TEXAS
Health and Human Services

Attachment H-2

Project Manual

Project Manual

for

Texas Health & Human Services Commission
Lufkin State Supported Living Center
6844 N. U.S. Highway 69, Pollok, TX 75959

New HVAC Units at Buildings 506, 523, and 524

PROJECT: #25-102-LFL

GFE PROJECT: #25026

Issued for Construction

November 13, 2025

Garner·Fritsche ENGINEERING, INC.

Texas Registered Engineering Firm F-5712

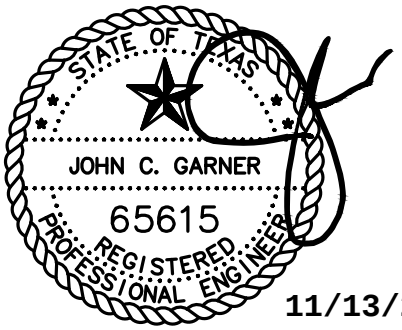
3 DESIGN

9301 Southwest Freeway, #350
Houston, Texas 77074
Phone: (346) 484-3300

SECTION 00 01 07
SEALS PAGE

MEP ENGINEER

Garner Fritsche Engineering, Inc.
John C. Garner, P.E.
8554 Katy Freeway, Suite 101
Houston, Texas 77024
Phone: (713) 432-1422
Texas Registered Engineering Firm Number: F-5712



11/13/25

Garner Fritsche Engineering, Inc.
Greg W. Mercer, P.E.
8554 Katy Freeway, Suite 101
Houston, Texas 77024
Phone: (713) 432-1422
Texas Registered Engineering Firm Number: F-5712

11/13/25

ARCHITECT

THR3E Design LLC
Ruben DeLaO, AIA
9301 Southwest Freeway, Suite 350
Houston, Texas 77074
Phone: (346) 484-3300

11/13/2025

END OF SECTION

SECTION 00 01 10
TABLE OF CONTENTS

END OF SECTION

SECTION 00 01 15
LIST OF DRAWING SHEETS

DRAWINGS

REFER TO THE DRAWING INDEX, LOCATED ON SHEET G-100 GENERAL INFORMATION, FOR A COMPLETE LIST OF THE DRAWINGS.

END OF SECTION

SECTION 00 31 00
AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 EXISTING CONDITIONS

A. Certain information relating to existing surface and subsurface conditions and structures is available to bidders but will not be part of Contract Documents, as follows:

B. Hazardous Material Survey: Entitled ACM Locations by Area - Building 506 Angelina/Oak Hill, dated 06/18/1999.
   1. Original copy is available for inspection at Owner's offices during normal business hours.

C. Hazardous Material Survey: Entitled ACM Locations by Area - Building 523 Sabine/Castle Pines, dated 06/18/1999.
   1. Original copy is available for inspection at Owner's offices during normal business hours.

D. Hazardous Material Survey: Entitled ACM Locations by Area - Building 524 Sabine/Castle Pines, dated 06/18/1999.
   1. Original copy is available for inspection at Owner's offices during normal business hours.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

ACM Locations By Area

669 - Lufkin State School

report: area-H1.frx
run date: 06/18/99

AREAS WITH ASBESTOS-CONTAINING MATERIALS (ACM) by Building

506 ANGELINA/OAK HILL

Area ID	Area Description / Material Code and Description	ACM Status	Surveyed Quantity	Hazard / Response	Drawing ID
C03	Transite Panel Ceiling (LQ)	Yes	75	**0 / O**	LFS506-1C
	CFB Cement fiber board (roof,soffit,ceiling,wall panel				
C04	Gypsum Board Ceiling	Yes	2,500	**0 / O**	LFS506-1C
	DW Drywall construction				
F01	12"x12" Floor Tile, Beige Streak	Yes	600	**0 / O**	LFS506-1F
	RFT Resilent floor tiles				
F03	9"x9" Floor Tile, White (LQ)	Yes	100	**0 / O**	LFS506-1F
	RFT Resilent floor tiles				
O01	Window Caulking	Yes	400	**2 / O**	LFS506-1F
	MISC Miscellaneous material not fitting other category				

End of List for Building

J-2 ACM Locations By Room

ACM Locations By Room

669 - Lufkin State School

report: room-a2.frx
run date: 06/18/99

506 ANGELINA/OAK HILL

Room ID	Use / Area ID / Description / Material Code / Description	Dept.	Occupant	Hazard / Response	Drawing ID
1					
10					
11					
12					
13					
14	Area: C04 Gypsum Board Ceiling Mat: DW Drywall construction			0 / O	LFS506-1C
15	Area: C04 Gypsum Board Ceiling Mat: DW Drywall construction			0 / O	LFS506-1C
16	Area: C04 Gypsum Board Ceiling Mat: DW Drywall construction			0 / O	LFS506-1C
17					
18					
19					
19A	Area: C03 Transite Panel Ceiling (LQ) Mat: CFB Cement fiber board (roof,soffit,ceiling,wall panel			0 / O	LFS506-1C
2					
20					
21					
23					
23A	Area: C03 Transite Panel Ceiling (LQ) Mat: CFB Cement fiber board (roof,soffit,ceiling,wall panel			0 / O	LFS506-1C
24	Area: F01 12"x12" Floor Tile, Beige Streak Mat: RFT Resilent floor tiles			0 / O	LFS506-1F
25	Area: F01 12"x12" Floor Tile, Beige Streak Mat: RFT Resilent floor tiles			0 / O	LFS506-1F
26	Area: F01 12"x12" Floor Tile, Beige Streak Mat: RFT Resilent floor tiles			0 / O	LFS506-1F
27	Area: C04 Gypsum Board Ceiling Mat: DW Drywall construction			0 / O	LFS506-1C
28	Area: C04 Gypsum Board Ceiling Mat: DW Drywall construction			0 / O	LFS506-1C
29					

	Area: F03 9"x9" Floor Tile, White (LQ) Mat: RFT Resilent floor tiles		**0 / O**	LFS506-1F
3				
31	Area: F01 12"x12" Floor Tile, Beige Streak Mat: RFT Resilent floor tiles		**0 / O**	LFS506-1F
32	Area: F03 9"x9" Floor Tile, White (LQ) Mat: RFT Resilent floor tiles		**0 / O**	LFS506-1F
33	Area: F03 9"x9" Floor Tile, White (LQ) Mat: RFT Resilent floor tiles		**0 / O**	LFS506-1F
4	Area: C04 Gypsum Board Ceiling Mat: DW Drywall construction		**0 / O**	LFS506-1C
5	Area: C04 Gypsum Board Ceiling Mat: DW Drywall construction		**0 / O**	LFS506-1C
6				
7	Area: C04 Gypsum Board Ceiling Mat: DW Drywall construction		**0 / O**	LFS506-1C
8				
9	Area: F01 12"x12" Floor Tile, Beige Streak Mat: RFT Resilent floor tiles		**0 / O**	LFS506-1F
O01	Area: O01 Window Caulking Mat: MISC Miscellaneous material not fitting other category		**2 / O**	LFS506-1F

J-3 Laboratory Analysis Summary

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx
run date: 06/18/99

669 - Lufkin State School

Sample Analysis list of all samples by Field Sample ID

506 ANGELINA/OAK HILL

Lab ID / Field ID	Area ID / Mat Code	Area Description / Material Description	Layer / Material	Asbestos Content
LF 506-001	C03	Transite Panel Ceiling (LQ)	1: CFB	30% C
001	CFB	Cement fiber board (roof,soffit,ceiling,wall panel		
LF 506-002	F01	12"x12" Floor Tile, Beige Streak	1: RFT	3% C
002	RFT	Resilent floor tiles		
			2: FTMS	8% C
LF 506-003	F01	12"x12" Floor Tile, Beige Streak	1: RFT	3% C
003	RFT	Resilent floor tiles		
			2: FTMS	10% C
LF 506-004	F01	12"x12" Floor Tile, Beige Streak	1: RFT	4% C
004	RFT	Resilent floor tiles		
			2: FTMS	10% C
LF 506-005	F02	12"x12" Floor Tile, Dark Brown (LQ)	1: RFT	0%
005	RFT	Resilent floor tiles		
LF 506-006	F03	9"x9" Floor Tile, White (LQ)	1: RFT	2% C
006	RFT	Resilent floor tiles		
			2: FTMS	4% C
LF 506-007	C01	2'x4' Ceiling Tile, Fissures	1: SAT	0%
007	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 506-008	F04	12"x12" Floor Tile, Red/Brown (LQ)	1: RFT	0%
008	RFT	Resilent floor tiles		
LF 506-009	C01	2'x4' Ceiling Tile, Fissures	1: SAT	0%
009	SAT	Suspended acoustical tiles(lay-in,conceal spline)		

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx

669 - Lufkin State School

run date: 06/18/99

Sample Analysis list of all samples by Field Sample ID

LF 506-010	F05	Cove Base Mastic, Brown	1: RBMS	0%
010	RBMS	Mastic on resilent base, nosing, trim		
LF 506-011	F05	Cove Base Mastic, Brown	1: RBMS	0%
011	RBMS	Mastic on resilent base, nosing, trim		
LF 506-012	C01	2'x4' Ceiling Tile, Fissures	1: SAT	0%
012	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 506-013	C02	2'x4' Ceiling Tile, Speckles	1: SAT	0%
013	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 506-014	C02	2'x4' Ceiling Tile, Speckles	1: SAT	0%
014	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 506-015	A01	Duct Insulation Mastic	1: DTMS	0%
015	DTMS	Mastic on duct insulation		
LF 506-016	A01	Duct Insulation Mastic	1: DTMS	0%
016	DTMS	Mastic on duct insulation		
LF 506-017	A01	Duct Insulation Mastic	1: DTMS	0%
017	DTMS	Mastic on duct insulation		
LF 506-018	P01	Domestic Water Pipe Insulation	1: DWP-6	0%
018	DWP-6	to 6 Straight domestic water pipe insul		
LF 506-019	C02	2'x4' Ceiling Tile, Speckles	1: SAT	0%
019	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 506-020	F03	9"x9" Floor Tile, White (LQ)	1: RFT	2% C
020	RFT	Resilent floor tiles		
			2: FTMS	15% C
LF 506-021	F03	9"x9" Floor Tile, White (LQ)	1: RFT	2% C
021	RFT	Resilent floor tiles		
			2: FTMS	15% C

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx

669 - Lufkin State School

run date: 06/18/99

Sample Analysis list of all samples by Field Sample ID

LF 506-022	W01	Gypsum Wallboard	1: DW	0%
022	DW	Drywall construction		
LF 506-023	W01	Gypsum Wallboard	1: DW	0%
023	DW	Drywall construction		
LF 506-024	F05	Cove Base Mastic, Brown	1: DW	0%
024	DW	Drywall construction		
LF 506-025	O01	Window Caulking	1: MISC	6% C
025	MISC	Miscellaneous material not fitting other category		
LF 506-026	O01	Window Caulking	1: MISC	4% C
026	MISC	Miscellaneous material not fitting other category		
LF 506-027	O01	Window Caulking	1: MISC	5% C
027	MISC	Miscellaneous material not fitting other category		
LF 506-028	W01	Gypsum Wallboard	1: DW	0%
028	DW	Drywall construction		
LF 506-029	C04	Gypsum Board Ceiling	1: DW	0%
029	DW	Drywall construction		
LF 506-030	C04	Gypsum Board Ceiling	1: DWTX	2% C
030	DW	Drywall construction		
			2: DWGB	0%
LF 506-031	C04	Gypsum Board Ceiling	1: DW	0%
031	DW	Drywall construction		

End of List for Building

J-4 Homogeneous Area List

Homogeneous Area List

669 - Lufkin State School

List of all Homogeneous Areas By Building

report: area-L1.frx
run date: 06/18/99

506 ANGELINA/OAK HILL

Area ID	Area Description / Material Code/type	ACM Status	Surveyed Quantity	Hazard / Response	Drawing ID
A01	Duct Insulation Mastic	No	0	**0 / O**	LFS506-1P
	DTMS Mastic on duct insulation				
C01	2'x4' Ceiling Tile, Fissures	No	0	**1 / O**	LFS506-1C
	SAT Suspended acoustical tiles(lay-in,conceal spline)				
C02	2'x4' Ceiling Tile, Speckles	No	0	**1 / O**	LFS506-1C
	SAT Suspended acoustical tiles(lay-in,conceal spline)				
C03	Transite Panel Ceiling (LQ)	Yes	75	**0 / O**	LFS506-1C
	CFB Cement fiber board (roof,soffit,ceiling,wall panel				
C04	Gypsum Board Ceiling	Yes	2,500	**0 / O**	LFS506-1C
	DW Drywall construction				
F01	12"x12" Floor Tile, Beige Streak	Yes	600	**0 / O**	LFS506-1F
	RFT Resilent floor tiles				
F02	12"x12" Floor Tile, Dark Brown (LQ)	No	20	**0 / O**	LFS506-1F
	RFT Resilent floor tiles				
F03	9"x9" Floor Tile, White (LQ)	Yes	100	**0 / O**	LFS506-1F
	RFT Resilent floor tiles				
F04	12"x12" Floor Tile, Red/Brown (LQ)	No	100	**0 / O**	LFS506-1F
	RFT Resilent floor tiles				
F05	Cove Base Mastic, Brown	No	0	**0 / O**	LFS506-1F
	RBMS Mastic on resilent base, nosing, trim				
O01	Window Caulking	Yes	400	**2 / O**	LFS506-1F
	MISC Miscellaneous material not fitting other category				
P01	Domestic Water Pipe Insulation	No	0	**0 / O**	LFS506-1P
	DWP-6 to 6 Straight domestic water pipe insul				
W01	Gypsum Wallboard	No	0	**0 / O**	LFS506-1F
	DW Drywall construction				

End of List for Building

J-5 Laboratory Reports

Jimmie Ann Bolton
2105 Nathan Drive
Austin, Texas 78728-4530
512-251-8388

Accredited by the National Voluntary Laboratory Accreditation Program for BULK ASBESTOS FIBER ANALYSIS BY PLM under lab code **101735-0** **TDH 30-0052**

Paul Hise
Law Engineering & Environmental
3520 Executive Center Dr #G-100
Austin, Texas 78731

Date Received: November 30, 1998
Date Analysis: December 3, 1998
Date Report: December 3, 1998

BULK ASBESTOS TEST REPORT
PROJECT: LFS 669 506

Sample ID	Description	ASBESTOS DETECTED	MATRIX/OTHER FIBERS
LF 506-001	paint/transite	30% CHRYSOTILE	concrete, pigment
LF 506-002-a	tan floor tile	3% CHRYSOTILE	vinyl, clay
LF 506-002-b	black mastic	8% CHRYSOTILE	tar
LF 506-003-a	tan floor tile	3% CHRYSOTILE	vinyl, clay
LF 506-003-b	black mastic	10% CHRYSOTILE	tar
LF 506-004-a	tan floor tile	4% CHRYSOTILE	vinyl, clay
LF 506-004-b	black mastic	10% CHRYSOTILE	tar
LF 506-005	tan floor tile/yellow mastic	NONE DETECTED	vinyl, clay, glue
LF 506-006-a	white floor tile	2% CHRYSOTILE	vinyl, clay
LF 506-006-b	black mastic	4% CHRYSOTILE	tar
LF 506-007	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 506-008	orange floor tile	NONE DETECTED	vinyl, clay
LF 506-009	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 506-010	brown mastic	NONE DETECTED	glue
LF 506-011	yellow mastic	NONE DETECTED	glue
LF 506-012	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 506-013	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 506-014	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 506-015	black mastic/foil/paper/pink fibers	NONE DETECTED	cellulose, fibrous glass, tar
LF 506-016	black mastic/foil/paper/pink fibers	NONE DETECTED	cellulose, fibrous glass, tar

Jimmie Ann Bolton
2105 Nathan Drive
Austin, Texas 78728-4530
512-251-8388

Accredited by the National Voluntary Laboratory Accreditation Program for BULK ASBESTOS FIBER ANALYSIS BY PLM under lab code **101735-0** **TDH 30-0052**

Paul Hise
Law Engineering & Environmental
3520 Executive Center Dr #G-100
Austin, Texas 78731

Date Received: November 30, 1998
Date Analysis: December 3, 1998
Date Report: December 3, 1998

BULK ASBESTOS TEST REPORT

PROJECT: LFS 669 506

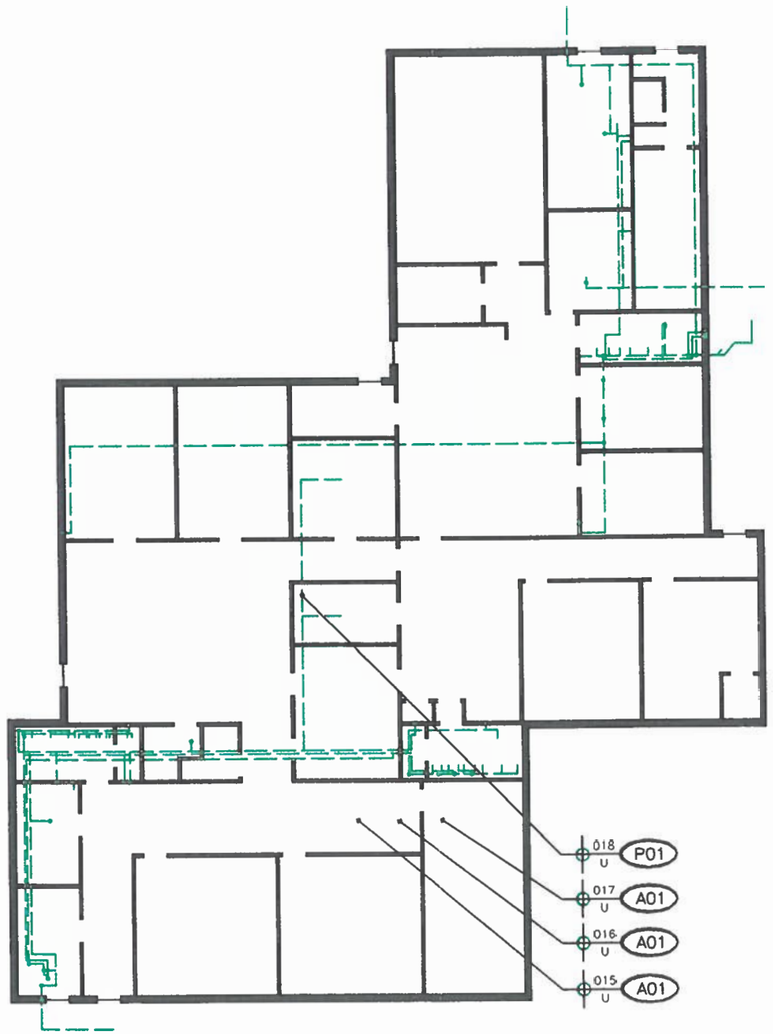
Sample ID	Description	ASBESTOS DETECTED	MATRIX/OTHER FIBERS
LF 506-017	black mastic/foil/paper/pink fibers	NONE DETECTED	cellulose, fibrous glass, tar
LF 506-018	foil/paper/yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 506-019	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 506-020-a	tan floor tile	2% CHRYSOTILE	vinyl, clay
LF 506-020-b	black mastic	15% CHRYSOTILE	tar
LF 506-021-a	tan floor tile	2% CHRYSOTILE	vinyl, clay
LF 506-021-b	black mastic	15% CHRYSOTILE	tar
LF 506-022	paint/texture/sheet rock	NONE DETECTED	cellulose, clay
LF 506-023	paint/sheet rock	NONE DETECTED	cellulose, clay
LF 506-024	yellow mastic	NONE DETECTED	glue
LF 506-025	white caulk	6% CHRYSOTILE	clay
LF 506-026	tan caulk	4% CHRYSOTILE	clay
LF 506-027	tan/gray caulks	5% CHRYSOTILE	clay
LF 506-028	paint/texture	NONE DETECTED	clay
LF 506-029	paint/texture/sheet rock	NONE DETECTED	cellulose, fibrous glass, clay
LF 506-030-a	paint/texture	2% CHRYSOTILE	clay
LF 506-030-b	sheet rock	NONE DETECTED	cellulose, fibrous glass, clay
LF 506-031	paint/texture/sheet rock	NONE DETECTED	cellulose, fibrous glass, clay

