieve Contractor of its responsibility for performance or warranties.

12.1.5 Additional Inspections.

12.1.5.1 If Owner's inspection team determines that the Work is not substantially complete at the Substantial Completion inspection, ODR or A/E will give Contractor written notice listing cause(s) of the rejection. Contractor will set a time for completion of

incomplete or defective work acceptable to ODR. Contractor shall complete or correct all work so designated prior to requesting a second Substantial Completion inspection.

12.1.5.2 If Owner's inspection team determines that the Work is not complete at the final inspection, ODR or A/E will give Contractor written notice listing the cause(s) of the rejection. Contractor will set a time for completion of incomplete or defective work acceptable to ODR. Contractor shall complete or correct all Work so designated prior to again requesting a final inspection.

12.1.5.3 The Contract contemplates three (3) comprehensive inspections: the Substantial Completion inspection, the Final Completion inspection, and the inspection of completed final Punchlist items. The cost to Owner of additional inspections resulting from the Work not being ready for one or more of these inspections is the responsibility of Contractor. Owner may issue a ULCO deducting these costs from Final Payment. Upon Contractor's written request, Owner will furnish documentation of any costs so deducted. Work added to the Contract by Change Order after Substantial Completion inspection is not corrective Work for purposes of determining timely completion, or assessing the cost of additional inspections.

12.1.6 Phased Completion. The Contract may provide, or Project conditions may warrant, as determined by ODR, that designated elements or parts of the Work be completed in phases. Where phased completion is required or specifically agreed to by the parties, the provisions of the Contract related to closing inspections, occupancy, and acceptance apply independently to each designated element or part of the Work. For all other purposes, unless otherwise agreed by the parties in writing, Substantial Completion of the Work as a whole is the date on which the last element or part of the Work completed receives a Substantial Completion certificate. Final Completion of the Work as a whole is the date on which the last element or part of the Work completed receives a Final Completion certificate.

12.2 Owner's Right of Occupancy. Owner may occupy or use all or any portion of the Work following Substantial Completion, or at any earlier stage of completion. Should Owner wish to use or occupy the Work, or part thereof, prior to Substantial Completion, ODR will notify Contractor in writing and identify responsibilities for security and maintenance Work performed on the premises by third parties on Owner's behalf does not constitute occupation or use of the Work by Owner for purposes of this Article. All Work performed by Contractor after occupancy, whether in part or in whole, shall be at the convenience of Owner so as to not disrupt Owner's use of, or access to occupied areas of the Project.

12.3 Acceptance and Payment

12.3.1 Request for Final Payment. Following the certified completion of all work, including all final Punchlist items, cleanup, and the delivery of record documents, Contractor shall submit a certified Application for Final Payment and include all sums held as retainage and forward to A/E and ODR for review and approval.

12.3.2 Final Payment Documentation. Contractor shall submit, prior to or with the Application for Final Payment, final copies of all close out documents, maintenance and operating instructions, guarantees and warranties, certificates, Record Documents and all other items required by the Contract. Contractor shall submit evidence of return of access keys and cards, evidence of delivery to Owner of attic stock, spare parts, and other specified materials. Contractor shall submit consent of surety to Final Payment form and an affidavit that all payrolls, bills for materials and equipment, subcontracted work and other indebtedness connected with the Work, except as specifically noted, are paid, will be paid, after payment from Owner or otherwise satisfied within the period of time required by Tex. Gov't Code, Chapter 2251. Contractor shall furnish documentation establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of claims and liens arising out of the Contract. Contractor may not subsequently submit a claim on behalf of Subcontractor or vendor unless Contractor's affidavit notes that claim as an exception.

12.3.3 Architect/Engineer Approval. A/E will review a submitted Application for Final Payment promptly but in no event later than ten (10) days after its receipt. Prior to the expiration of this deadline, A/E will either: 1) return the Application for Final Payment to Contractor with corrections for action and resubmission; or 2) accept it, note their approval, and send to Owner.

12.3.4 Offsets and Deductions. Owner may deduct from the Final Payment all sums due from Contractor. If the Certificate of Final Completion notes any Work remaining, incomplete, or defects not remedied, Owner may deduct the cost of remedying such deficiencies from the Final Payment. On such deductions, Owner will identify each deduction, the amount, and the explanation of the deduction on or by the twenty-first (21st) day after Owner's receipt of an approved Application for Final Payment. Such offsets and deductions shall be incorporated via a final Change Order, including a ULCO as may be applicable.

12.3.5 Final Payment Due. Final Payment is due and payable by Owner, subject to all allowable offsets and deductions, on the thirtieth (30th) day following Owner's approval of the Application for Payment. If Contractor disputes any amount deducted by Owner, Contractor shall give notice of the dispute on or before the thirtieth (30th) day following receipt of Final Payment. Failure to do so will bar any subsequent claim for payment of amounts deducted.

12.3.6 Effect of Final Payment. Final Payment constitutes a waiver of all claims by Owner, relating to the condition of the Work except those arising from:

12.3.6.1 Faulty or defective Work appearing after Substantial Completion (latent defects);

12.3.6.2 Failure of the Work to comply with the requirements of the Contract Documents;

12.3.6.3 Terms of any warranties required by the Contract, or implied by law; or

12.3.6.4 Claims arising from personal injury or property damage to third parties.

12.3.7 Waiver of Claims. Final payment constitutes a waiver of all claims and liens by Contractor except those specifically identified in writing and submitted to ODR prior to the application for Final Payment.

12.3.8 Effect on Warranty. Regardless of approval and issuance of Final Payment, the Contract is not deemed fully performed by Contractor and closed until the expiration of all warranty periods.

Article 13. Warranty and Guarantee

13.1 Contractor's General Warranty and Guarantee. Contractor warrants to Owner that all Work is executed in accordance with the Contract, complete in all parts and in accordance with approved practices and customs, and of the required finish and workmanship. Contractor further warrants that unless otherwise specified, all materials and equipment incorporated in the Work under the Contract are new. Owner may, at its option, agree in writing to waive any failure of the Work to conform to the Contract, and to accept a reduction in the Contract price for the cost of repair or diminution in value of the Work by reason of such defect. Absent such a written agreement, Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute and is not waived by any inspection or observation by Owner, A/E or others, by making any progress payment or final payment, by the use or occupancy of the Work or any portion thereof by Owner, at any time, or by any repair or correction of such defect made by Owner.

13.2 Warranty Period. Except as may be otherwise specified or agreed, Contractor shall repair all defects in materials, equipment, or workmanship appearing within one year from the date of Substantial Completion of the Work. If Substantial Completion occurs by phase, then the warranty period for that particular Work begins on the date of such occurrence, or as otherwise stipulated on the Certificate of Substantial Completion for the particular Work.

13.3 Limits on Warranty. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

13.3.1 Modification or improper maintenance or operation by persons other than Contractor, Subcontractors, or any other individual or entity for whom Contractor is not responsible, unless Owner is compelled to undertake maintenance or operation due to the neglect of Contractor.

13.3.2 Normal wear and tear under normal usage after acceptance of the Work by Owner.

13.4 Events Not Affecting Warranty. Contractor's obligation to perform and complete the Work in a good and workmanlike manner in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of defective Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

13.4.1 Observations by Owner and/or A/E;

13.4.2 Recommendation to pay any progress or final payment by A/E;

13.4.3 The issuance of a certificate of Substantial Completion or any payment by Owner to Contractor under the Contract Documents;

13.4.4 Use or occupancy of the Work or any part thereof by Owner**;**

13.4.5 Any acceptance by Owner or any failure to do so;

13.4.6 Any review of a Shop Drawing or sample submittal; or

13.4.7 Any inspection, test or approval by others.

13.5 Separate Warranties. If a particular piece of equipment or component of the Work for which the Contract requires a separate warranty is placed in continuous service before Substantial Completion, the warranty period for that equipment or component will not begin until Substantial Completion, regardless of any warranty agreements in place between suppliers and/or Subcontractors and Contractor. ODR will certify the date of service commencement in the Substantial Completion certificate.

13.5.1 In addition to Contractor's warranty and duty to repair, Contractor expressly assumes all warranty obligations required under the Contract for specific building components, systems and equipment.

13.5.2 Contractor may satisfy any such obligation by obtaining and assigning to Owner a complying warranty from a manufacturer, supplier, or Subcontractor. Where an assigned warranty is tendered and accepted by Owner which does not fully comply with the requirements of the Contract, Contractor remains liable to Owner on all elements of the required warranty not provided by the assigned warranty.

13.6 Correction of Defects. Upon receipt of written notice from Owner, or any agent of Owner designated as responsible for management of the warranty period, of the discovery of a defect, Contractor shall promptly remedy the defect(s), and provide written notice to Owner and designated agent indicating action taken. In case of emergency where delay would cause serious risk of loss or damage to Owner, or if Contractor fails to remedy within thirty (30) days, or within another period agreed to in writing, Owner may correct the defect and be reimbursed the cost of remedying the defect from Contractor or its surety.