Jimmie Ann Bolton, Analyst

Percentages are approximate. Analysis by PLM & Dispersion staining. Laboratory's Accreditation or any use of its test reports in no way constitutes or implies product certification, approval, or endorsement by NIST or any government agency. Report must not be reproduced except in full with the approval of the laboratory. Test report related only to the items tested. . Small quantities of item may not be representative of items tested, so that low percentages of asbestos may not be detected. Testing method in accordance with EPA/600/R-93/116 July 1993. **Indicates Point Counted using Chalkley 25 random point graticule, a mechanical stage, and 400X, 400 points counted. 1% or less is negative for asbestos. Reports retained 3 years, tested items retained 30 days. LF 506

J-1 ACM Locations By Area

J-6 Building Drawings



BUILDING 506
PIPING INSULATION PLAN

STATE OF TEXAS
WAYNE C. MALEK
87922
REGISTERED
PROFESSIONAL ENGINEER
6/25/99

See Report Section B for applicability of P.E. seal

NORTH

TEXAS
MHMR

TEXAS DEPARTMENT OF MENTAL HEALTH & MENTAL RETARDATION
MAINTENANCE & CONSTRUCTION SECTION
909 W 45TH ST, BLDG 3
AUSTIN, TEXAS 78756
512-206-5880 FAX 512-206-5930

MANAGING CONSULTANT:
ERC
ENVIRONMENTAL RESOURCE CONSULTANTS
10300 N CENTRAL EXPWY
SUITE 296, DALLAS, TX 75231
214-692-8040 FAX 214-692-8043

ERC PROJ NO: 96-0456-D
QC DATE: BY:

CONSULTING ARCHITECT/ENGINEER:
LAWGIBB GROUP
LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
3520 Executive Center Drive
Suite G-100
Austin, Texas 78731
512/795-0360

TXMHMR BUILDING NO:
506
DORMATORY/HOUSE
LUFKIN STATE SCHOOL
LUFKIN, TEXAS

TXMHMR PROJ NO: 98-003-669
DATE: 15JUL98 REV:
FILE NAME: LFS506-1
GRAPHIC SCALE IN FEET: 0 5 10 15 20
APPROX SCALE: 1"=20'
DRAWING NUMBER:
506-1P

ACM Locations By Area

669 - Lufkin State School

report: area-H1.frx
run date: 06/18/99

AREAS WITH ASBESTOS-CONTAINING MATERIALS (ACM) by Building

523 SABINE/CASTLE PINES

Area ID	Area Description / Material Code and Description	ACM Status	Surveyed Quantity	Hazard / Response	Drawing ID
A01	Duct Insulation Mastic	Yes	1,600	**5 / O**	LFS523-1P
	DTMS Mastic on duct insulation				
A02	Air Handler Insulation	Yes	750	**3 / O**	LFS523-1P
	AH Air Handler unit insulation				
B01	Boiler Flue Vent Box Insulation (LQ)	Yes	10	**3 / O**	LFS523-1P
	BLFL Boiler flue insulation				
B02	Storage Tank Insulation	Yes	1,000	**1 / O**	LFS523-1P
	ST Storage tank unit insulation				
M01	Transite Window Panels	Yes	30	**2 / O**	LFS523-1F
	CFB Cement fiber board (roof,soffit,ceiling,wall panel				
			S		
P01	Miscellaneous Pipe Insulation (LQ)	Yes	522	**0 / O**	LFS523-1P
	MP-6 to 6 Straight miscellaneous pipe insul				
P02	Heating Water Pipe Insulation	Yes	150	**1 / O**	LFS523-1P
	HWF-6 to 6 Fitting heating water pipe insulation				

End of List for Building

J-2 ACM Locations By Room

523 SABINE/CASTLE PINES

Room ID	Use / Area ID / Description / Material Code / Description	Dept.	Occupant	Hazard / Response	Drawing ID
10					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P
11					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P
12					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P
12A					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P
	Area: P02 Heating Water Pipe Insulation Mat: HWF-6 to 6 Fitting heating water pipe insulation			**1 / O**	LFS523-1P
14					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P
15					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P
	Area: P02 Heating Water Pipe Insulation Mat: HWF-6 to 6 Fitting heating water pipe insulation			**1 / O**	LFS523-1P
16					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P
	Area: A02 Air Handler Insulation Mat: AH Air Handler unit insulation			**3 / O**	LFS523-1P
	Area: B01 Boiler Flue Vent Box Insulation (LQ) Mat: BLFL Boiler flue insulation			**3 / O**	LFS523-1P
	Area: P01 Miscellaneous Pipe Insulation (LQ) Mat: MP-6 to 6 Straight miscellaneous pipe insul			**0 / O**	LFS523-1P
	Area: P02 Heating Water Pipe Insulation Mat: HWF-6 to 6 Fitting heating water pipe insulation			**1 / O**	LFS523-1P
17					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P
	Area: P02 Heating Water Pipe Insulation Mat: HWF-6 to 6 Fitting heating water pipe insulation			**1 / O**	LFS523-1P
18					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P
19					
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation			**5 / O**	LFS523-1P

20			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
21			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
22			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
23			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
25			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
26			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
	Area: P02 Heating Water Pipe Insulation	1 / O	LFS523-1P
	Mat: HWF-6 to 6 Fitting heating water pipe insulation		
28			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
29			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
	Area: A02 Air Handler Insulation	3 / O	LFS523-1P
	Mat: AH Air Handler unit insulation		
	Area: B01 Boiler Flue Vent Box Insulation (LQ)	3 / O	LFS523-1P
	Mat: BLFL Boiler flue insulation		
	Area: B02 Storage Tank Insulation	1 / O	LFS523-1P
	Mat: ST Storage tank unit insulation		
	Area: P02 Heating Water Pipe Insulation	1 / O	LFS523-1P
	Mat: HWF-6 to 6 Fitting heating water pipe insulation		
30			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
	Area: A02 Air Handler Insulation	3 / O	LFS523-1P
	Mat: AH Air Handler unit insulation		
	Area: B01 Boiler Flue Vent Box Insulation (LQ)	3 / O	LFS523-1P
	Mat: BLFL Boiler flue insulation		
	Area: B02 Storage Tank Insulation	1 / O	LFS523-1P
	Mat: ST Storage tank unit insulation		
	Area: P02 Heating Water Pipe Insulation	1 / O	LFS523-1P
	Mat: HWF-6 to 6 Fitting heating water pipe insulation		
4			
	Area: A01 Duct Insulation Mastic	5 / O	LFS523-1P
	Mat: DTMS Mastic on duct insulation		
8			

	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation	**5 / O**	LFS523-1P
9			
	Area: A01 Duct Insulation Mastic Mat: DTMS Mastic on duct insulation	**5 / O**	LFS523-1P
O01			
	Area: M01 Transite Window Panels Mat: CFB Cement fiber board (roof,soffit,ceiling,wall panel	**2 / O**	LFS523-1F

J-3 Laboratory Analysis Summary

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx
run date: 06/18/99

669 - Lufkin State School

Sample Analysis list of all samples by Field Sample ID

523 SABINE/CASTLE PINES

Lab ID / Field ID	Area ID / Mat Code	Area Description / Material Description	Layer / Material	Asbestos Content
LF 523-001	C01	2'x2' Ceiling Tile, Stippled	1: SAT	0%
001	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 523-002	C03	Plaster Ceiling	1: HP	0%
002	HP	Hard finish plaster or stucco		
LF 523-003	A01	Duct Insulation Mastic	1: DT	0%
003	DTMS	Mastic on duct insulation		
			2: DTMS	15% C
LF 523-004	C01	2'x2' Ceiling Tile, Stippled	1: SAT	0%
004	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 523-005	A01	Duct Insulation Mastic	1: DT	0%
005	DTMS	Mastic on duct insulation		
			2: DTMS	15% C
LF 523-006	C01	2'x2' Ceiling Tile, Stippled	1: SAT	0%
006	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 523-007	C03	Plaster Ceiling	1: HP	0%
007	HP	Hard finish plaster or stucco		
LF 523-008	C03	Plaster Ceiling	1: HP	0%
008	HP	Hard finish plaster or stucco		
LF523-009R	F01	Cove Base, Vinyl w/Mastic	1: RBMS	0%
009	RBMS	Mastic on resilent base, nosing, trim		
LF 523-010	W01	Gypsum Wallboard	1: DW	0%
010	DW	Drywall construction		

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx

669 - Lufkin State School

run date: 06/18/99

Sample Analysis list of all samples by Field Sample ID

LF 523-011	W01	Gypsum Wallboard	1: DW	0%
011	DW	Drywall construction		
LF 523-012	W01	Gypsum Wallboard	1: DW	0%
012	DW	Drywall construction		
LF523-013R	F01	Cove Base, Vinyl w/Mastic	1: RBMS	0%
013	RBMS	Mastic on resilent base, nosing, trim		
LF523-014R	F01	Cove Base, Vinyl w/Mastic	1: RBMS	0%
014	RBMS	Mastic on resilent base, nosing, trim		
LF 523-015	A01	Duct Insulation Mastic	1: DTMS	15% C
015	DTMS	Mastic on duct insulation		
			2: DT	0%
LF 523-016	B01	Boiler Flue Vent Box Insulation (LQ)	1: BLFL	20% C
016	BLFL	Boiler flue insulation		
LF 523-017	B02	Storage Tank Insulation	1: ST	20% A
017	ST	Storage tank unit insulation		
LF 523-018	A02	Air Handler Insulation	1: AH	2% C
018	AH	Air Handler unit insulation		
LF 523-019	B01	Boiler Flue Vent Box Insulation (LQ)	1: BLFL	20% C
019	BLFL	Boiler flue insulation		
LF 523-020	B02	Storage Tank Insulation	1: ST	20% C
020	ST	Storage tank unit insulation		
LF 523-021	B01	Boiler Flue Vent Box Insulation (LQ)	1: BLFL	2% C
021	BLFL	Boiler flue insulation		
			2: BLFL	0%
LF 523-022	P02	Heating Water Pipe Insulation	1: MS	3% C
022	HWF-6	to 6 Fitting heating water pipe insulation		
			2: HWF-6	0%

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx

669 - Lufkin State School

run date: 06/18/99

Sample Analysis list of all samples by Field Sample ID

LF 523-023	P02	Heating Water Pipe Insulation	1: MS	2% C
023	HWF-6	to 6 Fitting heating water pipe insulation		
			2: HWF-6	0%
LF 523-024	P02	Heating Water Pipe Insulation	1: MS	3% C
024	HWF-6	to 6 Fitting heating water pipe insulation		
			2: HWF-6	0%
LF 523-025	A02	Air Handler Insulation	1: AH	3% C
025	AH	Air Handler unit insulation		
			2: MS	0%
LF 523-026	P01	Miscellaneous Pipe Insulation (LQ)	1: MP-6	6% C
026	MP-6	to 6 Straight miscellaneous pipe insul		
LF 523-027	O01	Window Sealant, Gray	1: MISC	0%
027	MISC	Miscellaneous material not fitting other category		
LF 523-028	O01	Window Sealant, Gray	1: MISC	0%
028	MISC	Miscellaneous material not fitting other category		
LF 523-029	O01	Window Sealant, Gray	1: MISC	0%
029	MISC	Miscellaneous material not fitting other category		
LF 523-030	O02	Window Sealant, White	1: MISC	0%
030	MISC	Miscellaneous material not fitting other category		
LF 523-031	O02	Window Sealant, White	1: MISC	0%
031	MISC	Miscellaneous material not fitting other category		
LF 523-032	O02	Window Sealant, White	1: MISC	0%
032	MISC	Miscellaneous material not fitting other category		
LF 523-033	P03	Domestic Water Pipe Insulation	1: DWP-6	0%
033	DWP-6	to 6 Straight domestic water pipe insul		
LF 523-034	C02	Gypsum Board Ceiling	1: DW	0%
034	DW	Drywall construction		

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx

669 - Lufkin State School

run date: 06/18/99

Sample Analysis list of all samples by Field Sample ID

LF 523-035	C02	Gypsum Board Ceiling	1: DW	0%
035	DW	Drywall construction		
LF 523-036	C02	Gypsum Board Ceiling	1: DW	0%
036	DW	Drywall construction		
LF 523-037	M01	Transite Window Panels	1: CFB	25% C
037	CFB	Cement fiber board (roof,soffit,ceiling,wall panel		

End of List for Building

J-4 Homogeneous Area List

Homogeneous Area List

669 - Lufkin State School

List of all Homogeneous Areas By Building

report: area-L1.frx
run date: 06/18/99

523 SABINE/CASTLE PINES

Area ID	Area Description / Material Code/type	ACM Status	Surveyed Quantity	Hazard / Response	Drawing ID
A01	Duct Insulation Mastic	Yes	1,600	**5 / O**	LFS523-1P
	DTMS Mastic on duct insulation				
A02	Air Handler Insulation	Yes	750	**3 / O**	LFS523-1P
	AH Air Handler unit insulation				
B01	Boiler Flue Vent Box Insulation (LQ)	Yes	10	**3 / O**	LFS523-1P
	BLFL Boiler flue insulation				
B02	Storage Tank Insulation	Yes	1,000	**1 / O**	LFS523-1P
	ST Storage tank unit insulation				
C01	2'x2' Ceiling Tile, Stippled	No	0	**1 / O**	LFS523-1C
	SAT Suspended acoustical tiles(lay-in,conceal spline)				
C02	Gypsum Board Ceiling	No	0	**0 / O**	LFS523-1C
	DW Drywall construction				
C03	Plaster Ceiling	No	0	**0 / O**	LFS523-1C
	HP Hard finish plaster or stucco				
F01	Cove Base, Vinyl w/Mastic	No	0	**0 / O**	LFS523-1F
	RBMS Mastic on resilent base, nosing, trim				
M01	Transite Window Panels	Yes	30	**2 / O**	LFS523-1F
	CFB Cement fiber board (roof,soffit,ceiling,wall panel				
O01	Window Sealant, Gray	No	20	**2 / O**	LFS523-1F
	MISC Miscellaneous material not fitting other category				
O02	Window Sealant, White	No	2 s	**3 / O**	LFS523-1F
	MISC Miscellaneous material not fitting other category				
P01	Miscellaneous Pipe Insulation (LQ)	Yes	522	**0 / O**	LFS523-1P
	MP-6 to 6 Straight miscellaneous pipe insul				
P02	Heating Water Pipe Insulation	Yes	150	**1 / O**	LFS523-1P
	HWF-6 to 6 Fitting heating water pipe insulation				
P03	Domestic Water Pipe Insulation	No	0	**4 / O**	LFS523-1P
	DWF-6 to 6 Fitting domestic water pipe insul				
W01	Gypsum Wallboard	No	0	**1 / O**	LFS523-1F
	DW Drywall construction				

End of List for Building

J-5 Laboratory Reports

Jimmie Ann Bolton
2105 Nathan Drive
Austin, Texas 78728-4530
512-251-8388

Accredited by the National Voluntary Laboratory Accreditation Program for BULK ASBESTOS FIBER ANALYSIS BY PLM under lab code **101735-0** **TDH 30-0052**

Paul Hise
Law Engineering & Environmental
3520 Executive Center Dr #G-100
Austin, Texas 78731

Date Received: November 16, 1998
Date Analysis: November 26, 1998
Date Report: November 27, 1998

BULK ASBESTOS TEST REPORT

PROJECT: LFS 669 523

Sample ID	Description	ASBESTOS DETECTED	MATRIX/OTHER FIBERS
LF 523-001	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 523-002	white plaster	NONE DETECTED	clay
LF 523-003-a	foil/paper/yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 523-003-b	tar	15% CHRYSOTILE	tar
LF 523-004	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 523-005-a	foil/paper/yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 523-005-b	tar	15% CHRYSOTILE	tar
LF 523-006	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 523-007	white plaster/tan plaster	NONE DETECTED	aggregate, clay, cellulose
LF 523-008	brown mastic	NONE DETECTED	glue, clay
~~LF 523-009~~	~~white plaster/tan plaster~~	~~NONE DETECTED~~	~~aggregate, clay, cellulose~~
LF 523-010	paint/texture/sheet rock	NONE DETECTED	cellulose, fibrous glass, clay
LF 523-011	paint/texture/sheet rock	NONE DETECTED	cellulose, fibrous glass, clay
LF 523-012	paint/texture/sheet rock	NONE DETECTED	cellulose, fibrous glass, clay
~~LF 523-013~~	~~brown mastic asbestos may be from substrate~~	~~2% CHRYSOTILE~~	~~glue~~
~~LF 523-014~~	~~brown mastic asbestos may be from substrate~~	~~2% CHRYSOTILE~~	~~glue~~
LF 523-015-a	black mastic	15% CHRYSOTILE	tar
LF 523-015-b	foil/yellow fibers	NONE DETECTED	fibrous glass
LF 523-016	white fibrous mix	20% CHRYSOTILE	clay, fibrous glass, cellulose
LF 523-017	white fibrous mix	20% AMOSITE	clay, cellulose, fibrous glass
LF 523-018	paint/mastic/fabric	2% CHRYSOTILE	cellulose, clay

Jimmie Ann Bolton
2105 Nathan Drive
Austin, Texas 78728-4530
512-251-8388

Accredited by the National Voluntary Laboratory Accreditation Program for BULK ASBESTOS FIBER ANALYSIS BY PLM under lab code **101735-0** **TDH 30-0052**

BULK ASBESTOS TEST REPORT

PROJECT: LFS 669 523

Sample ID	Description	ASBESTOS DETECTED	MATRIX/OTHER FIBERS
LF 523-019	white fibrous mix	20% CHRYSOTILE	clay, fibrous glass
LF 523-020	white fibrous mix	20 %CHRYSOTILE	fibrous glass, clay
LF 523-021-a	paint/mastic/fabric	2% CHRYSOTILE	clay, cellulose
LF 523-021-b	foil/paper/tar	NONE DETECTED	cellulose, tar
LF 523-022-a	paint/mastic	3% CHRYSOTILE	clay
LF 523-022-b	fabric/yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 523-023-a	paints	2% CHRYSOTILE	pigment
LF 523-023-b	paper/foil	NONE DETECTED	cellulose
LF 523-024-a	paint/mastic	3% CHRYSOTILE	clay
LF 523-024-b	fabric/yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 523-025-a	paint/mastic/fabric	3% CHRYSOTILE	cellulose, pigment
LF 523-025-b	paper/black mastic	NONE DETECTED	tar, fibrous glass, cellulose
LF 523-026	black mastic	6% CHRYSOTILE	tar, vermicvulite
LF 523-027	brown putty	NONE DETECTED	resin
LF 523-028	gray putty	NONE DETECTED	resin
LF 523-029	brown putty	NONE DETECTED	resin
LF 523-030	white putty	NONE DETECTED	resin
LF 523-031	white putty	NONE DETECTED	resin
LF 523-032	white putty	NONE DETECTED	resin
LF 523-033	foil/paper/yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 523-034	texture/sheet rock	NONE DETECTED	cellulose, fibrous glass, clay
LF 523-035	paint/texture/sheet rock	NONE DETECTED	cellulose, fibrous glass, clay
LF 523-036	paint/texture/sheet rock	NONE DETECTED	cellulose, fibrous glass, clay

Jimmie Ann Bolton

Jimmie Ann Bolton, Analyst

Percentages are approximate. Analysis by PLM & Dispersion staining. Laboratory's Accreditation or any use of its test reports in no way constitutes or implies product certification, approval, or endorsement by NIST or any government agency. Report must not be reproduced except in full with the approval of the laboratory. Test report related only to the items tested. . Small quantities of item may not be representative of items tested, so that low percentages of asbestos may not be detected. Testing method in accordance with EPA/600/R-93/116 July 1993. **Indicates Point Counted using Chalkley 25 random point graticule, a mechanical stage, and 400X, 400 points counted. 1% or less is negative for asbestos. Reports retained 3 years, tested items retained 30 days. LF 523

Jimmie Ann Bolton
2105 Nathan Drive
Austin, Texas 78728-4530
512-251-8388

Accredited by the National Voluntary Laboratory Accreditation Program for BULK ASBESTOS FIBER ANALYSIS BY PLM under lab code **101735-0** **TDH 30-0052**

Paul Hise
Law Engineering & Environmental
3520 Executive Center Dr #G-100
Austin, Texas 78731

Date Received: November 23, 1998
Date Analysis: December 3, 1998
Date Report: December 3, 1998

BULK ASBESTOS TEST REPORT

PROJECT: LFS 669 523

Sample ID	Description	ASBESTOS DETECTED	MATRIX/OTHER FIBERS
LF 523-037	gray transite	25% CHRYSOTILE	concrete

Jimmie Ann Bolton

Jimmie Ann Bolton, Analyst

Percentages are approximate. Analysis by PLM & Dispersion staining. Laboratory's Accreditation or any use of its test reports in no way constitutes or implies product certification, approval, or endorsement by NIST or any government agency. Report must not be reproduced except in full with the approval of the laboratory. Test report related only to the items tested. . Small quantities of item may not be representative of items tested, so that low percentages of asbestos may not be detected. Testing method in accordance with EPA/600/R-93/116 July 1993. **Indicates Point Counted using Chalkley 25 random point graticule, a mechanical stage, and 400X, 400 points counted. 1% or less is negative for asbestos. Reports retained 3 years, tested items retained 30 days. LF 523a

Jimmie Ann Bolton
2105 Nathan Drive
Austin, Texas 78728-4530
512-251-8388

Accredited by the National Voluntary Laboratory Accreditation Program for BULK ASBESTOS FIBER ANALYSIS BY PLM under lab code **101735-0** **TDH 30-0052**

Paul Hise
Law Engineering & Environmental
3520 Executive Center Dr #G-100
Austin, Texas 78731

Date Received: May 3, 1999
Date Analysis: May 23, 1999
Date Report: May 23, 1999

BULK ASBESTOS TEST REPORT

PROJECT: LFS 669 523R

Sample ID	Description	ASBESTOS DETECTED	MATRIX/OTHER FIBERS
LF 523-009R	black base/yellow mastic	NONE DETECTED	vinyl, clay, glue
LF 523-013R	black base/yellow mastic	NONE DETECTED	vinyl, clay, glue
LF 523-014R	black base/yellow mastic	NONE DETECTED	vinyl, clay, glue

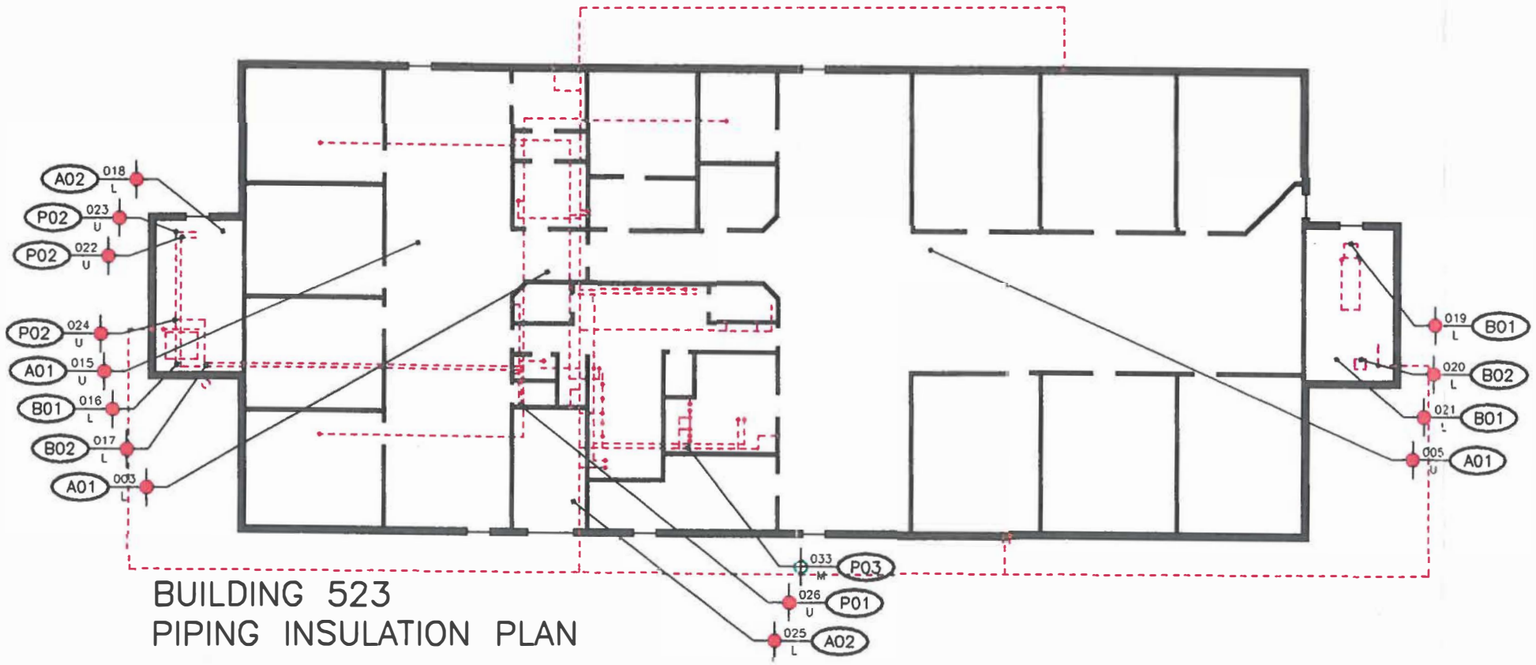
Jimmie Ann Bolton

Jimmie Ann Bolton, Analyst

Percentages are approximate. Analysis by PLM & Dispersion staining. Laboratory's Accreditation or any use of its test reports in no way constitutes or implies product certification, approval, or endorsement by NIST or any government agency. Report must not be reproduced except in full with the approval of the laboratory. Test report related only to the items tested. . Small quantities of item may not be representative of items tested, so that low percentages of asbestos may not be detected. Testing method in accordance with EPA/600/R-93/116 July 1993. **Indicates Point Counted using Chalkley 25 random point graticule, a mechanical stage, and 400X, 400 points counted. 1% or less is negative for asbestos. Reports retained 3 years, tested items retained 30 days. LF 523r

J-1 ACM Locations By Area

J-6 Building Drawings



BUILDING 523
PIPING INSULATION PLAN

STATE OF TEXAS
WAYNE C. MALEK
87922
REGISTERED PROFESSIONAL ENGINEER
6/25/99

See Report Section B for applicability of P.E. seal

NORTH

TEXAS MHMR

TEXAS DEPARTMENT OF MENTAL HEALTH & MENTAL RETARDATION
MAINTENANCE & CONSTRUCTION SECTION
909 W 45TH ST. BLDG 3
AUSTIN, TEXAS 78756
512-206-5880 FAX 512-206-5930

MANAGING CONSULTANT:

ENVIRONMENTAL RESOURCE CONSULTANTS
10300 N CENTRAL EXPWY
SUITE 296, DALLAS, TX 75231
214-692-8040 FAX 214-692-8043

ERC PROJ NO: 96-0456-D

QC DATE: BY:

CONSULTING ARCHITECT/ENGINEER:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
3520 Executive Center Drive
Suite G-100
Austin, Texas 78731
512/795-0360

TXMHMR BUILDING NO:

523

DORM/HOUSE
LUFKIN STATE SCHOOL
LUFKIN, TEXAS

TXMHMR PROJ NO: 98-003-669

DATE: 15JUL98 REV:

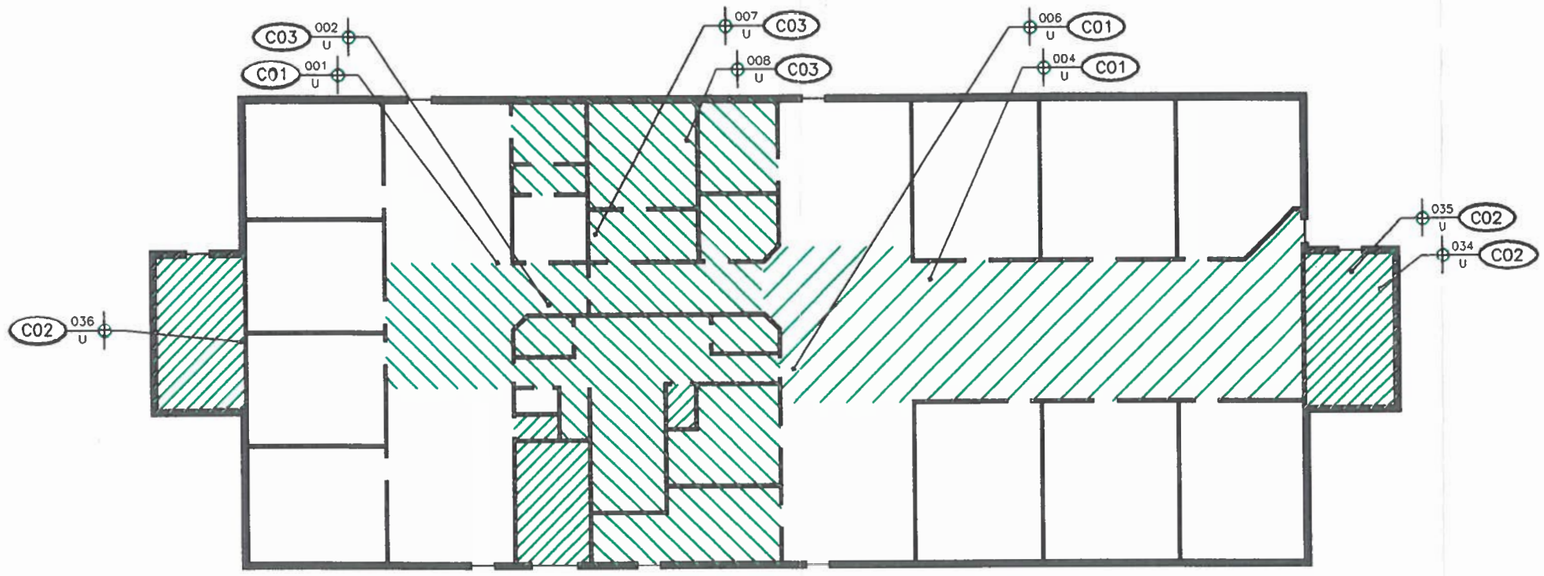
FILE NAME: LFS523-1

GRAPHIC SCALE IN FEET:
0 5 10 15 20

APPROX SCALE: 1"=20'

DRAWING NUMBER:

523-1P



BUILDING 523
CEILING MATERIAL PLAN

STATE OF TEXAS
WAYNE C. MALEK
67922
REGISTERED PROFESSIONAL ENGINEER
6/25/99

See Report Section B for applicability of P.E. seal

NORTH

TEXAS MHMR

TEXAS DEPARTMENT OF MENTAL HEALTH & MENTAL RETARDATION
MAINTENANCE & CONSTRUCTION SECTION
909 W 45TH ST, BLDG 3
AUSTIN, TEXAS 78756
512-206-5880 FAX 512-206-5930

MANAGING CONSULTANT:

ENVIRONMENTAL RESOURCE CONSULTANTS
10300 N CENTRAL EXPWY
SUITE 296, DALLAS, TX 75231
214-692-8040 FAX 214-692-8043

ERC PROJ NO: 96-0456-D

QC DATE: | BY:

CONSULTING ARCHITECT/ENGINEER:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
3520 Executive Center Drive
Suite G-100
Austin, Texas 78731
512/795-0360

TXMHMR BUILDING NO:

523

DORM/HOUSE
LUFKIN STATE SCHOOL
LUFKIN, TEXAS

TXMHMR PROJ NO: 98-003-669

DATE: 15JUL98 | REV:

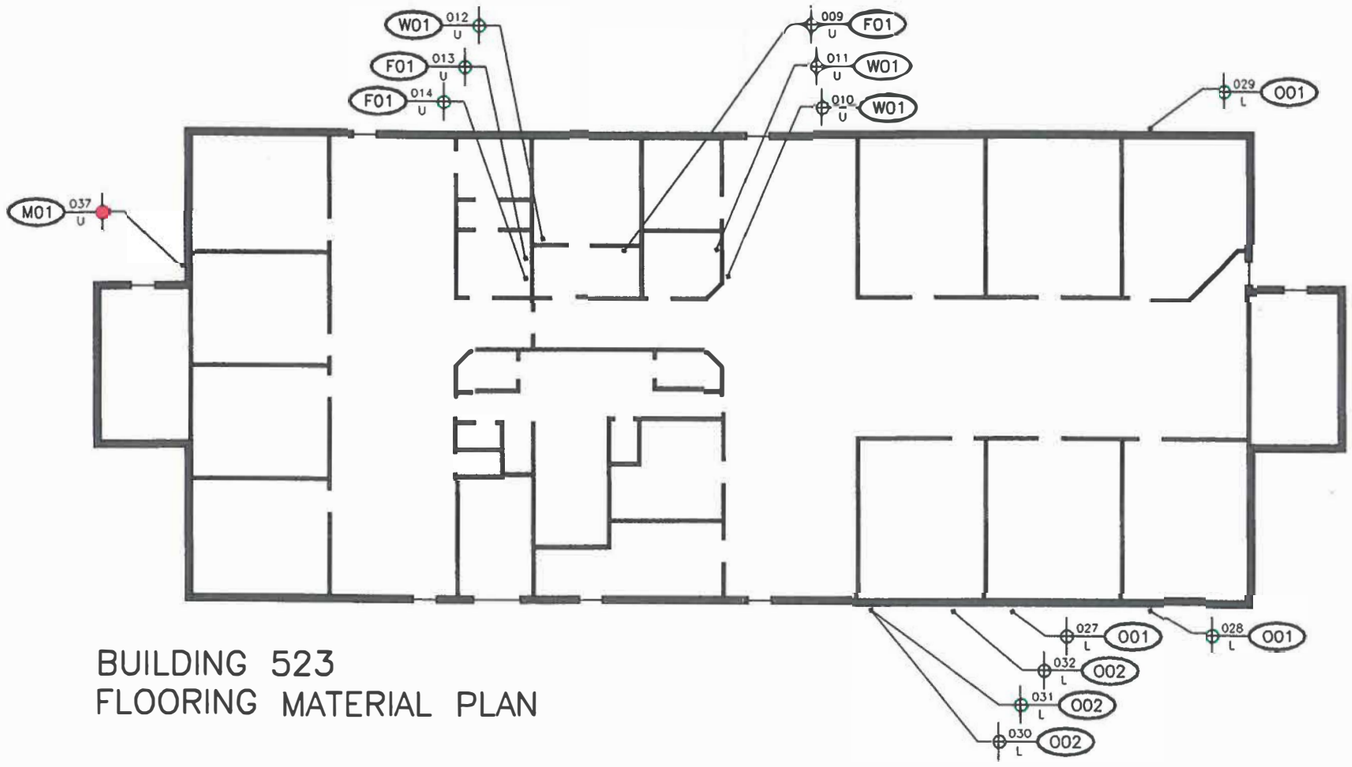
FILE NAME: LFS523-1

GRAPHIC SCALE IN FEET:
0 5 10 15 20

APPROX SCALE: 1"=20'

DRAWING NUMBER:

523-1C



BUILDING 523
FLOORING MATERIAL PLAN

STATE OF TEXAS
WAYNE C. MALEK
87922
REGISTERED PROFESSIONAL ENGINEER
6/25/99

See Report Section B for applicability of P.E. seal

NORTH

TEXAS MHMR

TEXAS DEPARTMENT OF MENTAL HEALTH & MENTAL RETARDATION
MAINTENANCE & CONSTRUCTION SECTION
909 W 45TH ST, BLDG 3
AUSTIN, TEXAS 78756
512-206-5880 FAX 512-206-5930

MANAGING CONSULTANT:
ERC
ENVIRONMENTAL RESOURCE CONSULTANTS
10300 N CENTRAL EXPWY
SUITE 296, DALLAS, TX 75231
214-692-8040 FAX 214-692-8043

ERC PROJ NO: 96-0456-D
QC DATE: BY:

CONSULTING ARCHITECT/ENGINEER:
LAWGIBB GROUP
LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
3520 Executive Center Drive
Suite G-100
Austin, Texas 78731
512/795-0360

TXMHMR BUILDING NO:
523
DORM/HOUSE
LUFKIN STATE SCHOOL
LUFKIN, TEXAS

TXMHMR PROJ NO: 98-003-669
DATE: 15JUL98 REV:
FILE NAME: LFS523-1
GRAPHIC SCALE IN FEET: 0 5 10 15 20
APPROX SCALE: 1"=20'
DRAWING NUMBER:
523-1 F

ACM Locations By Area

669 - Lufkin State School

report: area-H1.frx
run date: 06/21/99

AREAS WITH ASBESTOS-CONTAINING MATERIALS (ACM) by Building

524 SABINE/CASTLE PINES

Area ID	Area Description / Material Code and Description	ACM Status	Surveyed Quantity	Hazard / Response	Drawing ID
A01	Duct Insulation Mastic	Yes	1,700	**0 / O**	LFS524-1P
	DTMS Mastic on duct insulation				
A02	Air Handler Insulation	Yes	1,000	**3 / O**	LFS524-1P
	AH Air Handler unit insulation				
B01	Boiler Flue Vent Box Insulation (LQ)	Yes	10 s	**0 / O**	LFS524-1P
	BLFL Boiler flue insulation				
B02	Storage Tank Insulation (LQ)	Yes	60	**0 / O**	LFS524-1P
	ST Storage tank unit insulation				
C02	Plaster Ceiling	Yes	600	**0 / O**	LFS524-1C
	HP Hard finish plaster or stucco				
C03	Gypsum Board Ceiling	Yes	700	**0 / O**	LFS524-1C
	DW Drywall construction				
F01	Cove Base Mastic, Black	Yes	300	**0 / O**	LFS524-1F
	RBMS Mastic on resilent base, nosing, trim				
M01	Transite Panel	Yes	30	**0 / O**	LFS524-1F
	CFB Cement fiber board (roof,soffit,ceiling,wall panel				
P02	Heating Water Pipe Insulation (FG)	Yes	150	**0 / O**	LFS524-1P
	HWP-6 to 6 Straight heating water pipe insulation				
P03	Heating Water Fitting Insulation	Yes	25	**0 / O**	LFS524-1P
	HWF-6 to 6 Fitting heating water pipe insulation				

End of List for Building

J-2 ACM Locations By Room

ACM Locations By Room

669 - Lufkin State School

report: room-a2.frx
run date: 06/28/99

524 SABINE/CASTLE PINES

Room ID	Use / Area ID / Description / Material Code / Description	Hazard / Response	Drawing ID
10			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
	Area: F01 Cove Base Mastic, Black	0 / O	LFS524-1F
	Mat: RBMS Mastic on resilent base, nosing, trim		
11			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
12			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
	Area: F01 Cove Base Mastic, Black	0 / O	LFS524-1F
	Mat: RBMS Mastic on resilent base, nosing, trim		
13			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
13A			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
14			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
	Area: P02 Heating Water Pipe Insulation (FG)	0 / O	LFS524-1P
	Mat: HWP-6 to 6 Straight heating water pipe insulation		
16			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
17			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: P02 Heating Water Pipe Insulation (FG)	0 / O	LFS524-1P
	Mat: HWP-6 to 6 Straight heating water pipe insulation		