13.7 Certification of No Asbestos Containing Materials or Work. Contractor shall ensure compliance with the Asbestos Hazard Emergency Response Act (AHERA– 40 C.F.R. § 763-99(7)) from all Subcontractors and materials suppliers, and shall provide a notarized certification to Owner that all equipment and materials used in fulfillment of their Contract responsibilities are non Asbestos Containing Building Materials (ACBM). This certification must be provided no later than Contractor's application for Final Payment.

Article 14. Suspension and Termination

14.1 Suspension of Work for Cause. Owner may, at any time without prior notice, suspend all or any part of the Work, if after reasonable observation and/or investigation, Owner determines it is necessary to do so to prevent or correct any condition of the Work, which constitutes an immediate safety hazard, or which may reasonably be expected to impair the integrity, usefulness or longevity of the Work when completed.

14.1.1 Owner will give Contractor a written notice of suspension for cause, setting forth the reason for the suspension and identifying the Work suspended. Upon receipt of such notice, Contractor shall immediately stop the Work so identified. As soon as practicable following the issuance of such a notice, Owner will initiate and complete a further investigation of the circumstances giving rise to the suspension, and issue a written determination of the findings.

14.1.2 If it is confirmed that the cause was within the control of Contractor, Contractor will not be entitled to an extension of time or any compensation for delay resulting from the suspension. If the cause is determined not to have been within the control of Contractor, and the suspension has prevented Contractor from completing the Work within the Contract Time, the suspension is an excusable delay and a time extension will be granted through a Change Order.

14.1.3 Suspension of Work under this provision will be no longer than is reasonably necessary to remedy the conditions giving rise to the suspension.

14.2 Suspension of Work for Owner's Convenience. Upon seven (7) days written notice to Contractor, Owner may at any time without breach of the Contract suspend all or any portion of the Work for a period of up to thirty (30) days for its own convenience. Owner will give Contractor a written notice of suspension for convenience, which sets forth the number of suspension days for which the Work, or any portion of it, and the date on which the suspension of Work will cease. When such a suspension prevents Contractor from completing the Work within the Contract Time, it is an excusable delay. A notice of suspension for convenience may be modified by Owner at any time on seven (7) days written notice to Contractor. If Owner suspends the Work for its convenience for more than sixty (60) consecutive days, Contractor may elect to terminate the Contract pursuant to the provisions of the Contract.

14.3 Termination by Owner for Cause.

14.3.1 Upon written notice to Contractor and its surety, Owner may, without prejudice to any right or remedy, terminate the Contract and take possession of the Site and of all materials, equipment, tools, construction equipment, and machinery thereon owned by Contractor under any of the following circumstances:

14.3.1.1 Persistent or repeated failure or refusal, except during complete or partial suspensions of work authorized under the Contract, to supply enough properly skilled workmen or proper materials;

14.3.1.2 Persistent disregard of laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, including ODR;

14.3.1.3 Persistent failure to prosecute the Work in accordance with the Contract, and to ensure its completion within the time, or any approved extension thereof, specified in the Contract;

14.3.1.4 Failure to remedy defective work condemned by ODR;

14.3.1.5 Failure to pay Subcontractors, laborers, and material suppliers pursuant to Tex. Gov't Code, Chapter 2251;

14.3.1.6 Persistent endangerment to the safety of labor or of the Work;

14.3.1.7 Failure to supply or maintain statutory bonds or to maintain required insurance, pursuant to the Contract;

14.3.1.8 Any material breach of the Contract; or

14.3.1.9 Contractor's insolvency, bankruptcy, or demonstrated financial inability to perform the Work.

14.3.2 Failure by Owner to exercise the right to terminate in any instance is not a waiver of the right to do so in any other instance.

14.3.3 Should Owner decide to terminate the Contract under the provisions of Section 14.3, it will provide to Contractor and its surety thirty (30) days prior written notice.

14.3.4 Should Contractor or its surety, after having received notice of termination, demonstrate to the satisfaction of Owner that Contractor or its surety are proceeding to correct such default with diligence and promptness, upon which the notice of termination was based, the notice of termination may be rescinded in writing by Owner. If so rescinded, the Work may continue without an extension of time.

14.3.5 If Contractor or its surety fails, after written notice from Owner to commence and continue correction of such default with diligence and promptness to the satisfaction of Owner within thirty (30) days following receipt of notice, Owner may arrange for completion of the Work and deduct the cost of completion from the unpaid Contract Sum.

14.3.5.1 This amount includes the cost of additional Owner costs such as A/E services, other consultants, and contract administration.