19			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: A02 Air Handler Insulation	3 / O	LFS524-1P
	Mat: AH Air Handler unit insulation		
	Area: P02 Heating Water Pipe Insulation (FG)	0 / O	LFS524-1P
	Mat: HWP-6 to 6 Straight heating water pipe insulation		
20			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
21			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
22			
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
23			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
	Area: F01 Cove Base Mastic, Black	0 / O	LFS524-1F
	Mat: RBMS Mastic on resilent base, nosing, trim		
24			
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
25			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
26			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
	Area: P02 Heating Water Pipe Insulation (FG)	0 / O	LFS524-1P
	Mat: HWP-6 to 6 Straight heating water pipe insulation		
27			
	Area: A01 Duct Insulation Mastic	0 / O	LFS524-1P
	Mat: DTMS Mastic on duct insulation		
	Area: C02 Plaster Ceiling	0 / O	LFS524-1C
	Mat: HP Hard finish plaster or stucco		
28			

ACM Locations By Room

669 - Lufkin State School

Area: A01	Duct Insulation Mastic	0 / O	LFS524-1P
Mat: DTMS	Mastic on duct insulation		
Area: A02	Air Handler Insulation	3 / O	LFS524-1P
Mat: AH	Air Handler unit insulation		
Area: B01	Boiler Flue Vent Box Insulation (LQ)	0 / O	LFS524-1P
Mat: BLFL	Boiler flue insulation		
Area: B02	Storage Tank Insulation (LQ)	0 / O	LFS524-1P
Mat: ST	Storage tank unit insulation		
Area: P02	Heating Water Pipe Insulation (FG)	0 / O	LFS524-1P
Mat: HWP-6	to 6 Straight heating water pipe insulation		

29

Area: A01	Duct Insulation Mastic	0 / O	LFS524-1P
Mat: DTMS	Mastic on duct insulation		
Area: A02	Air Handler Insulation	3 / O	LFS524-1P
Mat: AH	Air Handler unit insulation		
Area: B01	Boiler Flue Vent Box Insulation (LQ)	0 / O	LFS524-1P
Mat: BLFL	Boiler flue insulation		
Area: B02	Storage Tank Insulation (LQ)	0 / O	LFS524-1P
Mat: ST	Storage tank unit insulation		
Area: P02	Heating Water Pipe Insulation (FG)	0 / O	LFS524-1P
Mat: HWP-6	to 6 Straight heating water pipe insulation		

4

Area: A01	Duct Insulation Mastic	0 / O	LFS524-1P
Mat: DTMS	Mastic on duct insulation		
Area: C02	Plaster Ceiling	0 / O	LFS524-1C
Mat: HP	Hard finish plaster or stucco		

8

Area: A01	Duct Insulation Mastic	0 / O	LFS524-1P
Mat: DTMS	Mastic on duct insulation		
Area: C02	Plaster Ceiling	0 / O	LFS524-1C
Mat: HP	Hard finish plaster or stucco		

9

Area: A01	Duct Insulation Mastic	0 / O	LFS524-1P
Mat: DTMS	Mastic on duct insulation		
Area: C02	Plaster Ceiling	0 / O	LFS524-1C
Mat: HP	Hard finish plaster or stucco		
Area: F01	Cove Base Mastic, Black	0 / O	LFS524-1F
Mat: RBMS	Mastic on resilent base, nosing, trim		

O01

Area: M01	Transite Panel	0 / O	LFS524-1F
Mat: CFB	Cement fiber board (roof,soffit,ceiling,wall panel		

J-3 Laboratory Analysis Summary

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx
run date: 06/21/99

669 - Lufkin State School

Sample Analysis list of all samples by Field Sample ID

524 SABINE/CASTLE PINES

Lab ID / Field ID	Area ID / Mat Code	Area Description / Material Description	Layer / Material	Asbestos Content
LF 524-001	C01	2'x4' Ceiling Tile	1: SAT	0%
001	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 524-002	C01	2'x4' Ceiling Tile	1: SAT	0%
002	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 524-003	C01	2'x4' Ceiling Tile	1: SAT	0%
003	SAT	Suspended acoustical tiles(lay-in,conceal spline)		
LF 524-004	A01	Duct Insulation Mastic	1: DTMS	15% C
004	DTMS	Mastic on duct insulation		
			2: DT	0%
LF 524-005	A01	Duct Insulation Mastic	1: DTMS	15% C
005	DTMS	Mastic on duct insulation		
			2: DT	0%
LF 524-006	A01	Duct Insulation Mastic	1: DTMS	15% C
006	DTMS	Mastic on duct insulation		
			2: DT	0%
LF 524-007	P01	Domestic Pipe & Fitting Insulation (FG)	1: DWP-6	0%
007	DWP-6	to 6 Straight domestic water pipe insul		
LF 524-008	W01	Gypsum Wallboard (LQ)	1: DW	0%
008	DW	Drywall construction		
LF 524-009	F01	Cove Base Mastic, Black	1: RBMS	5% C
009	RBMS	Mastic on resilent base, nosing, trim		
LF 524-010	W02	Gypsum Wallboard (LQ)	1: DW	0%
010	DW	Drywall construction		

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx

669 - Lufkin State School

run date: 06/21/99

Sample Analysis list of all samples by Field Sample ID

LF 524-011	F01	Cove Base Mastic, Black	1: RBMS	1% C
011	RBMS	Mastic on resilent base, nosing, trim		
LF 524-012	F01	Cove Base Mastic, Black	1: RBMS	4% C
012	RBMS	Mastic on resilent base, nosing, trim		
LF 524-013	C02	Plaster Ceiling	1: HP	0%
013	HP	Hard finish plaster or stucco		
LF 524-014	C02	Plaster Ceiling	1: HP	0%
014	HP	Hard finish plaster or stucco		
LF 524-015	C02	Plaster Ceiling	1: MISC	4% C
015	HP	Hard finish plaster or stucco		
			2: HP	0%
LF 524-016	A02	Air Handler Insulation	1: AH	8% C
016	AH	Air Handler unit insulation		
			2: MS	0%
LF 524-017	B01	Boiler Flue Vent Box Insulation (LQ)	1: BLFL	20% C
017	BLFL	Boiler flue insulation		
LF 524-018	B02	Storage Tank Insulation (LQ)	1: MISC	8% C
018	ST	Storage tank unit insulation		
			2: ST	0%
LF 524-019	P02	Heating Water Pipe Insulation (FG)	1: MISC	8% C
019	HCP-6	to 6 Straight heat/chill water pipe insulation		
			2: HCP-6	0%
LF 524-020	P03	Heating Water Fitting Insulation	1: MISC	8% C
020	HCF-6	to 6 Fitting heat/chill water pipe insulation		
			2: HCF-6	0%
LF 524-021	C03	Gypsum Board Ceiling	1: DWTX	2% C
021	DW	Drywall construction		
			2: DWGB	0%

Laboratory Bulk Sample Analysis Summary

report: labsamp1.frx

669 - Lufkin State School

run date: 06/21/99

Sample Analysis list of all samples by Field Sample ID

LF 524-022	P03	Heating Water Fitting Insulation	1: MS	2% C
022	HCF-6	to 6 Fitting heat/chill water pipe insulation		
			2: HCF-6	0%
LF 524-023	A02	Air Handler Insulation	1: AH	2% C
023	AH	Air Handler unit insulation		
			2: MS	0%
LF 524-024	C03	Gypsum Board Ceiling	1: DWTX	2% C
024	DW	Drywall construction		
			2: DWGB	0%
LF 524-025	P03	Heating Water Fitting Insulation	1: MS	15% C
025	HCF-6	to 6 Fitting heat/chill water pipe insulation		
			2: HCF-6	0%
LF 524-026	A02	Air Handler Insulation	1: MS	8% C
026	AH	Air Handler unit insulation		
			2: AH	0%
LF 524-027	C03	Gypsum Board Ceiling	1: DWTX	2% C
027	DW	Drywall construction		
			2: DWGB	0%
LF 524-028	O01	Window Sealant, Grey	1: MISC	0%
028	MISC	Miscellaneous material not fitting other category		
LF 524-029	O01	Window Sealant, Grey	1: MISC	0%
029	MISC	Miscellaneous material not fitting other category		
LF 524-030	O01	Window Sealant, Grey	1: MISC	0%
030	MISC	Miscellaneous material not fitting other category		
LF 524-031	M01	Transite Panel	1: CFB	25% C
031	CFB	Cement fiber board (roof,soffit,ceiling,wall panel		

End of List for Building

J-4 Homogeneous Area List

Homogeneous Area List

669 - Lufkin State School

List of all Homogeneous Areas By Building

report: area-L1.frx
run date: 06/21/99

524 SABINE/CASTLE PINES

Area ID	Area Description / Material Code/type	ACM Status	Surveyed Quantity	Hazard / Response	Drawing ID
A01	Duct Insulation Mastic	Yes	1,700	**0 / O**	LFS524-1P
	DTMS Mastic on duct insulation				
A02	Air Handler Insulation	Yes	1,000	**3 / O**	LFS524-1P
	AH Air Handler unit insulation				
B01	Boiler Flue Vent Box Insulation (LQ)	Yes	10 s	**0 / O**	LFS524-1P
	BLFL Boiler flue insulation				
B02	Storage Tank Insulation (LQ)	Yes	60	**0 / O**	LFS524-1P
	ST Storage tank unit insulation				
C01	2'x4' Ceiling Tile	No	0	**1 / O**	LFS524-1C
	SAT Suspended acoustical tiles(lay-in,conceal spline)				
C02	Plaster Ceiling	Yes	600	**0 / O**	LFS524-1C
	HP Hard finish plaster or stucco				
C03	Gypsum Board Ceiling	Yes	700	**0 / O**	LFS524-1C
	DW Drywall construction				
F01	Cove Base Mastic, Black	Yes	300	**0 / O**	LFS524-1F
	RBMS Mastic on resilent base, nosing, trim				
M01	Transite Panel	Yes	30	**0 / O**	LFS524-1F
	CFB Cement fiber board (roof,soffit,ceiling,wall panel				
O01	Window Sealant, Grey	No	24	**2 / O**	LFS524-1F
	MS Mastic (miscellaneous or unidentified source)				
P01	Domestic Pipe & Fitting Insulation (FG)	No	0	**0 / O**	LFS524-1P
	DWP-6 to 6 Straight domestic water pipe insul				
P02	Heating Water Pipe Insulation (FG)	Yes	150	**0 / O**	LFS524-1P
	HWP-6 to 6 Straight heating water pipe insulation				
P03	Heating Water Fitting Insulation	Yes	25	**0 / O**	LFS524-1P
	HWF-6 to 6 Fitting heating water pipe insulation				
W01	Gypsum Wallboard (LQ)	No	125	**0 / O**	LFS524-1F
	DW Drywall construction				
W02	Gypsum Wallboard (LQ)	No	0	**0 / O**	LFS524-1F
	DW Drywall construction				

End of List for Building

J-5 Laboratory Reports

Jimmie Ann Bolton
2105 Nathan Drive
Austin, Texas 78728-4530
512-251-8388

Accredited by the National Voluntary Laboratory Accreditation Program for BULK ASBESTOS FIBER ANALYSIS BY PLM under lab code **101735-0** **TDH 30-0052**

Paul Hise
Law Engineering & Environmental
3520 Executive Center Dr #G-100
Austin, Texas 78731

Date Received: November 16, 1998
Date Analysis: November 27, 1998
Date Report: November 27, 1998

BULK ASBESTOS TEST REPORT

PROJECT: LFS 669 524

Sample ID	Description	ASBESTOS DETECTED	MATRIX/OTHER FIBERS
LF 524-001	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 524-002	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 524-003	tan fibrous mix	NONE DETECTED	cellulose, fibrous glass, perlite
LF 524-004-a	black mastic/foil	15% CHRYSOTILE	tar
LF 524-004-b	yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 524-005-a	black mastic/foil	15% CHRYSOTILE	tar
LF 524-005-b	yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 524-006-a	black mastic/foil	15% CHRYSOTILE	tar
LF 524-006-b	yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 524-007	foil/tar/paper/yellow fibers	NONE DETECTED	cellulose, fibrous glass, tar
LF 524-008	paint/texture/paper/mud/sheet rock	NONE DETECTED	cellulose, fibrous glass, clay
LF 524-009	brown mastic	5% CHRYSOTILE	glue
LF 524-010	paint/texture/sheet rock	NONE DETECTED	cellulose, clay, foam
LF 524-011	brown mastic	<1% CHRYSOTILE	glue
LF 524-012	brown mastic	4% CHRYSOTILE	glue
LF 524-013	paint/white/tan plaster	NONE DETECTED	aggregate, clay, pigment
LF 524-014	paint/white plaster	NONE DETECTED	aggregate, clay, pigment
LF 524-015-a	paints	4% CHRYSOTILE	pigment
LF 524-015-b	white plaster	NONE DETECTED	clay, aggregate
LF 524-016-a	gray/white paints/fabric	8% CHRYSOTILE	cellulose, pigment
LF 524-016-b	paper/tar	NONE DETECTED	cellulose, tar
LF 524-017	white fibrous mix	20% CHRYSOTILE	fibrous glass, cellulose, clay
LF 524-018-a	paints/fabric	8% CHRYSOTILE	cellulose, pigment
LF 524-018-b	gray fibrous mix	NONE DETECTED	fibrous glass, clay

Jimmie Ann Bolton
2105 Nathan Drive
Austin, Texas 78728-4530
512-251-8388

Accredited by the National Voluntary Laboratory Accreditation Program for BULK ASBESTOS FIBER ANALYSIS BY PLM under lab code **101735-0** **TDH 30-0052**

Paul Hise
Law Engineering & Environmental
3520 Executive Center Dr #G-100
Austin, Texas 78731

Date Received: November 16, 1998
Date Analysis: November 27, 1998
Date Report: November 27, 1998

BULK ASBESTOS TEST REPORT

PROJECT: LFS 669 524

Sample ID	Description	ASBESTOS DETECTED	MATRIX/OTHER FIBERS
LF 524-019-a	gray/white paints/fabric	8% CHRYSOTILE	cellulose, pigment
LF 524-019-b	paper/foil	NONE DETECTED	cellulose
LF 524-020-a	gray/white paints	8% CHRYSOTILE	pigment
LF 524-020-b	fabric/paper/yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 524-021-a	paint/texture	2% CHRYSOTILE	pigment, clay
LF 524-021-b	sheet rock	NONE DETECTED	cellulose, clay
LF 524-022-a	paint/mastic/fabric	2% CHRYSOTILE	cellulose
LF 524-022-b	yellow fibers	NONE DETECTED	fibrous glass
LF 524-023-a	paint/mastic/fabric	2% CHRYSOTILE	cellulose
LF 524-023-b	paper/tar	NONE DETECTED	cellulose, tar
LF 524-024-a	texture	2% CHRYSOTILE	clay
LF 524-024-b	sheet rock	NONE DETECTED	cellulose, clay
LF 524-025-a	paint/mastic	15% CHRYSOTILE	clay
LF 524-025-b	fabric/yellow fibers	NONE DETECTED	cellulose, fibrous glass
LF 524-026-a	paint/mastic/fabric	8% CHRYSOTILE	cellulose, resin
LF 524-026-b	foil/paper/pink fibrous glass	NONE DETECTED	cellulose, fibrous glass, tar
LF 524-027-a	paint/texture	2% CHRYSOTILE	clay
LF 524-027-b	sheet rock	NONE DETECTED	cellulose, clay
LF 524-028	tan putty	NONE DETECTED	resin
LF 524-029	tan putty	NONE DETECTED	resin
LF 524-030	tan putty	NONE DETECTED	resin

Jimmie Ann Bolton

Jimmie Ann Bolton, Analyst

Percentages are approximate. Analysis by PLM & Dispersion staining. Laboratory's Accreditation or any use of its test reports in no way constitutes or implies product certification, approval, or endorsement by NIST or any government agency. Report must not be reproduced except in full with the approval of the laboratory. Test report related only to the items tested. . Small quantities of item may not be representative of items tested, so that low percentages of asbestos may not be detected. Testing method in accordance with EPA/600/R-93/116 July 1993. **Indicates Point Counted using Chalkley 25 random point graticule, a mechanical stage, and 400X, 400 points counted. 1% or less is negative for asbestos. Reports retained 3 years, tested items retained 30 days. LF 524

Jimmie Ann Bolton
2105 Nathan Drive
Austin, Texas 78728-4530
512-251-8388

Accredited by the National Voluntary Laboratory Accreditation Program for BULK ASBESTOS FIBER ANALYSIS BY PLM under lab code **101735-0** **TDH 30-0052**

Paul Hise
Law Engineering & Environmental
3520 Executive Center Dr #G-100
Austin, Texas 78731

Date Received: November 23, 1998
Date Analysis: December 3, 1998
Date Report: December 3, 1998

BULK ASBESTOS TEST REPORT

PROJECT: LFS 669 524

Sample ID	Description	ASBESTOS DETECTED	MATRIX/OTHER FIBERS
LF 524-031	gray transite	25% CHRYSOTILE	concrete

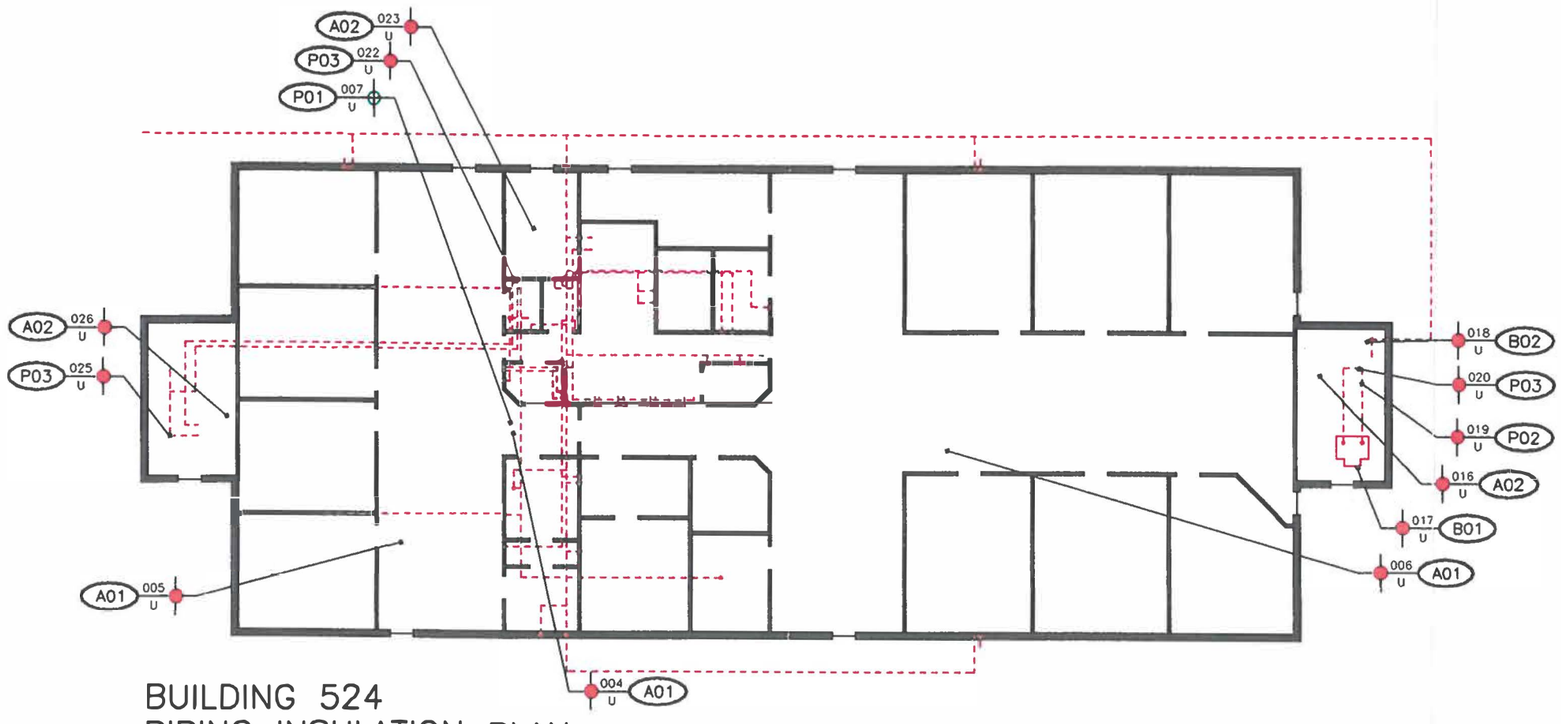
Jimmie Ann Bolton

Jimmie Ann Bolton, Analyst

Percentages are approximate. Analysis by PLM & Dispersion staining. Laboratory's Accreditation or any use of its test reports in no way constitutes or implies product certification, approval, or endorsement by NIST or any government agency. Report must not be reproduced except in full with the approval of the laboratory. Test report related only to the items tested. . Small quantities of item may not be representative of items tested, so that low percentages of asbestos may not be detected. Testing method in accordance with EPA/600/R-93/116 July 1993. **Indicates Point Counted using Chalkley 25 random point graticule, a mechanical stage, and 400X, 400 points counted. 1% or less is negative for asbestos. Reports retained 3 years, tested items retained 30 days. LF 524A

J-1 ACM Locations By Area

J-6 Building Drawings



BUILDING 524
PIPING INSULATION PLAN

STATE OF TEXAS
WAYNE C. MALEK
87922
REGISTERED PROFESSIONAL ENGINEER

Wayne C. Malek 6/25/99

See Report Section B for applicability of P.E. seal

NORTH

TEXAS MHMR

TEXAS DEPARTMENT OF MENTAL HEALTH & MENTAL RETARDATION
MAINTENANCE & CONSTRUCTION SECTION
909 W 45TH ST. BLDG 3
AUSTIN, TEXAS 78756
512-206-5880 FAX 512-206-5930

MANAGING CONSULTANT:

ENVIRONMENTAL RESOURCE CONSULTANTS
10300 N CENTRAL EXPWY
SUITE 296, DALLAS, TX 75231
214-692-8040 FAX 214-692-8043

ERC PROJ NO: 96-0456-D

QC DATE: BY:

CONSULTING ARCHITECT/ENGINEER:

LAW GIBB GROUP
LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
3520 Executive Center Drive
Suite G-100
Austin, Texas 78731
512/795-0360

TXMHMR BUILDING NO:

524

DORM/HOME

LUFKIN STATE SCHOOL

LUFKIN, TEXAS

TXMHMR PROJ NO: 98-003-669

DATE: 9JUL98 REV:

FILE NAME: LFS524-1

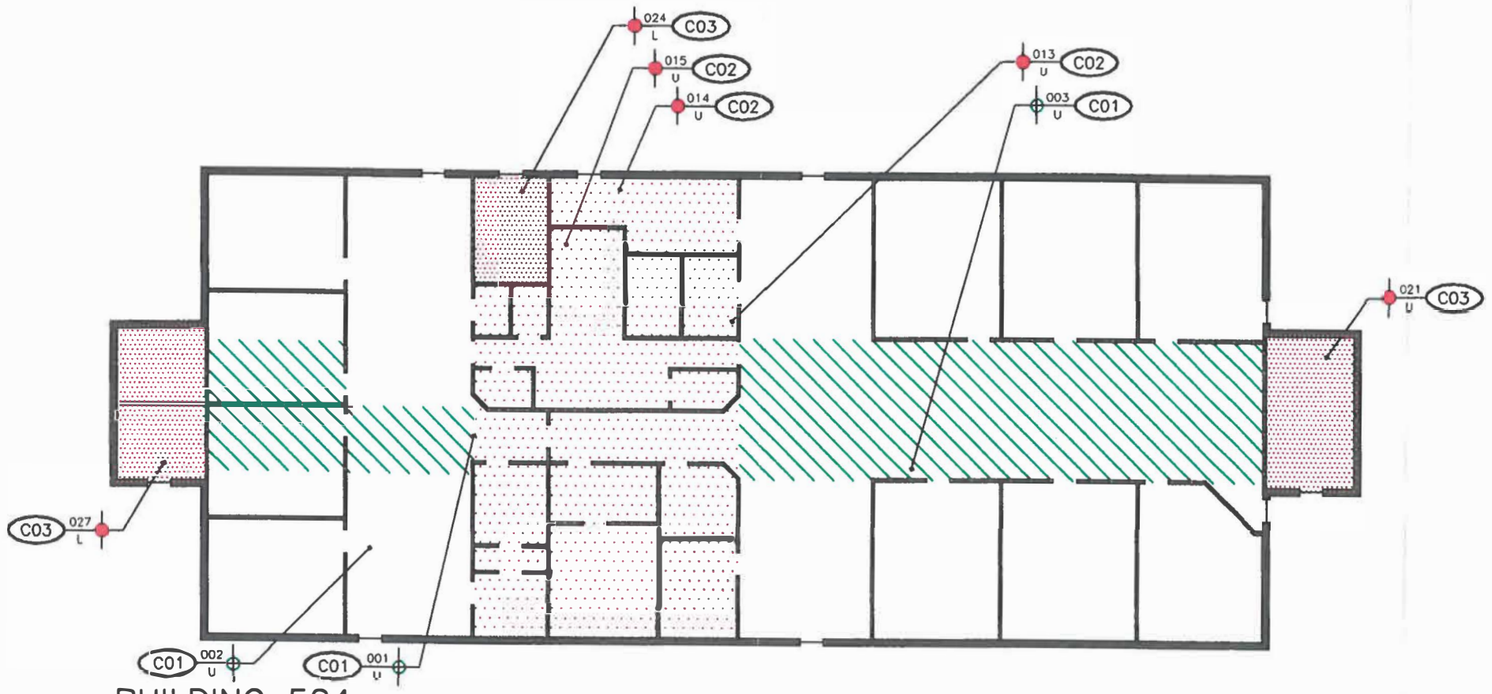
GRAPHIC SCALE IN FEET:

0 5 10 15 20

APPROX SCALE: 1"=20'

DRAWING NUMBER:

524-1P



BUILDING 524
CEILING MATERIAL PLAN

STATE OF TEXAS
WAYNE C. MALEK
87922
REGISTERED PROFESSIONAL ENGINEER
6/25/99

See Report Section B for applicability of P.E. seal

NORTH

TEXAS
MHMR

TEXAS DEPARTMENT OF MENTAL HEALTH & MENTAL RETARDATION
MAINTENANCE & CONSTRUCTION SECTION
909 W 45TH ST, BLDG 3
AUSTIN, TEXAS 78756
512-206-5880 FAX 512-206-5930

MANAGING CONSULTANT:

ENVIRONMENTAL RESOURCE CONSULTANTS
10300 N CENTRAL EXPWY
SUITE 296, DALLAS, TX 75231
214-692-8040 FAX 214-692-8043

ERC PROJ NO: 96-0456-D

QC DATE: BY:

CONSULTING ARCHITECT/ENGINEER:

LAW GIBB GROUP
LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
3520 Executive Center Drive
Suite G-100
Austin, Texas 78731
512/795-0360

TXMHMR BUILDING NO:

524

DORM/HOME
LUFKIN STATE SCHOOL
LUFKIN, TEXAS

TXMHMR PROJ NO: 98-003-669

DATE: 9JUL98 REV:

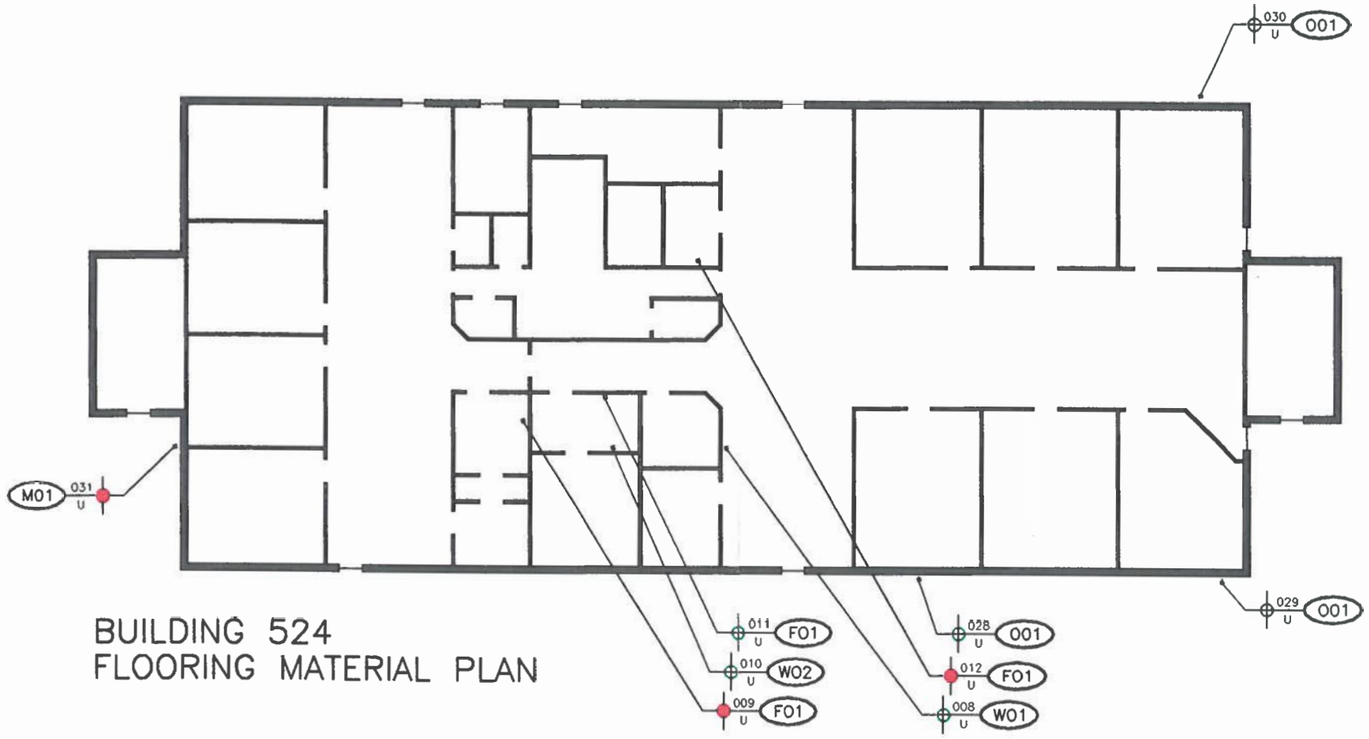
FILE NAME: LFS524-1

GRAPHIC SCALE IN FEET:
0 5 10 15 20

APPROX SCALE: 1"=20'

DRAWING NUMBER:

524-1C



BUILDING 524
FLOORING MATERIAL PLAN

STATE OF TEXAS
WAYNE C. MALEK
87922
REGISTERED PROFESSIONAL ENGINEER
6/25/99

See Report Section B for applicability of P.E. seal

NORTH

TEXAS
MHMR

TEXAS DEPARTMENT OF MENTAL HEALTH & MENTAL RETARDATION
MAINTENANCE & CONSTRUCTION SECTION
909 W 45TH ST, BLDG 3
AUSTIN, TEXAS 78756
512-206-5880 FAX 512-206-5930

MANAGING CONSULTANT:
ERC
ENVIRONMENTAL RESOURCE CONSULTANTS
10300 N CENTRAL EXPWY
SUITE 296, DALLAS, TX 75231
214-692-8040 FAX 214-692-8043

ERC PROJ NO: 96-0456-D

QC DATE: | BY:

CONSULTING ARCHITECT/ENGINEER:

LAWGIBB GROUP
LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
3520 Executive Center Drive
Suite G-100
Austin, Texas 78731
512/795-0360

TXMHMR BUILDING NO:
524
DORM/HOME
LUFKIN STATE SCHOOL
LUFKIN, TEXAS

TXMHMR PROJ NO: 98-003-669

DATE: 9JUL98 | REV:

FILE NAME: LFS524-1

GRAPHIC SCALE IN FEET:
0 5 10 15 20

APPROX SCALE: 1"=20'

DRAWING NUMBER:
524-1F

SECTION 01 10 00
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: Project No. 25-102-LFL

B. Owner's Name: Texas Health and Human Services.

C. Architect's Name: THR3E Design.

D. The Project consists of the renovation of the existing Building 506, Building 523 and Building 524 to replace the existing HVAC units for the buildings. The existing campus is currently operational.

1.02 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings and specified in Section 02 41 00.

B. Scope of alterations work is indicated on drawings.

C. Renovate the following areas, complete including operational mechanical and electrical work and finishes:
   1. Building 506.
   2. Building 523.
   3. Building 524.

D. HVAC: Replace existing system with new construction, keeping existing in operation until ready for changeover.

E. Electrical Power and Lighting: Replace existing system with new construction, keeping existing in operation until ready for changeover.

1.03 WORK BY OWNER

A. Items noted NIC (Not in Contract) will be supplied and installed by Owner after Date of Substantial Completion.

1.04 OWNER OCCUPANCY

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

B. Owner intends to occupy the Project upon Substantial Completion.

C. Owner intends to occupy a certain portion of the Project prior to the completion date for the conduct of normal operations.

D. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

E. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.
   1. Locate and conduct construction activities in ways that will limit disturbance to site.
   2. Coordinate with Owner for any additional safety or security measures needed during construction to prevent unauthorized access by patients.

B. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.
   4. Use of site and premises by the public.

C. Provide access to and from site as required by law and by Owner:

1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Existing building spaces may not be used for storage.

E. Utility Outages and Shutdown:
1. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
2. Limit shutdown of utility services to agreed hours at a time, arranged at least 24 hours in advance with Owner.
3. Prevent accidental disruption of utility services to other facilities.

1.06 WORK SEQUENCE

A. Construct Work in phases during the construction period:

B. Coordinate construction schedule and operations with Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Correlation of Contractor submittals based on changes.

E. Procedures for preparation and submittal of application for final payment.

1.02 SCHEDULE OF VALUES

A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

B. Forms filled out by hand will not be accepted.

C. Submit a printed schedule in an Owner approved format. Contractor's standard form or electronic media printout will be considered.

D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization and bonds and insurance.

F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.03 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Use Owner supplied form as stipulated in the Agreement.

C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

D. Forms filled out by hand will not be accepted.

E. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

F. Execute certification by signature of authorized officer.

G. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

H. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

I. Submit one electronic and three hard-copies of each Application for Payment.

J. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 01 30 00.
   2. Current construction photographs specified in Section 01 30 00.
   3. Partial release of liens from all Subcontractors for work performed in the previous month.
   4. Project record documents as specified in Section 01 78 00, for review by Owner which will be returned to the Contractor.
   5. Affidavits attesting to off-site stored products.

K. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.04 MODIFICATION PROCEDURES

A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to Contract Documents.

B. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.

C. Architect's Supplemental Instructions (ASI): Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instructions on AIA Form G710, or a similar form.

D. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

E. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within ten (10) days.

F. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 60 00.

G. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
   1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
   2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
   3. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.

H. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.

2. Support each claim for additional costs with additional information:
   a. Origin and date of claim.
   b. Dates and times work was performed, and by whom.
   c. Time records and wage rates paid.
   d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

I. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

J. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

K. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

L. Promptly enter changes in Project Record Documents.

1.05 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 01 70 00.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures, coordination.

B. Section 01 60 00 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling.

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

1.04 REFERENCE STANDARDS

A. CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage); Current Edition.

B. CSI/CSC Form 13.1A - Substitution Request (After the Bidding/Negotiating Phase); Current Edition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.
   6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

B. A Substitution Request for specified installer constitutes a representation that the submitter:
   1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.

1. Note explicitly any non-compliant characteristics.

D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. Forms indicated in the Project Manual are adequate for this purpose, and must be used.

E. Limit each request to a single proposed substitution item.
   1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING BIDDING PHASE

A. Submittal Time Restrictions:
   1. Owner will consider requests for substitutions only if submitted at least 10 days prior to the date for receipt of bids.

B. Submittal Form (before award of contract):
   1. Submit substitution requests by completing CSI/CSC Form 1.5C - Substitution Request. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

3.03 SUBSTITUTION PROCEDURES DURING AFTER BIDDING PHASE

A. Submittal Form (after award of contract):
   1. Submit substitution requests by completing CSI/CSC Form 13.1A - Substitution Request (After Bidding/Negotiating). See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Architect will consider requests for substitutions only within 15 days after date of Agreement.

C. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

D. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.
      b. Other construction by Owner.
      c. Other unanticipated project considerations.

E. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.

3.04 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.
   1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

A. See Section 01 78 00 - Closeout Submittals, for closeout submittals.

B. Include completed Substitution Request Forms as part of the Project record. Include both approved and rejected Requests.

END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Electronic document submittal service.

C. Preconstruction meeting.

D. Site mobilization meeting.

E. Progress meetings.

F. Construction progress schedule.

G. Contractor's daily reports.

H. Progress photographs.

I. Coordination drawings.

J. Submittals for review, information, and project closeout.

K. Number of copies of submittals.

L. Requests for Interpretation (RFI) procedures.

M. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 30 10 - Internet-Based Collaboration System

B. Section 01 32 16 - Construction Progress Schedule: Form, content, and administration of schedules.

C. Section 01 60 00 - Product Requirements: General product requirements.

D. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

E. Section 01 78 00 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 REFERENCE STANDARDS

1.04 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 01 70 00 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

B. Make the following types of submittals to Architect:
   1. Requests for Interpretation (RFI).
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Correction Punch List and Final Correction Punch List for Substantial Completion.
   11. Closeout submittals.

1.05 PROJECT COORDINATOR

A. Project Coordinator: Construction Manager.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for vehicle access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 01 10 00 - Summary.

F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

G. Make the following types of submittals to Architect through the Project Coordinator:
   1. Requests for Interpretation.
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Correction Punch List and Final Correction Punch List for Substantial Completion.
   11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
   1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
   2. Contractor and Architect are required to use this service.
   3. It is Contractor's responsibility to submit documents in allowable format.
   4. Subcontractors, suppliers, and Architect's consultants will be permitted to use the service at no extra charge.
   5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
   6. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
   7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

B. Cost: The cost of the service will be paid by Owner.

C. Submittal Service: The selected service is:
   1. Electronic document submittals will be processed utilizing the Internet-based collaboration system employed for the project. See section 01 30 10 - Internet-Base Collaboration System for additional requirements.

D. Training: One, one-hour, web-based training session will be arranged for all participants, with representatives of Architect and Contractor participating; further training is the responsibility of the user of the service.

E. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 PRECONSTRUCTION MEETING

A. Owner will schedule a meeting after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract, _____ and Architect.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.
   8. Critical Work Sequencing

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 SITE MOBILIZATION MEETING

A. Schedule meeting at the Project site prior to Contractor occupancy.

B. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Special consultants.
   5. Contractor's superintendent.
   6. Major subcontractors.

C. Agenda:
   1. Use of premises by Owner and Contractor.
   2. Owner's requirements.
   3. Construction facilities and controls provided by Owner.
   4. Temporary utilities provided by Owner.
   5. Survey and building layout.
   6. Security and housekeeping procedures.
   7. Schedules.
   8. Application for payment procedures.
   9. Procedures for testing.

10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. Major subcontractors.

D. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of RFIs log and status of responses.
7. Review of Open Issues Log (of items noted on Architect's, Owner's, and Engineer's field reports) and status of responses.
8. Review of off-site fabrication and delivery schedules.
9. Maintenance of progress schedule.
10. Corrective measures to regain projected schedules.
11. Planned progress during succeeding work period.
12. Maintenance of quality and work standards.
13. Effect of proposed changes on progress schedule and coordination.
14. Other business relating to work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.05 CONSTRUCTION PROGRESS SCHEDULE - SEE SECTION 01 32 16

3.06 DAILY CONSTRUCTION REPORTS

A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.