14.3.5.2 Owner will make no further payment to Contractor or its surety unless the costs to complete the Work are less than the Contract balance, then the difference shall be paid to Contractor or its surety. If such costs exceed the unpaid balance, Contractor or its surety will pay the difference to Owner.

14.3.5.3 This obligation for payment survives the termination of the Contract.

14.3.5.4 Owner reserves the right in termination for cause to take assignment of all the Contracts between Contractor and its Subcontractors, vendors, and suppliers. ODR will promptly notify Contractor of the contracts Owner elects to assume. Upon receipt of such notice, Contractor shall promptly take all steps necessary to effect such assignment.

14.4 Conversion to Termination for Convenience. In the event that any termination of Contractor for cause under Section 14.3 is later determined to have been improper, the termination shall automatically convert to a termination for convenience under Section 14.5 and Contractor's recovery for termination shall be strictly limited to the payments allowable under Section 14.5.

14.5 Termination for Convenience of Owner. Owner reserves the right, without breach, to terminate the Contract prior to, or during the performance of the Work, for any reason. Upon such an occurrence, the following shall apply:

14.5.1 Owner will immediately notify Contractor and A/E in writing, specifying the reason for and the effective date of the Contract termination. Such notice may also contain instructions necessary for the protection, storage or decommissioning of incomplete work or systems, and for safety.

14.5.2 Upon receipt of the notice of termination, Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due at that point in the Contract:

14.5.2.1 Stop all work.

14.5.2.2 Place no further subcontracts or orders for materials or services.

14.5.2.3 Terminate all subcontracts for convenience.

14.5.2.4 Cancel all materials and equipment orders as applicable.

14.5.2.5 Take action that is necessary to protect and preserve all property related to the Contract which is in the possession of Contractor.

14.5.3 When the Contract is terminated for Owner's convenience, Contractor may recover from Owner payment for all Work executed. Contractor may not claim lost profits on other work or lost business opportunities.

14.6 Termination By Contractor. If the Work is stopped for a period of ninety (90) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of Contractor or Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with Contractor, then Contractor may, upon thirty (30) additional days written notice to ODR, terminate the Contract and recover from Owner payment for all Work executed, but not lost profits on other work or lost business opportunities. If the cause of the Work stoppage is removed prior to the end of the thirty (30) day notice period, Contractor may not terminate the Contract.

14.7 Settlement on Termination. When the Contract is terminated for any reason, at any time prior to one hundred eighty (180) days after the effective date of termination, Contractor shall submit a final termination settlement proposal to Owner based upon recoverable costs as provided under the Contract. If Contractor fails to submit the proposal within the time allowed, Owner may determine the amount due to Contractor because of the termination and pay the determined amount to Contractor.

Article 15. Dispute Resolution

15.1 Unresolved Contractor Disputes. The dispute resolution process provided for in Tex. Gov't Code, Chapter 2260, shall be used by Contractor to attempt to resolve any claim for breach of Contract made by Contractor that is not resolved under procedures described throughout the Uniform General Conditions, Supplementary Conditions, or Special Conditions of the Contract.

15.2 Alternative Dispute Resolution Process. Owner may establish a dispute resolution process to be utilized in advance of that outlined in Tex. Gov't Code, Chapter 2260.

15.3 Nothing herein shall hinder, prevent, or be construed as a waiver of Owner's right to seek redress on any disputed matter in a court of competent jurisdiction.

15.4 Nothing herein shall waive or be construed as a waiver of the State's sovereign immunity.

Article 16. Miscellaneous

16.1 Supplementary General and Special Conditions. When the Work contemplated by Owner is of such a character that the foregoing Uniform General Conditions of the Contract cannot adequately cover necessary and additional contractual relationships, the Contract may include Supplementary General and Special Conditions as described below:

16.1.1 Supplementary General Conditions may describe the standard procedures and requirements of contract administration followed by a contracting agency of the State. Supplementary General Conditions may expand upon matters covered by the Uniform General Conditions, where necessary, provided the expansion does not weaken the character or intent of the Uniform General Conditions. Supplementary General Conditions are of such a character that it is to be anticipated that a contracting agency of the State will normally use the same, or similar, conditions to supplement each of its several projects.

16.1.2 Special Conditions shall relate to a particular Project and be unique to that Project but shall not weaken the character or intent of the Uniform General Conditions.

16.2 Federally Funded Projects. On Federally funded projects, Owner may waive, suspend or modify any Article in these Uniform General Conditions which conflicts with any Federal statue, rule, regulation or procedure, where such waiver, suspension or modification is essential to receipt by Owner of such Federal funds for the Project. In the case of any Project wholly financed by Federal funds, any standards required by the enabling Federal statute, or any Federal rules, regulations or procedures adopted pursuant thereto, shall be controlling.

16.3 Internet-based Project Management Systems. At its option, Owner may administer its design and construction management through an Internet-based management system. In such cases, Contractor shall conduct communication through this media and perform all Project related functions utilizing this database system. This includes correspondence, submittals, Requests for Information, vouchers or payment requests and processing, amendment, Change Orders and other administrative activities.

16.3.1 Accessibility and Administration.

16.3.1.1 When used, Owner will make the software accessible via the Internet to all Project team members.

16.3.1.2 Owner shall administer the software.

16.3.2 Training. When used, Owner shall provide training to the Project team members.

End of Uniform General Conditions

SUPPLEMENTARY GENERAL CONDITIONS
TO THE 2010 EDITION OF THE UNIFORM GENERAL CONDITIONS

The following Supplementary General Conditions amend and/or supplement the 2010 Edition of the Uniform General Conditions

Article 1. Definitions

Article 1 is supplemented to add the following new subsection:

1.44.1 *Wage Rate Notification* means the written notification described in Subsection 2.2.1.

1.7 Close out Documents.

Section 1.7 is supplemented to add the following new sentence at the end of the paragraph:

If the project equals or exceed $1,000,000, close-out documents shall also include building component information and values as specified in the Texas Higher Education System Generic Building Componentization Guidelines. If the project is less than $1,000,000, building component information and values shall be provided upon request by the Owner.

Article 2. Wage Rates and Other Laws Governing Construction

2.1 Environmental Regulations.

Section 2.1 is supplemented to replace the last sentence of the paragraph with the following sentence:

Contractor shall not incorporate hazardous or environmentally regulated materials into the Work including, but not limited to, asbestos, lead paint, transformers with any amount of pcb's, mercury ballasts, etc. without prior approval of the Owner, and shall provide an affidavit attesting to such in association with request for Substantial Completion inspection.

2.2 Wage Rates.

2.2.3 Complaints of Violations.

Subsection 2.2.3 is supplemented to add the following new paragraphs:

2.2.3.3 Cooperation with Owner's Investigation. Contractor shall cooperate with Owner during any investigations hereunder. Such cooperation shall include, but not necessarily be limited to, timely providing the information and/or documentation requested by Owner, which may include certified payroll records on Form WH-347 as promulgated by the U.S. Department of Labor, as may be revised from time to time and in unlocked and unprotected Excel format; copies of Wage Rate Notifications; and copies of any and all Contract Documents between Contractor and any Subcontractors.

2.2.3.4 Notification to Owner. In the event Contractor or Subcontractor elect to appeal an initial determination made pursuant to paragraph 2.2.3.1, the Contractor and/or Subcontractor, as applicable, shall deliver notice thereof to Owner.

2.3 Venue for Suits.

Section 2.3 is supplemented to replace the entire paragraph with the following paragraph:

The venue for any suit arising from this contract will be in a court of competent jurisdiction in Nacogdoches County, Texas.

Article 3. General Responsibilities of Owner and Contractor

3.1.2 Owner's Designated Representative.

Subsection 3.1.2 is supplemented to add the following new paragraph:

3.1.2.4 Notwithstanding, the Owner's HUB Coordinator shall be the Owner's Representative and sole point of contact regarding approval of the Contractor's good faith effort related to the original HUB Subcontracting Plan and subsequent changes.

3.2 Role of Architect/Engineer.

Section 3.2 is supplemented to add the following new subsection:

3.2.4 Progress Meetings and Minutes. A/E shall prepare the agenda and conduct meetings with Owner and Contractor to discuss such matters as procedures, progress, coordination, scheduling, and status of the Work on a regular basis as determined by Owner. Contractor shall cooperate with A/E whose responsibility is the preparation of meeting minutes for distribution to Contractor and Owner. In the absence of A/E at such meetings, Contractor shall be responsible for preparing and distributing minutes to Owner and A/E. If, in the opinion of Owner, it is feasible for A/E to conduct the meeting via telecommunication, A/E shall conduct the meeting and prepare and distribute the minutes to Owner and Contractor. A/E shall solicit input for the meeting agenda from Contractor and Owner a minimum of forty-eight (48) hours before a meeting and distribute the agenda a minimum of thirty-six (36) hours before a meeting and distribute the minutes, reports, and other similar documentation within one week of the respective work or event, unless directed otherwise by Owner.