B. In addition to transmitting electronically a copy to Owner and Architect, submit two printed copies at weekly intervals.
1. Submit in format acceptable to Owner.

C. Prepare a daily construction report recording the following information concerning events at Project site and project progress:
1. Date.
2. High and low temperatures, and general weather conditions.
3. List of subcontractors at Project site.
4. Approximate count of personnel at Project site.
5. Material deliveries.

6. Safety, environmental, or industrial relations incidents.
7. Meetings and significant decisions.
8. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
9. Directives and requests of Authority(s) Having Jurisdiction (AHJ).
10. Testing and/or inspections performed.
11. List of verbal instruction given by Owner and/or Architect.
12. Signature of Contractor's authorized representative.

3.07 PROGRESS PHOTOGRAPHS

A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.

B. Photography Type: Digital; electronic files.

C. Provide photographs of site and construction throughout progress of work produced by an experienced photographer, acceptable to Architect.

D. In addition to periodic, recurring views, take photographs of each of the following events:
   1. Foundations in progress and upon completion.
   2. Structural framing in progress and upon completion.
   3. Enclosure of building, upon completion.
   4. Final completion, minimum of ten (10) photos.

E. Views:
   1. Provide aerial photographs from four cardinal views at each specified time, until structure is enclosed.
   2. Provide non-aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
   3. Consult with Architect for instructions on views required.
   4. Provide factual presentation.
   5. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.

F. Digital Photographs: 24 bit color, minimum resolution of 1920 x 1080, in JPG format; provide files unaltered by photo editing software.
   1. Delivery Medium: via posting on the internet-based collaboration system employed for the project.
   2. File Naming: Include project identification, date and time of view, and view identification.
   3. Hard Copy: Printed hardcopy (grayscale) of PDF file and point of view sketch.

3.08 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
   2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.

C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.

1. Prepare a separate RFI for each specific item.
    a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
    b. Do not forward requests which solely require internal coordination between subcontractors.
2. Prepare using software provided by the Electronic Document Submittal Service.
3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
    a. Approval of submittals (use procedures specified elsewhere in this section).
    b. Approval of substitutions (see Section - 01 60 00 - Product Requirements)
    c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
    d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
    a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.

E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Owner's, Architect's, and Contractor's names.
3. Discrete and consecutive RFI number, and descriptive subject/title.
4. Issue date, and requested reply date.
5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
2. Note dates of when each request is made, and when a response is received.
3. Highlight items requiring priority or expedited response.
4. Highlight items for which a timely response has not been received to date.

5. Identify and include improper or frivolous RFIs.

H. Review Time: Architect will respond and return RFIs to Contractor within 10 calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
   1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
   1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
   2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
   3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
   4. Notify Architect within 10 calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.09 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.
   1. Submit at the same time as the preliminary schedule specified in Section - 01 32 16 - Construction Progress Schedule.
   2. Coordinate with Contractor's construction schedule and schedule of values.
   3. Format schedule to allow tracking of status of submittals throughout duration of construction.
   4. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
   5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.
      a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.10 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.11 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:

1. Design data.
2. Certificates.
3. Test reports.
4. Inspection reports.
5. Manufacturer's instructions.
6. Manufacturer's field reports.
7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.12 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 78 00 - Closeout Submittals:
1. Project record documents.
2. Operation and maintenance data.
3. Warranties.
4. Bonds.
5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.13 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Extra Copies at Project Closeout: See Section 01 78 00.

C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
1. After review, produce duplicates.
2. Retained samples will not be returned to Contractor unless specifically so stated.

3.14 SUBMITTAL PROCEDURES

A. General Requirements:
1. Use a separate transmittal for each item.
2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
3. Transmit using approved form.
   a. Use form generated by Electronic Document Submittal Service software.
4. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
5. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
6. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
   a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
7. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
   a. Upload submittals in electronic form to Electronic Document Submittal Service website.

8. Schedule submittals to expedite the Project, and coordinate submission of related items.
    a. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
    b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 days.
9. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
10. Provide space for Contractor and Architect review stamps.
11. When revised for resubmission, identify all changes made since previous submission.
12. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
13. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
14. Submittals not requested will not be recognized or processed.

B. Product Data Procedures:
1. Submit only information required by individual specification sections.
2. Collect required information into a single submittal.
3. Submit concurrently with related shop drawing submittal.
4. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
2. Do not reproduce Contract Documents to create shop drawings.
3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

D. Samples Procedures:
1. Transmit related items together as single package.
2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
3. Include with transmittal high-resolution image files of samples to facilitate electronic review and approval. Provide separate submittal page for each item image.

E. Transmit each submittal with approved form.

F. Identify the submittal with an identification number comprised of:
1. The specification section number pertaining to the submittal.
2. A sequential number, beginning at the number 1 for each specification section.
3. If the submittal is a resubmission, a sequential alphabetical suffix, beginning with the letter 'R1' for the first submission, 'R2' for the second, and so-on.

3.15 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.

D. Architect's and consultants' actions on items submitted for review:
1. Authorizing purchasing, fabrication, delivery, and installation:
    a. "Approved", or language with same legal meaning.

b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
    1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
    1) Resubmit corrected item, with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.
    2) Non-responsive resubmittals may be rejected.

2. Not Authorizing fabrication, delivery, and installation:
    a. "Revise and Resubmit".
        1) Resubmit revised item, with review notations acknowledged and incorporated.
        2) Non-responsive resubmittals may be rejected.
    b. "Rejected".
        1) Submit item complying with requirements of Contract Documents.

E. Architect's and consultants' actions on items submitted for information:
1. Items for which no action was taken:
    a. "Received" - to notify the Contractor that the submittal has been received for record only.
2. Items for which action was taken:
    a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01 30 10
INTERNET-BASED COLLABORATION SYSTEM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for use of an Internet-based (World Wide Web) system to improve communication between project team members and consolidate documentation of project design and construction correspondence/documentation such as meeting reports, submittal log, information requests, change proposals, specifications, test reports, construction progress photographs and other, similar information.

B. Requirement for computer system in temporary construction offices located at the project site.

1.02 RELATED SECTIONS

A. Section 01 30 00 - Administrative Requirements: Documentation requirements for reports that will be stored on Project Website.

1.03 DEFINITIONS

A. Applications Service Provider (ASP): A company that provides Internet-based applications to clients and hosts those applications on its server computers that are accessible from the Internet.

B. Project Website: A suite of web-based software applications that are accessible using only a standard web browser from remote locations and are used to manage and enhance communication of a project team.

1.04 SYSTEM DESCRIPTION

A. The Contractor shall employ an Internet-based software system that will provide password-protected access to a centralized computer document repository and application software such as task lists, contact database, requests for information, meeting agenda and reports, field reports, and discussion forums. In general, the software will run on a server that is maintained by the Contractor or third-party Applications Service Provider (ASP).
   1. The Contractor shall be required to use a Project Web Site to store electronic versions of all project-related correspondence and publications and maintain logs for project-related activities, including:
      a. Project Schedules.
      b. Submittals.
      c. Request for Information (RFI).
      d. Proposal Requests.
      e. Applications for Payment.
      f. Other data as may be required by the Owner.
      g. Meeting reports.
      h. Project progress photographs and field reports
      i. Project budget and schedule related items.
   2. Licensed access to the Project Web Site will be provided at no cost by the Contractor.

1.05 COMPUTER SYSTEMS

A. The Contractor shall provide the following minimum computer system hardware/software in its field offices for the purpose of using the Project Web Site during the duration of the project:
   1. Computer Systems: Windows 10 or MacOS, capable of adequately running current versions of Microsoft Edge, Safari, Mozilla Firefox, or Google Chrome.
   2. Page viewing/PDF creation software: Adobe Acrobat (current version) or other software with similar capability to create and mark up documents in Portable Document Format (.PDF).
   3. Digital camera: Five megapixel or higher resolution.

4. Color printer: 600 x 600 dpi or higher resolution.

1.06 INTERNET CONNECTIVITY

A. The Contractor shall provide a dedicated connection to the Internet in its field office.
   1. Where broadband Internet service is available, provide DSL or cable service with a minimum bandwidth rating of 6 Mbps.
   2. In remote areas where broadband service is not available, provide satellite connection.

1.07 PROJECT RECORDS

A. The Project Web Site shall be considered the primary mechanism for logged communication between the project team members, but shall not be considered the official record of the project.

B. The Contractor shall maintain paper copies of all documents stored on the Project Website that it generates. The Contractor shall not be responsible for maintaining paper copies of documents generated by others.

C. The Contractor shall endeavor to make the electronic project record, as reflected in the content of the Project Web Site, as complete as possible, and shall avoid short-circuiting use of the Project Web Site by using direct e-mail in lieu of comparable applications of the Project Web Site.

1.08 SIGNATURE AUTHORIZATION

A. All team members having signatory authority as a representative for their associated organization shall be required to possess a digital signature and provide means to all parties who require such the ability to readily verify its authenticity. The association of digital signatures with electronic documents shall carry the same force as traditional signatures and shall be considered legally binding by all parties.

B. Individual user accounts will be assigned to all team members having signatory authority as a representative for their associated organization. The security of access to said accounts shall be incumbent upon the party it is assigned to. All statements made using such accounts shall carry the same force as traditional signatures and shall be considered legally binding by all parties.

C. The Contractor shall have the right to proceed on any action when so directed by the Web Collaboration System through the party having authority by which to do so. This right to proceed shall be considered to carry the weight and burden as if instructed by the authorized party directly.

PART 2 PRODUCTS

2.01 INTERNET COLLABORATION SOFTWARE

A. Contractors shall choose a publicly available project web-site collaboration system to be used for this project.

PART 3 EXECUTION

3.01 PROJECT WEB SITE USAGE

A. The Contractor shall be required to monitor the site for updates at reasonable and appropriate intervals, based on the level of activity for the project at the time.

B. The Owner may require the Contractor to monitor the web site at specifically stated intervals or times, based on the individual project requirements. A requirement to monitor the web site after hours and on weekends SHALL NOT constitute a claim for overtime, nor shall overtime or additional overhead be granted for this requirement. Any requirements related to the contractor’s monitoring of the website not stated in this document shall only be deemed as existing when documented within the project website.

3.02 DOCUMENT FORMATS

A. All documents shall be published using a format that is both viewable and electronically searchable using common commercially available software and web browsers. Non-digital documents shall be converted to a digital format that is both viewable and electronically searchable.

3.03 PROJECT LOGS

A. All project related logs (RFI, RFP, Submittal, etc…) shall be maintained in the appropriate section of the project website and only these logs shall be considered to be the official logs for the project.

3.04 SUBMITTALS

A. All documentation concerning proposed materials, equipment and construction methods shall be submitted via the appropriate section of the project website. Product, color and material samples of items being submitted shall be delivered to the appropriate parties as required and documentation relating to these samples shall be submitted via the project website. The approval process for all items being submitted shall occur via the project website.

3.05 SCHEDULE

A. The Contractor’s construction schedule shall be published to the appropriate section of the project website in a digital format viewable via standard web browsers or commercially available software. The Contractor shall be required to update the project schedule on a weekly basis and at such times as the duration of the “Critical Path” is affected.

3.06 CONSTRUCTION DOCUMENTS

A. The project website may have different versions of design drawings available for review and comment, as part of the development of the project as a whole. The Contractor shall only be responsible, and be contractually obligated for, formally issued construction documents located within the designated area of the site for this purpose.

END OF SECTION

SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule, bar chart type.

1.02 RELATED SECTIONS

A. Section 01 10 00 - Summary: Work sequence.

1.03 REFERENCE STANDARDS

A. AGC (CPSM) - Construction Planning and Scheduling Manual; 2004.

B. M-H (CPM) - CPM in Construction Management - Project Management with CPM; 2016, with Addendum (2021).

1.04 SUBMITTALS

A. Within 10 days after date of Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.

D. Within 10 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

F. Submit in PDF format.

G. Submit under transmittal letter form specified in Section 01 30 00 - Administrative Requirements.

1.05 QUALITY ASSURANCE

A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with two years minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.

1.06 SCHEDULE FORMAT

A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

B. Scale and Spacing: To allow for notations and revisions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.

B. Identify each item by specification section number.

C. Identify work of separate stages and other logically grouped activities.

D. Include conferences and meetings in schedule.

E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

F. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, products identified under Allowances, and dates reviewed submittals will be required from Architect. Indicate decision dates for selection of finishes.

G. Indicate delivery dates for owner-furnished products.

H. Coordinate content with schedule of values specified in Section 01 20 00 - Price and Payment Procedures.

I. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

A. Include a separate bar for each major portion of Work or operation.

B. Identify the first work day of each week.

3.04 REVIEW AND EVALUATION OF SCHEDULE

A. Participate in joint review and evaluation of schedule with Architect at each submittal.

B. Evaluate project status to determine work behind schedule and work ahead of schedule.

C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.05 UPDATING SCHEDULE

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity.

C. Annotate diagrams to graphically depict current status of Work.

D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

E. Indicate changes required to maintain Date of Substantial Completion.

F. Submit reports required to support recommended changes.

G. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect including the effects of changes on schedules of separate contractors.

3.06 DISTRIBUTION OF SCHEDULE

A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

SECTION 01 35 53
SECURITY PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: use of premises and occupancy.

B. Section 01 50 00 - Temporary Facilities and Controls: Temporary lighting.

1.03 SECURITY PROGRAM

A. Protect Work , existing premises and Owner's operations from theft, vandalism, and unauthorized entry.

B. Initiate program in coordination with Owner's existing security system at project mobilization.

C. Maintain program throughout construction period until Owner acceptance precludes the need for Contractor security.

1.04 ENTRY CONTROL

A. Restrict entrance of persons and vehicles into Project site and existing facilities.

B. Allow entrance only to authorized persons with proper identification.

C. Maintain log of workers and visitors, make available to Owner on request.

D. Contractor shall control entrance of persons and vehicles related to Owner's operations.

E. Coordinate access of Owner's personnel to site in coordination with Owner's security forces.

1.05 PERSONNEL IDENTIFICATION

A. Provide identification badge to each person authorized to enter premises.

B. Badge To Include: Personal photograph, name, assigned number , expiration date and employer.

C. Maintain a list of accredited persons, submit copy to Owner on request.

D. Require return of badges at expiration of their employment on the Work.

1.06 RESTRICTIONS

A. Do not allow cameras on site or photographs taken except by written approval of Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. Contractor's construction-related professional design services.

D. Control of installation.

E. Mock-ups.

F. Tolerances.

G. Manufacturers' field services.

H. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

B. Section 01 42 16 - Definitions.

C. Section 01 42 19 - Reference Standards.

D. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2023).

B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation; 2025a.

C. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2023.

D. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2021.

1.04 DEFINITIONS

A. Contractor's Quality Control Plan: Contractor's management plan for executing the Contract for Construction.

B. Contractor's Professional Design Services: Design of some aspect or portion of the project by party other than the design professional of record. Provide these services as part of the Contract for Construction.

1. Design Services Types Required:
    a. Construction-Related: Services Contractor needs to provide in order to carry out the Contractor’s sole responsibilities for construction means, methods, techniques, sequences, and procedures.
    b. Design-Related: Design services explicitly required to be performed by another design professional due to highly-technical and/or specialized nature of a portion of the project. Services primarily involve engineering analysis, calculations, and design, and are not intended to alter the aesthetic aspects of the design.

C. Design Data: Design-related, signed and sealed drawings, calculations, specifications, certifications, shop drawings and other submittals provided by Contractor, and prepared directly by, or under direct supervision of, appropriately licensed design professional.

1.05 CONTRACTOR'S CONSTRUCTION-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.

B. Provide such engineering design services as may be necessary to plan and safely conduct certain construction operations, pertaining to, but not limited to the following:
   1. Temporary sheeting, shoring, or supports.
   2. Temporary scaffolding.
   3. Temporary bracing.
   4. Temporary falsework for support of spanning or arched structures.
   5. Temporary foundation underpinning.
   6. Temporary stairs or steps required for construction access only.
   7. Temporary hoist(s) and rigging.
   8. Investigation of soil conditions to support construction equipment.

1.06 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
   1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
   2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.07 QUALITY ASSURANCE

A. Designer Qualifications: Where professional engineering design services and design data submittals are specifically required of Contractor by Contract Documents, provide services of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

B. Quality-Control Personnel Qualifications. Engage a person with requisite training and experience to implement and manage quality assurance (QA) and quality control (QC) for the project.

1.08 REFERENCES AND STANDARDS - SEE SECTION 01 42 19

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Architect will use to judge the Work.

C. Integrated Exterior Mock-ups: Construct integrated exterior mock-up as indicated on drawings. Coordinate installation of exterior envelope materials and products as required in individual Specification Sections. Provide adequate supporting structure for mock-up materials as necessary.
   1. If the configuration of the Integrated Exterior Mock-up is not indicated on the Drawings, request configuration information from the Architect. The size of the mock-up will not exceed 8 x 8 feet.
   2. The Integrated Exterior Mock-up may not remain as part of the work.

D. Room Mock-ups: Construct room mock-ups as indicated on drawings. Coordinate installation of materials, products, and assemblies as required in specification sections; finish according to requirements. Provide required lighting and any supplemental lighting where required to enable Architect to evaluate quality of the mock-up.

E. Notify Architect fifteen (15) working days in advance of dates and times when mock-ups will be constructed.

F. Provide supervisory personnel who will oversee mock-up construction. Provide workers that will be employed during the construction at Project.

G. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

H. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

I. Obtain Architect's approval of mock-ups before starting work, fabrication, or construction.
   1. Architect will issue written comments within seven (7) working days of initial review and each subsequent follow up review of each mock-up.
   2. Make corrections as necessary until Architect's approval is issued.

J. Architect will use accepted mock-ups as a comparison standard for the remaining Work.

K. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

L. Where possible salvage and recycle the demolished mock-up materials.

3.03 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.04 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.05 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Owner, it is not practical to remove and replace the work, Owner will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 42 16
DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

A. This section supplements the definitions contained in the General Conditions.

B. Other definitions are included in individual specification sections.

1.02 DEFINITIONS

A. Furnish: To supply, deliver, unload, and inspect for damage.

B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.

C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.

D. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.

E. Provide: To furnish and install.

F. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 42 19
REFERENCE STANDARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements relating to referenced standards.

1.02 QUALITY ASSURANCE

A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with the reference standard of date of issue specified in the individual specification sections, except where a specific date is established by applicable code.

C. Obtain copies of standards when required by Contract Documents.

D. Should specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.

E. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect shall be altered by Contract Documents by mention or inference otherwise in any reference document.

END OF SECTION

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary telecommunications services.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers, enclosures, and fencing.

D. Security requirements.

E. Vehicular access and parking.

F. Waste removal facilities and services.

G. Project identification sign.

1.02 RELATED REQUIREMENTS

A. Section 01 30 10 - Internet-Based Collaboration System

B. Section 01 35 53 - Security Procedures

C. Section 01 51 00 - Temporary Utilities.

D. Section 01 52 13 - Field Offices and Sheds.

E. Section 01 55 00 - Vehicular Access and Parking.

F. Section 01 58 13 - Temporary Project Signage.

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.

1.04 TEMPORARY UTILITIES - SEE SECTION 01 51 00

1.05 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. Provide, maintain, and pay for Internet access to field office at time of project mobilization. Internet service shall include access to e-mail and access to Section 01 30 10 - Internet-Based Collaboration System website established for the Project.

C. Telecommunications services shall include:
   1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
   2. Telephone Land Lines: One line, minimum; one handset per line.
   3. Internet Connections: Minimum of one; DSL modem or faster.
   4. Email: Account/address reserved for project use.

1.06 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Maintain daily in clean and sanitary condition.

C. At end of construction, return facilities to same or better condition as originally found.

1.07 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.08 FENCING

A. Construction: Commercial grade chain link fence.
   1. Provide 6 foot (1.8 m) high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.09 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.10 INTERIOR ENCLOSURES

A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:
   1. STC rating of 35 in accordance with ASTM E90.
   2. Maximum flame spread rating of 75 in accordance with ASTM E84.