3.3 Contractor's General Responsibilities.

3.3.2 Contractor's Management Personnel.

Subsection 3.3.2 is supplemented to add the following new paragraph:

3.3.2.1 Contractor shall implement its existing quality control and safety plan for the Project, and shall use such standard of care as a contractor of ordinary prudence would exercise in the same or similar circumstances.

Article 5. Bonds and Insurance

5.2 Insurance Requirements.

5.2.2.1 Insurance Coverage Required.

5.2.2.1.5 All-Risk Builder's Risk Insurance.

Subsection 5.2.2.1.5.2 is supplemented to replace the entire paragraph with the following paragraph:

5.2.2.1.5.2 Per paragraph 12.2, upon notification by the Owner that the Owner desires to occupy all or a portion of the Work prior to Substantial Completion, the Contractor shall be responsible for notifying and securing prior approval from the insurance company to ensure the coverage shall not be cancelled or lapsed on account of partial occupancy. Such approval shall not be unreasonably withheld and must be secured within a timeframe to meet the Owner's needs.

Subsection 5.2.2.1.5.4 is supplemented to add the following new paragraphs:

5.2.2.1.5.4.1 The require insurance shall include coverage for Owner's property whether or not in the care, custody and control of Contractor prior to construction, during construction and during the warranty period (i.e., in the care, custody and control in the case of Builder's Risk Insurance, not in the care, custody and control in the case of General Liability, etc.).

5.2.2.1.6 "Umbrella" Liability Insurance

Subsection 5.2.2.1.6 is supplemented to add the following new paragraph:

5.2.2.1.6.1 "Umbrella" Liability Insurance shall be maintained for an amount of not less than $1,000,000 if the contract amount is less than $1,000,000. If the contract amount is $1,000,000 or more, the "Umbrella" Liability insurance shall be maintained for an amount of not less than $5,000,000.

Subsection 5.2.4 is supplemented to add the following new paragraphs:

5.2.4.1 Contractor shall deliver to Owner true and complete copies of the certificates prior to the issuance of any Notice to Proceed.

5.2.4.2 Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

5.2.4.3 The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.2.4.4 The insurance coverage and limits established in the Uniform General Conditions, Supplementary General Conditions, or Special Conditions shall not be interpreted as any representation or warranty that the insurance coverage and limits necessarily will be adequate to protect Contractor.

Article 6. Construction Documents, Coordination Documents, and Record Documents.

6.1 Drawings and Specifications.

6.1.1 Copies Furnished.

Subsection 6.1.1 is supplemented to add the following new paragraph:

6.1.1.1 The Contractor will be furnished, free of charge, the number of complete sets of Drawings and Specifications as agreed between the Contractor and the ODR.

Article 9 Construction Schedules.

9.3 Work Progress Schedule.

9.3.1 Schedule Requirements.

Paragraph 9.3.1.1 is supplemented to add the following sentence at the end of the paragraph:

In the event the Baseline Schedule, or any revisions thereto, reflect a Substantial Completion date that will occur sooner than the Final Completion date as set forth in the Contract Documents, or other similar agreement, the period of time between the Substantial Completion date and the Final Completion date shall be considered the "float."

9.6 Modification of the Contract Time.

Subsection 9.6.2 is supplemented to add the following sentence at the end of the paragraph:

Provided, however, all float must be consumed by approved excusable delays to the critical path before any extension of time can be granted.

Article 10. Payments

10.2 Progress Payments.

Section 10.2 is supplemented to add the following sentence to the end of the paragraph:

Owner elects to receive Pay Applications in hard copy format.

10.3 Owner's Duty to Pay.

Section 10.3 is supplemented to add the following sentence to the end of the paragraph:

Notwithstanding, the University reserves the right to withhold payments if the HUB Subcontracting Plan Progress Assessment Reports are not submitted as required by subsection 10.2.1.3. Once Progress Assessment Reports are received, payments will resume.

10.3.2 Retainage

Subsection 10.3.2 is supplemented to add the following new paragraph:

10.3.2.4 Retainage shall be withheld in the amount of 5% of the total earned amount when the total contract price estimate is $400,000 or greater and 10% of the total earned amount when the total contract price estimate is less than $400,000.

Article 11. Changes

11.8 Pricing Change Order Work.

Subsection 11.8.1 is supplemented to replace the last sentence of the paragraph with the following sentence:

Allowable percentages for overhead and profit on any specific change shall not exceed twelve (12) percent for the first $10,000 of value for self-performed work or portion thereof, ten (10) percent for the second $10,000 of value for self-performed work or portion thereof and seven and a half (7.5) percent for any value of the self-performed work that exceed $20,000.

Article 13. Warranty and Guarantee

Article 13 is supplemented to add the following new section:

13.8 Material Safety Data Sheet. The Contractor shall submit Material Safety Data Sheets (MSDS) for all products used in the project. These MSDS must be provided no later than the Contractor's application for Final Payment.

End of Supplementary General Conditions

EXHIBIT E

PREVAILING WAGE RATES

Stephen F. Austin State University
MINIMUM WAGE RATE DETERMINATION

Stephen F. Austin State University (SFA) is the contracting agency for this construction project. The following statute requires the contracting agency to specify the general minimum rates of wages in contracts that are bid.

Government Code 2258 "Construction of Public Works in State and Municipal or Political Subdivisions; Prevailing Wage Rates to be maintained"; and

The Uniform General and Supplementary General Conditions for Stephen F. Austin State University Construction Contracts.

Pursuant to the requirements of this statute, SFA has determined that the attached rates of wages are paid to various classifications of workers in Nacogdoches County. Total hourly compensations to each worker must equal or exceed the minimum wage rates stated in the "2015 SFA Prevailing Wage" attachment, Total Column. Contributions by worker toward health, pension, vacation, and the like are part of the worker's pay; contributions by the employer are not. Any dollar amounts shown in the column titled "Fringe" may be paid either in cash or in kind. Workers in classifications where rates are not identified shall be paid not less than the minimum rate of "General Laborer".

All hours of work over 40 hours per week are overtime and will be compensated at the rate of 1 and ½ times the regular wage.

A contractor who violates these prevailing wage rules shall be required to pay to SFA $60 for each worker employed for each calendar day or part of the day that worker is paid less than the wage rates stipulated by the contract.

Wage Rate Determination Appeal procedures can be found on the SFA website, http://www.sfasu.edu/purchasing/721.asp.

STEPHEN F. AUSTIN STATE UNIVERSITY

Physical Plant Department
P.O. Box 13031, SFA Station • Nacogdoches, Texas 75962-3031
Phone (936) 468-3906 • Fax (936) 468-4446

Worker Wage Rate Form

This form shall be used by all construction managers, contractors, sub-contractors engaged in the execution of SFA construction contracts in accordance with the Prevailing Minimum Wage Rate guidelines and the Uniform General and Supplementary Conditions. This completed notice must be delivered to the Physical Plant and accepted by all workers involved in the project prior to substantial completion or with pay applications. The employer shall submit separate Worker Wage Rate Forms for workers engaged in multiple classifications.

Physical Plant Project No. _____ Project Name_____

SECTION 1

Print entire form.

Employee Name: _____

Employer Name: _____

Worker Classification is shown on Prevailing Wage Rate Schedule: Yes ☐ No ☐

Worker Classification: _____
(Refer to Minimum Prevailing Wage Rate schedule contained within the Agreement for the project.)

	Hourly Rate
SFA Minimum Prevailing Wage Rate:	$_____
Actual Wage Rate:	$_____
Actual Employer Fringe Benefit Rate:	$_____

(Contributions by a worker toward health, pension, vacation and the like are a part of the Actual Wage Rate contributions by the Employer shown below.)

As the Employee Named Above, I hereby acknowledge receipt of this notice and by my signature below indicate my agreement with both the Classification of work I have been assigned on this project and to the proposed wages to be paid to me for such work.

Employee Signature: _____ Date: _____/_____/_____

SECTION 2

To the "Actual Wage Rate" above, the Employer shall indicate the total of all labor burden costs, Federal and State Unemployment, Social Security, Medicare, Health Insurance and Retirement.
(Burden does not include per diem, travel expense, small tools or other items. For clarification of items not listed contact Physical Plant Department, Construction Services.)

Hourly Burden Cost

$_____

Total Hourly Rate

Total Hourly Rate for Contract: Actual Wage Rate + Hourly Burden Cost $_____

Employer Signature or Seal: _____ Date: _____/_____/_____

2015 SFA Prevailing Wage Rate

Craft /Classification	Base	Fringe	Total
Glass Glazier	$12.00	$0.00	$12.00
Glass Common Laborer/Helper	$8.00	$0.00	$8.00
HVAC Journeyman Technician	$16.75	$0.00	$16.75
HVAC Common laborer/Helper	$9.00	$0.00	$9.00
Fencing Journeyman Installer	$14.00	$0.00	$14.00
Fencing Common Laborer/Helper	$9.00	$0.00	$9.00
Exavating/Dirtwork Backhoe Operator	$13.00	$0.50	$13.50
Exavating/Dirtwork Bulldozer Operator	$14.00	$0.00	$14.00
Exavating/Dirtwork Front End Loader Operator	$12.00	$0.00	$12.00
Exavating/Dirtwork Trackhoe Operator	$14.00	$0.00	$14.00
Exavating/Dirtwork Truck Driver	$13.00	$0.00	$13.00
Exavating/Dirtwork Common Laborer/Helper	$11.00	$0.00	$11.00
Asbestos Abatement Common Laborer/Helper	$10.00	$0.00	$10.00
Concrete Finisher	$12.50	$0.00	$12.50
Concrete Common Laborer/Helper	$10.00	$0.00	$10.00
Roofing Journeyman	$16.00	$0.00	$16.00
Roofing Common Laborer/Helper	$13.00	$0.00	$13.00
Insulation Insulator	$12.00	$0.00	$12.00
Insulation Common Laborer/Helper	$10.00	$0.00	$10.00
Drywall/ Metal Stud Installer	$14.00	$0.00	$14.00
Drywall Common Laborer/Helper	$10.00	$0.00	$10.00
Landscaping Journeyman	$12.00	$0.00	$12.00
Landscaping Foreman	$16.00	$2.51	$18.51
Landscaping Service Technician	$17.00	$2.67	$19.67
Landscaping Common Laborer/Helper	$10.00	$0.00	$10.00
Millwork Cabinet Maker	$16.00	$2.03	$18.03
Millwork Apprentice Carpenter	$15.00	$0.00	$15.00
Millwork Journeyman Carpenter	$16.00	$0.00	$16.00
Millwork Common Laborer/Helper	$9.00	$0.00	$9.00
Site Utilites Foreman	$18.00	$0.00	$18.00
Site Utilities Equipment Operator	$12.00	$0.00	$12.00
Site Utilities Truck Driver	$11.25	$0.00	$11.25
Site Utilities Journeyman	$11.00	$0.00	$11.00
Site Utilities Common Laborer/Helper	$8.50	$0.00	$8.50
Electrical Journeyman Electrician	$21.00	$0.00	$21.00
Electrical Common Laborer/Helper	$12.00	$1.17	$13.17
Plumbing Journeyman	$20.00	$0.00	$20.00
Plumbing Apprentice	$12.50	$2.50	$15.00
Plumbing Common Laborer/Helper	$8.00	$2.00	$10.00
Acoustical Ceiling Journeyman Installer	$13.00	$0.00	$13.00
Acoustical Ceiling Common Laborer/Helper	$9.00	$0.00	$9.00
Painting Journeyman Painter	$10.50	$1.37	$11.87
Lead Painter	$13.00	$0.00	$13.00

2015 SFA Prevailing Wage Rate

Craft /Classification	Base	Fringe	Total
Painting Common Laborer/Helper	$9.00	$0.00	$9.00
Steel Erection Journeyman/Iron Worker	$18.00	$0.00	$18.00
Steel Erection Truck Driver	$18.50	$0.00	$18.50
Steel Erection Ironworker - Structural	$20.00	$0.00	$20.00
Steel Erection Welder	$15.00	$0.00	$15.00
Steel Erection Common Laborer/Helper	$10.00	$0.00	$10.00
Flooring Journeyman Installer	$13.88	$2.19	$16.07
Floor Tile Setter	$20.00	$0.00	$20.00
Floor Layer	$18.00	$0.00	$18.00
Flooring Common Laborer/Helper	$9.00	$0.00	$9.00
Mason	$18.00	$0.00	$18.00
Masonry Common Laborer/Helper	$8.50	$0.00	$8.50
Mason Tender	$9.50	$0.00	$9.50
Asphalt/Paving Journeyman	$25.00	$0.00	$25.00
Asphalt/Paving Equipment Operator (Asphalt Pav	$15.00	$0.00	$15.00
Asphalt/Paving Common Laborer/Helper	$15.00	$0.00	$15.00
Asphalt/Paving Truck Driver	$15.00	$0.00	$15.00
Plastering/EIFS Laborer (Tender)	$11.00	$0.00	$11.00
Plastering/EIFS Journeyman	$16.00	$0.00	$16.00
Plasterer	$20.00	$0.00	$20.00
Fire Alarm Systems Low Voltage System Technicia	$20.10	$3.29	$23.39
Fire Alarm Systems Low Voltage System Helper (L	$12.00	$2.60	$14.60
Elevator Mechanic	$37.33	$0.00	$37.33
Elevator Helper	$18.67	$0.00	$18.67
Elevator Foreman	$42.00	$0.00	$42.00
Technology/Network Installer	$12.00	$3.00	$15.00
General Laborer	$9.00	$0.00	$9.00