C. Paint surfaces exposed to view from Owner-occupied areas.

1.11 SECURITY - SEE SECTION 01 35 53

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

B. Coordinate with Owner's security program.

1.12 VEHICULAR ACCESS AND PARKING - SEE SECTION 01 55 00

A. Coordinate access and haul routes with governing authorities and Owner.

B. Provide and maintain access to fire hydrants, free of obstructions.

C. Provide means of removing mud from vehicle wheels before entering streets.

D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.13 WASTE REMOVAL

A. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

C. Provide containers with lids. Remove trash from site daily.

D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.14 PROJECT SIGNS - SEE SECTION 01 58 13

1.15 FIELD OFFICES - SEE SECTION 01 52 13

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

C. Locate offices a minimum distance of 30 feet (10 m) from existing and new structures.

1.16 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

E. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 51 00
TEMPORARY UTILITIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary Utilities: Provision of electricity, lighting, heat, ventilation, and water.

1.02 RELATED REQUIREMENTS

A. Section 01 50 00 - Temporary Facilities and Controls:
   1. Temporary telecommunications services for administrative purposes.
   2. Temporary sanitary facilities required by law.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

1.04 TEMPORARY ELECTRICITY

A. Cost: By Owner.

B. Connect to Owner's existing power service.
   1. Do not disrupt Owner's need for continuous service.
   2. Exercise measures to conserve energy.

C. Provide temporary electric feeder from existing building electrical service at location as directed.

D. Complement existing power service capacity and characteristics as required.

E. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.

F. Provide main service disconnect and over-current protection at convenient location .

G. Permanent convenience receptacles may be utilized during construction.

H. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.

1.05 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain LED, compact fluorescent, or high-intensity discharge lighting as suitable for the application for construction operations in accordance with requirements of 29 CFR 1926 and authorities having jurisdiction.

B. Provide and maintain 1 watt/sq ft (10.8 watt/sq m) lighting to exterior staging and storage areas after dark for security purposes.

C. Provide and maintain 0.25 watt/sq ft (2.7 watt/sq m) H.I.D. lighting to interior work areas after dark for security purposes.

D. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

E. Maintain lighting and provide routine repairs.

F. Permanent building lighting may be utilized during construction.

1.06 TEMPORARY HEATING

A. Cost of Energy: By Owner.

B. Provide heating devices and heat as needed to maintain specified conditions for construction operations.

C. Maintain minimum ambient temperature of 50 degrees F (10 degrees C) in areas where construction is in progress, unless indicated otherwise in specifications.

D. Owner's existing heat plant may be used.

1. Exercise measures to conserve energy.
2. Enclose building prior to activating temporary heat.

E. Prior to operation of permanent equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

1.07 TEMPORARY COOLING

A. Cost of Energy: By Owner.

B. Provide cooling devices and cooling as needed to maintain specified conditions for construction operations.

C. Maintain maximum ambient temperature of 80 degrees F (26 degrees C) in areas where construction is in progress, unless indicated otherwise in specifications.

D. Owner's existing cooling plant may be used.
1. Exercise measures to conserve energy.
2. Enclose building prior to activating temporary cooling.

E. Prior to operation of permanent equipment for temporary cooling purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

1.08 TEMPORARY VENTILATION

A. Existing ventilation equipment may not be used.

1.09 TEMPORARY WATER SERVICE

A. Cost of Water Used: By Owner.

B. Provide and maintain suitable quality water service for construction operations at time of project mobilization.

C. Connect to existing water source.
1. Exercise measures to conserve water.

D. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 52 13
FIELD OFFICES AND SHEDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary field offices for use of Contractor.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: use of premises and responsibility for providing field offices.

B. Section 01 50 00 - Temporary Facilities and Controls:
   1. Temporary telecommunications services for administrative purposes.
   2. Temporary sanitary facilities required by law.

C. Section 01 50 00: Parking and access to field offices.

1.03 USE OF EXISTING FACILITIES

A. Designated existing spaces may be used for field offices: As designated by the Owner.

1.04 USE OF PERMANENT FACILITIES

A. When permanent facilities are enclosed with operable utilities, relocate offices into building, with written agreement of Owner, and remove temporary buildings.

PART 2 PRODUCTS

2.01 MATERIALS, EQUIPMENT, FURNISHINGS

A. Materials, Equipment, Furnishings: Serviceable, new or used, adequate for required purpose.

2.02 CONSTRUCTION

A. Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations, with steps and landings at entrance doors.

B. Construction: Structurally sound, secure, weather tight enclosures for office. Maintain during progress of Work; remove when no longer needed.

C. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible with occupancy requirements.

D. Interior Materials in Offices: Sheet type materials for walls and ceilings, prefinished or painted; resilient floors and bases.

E. Lighting for Offices: 50 fc (538 lx) at desk top height, exterior lighting at entrance doors.

F. Fire Extinguishers: Appropriate type fire extinguisher at each office.

2.03 ENVIRONMENTAL CONTROL

A. Heating, Cooling, and Ventilating: Automatic equipment to maintain comfort conditions.

2.04 CONTRACTOR OFFICE AND FACILITIES

A. Size: For Contractor's needs and to provide space for project meetings.

B. Telephone: As specified in Section 01 50 00.

C. Furnishings in Meeting Area: Conference table and chairs to seat at least eight persons; racks and files for Contract Documents, submittals, and project record documents.

D. Other Furnishings: Contractor's option.

E. Equipment: Six adjustable band protective helmets for visitors, one 10 inch (250 mm) outdoor weather thermometer and Six yellow safety vests for visitors.

PART 3 EXECUTION

3.01 PREPARATION

A. Fill and grade sites for temporary structures to provide drainage away from buildings.

3.02 INSTALLATION

A. Install office spaces ready for occupancy 15 days after date fixed in Notice to Proceed.

3.03 MAINTENANCE AND CLEANING

A. Weekly janitorial services for offices; periodic cleaning and maintenance for offices.

3.04 REMOVAL

A. At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

END OF SECTION

SECTION 01 55 00
VEHICULAR ACCESS AND PARKING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Access roads.

B. Parking.

C. Existing pavements and parking areas.

D. Permanent pavements and parking facilities.

E. Construction parking controls.

F. Flag persons.

G. Flares and lights.

H. Haul routes.

I. Traffic signs and signals.

J. Maintenance.

K. Removal, repair.

L. Mud from site vehicles.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: For access to site, work sequence, and occupancy.

PART 2 PRODUCTS

2.01 MATERIALS

A. Materials for Permanent Construction: As specified in product specification sections, including earthwork, paving base, and topping.

2.02 SIGNS, SIGNALS, AND DEVICES

A. Post Mounted and Wall Mounted Traffic Control and Informational Signs: Specified in Section 01 58 13 - Temporary Project Signage.

B. Automatic Traffic Control Signals: As approved by local jurisdictions.

C. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.

D. Flag Person Equipment: As required by local jurisdictions.

PART 3 EXECUTION

3.01 PREPARATION

A. Clear areas, provide surface and storm drainage of road, parking, area premises, and adjacent areas.

3.02 ACCESS ROADS

A. Use of existing on-site streets and driveways for construction traffic is permitted.

B. Tracked vehicles not allowed on paved areas.

C. Extend and relocate as work progress requires, provide detours as necessary for unimpeded traffic flow.

D. Provide unimpeded access for emergency vehicles. Maintain 20 foot (6 m) width driveways with turning space between and around combustible materials.

E. Provide and maintain access to fire hydrants free of obstructions.

3.03 PARKING

A. Use of designated areas of existing parking facilities by construction personnel is permitted.

B. When site space is not adequate, provide additional off-site parking.

3.04 PERMANENT PAVEMENTS AND PARKING FACILITIES

A. Prior to Substantial Completion the base for permanent roads and parking areas may be used for construction traffic.

B. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.

3.05 CONSTRUCTION PARKING CONTROL

A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner's operations.

B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.

C. Prevent parking on or adjacent to access roads or in non-designated areas.

3.06 FLAG PERSONS

A. Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.

3.07 FLARES AND LIGHTS

A. Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.08 HAUL ROUTES

A. Confine construction traffic to designated haul routes.

B. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

3.09 TRAFFIC SIGNS AND SIGNALS

A. At approaches to site and on site, install at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.

B. Relocate as work progresses, to maintain effective traffic control.

3.10 MAINTENANCE

A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.

B. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

3.11 REMOVAL, REPAIR

A. Repair existing facilities damaged by use, to original condition.

B. Remove equipment and devices when no longer required.

C. Repair damage caused by installation.

D. Remove post settings to a depth of 2 feet (600 mm).

3.12 MUD FROM SITE VEHICLES

A. Provide means of removing mud from vehicle wheels before entering streets.

END OF SECTION

SECTION 01 57 19
TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Construction procedures to promote adequate indoor air quality after construction.

B. Building flush-out after construction and before occupancy.

C. Testing indoor air quality after completion of construction.

D. Testing air change effectiveness after completion of construction.

1.02 PROJECT GOALS

A. Dust and Airborne Particulates: Prevent deposition of dust and other particulates in HVAC ducts and equipment.
   1. Cleaning of ductwork is not contemplated under this Contract.
   2. Contractor shall bear the cost of cleaning required due to failure to protect ducts and equipment from construction dust.

B. Airborne Contaminants: Procedures and products have been specified to minimize indoor air pollutants.
   1. Furnish products meeting the specifications.
   2. Avoid construction practices that could result in contamination of installed products leading to indoor air pollution.

1.03 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

1.04 REFERENCE STANDARDS

A. ASHRAE Std 129 - Measuring Air-Change Effectiveness; 1997 (Reaffirmed 2002).

B. ASTM D5149 - Standard Test Method for Ozone in the Atmosphere: Continuous Measurement by Ethylene Chemiluminescence; 2002 (Reapproved 2016).

C. ASTM D5197 - Standard Test Method for Determination of Formaldehyde and Other Carbonyl Compounds in Air (Active Sampler Methodology); 2021.

D. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.2; 2017.

E. EPA 600/4-90/010 - Compendium of Methods for the Determination of Air Pollutants in Indoor Air; 1990.

F. EPA 625/R-96/010b - Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air; 1999, with Addendum (2000).

G. SMACNA (OCC) - IAQ Guidelines for Occupied Buildings Under Construction; 2007.

1.05 DEFINITIONS

A. Adsorptive Materials: Gypsum board, acoustical ceiling tile and panels, carpet and carpet tile, fabrics, fibrous insulation, and other similar products.

B. Contaminants: Gases, vapors, regulated pollutants, airborne mold and mildew, and the like, as specified.

C. Particulates: Dust, dirt, and other airborne solid matter.

D. Wet Work: Concrete, plaster, coatings, and other products that emit water vapor or volatile organic compounds during installation, drying, or curing.

1.06 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Indoor Air Quality Management Plan: Describe, in detail, measures to be taken to promote adequate indoor air quality upon completion; use SMACNA (OCC) as a guide.
   1. Submit not less than 60 days before enclosure of building.
   2. Identify potential sources of odor and dust.
   3. Identify construction activities likely to produce odor or dust.
   4. Identify areas of project potentially affected, especially occupied areas.
   5. Evaluate potential problems by severity and describe methods of control.
   6. Describe construction ventilation to be provided, including type and duration of ventilation, use of permanent HVAC systems, types of filters and schedule for replacement of filters.
   7. Describe cleaning and dust control procedures.

C. Interior Finishes Installation Schedule: Identify each interior finish that either generates odors, moisture, or vapors or is susceptible to adsorption of odors and vapors, and indicate air handling zone, sequence of application, and curing times.

D. Duct and Terminal Unit Inspection Report.

E. Air Contaminant Test Plan: Identify:
   1. Testing agency qualifications.
   2. Locations and scheduling of air sampling.
   3. Test procedures, in detail.
   4. Test instruments and apparatus.
   5. Sampling methods.

F. Air Contaminant Test Reports: Show:
   1. Location where each sample was taken, and time.
   2. Test values for each air sample; average the values of each set of 3.
   3. HVAC operating conditions.
   4. Certification of test equipment calibration.
   5. Other conditions or discrepancies that might have influenced results.

G. Ventilation Effectiveness Test Plan: Identify:
   1. Testing agency qualifications.
   2. Description of test spaces, including locations of air sampling.
   3. Test procedures, in detail; state whether tracer gas decay or step-up will be used.
   4. Test instruments and apparatus; identify tracer gas to be used.
   5. Sampling methods.

H. Ventilation Effectiveness Test Reports: Show:
   1. Preliminary tests of instruments and apparatus and of test spaces.
   2. Calculations of ventilation effectiveness, variable "E".
   3. Location where each sample was taken, and time.
   4. Test values for each air sample.
   5. HVAC operating conditions.
   6. Other information specified in ASHRAE Std 129.
   7. Other conditions or discrepancies that might have influenced results.

1.07 QUALITY ASSURANCE

A. Testing and Inspection Agency Qualifications: Independent testing agency having minimum of 5 years experience in performing the types of testing specified.

PART 2 PRODUCTS

2.01 MATERIALS

A. Low VOC Materials: See Section 01 61 16.

B. Low VOC Materials: See other sections for specific requirements for materials with low VOC content.

PART 3 EXECUTION

3.01 CONSTRUCTION PROCEDURES

A. Prevent the absorption of moisture and humidity by adsorptive materials by:
   1. Sequencing the delivery of such materials so that they are not present in the building until wet work is completed and dry.
   2. Delivery and storage of such materials in fully sealed moisture-impermeable packaging.
   3. Provide sufficient ventilation for drying within reasonable time frame.

B. Begin construction ventilation when building is substantially enclosed.

C. HVAC equipment and supply air ductwork may be used for ventilation during construction:
   1. Operate HVAC system on 100 percent outside air, with 1.5 air changes per hour, minimum.
   2. Ensure that air filters are correctly installed prior to starting use; replace filters when they lose efficiency.

D. Do not store construction materials or waste in mechanical or electrical rooms.

E. Prior to use of return air ductwork without intake filters clean up and remove dust and debris generated by construction activities.
   1. Inspect duct intakes, return air grilles, and terminal units for dust.
   2. Clean plenum spaces, including top sides of lay-in ceilings, outsides of ducts, tops of pipes and conduit.
   3. Clean tops of doors and frames.
   4. Clean mechanical and electrical rooms, including tops of pipes, ducts, and conduit, equipment, and supports.
   5. Clean return plenums of air handling units.
   6. Remove intake filters last, after cleaning is complete.

F. Do not perform dusty or dirty work after starting use of return air ducts without intake filters.

G. Use other relevant recommendations of SMACNA (OCC) for avoiding unnecessary contamination due to construction procedures.

3.02 BUILDING FLUSH-OUT

A. Contractor's Option: Either full continuous flush-out OR satisfactory air contaminant testing is required, not both.

B. Perform building flush-out before occupancy.

C. Do not start flush-out until:
   1. All construction is complete.
   2. HVAC systems have been tested, adjusted, and balanced for proper operation.
   3. Inspection of inside of return air ducts and terminal units confirms that cleaning is not necessary.
   4. New HVAC filtration media have been installed.

D. Building Flush-Out: Operate all ventilation systems at normal flow rates with 100 percent outside air until a total air volume of 14,000 cubic feet per square foot (4500 cubic meters per square meter) of floor area has been supplied.

1. Obtain Owner's concurrence that construction is complete enough before beginning flush-out.
2. Maintain interior temperature of at least 60 degrees F (15 degrees C) and interior relative humidity no higher than 60 percent.
3. If additional construction involving materials that produce particulates or any of the specified contaminants is conducted during flush-out, start flush-out over.
4. If interior spaces must be occupied prior to completion of the flush-out, supply a minimum of 25 percent of the total air volume prior to occupancy, and:
   a. Begin ventilation at least three hours prior to daily occupancy.
   b. Continue ventilation during all occupied periods.
   c. Provide minimum outside air volume of 0.30 cfm per square foot (0.0015 cu m/s/sq m) or design minimum outside air rate, whichever is greater.

E. Install new HVAC filtration media after completion of flush-out and before occupancy or further testing.

3.03 AIR CONTAMINANT TESTING

A. Contractor's Option: Either full continuous flush-out, or satisfactory air contaminant testing is required, not both.

B. Perform air contaminant testing before occupancy.

C. Do not start air contaminant testing until:
   1. All construction is complete, including interior finishes.
   2. HVAC systems have been tested, adjusted, and balanced for proper operation.
   3. New HVAC filtration media have been installed.

D. Indoor Air Samples: Collect from spaces representative of occupied areas:
   1. Collect samples while operable windows and exterior doors are closed, HVAC system is running normally as if occupied, with design minimum outdoor air, but with the building unoccupied.
   2. Collect samples from spaces in each contiguous floor area in each air handler zone, but not less than one sample per 25,000 square feet (2300 square meters); take samples from areas having the least ventilation and those having the greatest presumed source strength.
   3. Collect samples from height from 36 inches (915 mm) to 72 inches (1830 mm) above floor.
   4. Collect samples from same locations on 3 consecutive days during normal business hours; average the results of each set of 3 samples.
   5. Exception: Areas with normal very high outside air ventilation rates, such as laboratories, do not need to be tested.
   6. When retesting the same building areas, take samples from at least the same locations as in first test.

E. Outdoor Air Samples: Collect samples at outside air intake of each air handler at the same time as indoor samples are taken.

F. Analyze air samples and submit report.

G. Volatile Organic Compounds Limits:
   1. Formaldehyde: Not more than 27 parts per billion.
   2. PM10 Particulates: Not more than 50 micrograms per cubic meter.
   3. Total Volatile Organic Compounds (TVOCs): Not more than 200 micrograms per cubic meter.
   4. Chemicals Listed in CAL (CDPH SM) Table 4-1, other than Formaldehyde: Not more than allowable concentrations listed in Table 4-1.

5. Carbon Monoxide: Not more than 9 parts per million and not more than 2 parts per million higher than outdoor air.
6. Carbon Dioxide: Measure in ppm, in relation to outdoor air; not more than 700 ppm higher than outdoor air.
7. Airborne Mold and Mildew: Measure in relation to outside air; not higher than outside air.
8. Regulated Pollutants: Measure in relation to outside air; not more than contained in outside air.

H. Air Contaminant Concentration Test Methods:
1. Formaldehyde: ASTM D5197, EPA 625/R-96/010b Method TO-11A, or EPA 600/4-90/010 Method IP-6A.
2. Particulates: EPA 600/4-90/010 Method IP-10.
3. Ozone: ASTM D5149.
4. Total Volatile Organic Compounds (TVOC): EPA 625/R-96/010b Method TO-1, TO-15, or TO-17; or EPA 600/4-90/010 Method IP-1.
5. Chemicals Listed in CAL (CDPH SM) Table 4-1, except Formaldehyde: ASTM D5197, or EPA 625/R-96/010b Method TO-1, TO-15, or TO-17.
6. Carbon Monoxide: EPA 600/4-90/010 Method IP-3, plus measure outdoor air; measure in ppm; report both indoor and outdoor measurements.

I. If air samples show concentrations higher than those specified, ventilate with 100 percent outside air and retest at no cost to Owner, or conduct full building flush-out specified above.

3.04 VENTILATION EFFECTIVENESS TESTING

A. Perform ventilation effectiveness testing before occupancy.

B. Do not begin ventilation effectiveness testing until:
1. HVAC testing, adjusting, and balancing has been satisfactorily completed.
2. Building flush-out or air contaminant testing has been completed satisfactorily.
3. New HVAC filtration media have been installed.

C. Test each air handler zone in accordance with ASHRAE Std 129.

D. If calculated air change effectiveness for a particular zone is less than 0.9 due to inadequate balancing of the system, adjust, and retest at no cost to Owner.

END OF SECTION

SECTION 01 58 13
TEMPORARY PROJECT SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project informational signs.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Responsibility to provide signs.

1.03 QUALITY ASSURANCE

A. Design sign and structure to withstand 90 miles/hr (144.8 km/hr) wind velocity.

B. Sign Painter: Experienced as a professional sign painter for minimum three years.

C. Finishes, Painting: Adequate to withstand weathering, fading, and chipping for duration of construction.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Shop Drawing: Show content, layout, lettering, color, foundation, structure, sizes and grades of members.

PART 2 PRODUCTS

2.01 SIGN MATERIALS

A. Structure and Framing: New, wood, structurally adequate.

B. Sign Surfaces: Exterior grade plywood with medium density overlay, minimum 3/4 inch (19 mm) thick, standard large sizes to minimize joints.

C. Rough Hardware: Galvanized.

D. Paint and Primers: Exterior quality, two coats; sign background of color as selected.

E. Lettering: Exterior quality paint, contrasting colors.

2.02 PROJECT INFORMATIONAL SIGNS

A. Painted informational signs of same colors and lettering as Project Identification sign, or standard products; size lettering to provide legibility at 100 foot (30 m) distance.

B. Provide at each field office, storage shed , and directional signs to direct traffic into and within site. Relocate as Work progress requires.

PART 3 EXECUTION

3.01 MAINTENANCE

A. Maintain signs and supports clean, repair deterioration and damage.

3.02 REMOVAL

A. Remove signs, framing, supports, and foundations at completion of Project and restore the area.

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations.

F. Procedures for Owner-supplied products.

G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Section 01 25 00 - Substitution Procedures: Substitutions made during procurement and/or construction phases.

B. Section 01 40 00 - Quality Requirements: Product quality monitoring.

C. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

D. Section 01 74 19 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.03 SUBMITTALS

A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
   1. Submit within 15 days after date of Agreement.
   2. For products specified only by reference standards, list applicable reference standards.

B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. Use of products having any of the following characteristics is not permitted:
   1. Containing lead, cadmium, or asbestos.

C. Where other criteria are met, Contractor shall give preference to products that:
   1. If used on interior, have lower emissions, as defined in Section 01 61 16.
   2. If wet-applied, have lower VOC content, as defined in Section 01 61 16.
   3. Are extracted, harvested, and/or manufactured closer to the location of the project.
   4. Have longer documented life span under normal use.
   5. Result in less construction waste. See Section 01 74 19
   6. Are made of vegetable materials that are rapidly renewable.
   7. Are made of recycled materials.
   8. Have a published GreenScreen Chemical Hazard Analysis.

D. Provide interchangeable components by the same manufacture for components being replaced.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01 25 00 - Substitution Procedures.

3.02 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:
   1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
   2. Arrange and pay for product delivery to site.
   3. On delivery, inspect products jointly with Contractor.
   4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
   5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
   1. Review Owner reviewed shop drawings, product data, and samples.
   2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
   3. Handle, store, install and finish products.
   4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

A. Provide protection of stored materials and products against theft, casualty, or deterioration.

B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 74 19.

C. Store and protect products in accordance with manufacturers' instructions.

D. Store with seals and labels intact and legible.

E. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

F. For exterior storage of fabricated products, place on sloped supports above ground.

G. Provide off-site storage and protection when site does not permit on-site storage or protection.
   1. Execute a formal supplemental agreement between Owner and Contractor allowing off-site storage, for each occurrence.

H. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

I. Comply with manufacturer's warranty conditions, if any.

J. Do not store products directly on the ground.

K. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

L. Prevent contact with material that may cause corrosion, discoloration, or staining.

M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 61 16
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for Indoor-Emissions-Restricted products.

B. Requirements for VOC-Content-Restricted products.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

B. Section 01 40 00 - Quality Requirements: Procedures for testing and certifications.

C. Section 01 57 19 - Temporary Environmental Controls: Procedures and testing.

D. Section 01 60 00 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.

E. Section 07 92 00 - Joint Sealants: Emissions-compliant sealants.

1.03 DEFINITIONS

A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings applied on site.
   2. Interior adhesives and sealants applied on site, including flooring adhesives.
   3. Flooring.
   4. Composite wood.
   5. Products making up wall and ceiling assemblies.
   6. Thermal and acoustical insulation.
   7. Other products when specifically stated in the specifications.

B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings applied on site.
   2. Interior adhesives and sealants applied on site, including flooring adhesives.
   3. Wet-applied roofing and waterproofing.
   4. Other products when specifically stated in the specifications.

C. Interior of Building: Anywhere inside the exterior weather barrier.

D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
   1. Stone.
   2. Concrete.
   3. Clay brick.
   4. Metals that are plated, anodized, or powder-coated.
   5. Glass.
   6. Ceramics.
   7. Solid wood flooring that is unfinished and untreated.

1.04 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.

B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2018).

C. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.2; 2017.

D. CARB (ATCM) - Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products; Current Edition.

E. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2020.

F. CHPS (HPPD) - High Performance Products Database; Current Edition.

G. CRI (GLP) - Green Label Plus Testing Program - Certified Products; Current Edition.

H. GreenSeal GS-36 - Standard for Adhesives for Commercial Use; 2013.

I. SCAQMD 1113 - Architectural Coatings; 1977, with Amendment (2016).

J. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).

K. SCS (CPD) - SCS Certified Products; Current Edition.

L. UL (GGG) - GREENGUARD Gold Certified Products; Current Edition.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

1.06 QUALITY ASSURANCE

A. Indoor Emissions Standard and Test Method: CAL (CDPH SM), using Standard Private Office exposure scenario and the allowable concentrations specified in the method, and range of total VOC's after 14 days.
   1. Wet-Applied Products: State amount applied in mass per surface area.
   2. Paints and Coatings: Test tinted products, not just tinting bases.
   3. Evidence of Compliance: Acceptable types of evidence are the following;
      a. Current UL (GGG) certification.
      b. Current SCS (CPD) Floorscore certification.
      c. Current SCS (CPD) Indoor Advantage Gold certification.
      d. Current listing in CHPS (HPPD) as a low-emitting product.
      e. Current CRI (GLP) certification.
      f. Test report showing compliance and stating exposure scenario used.
   4. Product data submittal showing VOC content is NOT acceptable evidence.
   5. Manufacturer's certification without test report by independent agency is NOT acceptable evidence.

B. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Report of laboratory testing performed in accordance with requirements.

C. Composite Wood Emissions Standard: CARB (ATCM) for ultra-low emitting formaldehyde (ULEF) resins.
   1. Evidence of Compliance: Acceptable types of evidence are:

a. Current SCS "No Added Formaldehyde (NAF)" certification; www.scscertified.com.
b. Report of laboratory testing performed in accordance with requirements.
c. Published product data showing compliance with requirements.

D. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

A. All Products: Comply with the most stringent of federal, State, and local requirements, or these specifications.

B. Indoor-Emissions-Restricted Products: Comply with Indoor Emissions Standard and Test Method, except for:
1. Composite Wood, Wood Fiber, and Wood Chip Products: Comply with Composite Wood Emissions Standard or contain no added formaldehyde resins.
2. Inherently Non-Emitting Materials.

C. VOC-Content-Restricted Products: VOC content not greater than required by the following:
1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
2. Aerosol Adhesives: GreenSeal GS-36.
3. Joint Sealants: SCAQMD 1168 Rule.
4. Paints and Coatings: Each color; most stringent of the following:
a. 40 CFR 59, Subpart D.
b. SCAQMD 1113 Rule.
c. CARB (SCM).
5. Wet-Applied Roofing and Waterproofing: Comply with requirements for paints and coatings.

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.

B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Pre-installation meetings.

D. Cutting and patching.

E. Surveying for laying out the work.

F. Cleaning and protection.

G. Starting of systems and equipment.

H. Demonstration and instruction of Owner personnel.

I. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

J. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 30 00 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

C. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.

D. Section 01 50 00 - Temporary Facilities and Controls: Temporary exterior enclosures.

E. Section 01 50 00 - Temporary Facilities and Controls: Temporary interior partitions.

F. Section 01 51 00 - Temporary Utilities: Temporary heating, cooling, and ventilating facilities.

G. Section 01 74 19 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

H. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

I. Section 07 84 00 - Firestopping.

J. Individual Product Specification Sections:
   1. Advance notification to other sections of openings required in work of those sections.

1.03 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
   2. Identify demolition firm and submit qualifications.
   3. Include a summary of safety procedures.

D. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.
   6. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Alternatives to cutting and patching.
      f. Effect on work of Owner or separate Contractor.
      g. Written permission of affected separate Contractor.
      h. Date and time work will be executed.

E. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.05 QUALIFICATIONS

A. For demolition work, employ a firm specializing in the type of work required.
   1. Minimum of three years of documented experience.

B. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

C. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located. Employ only individual(s) trained and experienced in establishing and maintaining horizontal and vertical control points necessary for laying out construction work on project of similar size, scope and/or complexity.

D. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.06 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

C. Perform dewatering activities, as required, for the duration of the project.

D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
   1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.

2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
   3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
   4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

H. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.07 COORDINATION

A. See Section 01 10 00 for occupancy-related requirements.

B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

C. Notify affected utility companies and comply with their requirements.

D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

G. Coordinate completion and clean-up of work of separate sections.

H. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Contractor shall locate and protect survey control and reference points.

D. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

E. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

F. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

G. Utilize recognized engineering survey practices.

H. Establish a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.

I. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

J. Periodically verify layouts by same means.

K. Maintain a complete and accurate log of control and survey work as it progresses.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.06 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.
   3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.

2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
    a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
    b. See Section 01 10 00 for other limitations on outages and required notifications.
    c. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.

H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

I. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

J. Clean existing systems and equipment.

K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

L. Do not begin new construction in alterations areas before demolition is complete.

M. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
1. Complete the work.
2. Fit products together to integrate with other work.

3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-complying work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.

J. Patching:
1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.08 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.09 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Prohibit traffic from landscaped areas.

H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.10 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify Architect and Owner seven days prior to start-up of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Verify that wiring and support components for equipment are complete and tested.

F. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 DEMONSTRATION AND INSTRUCTION

A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

3.12 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.13 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

F. Clean filters of operating equipment.

G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.

H. Clean site; sweep paved areas, rake clean landscaped surfaces.

I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.14 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Architect.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.15 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than 90 days from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Owner may decide to pay for additional recycling, salvage, and/or reuse based on Landfill Alternatives Proposal specified below.

E. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:
   1. Aluminum and plastic beverage containers.
   2. Corrugated cardboard.
   3. Wood pallets.
   4. Clean dimensional wood.
   5. Land clearing debris, including brush, branches, logs, and stumps; see Section 31 10 00 - Site Clearing for use options.
   6. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
   7. Glass.
   8. Gypsum drywall and plaster.
   9. Plastic sheeting.

F. Contractor Reporting Responsibilities: Submit periodic Waste Disposal Reports; report landfill disposal, incineration, recycling, salvage, and reuse regardless of to whom the cost or savings accrues; use the same units of measure on required reports.

G. Develop and follow a Waste Management Plan designed to implement these requirements.

H. The following sources may be useful in developing the Waste Management Plan:
   1. State Texas Commission on Environmental Quality, at http://www.tceq.texas.gov/nav/main/recycling.html..

I. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.
   5. Incineration, either on- or off-site.

J. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 RELATED REQUIREMENTS

A. Section 01 25 00 - Substitution Procedures.

B. Section 01 30 00 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. Section 01 50 00 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

D. Section 01 60 00 - Product Requirements: Waste prevention requirements related to product substitutions.

E. Section 01 60 00 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

F. Section 01 70 00 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

G. Section 31 10 00 - Site Clearing: Handling and disposal of land clearing debris.

1.03 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Landfill Alternatives Proposal: Within 10 calendar days after receipt of Notice of Award of Bid, or prior to any trash or waste removal, whichever occurs sooner, submit a projection of trash/waste that will require disposal and alternatives to landfilling, with net costs.

1. Submit to Architect for Owner's review and approval.
2. If Owner wishes to implement any cost alternatives, the Contract Sum will be adjusted as specified elsewhere.
3. Include an analysis of trash/waste to be generated and landfill options as specified for Waste Management Plan described below.
4. Describe as many alternatives to landfilling as possible:
    a. List each material proposed to be salvaged, reused, or recycled.
    b. List the proposed local market for each material.
    c. State the estimated net cost resulting from each alternative, after subtracting revenue from sale of recycled or salvaged materials and landfill tipping fees saved due to diversion of materials from the landfill.
5. Provide alternatives to landfilling for at least the following materials:
    a. Concrete.
    b. Bricks.
    c. Concrete masonry units.
    d. Asphalt paving.

C. Once Owner has determined which of the landfill alternatives addressed in the Proposal above are acceptable, prepare and submit Waste Management Plan; submit within 10 calendar days after notification by Architect.

D. Waste Management Plan: Include the following information:
1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all project trash/waste in the landfill(s).
3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.
    a. List each material proposed to be salvaged, reused, or recycled.
    b. State the estimated net cost, versus landfill disposal.
4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.
6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.

E. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
2. Submit Report on a form acceptable to Owner.
3. Landfill Disposal: Include the following information:
    a. Identification of material.
    b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project disposed of in landfills.
    c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.

d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.

4. Recycled and Salvaged Materials: Include the following information for each:
   a. Identification of material, including those retrieved by installer for use on other projects.
   b. Amount, in tons or cubic yards (cubic meters), date removed from the project site, and receiving party.
   c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
5. Material Reused on Project: Include the following information for each:
   a. Identification of material and how it was used in the project.
   b. Amount, in tons or cubic yards (cubic meters).
   c. Include weight tickets as evidence of quantity.
6. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

A. See Section 01 60 00 and Section 01 25 00.

B. For each proposed product substitution, submit the following information in addition to requirements specified in Section 01 60 00:
   1. Relative amount of waste produced, compared to specified product.
   2. Cost savings on waste disposal, compared to specified product, to be deducted from the Contract Price.
   3. Proposed disposal method for waste product.
   4. Markets for recycled waste product.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 10 00 for list of items to be salvaged from the existing building for relocation in project or for Owner.

B. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.

D. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.

E. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Prebid meeting.
   2. Preconstruction meeting.
   3. Regular job-site meetings.
   4. Job safety meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. As a minimum, provide:
      a. Separate area for storage of materials to be reused on-site, such as wood cut-offs for blocking.
      b. Separate dumpsters for each category of recyclable.
      c. Recycling bins at worker lunch area.
   2. Provide containers as required.
   3. Provide temporary enclosures around piles of separated materials to be recycled or salvaged.
   4. Provide materials for barriers and enclosures that are nonhazardous, recyclable, or reusable to the maximum extent possible; reuse project construction waste materials if possible.
   5. Locate enclosures out of the way of construction traffic.
   6. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   7. If an enclosed area is not provided, clearly lay out and label a specific area on-site.
   8. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 78 00
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.

C. Individual Product Sections: Specific requirements for operation and maintenance data.

D. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
   2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
   4. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed shop drawings, product data, and samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   2. Field changes of dimension and detail.
   3. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

E. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

F. Provide servicing and lubrication schedule, and list of lubricants required.

G. Include manufacturer's printed operation and maintenance instructions.

H. Include sequence of operation by controls manufacturer.

I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

J. Provide control diagrams by controls manufacturer as installed.

K. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

N. Include test and balancing reports.

O. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

D. Prepare data in the form of an instructional manual.

E. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 2 inch (50 mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

J. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

L. Arrangement of Contents: Organize each volume in parts as follows:
   1. Project Directory.
   2. Table of Contents, of all volumes, and of this volume.

3. Operation and Maintenance Data: Arranged by system, then by product category.
   a. Source data.
   b. Operation and maintenance data.
   c. Field quality control data.
   d. Photocopies of warranties and bonds.

M. Electronic Versions: Submit approved version of Operations and Maintenance Manuals in searchable electronic format.
   1. Submit electronic versions on (3) Thumb Drives. Posting or submitting the electronic version to the Project Collaboration Website is also acceptable.
   2. File Format: PDF.
   3. Table of Contents: Include hyperlinks for each item in the Table of Contents that links to the listed item in the document.
   4. Bookmarks: Include bookmarks in the file corresponding to each tabbed divider of the printed manuals.
   5. To the greatest extent possible, provide electronic files in searchable format.
   6. Text documents: Generally, scanned text documents are not acceptable. If it is not possible to generate a text document using the original software, provide versions that have been processed by optical character recognition software (OCR) to render them searchable.
   7. Drawings: Vector-basd drawings are required for all drawings that were created using Computer Aided Drawing software. Scanned drawings are only acceptable for originals that were created using hand drafting methods.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Building demolition excluding removal of hazardous materials and toxic substances.

B. Selective demolition of built site elements.

C. Selective demolition of building elements for alteration purposes.

D. Abandonment and removal of existing utilities and utility structures.

E. Work Not Included:
   1. Removal and/or other abatement of hazardous materials, whether previously known, or discovered during operations under this Contract, is specifically excluded from the Work of This Contract, and if determined to be necessary, will be performed by others under separate contract(s) with the Owner.
   2. No hazardous materials or other toxic substances are known to exist within the Contract limits

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 10 00 - Summary: Description of items to be salvaged or removed for re-use by Contractor.

C. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

D. Section 01 60 00 - Product Requirements: Handling and storage of items removed for salvage and relocation.

E. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

F. Section 01 74 19 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

G. Section 31 22 00 - Grading - 3: Rough and fine grading.

H. Section 31 23 23 - Fill - 3: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Site Plan: Indicate:
   1. Vegetation to be protected.
   2. Areas for temporary construction and field offices.
   3. Areas for temporary and permanent placement of removed materials.

C. Demolition Plan: Submit demolition plan as required by OSHA and local AHJs.
   1. Indicate extent of demolition, removal sequencing, bracing and shoring, and location and construction of barricades and fences.

D. Demolition firm qualifications.

E. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: See Section 31 23 23.

PART 3 EXECUTION

3.01 DEMOLITION

A. The general extent of selective demolition work and items to be removed is indicated in the Drawings..

B. Remove other items indicated, for salvage, relocation, and recycling.

C. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 31 22 00.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with requirements in Section 01 70 00.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Comply with applicable requirements of NFPA 241.
   3. Use of explosives is not permitted.
   4. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   5. Provide, erect, and maintain temporary barriers and security devices.
   6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   8. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
   9. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
   10. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until built elements to be salvaged or relocated have been removed.

E. Do not begin removal until vegetation to be relocated has been removed and vegetation to remain has been protected from damage.

F. Protect existing structures and other elements to remain in place and not removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

G. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

H. Hazardous Materials:
   1. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury. Take precautions to protect workers and other

persons from harmful exposure. Removal and/or other abatement of hazardous materials is specifically excluded from the Work of This Contract, and if determined to be necessary, will be performed by others under separate contract(s) with the Owner. Coordinate scheduling and operations under this Contract with those of separate contractors as necessary for timely and satisfactory completion of all work for the Project. Do not resume work under this Contract in this area of the hazardous material discovery until removal or other abatement has been completed

I. Perform demolition in a manner that maximizes salvage and recycling of materials.
   1. Comply with requirements of Section 01 74 19 - Construction Waste Management and Disposal.
   2. Dismantle existing construction and separate materials.
   3. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

J. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
   1. Verify construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from areas that remain occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.

D. Remove existing work as indicated and required to accomplish new work.
   1. Remove items indicated on drawings.

E. Services including, but not limited to, HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications: Remove existing systems and equipment as indicated.
   1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
   2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.

3. See Section 01 10 00 - Summary for limitations on outages and required notifications.
4. Verify that abandoned services serve only abandoned facilities before removal.
5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings. Remove back to source of supply where possible, otherwise cap stub and tag with identification.

F. Protect existing work to remain.
1. Prevent movement of structure. Provide shoring and bracing as required.
2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.
4. Patch to match new work.

3.05 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Remove materials not to be reused on site; comply with requirements of Section 01 74 19 - Waste Management.

C. Leave site in clean condition, ready for subsequent work.

D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION