

**LUMBERTON REGIONAL AIRPORT (LBT)
T-HANGAR AND 2-UNIT BOX HANGAR
163 AIRPORT BOULEVARD
LUMBERTON, NC 28358**

**PROJECT MANUAL – VOLUME A
JANUARY 17, 2025**

Project Manager & Civil Engineer:

Talbert & Bright
4810 Shelley Drive
Wilmington, NC 28405
(910) 763-5350
NC Firm No. : C-0713

PME Engineer:

Cheatham & Associates, P.A.
3412 Enterprise Drive
Wilmington, NC 28405
(910) 452-4210
NC Firm No.: C-1073

Architect:

The Wilson Group Architects
PO Box 5510
Charlotte, NC 28299
(704) 331-9747
NC Cert. No.: 51140

Structural Engineer:

Stewart
101 N. Tryon St., Suite 1400
Charlotte, NC 28202
(704) 373-1907
NC Firm No.: C-1051



Water & Sewer Engineer:

WithersRavenel
219 Station Road, Suite 101
Wilmington, NC 28405
(910) 256-9277
NC Firm No.: F-1479

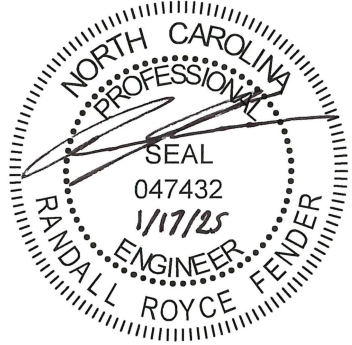
DOCUMENT 000107 - SEALS PAGE

1.1 DESIGN PROFESSIONALS OF RECORD


A. Architect

ARCHITECT'S CORPORATION	<p>The Wilson Group Architects #51140</p> <p>For Specifications Sections accompanied by “The Wilson Group” in the header area of the document and not otherwise prepared by other design professionals of record.</p>	
ARCHITECT	<p>Travis Walker Pence, AIA NC 9272</p> <p>For Specifications Sections accompanied by “The Wilson Group” in the header area of the document and not otherwise prepared by other design professionals of record.</p>	



B. Civil Engineer

ENGINEER'S CORPORATION	Talbert & Bright Firm Number : C-0713 For Specifications Sections accompanied by "Talbert & Bright" in the header area of the document and not otherwise pre- pared by other design professionals of record.	
ENGINEER	Randall Royce Fender, PE NC License No.: 047432 For Specifications Sections accompanied by "Talbert & Bright" in the header area of the document and not otherwise prepared by other design professionals of record.	


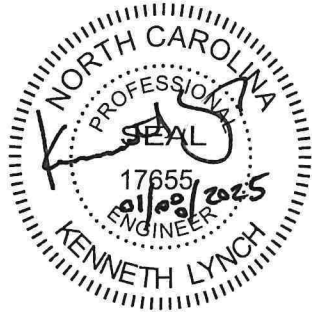
C. Structural Engineer

ENGINEER'S CORPORATION	Stewart NC Firm No. : F-1536 For Specifications Sections accompanied by "Stewart" in the header area of the document and not otherwise prepared by other design professionals of record.	
ENGINEER	Petrina A. Agnello, PE NC No. 041315	



D. Plumbing Engineer

ENGINEER'S CORPORATION	Cheatham & Associates, P.A. NC Firm No. : C-1073 For Specifications Sections accompanied by "Cheatham & Associates, P.A." in the header area of the document and not oth- erwise prepared by other design profes- sionals of record.	
ENGINEER	Casey D. Gilman, PE, LEED AP NC No. 043164 For Specifications Sections accompanied by "Cheatham & Associates, P.A." in the header area of the document and not oth- erwise prepared by other design profes- sionals of record.	

E. Mechanical Engineer

ENGINEER'S CORPORATION	Cheatham & Associates, P.A. NC Firm No. : C-1073 For Specifications Sections accompanied by "Cheatham & Associates, P.A." in the header area of the document and not oth- erwise prepared by other design profes- sionals of record.	
ENGINEER	Kenneth Lynch, PE, LEED AP NC No. 17655 For Specifications Sections accompanied by "Cheatham & Associates, P.A." in the header area of the document and not oth- erwise prepared by other design profes- sionals of record.	

F. Electrical Engineer

ENGINEER'S CORPORATION	Cheatham & Associates, P.A. NC Firm No. : C-1073 For Specifications Sections accompanied by "Cheatham & Associates, P.A." in the header area of the document and not oth- erwise prepared by other design profes- sionals of record.	
ENGINEER	Mark A. Ciarrocca, PE NC No. 17593 For Specifications Sections accompanied by "Cheatham & Associates, P.A." in the header area of the document and not oth- erwise prepared by other design profes- sionals of record.	

END OF DOCUMENT 000107

SECTION 000110 – TABLE OF CONTENTS

VOLUME A

Division	Section Title
PROCUREMENT AND CONTRACTING DOCUMENTS GROUP	
DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS	
000101a	COVER
000107	SEALS PAGE
000110	TABLE OF CONTENTS
APPENDIX “A”	ADVERTISEMENT/NOTICE TO BIDDERS
APPENDIX “B”	PROPOSAL REQUIREMENTS AND CONDITIONS (BID FORM)
APPENDIX “C”	MINORITY/WOMEN BUSINESS ENTERPRISE PROGRAM
APPENDIX “D”	FEDERAL CONTRACT PROVISIONS
APPENDIX “E”	CONTRACT
APPENDIX “F”	FORMS
APPENDIX “G”	SUBSURFACE DATA
APPENDIX “H”	CONSTRUCTION SAFETY AND PHASING PLAN
APPENDIX “I”	RECOMMENDED SCHEDULE OF PERMIT FEES
002315	BIDDER'S REQUEST FOR INFORMATION FORM
002615	BIDDER'S SUBSTITUTION REQUEST FORM
003100	AVAILABLE INFORMATION
	GEOTECHNICAL BORINGS LOG
	CITY OF LUMBERTON PERMIT FEE SCHEDULE
009133-1	RESERVED FOR FUTURE USE (ADDENDA)

SPECIFICATIONS GROUP

General Requirements Subgroup

DIVISION 01 - GENERAL REQUIREMENTS

GENERAL CONTRACT PROVISIONS

SECTION 10	DEFINITION OF TERMS
SECTION 20	PROPOSAL REQUIREMENTS AND CONDITIONS
SECTION 30	AWARD AND EXECUTION OF CONTRACT
SECTION 40	SCOPE OF WORK
SECTION 50	CONTROL OF WORK
SECTION 60	CONTROL OF MATERIALS
SECTION 70	LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC
SECTION 80	EXECUTION AND PROGRESS
SECTION 90	MEASUREMENT AND PAYMENT

SGC SUPPLEMENTAL GENERAL CONDITIONS

PSP PROJECT SPECIAL PROVISIONS

011000	SUMMARY
012100	ALLOWANCES
012200	UNIT PRICES
012300	ALTERNATES
012500	SUBSTITUTION PROCEDURES
012600	CONTRACT MODIFICATION PROCEDURES
012900	PAYMENT PROCEDURES
013100	PROJECT MANAGEMENT AND COORDINATION
013200	CONSTRUCTION PROGRESS DOCUMENTATION
013300	SUBMITTAL PROCEDURES
013301	CAD FILE DRAWING RELEASE FORM
014000	QUALITY REQUIREMENTS
014200	REFERENCES
015000	TEMPORARY FACILITIES AND CONTROLS
016000	PRODUCT REQUIREMENTS
017300	EXECUTION
017700	CLOSEOUT PROCEDURES
017823	OPERATION AND MAINTENANCE DATA
017839	PROJECT RECORD DOCUMENTS
017900	DEMONSTRATION AND TRAINING

VOLUME B-1

FACILITY CONSTRUCTION SUBGROUP

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

000101b	COVER
000107	SEALS PAGE
000110	TABLE OF CONTENTS

DIVISION 03 - CONCRETE

031000	CONCRETE FORMING AND ACCESSORIES
032000	CONCRETE REINFORCING
033000	CAST-IN-PLACE CONCRETE
033503	WATER VAPOR EMISSION CONTROL

DIVISION 05 - METALS

054000	COLD-FORMED METAL FRAMING
055000	METAL FABRICATIONS
055133	METAL LADDERS

DIVISION 06 – PLASTICS

064116 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

072100 THERMAL INSULATION

079200 JOINT SEALANTS

DIVISION 08 - OPENINGS

081113 HOLLOW METAL DOORS AND FRAMES

081416 FLUSH WOOD DOORS

083113 ACCESS DOORS AND FRAMES

083616 HYDRAULIC HANGAR DOORS

084113 ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

087100 DOOR HARDWARE

088000 GLAZING

DIVISION 09 - FINISHES

092116.23 GYPSUM BOARD SHAFT WALL ASSEMBLIES

092900 GYPSUM BOARD

093013 CERAMIC TILING

095113 ACOUSTICAL PANEL CEILINGS

096513 RESILIENT BASE AND ACCESSORIES

096519 RESILIENT TILE FLOORING

096723 RESINOUS FLOORING

096816 SHEET CARPETING

097700 FIBERGLASS REINFORCED (FRP) PANELS

099113 EXTERIOR PAINTING

099123 INTERIOR PAINTING

DIVISION 10 - SPECIALTIES

101423 PANEL SIGNAGE

101423.16 ROOM-IDENTIFICATION PANEL SIGNAGE

102600 WALL AND DOOR PROTECTION

102800 TOILET, BATH, AND LAUNDRY ACCESSORIES

104413 FIRE PROTECTION CABINETS

104416 FIRE EXTINGUISHERS

107313 AWNINGS

DIVISION 11 - EQUIPMENT

113100 APPLIANCES

DIVISION 12 – FURNISHINGS

122413 ROLLER WINDOW SHADES

123661.19 QUARTZ AGGLOMERATE COUNTERTOPS

DIVISION 13 - SPECIAL CONSTRUCTION

133419 METAL BUILDING SYSTEMS

DIVISION 22 - PLUMBING

220000 PLUMBING

DIVISION 23 - HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

230500 HEATING AND AIR CONDITIONING

230900 INSTRUMENTATION AND CONTROL FOR HVAC

DIVISION 26 - ELECTRICAL

260000 ELECTRICAL, BASICS

260500 BASIC MATERIALS AND METHODS

260519 CONDUCTORS AND CABLES

260526 GROUNDING AND BONDING

260533 RACEWAYS AND BOXES

260553 ELECTRICAL IDENTIFICATION

262416 PANELBOARDS

262726 WIRING DEVICES

262816 ENCLOSED SWITCHES AND CIRCUIT BREAKERS

263213 ENGINE GENERATORS

263600 TRANSFER SWITCHES

264113 LIGHTNING PROTECTION FOR STRUCTURES

264313 SURGE PROTECTIVE DEVICES

265119 LED INTERIOR LIGHTING

265613 LIGHTING POLES AND STANDARDS

265619 LED EXTERIOR LIGHTING

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

283111 DIGITAL, ADDRESSABLE FIRE ALARM SYSTEM

285000 EMERGENCY RESPONDER COMMUNICATION COVERAGE SYSTEM

Site and Infrastructure Subgroup

DIVISION 32 - EXTERIOR IMPROVEMENTS

321720 DETECTABLE WARNING SURFACES

GENERAL CONSTRUCTION ITEMS

C-102 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND
SILTATION CONTROL
C-105 MOBILIZATION

CIVIL TECHNICAL SPECIFICATIONS

TCI TEMPORARY CONSTRUCTION ITEMS

P-101 PREPARATION/REMOVAL OF EXISTING PAVEMENTS AND
MISCELLANEOUS ITEMS

P-152 EXCAVATION, SUBGRADE, AND EMBANKMENT

P-209 CRUSHED AGGREGATE BASE COURSE

PMBP PLANT MIX BITUMINOUS PAVEMENTS

P-602 EMULSIFIED ASPHALT PRIME COAT

P-603 EMULSIFIED ASPHALT TACK COAT

P-610 CONCRETE FOR MISCELLANEOUS STRUCTURES

P-620 RUNWAY AND TAXIWAY MARKING

D-701 PIPE FOR STORM DRAINS AND CULVERTS

D-751 MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES

PEB PRE-ENGINEERED BUILDING (T-HANGAR)

T-901 SEEDING

T-904 SODDING

T-905 TOPSOIL

T-908 MULCHING

VOLUME B-2

END OF TABLE OF CONTENTS

APPENDIX 'A'
ADVERTISEMENT/NOTICE TO
BIDDERS

ADVERTISEMENT

Notice to Bidders

Sealed bids, subject to the conditions herein, will be received until 11:00 AM, Tuesday, February 25, 2025, at the Lumberton Regional Airport, 163 Airport Boulevard, Lumberton, North Carolina 28358, and then opened and publicly read for furnishing all labor and materials and performing all work connected with: **T-Hangar and 2-Unit Box Hangar** as indicated in the plans and specifications dated January 2025.

A Pre-Bid Meeting will be held at 1:00 PM, Thursday, January 30, 2025, in the Terminal Building Conference Room at the Lumberton Regional Airport, 163 Airport Boulevard, Lumberton, North Carolina 28358. Attendance at the Pre-Bid meeting is NOT mandatory, **however is strongly recommended that all prospective bidders have a qualified representative at this Pre-bid Conference.**

The project shall consist of furnishing all labor, materials, and equipment and performing all work required to satisfactorily complete the T-Hangar and 2-Unit Box Hangar project. Items of work include erosion and sediment control; earthwork; pavement milling and demolition; aggregate placement; drainage pipe and structure demolition and installation; NCDOT concrete; concrete slab and foundation; water and sanitary sewer utilities; asphaltic paving; pavement marking; sodding, seeding, and mulching; 2-unit box hangar construction; and either 10-unit or 12-unit T-Hangar construction.

Bid Forms, Plans, Specifications, and Contract Documents are on file at Lumberton Regional Airport, 163 Airport Boulevard, Lumberton, North Carolina 28358; Talbert & Bright, Inc., 4810 Shelley Drive, Wilmington, North Carolina; and with the online plan room Construct Connect, www.constructconnect.com; and may be obtained from Talbert & Bright, Inc., 4810 Shelley Drive, Wilmington, North Carolina, 28405 between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday upon the non-refundable payment of one hundred dollars (\$100.00) for the PDF copy set of plans and specifications, which will be sent via email. For faster service, please email a copy of your request to bids@tbilm.com, including a copy of your check with the Contractor's name and contact person, mailing and shipping address, phone and fax numbers, e-mail address, Airport, and project name for which you are requesting documents. Any subsequent addenda will only be issued directly to Construct Connect and to Talbert & Bright, Inc. registered plan holders.

Each bid must be accompanied by a Bid Bond, a deposit of cash or by a certified check payable to City of Lumberton, and drawn on some bank or trust company authorized to do business in the State of North Carolina, for an amount equal to 5% of the total base bid, as a guarantee that if the bid is accepted, the required Contract will be executed and the required Performance Bond and Payment Bond furnished within fifteen (15) days after receipt of written notice of formal award of Contract.

IMPORTANT NOTICE TO BIDDERS: The proposed Contract for this project is subject to the Minority and Women Business Enterprise Program Bid Conditions

contained in Appendix 'C' and to the Federal Contract Provision Requirements contained in Appendix 'D' of the Contract Documents.

Prospective bidders should read the instructions for preparing bids in Section 20 of the project specifications carefully before submitting their bids.

Envelopes containing proposals must be sealed, addressed to Mr. Gary Lewis, Airport Manager, Lumberton Regional Airport, Mailing address: 163 Airport Boulevard, Lumberton, NC 28358, and marked on the envelope as follows:

“PROPOSAL FOR T-Hangar and 2-Unit Box Hangar”

SPECIAL NOTE: The City of Lumberton, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and no businesses will be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award.

Additional Title VI Provisions are included in Appendix 'D' in the Project Manual and are incorporated here by reference.

MBE/WBE Provisions. It is the policy of the City of Lumberton to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

The City of Lumberton hereby notifies all bidders that in regard to any contract entered into pursuant to this advertisement, that the bidder shall make good faith efforts, as defined in Appendix C of the Project Manual, to subcontract **5.0%** MBE/WBE (Combined Goal) of the dollar value of the prime contract for each project or schedule of work to Minority Business Enterprises (MBE) and Women Business Enterprises (WBE). Only firms certified as an MBE/WBE by the NCDOT Unified Certification Program may be applied to the goal. In the event that the bidder for this solicitation qualifies as a MBE/WBE, the contract goal shall be deemed to have been met. Individuals who are rebuttably presumed to be socially and economically disadvantaged include women, Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, and Asian-Indian Americans. The apparent successful competitor will be required to submit with the bid information concerning the MBEs/WBEs that will participate in this contract. The information will include the name and address of each MBE/WBE, a description of the work to be performed by each named firm, and the dollar value of the contract. If the bidder fails to achieve the contract goal stated herein, it will be required to provide documentation demonstrating that it made good faith efforts in attempting to do so. A bid that fails to meet these requirements will be considered nonresponsive.

Talbert & Bright

All proposals shall be prepared on the basis of the Minimum Wage Rates as established by the Secretary of Labor and as included in Appendix 'D' of these specifications.

It is the intent of City of Lumberton to award either Bid Schedule 1 alone, Bid Schedules 1 and 2A or Bid Schedules 1 and 2B, along with Selected Bid Alternates; however, the award of this contract is contingent upon the availability of State and Local funds.

The City of Lumberton reserves the right to reject any or all proposals.

Mr. Gary Lewis, Airport Manager
City of Lumberton, North Carolina

APPENDIX 'B'
PROPOSAL REQUIREMENTS
AND CONDITIONS

Talbert & Bright

Lumberton Regional Airport
Schedule 1 - 2-Unit Box Hangar

TBI No. 3105-2401

Bidder:

Item	Spec.	Description	Unit Price in Words	Unit	Quantity	Unit Price	Ext. Total
1	Contract Docs	2-Unit Box Hangar to Include All Contract Items Not Indicated Elsewhere on the Bid Form		L.S.	1		
2	Contract Docs	Office Shell with Restrooms		L.S.	1		
3	Contract Docs	Emergency Responder Radio System Allowance		ALLOW	1	\$ 120,000.00	\$ 120,000.00
4	012100	Permit, Plan Review, Tap and Miscellaneous Fees		ALLOW	1	\$ 15,000.00	\$ 15,000.00
5	C-102	Temporary Seeding and Mulching		ACRE	1		
6	C-102	Temporary Construction Entrance		EACH	1		
7	C-102	Temporary Silt Fence Installation and Removal		L.F.	2,500		
8	C-102	Temporary Sod Inlet Protection		EACH	5		
9	C-102	Temporary Sediment Bag, Including Installation and Removal		EACH	1		
10	C-102	Concrete Washout Structure Installation and Removal		EACH	1		
11	C-105	Mobilization		L.S.	1		
12	C-105	Engineer's/RPR Field Office		MONTH	9		
13	TCI	Temporary Construction Items		L.S.	1		

Lumberton Regional Airport
Schedule 1 - 2-Unit Box Hangar
TBI No. 3105-2401

Bidder:

Item	Spec.	Description	Unit Price in Words	Unit	Quantity	Unit Price	Ext. Total
14	P-101	Asphaltic Pavement Removal, Full-Depth		S.Y.	550		
15	P-101	Asphaltic Pavement Tie-In Milling, 1.5" Depth		S.Y.	80		
16	P-101	Drainage Demolition		L.S.	1		
17	P-152	Unclassified Excavation		C.Y.	660		
18	P-152	Undercut Excavation		C.Y.	220		
19	P-152	Borrow Embankment		C.Y.	1,760		
20	P-209	Crushed Aggregate Base Course		C.Y.	345		
21	PMBP	Bituminous Surface Course, NCDOT Type S-9.5B		TON	350		
22	PSP	6" NCDOT Portland Cement Concrete Pavement, Class Pavement		S.Y.	525		
23	PSP	Concrete Sidewalk - NCDOT Concrete, Class A		S.Y.	275		
24	P-602	Emulsified Asphalt Prime Coat		GALLON	570		
25	P-603	Emulsified Asphalt Tack Coat		GALLON	190		
26	P-620	Surface Preparation for Marking		S.F.	30		

Lumberton Regional Airport
Schedule 1 - 2-Unit Box Hangar
TBI No. 3105-2401

Bidder:

Item	Spec.	Description	Unit Price in Words	Unit	Quantity	Unit Price	Ext. Total
27	P-620	Permanent Pavement Marking (First Application)		S.F.	360		
28	P-620	Permanent Pavement Marking (Final Application)		S.F.	360		
29	P-620	Parking Lot Marking (White and Symbols)		S.F.	150		
30	PSP	Accessible Parking Signs		L.S.	1		
31	PSP	Wheel Stop		EACH	11		
32	D-701	6-Inch PVC Pipe		L.F.	30		
33	D-701	15-Inch Corrugated PVC Pipe		L.F.	315		
34	D-701	18-Inch Corrugated PVC Pipe		L.F.	320		
35	D-701	Post Installation Pipe Inspection Video and Report		L.S.	1		
36	D-701	Concrete Reinforced Pipe Inlet/Outlet		EACH	5		
37	D-701	Concrete Roof Drain Splash Block		EACH	3		
38	D-751	PVC Drainage Inlet Basin		EACH	5		
39	D-751	Pre-Cast Concrete Drop Inlet		EACH	1		

Lumberton Regional Airport
Schedule 1 - 2-Unit Box Hangar
TBI No. 3105-2401

Bidder:

Item	Spec.	Description	Unit Price in Words	Unit	Quantity	Unit Price	Ext. Total
40	PSP	8" Roof Drain Outfall Pipe		L.S.	1		
41	T-901	Seeding		ACRE	1.0		
42	T-901	Watering		1,000 GALLON	210		
43	T-908	Mulching		ACRE	1.0		
44	T-904	Sodding (Bermuda)		S.Y.	2,000		
45	T-905	3" of Topsoil (Furnished from Off the Site)		S.Y.	4,800		
46	PSP	SUE Investigation		L.S.	1		
47	UTIL	8-Inch Diameter PVC SDR 21 Water Main Pipe (Open Cut)		L.F.	75		
48	UTIL	8-Inch Gate Valve and Fittings		L.S.	1		
49	UTIL	Service Connection 1.5-Inch Diameter		EA	1		
50	UTIL	Water Service Line 1.5-Inch Diameter		L.F.	500		
51	UTIL	Connection to Existing Water Lines		EACH	1		
52	UTIL	1.5-Inch Valve		EACH	1		

Lumberton Regional Airport
Schedule 1 - 2-Unit Box Hangar
TBI No. 3105-2401

Bidder:

Item	Spec.	Description	Unit Price in Words	Unit	Quantity	Unit Price	Ext. Total
53	UTIL	1-Inch Water Service Meter		EACH	1		
54	UTIL	Water Main Disinfection		L.S.	1		
55	UTIL	Water Main Testing		L.S.	1		
56	UTIL	PVC Sewer Service, 6-Inch Diameter		L.F.	370		
57	UTIL	Sewer Service Cleanout		EACH	5		
58	UTIL	Sewer Service Connection Saddle		EACH	1		
59	UTIL	Sewer Testing		L.S.	1		

Total - Bid Schedule 1

Contract Time: See Project Special Provisions

Liquidated Damages: See Project Special Provisions

APPENDIX 'C'
MINORITY/WOMEN BUSINESS
ENTERPRISE PROGRAM

APPENDIX 'C'

MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE (LOCAL GOVERNMENT AGENCIES):

(10-16-07)(Rev. 1-16-24)

102-15(J)

SP1 G68

Description

The purpose of this Special Provision is to carry out the North Carolina Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts financed in whole or in part with State funds.

Definitions

Additional MBE/WBE Subcontractors - Any MBE/WBE submitted at the time of bid that will not be used to meet the Combined MBE/WBE Goal. No submittal of a Letter of Intent is required.

Combined MBE/WBE Goal: A portion of the total contract, expressed as a percentage that is to be performed by committed MBE/WBE subcontractors.

Committed MBE/WBE Subcontractor - Any MBE/WBE submitted at the time of bid that is being used to meet the Combined MBE/WBE goal by submission of a Letter of Intent. Or any MBE or WBE used as a replacement for a previously committed MBE or WBE firm.

Contract Goal Requirement - The approved participation at time of award, but not greater than the advertised combined MBE/WBE contract goal.

Goal Confirmation Letter - Written documentation from the **Lumberton Airport Commission** to the bidder confirming the Contractor's approved, committed participation along with a listing of the committed MBE and WBE firms.

Local Government Agencies (LGA) - The entity letting the contract. **For this project, LGA will be the Lumberton Airport Commission.**

Manufacturer - A firm that operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor.

MBE Participation (Anticipated) - A portion of the total contract, expressed as a percentage that is anticipated to be performed by committed MBE subcontractor.

Minority Business Enterprise (MBE) - A firm certified as a Disadvantaged Minority-Owned Business Enterprise through the North Carolina Unified Certification Program.

Regular Dealer - A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of

business. A regular dealer engages in, as its principal business and in its own name, the purchase and sale or lease of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock, if it owns and operates distribution equipment for the products. Brokers and packagers are not regarded as manufacturers or regular dealers within the meaning of this section.

Replacement / Substitution – A full or partial reduction in the amount of work subcontracted to a committed (or an approved substitute) MBE/WBE firm.

North Carolina Unified Certification Program (NCUCP) - A program that provides comprehensive services and information to applicants for MBE/WBE certification. The MBE/WBE program follows the same regulations as the federal Disadvantaged Business Enterprise (DBE) program in accordance with 49 CFR Part 26.

Standard Specifications - The general term comprising all directions, provisions, and requirements contained or referred to in the *North Carolina Department of Transportation Standard Specifications for Roads and Structures* and any subsequent revisions or additions to such book.

United States Department of Transportation (USDOT) - Federal agency responsible for issuing regulations (49 CFR Part 26) and official guidance for the DBE program.

WBE Participation (Anticipated) - A portion of the total contract, expressed as a percentage that is anticipated to be performed by committed WBE subcontractor.

Women Business Enterprise (WBE) - A firm certified as a Disadvantaged Women-Owned Business Enterprise through the North Carolina Unified Certification Program.

Forms and Websites Referenced in this Provision

Payment Tracking System - On-line system in which the Contractor enters the payments made to MBE and WBE subcontractors who have performed work on the project.
<https://apps.dot.state.nc.us/Vendor/PaymentTracking/>

DBE-IS Subcontractor Payment Information - Form for reporting the payments made to all MBE/WBE firms working on the project. This form is for paper bid projects only.
<https://connect.ncdot.gov/business/Turnpike/Documents/Form%20DBE-IS%20Subcontractor%20Payment%20Information.pdf>

RF-1 MBE/WBE Replacement Request Form - Form for replacing a committed MBE or WBE.
<https://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20MBE%20WBE%20Replacement%20Form%20and%20Instructions.pdf>

SAF Subcontract Approval Form - Form required for approval to sublet the contract.

<https://connect.ncdot.gov/projects/construction/Construction%20Forms/SAF%20Form%20-%20Subcontract%20Approval%20Form%20Revised%2004-19.xlsm>

JC-1 *Joint Check Notification Form* - Form and procedures for joint check notification. The form acts as a written joint check agreement among the parties providing full and prompt disclosure of the expected use of joint checks.

<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Joint%20Check%20Notification%20Form.pdf>

Letter of Intent - Form signed by the Contractor and the MBE/WBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed MBE/WBE for the estimated amount (based on quantities and unit prices) listed at the time of bid.

<http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf>

Listing of MBE and WBE Subcontractors Form - Form for entering MBE/WBE subcontractors on a project that will meet the Combined MBE/WBE goal. This form is for paper bids only.

[http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20\(State\).docx](http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20(State).docx)

Subcontractor Quote Comparison Sheet - Spreadsheet for showing all subcontractor quotes in the work areas where MBEs and WBEs quoted on the project. This sheet is submitted with good faith effort packages.

<http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls>

Combined MBE/WBE Goal

The Combined MBE/WBE Goal for this project is **5.0% (Combined Goal)**

The Combined Goal was established utilizing the following anticipated participation for Minority Business Enterprises and Women Business Enterprises:

Minority/Women Business Enterprises

- (A) *If the MBE/WBE participation goal is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that MBEs/WBEs participate in at least the percent of the contract as set forth above.
- (B) *If the MBE/WBE participation goal is zero*, the Contractor shall make an effort to recruit and use MBEs/WBEs during the performance of the contract. Any MBE/WBE participation obtained shall be reported to the **Lumberton Airport Commission**.

The Bidder is required to submit participation to only meet the Combined MBE/WBE Goal. The Combined Goal may be met by submitting all MBE participation, all WBE participation, or a combination of MBE and WBE participation.

Directory of Transportation Firms (Directory)

Real-time information is available about firms doing business with the NCDOT and firms that are certified through NCUCP in the Directory of Transportation Firms. Only firms identified in the Directory as MBE and WBE certified shall be used to meet the Combined MBE/WBE Goal. The Directory can be found at the following link.
<https://www.ebs.nc.gov/VendorDirectory/default.html>

The listing of an individual firm in the directory shall not be construed as an endorsement of the firm's capability to perform certain work.

Listing of MBE/WBE Subcontractors

At the time of bid, bidders shall submit all MBE and WBE participation that they anticipate to use during the life of the contract. Only those identified to meet the Combined MBE/WBE Goal will be considered committed, even though the listing shall include both committed MBE/WBE subcontractors and additional MBE/WBE subcontractors. Any additional MBE/WBE subcontractor participation submitted at the time of bid will be used toward overall race-neutral goals. Only those firms with current MBE and WBE certification at the time of bid opening will be acceptable for listing in the bidder's submittal of MBE and WBE participation. The Contractor shall indicate the following required information:

(A) *If the Combined MBE/WBE Goal is more than zero,*

- (1) Bidders, at the time the bid proposal is submitted, shall submit a listing of MBE/WBE participation, including the names and addresses on *Listing of MBE and WBE Subcontractors* contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the MBE and WBE participation for the contract.
- (2) If bidders have no MBE or WBE participation, they shall indicate this on the *Listing of MBE and WBE Subcontractors* by entering the word "None" or the number "0." This form shall be completed in its entirety. **Blank forms will not be deemed to represent zero participation.** Bids submitted that do not have MBE and WBE participation indicated on the appropriate form will not be read publicly during the opening of bids. **Lumberton Airport Commission** will not consider these bids for award and the proposal will be rejected.

- (3) The bidder shall be responsible for ensuring that the MBE/WBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that MBE's or WBE's participation will not count towards achieving the Combined MBE/WBE Goal.
- (B) *If the Combined MBE/WBE Goal is zero*, entries on the *Listing of MBE and WBE Subcontractors* are not required for the zero goal, however any MBE or WBE participation that is achieved during the project shall be reported in accordance with requirements contained elsewhere in the special provision.

MBE or WBE Prime Contractor

When a certified MBE or WBE firm bids on a contract that contains a Combined MBE/WBE Goal, the firm is responsible for meeting the goal or making good faith efforts to meet the goal, just like any other bidder. In most cases, a MBE or WBE bidder on a contract will meet the Combined MBE/WBE Goal by virtue of the work it performs on the contract with its own forces. However, all the work that is performed by the MBE or WBE bidder and any other similarly certified subcontractors will count toward the goal. The MBE or WBE bidder shall list itself along with any MBE or WBE subcontractors, if any, in order to receive credit toward the goal.

MBE/WBE prime contractors shall also follow Sections A or B listed under *Listing of MBE/WBE Subcontractors* just as a non-MBE/WBE bidder would.

Written Documentation – Letter of Intent

The bidder shall submit written documentation for each MBE/WBE that will be used to meet the Combined MBE/WBE Goal of the contract, indicating the bidder's commitment to use the MBE/WBE in the contract. This documentation shall be submitted on the NCDOT's form titled *Letter of Intent*.

The documentation shall be received in the office of the **Lumberton Airport Commission** no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the **ENGINEER / Lumberton Airport Commission** no later than 10:00 a.m. on the next official state business day.

If the bidder fails to submit the Letter of Intent from each committed MBE and WBE to be used toward the Combined MBE/WBE Goal, or if the form is incomplete (i.e. both signatures are not present), the MBE/WBE participation will not count toward meeting the Combined MBE/WBE Goal. If the lack of this participation drops the commitment below either the Combined MBE/WBE Goal, the Contractor shall submit evidence of good faith efforts for the goal not met, completed in its entirety, to the **ENGINEER / Lumberton Airport Commission** no later than 2:00 p.m. of the eighth calendar day following opening

of bids, unless the eighth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the **ENGINEER / Lumberton Airport Commission** no later than 10:00 a.m. on the next official state business day.

Submission of Good Faith Effort

If the bidder fails to meet or exceed the Combined MBE/WBE Goal, the apparent lowest responsive bidder shall submit to the **Lumberton Airport Commission** documentation of adequate good faith efforts made to reach that specific goal.

One complete set and three (3) copies of this information shall be received in the office of the **ENGINEER / Lumberton Airport Commission** no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the **ENGINEER / Lumberton Airport Commission** no later than 10:00 a.m. on the next official state business day.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were solicited. Documentation of MBE/WBE quotations shall be a part of the good faith effort submittal. This documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

Consideration of Good Faith Effort for Projects with MBE/WBE Goals More Than Zero

Adequate good faith efforts mean that the bidder took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be expected to obtain sufficient MBE/WBE participation. Adequate good faith efforts also mean that the bidder actively and aggressively sought MBE/WBE participation. Mere *pro forma* efforts are not considered good faith efforts.

The **Lumberton Airport Commission** will consider the quality, quantity, and intensity of the different kinds of efforts a bidder has made. Listed below are examples of the types of actions a bidder will take in making a good faith effort to meet the goals and are not intended to be exclusive or exhaustive, nor is it intended to be a mandatory checklist.

- (A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified MBEs/WBEs that are also prequalified subcontractors. The bidder must solicit this interest within at least 10 days prior to bid opening to allow the MBEs/WBEs to respond to the solicitation. Solicitation shall provide the opportunity to MBEs/WBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the MBEs/WBEs are interested by taking appropriate steps to follow up initial solicitations.

- (B) Selecting portions of the work to be performed by MBEs/WBEs in order to increase the likelihood that the Combined MBE/WBE Goal will be achieved.
 - (1) Where appropriate, break out contract work items into economically feasible units to facilitate MBE/WBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - (2) Negotiate with subcontractors to assume part of the responsibility to meet the contract MBE/WBE goals when the work to be sublet includes potential for MBE/WBE participation (2nd and 3rd tier subcontractors).
- (C) Providing interested certified MBEs/WBEs that are also prequalified subcontractors with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (D)
 - (1) Negotiating in good faith with interested MBEs/WBEs. It is the bidder's responsibility to make a portion of the work available to MBE/WBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE/WBE subcontractors and suppliers, so as to facilitate MBE/WBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of MBEs/WBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for MBEs/WBEs to perform the work.
 - (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including MBE/WBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using MBEs/WBEs is not in itself sufficient reason for a bidder's failure to meet the contract goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidding contractors are not, however, required to accept higher quotes from MBEs/WBEs if the price difference is excessive or unreasonable.
- (E) Not rejecting MBEs/WBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not

legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.

- (F) Making efforts to assist interested MBEs/WBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.
- (G) Making efforts to assist interested MBEs/WBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of MBEs/WBEs. Contact within 7 days from the bid opening NCDOT's Business Opportunity and Work Force Development Unit at BOWD@ncdot.gov to give notification of the bidder's inability to get MBE or WBE quotes.
- (I) Any other evidence that the bidder submits which shows that the bidder has made reasonably good faith efforts to meet the contract goal.

In addition, the **Lumberton Airport Commission** may take into account the following:

- (1) Whether the bidder's documentation reflects a clear and realistic plan for achieving the Combined MBE/WBE Goal.
- (2) The bidders' past performance in meeting the MBE and WBE goals.
- (3) The performance of other bidders in meeting the advertised goal. For example, when the apparent successful bidder fails to meet the goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the advertised goal, but meets or exceeds the average MBE and WBE participation obtained by other bidders, the **Lumberton Airport Commission** may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

If the **Lumberton Airport Commission** does not award the contract to the apparent lowest responsive bidder, the **Lumberton Airport Commission** reserves the right to award the contract to the next lowest responsive bidder that can satisfy to the **Lumberton Airport Commission** that the Combined Goal can be met or that an adequate good faith effort has been made to meet the advertised goal.

Non-Good Faith Appeal

The **ENGINEER / Lumberton Airport Commission** will notify the contractor verbally and in writing of non-good faith. A contractor may appeal a determination of non-good faith made by the Goal Compliance Committee. If a contractor wishes to appeal the determination made by the Committee, they shall provide written notification to the **ENGINEER / Lumberton Airport Commission**. The appeal shall be made within 2 business days of notification of the determination of non-good faith.

Counting MBE/WBE Participation Toward Meeting MBE/WBE Goals

(A) Participation

The total dollar value of the participation by a committed MBE/WBE will be counted toward the contract goal requirements. The total dollar value of participation by a committed MBE/WBE will be based upon the value of work actually performed by the MBE/WBE and the actual payments to MBE/WBE firms by the Contractor.

(B) Joint Checks

Prior notification of joint check use shall be required when counting MBE/WBE participation for services or purchases that involves the use of a joint check. Notification shall be through submission of Form JC-1 (*Joint Check Notification Form*) and the use of joint checks shall be in accordance with the NCDOT's Joint Check Procedures.

(C) Subcontracts (Non-Trucking)

A MBE/WBE may enter into subcontracts. Work that a MBE subcontracts to another MBE firm may be counted toward the anticipated MBE participation. The same holds for work that a WBE subcontracts to another WBE firm. Work that a MBE/WBE subcontracts to a non-MBE/WBE firm does not count toward the contract goal requirement. It should be noted that every effort shall be made by MBE and WBE contractors to subcontract to the same certification (i.e., MBEs to MBEs and WBEs to WBEs), in order to fulfill the MBE or WBE participation breakdown. This, however, may not always be possible due to the limitation of firms in the area. If the MBE or WBE firm shows a good faith effort has been made to reach out to similarly certified firms and there is no interest or availability, and they can get assistance from other certified firms, the Engineer will not hold the prime responsible for meeting the individual MBE or WBE breakdown. If a MBE or WBE contractor or subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of standard industry practices, it shall be presumed that the MBE or WBE is not performing a commercially useful function. The MBE/WBE may present evidence to rebut this presumption to the **Lumberton Airport Commission**. The **Lumberton Airport**

Commission's decision on the rebuttal of this presumption may be subject to review by the Office of Inspector General, NCDOT.

(D) Joint Venture

When a MBE or WBE performs as a participant in a joint venture, the Contractor may count toward its contract goal requirement a portion of the total value of participation with the MBE or WBE in the joint venture, that portion of the total dollar value being a distinct clearly defined portion of work that the MBE or WBE performs with its forces.

(E) Suppliers

A contractor may count toward its MBE/WBE requirement 60 percent of its expenditures for materials and supplies required to complete the contract and obtained from a MBE or WBE regular dealer and 100 percent of such expenditures from a MBE or WBE manufacturer.

(F) Manufacturers and Regular Dealers

A contractor may count toward its MBE/WBE requirement the following expenditures to MBE/WBE firms that are not manufacturers or regular dealers:

- (1) The fees or commissions charged by a MBE/WBE firm for providing a *bona fide* service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees or commissions are determined to be reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.
- (2) With respect to materials or supplies purchased from a MBE/WBE, which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

Commercially Useful Function

(A) MBE/WBE Utilization

The Contractor may count toward its contract goal requirement only expenditures to MBEs and WBEs that perform a commercially useful function in the work of a

contract. A MBE/WBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the MBE/WBE shall also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine whether a MBE/WBE is performing a commercially useful function, the **Lumberton Airport Commission** will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the MBE/WBE credit claimed for its performance of the work, and any other relevant factors. If it is determined that a MBE or WBE is not performing a Commercially Useful Function, the contractor may present evidence to rebut this presumption.

(B) MBE/WBE Utilization in Trucking

The following factors will be used to determine if a MBE or WBE trucking firm is performing a commercially useful function.

- (1) The MBE/WBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there shall not be a contrived arrangement for the purpose of meeting the Combined MBE/WBE Goal.
- (2) The MBE/WBE shall itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- (3) The MBE/WBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.
- (4) The MBE may subcontract the work to another MBE firm, including an owner-operator who is certified as a MBE. The same holds true that a WBE may subcontract the work to another WBE firm, including an owner-operator who is certified as a WBE. When this occurs, the MBE or WBE who subcontracts work receives credit for the total value of the transportation services the subcontracted MBE or WBE provides on the contract. It should be noted that every effort shall be made by MBE and WBE contractors to subcontract to the same certification (i.e., MBEs to MBEs and WBEs to WBEs), in order to fulfill the participation breakdown. This, however, may not always be possible due to the limitation of firms in the area. If the MBE or WBE firm shows a good faith effort has been made to reach out to similarly certified transportation service providers and there is no interest or availability, and they can get assistance from other certified providers, the **ENGINEER / Lumberton Airport Commission** will not hold

the prime responsible for meeting the individual MBE or WBE participation breakdown.

- (5) The MBE/WBE may also subcontract the work to a non-MBE/WBE firm, including from an owner-operator. The MBE/WBE who subcontracts the work to a non-MBE/WBE is entitled to credit for the total value of transportation services provided by the non-MBE/WBE subcontractor not to exceed the value of transportation services provided by MBE/WBE-owned trucks on the contract. Additional participation by non-MBE/WBE subcontractors receives credit only for the fee or commission it receives as a result of the subcontract arrangement. The value of services performed under subcontract agreements between the MBE/WBE and the Contractor will not count towards the MBE/WBE contract requirement.
- (6) A MBE/WBE may lease truck(s) from an established equipment leasing business open to the general public. The lease must indicate that the MBE/WBE has exclusive use of and control over the truck. This requirement does not preclude the leased truck from working for others during the term of the lease with the consent of the MBE/WBE, so long as the lease gives the MBE/WBE absolute priority for use of the leased truck. This type of lease may count toward the MBE/WBE's credit as long as the driver is under the MBE/WBE's payroll.
- (7) Subcontracted/leased trucks shall display clearly on the dashboard the name of the MBE/WBE that they are subcontracted/leased to and their own company name if it is not identified on the truck itself. Magnetic door signs are not permitted.

MBE/WBE Replacement

When a Contractor has relied on a commitment to a MBE or WBE subcontractor (or an approved substitute MBE or WBE subcontractor) to meet all or part of a contract goal requirement, the contractor shall not terminate the MBE/WBE subcontractor for convenience. This includes, but is not limited to, instances in which the Contractor seeks to perform the work of the terminated subcontractor with another MBE/WBE subcontractor, a non-MBE/WBE subcontractor, or with the Contractor's own forces or those of an affiliate.

The Contractor must give notice in writing both by certified mail and email to the MBE/WBE subcontractor, with a copy to the **ENGINEER / Lumberton Airport Commission** of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor must give the MBE/WBE subcontractor five (5) business days to respond to the Contractor's Notice of Intent to Request Termination and/or Substitution. If the MBE/WBE subcontractor objects to the intended termination/substitution, the MBE/WBE, within five (5) business days must advise the Contractor and the **Lumberton Airport Commission** of the reasons why the action

should not be approved. The five-day notice period shall begin on the next business day after written notice is provided to the MBE/WBE subcontractor.

A committed MBE/WBE subcontractor may only be terminated after receiving the **Lumberton Airport Commission's** written approval based upon a finding of good cause for the proposed termination and/or substitution. For purposes of this section, good cause shall include the following circumstances:

- (a) The listed MBE/WBE subcontractor fails or refuses to execute a written contract;
- (b) The listed MBE/WBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the MBE/WBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (c) The listed MBE/WBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements;
- (d) The listed MBE/WBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (e) The listed MBE/WBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR Parts 180, 215 and 1,200 or applicable state law;
- (f) The listed MBE/WBE subcontractor is not a responsible contractor;
- (g) The listed MBE/WBE voluntarily withdraws from the project and provides written notice of withdrawal;
- (h) The listed MBE/WBE is ineligible to receive MBE/WBE credit for the type of work required;
- (i) A MBE/WBE owner dies or becomes disabled with the result that the listed MBE/WBE contractor is unable to complete its work on the contract;
- (j) Other documented good cause that compels the termination of the MBE/WBE subcontractor. Provided, that good cause does not exist if the prime contractor seeks to terminate a MBE/WBE it relied upon to obtain the contract so that the prime contractor can self-perform the work for which the MBE/WBE contractor was engaged or so that the prime contractor can substitute another MBE/WBE or non-MBE/WBE contractor after contract award.

The Contractor shall comply with the following for replacement of a committed MBE/WBE:

(A) Performance Related Replacement

When a committed MBE/WBE is terminated for good cause as stated above, an additional MBE/WBE that was submitted at the time of bid may be used to fulfill the MBE/WBE commitment to meet the Combined MBE/WBE Goal. A good faith effort will only be required for removing a committed MBE/WBE if there were no additional MBE/WBEs submitted at the time of bid to cover the same amount of work as the MBE/WBE that was terminated.

If a replacement MBE/WBE is not found that can perform at least the same amount of work as the terminated MBE/WBE, the Contractor shall submit a good faith effort documenting the steps taken. Such documentation shall include, but not be limited to, the following:

- (1) Copies of written notification to MBE/WBEs that their interest is solicited in contracting the work defaulted by the previous MBE/WBE or in subcontracting other items of work in the contract.
- (2) Efforts to negotiate with MBE/WBEs for specific subbids including, at a minimum:
 - (a) The names, addresses, and telephone numbers of MBE/WBEs who were contacted.
 - (b) A description of the information provided to MBE/WBEs regarding the plans and specifications for portions of the work to be performed.
- (3) A list of reasons why MBE/WBE quotes were not accepted.
- (4) Efforts made to assist the MBE/WBEs contacted, if needed, in obtaining bonding or insurance required by the Contractor.

(B) Decertification Replacement

- (1) When a committed MBE/WBE is decertified by the NCDOT after the SAF (*Subcontract Approval Form*) has been received by the **Lumberton Airport Commission**, the **Lumberton Airport Commission** will not require the Contractor to solicit replacement MBE/WBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement.
- (2) When a committed MBE/WBE is decertified prior to the **Lumberton Airport Commission** receiving the SAF (*Subcontract Approval Form*) for the named MBE/WBE firm, the Contractor shall take all necessary and reasonable steps to replace the MBE/WBE subcontractor with another MBE/WBE subcontractor to perform at least the same amount of work to meet the Combined MBE/WBE goal requirement. If a MBE/WBE firm is not found to do the same amount of work, a good faith effort must be submitted to **ENGINEER / Lumberton Airport Commission** (see A herein for required documentation).
- (3) Exception: If the MBE/WBE's ineligibility is caused solely by its having exceeded the size standard during the performance of the contract, the **Lumberton Airport Commission** will not require the Contractor to solicit replacement MBE/WBE participation equal to the remaining work to be

performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement and overall goal.

All requests for replacement of a committed MBE/WBE firm shall be submitted to the **ENGINEER / Lumberton Airport Commission** for approval on Form RF-1 (*DBE Replacement Request*). If the Contractor fails to follow this procedure, the Contractor may be disqualified from further bidding for a period of up to 6 months.

Changes in the Work

When the **ENGINEER / Lumberton Airport Commission** makes changes that result in the reduction or elimination of work to be performed by a committed MBE/WBE, the Contractor will not be required to seek additional participation. When the **ENGINEER / Lumberton Airport Commission** makes changes that result in additional work to be performed by a MBE/WBE based upon the Contractor's commitment, the MBE/WBE shall participate in additional work to the same extent as the MBE/WBE participated in the original contract work.

When the **ENGINEER / Lumberton Airport Commission** makes changes that result in extra work, which has more than a minimal impact on the contract amount, the Contractor shall seek additional participation by MBEs/WBEs unless otherwise approved by the **ENGINEER / Lumberton Airport Commission**.

When the **ENGINEER / Lumberton Airport Commission** makes changes that result in an alteration of plans or details of construction, and a portion or all of the work had been expected to be performed by a committed MBE/WBE, the Contractor shall seek participation by MBEs/WBEs unless otherwise approved by the **ENGINEER / Lumberton Airport Commission**.

When the Contractor requests changes in the work that result in the reduction or elimination of work that the Contractor committed to be performed by a MBE/WBE, the Contractor shall seek additional participation by MBEs/WBEs equal to the reduced MBE/WBE participation caused by the changes.

Reports and Documentation

A SAF (*Subcontract Approval Form*) shall be submitted for all work which is to be performed by a MBE/WBE subcontractor. The **Lumberton Airport Commission** reserves the right to require copies of actual subcontract agreements involving MBE/WBE subcontractors.

When using transportation services to meet the contract commitment, the Contractor shall submit a proposed trucking plan in addition to the SAF. The plan shall be submitted prior to beginning construction on the project. The plan shall include the names of all trucking

firms proposed for use, their certification type(s), the number of trucks owned by the firm, as well as the individual truck identification numbers, and the line item(s) being performed.

Within 30 calendar days of entering into an agreement with a MBE/WBE for materials, supplies or services, not otherwise documented by the SAF as specified above, the Contractor shall furnish the **ENGINEER / Lumberton Airport Commission** a copy of the agreement. The documentation shall also indicate the percentage (60% or 100%) of expenditures claimed for MBE/WBE credit.

Reporting Minority and Women Business Enterprise Participation

The Contractor shall provide the **ENGINEER / Lumberton Airport Commission** with an accounting of payments made to all MBE/ WBE firms, including material suppliers and contractors at all levels (prime, subcontractor, or second tier subcontractor). This accounting shall be furnished to the **ENGINEER / Lumberton Airport Commission** for any given month by the end of the following month. Failure to submit this information accordingly may result in the following action:

- (A) Withholding of money due in the next partial pay estimate; or
- (B) Removal of an approved contractor from the prequalified bidders' list or the removal of other entities from the approved subcontractors list.

While each contractor (prime, subcontractor, 2nd tier subcontractor) is responsible for accurate accounting of payments to MBEs/WBEs, it shall be the prime contractor's responsibility to report all monthly and final payment information in the correct reporting manner.

Failure on the part of the Contractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from further bidding until the required information is submitted.

Failure on the part of any subcontractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from being approved for further work on future projects until the required information is submitted.

Contractors reporting transportation services provided by non-MBE/WBE lessees shall evaluate the value of services provided during the month of the reporting period only.

At any time, the **ENGINEER / Lumberton Airport Commission** can request written verification of subcontractor payments.

The Contractor shall report the accounting of payments on the NCDOT's DBE-IS (*Subcontractor Payment Information*) with each invoice. Invoices will not be processed for payment until the DBE-IS is received.

Failure to Meet Contract Requirements

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *Standard Specifications* may be cause to disqualify the Contractor.

APPENDIX 'D'

FEDERAL REQUIREMENTS

APPENDIX 'E'

CONTRACT AND BONDS

CONTRACT

This AGREEMENT, made and entered into this ____ day of _____ 2025, by and between **City of Lumberton**, hereinafter called the OWNER, and **Contractor's name and address**, hereinafter called the Contractor.

WITNESSETH: That the Contractor, for the consideration hereinafter fully set out, and the OWNER, for the construction of work performed, agree that:

1. Scope of Work:

The Contractor shall furnish and deliver all the materials and perform all the work in the manner and form as provided in the following enumerated Plans, Specifications and Contract Documents which are attached hereto and made a part hereof as if fully contained herein:

LUMBERTON REGIONAL AIRPORT T-HANGAR AND 2-UNIT BOX HANGAR

Specifications and Contract Documents:

- a. Project Plans prepared by Talbert & Bright, Inc. and its subconsultants (The Wilson Group, Cheatham and Associates, WithersRavenel, Stewart) Dated January 2025
- b. Instructions to Bidders
- c. All contents included in Project Manual Volumes A and B (Excluding subsurface investigation/testing data)
- d. Proposal (Accepted as modified) in the amount of \$ _____
- e. Performance and Payment Bonds
- f. Addenda
- g. Contract Modifications

ORIGINAL PROPOSAL:

TOTAL ADDITIONS:

TOTAL DEDUCTIONS:

CURRENT CONTRACT AMOUNT:

The Contractor hereby guarantees all materials and workmanship for a period of one year from the date at final acceptance of all items of work set forth under this Contract.

- 2. The Contractor shall commence the work to be performed under the Contract not later than the date set by the OWNER in written notice to proceed, said date to be not less than seven (7) days after issuance of notice.
- 3. The OWNER hereby agrees to pay to the Contractor for the faithful performance of this agreement, subject to additions and deductions as provided in the

specifications or proposal, in lawful money of the United States, such unit and/or lump sum prices as are set forth in the accepted proposal for quantities of each item actually accomplished.

4. On or before the 20th day of each calendar month, the OWNER shall make partial payments to the Contractor on a basis of a duly certified and approved estimate of work performed during the preceding calendar month by the Contractor, less ten percent (10%) of the amount of such estimate which is to be retained by the OWNER until all work has been performed strictly in accordance with this Contract and until such work has been accepted by the OWNER.
5. Payment of the balance due the Contractor shall occur within 30 days of completion of all work covered by this contract, acceptance of same by the Owner, and the submission of proof to the Owner of payment in full of all labor and material by the Contractor.
6. It is further mutually agreed between the Contractor and the OWNER hereto if, at any time after the execution of this Contract and the Performance and Payment Bond hereto attached for its faithful performance, the OWNER shall deem the surety or sureties upon such bond to be unsatisfactory; or if, for any reason such bond ceases to be adequate to cover the performance of such work, the Contractor shall, at its expense, within five days after the receipt of notice from the OWNER to do so, furnish an additional bond or bonds in such form and amount, and with such surety or sureties as shall be satisfactory to the OWNER. In such event, no further payment to the Contractor shall be deemed to be due under this Contract until such new or additional security for the faithful performance of the work shall be furnished in a manner and form satisfactory to the OWNER.
7. The Contractor shall indemnify and hold harmless the OWNER, its officers, agents, employees and consultants, from and against any and all losses or costs including but not limited to litigation and settlement costs, counsel fees, claims, suits, action, damages, liability, and expenses, occasioned wholly or in part by the Contractor's negligent act(s) or willful omissions or fault or the negligent acts or willful omissions or fault of the Contractor's agents, subcontractors, suppliers, employees, or servants in connection with this agreement, including but not limited to those in connection with loss of life, bodily injury, personal injury, damage to property, contamination or adverse effects on the environment, intentional acts, failure to pay such subcontractors and suppliers, any breach of the agreement and any infringement or violation of any proprietary right (including but not limited to patent, copyright, trademark, service mark and trade secret). The indemnity obligations under this paragraph will survive termination of the agreement.

Dispute resolution shall be resolved in the Superior Court for the County or other political subdivision in which the project is located. The law to be applied is the Laws of the State of North Carolina. In the event the Parties are found to be jointly at fault for any claim, action, loss, or damage that results from their respective obligations under this agreement, the Contractor shall indemnify City of Lumberton

Talbert & Bright

and the Lumberton Airport Commission to the extent of the Contractor's fault.

IN WITNESS WHEREOF, the OWNER and Contractor hereto have executed this Contract on the day and date first above written in four counterparts, be deemed an original Contract.

BY:

BY:

LUMBERTON AIRPORT COMMISSION

CONTRACTOR'S NAME

Title

Title

Witness

Witness

Executed in quadruple

PERFORMANCE BOND
100% of the Contract Amount

KNOW ALL MEN BY THESE PRESENT: that

CONTRACTOR NAME
CONTRACTOR ADDRESS

as Principal, hereinafter called Contractor and _____, a corporation duly organized in the State of _____ and licensed under laws of and authorized to do business in the State of North Carolina as Surety, hereinafter called Surety, are held firmly bound unto

LUMBERTON AIRPORT COMMISSION
LUMBERTON REGIONAL AIRPORT
163 AIRPORT BOULEVARD
LUMBERTON, NORTH, CAROLINA 28358

hereinafter called OWNER, in the amount of **write in words (\$ amount)** for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firm by these present.

WHEREAS, Contractor has by written agreement dated _____ 2025, entered into a Contract with OWNER for **T-Hangar and 2-Unit Box Hangar** in accordance with drawings and specifications prepared by:

TALBERT & BRIGHT, INC.
4810 SHELLEY DRIVE
WILMINGTON, NORTH CAROLINA 28405

which contract is by reference made a part hereof and is hereinafter referred to as the CONTRACT.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER and Contractor.

Whenever Contractor shall be, and declared by OWNER to be in default under the Contract, the OWNER having performed OWNER'S obligations thereunder, the Surety may promptly remedy the defaults, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or

2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the OWNER elects, upon determination by the OWNER and the Surety jointly of the lowest responsible bidder, arrange for a Contract between such bidder and OWNER, and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts arranged under this paragraph) sufficient funds to pay the cost of completion, less the balance of the contract price, but not exceeding (including other costs and damages for which the Surety may be liable hereunder), the amount set forth in the second paragraph hereof. The term "balance of contract price" as used in paragraph, shall mean the total amount payable by OWNER to Contractor under the Contract and any amendment thereto, less the amount properly paid by OWNER to Contractor. It is the intent for the contract to be completed within the contract time or liquidated damages will be assessed in accordance with the specifications.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators, or successors of the OWNER.

Signed and sealed this _____ day of _____ 2025.

BY:

BY:

Principal

Surety

Name (Seal)

Name (Seal)

Title

Title

WITNESS:

WITNESS:

BY:

Licensed Resident Agent (Signature)

Licensed Resident Agent (Typed)

Street Address

City, State, Zip

Telephone Number

LABOR AND MATERIAL PAYMENT BOND
100% of the Contract Amount

KNOW ALL MEN BY THESE PRESENT: that

CONTRACTOR NAME
CONTRACTOR ADDRESS

as Principal, hereinafter called Principal, and _____ corporation duly organized in the State of _____ and licensed under the laws of and authorized to do business in the State of North Carolina as Surety, hereinafter called Surety, are held firmly bound unto

LUMBERTON AIRPORT COMMISSION
LUMBERTON REGIONAL AIRPORT
163 AIRPORT BOULEVARD
LUMBERTON, NORTH, CAROLINA 28358

as Obligee, hereinafter called OWNER, for the use and benefit of claimants as herein below defined, in the amount of **write in words (\$ amount)** for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firm by these present.

WHEREAS,

Principal has by written agreement dated _____ 2025 entered into a contract with OWNER for **T-Hangar and 2-Unit Box Hangar** in accordance with drawings and specifications prepared by:

TALBERT & BRIGHT, INC.
4810 SHELLEY DRIVE
WILMINGTON, NORTH CAROLINA 28405

which contract is by reference made a part hereof and is hereinafter referred to as the CONTRACT.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for the use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contractor.

2. The above named Principal and Surety hereby jointly and severally agree with the OWNER that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgement for such sum or sums as may be justly due claimant, and have execution thereon. The OWNER shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
 - a. Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the OWNER, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to who the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, OWNER, or surety, at any place where an office is regularly maintained for the transaction of business, or served in the state in which the aforesaid project is located, save that such service need not be made by public officer.
 - b. After the expiration of one (1) year following the date of which Principal ceased work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - c. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project, or any part thereof, is situated or in the United States District Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

Signed and sealed this ____ day of _____ 2025.

BY:

BY:

Principal

Surety

Name (Seal)

Name (Seal)

Title

Title

WITNESS:

WITNESS:

BY:

Licensed Resident Agent (Signature)

Licensed Resident Agent (Typed)

Street Address

City, State, Zip

Telephone Number

APPENDIX 'F'

FORMS

**TALBERT & BRIGHT, INC.
CHANGE ORDER**

NO.: _____

DATED: _____

GRANT NO: 36244.42.16.1TBI NO: 3105-2401PROJECT: T-Hangar and 2-Unit Box HangarAIRPORT: Lumberton Regional AirportOWNER: Lumberton Airport Commission

CONTRACTOR: _____

ADDRESS: _____

CONTRACT FOR: _____

DATE: _____

TO: _____, (CONTRACTOR)

ORIGINAL CONTRACT AMOUNT \$ _____

PREVIOUS CHANGES \$ _____

CONTRACT AMOUNT PRIOR TO THIS CHANGE ORDER \$ _____

NET (INCREASE) (DECREASE) RESULTING FROM THIS CHANGE ORDER \$ _____

CURRENT CONTRACT AMOUNT INCLUDING THIS CHANGE ORDER \$ _____

NET CONTRACT (INCREASE) (DECREASE) RESULTING FROM THIS CHANGE ORDER ____ (WORKING DAYS)

CURRENT CONTRACT TIME INCLUDING THIS CHANGE ORDER ____ (WORKING DAYS)

- A. The aforementioned change and work affected thereby are subject to all contract stipulations and covenants;
B. The rights of the Owner are not prejudiced; and
C. All claims against the Owner which are incidental to or as a consequence of the aforementioned changes are satisfied.

RECOMMENDED FOR ACCEPTANCE: TALBERT & BRIGHT, INC.:

BY: _____

DATE: _____

ACCEPTED BY CONTRACTOR: _____

BY: _____

DATE: _____

ACCEPTED BY OWNER: _____, (OWNER NAME)

BY: _____

DATE: _____

APPROVED BY: _____

DATE: _____

TITLE: _____

YOU ARE DIRECTED TO MAKE THE CHANGES NOTED BELOW IN THE SUBJECT CONTRACT:

ITEM	DESCRIPTION	ADDITIONS	DELETIONS
NET ADDITIONS OR DELETIONS			
NET ADDITIONS OR DELETIONS			

REASON FOR CHANGE:

ITEM NO -

ITEM NO -

ITEM NO -

ESTIMATE OF PARTIAL PAYMENT**No.**

Application Date:	Period Ending:
Original Contract Price:	\$ -
Net Change Orders:	\$ -
Current Contract Price:	\$ -
Total Amount Earned:	\$ -
Retained Percentage (5%):	\$ -
Total Earned Less Retained:	\$ -
Total Previously Approved:	\$ -
Amount Due This Estimate:	\$ -
Total Amount Due:	\$ -

AIP/Grant No.: 36244.42.16.1**TBI No.:** 3105-2401**Project Name:** T-Hangar and 2-Unit Box Hangar**Airport:** Lumberton Regional Airport**Airport Sponsor:** Lumberton Airport Commission**Sponsor Address:** 163 Airport Boulevard, Lumberton, North Carolina 28358**Contractor:****Contract Date:****Contract For:****CERTIFICATE OF CONTRACTOR**

The undersigned certifies to the best of his knowledge and belief that all items, units, quantities and prices for work and material herein are correct; that all work has been performed and materials supplied in accordance with the terms and conditions of the Construction Contract and all authorized changes thereto; that the above is a true and correct statement of the contract up to and including the last day of the period of the estimate; that all previous payments received from the Owner for work performed under the Construction Contract have been applied to discharge all obligations incurred by the undersigned in connection with work covered by prior estimates for partial payment; and that all materials and equipment incorporated in the above project are free and clear of all liens, security interests and encumbrances.

Contractor: _____ **By:** _____**Date:** _____ **Title:** _____**CERTIFICATE OF OWNER'S ENGINEERS**

I certify that I have verified this Estimate for Partial Payment and that to the best of my knowledge and belief it is a true and correct statement of work performed materials supplied under the Contract.

TALBERT & BRIGHT, INC., WILMINGTON, NORTH CAROLINA

Resident Observer**Project Engineer****Name:** _____ **Name:** _____**Date:** _____ **Date:** _____**OWNER'S RECOMMENDATION FOR PAYMENT**

Approved and Payment Recommended

Owner: _____ **By:** _____**Date:** _____ **Title:** _____

OWNER: _____

No. And Description of Unit		Contract			Work Done This Period		Work Completed to Date		
Item # (1)	Detailed Estimate (2)	Quantity (3)	Unit Price (4)	Cost Estimate (5)	No. of Units (6)	Amount Earned (7)	No. of Units (8)	Amount Earned (9)	Percent Complete (10)
Totals									

SALES TAX REPORT

CONTRACTOR: _____

REPORTING PERIOD: _____

Sheet ____ of ____ Sheets

PROJECT NAME: T-Hangar and 2-Unit Box HangarGRANT #: 36244.42.16.1AIRPORT: Lumberton Regional Airport

						Sales Tax this Period		
Invoice No.	Invoice Date	Vendor's Name	Vendor's County	Total Invoice Amount	Pre-Tax Invoice Amount	State Tax	County Tax	Total Tax
Total Sales Tax This Period								

				Cumulative Sales Tax To Date, Including This Period		
Vendor's Name	Vendor's County	Cumulative Amount of Invoices	Cumulative of Pre-Tax Amount	Cumulative State Tax	Cumulative County Tax	Cumulative Tax
Total Cumulative Sales Tax						

Certification:

I certify that the above figures only includes those building materials, supplies, fixtures and equipment which actually became a part of or annexed to the building or structure, or finished product. I certify that, to the best of my knowledge, the information provided here is true, correct, and complete.

(Firm Name)_____
(Signature)_____
(Title)

Sworn To & Subscribed Before Me

This The ____ Day of _____.

(Notary Public)

(Seal)

_____, County, North Carolina

My Commission Expires: _____



AV-509/AV-510 DBE/MBE/WBE/HUB VENDOR COMMITMENTS/AWARDS/PAYMENTS

CONTRACTOR PAY REQUEST #:

FINAL ☐

[illegible]

--

--	--

--

--

--

Talbert & Bright, Inc. Project Diary

Project: T-Hangar and 2-Unit Box Hangar

TBI No: 3105-2401Week Ending :

Equipment Working:

Approximate # of Employees:

Date: SaturdayContract Days to Date:

Weather AM: Weather PM: Temperature AM: Temperature PM:

Hours Worked: Contractor: RPR: Lab:

Work in Progress:

Date: SundayContract Days to Date:

Weather AM: Weather PM: Temperature AM: Temperature PM:

Hours Worked: Contractor: RPR: Lab:

Work in Progress:

Date: MondayContract Days to Date:

Weather AM: Weather PM: Temperature AM: Temperature PM:

Hours Worked: Contractor: RPR: Lab:

Work in Progress:

Date: TuesdayContract Days to Date:

Weather AM: Weather PM: Temperature AM: Temperature PM:

Hours Worked: Contractor: RPR: Lab:

Work in Progress:

Talbert & Bright

Date:		Wednesday			Contract Days to Date:		
Weather AM:		Weather PM:		Temperature AM:		Temperature PM:	
Hours Worked:		Contractor:		RPR:		Lab:	
Work in Progress:							

Date:		Thursday			Contract Days to Date:		
Weather AM:		Weather PM:		Temperature AM:		Temperature PM:	
Hours Worked:		Contractor:		RPR:		Lab:	
Work in Progress:							

Date:		Friday			Contract Days to Date:		
Weather AM:		Weather PM:		Temperature AM:		Temperature PM:	
Hours Worked:		Contractor:		RPR:		Lab:	
Work in Progress:							

I certify that I have performed the field work and administrative duties for this project, and that through my presence and personal observation of the work and through standard testing methods, the Contractor is accomplishing the contract work in accordance with the requirements of the plans and specifications. (Certification by RPR and Contractor.)

Contractor's Authorized Representative

Date

Resident Project Representative

Date

CONSENT OF SURETY COMPANY TO FINAL PAYMENT

OWNER	<input type="checkbox"/>
ENGINEER	<input type="checkbox"/>
CONTRACTOR	<input checked="" type="checkbox"/>
SURETY	<input type="checkbox"/>
OTHER	<input type="checkbox"/>

PROJECT (Name and Address): T-Hangar and 2-Unit Box Hangar
Lumberton Regional Airport
Lumberton, North Carolina

TO (Owner):
Engineer's Project No.: 3105-2401
Grant No.: 36244.42.16.1
Contract for: Lumberton Airport Commission
Contract Date: _____

CONTRACTOR: _____

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(insert name and address of Surety Company here)

_____, Surety Company

on bond of (here insert name and address of Contractor)

_____, Contractor

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the
Surety Company of its obligations to (here insert name and address of Owner)

_____, Owner

as set forth in the said Surety Company's bond.

IN WITNESS WHEREOF,

the Surety Company has hereunto set its hand this ____ day of _____ 20__.

Surety Company
Signature of Authorized Representative

Talbert & Bright

FINAL WAIVER OF LIEN

To All Whom It May Concern:

WHEREAS, the undersigned has been employed by _____ to
furnish labor and materials for _____ work, under a
contract _____ for the
improvement of property described as _____ in the City of ____
_____, County of _____, State of North Carolina, of which _____
_____ is the Owner.

NOW, THEREFORE, this _____ day of _____, 20 ____
for and in consideration of the sum of _____
Dollars (\$ _____) paid simultaneously herewith, the receipt whereof is hereby
acknowledged by the undersigned, the undersigned does hereby waive and release any lien rights to, or
claim of lien with respect to and on said above-described premises, and the improvements thereon, and
on the monies or other considerations due to become due from the owner, on account of labor, services,
materials, fixtures, apparatus of machinery heretofore or which may hereafter be furnished by the
undersigned to or for the above-described premises by virtue of said contract.

(SEAL)

CONTRACTOR (Name of sole ownership, corporation or
partnership)

(SEAL)

(Signature of Authorized Representative)

(Affix corporate seal here)

TITLE

AFFIDAVIT OF PAYMENTS OF DEBTS AND CLAIMS

OTHER ☐

Contract Date: _____

Lumberton, North Carolina

County of: _____

EXCEPTIONS: (If none, write "None". If required by the Owner, the Contractor shall furnish bond satisfactory to the Owner for each exception.)

(Seal)



DBE/MBE/WBE REPLACEMENT REQUEST FORM

The North Carolina Department of Transportation (NCDOT) is committed to the participation of Disadvantaged, Minority and Women Business Enterprises (DBE/MBE/WBE), in contracting opportunities in accordance with 49 Code of Federal Regulations (CFR). It is the policy of NCDOT to ensure nondiscrimination on the basis of race, color, sex or national origin in the award and administration of the contracts.

In accordance with the Special Provisions the Contractor shall not terminate a committed DBE/MBE/WBE subcontractor for the convenience or perform the work with its own forces or those of an affiliate. Reasonable methods to resolve performance disputes must be applied. The contractor must demonstrate reasonable efforts to replace a committed DBE/MBE/WBE firm that does not perform as intended with another committed DBE/MBE/WBE firm. Replacement of a DBE without written approval from NCDOT is a violation of contract provisions and may result in the Contractor being disqualified from bidding for a period of up to 6 months.

NCDOT Contract / Project Number: _____

DBE/MBE/WBE being replaced: _____

Explanation for Replacement:

Subcontract Amount: _____

Amount of Subcontract Remaining: _____

Line Items:

If a DBE/MBE/WBE subcontractor is terminated, or fails to complete its work on the contract for any reason, the prime contractor will make good faith efforts to find another DBE/MBE/WBE subcontractor to substitute for the original DBE/MBE/WBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as DBE/MBE/WBE that was terminated, to the extent needed to meet the contract goal established for the project.

Replacement Contractor: _____

Is this a NCDOT Certified DBE/MBE/WBE contractor? Yes ☐ No ☐

By signing this document, the Contractors and Resident Engineer who is the designated representative of NCDOT, concurs with the process of replacing the named DBE/MBE/WBE subcontractor.

Prime Contractor Signature **Date**

DBE Contractor Signature **Date**

INSTRUCTION FOR SUBMITTAL OF
MBE/WBE REPLACEMENT REQUEST FORM

(IN ADDITION TO SUBMITTING THIS FORM, THE CONTRACT ADMINISTRATOR MUST MAKE SURE THE FOLLOWING ADDITIONAL STEPS ARE SATISFIED.)

- 1. Prior to starting the replacement process, the prime contractor is responsible for coordinating with the MBE/WBE subcontractor to see if they are willing and able to perform the work as indicated in their contract.**
- 2. If the MBE/WBE subcontractor cannot perform the work, the Contract Administrator will coordinate with the State Contractor Utilization Engineer to begin the MBE/WBE replacement process. The State Contractor Utilization Engineer will work with the Business Opportunity and Workforce Development Unit.**
- 3. The Contract Administrator will make sure the Prime Contractor has submitted all supporting documentation for MBE/WBE replacement. Letters, emails or any other correspondence between the Prime Contractor, the MBE/WBE subcontractor, and the Contract Administrator will be considered supporting documentation. This documentation must provide valid reason(s) for replacement (i.e. performance issues, no longer in business). Prime Contractors cannot replace for convenience or perform the work with its own forces or those of an affiliate.**
- 4. The Contract Administrator will make sure the MBE/WBE subcontractor has been notified and is aware of the replacement requests.**
- 5. If the Prime Contractor is given approval by the Contract Administrator to replace a MBE/WBE subcontractor, the Contract Administrator will submit all documentation of Good Faith required of the Prime Contractor (Phone logs, emails, any other documentation to support a Good Faith Effort) to the State Contractor Utilization Engineer. The Prime Contractor shall be made aware that on state funded contracts Good Faith Efforts shall be made to replace a MBE with a MBE, and a WBE with a WBE.**
- 6. Signature lines on form: Ideally, the form should contain the signature of the original MBE/WBE subcontractor. However, if this is not possible (i.e. the MBE/WBE will not sign), then documentation supporting the decision and acknowledgement of the reasons for replacement by the MBE/WBE subcontractor should be attached.**
- 7. A copy of the replacement documentation and the form should be sent to the State Contractor Utilization Engineer in the Contractual Services Unit.**

APPENDIX 'G'

SUBSURFACE DATA



REFERENCE:
Image Courtesy of Google Earth



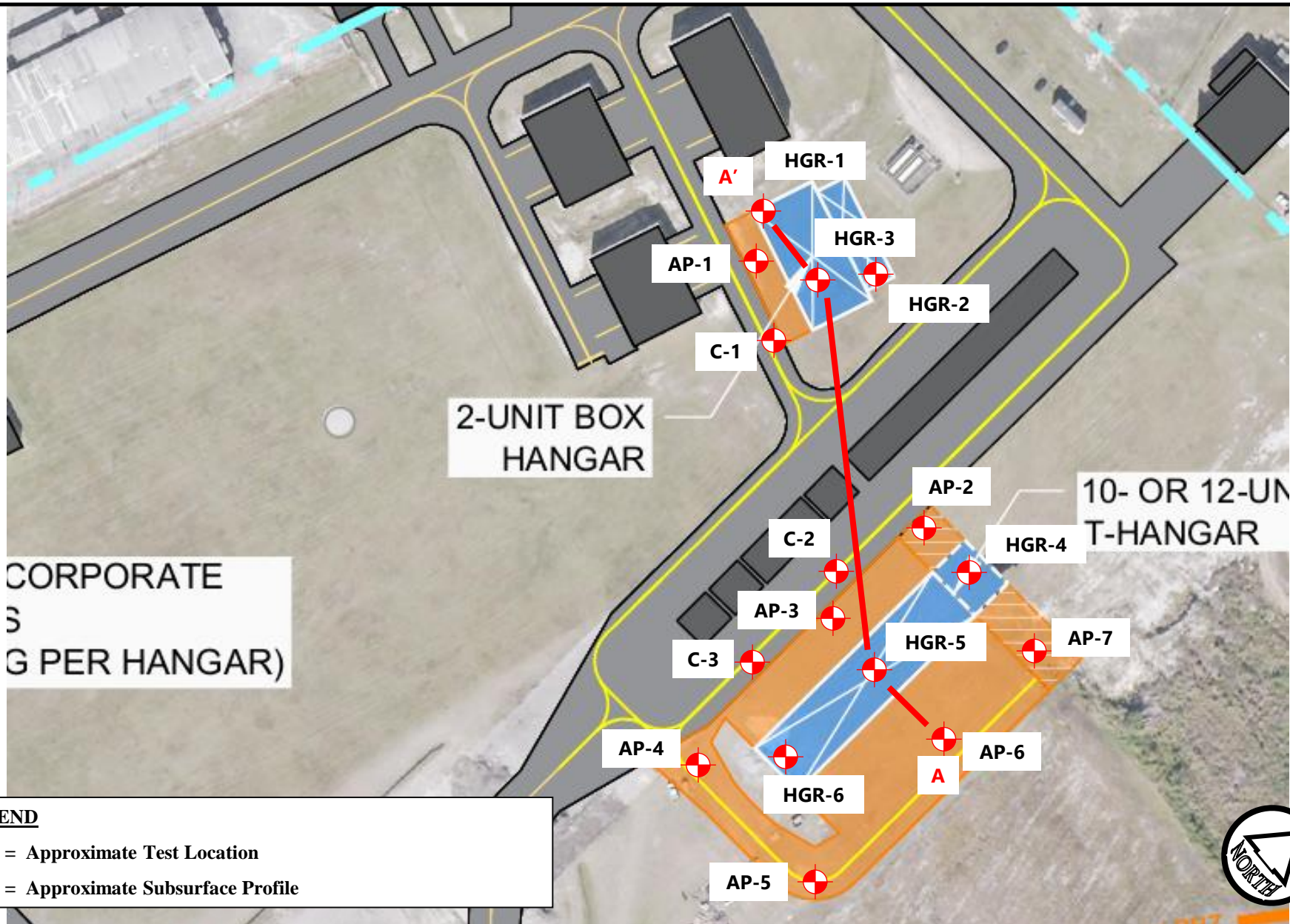
Site Vicinity Map

Lumberton Airport (LBT) T and Box Hangars
Lumberton, North Carolina



SCALE: Not to Scale
DATE: 7/24/24
PROJECT NUMBER 24060075

FIGURE NO.

1



LEGEND

-  = Approximate Test Location
-  = Approximate Subsurface Profile



Test Location Sketch

Lumberton Airport (LBT) T and Box Hangars
Lumberton, North Carolina

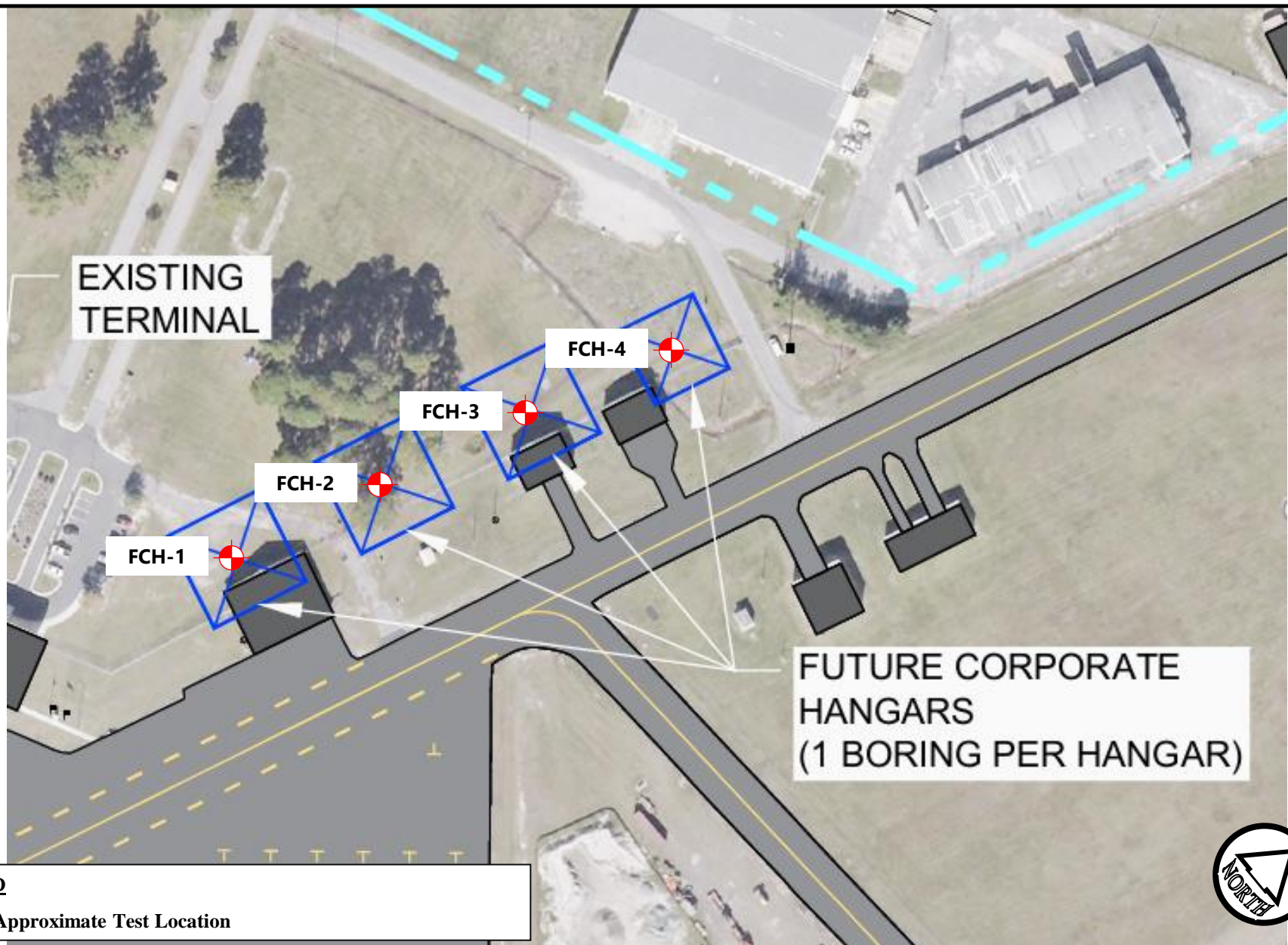
SCALE:
AS SHOWN

DATE:
7/24/24


PROJECT NUMBER
24060075

FIGURE NO.

2



LEGEND

 = Approximate Test Location



Test Location Sketch

Lumberton Airport (LBT) T and Box Hangars
Lumberton, North Carolina

SCALE:
AS SHOWN

DATE:
7/24/24

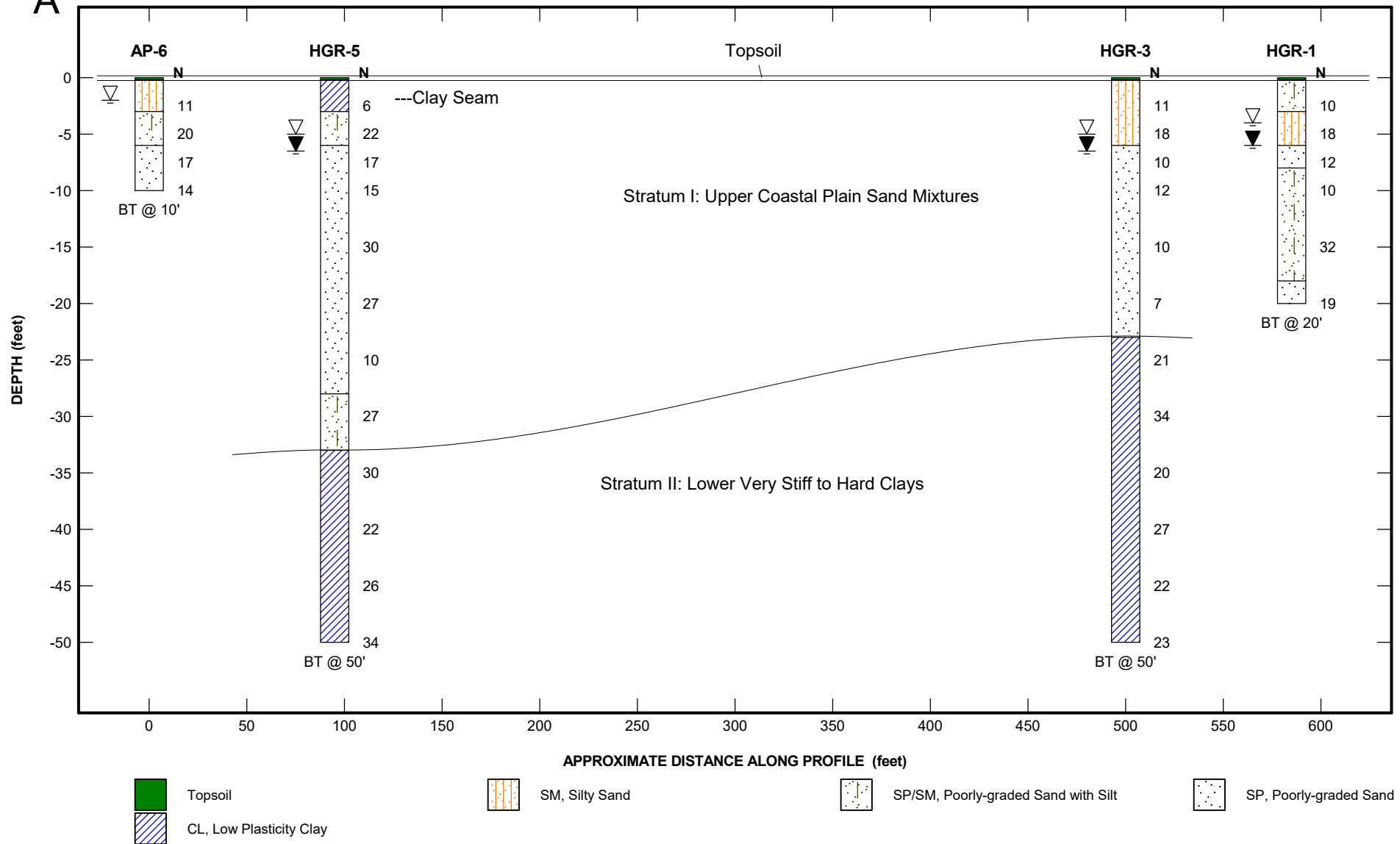
PROJECT NUMBER
24060075

FIGURE NO.

3

A

A'



N = Standard Penetration Test resistance value (blows per foot). The depicted stratigraphy is shown for illustrative purposes only. The actual subsurface conditions will vary between boring locations.

JOB NO: 24060075

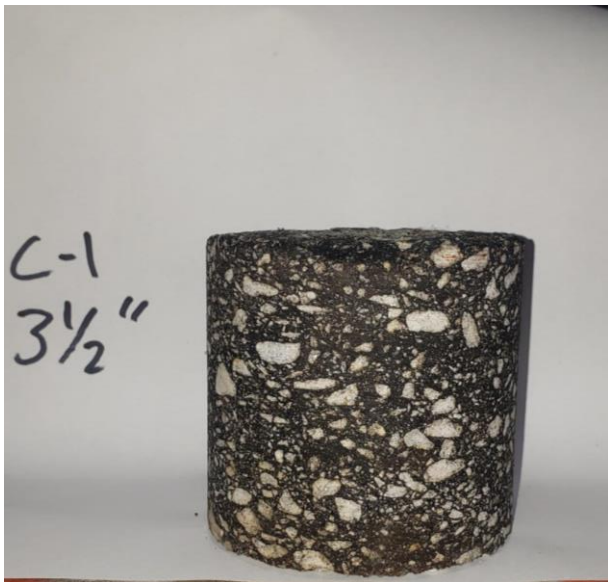
DATE: 8/2/24



S&ME, Inc
3006 Hall Waters Drive, Suit 100
Wilmington, North Carolina 28405


Diagram: Interpreted Subsurface Profile
Project: Lumberton Airport-T and Box Hangars
Location: Lumberton, North Carolina

Figure
4

			Date: 7/14/2023
			Photographer: R. Forest
1	Location / Orientation	C-1	
	Remarks	3 ½ inches of asphalt.	

			Date: 7/14/2023
			Photographer: R. Forest
2	Location / Orientation	C-2	
	Remarks	8 inches of asphalt.	



<div> <div>  </div> </div>			Date: 7/14/2023
			Photographer: J. Prevatte
3	Location / Orientation	C-3	
	Remarks	8 inches of asphalt.	

LEGEND TO SOIL CLASSIFICATION AND SYMBOLS

SOIL TYPES

(Shown in Graphic Log)



Fill



Asphalt



Concrete



Topsoil



Gravel



Sand



Silt



Clay



Organic



Silty Sand



Clayey Sand



Sandy Silt



Clayey Silt



Sandy Clay



Silty Clay



Partially Weathered Rock



Cored Rock

WATER LEVELS

(Shown in Water Level Column)

▽ = Water Level At Termination of Boring

▼ = Water Level Taken After 24 Hours

◀ = Loss of Drilling Water

HC = Hole Cave

CONSISTENCY OF COHESIVE SOILS

CONSISTENCY

Very Soft

Soft

Firm

Stiff

Very Stiff

Hard

Very Hard

STD. PENETRATION RESISTANCE BLOWS/FOOT

0 to 2

3 to 4

5 to 8

9 to 15

16 to 30

31 to 50

Over 50

RELATIVE DENSITY OF COHESIONLESS SOILS

RELATIVE DENSITY

Very Loose

Loose

Medium Dense

Dense

Very Dense

STD. PENETRATION RESISTANCE BLOWS/FOOT

0 to 4

5 to 10

11 to 30

31 to 50

Over 50

SAMPLER TYPES

(Shown in Samples Column)



Shelby Tube



Split Spoon



Rock Core



No Recovery

TERMS

Standard Penetration Resistance - The Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in. I.D. Split Spoon Sampler 1 Foot. As Specified in ASTM D-1586.

REC - Total Length of Rock Recovered in the Core Barrel Divided by the Total Length of the Core Run Times 100%.

RQD - Total Length of Sound Rock Segments Recovered that are Longer Than or Equal to 4" (mechanical breaks excluded) Divided by the Total Length of the Core Run Times 100%.



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG AP-1

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 1.5' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, light brown, mostly fine to medium sand, few low plasticity to non-plastic fines, wet.			1		4	6	6					12
		POORLY GRADED SAND (SP) - Loose, tan, mostly fine to medium sand, trace fines, saturated.			2		2	3	4					7
5		--- Medium dense			3		6	9	9					18
10		Boring terminated at 10 ft Target Depth			4		7	4	9					13

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG AP-2

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 2' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		SANDY SILT (ML) - Soft, gray and brown, mostly low plasticity fines, some fine to medium sand, moist.			1		3	2	2					4
		POORLY GRADED SAND WITH SILT (SP-SM) - Loose, gray and brown, mostly fine to medium sand, few low plasticity to non-plastic fines, wet.			2		2	2	3					5
5		POORLY GRADED SAND (SP) - Medium dense, tan, mostly fine to medium sand, trace fines, saturated.			3		7	7	9					16
		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, light gray, mostly fine to medium sand, few low plasticity to non-plastic fines, saturated.			4		5	9	4					13
10		Boring terminated at 10 ft Target Depth												

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \ SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG AP-3

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - 2 inches.								10 20 30 6080	
		SILTY SAND (SM) - Medium dense, light brown, mostly fine to medium sand, some low plasticity to non-plastic fines, moist.			1		3	6	9		15
		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, light brown, mostly fine to medium sand, few low plasticity to non-plastic fines, wet.			2		7	7	9		16
5		POORLY GRADED SAND (SP) - Medium dense, tan, mostly fine to medium sand, trace fines, saturated.			3		6	7	9		16
		--- Loose.			4		6	6	3		9
10		Boring terminated at 10 ft Target Depth									

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG AP-4

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		SILTY SAND (SM) - Loose, gray, mostly fine to medium sand, some low plasticity to non-plastic fines, moist.			1		3	5	5					10
		CLAYEY SAND (SC) - Loose, light gray, mostly fine to medium sand, some low to medium plasticity fines, wet.			2		4	4	5					9
5		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, light gray, mostly fine to medium sand, few low plasticity to non-plastic fines, saturated.			3		8	13	12					25
		POORLY GRADED SAND (SP) - Medium dense, gray, mostly fine to medium sand, trace fines, saturated.			4		9	9	9					18
10		Boring terminated at 10 ft Target Depth												

NOTES:










- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG AP-5

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - 2 inches.								10 20 30 6080	
		CLAYEY SAND (SC) - Medium dense, brown, mostly fine to medium sand, some low to medium plasticity fines, moist.			1		4	5	7		12
					2		8	9	10		19
5		POORLY GRADED SAND (SP) - Medium dense, tan, mostly fine to medium sand, trace fines, wet.			3		4	5	7		12
		--- Saturated.			4		3	4	6		10
		--- Loose gray and brown.									
10		Boring terminated at 10 ft Target Depth									

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG AP-6

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft	
DRILLER: MAD CTB/BB	WATER LEVEL: 2' ATD	
HAMMER TYPE: Auto	LOGGED BY: J. Faucette	
SAMPLING METHOD: Split-Spoon		NORTHING: 0
DRILLING METHOD: Mud Rotary		EASTING: 0

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - 2 inches.									
		SILTY SAND (SM) - Medium dense, light gray, mostly fine to medium sand, some low plasticity to non-plastic fines, moist.									
					1		3	4	7		11
		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, light gray, mostly fine to medium sand, few low plasticity to non-plastic fines, wet.			2		8	10	10		20
5											
		POORLY GRADED SAND (SP) - Medium dense, tan, mostly fine to medium sand, trace fines, saturated.			3		7	8	9		17
					4		4	7	7		14
10											
		Boring terminated at 10 ft Target Depth									

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG AP-7

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - 2 inches.								10 20 30 6080	
		POORLY GRADED SAND WITH SILT (SP-SM) - Loose, tan, mostly fine to medium sand, few low plasticity to non-plastic fines, moist.			1		3	4	5		9
		POORLY GRADED SAND (SP) - Medium dense, tan, mostly fine to medium sand, trace fines, wet.			2		8	9	9		18
5		SILTY SAND (SM) - Medium dense, gray and brown, mostly fine to medium sand, some low plasticity to non-plastic fines, saturated.			3		2	7	6		13
		POORLY GRADED SAND (SP) - Loose, gray, mostly fine to medium sand, trace fines, saturated.			4		2	3	4		7
10		Boring terminated at 10 ft Target Depth									

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG FCH-1

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		SILTY SAND (SM) - Loose, dark brown, mostly fine to medium sand, some low plasticity to non-plastic fines, moist.												
		--- Dark gray, wet.												
5					1		3	3	4					7
					2		4	5	5					10
		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, gray and brown, mostly fine to medium sand, few low plasticity to non-plastic fines, saturated.			3		6	9	7					16
		POORLY GRADED SAND (SP) - Medium dense, gray and brown, mostly fine to medium sand, trace fines, saturated.			4		9	11	13					24
10		Boring terminated at 10 ft Target Depth												

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1





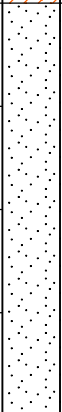




S&ME BORING LOG \SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG FCH-2

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		SANDY FAT CLAY (CH) - Stiff, gray, mostly medium to high plasticity fines, some fine sand, moist.			1		7	5	4					9
		CLAYEY SAND (SC) - Loose, gray, mostly fine to medium sand, some low to medium plasticity fines, wet.			2		6	5	4					9
5														
		POORLY GRADED SAND (SP) - Medium dense, gray, mostly fine to medium sand, trace fines, saturated.			3		9	10	13					23
					4		2	5	13					18
10														
		Boring terminated at 10 ft Target Depth												

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \ SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG FCH-3

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		SANDY LEAN CLAY (CL) - Stiff, gray, some fine sand, mostly low to medium plasticity fines, moist.												
		--- Wet.												
5					1		5	5	4					9
					2		6	5	4					9
		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, gray, mostly fine to medium sand, few low plasticity to non-plastic fines, saturated.			3		8	9	10					19
		POORLY GRADED SAND (SP) - Medium dense, tan, mostly fine to medium sand, trace fines, saturated.			4		8	14	14					28
10		Boring terminated at 10 ft Target Depth												

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \ SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG FCH-4

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 10.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, gray and brown, mostly fine to medium sand, few low plasticity to non-plastic fines, moist.			1		8	12	12					24
		POORLY GRADED SAND (SP) - Medium dense, gray, mostly fine to medium sand, trace fines, wet.			2		7	13	16					29
5		--- Saturated.			3		3	11	15					26
10		Boring terminated at 10 ft Target Depth			4		3	8	10					18

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG HGR-1

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 20.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 4' ATD, 6' 24 hr		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING: 0	EASTING: 585
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - 2 inches.									
		POORLY GRADED SAND WITH SILT (SP-SM) - Loose, brown, mostly fine to medium sand, few low plasticity to non-plastic fines, moist.			1		4	4	6		10
5		SILTY SAND (SM) - Medium dense, tan, mostly fine to medium sand, some low plasticity to non-plastic fines, wet.	▽		2		2	7	11		18
		POORLY GRADED SAND (SP) - Medium dense, tan, mostly fine to medium sand, trace fines, saturated.	▽		3		4	6	6		12
10		POORLY GRADED SAND WITH SILT (SP-SM) - Loose, light gray, mostly fine to medium sand, few low plasticity to non-plastic fines, saturated.			4		4	6	4		10
15		--- Dense, gray and brown.			5		7	14	18		32
20		POORLY GRADED SAND (SP) - Medium dense, light gray, mostly fine to medium sand, trace fines, saturated.			6		7	9	10		19
		Boring terminated at 20 ft Target Depth									

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG HGR-2

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.
DRILL RIG: CME 45C	BORING DEPTH: 20.0 ft	
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD, 5.5' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: J. Faucette	
SAMPLING METHOD: Split-Spoon		NORTHING:
DRILLING METHOD: Mud Rotary		EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		SILTY SAND (SM) - Loose, gray and brown, mostly fine to medium sand, some low plasticity to non-plastic fines, moist. --- Medium dense, tan, wet.			1		6	4	5					9
5					2		7	7	9					16
		POORLY GRADED SAND (SP) - Medium dense, light gray, mostly fine to medium sand, trace fines, saturated.			3		5	6	7					13
10					4		4	4	7					11
		POORLY GRADED SAND WITH SILT (SP-SM) - Very loose, dark gray, mostly fine to medium sand, some low plasticity to non-plastic fines, trace organics, saturated.			5		1	1	1					2
15														
		CLAYEY SAND (SC) - Loose, gray, mostly fine to medium sand, some low to medium plasticity fines, saturated.			6		1	5	3					8
20		Boring terminated at 20 ft Target Depth												

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG HGR-3

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.
DRILL RIG: CME 45C	BORING DEPTH: 50.0 ft	
DRILLER: MAD CTB/BB	WATER LEVEL: 5' ATD, 6.5' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: J. Faucette	
SAMPLING METHOD: Split-Spoon		NORTHING: 0
DRILLING METHOD: Mud Rotary		EASTING: 500

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - 2 inches.									
5		SILTY SAND (SM) - Medium dense, gray, mostly fine to medium sand, some low plasticity to non-plastic fines, moist. --- Wet.			1	▲	5	5	6		11
					2	▲	9	9	9		18
					3	▲	4	4	6		10
10		POORLY GRADED SAND (SP) - Loose, tan, mostly fine to medium sand, trace fines, saturated. --- Medium dense.			4	▲	6	6	6		12
15					5	▲	4	5	5		10
		--- Loose.									
20		--- Gray.			6	▲	3	3	4		7
25		SANDY LEAN CLAY (CL) - Very stiff, gray, some fine sand, mostly low to medium plasticity fines, saturated.			7	▲	6	8	13		21
30		--- Hard.			8	▲	5	14	20		34
35		--- Very stiff.			9	▲	5	9	11		20
40		--- Hard.			10	▲	6	11	16		27
45		--- Very stiff.			11	▲	6	9	13		22
50		Boring terminated at 50 ft Target Depth			12	▲	7	9	14		23

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG HGR-4

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.
DRILL RIG: CME 45C	BORING DEPTH: 20.0 ft	
DRILLER: MAD CTB/BB	WATER LEVEL: 4' ATD, 6' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: J. Faucette	
SAMPLING METHOD: Split-Spoon		NORTHING:
DRILLING METHOD: Mud Rotary		EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - 2 inches.									
		SILTY SAND (SM) - Loose, brown, mostly fine to medium sand, some low plasticity to non-plastic fines, moist.			1		4	5	5		10
5		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, tan, mostly fine to medium sand, few low plasticity to non-plastic fines, wet.			2		8	9	11		20
		POORLY GRADED SAND (SP) - Medium dense, light gray, mostly fine to medium sand, trace fines, saturated.			3		7	8	8		16
10					4		5	7	7		14
					5		5	6	8		14
15											
					6		6	8	8		16
20		Boring terminated at 20 ft Target Depth									

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG HGR-5

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.
DRILL RIG: CME 45C	BORING DEPTH: 50.0 ft	
DRILLER: MAD CTB/BB	WATER LEVEL: 5' ATD, 6.5' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: J. Faucette	
SAMPLING METHOD: Split-Spoon		NORTHING: 0
DRILLING METHOD: Mud Rotary		EASTING: 95

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - 2 inches.			1	▲	3	3	3		6
5		SANDY LEAN CLAY (CL) - Firm, light brown, mostly low to medium plasticity fines, some fine sand, moist.			2	▲	6	10	12		22
		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, tan, mostly fine to medium sand, few low plasticity to non-plastic fines, wet.			3	▲	7	8	9		17
10					4	▲	4	7	8		15
15		POORLY GRADED SAND (SP) - Medium dense, gray, mostly fine to medium sand, trace fines, saturated.			5	▲	9	14	16		30
20					6	▲	8	12	15		27
25		--- Loose.			7	▲	4	4	6		10
30		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, gray, mostly fine to medium sand, few low plasticity to non-plastic fines, saturated.			8	▲	8	13	14		27
35		SANDY LEAN CLAY (CL) - Stiff, gray, mostly low to medium plasticity fines, some fine sand, saturated.			9	▲	8	16	14		30
40					10	▲	6	9	13		22
45					11	▲	7	12	14		26
50		--- Hard.			12	▲	10	14	20		34
		Boring terminated at 50 ft Target Depth									

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG HGR-6

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.	
DRILL RIG: CME 45C	BORING DEPTH: 20.0 ft		
DRILLER: MAD CTB/BB	WATER LEVEL: 4' ATD, 6' 24 hr		
HAMMER TYPE: Auto	LOGGED BY: J. Faucette		
SAMPLING METHOD: Split-Spoon		NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		SILTY SAND (SM) - Medium dense, light brown, mostly fine to medium sand, some low plasticity to non-plastic fines, moist.			1		10	8	8					16
5		POORLY GRADED SAND WITH SILT (SP-SM) - Medium dense, light brown, mostly fine to medium sand, few low plasticity to non-plastic fines, wet. --- Gray, saturated.			2		6	7	9					16
					3		7	6	11					17
10					4		3	4	15					19
15		POORLY GRADED SAND (SP) - Medium dense, gray, mostly fine to medium sand, trace fines, saturated.			5		4	5	6					11
20		Boring terminated at 20 ft Target Depth			6		5	9	8					17

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

LABORATORY DETERMINATION OF WATER CONTENT

ASTM D 2216 ☒AASHTO T 265 ☐

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/4/24
Project Name:	Lumberton Airport (LBT) T and Box Hangars	Test Date(s):	8/3-8/4/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample by:	J. Prevatte	Sample Dates:	7/23/24
Sampling Method:	Split Spoon	Drill Rig :	N/A

Method:		A (1%)	B (0.1%)	<input checked="" type="checkbox"/>	Balance ID.	14862	Calibration Date:	7/1/24
					Oven ID.	14603	Calibration Date:	7/18/24
Boring No.	Sample No.	Sample Depth	Tare #	Tare Weight	Tare Wt. + Wet Wt	Tare Wt. + Dry Wt	Water Weight	Percent Moisture
		ft. or m.		grams	grams	grams	grams	%
HGR-1	S-2	3.5'-5.0'	B	0.00	341.38	291.57	49.81	17.1%
HGR-2	S-5	13.5'-15.0'	I	0.00	347.54	236.24	111.30	47.1%
HGR-3	S-3	6.0'-7.5'	G	0.00	337.83	277.25	60.58	21.9%
HGR-3	S-6	18.5'-20.0'	F	0.00	346.92	290.17	56.75	19.6%
HGR-3	S-7	23.5'-25.0'	#	0.00	343.03	283.94	59.09	20.8%
HGR-5	S-1	1.0'-2.5'	Y	0.00	348.26	294.20	54.06	18.4%
HGR-5	S-7	23.5'-25.0'	Z	0.00	335.23	279.69	55.54	19.9%
FCH-3	S-1	1.0'-2.5'	Q	0.00	341.44	295.94	45.50	15.4%
AP-2	S-1	1.0'-2.5'	C	0.00	340.79	291.89	48.90	16.8%
AP-1	Bulk-1	0.5' - 2'	YYY	81.40	385.50	292.80	92.70	43.9%
AP-5	Bulk-2	0.5' - 2'	OOO	82.70	209.10	192.10	17.00	15.5%
FCH-2	Bulk-3	0.5' - 2'	F	82.90	170.70	156.30	14.40	19.6%

Notes / Deviations / References

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/4/2024
Date

Results shown in this report, relate only to the samples noted above.

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-1/S-2	Depth: 3.5'-5.0'
Sample Description: Tan Silty SAND (SM) Trace Clay			

Description of Sand & Gravel Particles:				Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable		<input type="checkbox"/>	

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time:	4.0 hrs
--	-------------------------	------------	---------

Tare No.	B	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	229.5
Total Sample Wet Wt. + Tare Wt.			341.4	Mass of Sample after Wash	229.5
Total Sample Dry Wt. + Tare Wt.			291.6	Mass passing #200	62.1
Total Sample Dry Weight			291.6	% Passing #200 (D1140)	21.3%

Sieve Size		Retained Weight	% Retained Between Sieves	Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual	% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%	0.0%	100.0%	
1"	25.00	0.0	0.0%	0.0%	100.0%	
3/4"	19.00	0.0	0.0%	0.0%	100.0%	
1/2"	12.50	0.0	0.0%	0.0%	100.0%	
3/8"	9.500	0.0	0.0%	0.0%	100.0%	
#4	4.75	4.7	1.6%	1.6%	98.4%	
#10	2.000	16.9	4.2%	5.8%	94.2%	
#20	0.850	37.9	7.2%	13.0%	87.0%	
#40	0.425	93.7	19.1%	32.1%	67.9%	
#60	0.250	158.5	22.2%	54.4%	45.6%	
#100	0.150	193.9	12.1%	66.5%	33.5%	
#140	0.104	209.8	5.5%	71.9%	28.1%	
#200	0.075	224.6	5.1%	77.0%	23.0%	
Pan	<0.075	229.4		% Passing #200 (D422) =		23.0%
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)	26.3%
Gravel	< 75 mm and > 4.75 mm (#4)		1.6%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)	44.9%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		4.2%	% Silt & Clay	< 0.075 mm	23.0%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-1/S-2

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS

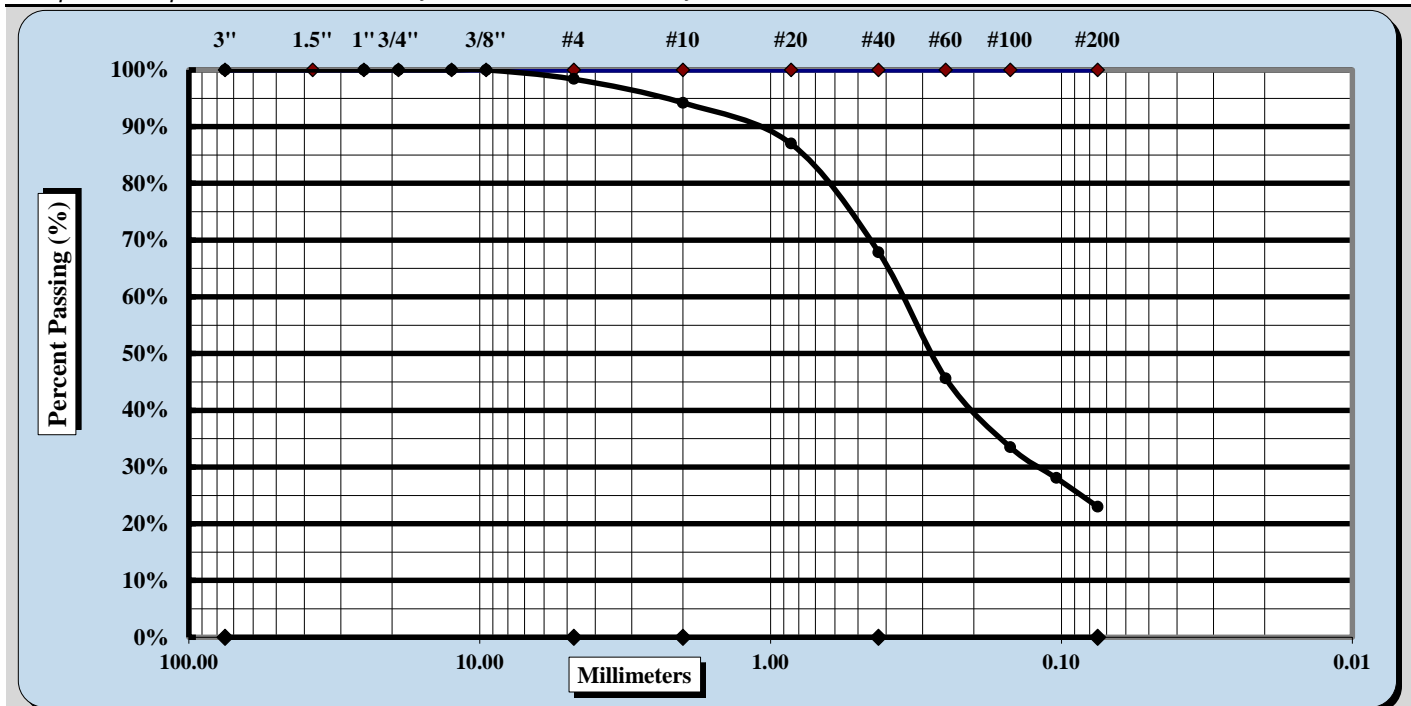


ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-1/S-2
		Depth:	3.5'-5.0'

Sample Description: Tan Silty SAND (SM) Trace Clay



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	4.2%	Fine Sand	44.9%
Gravel	1.6%	Medium Sand	26.3%	Silt & Clay	23.0%
Liquid Limit	NP	Plastic Limit	NP	Plastic Index	NP
Assumed SG	2.650	Cc =	N/A	Cu =	N/A
				Moisture Content	17.1%
Coarse Sand	4.2%	Medium Sand	26.3%	Fine Sand	44.9%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-1/S-2

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

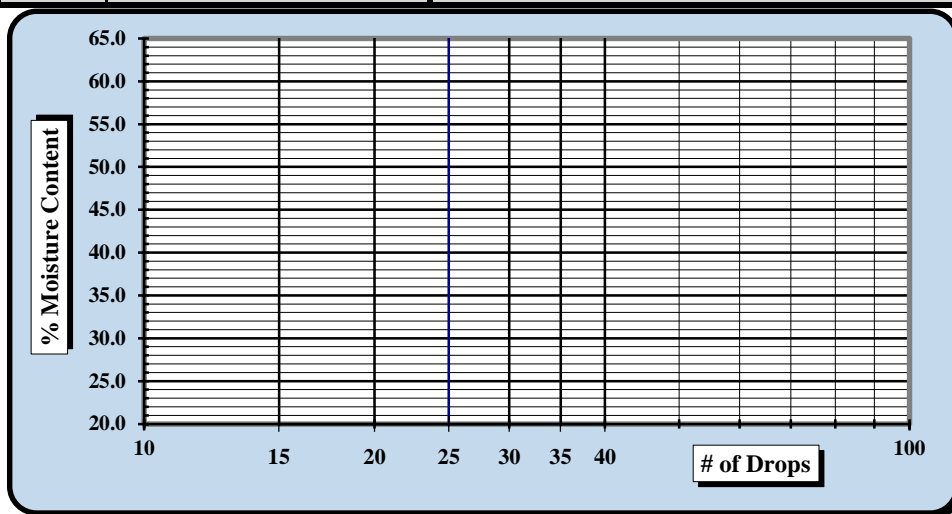
S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405
Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-1/S-2 Depth(ft): 3.5'-5.0'

Sample Description: Tan Silty SAND (SM) Trace Clay

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit					Plastic Limit		
Tare #:		1	2	3			4	5	
A	Tare Weight								
B	Wet Soil Weight + A								
C	Dry Soil Weight + A								
D	Water Weight (B-C)								
E	Dry Soil Weight (C-A)								
F	% Moisture (D/E)*100								
N	# OF DROPS						Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR								
Ave.	Average								



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒

Liquid Limit

Plastic Limit

Plastic Index

Group Symbol

Multipoint Method ☒

One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 32%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

No LL or PL could be determined, therefore classified as NP

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		

Sample Id.	91	Type: Site Material	Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-2/S-5	Depth:	13.5'-15.0'

Sample Description: Dark Gray Poorly Graded SAND with Silt (SP-SM) Trace Organics

Description of Sand & Gravel Particles:		Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable	<input type="checkbox"/>

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time:	4.0 hrs
--	-------------------------	------------	---------

Tare No.	I	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	214.8
Total Sample Wet Wt. + Tare Wt.			347.5	Mass of Sample after Wash	214.8
Total Sample Dry Wt. + Tare Wt.			236.2	Mass passing #200	21.4
Total Sample Dry Weight			236.2	% Passing #200 (D1140)	9.1%

Sieve Size		Retained Weight	% Retained Between Sieves		Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual		% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%		0.0%	100.0%	
1"	25.00	0.0	0.0%		0.0%	100.0%	
3/4"	19.00	0.0	0.0%		0.0%	100.0%	
1/2"	12.50	0.0	0.0%		0.0%	100.0%	
3/8"	9.500	0.0	0.0%		0.0%	100.0%	
#4	4.75	0.6	0.3%		0.3%	99.7%	
#10	2.000	1.2	0.3%		0.5%	99.5%	
#20	0.850	5.1	1.7%		2.2%	97.8%	
#40	0.425	22.0	7.2%		9.3%	90.7%	
#60	0.250	77.4	23.5%		32.8%	67.2%	
#100	0.150	158.9	34.5%		67.3%	32.7%	
#140	0.104	195.4	15.5%		82.7%	17.3%	
#200	0.075	211.8	6.9%		89.7%	10.3%	
Pan	<0.075	214.9			% Passing #200 (D422) = 10.3%		
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)		8.8%
Gravel	< 75 mm and > 4.75 mm (#4)		0.3%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)		80.4%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		0.3%	% Silt & Clay	< 0.075 mm		10.3%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-2/S-5

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS

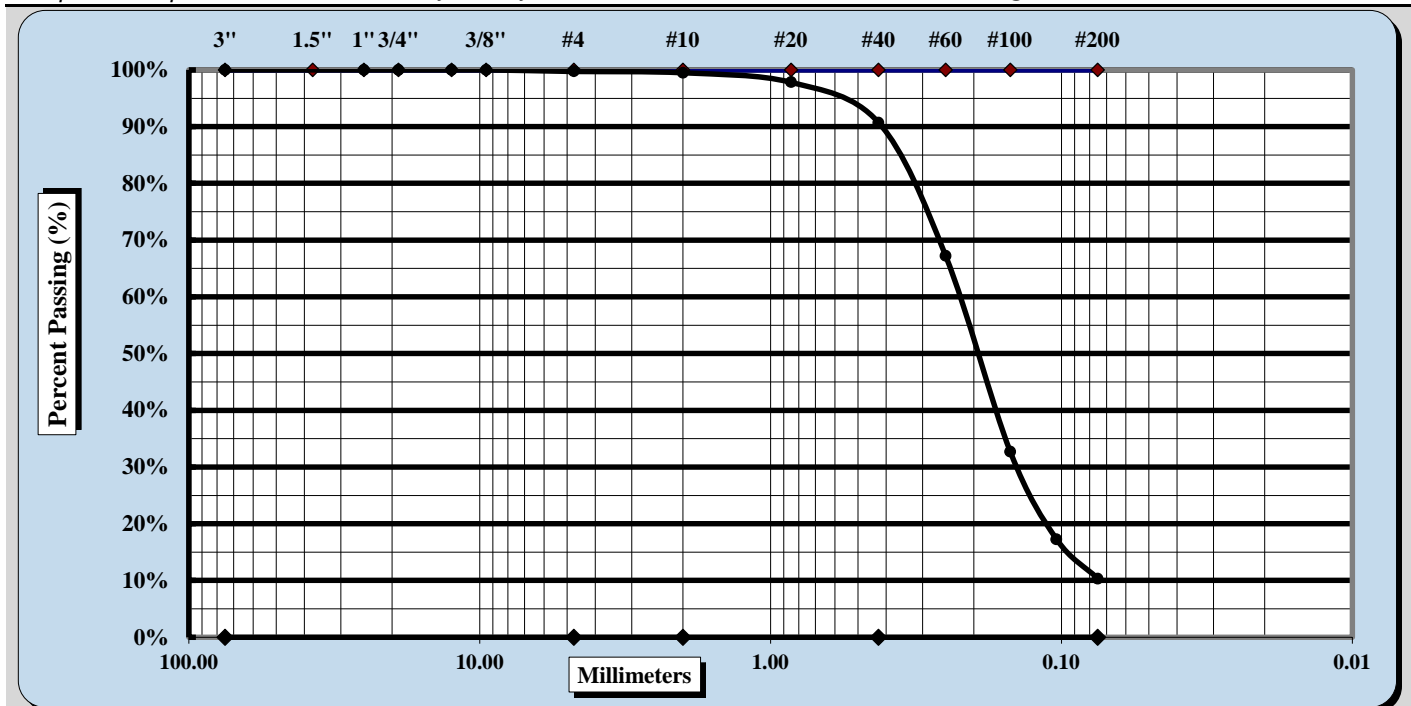


ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-2/S-5
		Depth:	13.5'-15.0'

Sample Description: Dark Gray Poorly Graded SAND with Silt (SP-SM) Trace Organics



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	0.3%	Fine Sand	80.4%
Gravel	0.3%	Medium Sand	8.8%	Silt & Clay	10.3%
Liquid Limit	NP	Plastic Limit	NP	Plastic Index	NP
Assumed SG	2.650	Cc =	N/A	Cu =	N/A
				Moisture Content	47.1%
Coarse Sand	0.3%	Medium Sand	8.8%	Fine Sand	80.4%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-2/S-5

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

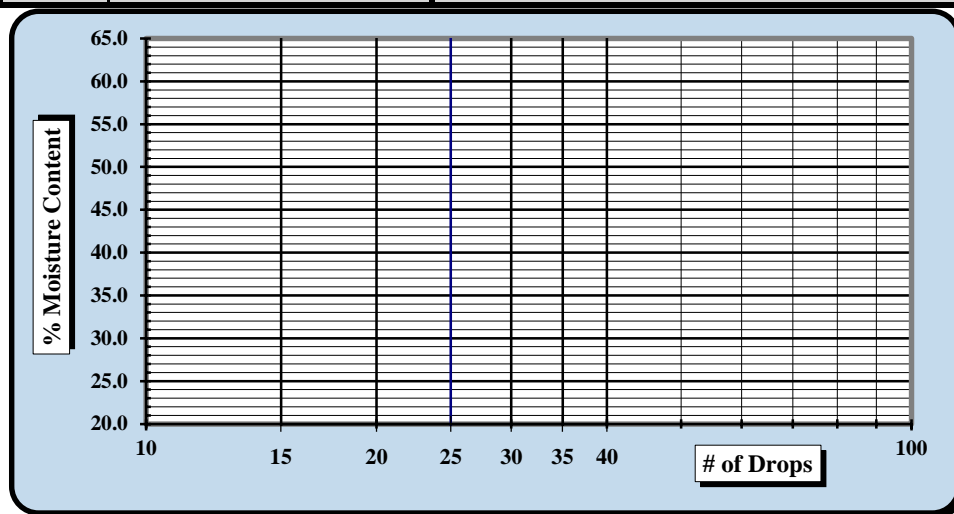
Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405

Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-2/S-5 Depth(ft): 13.5'-15.0'

Sample Description: Dark Gray Poorly Graded SAND with Silt (SP-SM) Trace Organics

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit					Plastic Limit		
Tare #:		1	2	3			4	5	
A	Tare Weight								
B	Wet Soil Weight + A								
C	Dry Soil Weight + A								
D	Water Weight (B-C)								
E	Dry Soil Weight (C-A)								
F	% Moisture (D/E)*100								
N	# OF DROPS						Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR								
Ave.	Average								



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒
Liquid Limit
Plastic Limit
Plastic Index
Group Symbol

Multipoint Method ☒
One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 9%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE *No LL or PL could be determined, therefore classified as NP*

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-3/S-3	Depth: 6.0'-7.5'
Sample Description: Tan Poorly Graded SAND (SP)			

Description of Sand & Gravel Particles:				Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable		<input type="checkbox"/>	

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time: 4.0 hrs
--	-------------------------	--------------------

Tare No.	G	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	273.4
Total Sample Wet Wt. + Tare Wt.			337.8	Mass of Sample after Wash	273.4
Total Sample Dry Wt. + Tare Wt.			277.3	Mass passing #200	3.9
Total Sample Dry Weight			277.3	% Passing #200 (D1140)	1.4%

Sieve Size		Retained Weight	% Retained Between Sieves		Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual		% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%		0.0%	100.0%	
1"	25.00	0.0	0.0%		0.0%	100.0%	
3/4"	19.00	0.0	0.0%		0.0%	100.0%	
1/2"	12.50	0.0	0.0%		0.0%	100.0%	
3/8"	9.500	0.0	0.0%		0.0%	100.0%	
#4	4.75	0.0	0.0%		0.0%	100.0%	
#10	2.000	3.0	1.1%		1.1%	98.9%	
#20	0.850	66.6	22.9%		24.0%	76.0%	
#40	0.425	200.7	48.4%		72.4%	27.6%	
#60	0.250	252.2	18.6%		90.9%	9.1%	
#100	0.150	269.7	6.3%		97.3%	2.7%	
#140	0.104	272.2	0.9%		98.2%	1.8%	
#200	0.075	273.0	0.3%		98.4%	1.6%	
Pan	<0.075	273.1			% Passing #200 (D422) = 1.6%		
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)		71.3%
Gravel	< 75 mm and > 4.75 mm (#4)		0.0%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)		26.1%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		1.1%	% Silt & Clay	< 0.075 mm		1.6%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-3

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

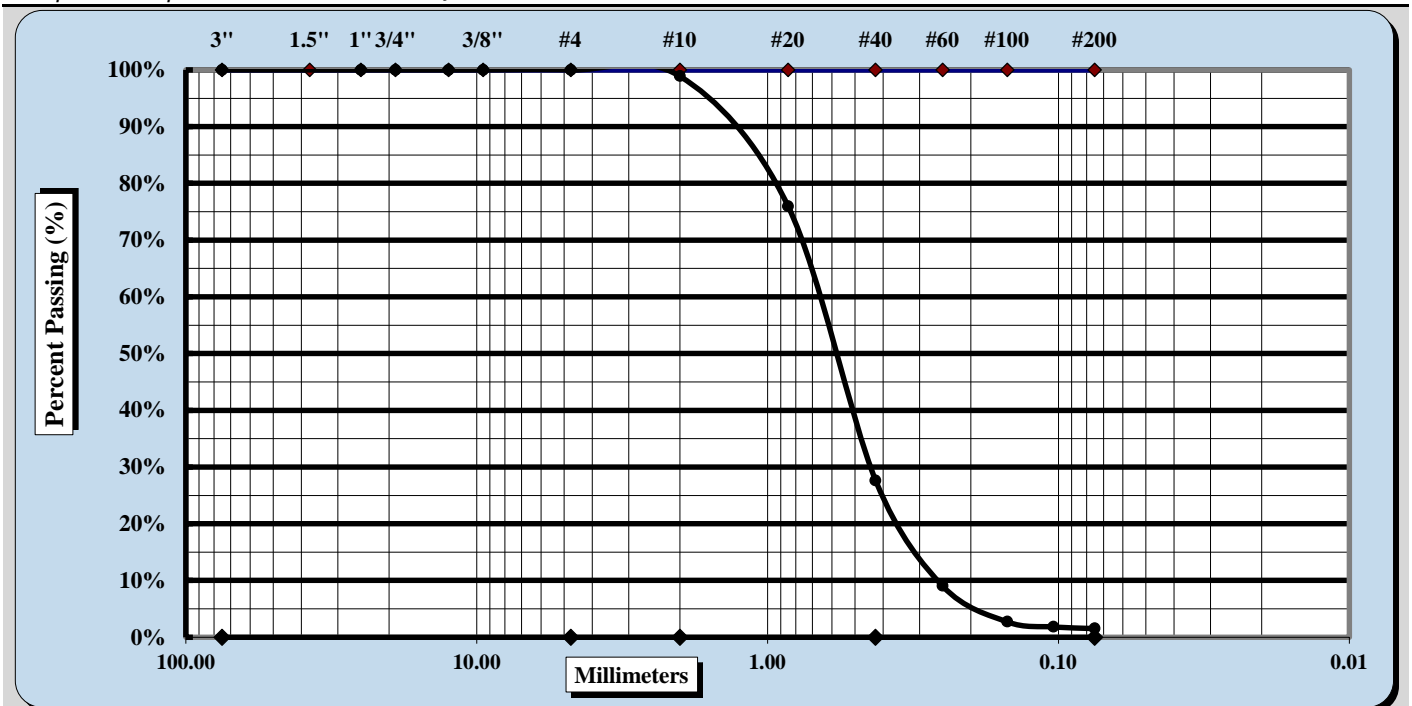
This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24		
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24		
Client Name:	Talbert & Bright, Inc.				
Client Address:	4810 Shelley Dr., Wilmington, NC 28405				
Sample Id.	91	Type:	Site Material	Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-3/S-3	Depth:	6.0'-7.5'
Sample Description:		Tan Poorly Graded SAND (SP)			



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"		Coarse Sand	1.1%		Fine Sand	26.1%
Gravel	0.0%		Medium Sand	71.3%		Silt & Clay	1.6%
Liquid Limit	NP		Plastic Limit	NP		Plastic Index	NP
Assumed SG	2.650	Cc =	0.983	Cu =	2.654	Moisture Content	21.9%
Coarse Sand	1.1%		Medium Sand	71.3%		Fine Sand	26.1%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-3

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date _____

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

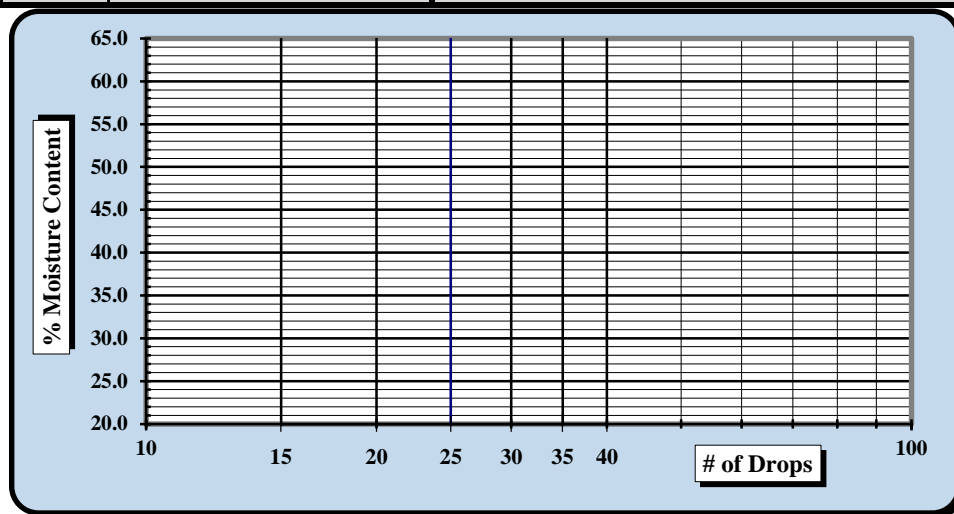
S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405
Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-3/S-3 Depth(ft): 6.0'-7.5'

Sample Description: Tan Poorly Graded SAND (SP)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit					Plastic Limit		
Tare #:		1	2	3			4	5	
A	Tare Weight								
B	Wet Soil Weight + A								
C	Dry Soil Weight + A								
D	Water Weight (B-C)								
E	Dry Soil Weight (C-A)								
F	% Moisture (D/E)*100								
N	# OF DROPS						Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR								
Ave.	Average								



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒

Liquid Limit

Plastic Limit

Plastic Index

Group Symbol

Multipoint Method ☒

One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 72%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

No LL or PL could be determined, therefore classified as NP

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-3/S-6	Depth: 18.5'-20.0'
Sample Description: Gray Poorly Graded SAND (SP)			

Description of Sand & Gravel Particles:		Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable	<input type="checkbox"/>

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time:	4.0 hrs
--	-------------------------	------------	---------

Tare No.	F	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	281.7
Total Sample Wet Wt. + Tare Wt.			346.9	Mass of Sample after Wash	281.7
Total Sample Dry Wt. + Tare Wt.			290.2	Mass passing #200	8.5
Total Sample Dry Weight			290.2	% Passing #200 (D1140)	2.9%

Sieve Size		Retained Weight	% Retained Between Sieves		Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual		% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%		0.0%	100.0%	
1"	25.00	0.0	0.0%		0.0%	100.0%	
3/4"	19.00	0.0	0.0%		0.0%	100.0%	
1/2"	12.50	0.0	0.0%		0.0%	100.0%	
3/8"	9.500	0.0	0.0%		0.0%	100.0%	
#4	4.75	0.2	0.1%		0.1%	99.9%	
#10	2.000	13.4	4.5%		4.6%	95.4%	
#20	0.850	100.4	30.0%		34.6%	65.4%	
#40	0.425	215.9	39.8%		74.4%	25.6%	
#60	0.250	258.6	14.7%		89.1%	10.9%	
#100	0.150	272.4	4.8%		93.9%	6.1%	
#140	0.104	277.8	1.9%		95.7%	4.3%	
#200	0.075	281.0	1.1%		96.8%	3.2%	
Pan	<0.075	281.6			% Passing #200 (D422) = 3.2%		
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)		69.8%
Gravel	< 75 mm and > 4.75 mm (#4)		0.1%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)		22.4%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		4.5%	% Silt & Clay	< 0.075 mm		3.2%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-6

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
------------	----------	--------------	--------

Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
---------------	--	---------------	------------

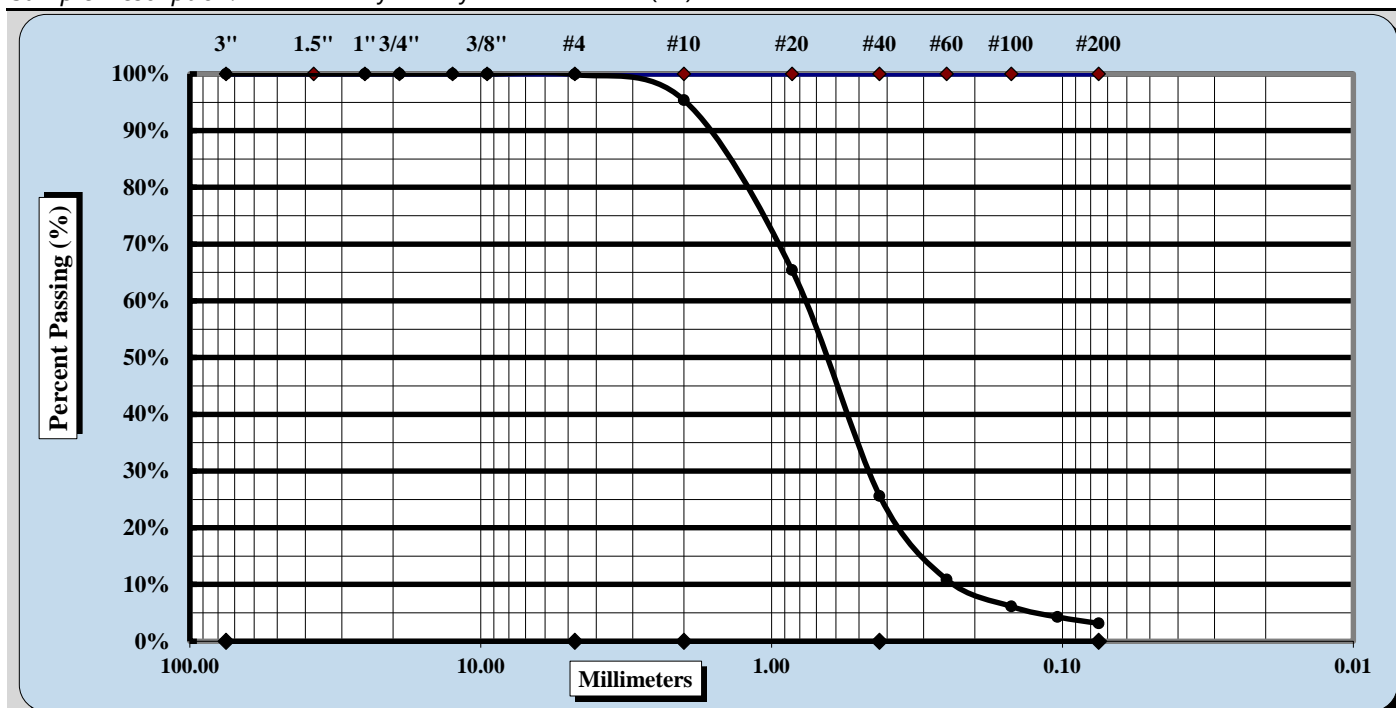
Client Name: Talbert & Bright, Inc.

Client Address: 4810 Shelley Dr., Wilmington, NC 28405

Sample Id.	91	Type:	Site Material	Sample Date:	7/23/24
------------	----	-------	---------------	--------------	---------

Location:	Roadway & Hangars	Source Loc.:	HGR-3/S-6	Depth:	18.5'-20.0'
-----------	-------------------	--------------	-----------	--------	-------------

Sample Description: Gray Poorly Graded SAND (SP)



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"		Coarse Sand	4.5%		Fine Sand	22.4%
Gravel	0.1%		Medium Sand	69.8%		Silt & Clay	3.2%
Liquid Limit	NP		Plastic Limit	NP		Plastic Index	NP
Assumed SG	2.650	Cc =	1.216	Cu =	3.160	Moisture Content	21.9%
Coarse Sand	4.5%		Medium Sand	69.8%		Fine Sand	19.5%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-6

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date _____

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

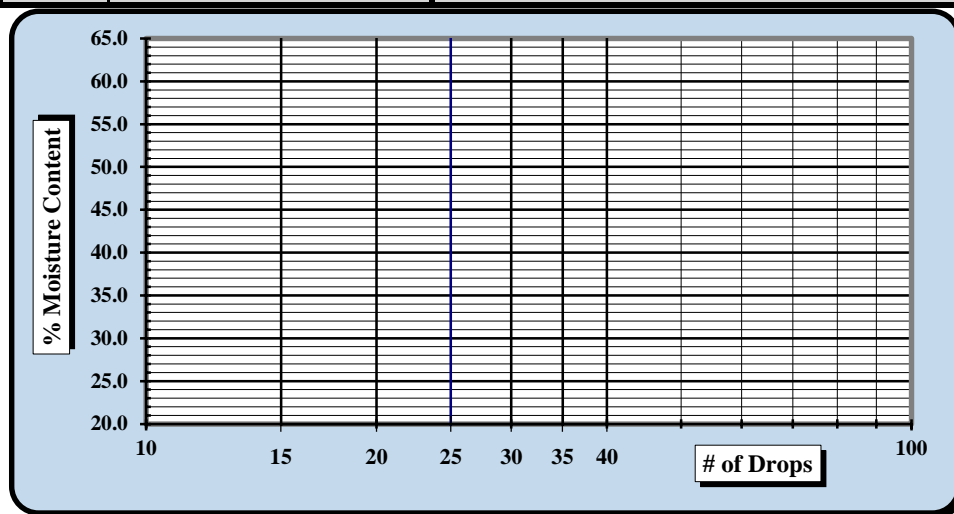
S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405
Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-3/S-6 Depth(ft): 18.5'-20.0'

Sample Description: Gray Poorly Graded SAND (SP)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit						Plastic Limit		
Tare #:		1	2	3				4	5	
A	Tare Weight									
B	Wet Soil Weight + A									
C	Dry Soil Weight + A									
D	Water Weight (B-C)									
E	Dry Soil Weight (C-A)									
F	% Moisture (D/E)*100									
N	# OF DROPS							Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average									



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒

Liquid Limit

Plastic Limit

Plastic Index

Group Symbol

Multipoint Method ☒

One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 74%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

No LL or PL could be determined, therefore classified as NP

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-3/S-7	Depth: 23.5'-25.0'
Sample Description: Gray Sandy Lean CLAY (CL)			

Description of Sand & Gravel Particles:				Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable		<input type="checkbox"/>	

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time: 4.0 hrs
--	-------------------------	--------------------

Tare No.	#	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	99.6
Total Sample Wet Wt. + Tare Wt.			343.0	Mass of Sample after Wash	99.6
Total Sample Dry Wt. + Tare Wt.			283.9	Mass passing #200	184.3
Total Sample Dry Weight			283.9	% Passing #200 (D1140)	64.9%

Sieve Size		Retained Weight	% Retained Between Sieves	Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual	% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%	0.0%	100.0%	
1"	25.00	0.0	0.0%	0.0%	100.0%	
3/4"	19.00	0.0	0.0%	0.0%	100.0%	
1/2"	12.50	0.0	0.0%	0.0%	100.0%	
3/8"	9.500	0.0	0.0%	0.0%	100.0%	
#4	4.75	0.0	0.0%	0.0%	100.0%	
#10	2.000	0.6	0.2%	0.2%	99.8%	
#20	0.850	13.0	4.4%	4.6%	95.4%	
#40	0.425	39.9	9.5%	14.1%	85.9%	
#60	0.250	62.1	7.8%	21.9%	78.1%	
#100	0.150	77.7	5.5%	27.4%	72.6%	
#140	0.104	87.3	3.4%	30.8%	69.2%	
#200	0.075	97.9	3.7%	34.5%	65.5%	
Pan	<0.075	99.7		% Passing #200 (D422) =		65.5%
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)	13.8%
Gravel	< 75 mm and > 4.75 mm (#4)		0.0%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)	20.4%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		0.2%	% Silt & Clay	< 0.075 mm	65.5%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-7

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

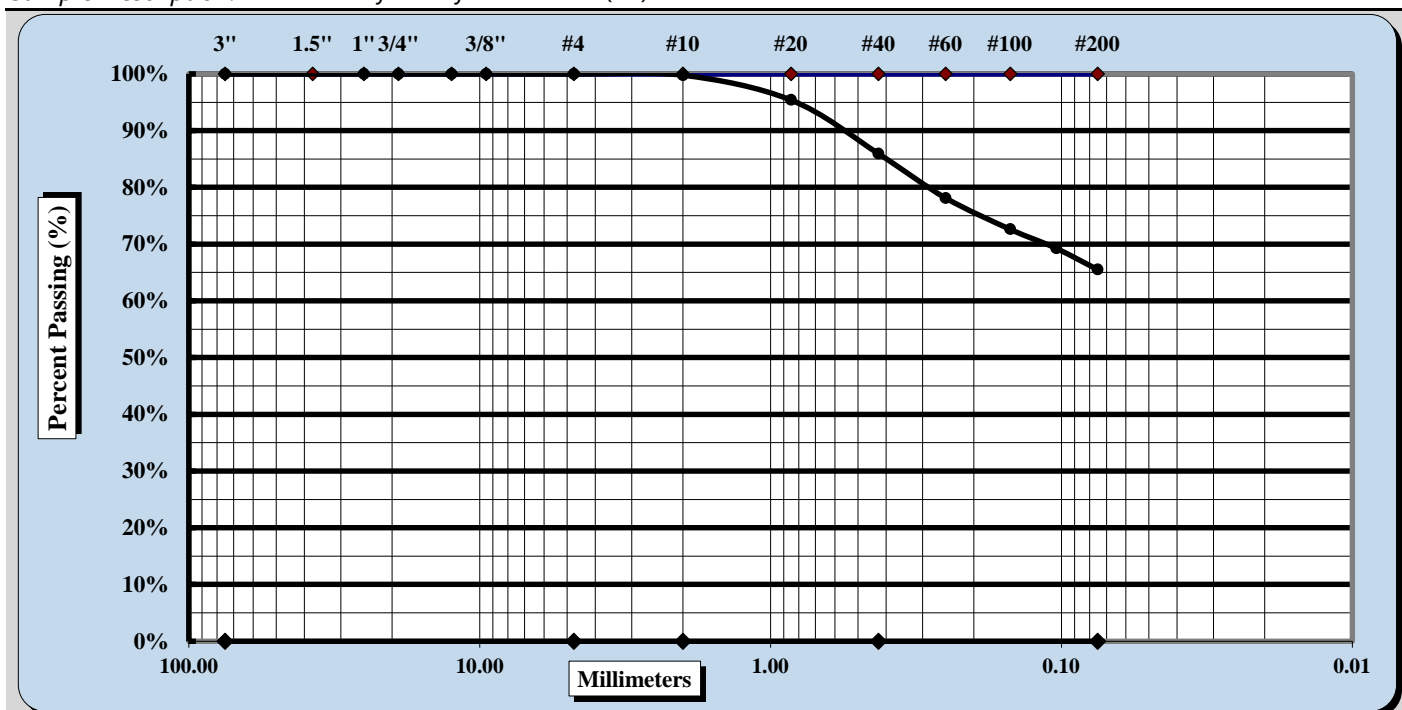
SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-3/S-7
		Depth:	23.5'-25.0'
Sample Description: Gray Sandy Lean CLAY (CL)			



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	0.2%	Fine Sand	20.4%
Gravel	0.0%	Medium Sand	13.8%	Silt & Clay	65.5%
Liquid Limit	44	Plastic Limit	15	Plastic Index	29
Assumed SG	2.650	Cc =	N/A	Cu =	N/A
				Moisture Content	20.8%
Coarse Sand	0.2%	Medium Sand	13.8%	Fine Sand	19.5%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-7

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

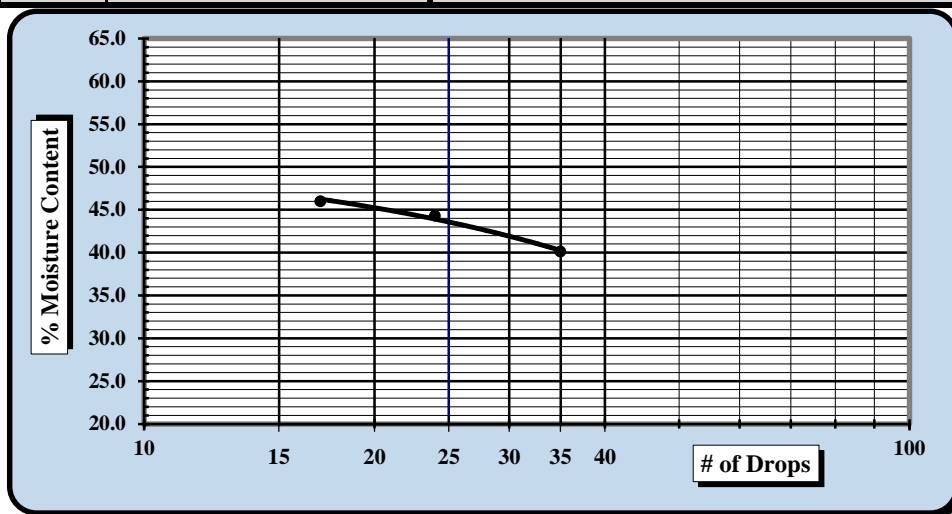
S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s)	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id:	91	Type: Site Material	Sample Date: 7/29/24
Location:	Roadway& Hangars	Source Loc.: HGR-3/S-7	Depth(ft): 23.5'-25.0'

Sample Description: Gray Sandy Lean CLAY (CL)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit						Plastic Limit	
Tare #:		1	2	3				4	5
A	Tare Weight	11.06	10.66	11.61				11.31	10.72
B	Wet Soil Weight + A	22.97	21.48	23.26				19.59	19.60
C	Dry Soil Weight + A	19.56	18.16	19.59				18.56	18.43
D	Water Weight (B-C)	3.41	3.32	3.67				1.03	1.17
E	Dry Soil Weight (C-A)	8.50	7.50	7.98				7.25	7.71
F	% Moisture (D/E)*100	40.1%	44.3%	46.0%				14.2%	15.2%
N	# OF DROPS	35	24	17				Moisture Contents determined by ASTM D 2216	
LL	LL = F * FACTOR								
Ave.	Average							14.7%	



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic	<input type="checkbox"/>
Liquid Limit	44
Plastic Limit	15
Plastic Index	29
Group Symbol	CL

Multipoint Method ☐
One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 14%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		

Sample Id.	91	Type: Site Material	Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-5/S-1	Depth:	1.0'-2.5'

Sample Description: Light Brown Sandy Lean CLAY (CL)

Description of Sand & Gravel Particles:		Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable	<input type="checkbox"/>

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time:	4.0 hrs
--	-------------------------	------------	---------

Tare No.	Y	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	135.5
Total Sample Wet Wt. + Tare Wt.			348.3	Mass of Sample after Wash	135.5
Total Sample Dry Wt. + Tare Wt.			294.2	Mass passing #200	158.7
Total Sample Dry Weight			294.2	% Passing #200 (D1140)	53.9%

Sieve Size		Retained Weight	% Retained Between Sieves	Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual	% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%	0.0%	100.0%	
1"	25.00	0.0	0.0%	0.0%	100.0%	
3/4"	19.00	0.0	0.0%	0.0%	100.0%	
1/2"	12.50	0.0	0.0%	0.0%	100.0%	
3/8"	9.500	0.0	0.0%	0.0%	100.0%	
#4	4.75	0.0	0.0%	0.0%	100.0%	
#10	2.000	0.3	0.1%	0.1%	99.9%	
#20	0.850	3.8	1.2%	1.3%	98.7%	
#40	0.425	28.0	8.2%	9.5%	90.5%	
#60	0.250	64.8	12.5%	22.0%	78.0%	
#100	0.150	94.1	10.0%	32.0%	68.0%	
#140	0.104	110.3	5.5%	37.5%	62.5%	
#200	0.075	128.6	6.2%	43.7%	56.3%	
Pan	<0.075	135.5		% Passing #200 (D422) =		56.3%
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)	9.4%
Gravel	< 75 mm and > 4.75 mm (#4)		0.0%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)	34.2%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		0.1%	% Silt & Clay	< 0.075 mm	56.3%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-5/S-1

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

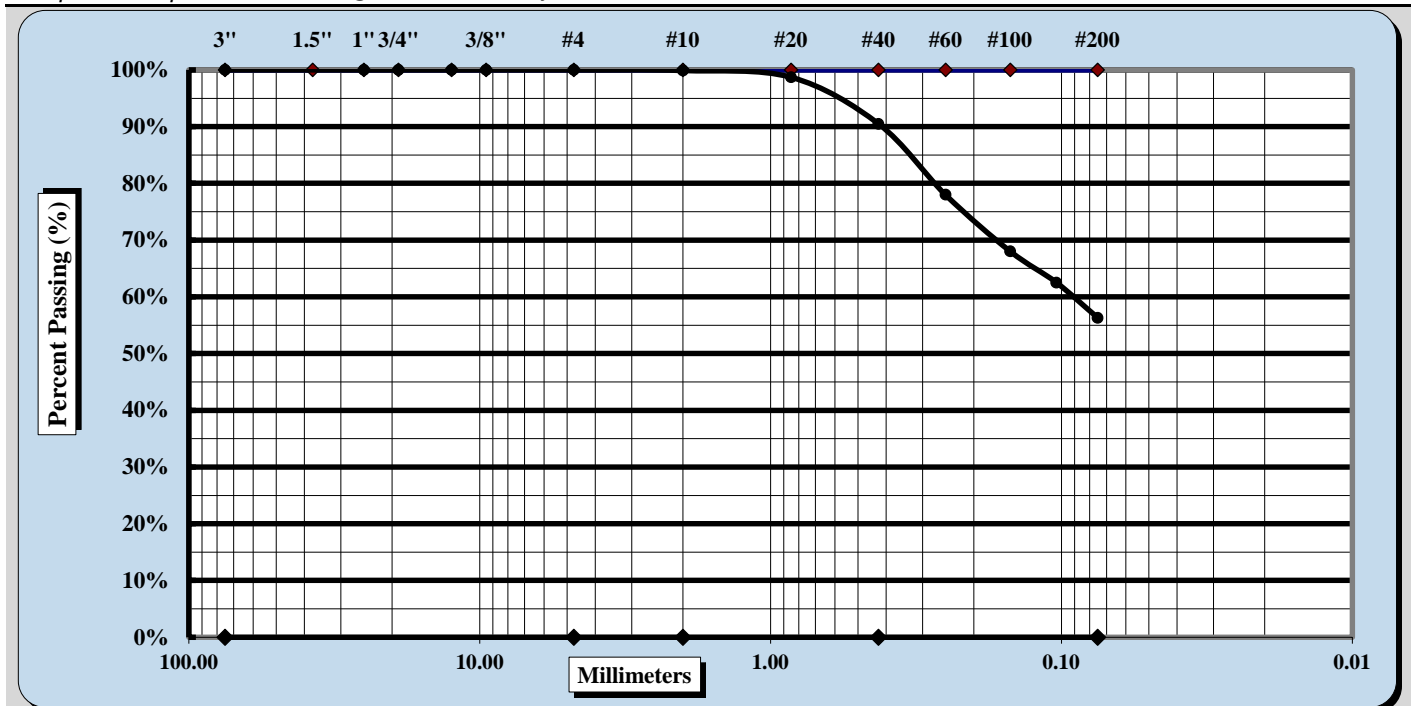
SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-5/S-1
		Depth:	1.0'-2.5'
Sample Description: Light Brown Sandy Lean CLAY (CL)			



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	0.1%	Fine Sand	34.2%
Gravel	0.0%	Medium Sand	9.4%	Silt & Clay	56.3%
Liquid Limit	34	Plastic Limit	18	Plastic Index	16
Assumed SG	2.650	Cc =	N/A	Cu =	N/A
				Moisture Content	18.4%
Coarse Sand	0.1%	Medium Sand	9.4%	Fine Sand	19.5%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-5/S-1

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

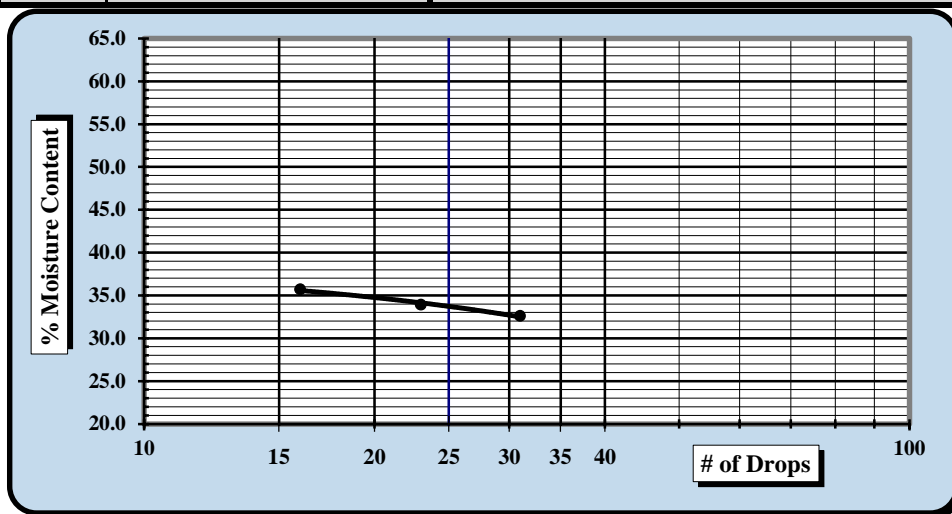
Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405

Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-5/S-1 Depth(ft): 1.0'-2.5'

Sample Description: Light Brown Sandy Lean CLAY (CL)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit						Plastic Limit		
Tare #:		6	7	8				9	10	
A	Tare Weight	11.26	11.70	10.93				11.96	11.73	
B	Wet Soil Weight + A	21.43	22.24	21.72				20.88	21.47	
C	Dry Soil Weight + A	18.93	19.57	18.88				19.54	20.02	
D	Water Weight (B-C)	2.50	2.67	2.84				1.34	1.45	
E	Dry Soil Weight (C-A)	7.67	7.87	7.95				7.58	8.29	
F	% Moisture (D/E)*100	32.6%	33.9%	35.7%				17.7%	17.5%	
N	# OF DROPS	31	23	16				Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average							17.6%		



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic	<input type="checkbox"/>
Liquid Limit	34
Plastic Limit	18
Plastic Index	16
Group Symbol	CL

Multipoint Method ☐
One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 10%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-5/S-7	Depth: 23.5'-25.0'
Sample Description: Light Gray Poorly Graded SAND (SP)			

Description of Sand & Gravel Particles:		Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable	<input type="checkbox"/>

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time:	4.0 hrs
--	-------------------------	------------	---------

Tare No.	Z	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	275.8
Total Sample Wet Wt. + Tare Wt.			335.2	Mass of Sample after Wash	275.8
Total Sample Dry Wt. + Tare Wt.			279.7	Mass passing #200	3.9
Total Sample Dry Weight			279.7	% Passing #200 (D1140)	1.4%

Sieve Size		Retained Weight	% Retained Between Sieves		Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual		% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%		0.0%	100.0%	
1"	25.00	0.0	0.0%		0.0%	100.0%	
3/4"	19.00	0.0	0.0%		0.0%	100.0%	
1/2"	12.50	0.0	0.0%		0.0%	100.0%	
3/8"	9.500	0.0	0.0%		0.0%	100.0%	
#4	4.75	4.9	1.8%		1.8%	98.2%	
#10	2.000	15.0	3.6%		5.4%	94.6%	
#20	0.850	71.6	20.2%		25.6%	74.4%	
#40	0.425	213.5	50.7%		76.3%	23.7%	
#60	0.250	260.9	16.9%		93.3%	6.7%	
#100	0.150	271.4	3.8%		97.0%	3.0%	
#140	0.104	274.0	0.9%		98.0%	2.0%	
#200	0.075	275.3	0.5%		98.4%	1.6%	
Pan	<0.075	275.4			% Passing #200 (D422) = 1.6%		
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)		71.0%
Gravel	< 75 mm and > 4.75 mm (#4)		1.8%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)		22.1%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		3.6%	% Silt & Clay	< 0.075 mm		1.6%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-5/S-7

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS

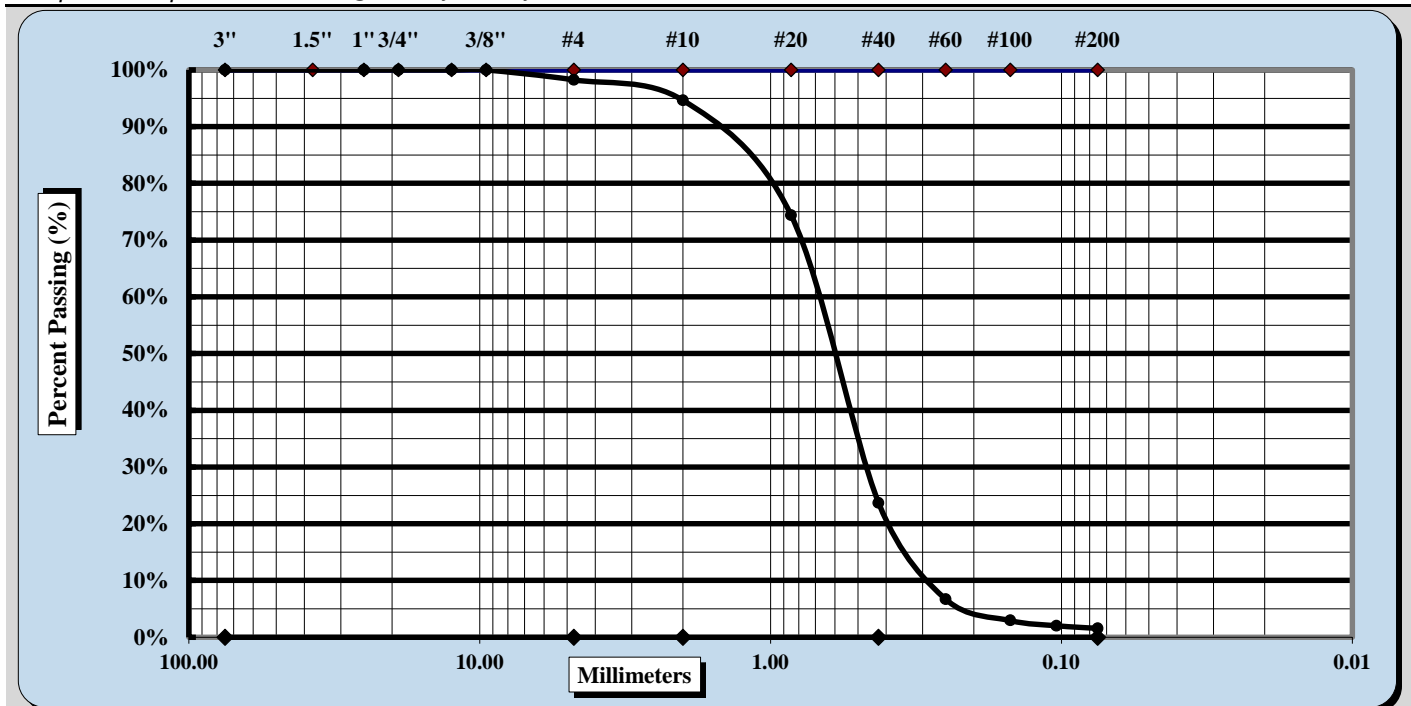


ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-5/S-7
		Depth:	23.5'-25.0'

Sample Description: Light Gray Poorly Graded SAND (SP)



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	3.6%	Fine Sand	22.1%
Gravel	1.8%	Medium Sand	71.0%	Silt & Clay	1.6%
Liquid Limit	NP	Plastic Limit	NP	Plastic Index	NP
Assumed SG	2.650	Cc =	1.200	Cu =	2.379
				Moisture Content	19.9%
Coarse Sand	3.6%	Medium Sand	71.0%	Fine Sand	19.5%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-5/S-7

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

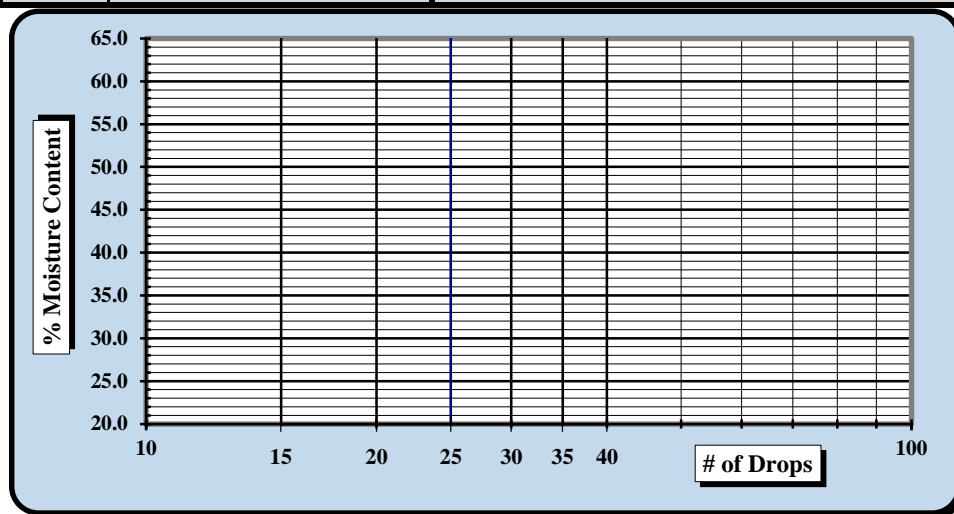
Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405

Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-5/S-7 Depth(ft): 23.5'-25.0'

Sample Description: Light Gray Poorly Graded SAND (SP)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit					Plastic Limit		
Tare #:		11	12	13			14	15	
A	Tare Weight								
B	Wet Soil Weight + A								
C	Dry Soil Weight + A								
D	Water Weight (B-C)								
E	Dry Soil Weight (C-A)								
F	% Moisture (D/E)*100								
N	# OF DROPS						Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR								
Ave.	Average								



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒
Liquid Limit
Plastic Limit
Plastic Index
Group Symbol

Multipoint Method ☒
One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 76%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE *No LL or PL could be determined, therefore classified as NP*

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: FCH-3/S-1	Depth: 1.0'-2.5'
Sample Description: Gray Sandy Lean CLAY (CL)			

Description of Sand & Gravel Particles:		Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable	<input type="checkbox"/>

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time: 4.0 hrs
--	-------------------------	--------------------

Tare No.	Q	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	105.9
Total Sample Wet Wt. + Tare Wt.			341.4	Mass of Sample after Wash	105.9
Total Sample Dry Wt. + Tare Wt.			295.9	Mass passing #200	190.0
Total Sample Dry Weight			295.9	% Passing #200 (D1140)	64.2%

Sieve Size		Retained Weight	% Retained Between Sieves	Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual	% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%	0.0%	100.0%	
1"	25.00	0.0	0.0%	0.0%	100.0%	
3/4"	19.00	0.0	0.0%	0.0%	100.0%	
1/2"	12.50	0.0	0.0%	0.0%	100.0%	
3/8"	9.500	0.0	0.0%	0.0%	100.0%	
#4	4.75	0.0	0.0%	0.0%	100.0%	
#10	2.000	1.1	0.4%	0.4%	99.6%	
#20	0.850	13.7	4.3%	4.6%	95.4%	
#40	0.425	45.5	10.7%	15.4%	84.6%	
#60	0.250	71.0	8.6%	24.0%	76.0%	
#100	0.150	86.4	5.2%	29.2%	70.8%	
#140	0.104	94.3	2.7%	31.9%	68.1%	
#200	0.075	103.4	3.1%	34.9%	65.1%	
Pan	<0.075	106.0	% Passing #200 (D422) =		65.1%	
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)	15.0%
Gravel	< 75 mm and > 4.75 mm (#4)		0.0%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)	19.6%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		0.4%	% Silt & Clay	< 0.075 mm	65.1%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample FCH-3/S-1

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

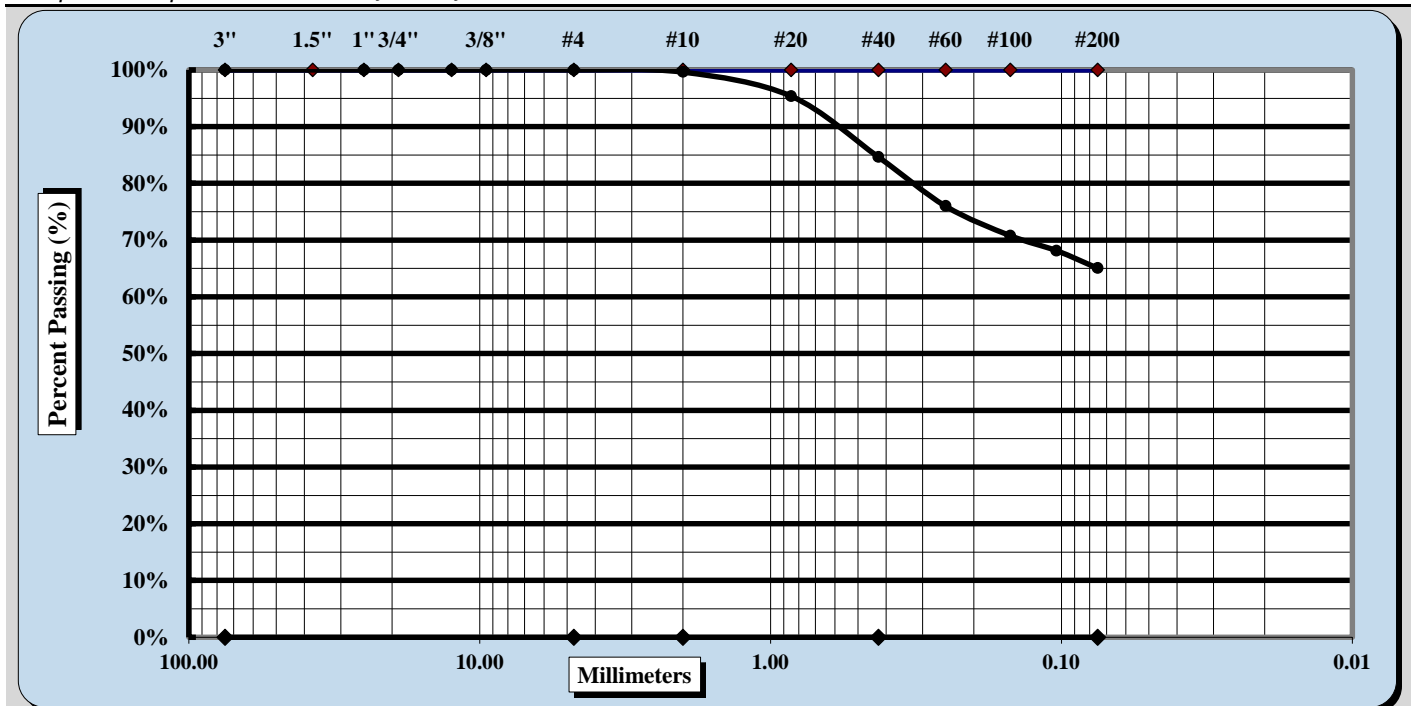
SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	FCH-3/S-1
		Depth:	1.0'-2.5'
Sample Description: Gray Sandy Lean CLAY (CL)			



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	0.4%	Fine Sand	19.6%
Gravel	0.0%	Medium Sand	15.0%	Silt & Clay	65.1%
Liquid Limit	36	Plastic Limit	17	Plastic Index	19
Assumed SG	2.650	Cc =	N/A	Cu =	N/A
				Moisture Content	15.4%
Coarse Sand	0.4%	Medium Sand	15.0%	Fine Sand	19.5%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample FCH-3/S-1

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

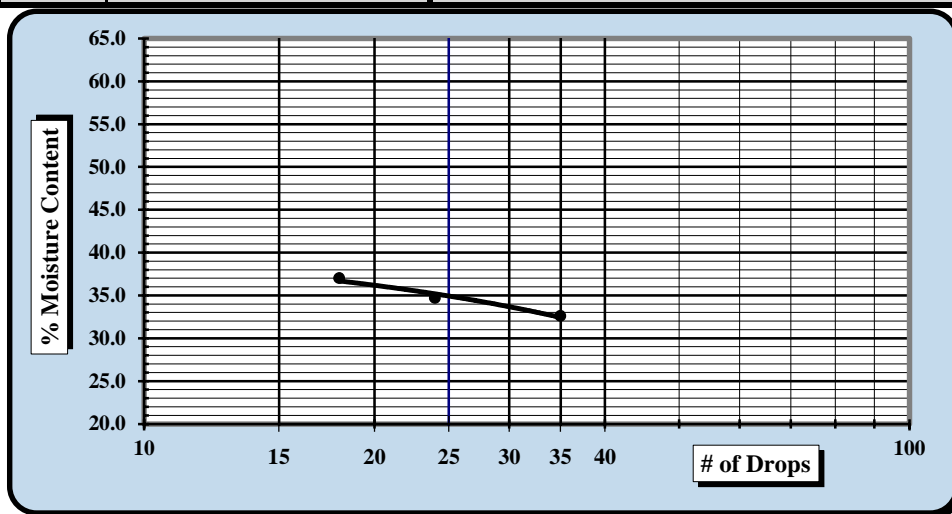
S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s)	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id:	91	Type: Site Material	Sample Date: 7/29/24
Location:	Roadway& Hangars	Source Loc.: FCH-3/S-1	Depth(ft): 1.0'-2.5'

Sample Description: Gray Sandy Lean CLAY (CL)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit						Plastic Limit		
Tare #:		11	12	13				14	15	
A	Tare Weight	11.04	10.76	12.04				11.80	11.82	
B	Wet Soil Weight + A	22.27	21.40	23.19				21.21	21.36	
C	Dry Soil Weight + A	19.51	18.66	20.18				19.86	19.97	
D	Water Weight (B-C)	2.76	2.74	3.01				1.35	1.39	
E	Dry Soil Weight (C-A)	8.47	7.90	8.14				8.06	8.15	
F	% Moisture (D/E)*100	32.6%	34.7%	37.0%				16.7%	17.1%	
N	# OF DROPS	35	24	18				Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average							16.9%		



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic	<input type="checkbox"/>
Liquid Limit	36
Plastic Limit	17
Plastic Index	19
Group Symbol	CL

Multipoint Method ☐
One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 15%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: AP-2/S-1	Depth: 1.0'-2.5'
Sample Description: Gray-Brown Sandy SILT (ML)			

Description of Sand & Gravel Particles:				Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable		<input type="checkbox"/>	

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time: 4.0 hrs
--	-------------------------	--------------------

Tare No.	C	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	121.2
Total Sample Wet Wt. + Tare Wt.			340.8	Mass of Sample after Wash	121.2
Total Sample Dry Wt. + Tare Wt.			291.9	Mass passing #200	170.7
Total Sample Dry Weight			291.9	% Passing #200 (D1140)	58.5%

Sieve Size		Retained Weight	% Retained Between Sieves	Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual	% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%	0.0%	100.0%	
1"	25.00	0.0	0.0%	0.0%	100.0%	
3/4"	19.00	0.0	0.0%	0.0%	100.0%	
1/2"	12.50	0.0	0.0%	0.0%	100.0%	
3/8"	9.500	0.0	0.0%	0.0%	100.0%	
#4	4.75	0.0	0.0%	0.0%	100.0%	
#10	2.000	1.0	0.3%	0.3%	99.7%	
#20	0.850	9.7	3.0%	3.3%	96.7%	
#40	0.425	34.6	8.5%	11.9%	88.1%	
#60	0.250	60.0	8.7%	20.6%	79.4%	
#100	0.150	78.9	6.5%	27.0%	73.0%	
#140	0.104	90.7	4.0%	31.1%	68.9%	
#200	0.075	109.3	6.4%	37.4%	62.6%	
Pan	<0.075	121.1	% Passing #200 (D422) =		62.6%	
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)	11.5%
Gravel	< 75 mm and > 4.75 mm (#4)		0.0%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)	25.6%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		0.3%	% Silt & Clay	< 0.075 mm	62.6%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample AP-2/S-1

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS

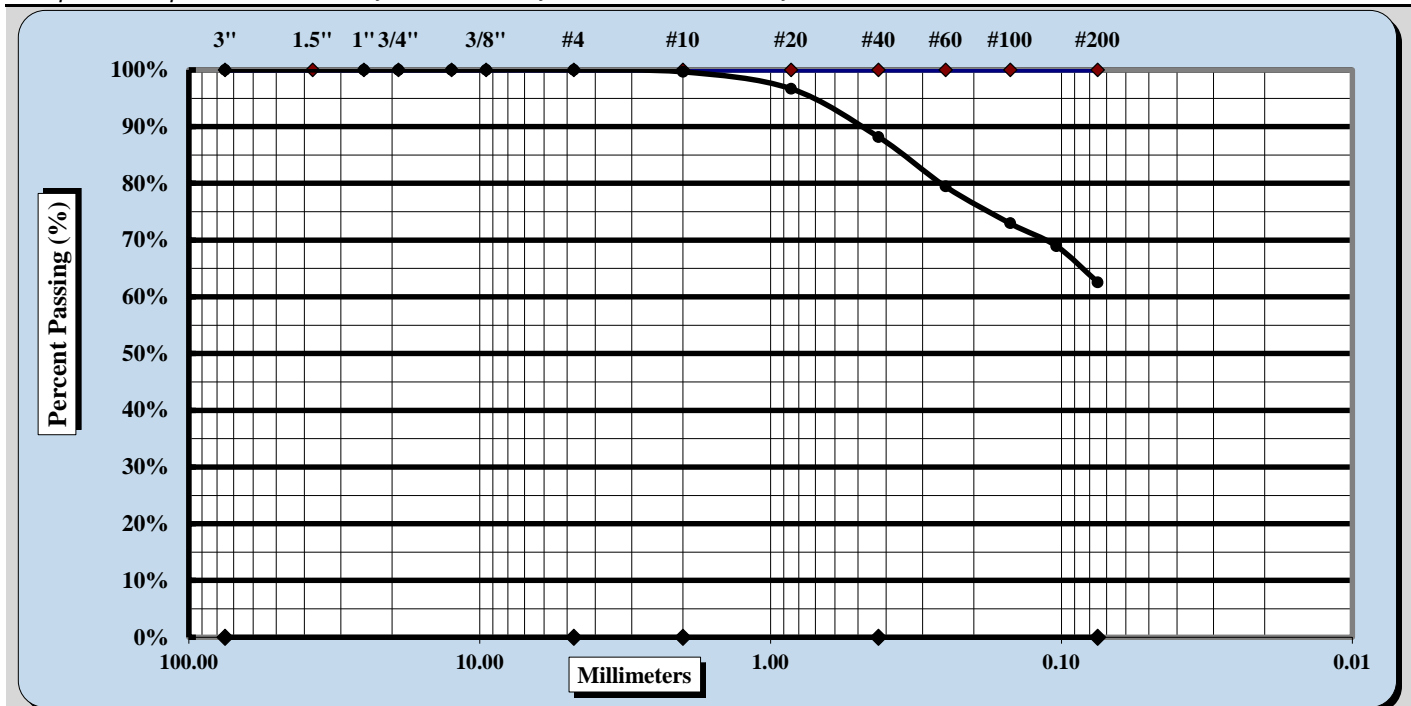


ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	AP-2/S-1
		Depth:	1.0'-2.5'

Sample Description: Gray-Brown Sandy SILT (SM) Trace Clay



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	0.3%	Fine Sand	25.6%
Gravel	0.0%	Medium Sand	11.5%	Silt & Clay	62.6%
Liquid Limit	NP	Plastic Limit	NP	Plastic Index	NP
Assumed SG	2.650	Cc =	N/A	Cu =	N/A
Coarse Sand	0.3%	Medium Sand	11.5%	Fine Sand	19.5%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample AP-2/S-1

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

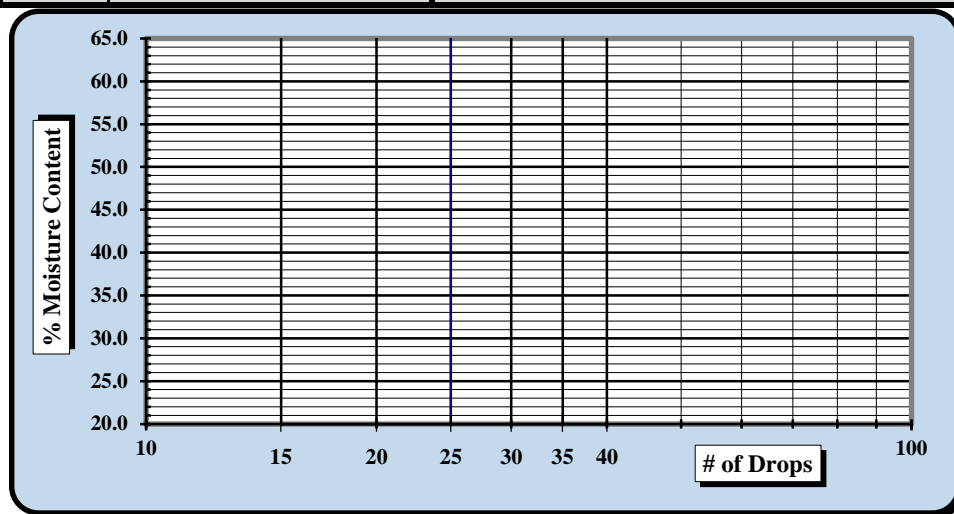
S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405
Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: AP-2/S-1 Depth(ft): 1.0'-2.5'

Sample Description: Gray-Brown Sandy SILT (SM) Trace Clay

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit					Plastic Limit		
Tare #:		16	17	18			19	20	
A	Tare Weight								
B	Wet Soil Weight + A								
C	Dry Soil Weight + A								
D	Water Weight (B-C)								
E	Dry Soil Weight (C-A)								
F	% Moisture (D/E)*100								
N	# OF DROPS						Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR								
Ave.	Average								



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒

Liquid Limit

Plastic Limit

Plastic Index

Group Symbol

Multipoint Method ☒

One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 12%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

No LL or PL could be determined, therefore classified as NP

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SOIL SIEVE ANALYSIS USING SINGLE SIEVE-SET SIEVING



Single Portion

ASTM D6913

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project No:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Lab #:	988
Client Name:	Talbert & Bright	Test Date:	8/5/2024
Client Address:	4810 Shelley DR; Wilmington, NC 28405	Date Sampled:	7/29/2024
Boring #:	AP-1	Sample#:	Bulk-1
Location:	Pavement Areas	Depth:	0.5'-2'

Sample Description: Tan and Brown Poorly Graded Sand with Silt (SP-SM)							
Estimate Max. Particle Size (99% Passing):			3/8"		Testing Dates: 8/5/24		
Method A (1%)		<input type="checkbox"/>	Method B (0.1%)		<input checked="" type="checkbox"/>	Material Excluded? None	
Procedure for obtaining Specimen:			Moist		<input checked="" type="checkbox"/>	Air-Dried <input type="checkbox"/>	
					<input type="checkbox"/>	Oven-Dried <input checked="" type="checkbox"/>	
Sampling Method		Stockpile:		<input checked="" type="checkbox"/>	Mechanically Split:		<input type="checkbox"/>
				<input type="checkbox"/>	Quartered:		<input checked="" type="checkbox"/>
Dispersion Process?		Soaked without Dispersant		<input type="checkbox"/>	Soaked with Dispersant		<input checked="" type="checkbox"/>
				<input type="checkbox"/>	Ultrasonic Bath		<input type="checkbox"/>
Estimated Wet Mass of specimen required:			200		Shaking Apparatus <input checked="" type="checkbox"/>		
Specimen:		Pan No.	YYY	B) Tare Wt.	81.4		
Method B of ASTM D1140 or D6913 Sec. 11.4.3							
A) Total Specimen Wet Wt. + Tare Wt. (g.)			385.5		Pan No.	YYY	Tare Wt.
							81.4
C) Total Specimen Dry Wt. + Tare Wt. (g.)			292.8		Dry Mass of Washed Sample + Tare Wt.		
					271.7		
D = (C-B) Total Specimen Dry Weight (S _{Md})			211.4		Dry Mass of Washed Sample (S _{wMd})		
					190.3		
E = (A-B) Moist Specimen Mass (S _{Mm})			304.1		Dry Mass passing #200		
					21.1		
F=(E-D)/D) Water Content of Specimen			43.9%		% Passing #200		
					10.0%		
Sieve Size		Cumulative Mass Retained	Increment Mass Retained	SPECS	% Retained	% Passing	
					Total Sample Cumulative Percentages		
Standard	mm.	CMR _N	MR _N		CPR _N	PP _N (Method A)	
3.0"	75.00	0.0	0.00		0.0%	100%	
2.0"	50.00	0.0	0.00		0.0%	100%	
1.5"	37.50	0.0	0.00		0.0%	100%	
1.0"	25.00	0.0	0.00		0.0%	100.0%	
3/4"	19.00	0.0	0.00		0.0%	100.0%	
3/8"	9.50	0.0	0.00		0.0%	100.0%	
#4	4.750	3.8	3.80		1.8%	98.2%	
#10	2.000	10.4	6.60		4.9%	95.1%	
#20	0.850	38.9	28.50		18.4%	81.6%	
#40	0.425	101.4	62.50		48.0%	52.0%	
#60	0.250	157.8	56.40		74.6%	25.4%	
#100	0.150	185.1	27.30		87.6%	12.4%	
#140	0.106	189.3	4.20		89.5%	10.5%	
#200	0.075	190.1	0.80		89.9%	10.1%	
Pan	<0.075	190.3	0.2				

Notes/Deviations/References: PP_N = 100 (1-(CMR_N / S_{Md}))

Jason S. McGough	Jason S. McGough	Lab Supervisor	8/6/2024
Technician	Signature	Position	Date
Ron Forest, P.E.	Ron Forest	Principal Engineer	8/6/2024
Technical Responsibility	Signature	Position	Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOIL

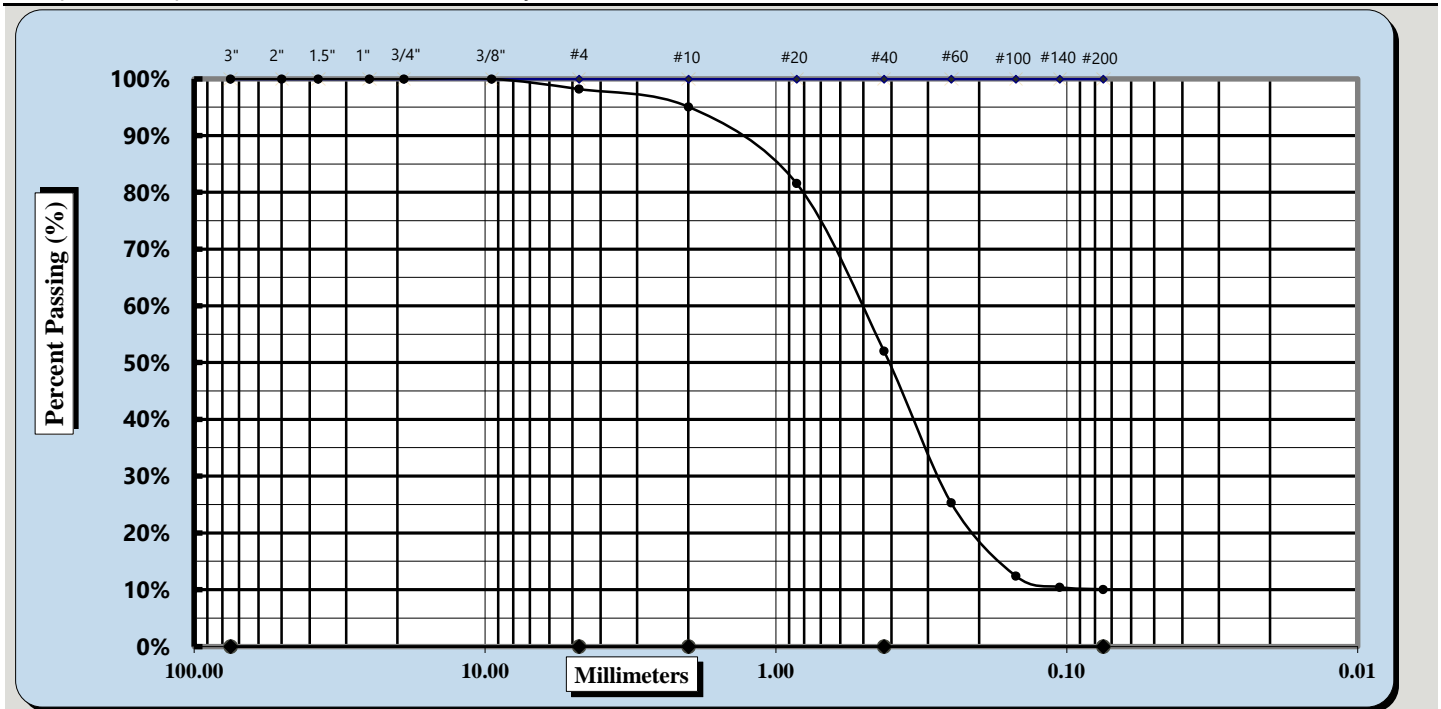


Single sieve set

ASTM D6913

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Lab #:	988
Client Name:	Talbert & Bright	Test Date:	8/5/2024
Client Address:	4810 Shelley DR; Wilmington, NC 28405	Date Sampled:	7/29/2024
Boring #:	AP-1	Sample #:	Bulk-1
Location:	Pavement Areas	Depth:	0.5'-2'
Sample Description: Tan and Brown Poorly Graded Sand with Silt (SP-SM)			



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Method: A

Procedure for obtaining Specimen: Moist

Maximum Particle Size	3/8"	Coarse Sand	3%	Fine Sand	42%
Gravel	2%	Medium Sand	43%	Silt & Clay	10%
Liquid Limit	--	Plastic Limit	NP	Plastic Index	--

Notes / Deviations / References:

Ron Forest, P.E.
Technical Responsibility

Ron Forest
Signature

Principal Engineer
Position

8/6/2024
Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

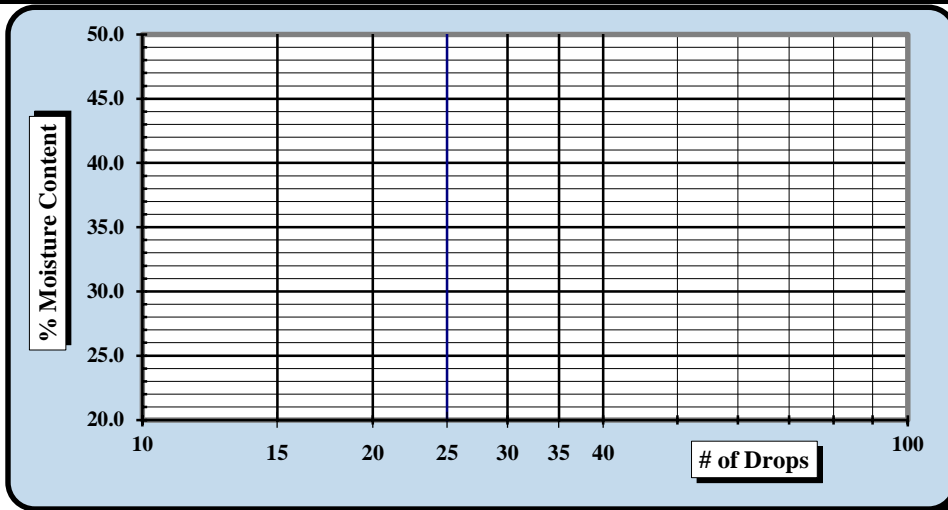
Project #: 24060075 Report Date: 8/6/2024
Project Name: Lumberton Airport-T and Box Hangars Test Date(s): 8/2/2024
Client Name: Talbert & Bright
Client Address: 4810 Shelley DR; Wilmington, NC 28405

Boring #: AP-1 Sample #: Bulk-1 Sample Date: 7/29/2024
Location: Pavement Arteas LAB #: 988 Depth: 0.5'-2'

Sample Description: Brown Poorly Graded Sand with Silt (SP-SM)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	36158	10/7/2023	Grooving tool	36156	8/10/2023
LL Apparatus	18801	2/5/2024			
Oven	17745	9/27/2023			

Pan #		Liquid Limit						Plastic Limit		
Tare #:										
A	Tare Weight									
B	Wet Soil Weight + A								NP	
C	Dry Soil Weight + A									
D	Water Weight (B-C)									
E	Dry Soil Weight (C-A)									
F	% Moisture (D/E)*100									
N	# OF DROPS							Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average									



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒

Liquid Limit

Plastic Limit **NP**

Plastic Index

Group Symbol **SP-SM**

Multipoint Method ☐

One-point Method ☒

Wet Preparation ☐ Dry Preparation ☒ Air Dried ☒

Notes / Deviations / References:

Jason S. McGough

Jason S. McGough

Lab Supervisor

8/6/2024

Technician

Signature

Position

Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

MOISTURE - DENSITY REPORT



Quality Assurance

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

S&ME Project #: 24060075

Report Date: 8/6/2024

Project Name: Lumberton Airport-T and Box Hangars

Test Date(s): 7/31/2024

Client Name: Talbert & Bright

Client Address: 4810 Shelley DR; Wilmington, NC 28405

Boring #: AP-1

Sample #: Bulk-1

Sample Date: 7/29/2024

Location: Pavement Areas

Lab #: 988

Depth: 0.5'-2'

Sample Description: Brown Poorly Graded Sand with Silt (SP-SM)

Maximum Dry Density

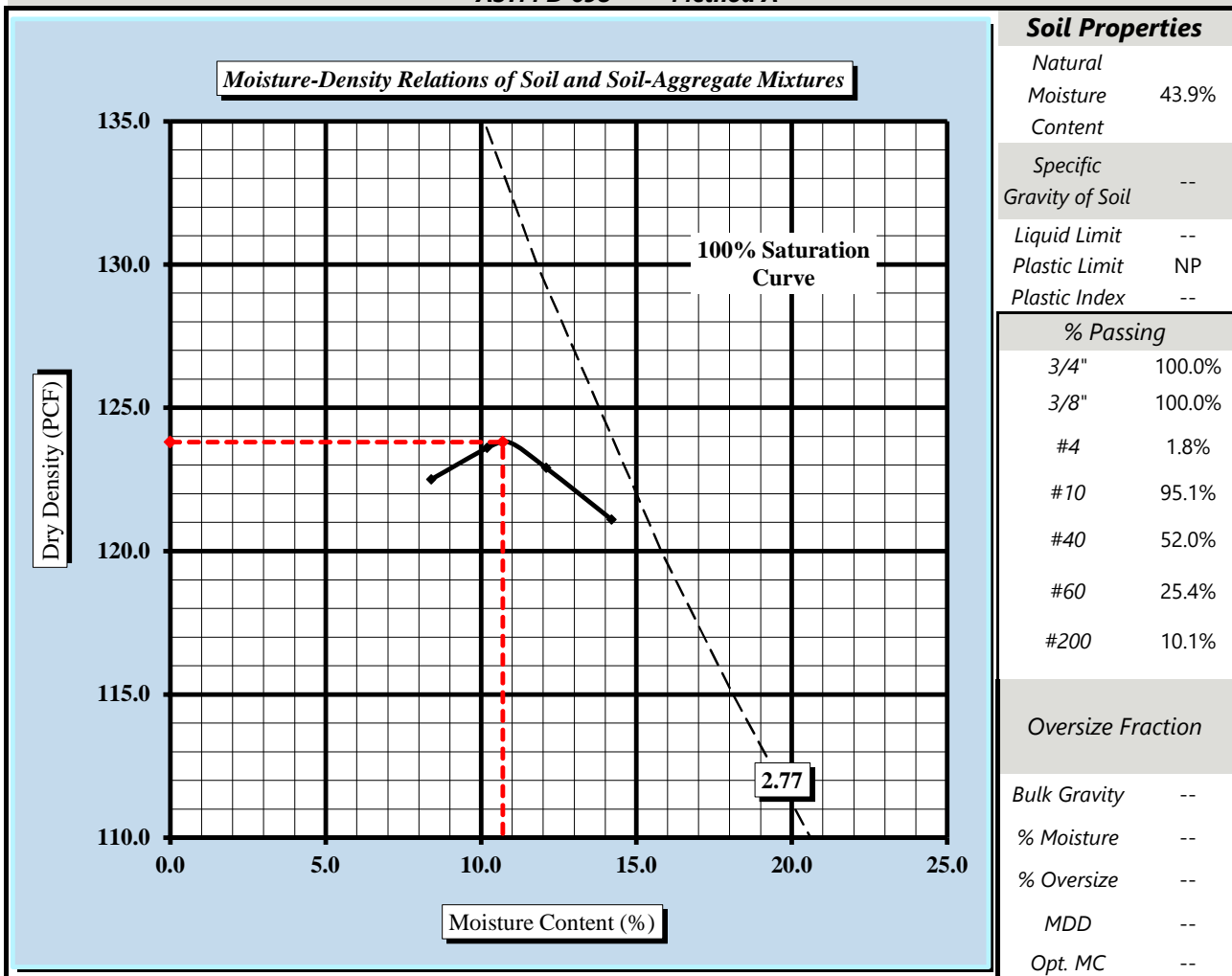
123.8

PCF.

Optimum Moisture Content

10.7%

ASTM D 698 - - Method A

Moisture-Density Curve Displayed: Fine Fraction ☒Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction:

#4 Sieve ☒3/8 inch Sieve ☐3/4 inch Sieve ☐Mechanical Rammer ☒Manual Rammer ☐Moist Preparation ☐Dry Preparation ☒

References / Comments / Deviations:

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



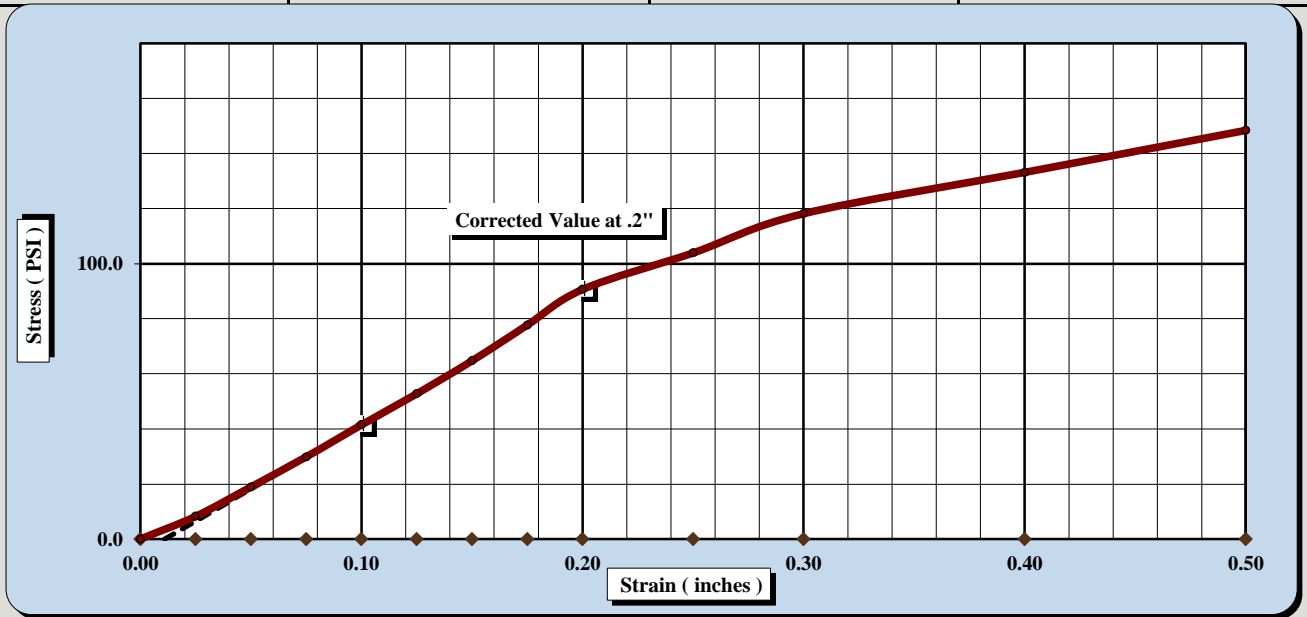
ASTM D 1883

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Test Date(s)	8/1/2024
Client Name:	Lumberton Airport-T and Box Hangars		
Client Address:	4810 Shelley DR; Wilmington, NC 28405		
Boring #:	AP-1	Sample #:	Bulk-1
		Sample Date:	7/29/2024
Location:	Pavement Areas	LAB #:	988
		Depth:	0.5'-2'
Sample Description: Brown Poorly Graded Sand with Silt (SP-SM)			

ASTM D 698	Method A	Maximum Dry Density:	123.8	PCF	Optimum Moisture Content:	10.7%
Compaction Test performed on grading complying with CBR spec.				% Retained on the 3/4" sieve:	1.0%	

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	4.2	CBR at 0.1 in.	4.2
CBR at 0.2 in.	6.0	CBR at 0.2 in.	6.1



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	15	Final Dry Density (PCF)	110.0
Initial Dry Density (PCF)	111.2	Moisture Content (top 1" after soaking)	12.2%
Moisture Content of the Compacted Specimen	10.7%	Percent Swell	1.1%
Percent Compaction	89.8%		

Soak Time:	96 hrs.	Surcharge Weight	20.0	Surcharge Wt. per sq. Ft.	101.9
Liquid Limit	--	Plastic Index	NP	Apparent Relative Density	--

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full without the written approval of S&ME, Inc.

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



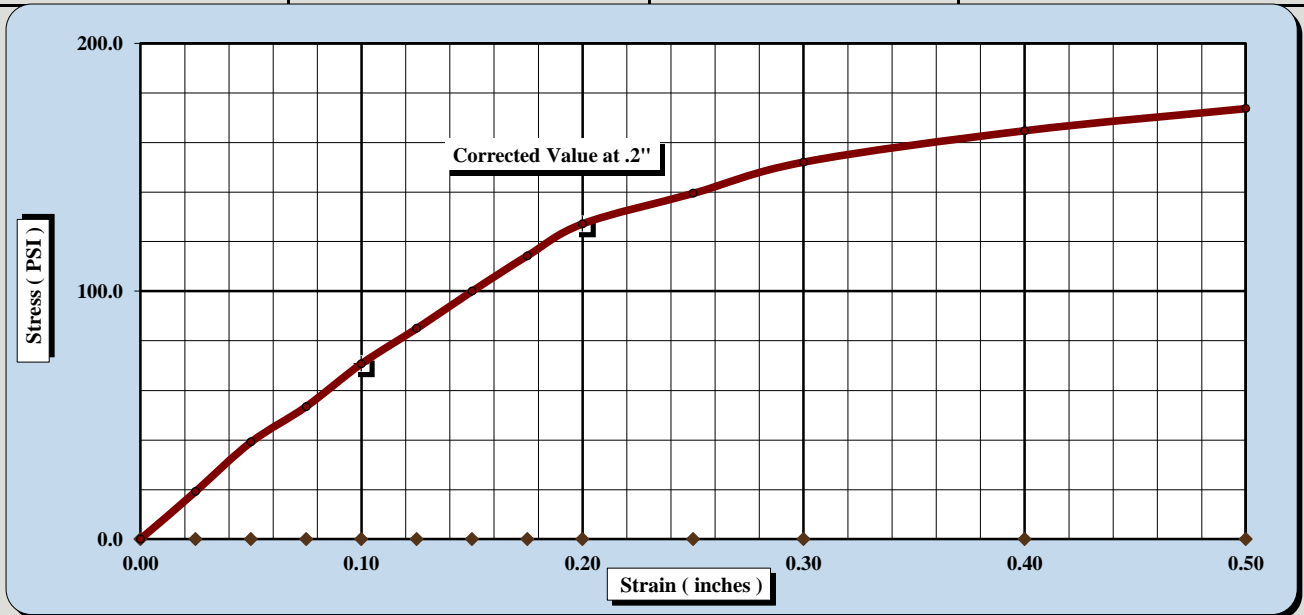
ASTM D 1883

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Test Date(s)	8/1/2024
Client Name:	Lumberton Airport-T and Box Hangars	Amended Report	
Client Address:	4810 Shelley DR; Wilmington, NC 28405	Original Report 2/31/07	
Boring #:	AP-1	Sample #:	Bulk-1
Location:	Pavement Areas	Sample Date:	7/29/2024
		LAB #:	988
		Depth:	0.5'-2'
Sample Description: Brown Poorly Graded Sand with Silt (SP-SM)			

ASTM D 698	Method A	Maximum Dry Density:	123.8	PCF	Optimum Moisture Content:	10.7%
Compaction Test performed on grading complying with CBR spec.					% Retained on the 3/4" sieve:	1.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	7.1	CBR at 0.1 in.	7.1
CBR at 0.2 in.	8.5	CBR at 0.2 in.	8.5



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	25	Final Dry Density (PCF)	116.5
Initial Dry Density (PCF)	117.9	Moisture Content (top 1" after soaking)	25.1%
Moisture Content of the Compacted Specimen	11.0%	Percent Swell	1.2%
Percent Compaction	95.2%		

Soak Time: 96 hrs.

Surcharge Weight 20.0

Surcharge Wt. per sq. Ft. 101.9

Liquid Limit --

Plastic Index NP

Apparent Relative Density --

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full without the written approval of S&ME, Inc.

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



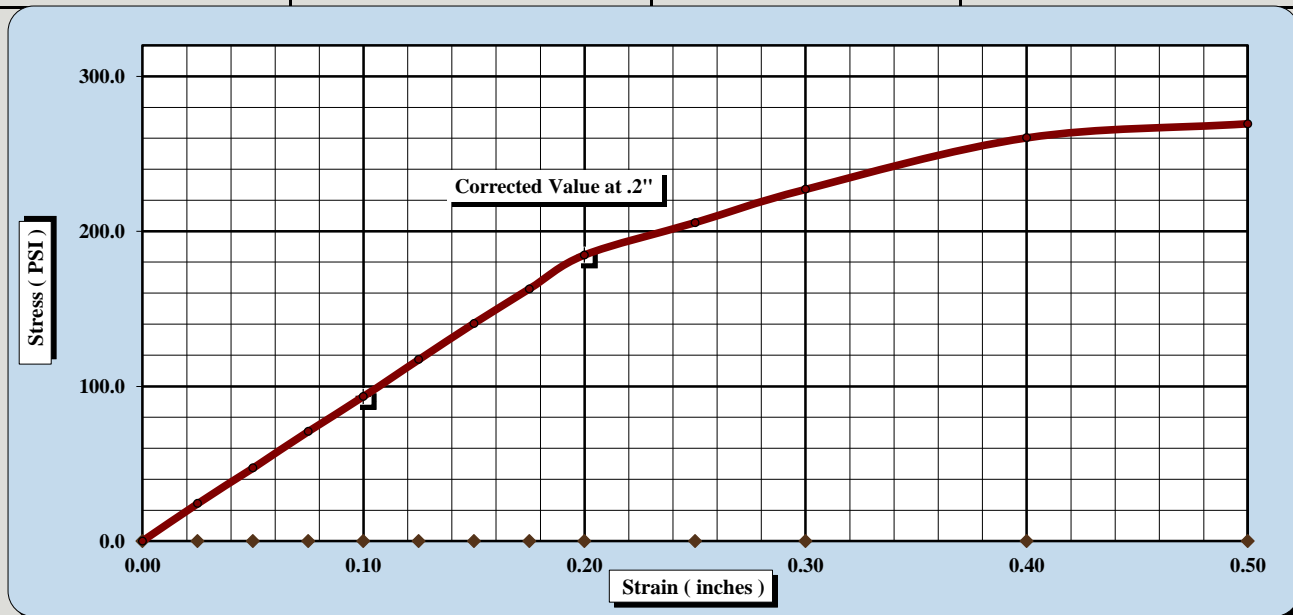
ASTM D 1883

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Test Date(s)	8/1/2024
Client Name:	Lumberton Airport-T and Box Hangars	Amended Report	
Client Address:	4810 Shelley DR; Wilmington, NC 28405	Original Report 2/31/07	
Boring #:	AP-1	Sample #:	Bulk-1
Location:	Pavement Areas	Sample Date:	7/29/2024
		LAB #:	988
		Depth:	0.5'-2'
Sample Description: Brown Poorly Graded Sand with Silt (SP-SM)			

ASTM D 698	Method A	Maximum Dry Density:	123.8	PCF	Optimum Moisture Content:	10.7%
Compaction Test performed on grading complying with CBR spec.					% Retained on the 3/4" sieve:	1.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	9.3	CBR at 0.1 in.	9.3
CBR at 0.2 in.	12.3	CBR at 0.2 in.	12.3



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	122.6
Initial Dry Density (PCF)	123.7	Moisture Content (top 1" after soaking)	10.6%
Moisture Content of the Compacted Specimen	11.0%	Percent Swell	0.9%
Percent Compaction	99.9%		

Soak Time:	96 hrs.	Surcharge Weight	20.0	Surcharge Wt. per sq. Ft.	101.9
Liquid Limit	--	Plastic Index	NP	Apparent Relative Density	--

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full without the written approval of S&ME, Inc.



CBR vs. Compaction Trend - Soil

S&ME, Inc. - Wilmington: 3006 Hall Waters, Suite 100, Wilmington, North Carolina 28405

Project Number: 24060075

Project Name: Lumberton Airport (LBT) - T and Box Hanagars

Report Date: 8/6/24

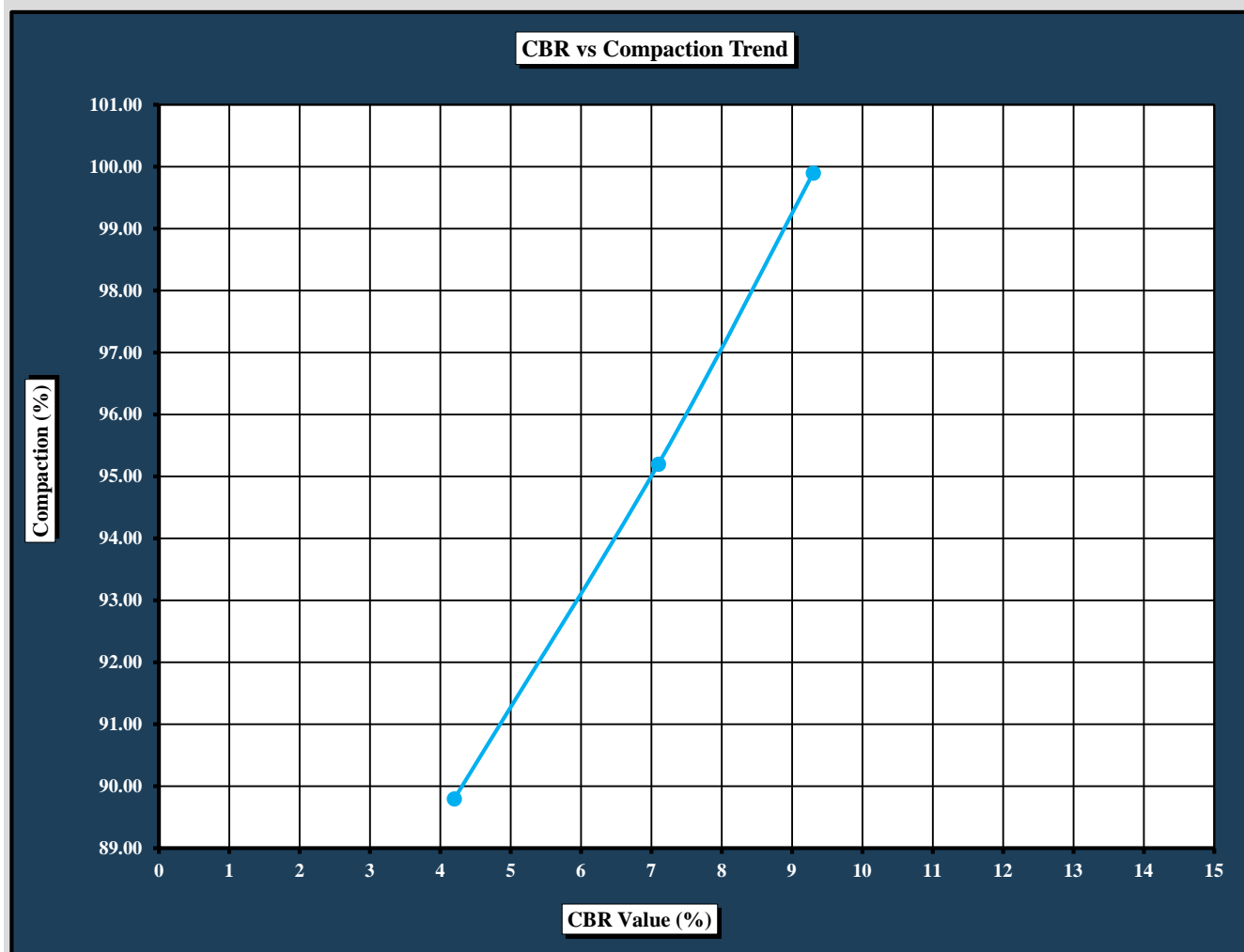
Client Name: Talbert & Bright, Inc.

Test Date: 8/1/2024

Client Address: 4810 Shelly Drive, Suite 101, Wilmington, North Carolina 28405

Sample Date: 7/29/24

Boring Locations: AP-1/Bulk-1



Density Standard	Description	Method	CBR	Compaction (%)
ASTM D 698	Bulk-1 - Brown Poorly Graded Sand with Silt (SP-SM)	ASTM D 1883	4.2	89.80
ASTM D 698	Bulk-1 - Brown Poorly Graded Sand with Silt (SP-SM)	ASTM D 1883	7.1	95.2
ASTM D 698	Bulk-1 - Brown Poorly Graded Sand with Silt (SP-SM)	ASTM D 1883	9.3	99.9

Technical Responsibility

Ron Forest, Jr., P.E.

Ron Forest
Signature

Principal Engineer
Position

SOIL SIEVE ANALYSIS USING SINGLE SIEVE-SET SIEVING



Single Portion

ASTM D6913

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project No: 24060075	Report Date: 8/6/2024
Project Name: Lumberton Airport-T and Box Hangars	Lab #: 988
Client Name: Talbert & Bright	Test Date: 8/5/2024
Client Address: 4810 Shelley DR; Wilmington, NC 28405	Date Sampled: 7/29/2024
Boring #: AP-5	Sample#: Bulk-2
Location: Pavement Areas	Depth: 0.5'-2'

Sample Description: Brown Clayey Sand (SC)							
Estimate Max. Particle Size (99% Passing):				#4	Testing Dates: 8/5/24		
Method A (1%)		<input type="checkbox"/>	Method B (0.1%)		<input checked="" type="checkbox"/>	Material Excluded? None	
Procedure for obtaining Specimen:			Moist		<input checked="" type="checkbox"/>	Air-Dried <input type="checkbox"/>	
			Oven-Dried		<input checked="" type="checkbox"/>		
Sampling Method		Stockpile: <input checked="" type="checkbox"/>		Mechanically Split: <input type="checkbox"/>		Quartered: <input checked="" type="checkbox"/>	
Dispersion Process?		Soaked without Dispersant <input type="checkbox"/>		Soaked with Dispersant <input checked="" type="checkbox"/>		Ultrasonic Bath <input type="checkbox"/>	
Estimated Wet Mass of specimen required:				200	Shaking Apparatus <input checked="" type="checkbox"/>		
Specimen:		Pan No. 000	B) Tare Wt. 82.7		Method B of ASTM D1140 or D6913 Sec. 11.4.3		
A) Total Specimen Wet Wt. + Tare Wt. (g.)		209.1		Pan No. 000	Tare Wt. 82.7		
C) Total Specimen Dry Wt. + Tare Wt. (g.)		192.1		Dry Mass of Washed Sample + Tare Wt.		152.9	
D = (C-B) Total Specimen Dry Weight (S _{Md})		109.4		Dry Mass of Washed Sample (S _{wMd})		70.2	
E = (A-B) Moist Specimen Mass (S _{Mm})		126.4		Dry Mass passing #200		39.2	
F=(E-D)/D) Water Content of Specimen		15.5%		% Passing #200		35.8%	
Sieve Size		Cumulative Mass Retained	Increment Mass Retained	SPECS	% Retained	% Passing	
					Total Sample Cumulative Percentages		
Standard	mm.	CMR _N	MR _N		CPR _N	PP _N (Method A)	
3.0"	75.00	0.0	0.00		0.0%	100%	
2.0"	50.00	0.0	0.00		0.0%	100%	
1.5"	37.50	0.0	0.00		0.0%	100%	
1.0"	25.00	0.0	0.00		0.0%	100.0%	
3/4"	19.00	0.0	0.00		0.0%	100.0%	
3/8"	9.50	0.0	0.00		0.0%	100.0%	
#4	4.750	0.0	0.00		0.0%	100.0%	
#10	2.000	0.6	0.60		0.5%	99.5%	
#20	0.850	6.5	5.90		5.9%	94.1%	
#40	0.425	31.7	25.20		29.0%	71.0%	
#60	0.250	59.6	27.90		54.5%	45.5%	
#100	0.150	68.7	9.10		62.8%	37.2%	
#140	0.106	70.0	1.30		64.0%	36.0%	
#200	0.075	70.1	0.10		64.1%	35.9%	
Pan	<0.075	70.2	0.1				

Notes/Deviations/References: PP_N = 100 (1-(CMR_N / S_{Md}))

Jason S. McGough	Jason S. McGough	Lab Supervisor	8/6/2024
Technician	Signature	Position	Date
Ron Forest, P.E.	Ron Forest	Principal Engineer	8/6/2024
Technical Responsibility	Signature	Position	Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

ASTM D6913

Sample Description: Brown Clayey Sand (SC)



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Liquid Limit	32	Plastic Limit	15	Plastic Index	17
--------------	----	---------------	----	---------------	----

Notes / Deviations / References:

8/6/2024
Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



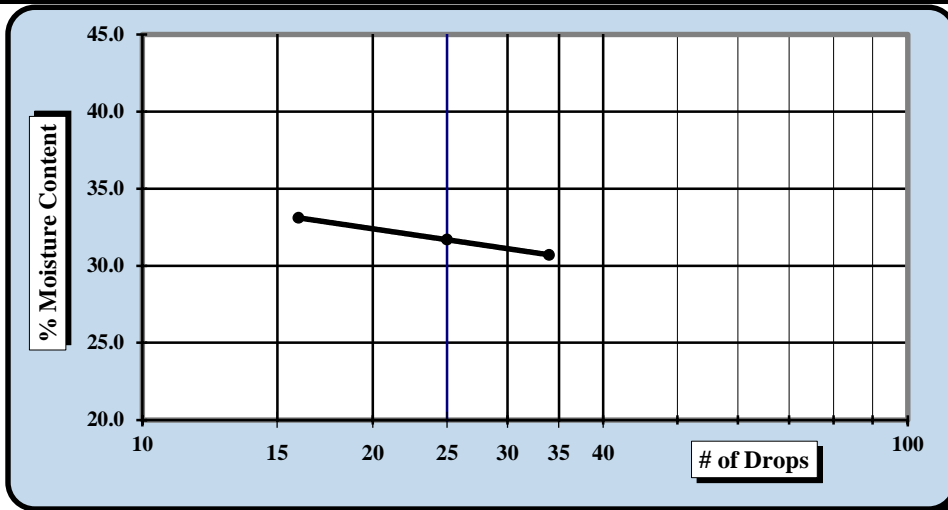
ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Test Date(s)	8/5/2024
Client Name:	Talbert & Bright		
Client Address:	4810 Shelley DR; Wilmington, NC 28405		
Boring #:	AP-5	Sample #:	Bulk-2
		Sample Date:	7/29/2024
Location:	Pavement Arteas	LAB #:	988
		Depth:	0.5'-2'
Sample Description:	Brown Clayey Sand (SC)		

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	36158	10/7/2023	Grooving tool	36156	8/10/2023
LL Apparatus	18801	2/5/2024			
Oven	17745	9/27/2023			

Pan #		Liquid Limit						Plastic Limit		
Tare #:		31	10	83				1	109	
A	Tare Weight	14.57	14.58	14.57				14.62	14.57	
B	Wet Soil Weight + A	31.65	31.71	31.79				21.65	21.66	
C	Dry Soil Weight + A	27.64	27.59	27.51				20.71	20.73	
D	Water Weight (B-C)	4.01	4.12	4.28				0.94	0.93	
E	Dry Soil Weight (C-A)	13.07	13.01	12.94				6.09	6.16	
F	% Moisture (D/E)*100	30.7%	31.7%	33.1%				15.4%	15.1%	
N	# OF DROPS	34	25	16				Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average							15.3%		



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☐

Liquid Limit **32**

Plastic Limit **15**

Plastic Index **17**

Group Symbol **SC**

Multipoint Method ☒

One-point Method ☐

Wet Preparation ☐ Dry Preparation ☒ Air Dried ☒

Notes / Deviations / References:

Jason S. McGough	Jason S. McGough	Lab Supervisor	8/6/2024
Technician	Signature	Position	Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

MOISTURE - DENSITY REPORT**Quality Assurance**

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

S&ME Project #: 24060075

Report Date: 8/6/2024

Project Name: Lumberton Airport-T and Box Hangars

Test Date(s): 7/31/2024

Client Name: Talbert & Bright

Client Address: 4810 Shelley DR; Wilmington, NC 28405

Boring #: AP-5

Sample #: Bulk-2

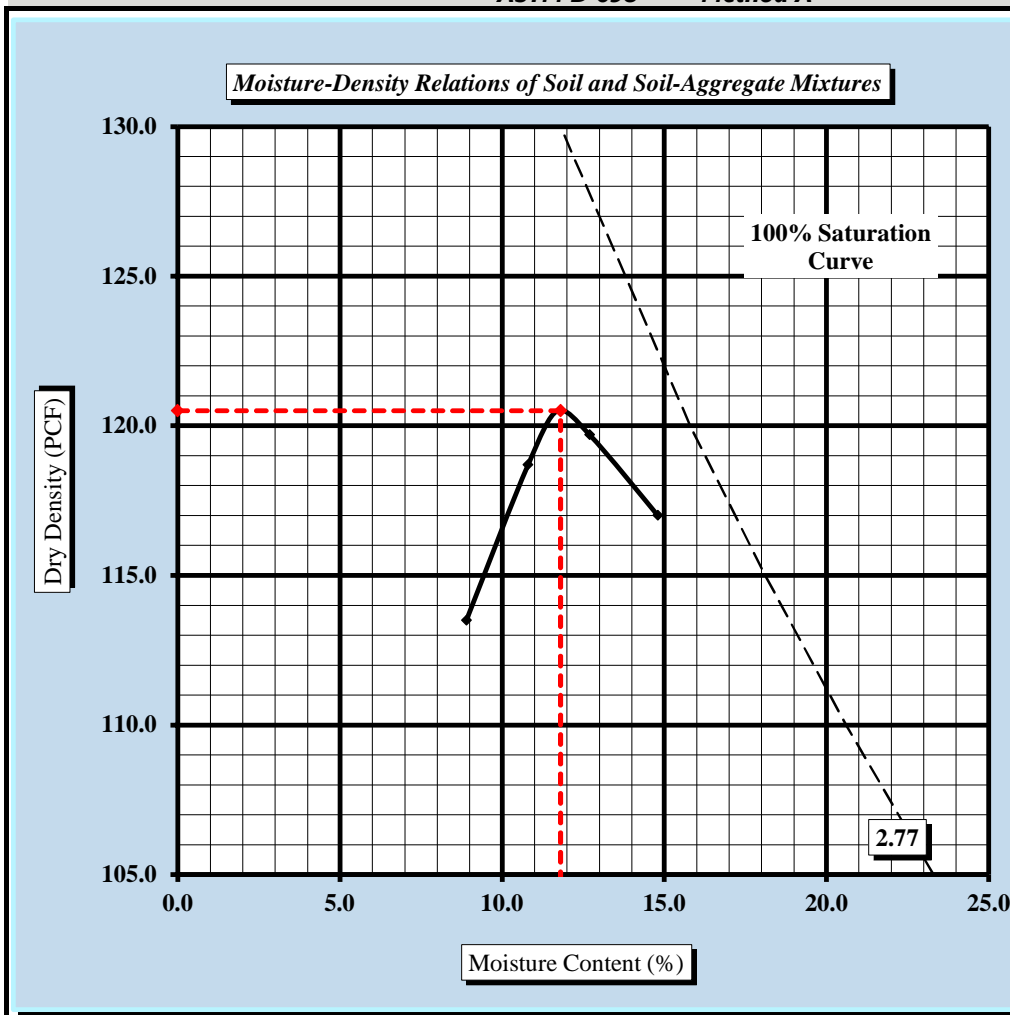
Sample Date: 7/29/2024

Location: Pavement Areas

Lab #: 988

Depth: 0.5'-2'

Sample Description: Brown Clayey Sand (SC)

Maximum Dry Density**120.5****PCF.****Optimum Moisture Content****11.8%****ASTM D 698 - - Method A**Moisture-Density Curve Displayed: Fine Fraction ☒Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction:

#4 Sieve ☒3/8 inch Sieve ☐3/4 inch Sieve ☐Mechanical Rammer ☒Manual Rammer ☐Moist Preparation ☐Dry Preparation ☒**References / Comments / Deviations:**

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



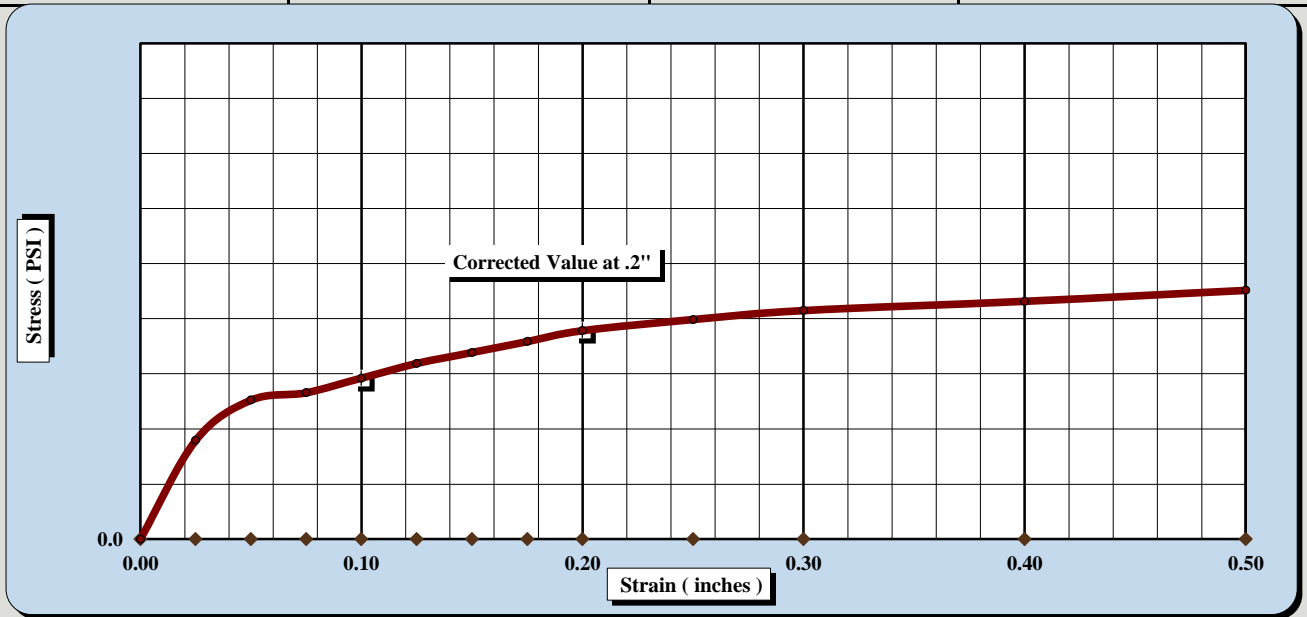
ASTM D 1883

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Test Date(s)	8/1/2024
Client Name:	Talbert & Bright	Amended Report Original Report 2/31/07	
Client Address:	4810 Shelley DR; Wilmington, NC 28405		
Boring #:	AP-5	Sample #: Bulk-2	Sample Date: 7/29/2024
Location:	Pavement Areas	LAB #: 988	Depth: 0.5'-2'
Sample Description: Brown Clayey Sand (SC)			

ASTM D 698 Method A	Maximum Dry Density:	120.5 PCF	Optimum Moisture Content:	11.8%
Compaction Test performed on grading complying with CBR spec.			% Retained on the 3/4" sieve:	1.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	2.9	CBR at 0.1 in.	2.9
CBR at 0.2 in.	2.5	CBR at 0.2 in.	2.5



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	15	Final Dry Density (PCF)	107.5
Initial Dry Density (PCF)	108.2	Moisture Content (top 1" after soaking)	16.9%
Moisture Content of the Compacted Specimen	12.2%	Percent Swell	0.6%
Percent Compaction	89.8%		

Soak Time:	96 hrs.	Surcharge Weight	20.0	Surcharge Wt. per sq. Ft.	101.8
Liquid Limit	32	Plastic Index	17	Apparent Relative Density	--

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full without the written approval of S&ME, Inc.

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



ASTM D 1883

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #: 24060075 Report Date: 8/6/2024

Project Name: Lumberton Airport-T and Box Hangars Test Date(s): 8/1/2024

Client Name: Talbert & Bright

Client Address: 4810 Shelley DR; Wilmington, NC 28405

Boring #: AP-5 Sample #: Bulk-2 Sample Date: 7/29/2024

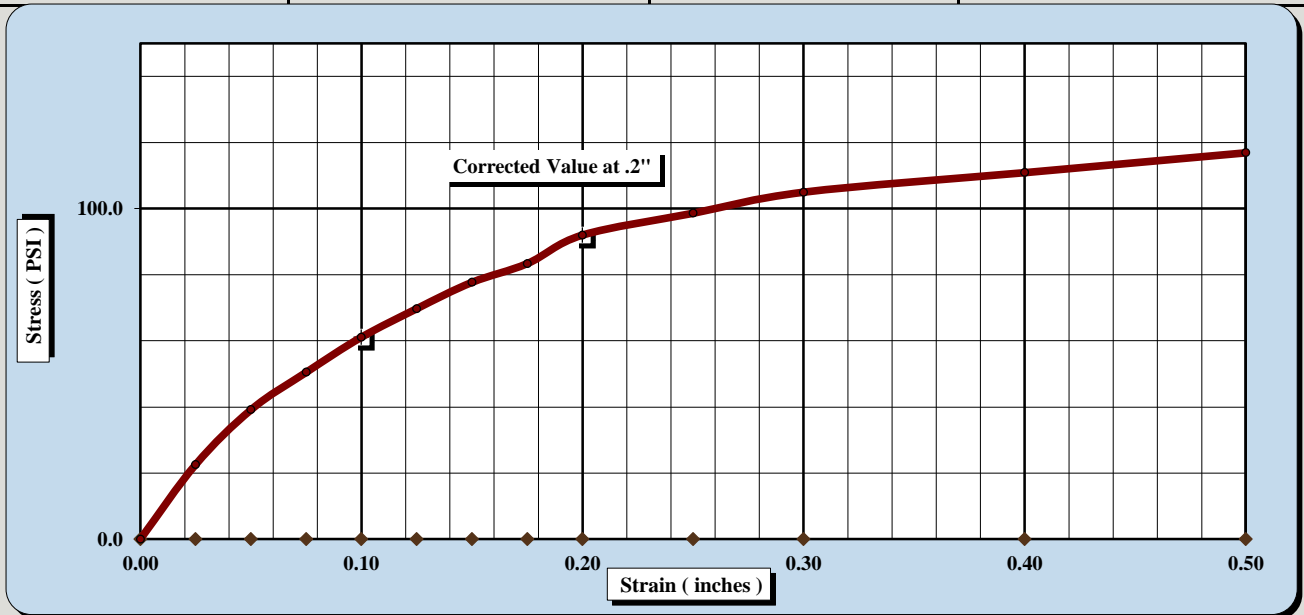
Location: Pavement Areas LAB #: 988 Depth: 0.5'-2'

Sample Description: Brown Clayey Sand (SC)

ASTM D 698 Method A Maximum Dry Density: 120.5 PCF Optimum Moisture Content: 11.8%

Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: 1.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	6.1	CBR at 0.1 in.	6.1
CBR at 0.2 in.	6.1	CBR at 0.2 in.	6.1



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	25	Final Dry Density (PCF)	113.3
Initial Dry Density (PCF)	113.9	Moisture Content (top 1" after soaking)	15.0%
Moisture Content of the Compacted Specimen	12.1%	Percent Swell	0.5%
Percent Compaction	94.5%		

Soak Time: 96 hrs.

Surcharge Weight 20.0

Surcharge Wt. per sq. Ft. 101.9

Liquid Limit 32

Plastic Index 17

Apparent Relative Density --

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full without the written approval of S&ME, Inc.

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



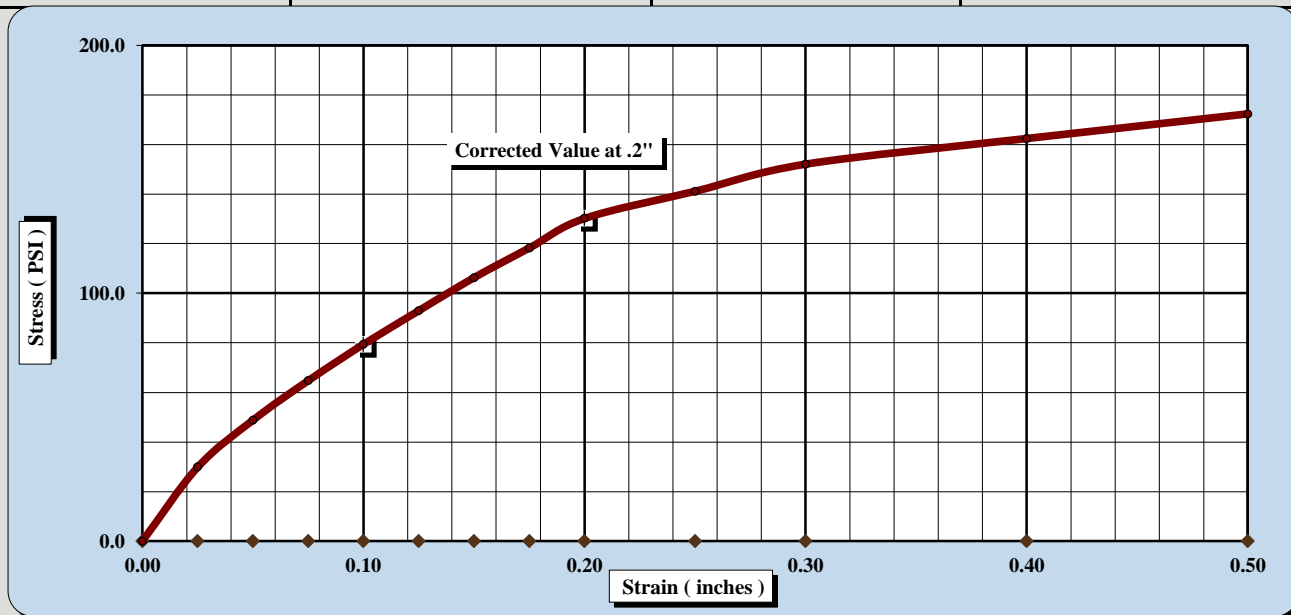
ASTM D 1883

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Test Date(s)	8/1/2024
Client Name:	Talbert & Bright	Amended Report	
Client Address:	4810 Shelley DR; Wilmington, NC 28405	Original Report 2/31/07	
Boring #:	AP-5	Sample #:	Bulk-2
Location:	Pavement Areas	Sample Date:	7/29/2024
		LAB #:	988
		Depth:	0.5'-2'
Sample Description: Brown Clayey Sand (SC)			

ASTM D 698	Method A	Maximum Dry Density:	120.5	PCF	Optimum Moisture Content:	11.8%
Compaction Test performed on grading complying with CBR spec.					% Retained on the 3/4" sieve:	1.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	7.9	CBR at 0.1 in.	7.9
CBR at 0.2 in.	8.7	CBR at 0.2 in.	8.7



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	119.8
Initial Dry Density (PCF)	120.8	Moisture Content (top 1" after soaking)	14.9%
Moisture Content of the Compacted Specimen	12.1%	Percent Swell	0.8%
Percent Compaction	100.3%		

Soak Time:	96 hrs.	Surcharge Weight	20.0	Surcharge Wt. per sq. Ft.	101.9
Liquid Limit	32	Plastic Index	17	Apparent Relative Density	--

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full without the written approval of S&ME, Inc.



CBR vs. Compaction Trend - Soil

S&ME, Inc. - Wilmington: 3006 Hall Waters, Suite 100, Wilmington, North Carolina 28405

Project Number: 24060075

Project Name: Lumberton Airport (LBT) - T and Box Hanagars

Report Date: 8/6/24

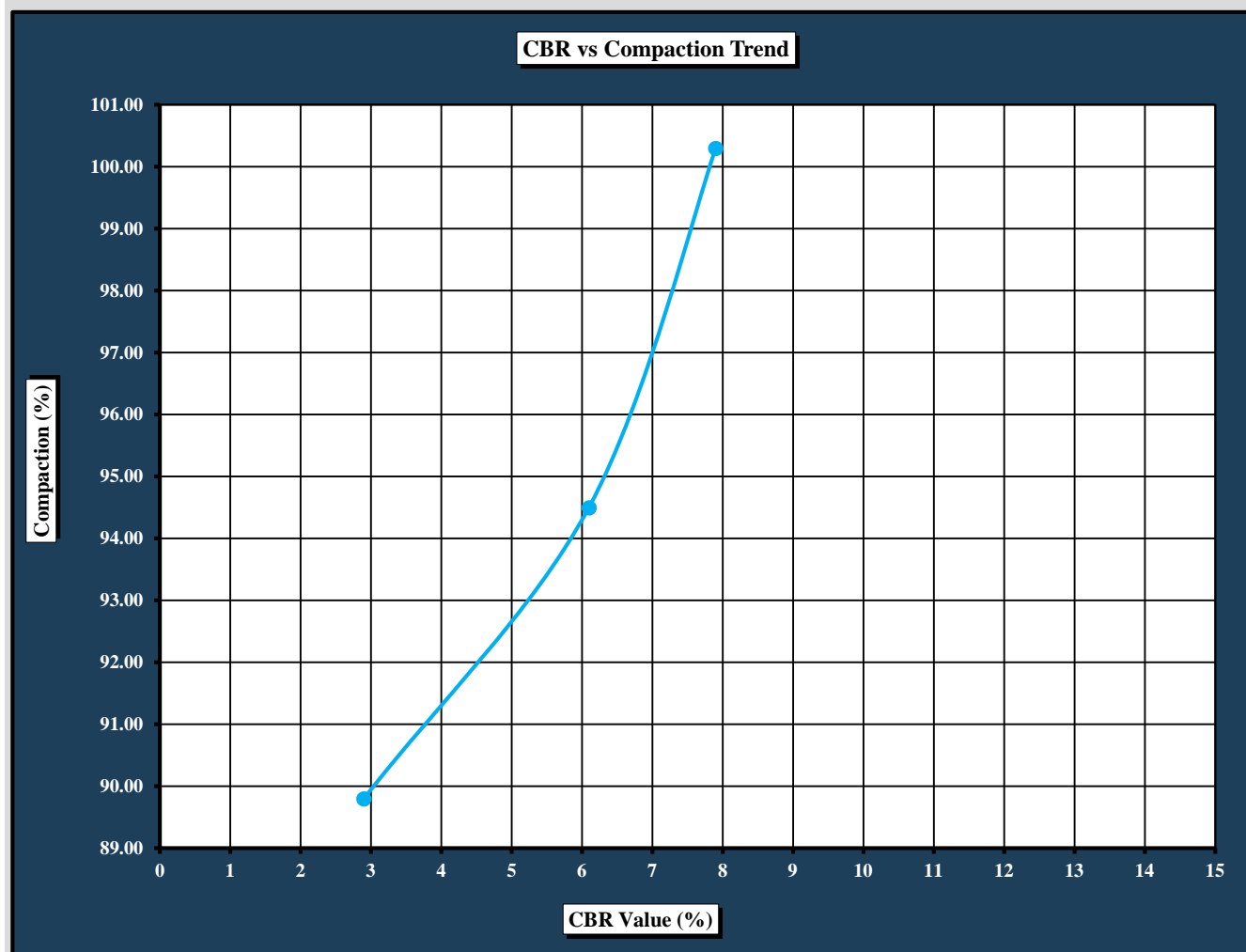
Client Name: Talbert & Bright, Inc.

Test Date: 8/1/2024

Client Address: 4810 Shelly Drive, Suite 101, Wilmington, North Carolina 28405

Sample Date: 7/29/24

Boring Locations: AP-5/Bulk-2



Density Standard	Description	Method	CBR	Compaction (%)
ASTM D 698	Bulk-2 - Brown Clayey Sand (SC)	ASTM D 1883	2.9	89.80
ASTM D 698	Bulk-2 - Brown Clayey Sand (SC)	ASTM D 1883	6.1	94.5
ASTM D 698	Bulk-2 - Brown Clayey Sand (SC)	ASTM D 1883	7.9	100.3

Technical Responsibility

Ron Forest, Jr., P.E.

Ron Forest
Signature

Principal Engineer
Position

SOIL SIEVE ANALYSIS USING SINGLE SIEVE-SET SIEVING



Single Portion

ASTM D6913

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project No: 24060075	Report Date: 8/6/2024
Project Name: Lumberton Airport-T and Box Hangars	Lab #: 988
Client Name: Talbert & Bright	Test Date: 8/5/2024
Client Address: 4810 Shelley DR; Wilmington, NC 28405	Date Sampled: 7/29/2024
Boring #: FCH-2	Sample#: Bulk-3
Location: Pavement Areas	Depth: 0.5'-2'

Sample Description: Gray Sandy Fat Clay (CH)							
Estimate Max. Particle Size (99% Passing):			#4	Testing Dates: 8/5/24			
Method A (1%)		<input type="checkbox"/>	Method B (0.1%)		<input checked="" type="checkbox"/>	Material Excluded? None	
Procedure for obtaining Specimen:			Moist	<input checked="" type="checkbox"/>	Air-Dried	<input type="checkbox"/>	Oven-Dried
Sampling Method			Stockpile:	<input checked="" type="checkbox"/>	Mechanically Split:	<input type="checkbox"/>	Quartered:
Dispersion Process?			Soaked without Dispersant	<input type="checkbox"/>	Soaked with Dispersant	<input checked="" type="checkbox"/>	Ultrasonic Bath
Estimated Wet Mass of specimen required:			200	Shaking Apparatus			
Specimen:		Pan No.	F	B) Tare Wt.	82.9	Method B of ASTM D1140 or D6913 Sec. 11.4.3	
A) Total Specimen Wet Wt. + Tare Wt. (g.)			170.7	Pan No.	F	Tare Wt.	82.9
C) Total Specimen Dry Wt. + Tare Wt. (g.)			156.3	Dry Mass of Washed Sample + Tare Wt.			107.4
D = (C-B) Total Specimen Dry Weight (S _w M _d)			73.4	Dry Mass of Washed Sample (S _w M _d)			24.5
E = (A-B) Moist Specimen Mass (S _w M _m)			87.8	Dry Mass passing #200			48.9
F=(E-D)/D) Water Content of Specimen			19.6%	% Passing #200			66.6%
Sieve Size		Cumulative Mass Retained	Increment Mass Retained	SPECS	% Retained	% Passing	
					Total Sample Cumulative Percentages		
Standard	mm.	CMR _N	MR _N		CPR _N	PP _N (Method A)	
3.0"	75.00	0.0	0.00		0.0%	100%	
2.0"	50.00	0.0	0.00		0.0%	100%	
1.5"	37.50	0.0	0.00		0.0%	100%	
1.0"	25.00	0.0	0.00		0.0%	100.0%	
3/4"	19.00	0.0	0.00		0.0%	100.0%	
3/8"	9.50	0.0	0.00		0.0%	100.0%	
#4	4.750	0.0	0.00		0.0%	100.0%	
#10	2.000	0.5	0.50		0.7%	99.3%	
#20	0.850	4.9	4.40		6.7%	93.3%	
#40	0.425	11.6	6.70		15.8%	84.2%	
#60	0.250	17.3	5.70		23.6%	76.4%	
#100	0.150	22.3	5.00		30.4%	69.6%	
#140	0.106	24.1	1.80		32.8%	67.2%	
#200	0.075	24.2	0.10		33.0%	67.0%	
Pan	<0.075	24.5	0.3				

Notes/Deviations/References: PP_N = 100 (1-(CMR_N / S_wM_d))

Jason S. McGough	Jason S. McGough	Lab Supervisor	8/6/2024
Technician	Signature	Position	Date
Ron Forest, P.E.	Ron Forest	Principal Engineer	8/6/2024
Technical Responsibility	Signature	Position	Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOIL

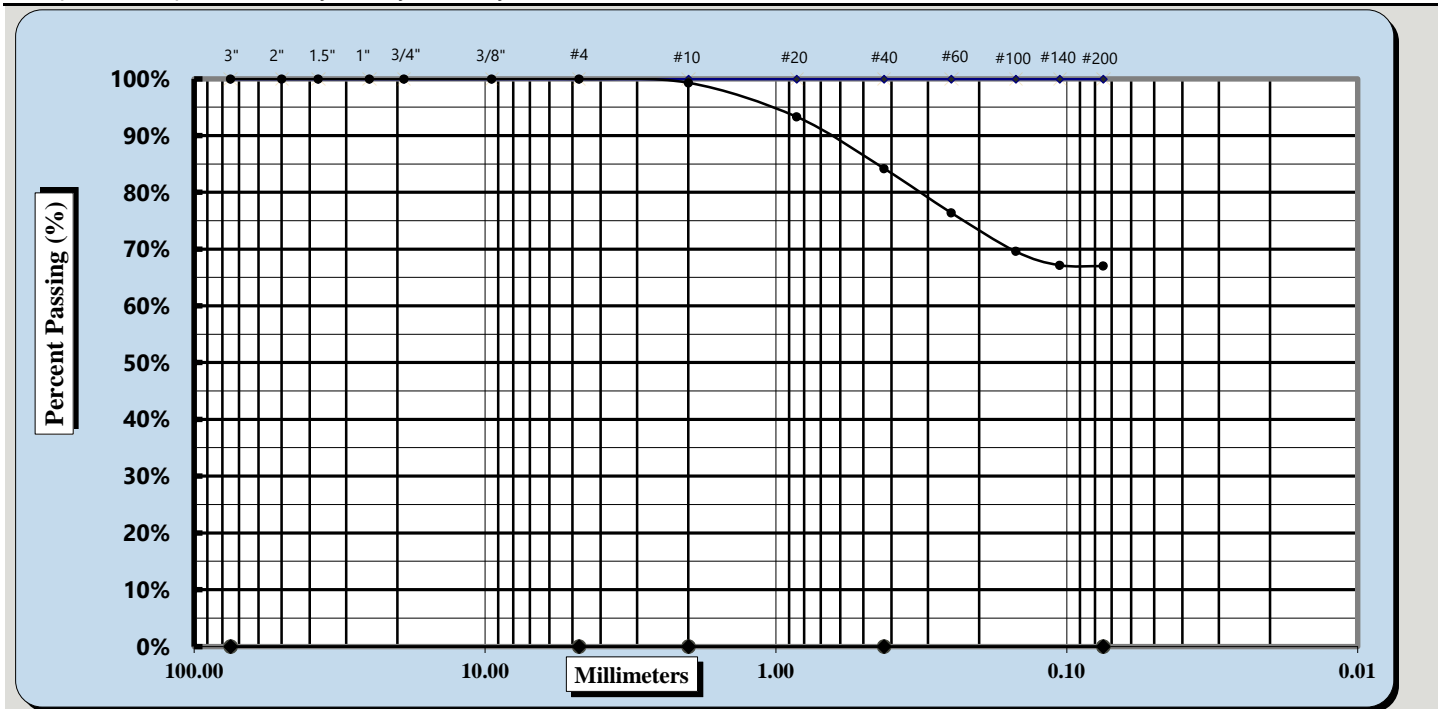


Single sieve set

ASTM D6913

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Lab #:	988
Client Name:	Talbert & Bright	Test Date:	8/5/2024
Client Address:	4810 Shelley DR; Wilmington, NC 28405	Date Sampled:	7/29/2024
Boring #:	FCH-2	Sample #:	Bulk-3
Location:	Pavement Areas	Depth:	0.5'-2'
Sample Description: Gray Sandy Fat Clay (CH)			



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Method: A

Procedure for obtaining Specimen: Moist

Maximum Particle Size	#4	Coarse Sand	1%	Fine Sand	17%
Gravel	0%	Medium Sand	15%	Silt & Clay	67%
Liquid Limit	59	Plastic Limit	29	Plastic Index	30

Notes / Deviations / References:

Ron Forest, P.E.
Technical Responsibility

Ron Forest
Signature

Principal Engineer
Position

8/6/2024
Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

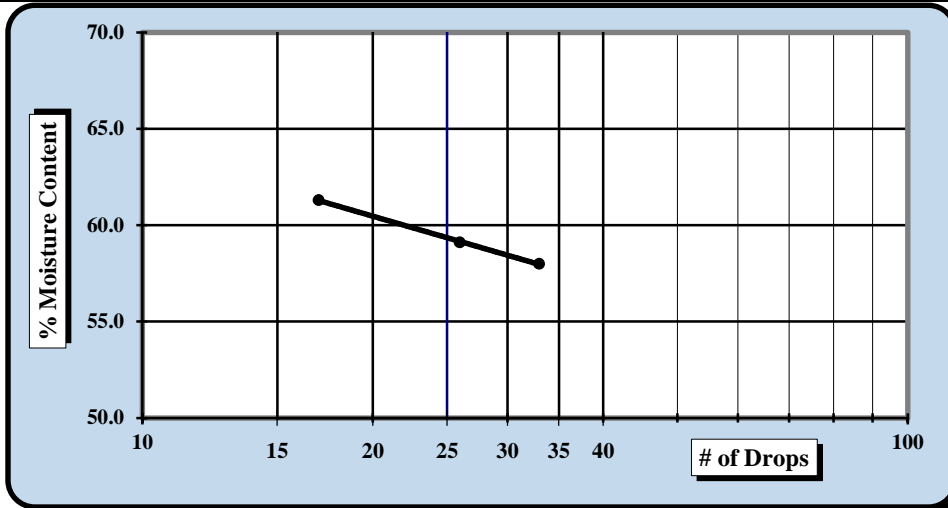
Project #: 24060075 Report Date: 8/6/2024
Project Name: Lumberton Airport-T and Box Hangars Test Date(s): 8/5/2024
Client Name: Talbert & Bright
Client Address: 4810 Shelley DR; Wilmington, NC 28405

Boring #: FCH-2 Sample #: Bulk-3 Sample Date: 7/29/2024
Location: Pavement Arteas LAB #: 988 Depth: 0.5'-2'

Sample Description: Gray Sandy Fat Clay (CH)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	36158	10/7/2023	Grooving tool	36156	8/10/2023
LL Apparatus	18801	2/5/2024			
Oven	17745	9/27/2023			

Pan #		Liquid Limit						Plastic Limit	
Tare #:		29	71	52				61	66
A	Tare Weight	14.58	14.57	14.59				14.57	14.59
B	Wet Soil Weight + A	31.69	31.74	31.82				21.79	21.73
C	Dry Soil Weight + A	25.41	25.36	25.27				20.15	20.11
D	Water Weight (B-C)	6.28	6.38	6.55				1.64	1.62
E	Dry Soil Weight (C-A)	10.83	10.79	10.68				5.58	5.52
F	% Moisture (D/E)*100	58.0%	59.1%	61.3%				29.4%	29.3%
N	# OF DROPS	33	26	17				Moisture Contents determined by ASTM D 2216	
LL	LL = F * FACTOR								
Ave.	Average							29.4%	



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☐

Liquid Limit 59

Plastic Limit 29

Plastic Index 30

Group Symbol CH

Multipoint Method ☒

One-point Method ☐

Wet Preparation ☐ Dry Preparation ☒ Air Dried ☒

Notes / Deviations / References:

Jason S. McGough

Jason S. McGough

Lab Supervisor

8/6/2024

Technician

Signature

Position

Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

MOISTURE - DENSITY REPORT



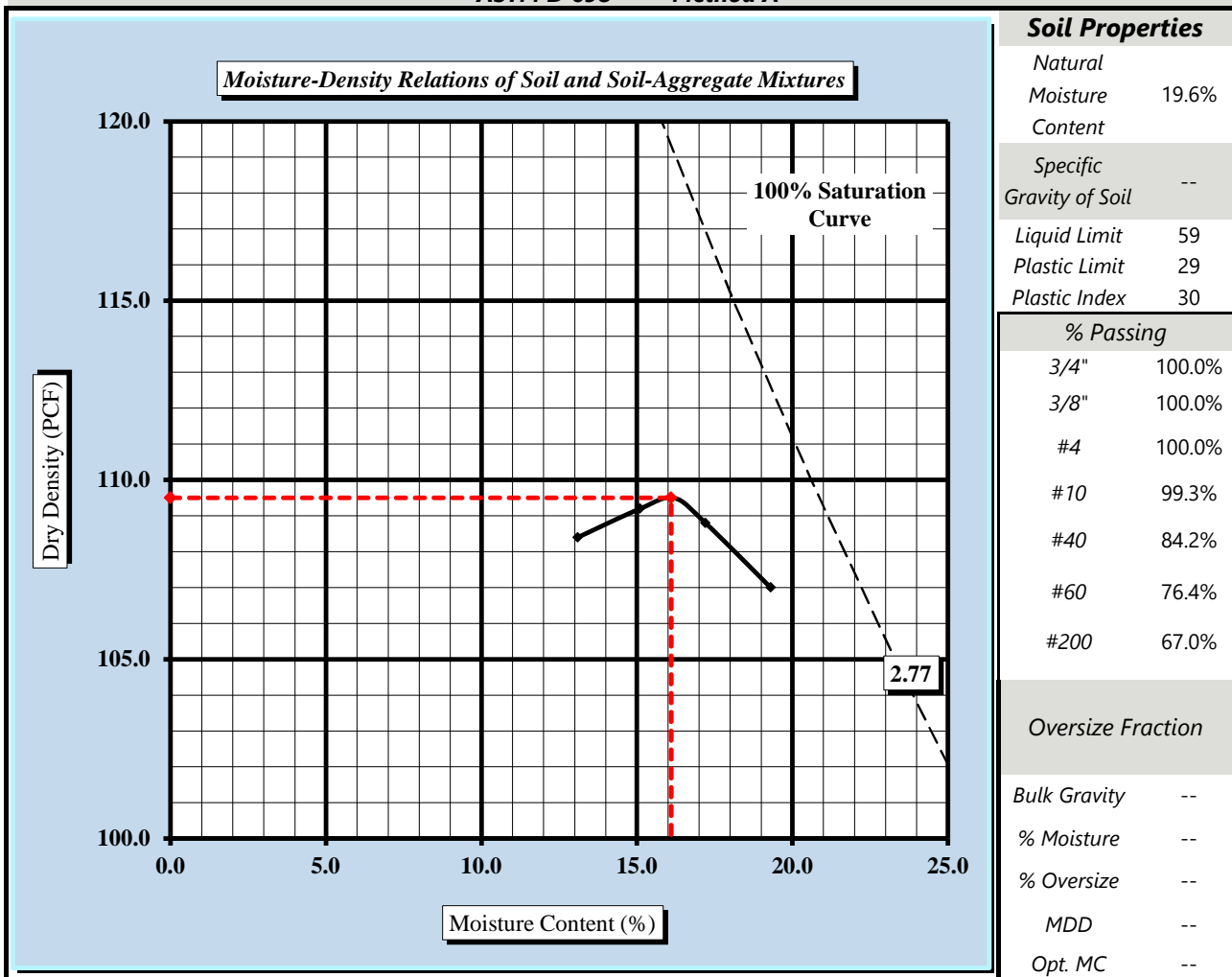
Quality Assurance

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526			
S&ME Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Test Date(s):	7/31/2024
Client Name:	Talbert & Bright		
Client Address:	4810 Shelley DR; Wilmington, NC 28405		
Boring #:	FCH-2	Sample #:	Bulk-3
		Sample Date:	7/29/2024
Location:	Pavement Areas	Lab #:	988
		Depth:	0.5'-2'
Sample Description:	Gray Sandy Fat Clay (CH)		

Maximum Dry Density 109.5 PCF.

Optimum Moisture Content 16.1%

ASTM D 698 - - Method A



Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐
 Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐
 Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations:

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Ron Forest, P.E.
Technical Responsibility

Ron Forest
Signature

Principal Engineer
Position

8/6/2024
Date

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



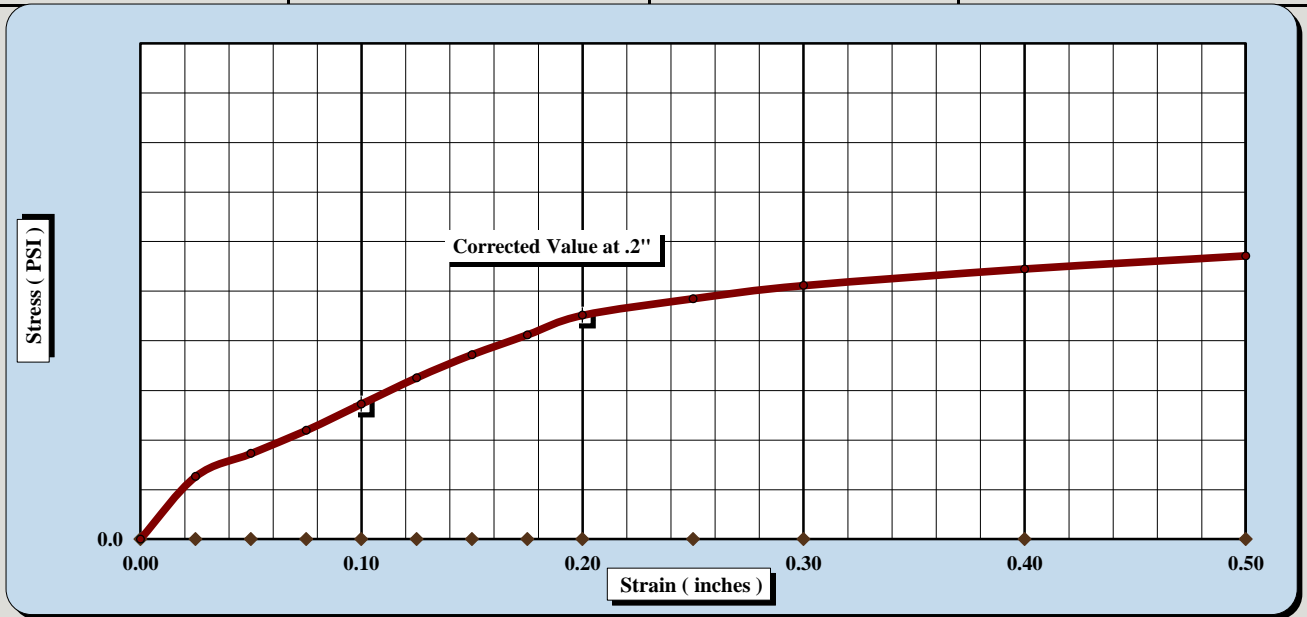
ASTM D 1883

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Test Date(s)	8/1/2024
Client Name:	Talbert & Bright	Amended Report Original Report 2/31/07	
Client Address:	4810 Shelley DR; Wilmington, NC 28405		
Boring #:	FCH-2	Sample #: Bulk-3	Sample Date: 7/29/2024
Location:	Pavement Areas	LAB #: 988	Depth: 0.5'-2'
Sample Description: Gray Sandy Fat Clay (CH)			

ASTM D 698 Method A	Maximum Dry Density:	109.5 PCF	Optimum Moisture Content:	16.1%
Compaction Test performed on grading complying with CBR spec.			% Retained on the 3/4" sieve:	1.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	1.4	CBR at 0.1 in.	1.4
CBR at 0.2 in.	1.5	CBR at 0.2 in.	1.5



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	15	Final Dry Density (PCF)	95.6
Initial Dry Density (PCF)	98.6	Moisture Content (top 1" after soaking)	18.5%
Moisture Content of the Compacted Specimen	17.9%	Percent Swell	3.1%
Percent Compaction	90.0%		

Soak Time:	96 hrs.	Surcharge Weight	20.0	Surcharge Wt. per sq. Ft.	101.9
Liquid Limit	59	Plastic Index	30	Apparent Relative Density	--

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full without the written approval of S&ME, Inc.

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



ASTM D 1883

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #: 24060075 Report Date: 8/6/2024

Project Name: Lumberton Airport-T and Box Hangars Test Date(s): 8/1/2024

Client Name: Talbert & Bright

Client Address: 4810 Shelley DR; Wilmington, NC 28405

Boring #: FCH-2

Sample #: Bulk-3

Sample Date: 7/29/2024

Location: Pavement Areas

LAB #: 988

Depth: 0.5'-2'

Sample Description: Gray Sandy Fat Clay (CH)

ASTM D 698 Method A

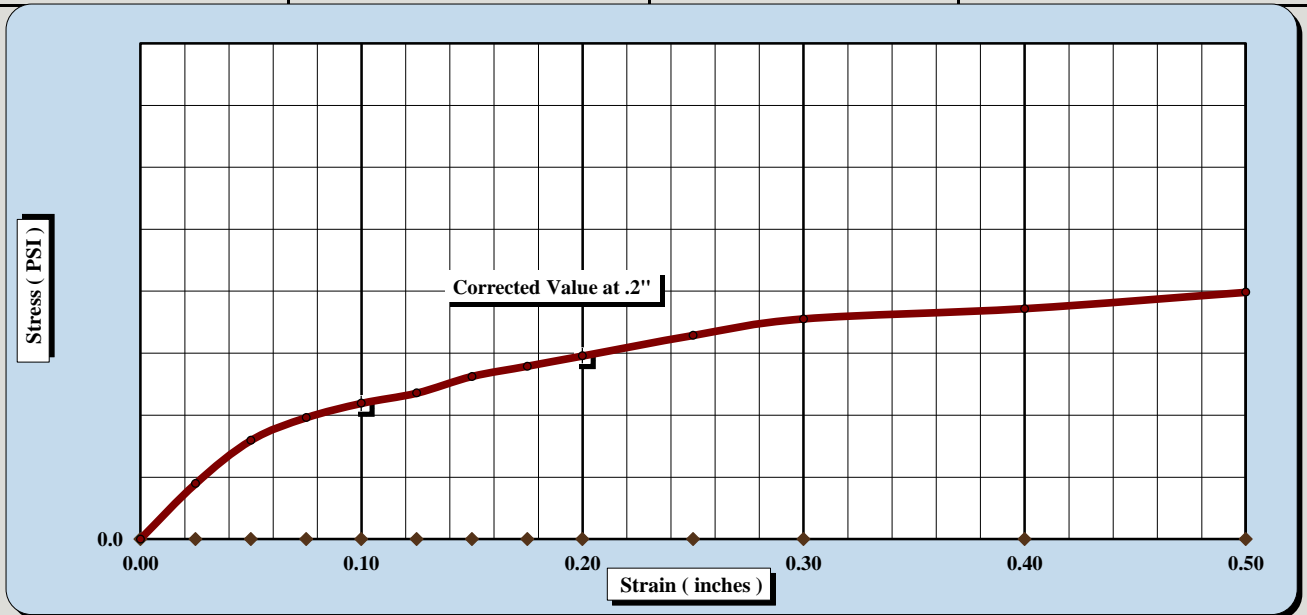
Maximum Dry Density: 109.5 PCF

Optimum Moisture Content: 16.1%

Compaction Test performed on grading complying with CBR spec.

% Retained on the 3/4" sieve: 1.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	2.2	CBR at 0.1 in.	2.2
CBR at 0.2 in.	2.0	CBR at 0.2 in.	2.0



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	25	Final Dry Density (PCF)	100.6
Initial Dry Density (PCF)	103.4	Moisture Content (top 1" after soaking)	18.6%
Moisture Content of the Compacted Specimen	19.3%	Percent Swell	3.0%
Percent Compaction	94.4%		

Soak Time: 96 hrs.

Surcharge Weight: 20.0

Surcharge Wt. per sq. Ft.: 101.8

Liquid Limit: 59

Plastic Index: 30

Apparent Relative Density: --

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full without the written approval of S&ME, Inc.

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



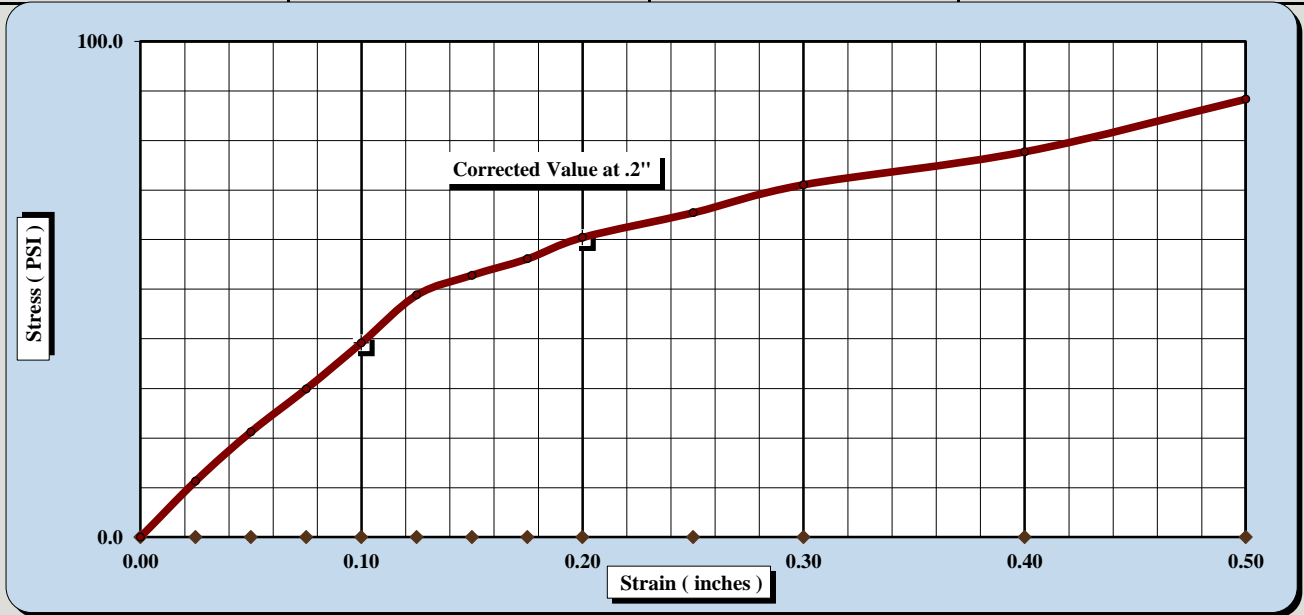
ASTM D 1883

S&ME, Inc. - Myrtle Beach: 1330 Highway 501 Business, Conway, SC 29526

Project #:	24060075	Report Date:	8/6/2024
Project Name:	Lumberton Airport-T and Box Hangars	Test Date(s)	8/1/2024
Client Name:	Talbert & Bright		
Client Address:	4810 Shelley DR; Wilmington, NC 28405		
Boring #:	FCH-2	Sample #: Bulk-3	Sample Date: 7/29/2024
Location:	Pavement Areas	LAB #: 988	Depth: 0.5'-2'
Sample Description: Gray Sandy Fat Clay (CH)			

ASTM D 698	Method A	Maximum Dry Density:	109.5	PCF	Optimum Moisture Content:	16.1%
Compaction Test performed on grading complying with CBR spec.				% Retained on the 3/4" sieve:	1.0%	

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	3.9	CBR at 0.1 in.	3.9
CBR at 0.2 in.	4.0	CBR at 0.2 in.	4.0



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	107.5
Initial Dry Density (PCF)	109.8	Moisture Content (top 1" after soaking)	18.3%
Moisture Content of the Compacted Specimen	18.6%	Percent Swell	2.1%
Percent Compaction	100.2%		

Soak Time:	96 hrs.	Surcharge Weight	20.0	Surcharge Wt. per sq. Ft.	101.9
Liquid Limit	59	Plastic Index	30	Apparent Relative Density	--

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.

Technical Responsibility

Ron Forest

Signature

Principal Engineer

Position

8/6/2024

Date

This report shall not be reproduced, except in full without the written approval of S&ME, Inc.



CBR vs. Compaction Trend - Soil

S&ME, Inc. - Wilmington: 3006 Hall Waters, Suite 100, Wilmington, North Carolina 28405

Project Number: 24060075

Project Name: Lumberton Airport (LBT) - T and Box Hanagars

Report Date: 8/6/24

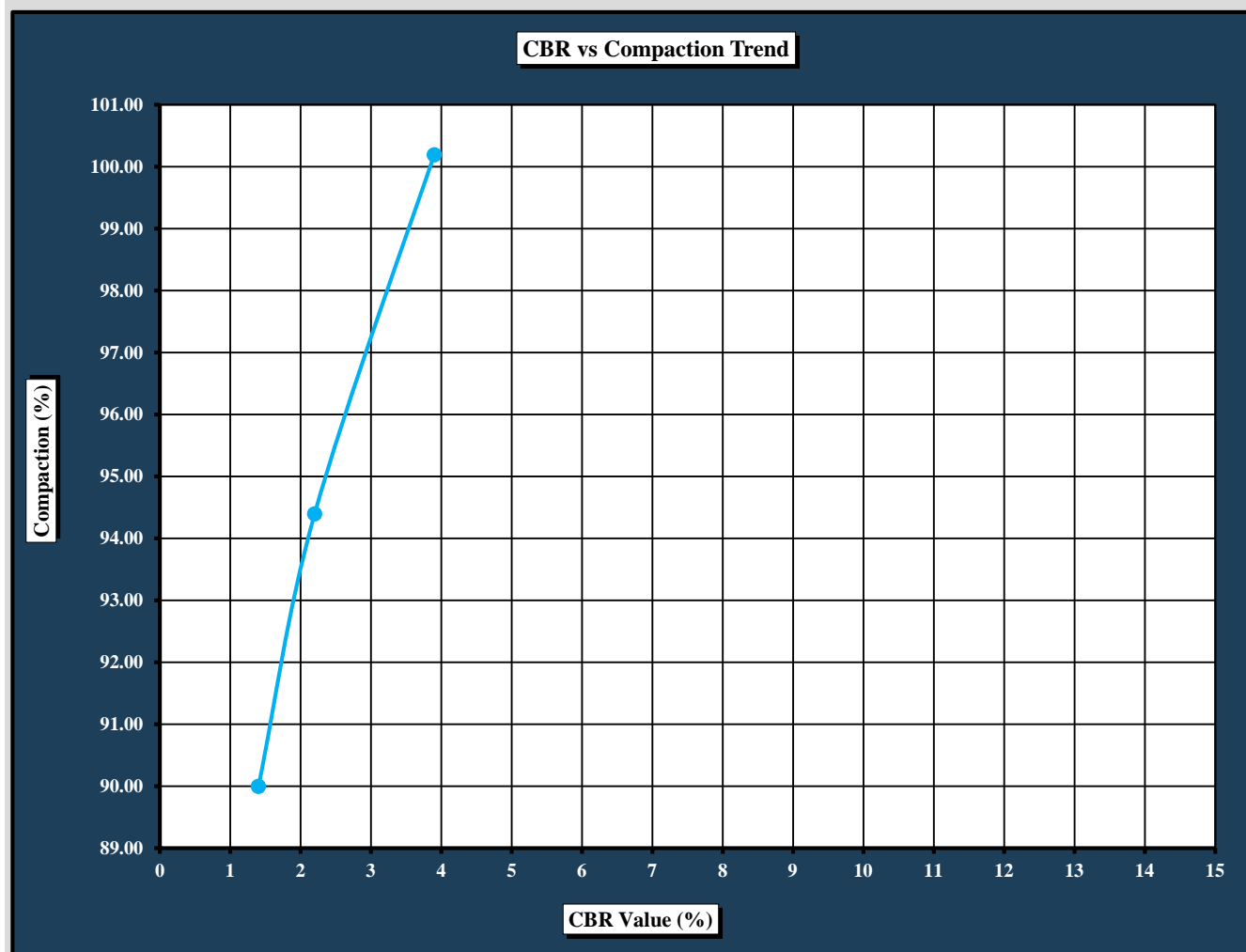
Client Name: Talbert & Bright, Inc.

Test Date: 8/1/2024

Client Address: 4810 Shelly Drive, Suite 101, Wilmington, North Carolina 28405

Sample Date: 7/29/24

Boring Locations: FCH-2/Bulk-3



Density Standard	Description	Method	CBR	Compaction (%)
ASTM D 698	Bulk-3 - Gry Sandy Fat Clay (CH)	ASTM D 1883	1.4	90.00
ASTM D 698	Bulk-3 - Gry Sandy Fat Clay (CH)	ASTM D 1883	2.2	94.4
ASTM D 698	Bulk-3 - Gry Sandy Fat Clay (CH)	ASTM D 1883	3.9	100.2

Technical Responsibility

Ron Forest, Jr., P.E.

Ron Forest
Signature

Principal Engineer
Position

APPENDIX 'H'
CONSTRUCTION SAFETY AND
PHASING PLAN (CSPP)

***TO BE PROVIDED VIA**
ADDENDUM

APPENDIX 'I'
RECOMMENDED SCHEDULE OF
PERMIT FEES

***TO BE PROVIDED VIA**
ADDENDUM

SECTION 002315 – BIDDER’S REQUEST FOR INFORMATION FORM

Instructions: *Requests for Information are accepted from Prime Bidders only. Subcontractors and Suppliers must submit Requests through a Prime Bidder. Bidders are required to complete this form and submit it no later than 5:00 p.m (local time)., **Thursday, February 13, 2025**. Please complete all sections below and email form to travis@twgarchitects.com.*

Architect’s response will be issued by formal Addendum.

Date:	
Requested by (Name):	
Email:	
Phone:	
Company Name:	
Related Specification Section & Paragraph #:	
Related Drawing & Detail #:	
Bidder’s Inquiry (incomplete inquiries will not be considered):	

END OF SECTION 002315

SECTION 002615 – BIDDER’S SUBSTITUTION REQUEST FORM

Instructions: *Requests for Substitution are accepted from Prime Bidders only. Subcontractors and Suppliers must submit Requests through a Prime Bidder. Bidders are required to complete this form and submit it no later than 5:00 p.m (local time)., **Thursday, February 13, 2025**. Please complete all sections below and email form to travis@twgarchitects.com.*

Architect’s response will be issued by formal Addendum. Incomplete submittals will not be considered.

Date:	
Requested by (Name):	
Email:	
Phone:	
Company Name:	
Related Specification Section & Paragraph #:	
Specified product / Fabrication Method:	
Proposed Product / Fabrication Method:	
Required information for Proposed Product:	<ul style="list-style-type: none">• Point by Point Comparative Product Data• Tests• Reports• Fabrication Drawings• Samples (Where applicable)
List of Related Changes / Modifications:	
Differences between proposed substitution and specified product:	
Proposed product / fabrication method affects other parts of the Work:	___ No ___ Yes: explain:

Undersigned certifies:	<ul style="list-style-type: none">• Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product as utilized for this project, except as noted herein.• Qualifications of manufacturer, installer, and other specified parties meet the specified qualifications.• Same special warranty will be furnished for proposed substitution as for specified product.• Same maintenance service and source for replacement parts, as applicable, is available as that specified.• Proposed substitution does not affect dimensions and functional clearances, except as noted herein.
For the Bidder:	<hr/> <p>Bidder Company Name:</p> <hr/> <p>Submitted by Name (print):</p> <hr/> <p>Signed:</p> <hr/> <p>Date:</p>
For the Manufacturer:	<hr/> <p>Manufacturer Company Name:</p> <hr/> <p>Submitted by Name (print):</p> <hr/> <p>Signed:</p> <hr/> <p>Date:</p>

END OF SECTION 002615

SECTION 003100 – AVAILABLE INFORMATION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Document with its referenced attachments is part of the Bidding Requirements for this project and is not part of the Contract Documents. It includes the following:
1. Geotechnical Borings Log.
 2. City of Lumberton Permit Fee Schedule.

1.2 PROJECT CONDITIONS

- A. Geotechnical Data
1. Subsurface investigation reports have been prepared by an independent agency and are attached to this Section.
 2. These reports were obtained by the Owner for reference purposes only and are not part of the Contract Documents. Test boring records are included for Bidders' convenience and information, but are not a warranty of subsurface conditions.
 3. Prior to the Bid date, Bidders may make their own subsurface investigation to satisfy themselves as to the site and subsurface conditions, but such subsurface investigations shall be performed only under time schedules and arrangements approved in advance by the Architect / Engineer or Owner.

END OF SECTION 003100



Report of Geotechnical Exploration
Lumberton Airport (LBT) – Box Hangar
Lumberton, North Carolina
S&ME Project No. 24060079

PREPARED FOR:

The Wilson Group
PO Box 5510
Charlotte, North Carolina 28299

PREPARED BY:

S&ME, Inc.
3006 Hall Waters Drive, Suite 100
Wilmington, North Carolina 28405

August 16, 2024



REFERENCE:
Image Courtesy of Google Earth



Site Vicinity Map

Lumberton Airport (LBT) Box Hangar
Lumberton, North Carolina

SCALE:
Not to Scale

DATE:
7/24/24


PROJECT NUMBER
R24060079

FIGURE NO.

1



LEGEND

 = Approximate Test Location



Test Location Sketch

Lumberton Airport (LBT) Box Hangar
Lumberton, North Carolina

SCALE:
AS SHOWN

DATE:
7/24/24

PROJECT NUMBER
24060079

FIGURE NO.

2



Important Information About Your Geotechnical Engineering Report

Variations in subsurface conditions can be a principal cause of construction delays, cost overruns and claims. The following information is provided to assist you in understanding and managing the risk of these variations.

Geotechnical Findings Are Professional Opinions

Geotechnical engineers cannot specify material properties as other design engineers do. Geotechnical material properties have a far broader range on a given site than any manufactured construction material, and some geotechnical material properties may change over time because of exposure to air and water, or human activity.

Site exploration identifies subsurface conditions at the time of exploration and only at the points where subsurface tests are performed or samples obtained. Geotechnical engineers review field and laboratory data and then apply their judgment to render professional opinions about site subsurface conditions. Their recommendations rely upon these professional opinions. Variations in the vertical and lateral extent of subsurface materials may be encountered during construction that significantly impact construction schedules, methods and material volumes. While higher levels of subsurface exploration can mitigate the risk of encountering unanticipated subsurface conditions, no level of subsurface exploration can eliminate this risk.

Scope of Geotechnical Services

Professional geotechnical engineering judgment is required to develop a geotechnical exploration scope to obtain information necessary to support design and construction. A number of unique project factors are considered in developing the scope of geotechnical services, such as the exploration objective; the location, type, size and weight of the proposed structure; proposed site grades and improvements; the construction schedule and sequence; and the site geology.

Geotechnical engineers apply their experience with construction methods, subsurface conditions and exploration methods to develop the exploration scope. The scope of each exploration is unique based on available project and site information. Incomplete project information or constraints on the scope of exploration increases the risk of variations in subsurface conditions not being identified and addressed in the geotechnical report.

Services Are Performed for Specific Projects

Because the scope of each geotechnical exploration is unique, each geotechnical report is unique. Subsurface conditions are explored and recommendations are made for a specific project.

Subsurface information and recommendations may not be adequate for other uses. Changes in a proposed structure location, foundation loads, grades, schedule, etc. may require additional geotechnical exploration, analyses, and consultation. The geotechnical engineer should be consulted to determine if additional services are required in response to changes in proposed construction, location, loads, grades, schedule, etc.

Geo-Environmental Issues

The equipment, techniques, and personnel used to perform a geo-environmental study differ significantly from those used for a geotechnical exploration. Indications of environmental contamination may be encountered incidental to performance of a geotechnical exploration but go unrecognized. Determination of the presence, type or extent of environmental contamination is beyond the scope of a geotechnical exploration.

Geotechnical Recommendations Are Not Final

Recommendations are developed based on the geotechnical engineer's understanding of the proposed construction and professional opinion of site subsurface conditions. Observations and tests must be performed during construction to confirm subsurface conditions exposed by construction excavations are consistent with those assumed in development of recommendations. It is advisable to retain the geotechnical engineer that performed the exploration and developed the geotechnical recommendations to conduct tests and observations during construction. This may reduce the risk that variations in subsurface conditions will not be addressed as recommended in the geotechnical report.

Appendix II – Exploration Procedures and Data

◆ Summary of Exploration Procedures

The American Society for Testing and Materials (ASTM) publishes standard methods to explore soil, rock and ground water conditions in Practice D-420-18, *"Standard Guide for Site Characterization for Engineering Design and Construction Purposes."* The boring and sampling plan must consider the geologic or topographic setting. It must consider the proposed construction. It must also allow for the background, training, and experience of the geotechnical engineer. While the scope and extent of the exploration may vary with the objectives of the client, each exploration includes the following key tasks:

- Reconnaissance of the Project Area
- Preparation of Exploration Plan
- Layout and Access to Field Sampling Locations
- Field Sampling and Testing of Earth Materials
- Laboratory Evaluation of Recovered Field Samples
- Evaluation of Subsurface Conditions

The standard methods do not apply to all conditions or to every site. Nor do they replace education and experience, which together make up engineering judgment. Finally, ASTM D 420 does not apply to environmental investigations.

Reconnaissance of the Project Area

We walked over the site to note land use, topography, ground cover, and surface drainage. We observed general access to proposed sampling points and noted any existing structures.

Checks for Hazardous Conditions - State law requires that we notify 811 before we drill or excavate at any site. 811 is operated by the major water, sewer, electrical, telephone, CATV, and natural gas suppliers of the state. 811 forwarded our location request to the participating utilities. Location crews then marked buried lines with colored flags within 72 hours. They did not mark utility lines beyond junction boxes or meters. We checked proposed sampling points for conflicts with marked utilities, overhead power lines, tree limbs, or man-made structures during the site walkover.

Boring and Sampling

Soil Test Boring with Mud-Rotary and Hollow Stem Auger Drilling

Soil sampling and penetration testing were performed in general accordance with ASTM D1586, "Standard Test Method for Penetration Test and Split Barrel Sampling of Soils. Mud-rotary drilling methods were used to advance the borings. Soil samples were obtained with a standard 1.4 inch I. D., two-inch O. D., split barrel sampler. The sampler was first seated six inches to penetrate any loose cuttings, then driven an additional 12 inches with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sampler through the two final six inch increments was recorded as the penetration resistance (SPT N) value. The N-value, when properly interpreted by qualified professional staff, is an index of the soil strength and foundation support capability.



Water Level Determination

Subsurface water levels in the soundings were measured at the end of the drilling and after a period of about 24 hours by measuring depths from the existing grade to the current water level using a measuring tape.

Backfilling of Borings

Boring spoils were backfilled into the open bore holes to the existing ground surface. Asphalt core locations were patched using a commercially available asphaltic patch after coring.

LEGEND TO SOIL CLASSIFICATION AND SYMBOLS

SOIL TYPES

(Shown in Graphic Log)



Fill



Asphalt



Concrete



Topsoil



Gravel



Sand



Silt



Clay



Organic



Silty Sand



Clayey Sand



Sandy Silt



Clayey Silt



Sandy Clay



Silty Clay



Partially Weathered Rock



Cored Rock

WATER LEVELS

(Shown in Water Level Column)

▽ = Water Level At Termination of Boring

▼ = Water Level Taken After 24 Hours

◀ = Loss of Drilling Water

HC = Hole Cave

CONSISTENCY OF COHESIVE SOILS

CONSISTENCY

Very Soft

Soft

Firm

Stiff

Very Stiff

Hard

Very Hard

STD. PENETRATION RESISTANCE BLOWS/FOOT

0 to 2

3 to 4

5 to 8

9 to 15

16 to 30

31 to 50

Over 50

RELATIVE DENSITY OF COHESIONLESS SOILS

RELATIVE DENSITY

Very Loose

Loose

Medium Dense

Dense

Very Dense

STD. PENETRATION RESISTANCE BLOWS/FOOT

0 to 4

5 to 10

11 to 30

31 to 50

Over 50

SAMPLER TYPES

(Shown in Samples Column)



Shelby Tube



Split Spoon



Rock Core



No Recovery

TERMS

Standard Penetration Resistance - The Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in. I.D. Split Spoon Sampler 1 Foot. As Specified in ASTM D-1586.

REC - Total Length of Rock Recovered in the Core Barrel Divided by the Total Length of the Core Run Times 100%.

RQD - Total Length of Sound Rock Segments Recovered that are Longer Than or Equal to 4" (mechanical breaks excluded) Divided by the Total Length of the Core Run Times 100%.



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG HGR-1

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.
DRILL RIG: CME 45C	BORING DEPTH: 20.0 ft	
DRILLER: MAD CTB/BB	WATER LEVEL: 4' ATD, 6' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: J. Faucette	
SAMPLING METHOD: Split-Spoon		NORTHING: 0
DRILLING METHOD: Mud Rotary		EASTING: 585

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		POORLY GRADED SAND WITH SILT (SP-SM) - Loose, brown, mostly fine to medium sand, few low plasticity to non-plastic fines, moist.			1		4	4	6					10
5		SILTY SAND (SM) - Medium dense, tan, mostly fine to medium sand, some low plasticity to non-plastic fines, wet.	▽		2		2	7	11					18
		POORLY GRADED SAND (SP) - Medium dense, tan, mostly fine to medium sand, trace fines, saturated.	▽		3		4	6	6					12
10		POORLY GRADED SAND WITH SILT (SP-SM) - Loose, light gray, mostly fine to medium sand, few low plasticity to non-plastic fines, saturated.			4		4	6	4					10
		--- Dense, gray and brown.			5		7	14	18					32
15														
		POORLY GRADED SAND (SP) - Medium dense, light gray, mostly fine to medium sand, trace fines, saturated.			6		7	9	10					19
20		Boring terminated at 20 ft Target Depth												

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG HGR-2

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.
DRILL RIG: CME 45C	BORING DEPTH: 20.0 ft	
DRILLER: MAD CTB/BB	WATER LEVEL: 3' ATD, 5.5' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: J. Faucette	
SAMPLING METHOD: Split-Spoon		NORTHING:
DRILLING METHOD: Mud Rotary		EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	10	20	30	6080	
		TOPSOIL - 2 inches.												
		SILTY SAND (SM) - Loose, gray and brown, mostly fine to medium sand, some low plasticity to non-plastic fines, moist. --- Medium dense, tan, wet.			1		6	4	5					9
5					2		7	7	9					16
		POORLY GRADED SAND (SP) - Medium dense, light gray, mostly fine to medium sand, trace fines, saturated.			3		5	6	7					13
10					4		4	4	7					11
		POORLY GRADED SAND WITH SILT (SP-SM) - Very loose, dark gray, mostly fine to medium sand, some low plasticity to non-plastic fines, trace organics, saturated.			5		1	1	1					2
15														
		CLAYEY SAND (SC) - Loose, gray, mostly fine to medium sand, some low to medium plasticity fines, saturated.			6		1	5	3					8
20		Boring terminated at 20 ft Target Depth												

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.

Page 1 of 1



S&ME BORING LOG \SPT LOGS.GPJ \ LIBRARY 2011_06_28.GDT \ 8/9/24

**Lumberton Airport-T and Box Hangars
Lumberton, North Carolina
S&ME Project No. 24060075**

BORING LOG HGR-3

DATE DRILLED: 7/23/24	ELEVATION:	NOTES: Elevation Unknown.
DRILL RIG: CME 45C	BORING DEPTH: 50.0 ft	
DRILLER: MAD CTB/BB	WATER LEVEL: 5' ATD, 6.5' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: J. Faucette	
SAMPLING METHOD: Split-Spoon		NORTHING: 0
DRILLING METHOD: Mud Rotary		EASTING: 500

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - 2 inches.									
5		SILTY SAND (SM) - Medium dense, gray, mostly fine to medium sand, some low plasticity to non-plastic fines, moist. --- Wet.			1	▲	5	5	6		11
					2	▲	9	9	9		18
					3	▲	4	4	6		10
10		POORLY GRADED SAND (SP) - Loose, tan, mostly fine to medium sand, trace fines, saturated. --- Medium dense.			4	▲	6	6	6		12
15					5	▲	4	5	5		10
		--- Loose.									
20		--- Gray.			6	▲	3	3	4		7
25		SANDY LEAN CLAY (CL) - Very stiff, gray, some fine sand, mostly low to medium plasticity fines, saturated.			7	▲	6	8	13		21
30		--- Hard.			8	▲	5	14	20		34
35		--- Very stiff.			9	▲	5	9	11		20
40		--- Hard.			10	▲	6	11	16		27
45		--- Very stiff.			11	▲	6	9	13		22
50		Boring terminated at 50 ft Target Depth			12	▲	7	9	14		23

NOTES:

- THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
- BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
- STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
- WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.



Appendix III– Laboratory Procedures and Data



◆ Summary of Laboratory Test Procedures

Moisture Content Testing of Soil Samples by Oven Drying

Moisture content was determined in general conformance with the methods outlined in ASTM D 2216, "*Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil or Rock by Mass.*" This method is limited in scope to Group B, C, or D samples of earth materials which do not contain appreciable amounts of organic material, soluble solids such as salt or reactive solids such as cement. This method is also limited to samples which do not contain contamination.

A representative portion of the soil was divided from the sample using one of the methods described in Section 9 of ASTM D 2216. The split portion was then placed in a drying oven and heated to approximately 110 degrees C overnight or until a constant mass was achieved after repetitive weighing. The moisture content of the soil was then computed as the mass of water removed from the sample by drying, divided by the mass of the sample dry, times 100 percent. No attempt was made to exclude any particular particle size from the portion split from the sample.

Grain Size Analysis of Samples (with Wash No. 200 Sieve)

The distribution of particle sizes greater than 75 mm was determined in general accordance with the procedures described by ASTM D 421, "*Standard Practice for Dry Preparation of Soil Samples for Particle- Size Analysis and Determination of Soil Constants*", and D 422, "*Standard Test Method for Particle Size Analysis of Soils*," except that the hydrometer portion of the test standard was not utilized. During preparation samples were divided into two portions. The material coarser than the No. 30 U.S. sieve size fraction was dry sieved through a nest of standard sieves as described in Article 6. Material passing the No. 30 sieve was independently passed through a nest of sieves down to the No. 200 size.

A selected specimen of soils was washed over a No. 200 sieve after being thoroughly mixed and dried. This test was conducted in general accordance with ASTM D 1140, "*Standard Test Method for Amount of Material Finer Than the No. 200 Sieve.*" Method B, using a hexametaphosphate solution to pre-soak the specimen for at least 2 hours, was used to prepare the sample. The sample is then washed through the No. 200 sieve the percentage by weight of material washed through the sieve was deemed the "percent fines" or percent clay and silt fraction.

The results of the D422 and D1140 tests are shown on the same form.

Liquid and Plastic Limits Testing

Atterberg limits of the soils was determined generally following the methods described by ASTM D 4318, "*Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.*" Albert Atterberg originally defined "limits of consistency" of fine-grained soils in terms of their relative ease of deformation at various moisture contents. In current engineering usage, the *liquid limit* of a soil is defined as the moisture content, in percent, marking the upper limit of viscous flow and the boundary with a semi-liquid state. The *plastic limit* defines the lower limit of plastic behavior, above which a soil behaves plastically below which it retains its shape upon drying. The *plasticity index* (PI) is the range of water content over which a soil behaves plastically. Numerically, the PI is the difference between liquid limit and plastic limit values.

Summary of Laboratory Procedures - Continued



Representative portions of fine-grained Group A, B, C, or D samples were prepared using the wet method described in Section 11.1 of ASTM D 4318. Unless otherwise noted on the report form, the liquid limit of each sample was determined using the multipoint method (Method A) described in Section 12. The liquid limit is, by definition, the moisture content where 25 drops of a hand operated liquid limit device are required to close a standard width groove cut in a soil sample placed in the device. After each test, the moisture content of the sample was adjusted and the sample replaced in the device. The test was repeated to provide a minimum of three widely spaced combinations of N versus moisture content. When plotted on semi-log paper, the liquid limit moisture content was determined by straight line interpolation between the data points at N equals 25 blows.

The plastic limit was determined using the procedure described in Section 17 of ASTM D 4318. A selected portion of the soil used in the liquid limit test was kneaded and rolled by hand until it could no longer be rolled to a 3.2 mm thread on a glass plate. This procedure was repeated until at least 6 grams of material was accumulated, at which point the moisture content was determined using the methods described in ASTM D 2216.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-1/S-2	Depth: 3.5'-5.0'
Sample Description: Tan Silty SAND (SM) Trace Clay			

Description of Sand & Gravel Particles:				Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable		<input type="checkbox"/>	

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time:	4.0 hrs
--	-------------------------	------------	---------

Tare No.	B	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	229.5
Total Sample Wet Wt. + Tare Wt.			341.4	Mass of Sample after Wash	229.5
Total Sample Dry Wt. + Tare Wt.			291.6	Mass passing #200	62.1
Total Sample Dry Weight			291.6	% Passing #200 (D1140)	21.3%

Sieve Size		Retained Weight	% Retained Between Sieves	Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual	% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%	0.0%	100.0%	
1"	25.00	0.0	0.0%	0.0%	100.0%	
3/4"	19.00	0.0	0.0%	0.0%	100.0%	
1/2"	12.50	0.0	0.0%	0.0%	100.0%	
3/8"	9.500	0.0	0.0%	0.0%	100.0%	
#4	4.75	4.7	1.6%	1.6%	98.4%	
#10	2.000	16.9	4.2%	5.8%	94.2%	
#20	0.850	37.9	7.2%	13.0%	87.0%	
#40	0.425	93.7	19.1%	32.1%	67.9%	
#60	0.250	158.5	22.2%	54.4%	45.6%	
#100	0.150	193.9	12.1%	66.5%	33.5%	
#140	0.104	209.8	5.5%	71.9%	28.1%	
#200	0.075	224.6	5.1%	77.0%	23.0%	
Pan	<0.075	229.4		% Passing #200 (D422) = 23.0%		
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)	26.3%
Gravel	< 75 mm and > 4.75 mm (#4)		1.6%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)	44.9%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		4.2%	% Silt & Clay	< 0.075 mm	23.0%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-1/S-2

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS

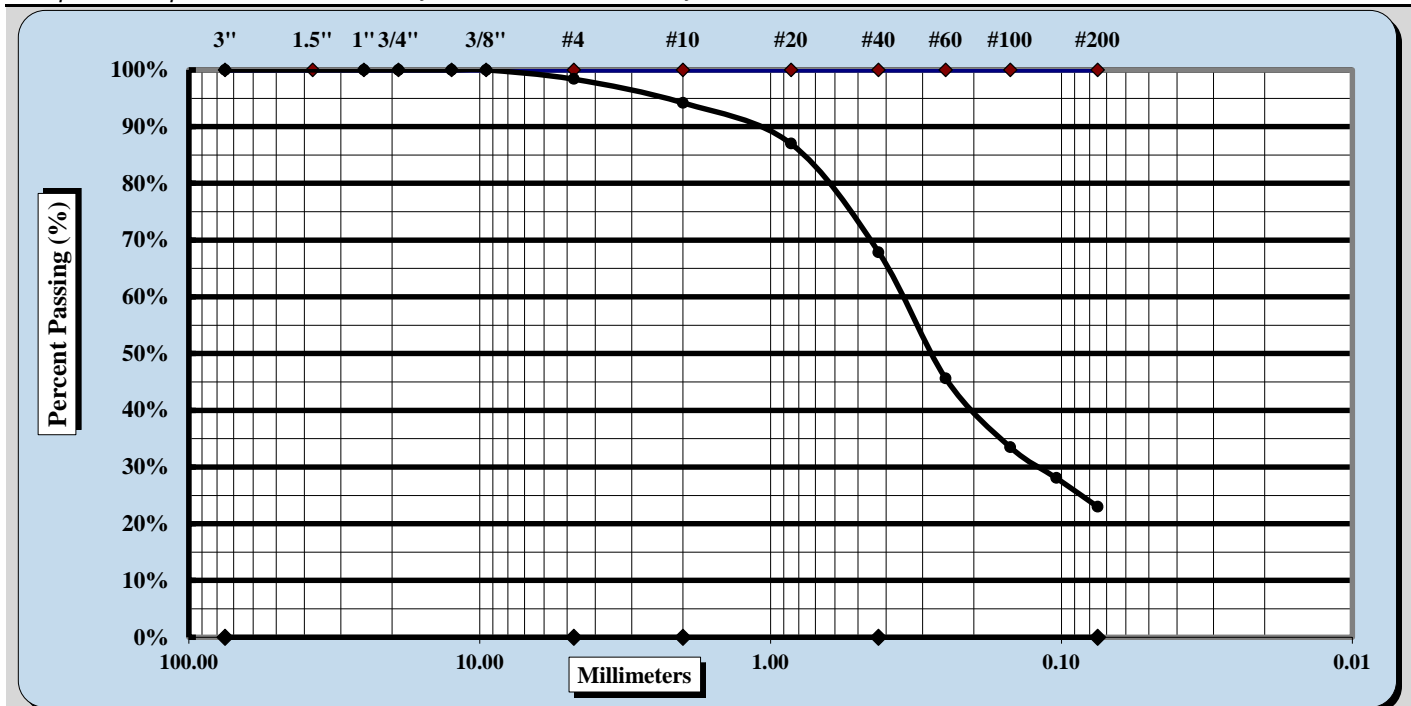


ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-1/S-2
		Depth:	3.5'-5.0'

Sample Description: Tan Silty SAND (SM) Trace Clay



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	4.2%	Fine Sand	44.9%
Gravel	1.6%	Medium Sand	26.3%	Silt & Clay	23.0%
Liquid Limit	NP	Plastic Limit	NP	Plastic Index	NP
Assumed SG	2.650	Cc =	N/A	Cu =	N/A
				Moisture Content	17.1%
Coarse Sand	4.2%	Medium Sand	26.3%	Fine Sand	44.9%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-1/S-2

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

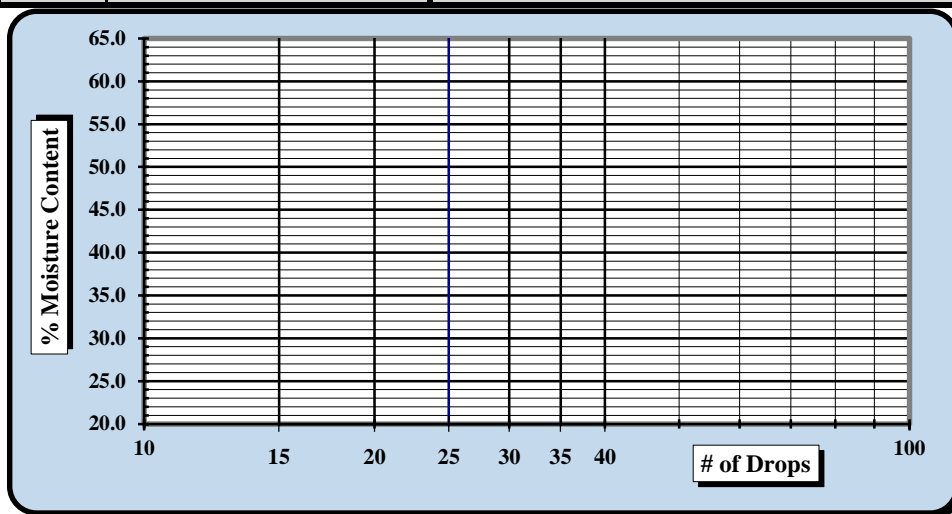
S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405
Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-1/S-2 Depth(ft): 3.5'-5.0'

Sample Description: Tan Silty SAND (SM) Trace Clay

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit					Plastic Limit		
Tare #:		1	2	3			4	5	
A	Tare Weight								
B	Wet Soil Weight + A								
C	Dry Soil Weight + A								
D	Water Weight (B-C)								
E	Dry Soil Weight (C-A)								
F	% Moisture (D/E)*100								
N	# OF DROPS						Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR								
Ave.	Average								



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒

Liquid Limit

Plastic Limit

Plastic Index

Group Symbol

Multipoint Method ☒

One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 32%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

No LL or PL could be determined, therefore classified as NP

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		

Sample Id.	91	Type: Site Material	Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-2/S-5	Depth:	13.5'-15.0'

Sample Description: Dark Gray Poorly Graded SAND with Silt (SP-SM) Trace Organics

Description of Sand & Gravel Particles:		Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable	<input type="checkbox"/>

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time:	4.0 hrs
--	-------------------------	------------	---------

Tare No.	I	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	214.8
Total Sample Wet Wt. + Tare Wt.			347.5	Mass of Sample after Wash	214.8
Total Sample Dry Wt. + Tare Wt.			236.2	Mass passing #200	21.4
Total Sample Dry Weight			236.2	% Passing #200 (D1140)	9.1%

Sieve Size		Retained Weight	% Retained Between Sieves		Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual		% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%		0.0%	100.0%	
1"	25.00	0.0	0.0%		0.0%	100.0%	
3/4"	19.00	0.0	0.0%		0.0%	100.0%	
1/2"	12.50	0.0	0.0%		0.0%	100.0%	
3/8"	9.500	0.0	0.0%		0.0%	100.0%	
#4	4.75	0.6	0.3%		0.3%	99.7%	
#10	2.000	1.2	0.3%		0.5%	99.5%	
#20	0.850	5.1	1.7%		2.2%	97.8%	
#40	0.425	22.0	7.2%		9.3%	90.7%	
#60	0.250	77.4	23.5%		32.8%	67.2%	
#100	0.150	158.9	34.5%		67.3%	32.7%	
#140	0.104	195.4	15.5%		82.7%	17.3%	
#200	0.075	211.8	6.9%		89.7%	10.3%	
Pan	<0.075	214.9			% Passing #200 (D422) = 10.3%		
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)		8.8%
Gravel	< 75 mm and > 4.75 mm (#4)		0.3%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)		80.4%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		0.3%	% Silt & Clay	< 0.075 mm		10.3%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-2/S-5

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS

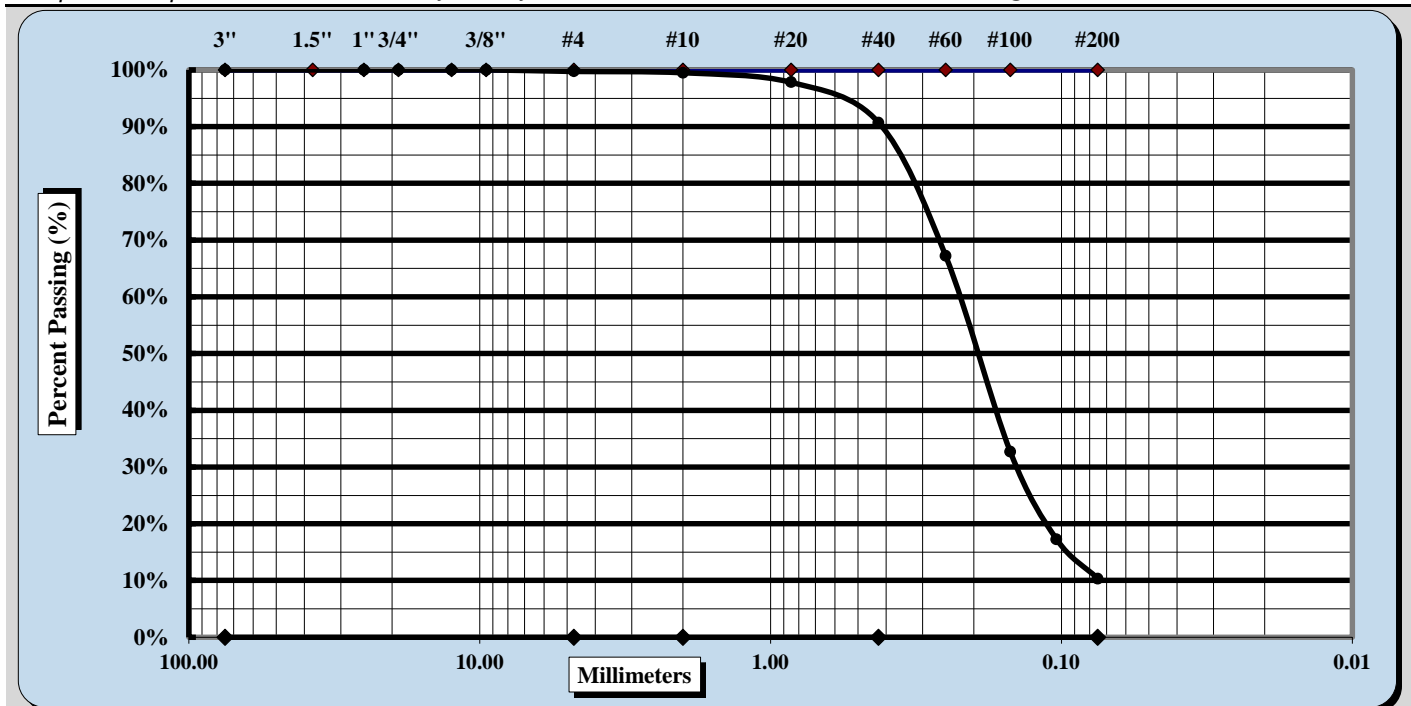


ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-2/S-5
		Depth:	13.5'-15.0'

Sample Description: Dark Gray Poorly Graded SAND with Silt (SP-SM) Trace Organics



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	0.3%	Fine Sand	80.4%
Gravel	0.3%	Medium Sand	8.8%	Silt & Clay	10.3%
Liquid Limit	NP	Plastic Limit	NP	Plastic Index	NP
Assumed SG	2.650	Cc =	N/A	Cu =	N/A
				Moisture Content	47.1%
Coarse Sand	0.3%	Medium Sand	8.8%	Fine Sand	80.4%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-2/S-5

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

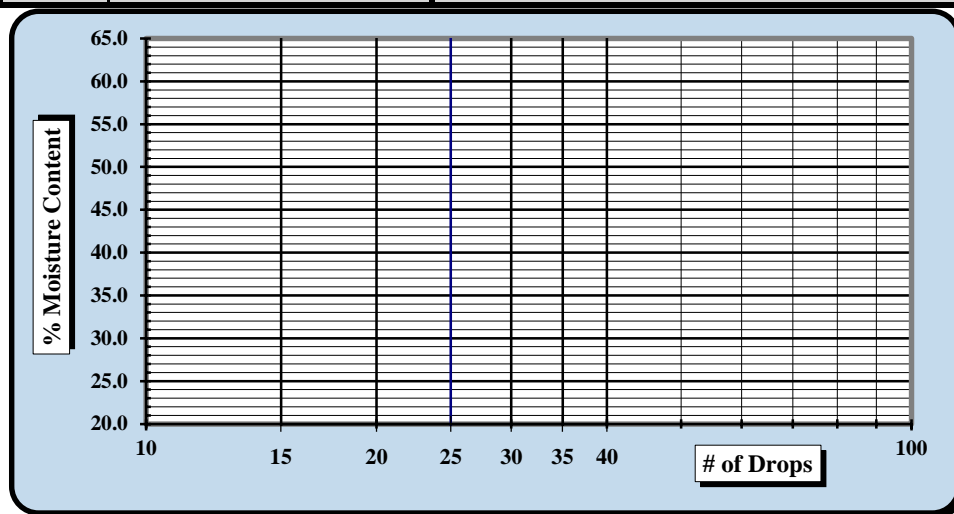
Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405

Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-2/S-5 Depth(ft): 13.5'-15.0'

Sample Description: Dark Gray Poorly Graded SAND with Silt (SP-SM) Trace Organics

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit					Plastic Limit		
Tare #:		1	2	3			4	5	
A	Tare Weight								
B	Wet Soil Weight + A								
C	Dry Soil Weight + A								
D	Water Weight (B-C)								
E	Dry Soil Weight (C-A)								
F	% Moisture (D/E)*100								
N	# OF DROPS						Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR								
Ave.	Average								



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒
Liquid Limit
Plastic Limit
Plastic Index
Group Symbol

Multipoint Method ☒
One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 9%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE *No LL or PL could be determined, therefore classified as NP*

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-3/S-3	Depth: 6.0'-7.5'
Sample Description: Tan Poorly Graded SAND (SP)			

Description of Sand & Gravel Particles:				Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable		<input type="checkbox"/>	

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time: 4.0 hrs
--	-------------------------	--------------------

Tare No.	G	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	273.4
Total Sample Wet Wt. + Tare Wt.			337.8	Mass of Sample after Wash	273.4
Total Sample Dry Wt. + Tare Wt.			277.3	Mass passing #200	3.9
Total Sample Dry Weight			277.3	% Passing #200 (D1140)	1.4%

Sieve Size		Retained Weight	% Retained Between Sieves	Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual	% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%	0.0%	100.0%	
1"	25.00	0.0	0.0%	0.0%	100.0%	
3/4"	19.00	0.0	0.0%	0.0%	100.0%	
1/2"	12.50	0.0	0.0%	0.0%	100.0%	
3/8"	9.500	0.0	0.0%	0.0%	100.0%	
#4	4.75	0.0	0.0%	0.0%	100.0%	
#10	2.000	3.0	1.1%	1.1%	98.9%	
#20	0.850	66.6	22.9%	24.0%	76.0%	
#40	0.425	200.7	48.4%	72.4%	27.6%	
#60	0.250	252.2	18.6%	90.9%	9.1%	
#100	0.150	269.7	6.3%	97.3%	2.7%	
#140	0.104	272.2	0.9%	98.2%	1.8%	
#200	0.075	273.0	0.3%	98.4%	1.6%	
Pan	<0.075	273.1		% Passing #200 (D422) =		1.6%
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)	71.3%
Gravel	< 75 mm and > 4.75 mm (#4)		0.0%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)	26.1%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		1.1%	% Silt & Clay	< 0.075 mm	1.6%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-3

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

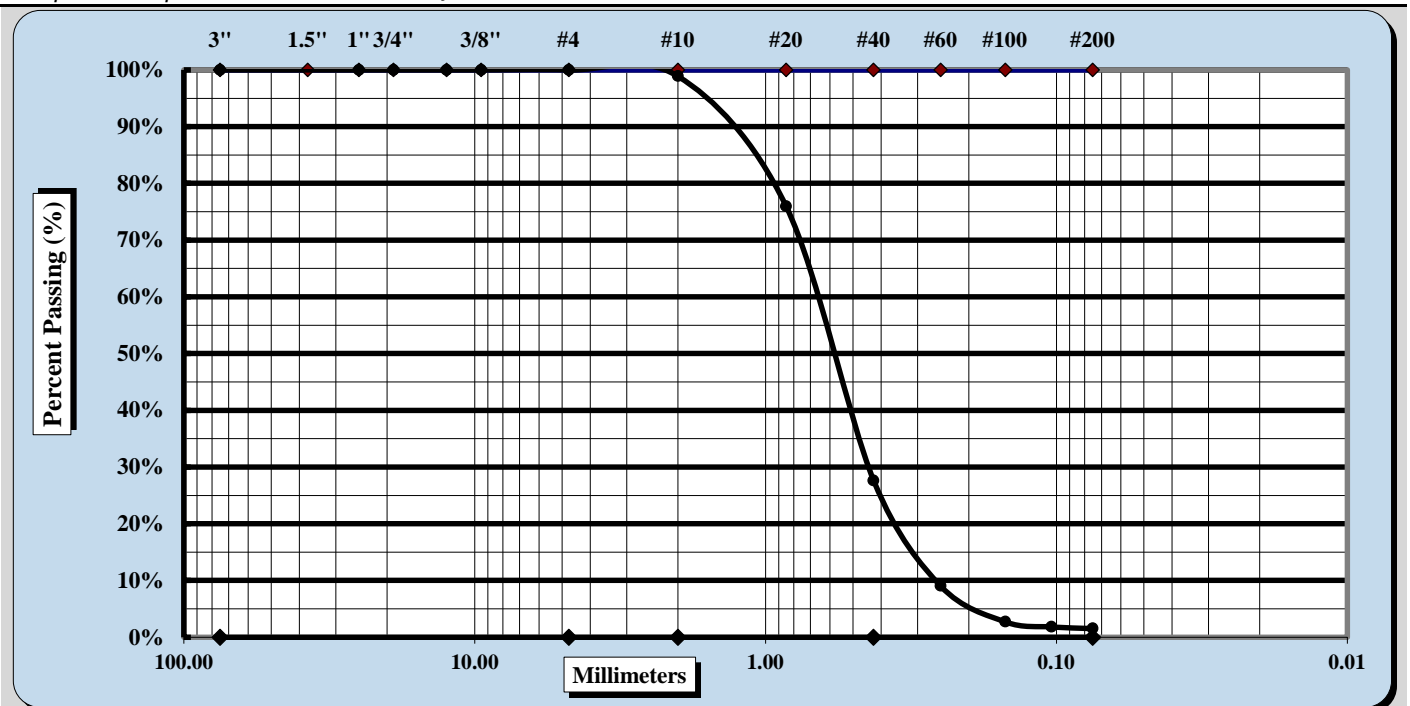
SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24		
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24		
Client Name:	Talbert & Bright, Inc.				
Client Address:	4810 Shelley Dr., Wilmington, NC 28405				
Sample Id.	91	Type:	Site Material	Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-3/S-3	Depth:	6.0'-7.5'
Sample Description:		Tan Poorly Graded SAND (SP)			



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"		Coarse Sand	1.1%		Fine Sand	26.1%
Gravel	0.0%		Medium Sand	71.3%		Silt & Clay	1.6%
Liquid Limit	NP		Plastic Limit	NP		Plastic Index	NP
Assumed SG	2.650	Cc =	0.983	Cu =	2.654	Moisture Content	21.9%
Coarse Sand	1.1%		Medium Sand	71.3%		Fine Sand	26.1%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-3

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date _____

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

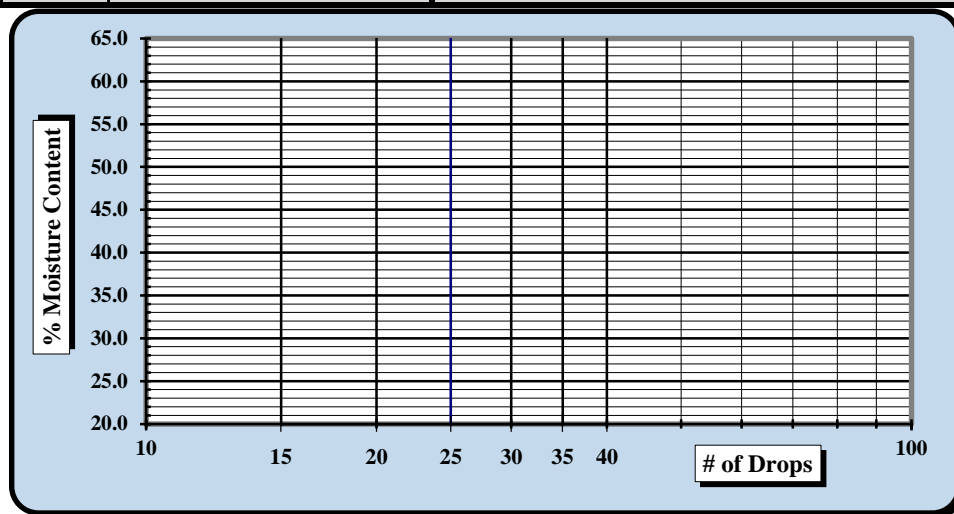
S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405
Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-3/S-3 Depth(ft): 6.0'-7.5'

Sample Description: Tan Poorly Graded SAND (SP)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit					Plastic Limit		
Tare #:		1	2	3			4	5	
A	Tare Weight								
B	Wet Soil Weight + A								
C	Dry Soil Weight + A								
D	Water Weight (B-C)								
E	Dry Soil Weight (C-A)								
F	% Moisture (D/E)*100								
N	# OF DROPS						Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR								
Ave.	Average								



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒

Liquid Limit

Plastic Limit

Plastic Index

Group Symbol

Multipoint Method ☒

One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 72%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

No LL or PL could be determined, therefore classified as NP

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-3/S-6	Depth: 18.5'-20.0'
Sample Description: Gray Poorly Graded SAND (SP)			

Description of Sand & Gravel Particles:				Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable		<input type="checkbox"/>	

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time: 4.0 hrs
--	-------------------------	--------------------

Tare No.	F	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	281.7
Total Sample Wet Wt. + Tare Wt.			346.9	Mass of Sample after Wash	281.7
Total Sample Dry Wt. + Tare Wt.			290.2	Mass passing #200	8.5
Total Sample Dry Weight			290.2	% Passing #200 (D1140)	2.9%

Sieve Size		Retained Weight	% Retained Between Sieves		Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual		% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%		0.0%	100.0%	
1"	25.00	0.0	0.0%		0.0%	100.0%	
3/4"	19.00	0.0	0.0%		0.0%	100.0%	
1/2"	12.50	0.0	0.0%		0.0%	100.0%	
3/8"	9.500	0.0	0.0%		0.0%	100.0%	
#4	4.75	0.2	0.1%		0.1%	99.9%	
#10	2.000	13.4	4.5%		4.6%	95.4%	
#20	0.850	100.4	30.0%		34.6%	65.4%	
#40	0.425	215.9	39.8%		74.4%	25.6%	
#60	0.250	258.6	14.7%		89.1%	10.9%	
#100	0.150	272.4	4.8%		93.9%	6.1%	
#140	0.104	277.8	1.9%		95.7%	4.3%	
#200	0.075	281.0	1.1%		96.8%	3.2%	
Pan	<0.075	281.6			% Passing #200 (D422) = 3.2%		
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)		69.8%
Gravel	< 75 mm and > 4.75 mm (#4)		0.1%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)		22.4%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		4.5%	% Silt & Clay	< 0.075 mm		3.2%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-6

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

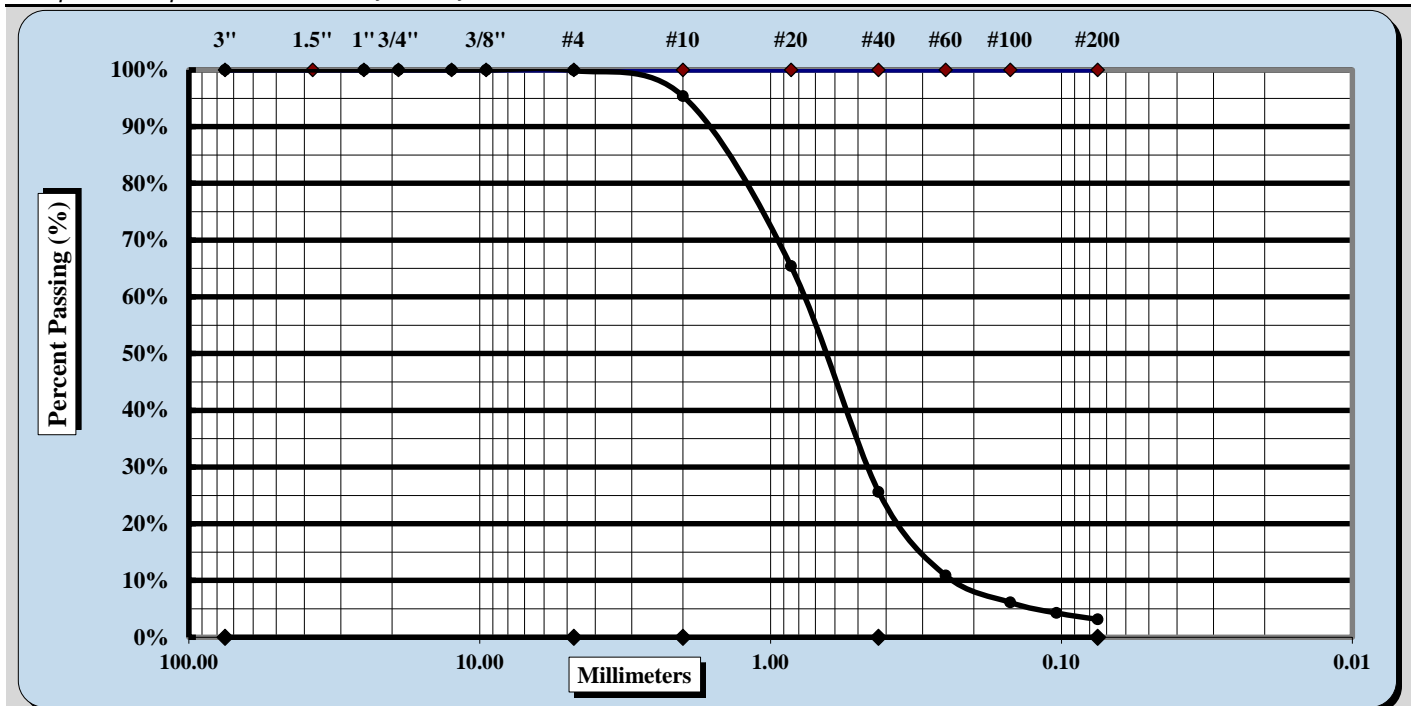
SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-3/S-6
		Depth:	18.5'-20.0'
Sample Description: Gray Poorly Graded SAND (SP)			



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Coarse Sand	4.5%	Fine Sand	22.4%
Gravel	0.1%	Medium Sand	69.8%	Silt & Clay	3.2%
Liquid Limit	NP	Plastic Limit	NP	Plastic Index	NP
Assumed SG	2.650	Cc =	1.216	Cu =	3.160
				Moisture Content	21.9%
Coarse Sand	4.5%	Medium Sand	69.8%	Fine Sand	19.5%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-6

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

LIQUID LIMIT, PLASTIC LIMIT,
& PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

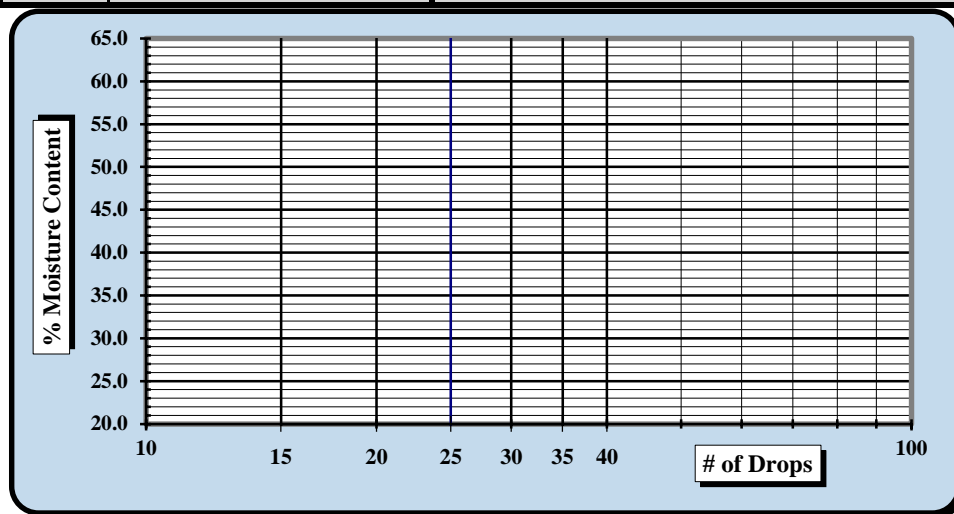
Project #: 24060075 Report Date: 8/5/24
Project Name: Lumberton Airport(LBT)-T and Box Hangars Test Date(s) 8/3-8/5/24
Client Name: Talbert & Bright, Inc.
Client Address: 4810 Shelley Dr., Wilmington, NC 28405

Sample Id: 91 Type: Site Material Sample Date: 7/29/24
Location: Roadway& Hangars Source Loc.: HGR-3/S-6 Depth(ft): 18.5'-20.0'

Sample Description: Gray Poorly Graded SAND (SP)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit						Plastic Limit		
Tare #:		1	2	3				4	5	
A	Tare Weight									
B	Wet Soil Weight + A									
C	Dry Soil Weight + A									
D	Water Weight (B-C)									
E	Dry Soil Weight (C-A)									
F	% Moisture (D/E)*100									
N	# OF DROPS							Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average									



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒
Liquid Limit
Plastic Limit
Plastic Index
Group Symbol

Multipoint Method ☒
One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 74%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE *No LL or PL could be determined, therefore classified as NP*

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS



ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type: Site Material	Sample Date: 7/23/24
Location:	Roadway & Hangars	Source Loc.: HGR-3/S-7	Depth: 23.5'-25.0'
Sample Description: Gray Sandy Lean CLAY (CL)			

Description of Sand & Gravel Particles:		Rounded	<input type="checkbox"/>	Angular	<input type="checkbox"/>
Hard & Durable	<input type="checkbox"/>	Soft	<input type="checkbox"/>	Weathered & Friable	<input type="checkbox"/>

Particle Size Analysis / Without Hydrometer Analysis	Material Excluded: None	Soak Time: 4.0 hrs
--	-------------------------	--------------------

Tare No.	#	Tare Wt.	0.0	Mass of Sample after Wash + Tare Wt.	99.6
Total Sample Wet Wt. + Tare Wt.			343.0	Mass of Sample after Wash	99.6
Total Sample Dry Wt. + Tare Wt.			283.9	Mass passing #200	184.3
Total Sample Dry Weight			283.9	% Passing #200 (D1140)	64.9%

Sieve Size		Retained Weight	% Retained Between Sieves	Cumulative Total Sample		SPECS
Standard	mm.	Cumulative	Individual	% Retained	% Passing	Max Passing
3"	75.00	0.0	0.0%	0.0%	100.0%	
1"	25.00	0.0	0.0%	0.0%	100.0%	
3/4"	19.00	0.0	0.0%	0.0%	100.0%	
1/2"	12.50	0.0	0.0%	0.0%	100.0%	
3/8"	9.500	0.0	0.0%	0.0%	100.0%	
#4	4.75	0.0	0.0%	0.0%	100.0%	
#10	2.000	0.6	0.2%	0.2%	99.8%	
#20	0.850	13.0	4.4%	4.6%	95.4%	
#40	0.425	39.9	9.5%	14.1%	85.9%	
#60	0.250	62.1	7.8%	21.9%	78.1%	
#100	0.150	77.7	5.5%	27.4%	72.6%	
#140	0.104	87.3	3.4%	30.8%	69.2%	
#200	0.075	97.9	3.7%	34.5%	65.5%	
Pan	<0.075	99.7		% Passing #200 (D422) =		65.5%
D2487	Maximum Particle Size		3/8"	Medium Sand	< 2.00 mm and > 0.425 mm (#40)	13.8%
Gravel	< 75 mm and > 4.75 mm (#4)		0.0%	Fine Sand	< 0.425 mm and > 0.075 mm (#200)	20.4%
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)		0.2%	% Silt & Clay	< 0.075 mm	65.5%

Notes / Deviations / References: TEST PERFORMED BY: J. FAUCETTE

Split Spoon Sample HGR-3/S-7

Jason Faucette
Technical Responsibility

Jason Faucette
Signature

Laboratory Supervisor
Position

8/5/2024
Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

SIEVE ANALYSIS OF SOILS

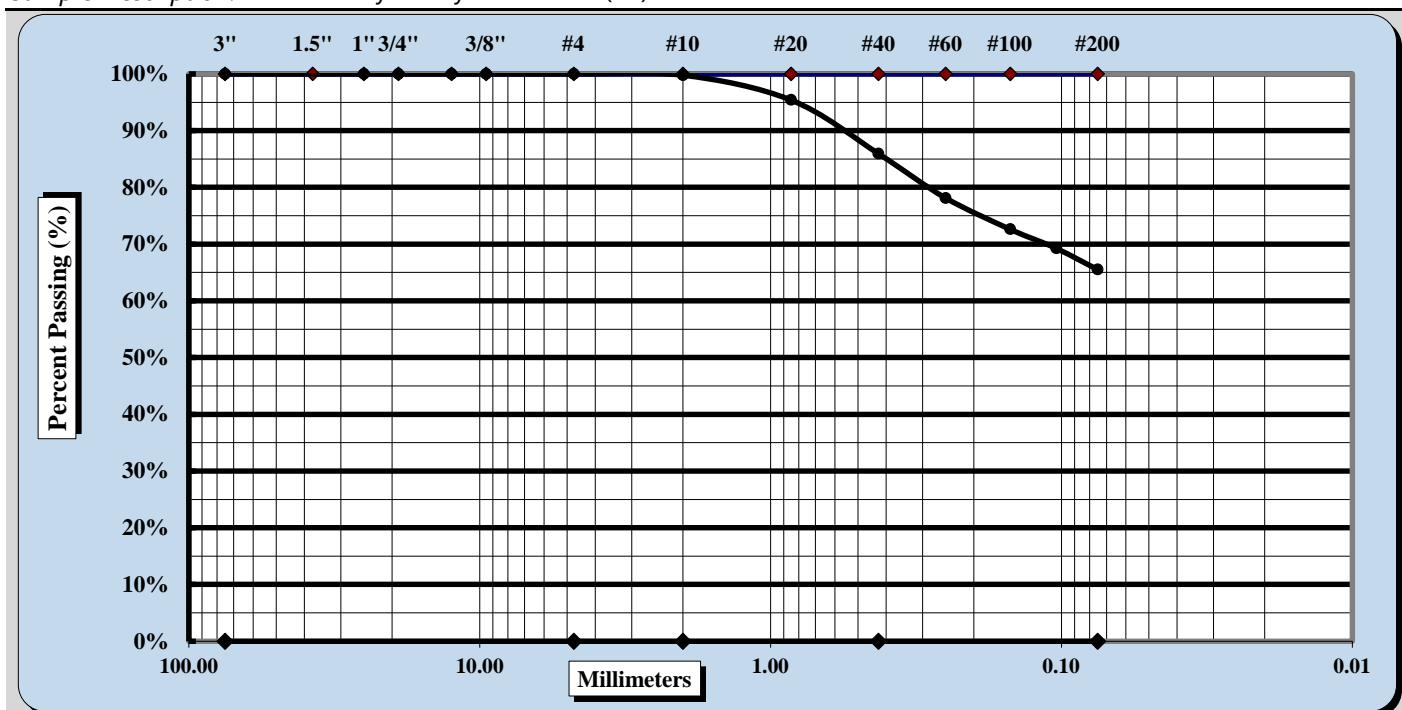


ASTM D422/AASHTO T88

S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s):	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id.	91	Type:	Site Material
		Sample Date:	7/23/24
Location:	Roadway & Hangars	Source Loc.:	HGR-3/S-7
		Depth:	23.5'-25.0'

Sample Description: Gray Sandy Lean CLAY (CL)



LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX



ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

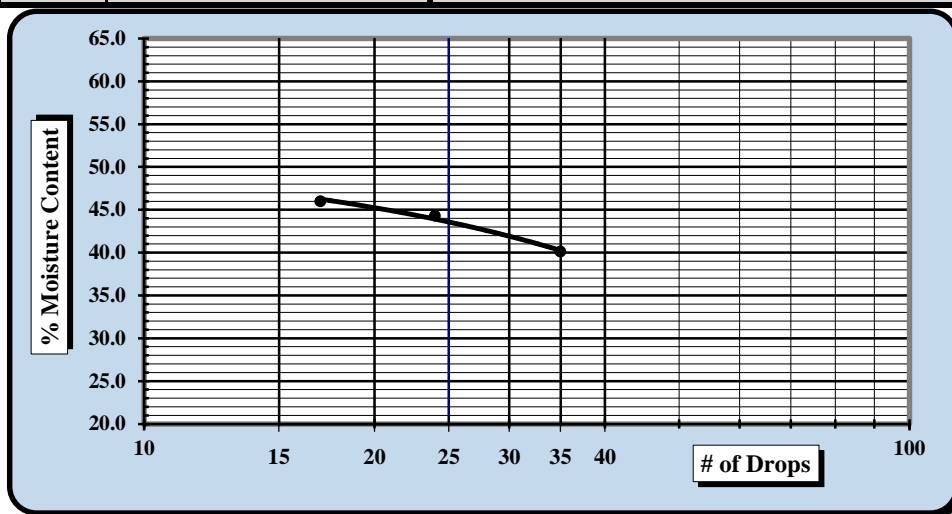
S&ME, Inc. - Wilmington: 3006 Hall Waters Drive, Suite 100, Wilmington, NC 28405

Project #:	24060075	Report Date:	8/5/24
Project Name:	Lumberton Airport(LBT)-T and Box Hangars	Test Date(s)	8/3-8/5/24
Client Name:	Talbert & Bright, Inc.		
Client Address:	4810 Shelley Dr., Wilmington, NC 28405		
Sample Id:	91	Type: Site Material	Sample Date: 7/29/24
Location:	Roadway& Hangars	Source Loc.: HGR-3/S-7	Depth(ft): 23.5'-25.0'

Sample Description: Gray Sandy Lean CLAY (CL)

Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance (0.01 g)	14862	7/1/2024	Grooving tool	14947(H)	7/13/2024
LL Apparatus	17515	7/13/2024	Grooving tool		
Oven	14993	7/18/2024	Grooving tool		

Pan #		Liquid Limit						Plastic Limit	
Tare #:		1	2	3				4	5
A	Tare Weight	11.06	10.66	11.61				11.31	10.72
B	Wet Soil Weight + A	22.97	21.48	23.26				19.59	19.60
C	Dry Soil Weight + A	19.56	18.16	19.59				18.56	18.43
D	Water Weight (B-C)	3.41	3.32	3.67				1.03	1.17
E	Dry Soil Weight (C-A)	8.50	7.50	7.98				7.25	7.71
F	% Moisture (D/E)*100	40.1%	44.3%	46.0%				14.2%	15.2%
N	# OF DROPS	35	24	17				Moisture Contents determined by ASTM D 2216	
LL	LL = F * FACTOR								
Ave.	Average							14.7%	



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic	<input type="checkbox"/>
Liquid Limit	44
Plastic Limit	15
Plastic Index	29
Group Symbol	CL

Multipoint Method ☐
One-point Method ☐

Wet Preparation Dry Preparation Air Dried Estimate the % Retained on the #40 Sieve: 14%

Notes / Deviations / References: ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Tests Performed By: J.FAUCETTE

Jason Faucette

Technical Responsibility

Jason Faucette

Signature

Laboratory Supervisor

Position

8/5/2024

Date

Results shown in this report, relate only to the sample noted above

This report shall not be reproduced, except in full, without the written approval of S&ME, Inc.

DEPARTMENT OF PLANNING & INSPECTIONS

DEVELOPMENT REVIEW PROCEDURES

PLAN REVIEW

CHAPTER 35 OF THE LUMBERTON CITY CODE REQUIRES THE PREPARATION AND SUBMITTAL OF DEVELOPMENT PLANS FOR REVIEW AND APPROVAL PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. THE DEPARTMENT COORDINATES THIS FUNCTION FOR THE CITY AND ADVISES APPLICANTS OF THEIR RESPONSIBILITIES RELATIVE TO PLAN SUBMISSION, PERMIT ISSUANCE, AND FEE PAYMENT.

MOST BUILDING PERMITS CAN BE ISSUED WITHIN 2 TO 4 WORKING DAYS WHILE MOST TRADE PERMITS CAN BE ISSUED UPON APPLICATION. THE INFORMATION REQUIRED TO BE DISCLOSED FOR THE ISSUANCE OF A PERMIT IS REFLECTED ON THE APPLICATIONS OR ON THE SITE PLAN CHECK LIST, ALL OF WHICH ARE AVAILABLE AT THE DEPARTMENT.

BUILDING PERMITS FOR CHANGE OF USE, NEW CONSTRUCTION, ADDITIONS, ETC. REQUIRE THE SUBMISSION OF DETAILED DEVELOPMENT SITE PLANS AS WELL AS CONSTRUCTION DRAWINGS AND SPECIFICATIONS.

REVIEW BY OTHER AGENCIES

THE TYPE OR LOCATION OF A DEVELOPMENT PROPOSAL MAY REQUIRE THE REVIEW OF PLANS AND SPECIFICATIONS BY STATE OR FEDERAL AGENCIES. WHILE THE APPLICANT IS RESPONSIBLE FOR ENSURING COMPLIANCE WITH THE REGULATIONS OF OTHER AGENCIES, THE DEPARTMENT WILL ROUTE PLANS TO THE RELEVANT FEDERAL, STATE, AND CITY AGENCIES FOR REVIEW AND COMMENT. PERMITS MAY NEED TO BE OBTAINED FROM THESE AGENCIES AND FEES PAID.

IN ADDITION, AUTHORIZATION TO USE A TRACT OF LAND MAY REQUIRE THE APPROVAL OF THE LUMBERTON CITY COUNCIL OR BOARD OF ADJUSTMENT; THESE APPROVALS ARE SUBJECT TO A PUBLIC HEARING PROCESS AND CAN REQUIRE SEVERAL MONTHS TO CONCLUDE.

OTHER FEES

FEES MAY BE ASSESSED BY STATE AND FEDERAL AGENCIES AS WELL AS THE OTHER CITY AGENCIES. EXAMPLES INCLUDE THE PUBLIC WORKS DEPARTMENT FEES FOR DRIVEWAY CUTS, WATER CONNECTION, SEWER CONNECTION, AND STORM DRAINAGE, ALSO THE ELECTRIC UTILITIES DEPARTMENT FEES FOR SERVICE CONNECTIONS.

THESE FEES AS, APPROPRIATE, MUST BE PAID PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.

MUNICIPAL PLANNING AUTHORITY

THE CITY OF LUMBERTON ENFORCES COMPREHENSIVE LAND USE CODES WITHIN ITS CORPORATE LIMITS AND EXTRATERRITORIAL JURISDICTION. QUESTIONS ABOUT THE LOCATION OF ITS PLANNING BOUNDARY SHOULD BE DIRECTED TO THE PLANNING DEPARTMENT AT (910) 671-3838.

MUNICIPAL UTILITIES

THE CITY OF LUMBERTON IS A FULL-SERVICE UTILITY PROVIDER OFFERING WATER, SANITARY SEWER, AND ELECTRIC UTILITY SERVICES.

PLANNING DIRECTOR

ARTRIEL KIRCHNER 671-3976

ASSISTANT PLANNING DIRECTOR

BRIAN NOLLEY 671-3977

INSPECTIONS DIRECTOR

BEN ANDREWS 671-3837

BUILDING CODE ENFORCEMENT OFFICERS

BOBBY RAY MEARES 671-3840
671-3839

MINIMUM HOUSING ENFORCEMENT OFFICER

SHANNA HALLIBURTON 671-3842

FIRE MARSHAL

BRANTLEY JACKSON 671-3841

EXECUTIVE SECRETARY

JESSICA RANSOM 671-3838

COMMUNITY DEVELOPMENT ADMINISTRATOR

STEPHANIE CANADY 671-3844

PUBLIC WORKS DIRECTOR

ROB ARMSTRONG 671-3851

ELECTRIC UTILITIES DIRECTOR

GREG PREVATTE 671-3868

Planning & Inspections Fee

CITY OF LUMBERTON



PERMIT FEE SCHEDULE EFFECTIVE JULY 1, 2023

Effective July 1, 2023
GENERAL INFORMATION
THE FOLLOWING PERMIT FEES ARE CURRENT AS OF JULY 1, 2023 NO BUILDING, ELECTRICAL, PLUMBING, MECHANICAL OR OTHER PERMITS ISSUED BY THE DEPARTMENT SHALL BE VALID UNTIL FEES HAVE BEEN PAID TO THE CITY OF LUMBERTON.

PERMITS WILL BE ISSUED BETWEEN THE HOURS OF 8:00 AND 10:00 A.M. IN THE PLANNING DEPARTMENT AT THE MUNICIPAL BUILDING, 500 N. CEDAR STREET, LUMBERTON.

FOR MORE INFORMATION ON PERMIT FEES, PLEASE CALL THE PLANNING DEPARTMENT AT 671-3838.

I. BUILDING PERMITS

A. NEW CONSTRUCTION, ADDITIONS, AND ALTERATIONS:		
\$3.50 PER \$1,000 CONSTRUCTION VALUE		
\$50.00 MINIMUM		
B. REROOF OR REPAIR TO ROOF:		
\$3.50 PER \$1,000 CONSTRUCTION VALUE		
\$50.00 MINIMUM		
C. BUILDING DEMOLITION:		
RESIDENTIAL		\$100.00
COMMERCIAL 0.1-10,000 SQFT.		\$150.00
COMMERCIAL 10,001+		\$250.00
D. MOVING PERMIT:		\$100.00

II. INSULATION		
\$0.020 PER SQUARE FOOT HEATED FLOOR		
(\$50.00 MINIMUM)		

III. ELECTRICAL		
\$50.00 APPLICATION FEE PLUS		
\$5.00 PER 220 VOLT OUTLET		
\$0.50 PER 110 VOLT OUTLET		
\$5.00 PER MOTOR		
SERVICE CHANGE & REPAIR		
UP TO 200 AMP	\$40.00	
201 AMP+	\$60.00	

IV. PLUMBING

A. \$50.00 APPLICATION FEE PLUS:		
\$5.00 PER FIXTURE		
B. SPRINKLER SYSTEM		
\$0.03 PER SQUARE FOOT FLOOR AREA		

V. MECHANICAL

\$50.00 APPLICATION FEE PLUS:

A. AIR CONDITIONING & HEAT PUMPS		
0.1 - 5 TONS		\$20.00
5.1 - 50 TONS		\$25.00
50.1+ TONS		\$60.00
SPLIT SYSTEMS ADD		\$10.00
B. FOSSIL FUEL BURNING EQUIPMENT		
0.1 - 50,000 BTU		\$15.00
50,001 - 100,000 BTU		\$20.00
100,001 -200,000 BTU		\$25.00
200,001+ BTU		\$30.00

C. REFRIGERATION		
(COMPRESSOR RATING)		
0.1 - 5 TONS		\$15.00
5.1 - 15 TONS		\$20.00
15.1 + TONS		\$30.00

D. COOKING EQUIPMENT HOODS		
(COMMERCIAL ONLY)		
0.1 - 10 SQ.FT.		\$20.00
10.1 - 50 SQ.FT.		\$25.00
50.1 - 100 SQ.FT.		\$30.00
100.1+ SQ.FT.		\$40.00

EXHAUST FANS		\$5.00
VENTILATION EQUIPMENT		
(OTHER THAN RESIDENCES)		\$20.00

E. MODIFICATION, REPAIR OR REPLACEMENT OF

DUCT WORK		\$30.00
GAS PIPING		\$30.00

VI. MOBILE HOMES

SET UP FEE		\$50.00
ELECTRICAL FEE		\$50.00
PLUMBING FEE		\$50.00
MECHANICAL FEE		\$50.00
REINSPECTION FEE		\$50.00

VII. MISCELLANEOUS FEES

A. ABC COMPLIANCE		\$50.00
B. DAYCARE COMPLIANCE		\$50.00
C. FUEL TANK PRESSURE TEST		\$50.00
D. POWER OUTS (VACANT)		\$50.00
E. COMMERCIAL FIRE ALARM		\$50.00

VIII. SIGNS

A. NEW SIGN

1. OUTDOOR ADVERTISING		
OFF PREMISES		\$100.00 PER SIDE
2. PRINCIPLE USE		
0 - 50 SQ.FT.		\$50.00
51+ SQ.FT.		\$100.00
3. COMMERCIAL ACCESSORY -		\$10.00 PER SIDE
4. TEMPORARY -		\$10.00 PER SIDE

B. MODIFICATION		
ALL SIGNS		\$25.00 PER SIDE

IX. OTHER FEES

A. SPECIAL USE PERMIT		
1. APPLICATION FEE		\$350.00
2. SUBDIVISION - PAYABLE AT FINAL PLAT STAGE		
A. PER LOT W/IMPROVEMENTS		\$50.00
B. PER LOT W/O IMPROVEMENTS		\$20.00

B. VARIANCE OR APPEAL TO ADMINISTRATIVE DECISION:		
APPLICATION		\$350.00

C. REZONING PETITION		
APPLICATION		\$350.00

D. ZONING TEXT AMENDMENTS		\$300.00
---------------------------	--	----------

E. ANNEXATION PETITION		
APPLICATION		\$200.00

F. LAND USE PERMIT (ZONING)		\$25.00
-----------------------------	--	---------

G. ZONING CERTIFICATION LETTER		\$15.00
--------------------------------	--	---------

H. SITE PLAN REVIEW		
(LESS THAN 1 ACRE)		
(FROM 1 TO 4.9 ACRES)		
(5 ACRES & LARGER)		
3 RD & EACH ADDITIONAL REVIEW		
		\$ 50.00
		\$ 150.00
		\$250.00
		\$ 50.00

I. LAND USE ORDINANCE		\$ 30.00
-----------------------	--	----------

J. FLOODPLAIN DEVELOPMENT PERMIT		\$25.00
----------------------------------	--	---------

COPIES		
8.5" X 11" (14")		\$.25
11" X 17"		\$.50
18" X 24"		\$ 2.00
24" X 36"		\$ 3.00
30" X 42"		\$ 4.00

DOCUMENT 009113 - ADDENDA

Note: This is a placeholder in the Table of Contents for future Addenda issued during Bidding. All Addenda will be incorporated into a Release For Construction (RFC) and will be distributed to the GC who receives Contract Award.

END OF DOCUMENT 009113

GENERAL CONDITIONS

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 10

DEFINITION OF TERMS

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

- 10-01 AASHTO.** The American Association of State Highway and Transportation Officials.
- 10-02 Access Road.** The right-of-way, the roadway and all improvements constructed thereon connecting the Airport to a public roadway.
- 10-03 Advertisement.** A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
- 10-04 ~~Airport.~~** ~~Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for Airport buildings or other Airport facilities or rights of way; Airport buildings and facilities located in any of these areas, and a heliport. See Supplemental General Conditions, Section 10-04.~~
- 10-05 Airport Improvement Program (AIP).** A grant-in-aid program administered by the Federal Aviation Administration (FAA).
- 10-06 Air Operations Area (AOA).** The term air operations area (AOA) shall mean any area of the Airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
- 10-07 Apron.** Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
- 10-08 ASTM International (ASTM).** Formerly known as the American Society for Testing and Materials (ASTM).
- 10-09 Award.** The Owner's notice to the successful bidder of the acceptance of the submitted bid.

- 10-10 Bidder.** Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
- 10-11 Building Area.** An area on the Airport to be used, considered, or intended to be used for Airport buildings or other Airport facilities or rights-of-way together with all Airport buildings and facilities located thereon.
- 10-12 Calendar Day.** Every day shown on the calendar.
- 10-13 Certificate of Analysis (COA).** The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
- 10-14 Certificate of Compliance (COC).** The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
- 10-15 Change Order.** A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
- 10-16 Contract.** A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract Form, Proposal, Performance Bond, payment Bond, General Provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
- 10-17 Contract Item (Pay Item).** A specific unit of work for which a price is provided in the contract.
- 10-18 Contract Time.** ~~The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date. See Supplemental General Conditions, Section 10-18.~~

- 10-19 Contractor.** The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
- 10-20 Contractors Quality Control (QC) Facilities.** The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
- 10-21 Contractor Quality Control Program (CQCP)** Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
- 10-22 Control Strip.** A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
- 10-23 Construction Safety and Phasing Plan (CSPP).** The overall plan for safety and phasing of a construction project developed by the Airport operator or developed by the Airport operator's consultant and approved by the Airport operator. It is included in the invitation for bids and becomes part of the project specifications.
- 10-24 Drainage System.** The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the Airport area.
- 10-25 Engineer.** ~~The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.~~ See Supplemental General Conditions, Section 10-25.
- 10-26 Equipment.** All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
- 10-27 Extra Work.** An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's ENGINEER or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.

- 10-28 FAA.** The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
- 10-29 Federal Specifications.** The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
- 10-30 Force Account.** A. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. B. Owner Force Account - Work performed for the project by the Owner's employees.
- 10-31 Intention of Terms.** ~~Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the ENGINEER and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the ENGINEER and/or RPR, subject in each case to the final determination of the Owner.~~
- ~~Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference. See Supplemental General Conditions. Section 10-31.~~
- 10-32 Lighting.** A system of fixtures providing or controlling the light sources used on or near the Airport or within the Airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the Airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the Airport surface.
- 10-33 Major and Minor Contract Items.** A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
- 10-34 Materials.** Any substance specified for use in the construction of the contract work.

- 10-35 Modification of Standards (MOS).** Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
- 10-36 Notice to Proceed (NTP).** A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
- 10-37 Owner.** The term “Owner” shall mean the party of the first part or the contracting agency signatory to the contract. Where the term “Owner” is capitalized in this document, it shall mean Airport Sponsor only. The Owner for this project is the
- Lumberton Airport Commission,
163 Airport Boulevard,
Lumberton, North Carolina 28358.
- 10-38 Passenger Facility Charge (PFC).** Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service Airport it controls.
- 10-39 Pavement Structure.** The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
- 10-40 Payment Bond.** The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
- 10-41 Performance Bond.** The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
- 10-42 Plans.** The official drawings or exact reproductions which show the location, character, dimensions, and details of the Airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
- 10-43 Project.** The agreed scope of work for accomplishing specific Airport development with respect to a particular Airport.
- 10-44 Proposal.** The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

- 10-45 Proposal Guaranty.** The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
- 10-46 Quality Assurance (QA).** Owner's responsibility to assure that construction work completed complies with specifications for payment.
- 10-47 Quality Control (QC).** Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
- 10-48 Quality Assurance (QA) Inspector.** ~~An authorized representative of the ENGINEER and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor. Deleted~~
- 10-49 Quality Assurance (QA) Laboratory.** ~~The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the ENGINEER or RPR. May also be referred to as ENGINEER's, Owner's, or QA Laboratory. See Supplemental General Conditions, Section 10-49.~~
- 10-50 Resident Project Representative (RPR).** ~~The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative. See Supplemental General Conditions, Section 10-50.~~
- 10-51 Runway.** The area on the Airport prepared for the landing and takeoff of aircraft.
- 10-52 Runway Safety Area (RSA).** A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
- 10-53 Safety Plan Compliance Document (SPCD).** Details how the Contractor will comply with the CSPP.
- 10-54 Specifications.** A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

- 10-55 Sponsor.** ~~A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use Airport that submits to the FAA an application for an AIP grant for the Airport. See Supplemental General Conditions, Section 10-55.~~
- 10-56 Structures.** Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the Airport that may be encountered in the work and not otherwise classified herein.
- 10-57 Subgrade.** The soil that forms the pavement foundation.
- 10-58 Superintendent.** ~~The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction. See Supplemental General Conditions, Section 10-58.~~
- 10-59 Supplemental Agreement.** A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
- 10-60 Surety.** The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
- 10-61 Taxilane.** A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
- 10-62 Taxiway.** The portion of the air operations area of an Airport that has been designated by competent Airport authority for movement of aircraft to and from the Airport's runways, aircraft parking areas, and terminal areas.
- 10-63 Taxiway/Taxilane Safety Area (TSA).** A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.

10-64 Work. The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.

10-65 Working Day. A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.

10-66 Owner Defined terms. None.

END OF SECTION 10

SECTION 20

PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 Advertisement (Notice to Bidders). See Appendix 'A' for Notice to Bidders.

20-02 Qualification of Bidders. ~~Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.~~

~~Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work. Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.~~

~~Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above. See Supplemental General Conditions, Section 20-02.~~

20-03 Contents of Proposal Forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in Paragraph 20-09 *Irregular Proposals*.

Mobilization is limited to 10 percent of the total project cost. See Item C-105 Mobilization.

A prebid conference is required on this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including Airport access and staging areas; and unique airfield paving construction requirements. **See Advertisement (See Appendix 'A' Notice to Bidders) for information regarding the prebid conference.**

20-04 Issuance of Proposal Forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

A. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

B. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.

C. Documented record of Contractor default under previous contracts with the Owner.

D. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of Estimated Proposal Quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, Paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of Plans, Specifications, and Site. The bidder is expected to

carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner. Boring logs and other records of subsurface investigations and tests are included in Appendix "G".

20-07 Preparation of Proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and Responsible Bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular Proposals. Proposals shall be considered irregular for the following reasons:

A. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

B. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

C. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

D. If the proposal contains unit prices that are obviously unbalanced.

E. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

F. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid Guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral shall be made payable to the Owner.

20-11 Delivery of Proposal. ~~Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of Airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by~~

~~Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened. See Supplemental General Conditions, Section 20-11.~~

20-12 Withdrawal or Revision of Proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by fax before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public Opening of Proposals. Proposals shall be opened and read publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or by fax request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of Bidders. A bidder shall be considered disqualified for any of the following reasons:

- A. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- B. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.
- C. If the bidder is considered to be in "default" for any reason specified in Paragraph 20-04, *Issuance of Proposal Forms*, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's ENGINEER of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's ENGINEER a written request for interpretation no later than 5 days prior to bid opening.

Any interpretation of the project bid documents by the Owner's ENGINEER will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications, or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

THIS PAGE IS INTENTIONALLY LEFT BLANK

Section 30

AWARD AND EXECUTION OF CONTRACT

30-01 **Consideration of Proposals.** After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

A. If the proposal is irregular as specified in Section 20, Paragraph 20-09, *Irregular Proposals*.

B. If the bidder is disqualified for any of the reasons specified Section 20, Paragraph 20-14, *Disqualification of Bidders*.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 **Award of Contract.** The award of a contract, if it is to be awarded, shall be made within **120** calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 **Cancellation of Award.** The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with Paragraph 30-07 *Approval of Contract*.

30-04 **Return of Proposal Guaranty.** All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the Paragraph 30-01, *Consideration of Proposals*. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the

unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in Paragraph 30-05, *Requirements of Contract Bonds*.

30-05 **Requirements of Contract Bonds.** At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 **Execution of Contract.** The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in Paragraph 30-05, *Requirements of Contract Bonds*, of this section, within **15** calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 **Approval of Contract.** Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 **Failure to Execute Contract.** Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in Paragraph 30-06, *Execution of Contract*, of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

Section 40

SCOPE OF WORK

40-01 **Intent of Contract.** The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 **Alteration of Work and Quantities.** ~~The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's ENGINEER or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.~~

~~For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.~~

~~Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, Paragraph 90-03, *Compensation for Altered Quantities*.~~

~~Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion. See Supplemental General Conditions, Section 40-02.~~

40-03 **Omitted Items.** ~~The Owner, the Owner's ENGINEER or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.~~

~~Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, Paragraph 90-04, *Payment for Omitted Items*. See Supplemental General Conditions, Section 40-03.~~

40-04 **Extra Work.** ~~Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.~~

~~When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, Paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, Paragraph 10-59, *Supplemental Agreement*.~~

~~If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.~~

~~Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner. See Supplemental General Conditions, Section 40-04.~~

40-05 **Maintenance of Traffic.** It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

A. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the Airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, Paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals

(including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the Airport as specified in Section 70, Paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

B. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the Airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

C. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (<http://mutcd.fhwa.dot.gov/>), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

40-06 **Removal of Existing Structures.** ~~All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly but shall be included in the various contract items.~~

~~Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.~~

~~Except as provided in Section 40, Paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading~~

~~sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work. See Supplemental General Conditions, Section 40-06.~~

40-07

Rights in and Use of Materials Found in the Work. ~~Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:~~

~~A. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,~~

~~B. Remove such material from the site, upon written approval of the RPR. or,~~

~~C. Use such material for the Contractor's own temporary construction on site; or,~~

~~D. Use such material as intended by the terms of the contract.~~

~~Should the Contractor wish to exercise option A., B., or C., the Contractor shall request the RPR's approval in advance of such use.~~

~~Should the RPR approve the Contractor's request to exercise option A., B., or C., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.~~

~~Should the RPR approve the Contractor's exercise of option A., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.~~

~~It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option A., B., or C.~~

~~The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines,~~

~~grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications. See Supplemental General Conditions, Section 40-07.~~

40-08 **Final Cleanup.** Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

THIS PAGE IS INTENTIONALLY LEFT BLANK

Section 50

CONTROL OF WORK

50-01 Authority of the Resident Project Representative (RPR). ~~The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements. See Supplemental General Conditions, Section 50-01.~~

50-02 Conformity with Plans and Specifications. ~~All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.~~

~~If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.~~

~~If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.~~

~~The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.~~

~~The term “reasonably close conformity” is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.~~

~~The RPR will not be responsible for the Contractor’s means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto. See Supplemental General Conditions, Section 50-02.~~

50-03 Coordination of Contract, Plans, and Specifications. ~~The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.~~

~~From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.~~

~~The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision. See Supplemental General Conditions, Section 50-03.~~

50-04 List of Special Provisions. For Special Provisions applicable for this project, see ‘Project Special Provisions’ section of these specifications.

50-05 Cooperation of Contractor. ~~The Contractor shall be supplied with five hard copies or an electronic PDF of the plans and specifications.~~

~~The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.~~

~~The Contractor shall give constant attention to the work to facilitate the progress thereof and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative. See Supplemental General Conditions, Section 50-05.~~

50-06 Cooperation Between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction Layout and Stakes. ~~The ENGINEER/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by ENGINEER/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.~~

~~Prior to the start of construction, the Contractor will check all control points~~

~~for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.~~

~~Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s):~~

~~Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.~~

~~No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract. See Supplemental General Conditions, Section 50-07.~~

50-08 Authority and Duties of Quality Assurance (QA) Inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

~~QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision. See Supplemental General Conditions, Section 50-08.~~

50-09 Inspection of the Work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

~~If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.~~

~~Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.~~

~~Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract and shall in no way interfere with the rights of the parties to this contract. See Supplemental General Conditions, Section 50-09.~~

50-10 ~~Removal of Unacceptable and Unauthorized Work.~~ All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in Paragraph 50-02, *Conformity with Plans and Specifications*.

~~Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, Paragraph 70-14, *Contractor's Responsibility for Work*.~~

~~No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.~~

~~Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor. See Supplemental General Conditions, Section 50-10.~~

- 50-11 Load Restrictions.** The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

- 50-12 Maintenance During Construction.** The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

- 50-13 Failure to Maintain the Work.** ~~Should the Contractor at any time fail to maintain the work as provided in Paragraph 50-12, *Maintenance During Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.~~

~~Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such~~

~~unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor. See Supplemental General Conditions, Section 50-13.~~

50-14 Partial Acceptance. ~~If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract. See Supplemental General Conditions, Section 50-14.~~

50-15 Final Acceptance. ~~Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.~~

~~If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection. See Supplemental General Conditions, Section 50-15.~~

50-16 Claims for Adjustment and Disputes. ~~If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the~~

~~Owner for consideration in accordance with local laws or ordinances.~~

~~Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations. See Supplemental General Conditions, Section 50-16.~~

50-17 Value Engineering Cost Proposal.

~~The provisions of this paragraph will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.~~

~~On projects with original contract amounts in excess of \$100,000, the Contractor may submit to the ENGINEER, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The value engineering cost proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.~~

~~Not eligible for value engineering cost proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.~~

~~As a minimum, the following information shall be submitted by the Contractor with each proposal:~~

~~**A.** A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each.~~

~~**B.** An itemization of the contract requirements that must be changed if the proposal is adopted.~~

~~**C.** A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes.~~

~~**D.** A statement of the time by which a change order adopting the proposal must be issued.~~

~~**E.** A statement of the effect adoption of the proposal will have on the time for completion of the contract.~~

~~F. The contract items of work affected by the proposed changes, including any quantity variation attributable to them.~~

~~The Contractor may withdraw, in whole or in part, any value engineering cost proposal not accepted by the ENGINEER, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the ENGINEER to consider any value engineering cost proposal that may be submitted.~~

~~The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the value engineering cost proposal has been issued. If a change order has not been issued by the date upon which the Contractor's value engineering cost proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such value engineering cost proposal shall be deemed rejected.~~

~~The ENGINEER shall be the sole judge of the acceptability of a value engineering cost proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the ENGINEER may disregard the contract bid prices if, in the ENGINEER's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.~~

~~The Owner may require the Contractor to share in the Owner's costs of investigating a value engineering cost proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a value engineering cost proposal from amounts payable to the Contractor under the contract.~~

~~If the Contractor's value engineering cost proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this paragraph. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the value engineering cost proposal or such part of it as has been accepted and shall include any conditions upon which the ENGINEER's approval is based. The change order shall also set forth the estimated net savings attributable to the value engineering cost proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.~~

~~The Contractor's 50% share of the net savings shall constitute full compensation to the Contractor for the value engineering cost proposal and the performance of the work.~~

~~Acceptance of the value engineering cost proposal and performance of the work shall not extend the time of completion of the contract unless specifically provided for in the contract change order. DELETED~~

END OF SECTION 50

SECTION 60

CONTROL OF MATERIALS

60-01 **Source of Supply and Quality Requirements.** ~~The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).~~

~~In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.~~

~~At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.~~

~~The Contractor shall furnish Airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program and Addendum*, that is in effect on the date of advertisement. See Supplemental General Conditions, Section 60-01.~~

60-02 **Samples, Tests, and Cited Specifications.** ~~All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.~~

~~Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.~~

~~The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests~~

~~will be furnished to the Contractor's representative at their request after review and approval of the RPR.~~

~~A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.~~

~~[The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP).] See Supplemental General Conditions, Section 60-02.~~

60-03

Certification of Compliance/Analysis (COC/COA). ~~The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by Manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the Manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the Manufacturer's COC and includes all applicable test results.~~

~~Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.~~

~~The form and distribution of certificates of compliance shall be as approved by the RPR.~~

~~When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the Manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:~~

~~**A.** Conformance to the specified performance, testing, quality or dimensional requirements; and,~~

~~**B.** Suitability of the material or assembly for the use intended in the contract work.~~

~~The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.~~

~~The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance. See Supplemental General Conditions, Section 60-03.~~

60-04 **Plant Inspection.** ~~The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.~~

~~Should the RPR conduct plant inspections, the following conditions shall exist:~~

~~**A.** The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.~~

~~**B.** The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.~~

~~**C.** If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.~~

~~It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications. See Supplemental General Conditions, Section 60-04.~~

60-05 **Engineer/ Resident Project Representative (RPR) Field Office.** ~~[The Contractor shall provide dedicated space for the use of the ENGINEER, RPR, and inspectors, as a field office for the duration of the project. This space shall be located conveniently near the construction and shall be separate from any space used by the Contractor. The Contractor shall furnish water, sanitary facilities, heat, air conditioning, and electricity.] [An ENGINEER/RPR field office is not required.] See Supplemental General Conditions, Section 60-05.~~

60-06 **Storage of Materials.** ~~Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR.~~

~~Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner's permission.~~

~~All storage sites on private or Airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property. See Supplemental General Conditions, Section 60-06.~~

60-07 **Unacceptable Materials.** Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

~~Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work. See Supplemental General Conditions, Section 60-07.~~

60-08 **Owner Furnished Materials.** The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

~~All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.~~

~~After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.~~

END OF SECTION 60

SECTION 70

LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC

- 70-01 Laws to be Observed.** The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.
- 70-02 Permits, Licenses, and Taxes.** The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.
- 70-03 Patented Devices, Materials, and Processes.** If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.
- 70-04 Restoration of Surfaces Disturbed by Others.** ~~The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:~~
- ~~Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.~~
- ~~Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct,~~

~~reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work. See Supplemental General Conditions, Section 70-04.~~

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, Health, and Safety Provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public Convenience and Safety. ~~The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.~~

~~The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, Paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, Paragraph 80-04, *Limitation of Operations*.~~

~~The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to Airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor. See Supplemental General Conditions, Section 70-07.~~

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2G, Operational Safety on Airports During Construction. The CSPP is located in Appendix "H" of the Specifications.

70-09 Use of Explosives. ~~[The use of explosives is not permitted on this project.] [When the use of explosives is necessary for the execution of the work, the Contractor shall exercise the utmost care not to endanger life or property, including new work. The Contractor shall be responsible for all damage resulting from the use of explosives.~~

~~All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all such storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided satisfactory to the RPR and, in general, not closer than 1,000 feet from the work or from any building, road, or other place of human occupancy.~~

~~The Contractor shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of their intention to use explosives. Such notice shall be given sufficiently in advance to enable them to take such steps as they may deem necessary to protect their property from injury.~~

~~The use of electrical blasting caps shall not be permitted on or within 1,000 feet of the Airport property.] See Supplemental General Conditions, Section 70-09.~~

70-10 Protection and Restoration of Property and Landscape. ~~The Contractor shall be responsible for the preservation of all public and private property and shall protect carefully from disturbance or damage all land monuments and property markers until the ENGINEER/RPR has witnessed or otherwise referenced their location and shall not move them until directed.~~

~~The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.~~

~~When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before~~

~~such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner. See Supplemental General Conditions, Section 70-10.~~

70-11 Responsibility for Damage Claims. ~~The Contractor shall indemnify and hold harmless the ENGINEER/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance. See Supplemental General Conditions, Section 70-11.~~

70-12 Third Party Beneficiary Clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening Sections of the Work to Traffic. ~~If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.~~

~~Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, Paragraph 50-14, *Partial Acceptance*.~~

~~No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.~~

~~The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.~~

~~The Contractor must conform to safety standards contained AC 150/5370-2G and the approved CSPP.~~

~~Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic. See Supplemental General Conditions, Section 70-13.~~

70-14

~~**Contractor's Responsibility for Work.** Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, Paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.~~

~~If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable~~

~~growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury. See Supplemental General Conditions, Section 70-14.~~

70-15 Contractor's Responsibility for Utility Service and Facilities of Others.

~~As provided in Paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the Owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.~~

~~To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.~~

~~It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.~~

~~It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and Paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.~~

~~In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.~~

~~Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of~~

~~operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.~~

~~The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.~~

~~Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.~~

~~Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.~~

~~The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety. See Supplemental General Conditions, Section 70-15.~~

70-15.1 FAA Facilities and Cable Runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

A. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

B. The Contractor shall provide notice to the FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the Airport Manager at (910) 739-6480 a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

C. If execution of the project work requires a facility outage, the Contractor shall contact the FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.

D. Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.

E. If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

70-16 **Furnishing Rights-of-Way.** The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 **Personal Liability of Public Officials.** ~~In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the ENGINEER, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.~~ See Supplemental General Conditions, Section 70-17.

70-18 **No Waiver of Legal Rights.** Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may

amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental Protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and Historical Findings. ~~Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.~~

~~Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.~~

~~Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, Paragraph 40-04, *Extra Work*, and Section 90, Paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, Paragraph 80-07, *Determination and Extension of Contract Time*. See Supplemental General Conditions, Section 70-20.~~

70-21 Insurance Requirements. See Project Special Provisions, Section PSP-35 for insurance requirements.

END OF SECTION 70

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 80

EXECUTION AND PROGRESS

80-01 ~~**Subletting of Contract.** The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).~~

~~The Contractor shall perform, with his organization, an amount of work equal to at least [] percent of the total contract cost.~~

~~Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.~~

~~**The Contractor shall provide copies of all subcontracts to the RPR [14] days prior to being utilized on the project. As a minimum, the information shall include the following:**~~

- ~~• Subcontractor's legal company name.~~
- ~~• Subcontractor's legal company address, including County name.~~
- ~~• Principal contact person's name, telephone and fax number.~~
- ~~• Complete narrative description, and dollar value of the work to be performed by the subcontractor.~~
- ~~• Copies of required insurance certificates in accordance with the specifications~~
- ~~• Minority/ non-minority status.~~

See Supplemental General Conditions, Section 80-01

80-02 ~~**Notice to Proceed (NTP).** The Owner's notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within [] days of the NTP date. The Contractor shall notify the RPR at least [24 hours] in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner. See Supplemental General Conditions, Section 80-02~~

80-03 **Execution and Progress.** ~~Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least [10 days] prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.~~

~~If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least [24 hours] in advance of resuming operations.~~

~~The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.~~

~~[The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or another format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.]~~

~~The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a [twice] monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract. See Supplemental General Conditions, Section 80-03.~~

80-04 **Limitation of Operations.** ~~The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the Airport.~~

~~When the work requires the Contractor to conduct their operations within an AOA of the Airport, the work shall be coordinated with Airport operations (through the RPR) at least [48 hours] prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR~~

~~and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, Paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.~~

~~When the contract work requires the Contractor to work within an AOA of the Airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:~~

~~The Contractor shall be required to conform to safety standards contained in AC 150/5370-2G, Operational Safety on Airports During Construction and the approved CSPP. See Supplemental General Conditions, Section 80-04.~~

80-04.1 Operational Safety on Airport During Construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2G, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the Airport during construction activities. **The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.**

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of Workers, Methods, and Equipment. ~~The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.~~

~~All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.~~

~~Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.~~

~~Should the Contractor fail to remove such person or persons or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.~~

~~All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing Airport facilities due to its use.~~

~~When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.~~

~~When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work~~

~~with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this Paragraph. See Supplemental General Conditions, Section 80-05.~~

80-06 **Temporary Suspension of the Work.** ~~The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.~~

~~In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.~~

~~If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the Airport. See Supplemental General Conditions, Section 80-06.~~

80-07 **Determination and Extension of Contract Time.** The number of calendar days shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as specified in Section 80-07.1.

80-07.1 Contract Time Based on Calendar Days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-workdays. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

If the Contractor finds it impossible for reasons beyond their own control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this paragraph, the Contractor may, at any time prior to the expiration of the contract time as extended, make a written request to the Owner for an extension of time setting forth the reasons which the Contractor believes will justify the granting of their own request. Requests for extension of time, caused by inclement weather, shall be supported with National Weather Bureau data showing the actual amount of inclement weather exceeded what could normally be expected during the contract period. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the supporting documentation justify the work was delayed because of conditions beyond the control and without the fault of the Contractor, the Owner may extend the time for completion by a change order that adjusts the contract time or completion date. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

80-08 Failure to Complete on Time. For each calendar day as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in Paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 **Default and Termination of Contract.** ~~The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:~~

~~A. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or~~

~~B. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or~~

~~C. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or~~

~~D. Discontinues the execution of the work, or~~

~~E. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or~~

~~F. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or~~

~~G. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or~~

~~H. Makes an assignment for the benefit of creditors, or~~

~~I. For any other cause whatsoever, fails to carry on the work in an acceptable manner.~~

~~Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.~~

~~If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and~~

~~authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.~~

~~All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess. See Supplemental General Conditions, Section 80-09.~~

80-10 Termination for National Emergencies. ~~The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.~~

~~When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.~~

~~Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.~~

~~Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.~~

~~Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed. See Supplemental General Conditions, Section 80-10.~~

80-11 Work Area, Storage Area and Sequence of Operations. ~~The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the Airport. No operating runway, taxiway, or air operations area (AOA)~~

~~shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved GSPP and SPCD. See Supplemental General Conditions, Section 80-11.~~

END OF SECTION 80

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 90

MEASUREMENT AND PAYMENT

90-01 **Measurement of Quantities.** ~~All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.~~

~~The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.~~

~~Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.~~

~~Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.~~

~~The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.~~

~~When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard may be weighed, and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.~~

~~In computing volumes of excavation, the average end area method will be used unless otherwise specified.~~

~~The term "ton" will mean the short ton consisting of 2,000 pounds avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is~~

~~shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.~~

~~Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.~~

~~Asphalt materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60°F or will be corrected to the volume at 60°F using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.~~

~~Cement will be measured by the ton or hundredweight.~~

~~Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.~~

~~Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.~~

~~The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.~~

~~When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.~~

~~Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.~~

~~Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted.~~

~~In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%.~~

~~In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded.~~

~~Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them.~~

~~Scale installations shall have available ten standard 50-pound weights for testing the weighing equipment or suitable weights and devices for other approved equipment.~~

~~All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.~~

~~Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in Paragraph 90-05 Payment for Extra Work.~~

~~When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions. See Supplemental General Conditions, Section 90-01.~~

90-02 **Scope of Payment.** The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, Paragraph 70-18, *No Waiver of Legal Rights*.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 **Compensation for Altered Quantities.** When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, Paragraph 40-02, *Alteration of Work and Quantities*, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 **Payment for Omitted Items.** ~~As specified in Section 40, Paragraph 40-03, *Omitted Items*, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.~~

~~Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.~~

~~Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.~~

~~In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs. See Supplemental General Conditions, Section 90-04.~~

90-05 ~~Payment for Extra Work.~~ Extra work, performed in accordance with Section 40, Paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 ~~Partial Payments.~~ Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with Paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

~~[Insert retainage option here.]~~

~~[Retainage will not be withheld on this project. No retainage will be withheld by the Owner from progress payments due the prime Contractor. Retainage by the prime or subcontractors is prohibited, and no retainage will be held by the prime from progress due subcontractors.~~

~~The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.~~

~~When at least 95% of the project work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with~~

~~the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done.~~

~~[No retainage will be held by the Owner from progress payments due the prime.~~

~~The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.~~

~~When at least 95% of the project work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done.]~~

~~[From the total of the amount determined to be payable on a partial payment, [insert amount of retainage, not to exceed 10%] percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:~~

~~(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-14. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.~~

~~(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per Paragraph 90-08.~~

~~The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner~~

~~has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.~~

~~When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.~~

~~It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.~~

~~No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in Paragraph 90-09, *Acceptance and Final Payment*.~~

~~The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim. See Supplemental General Conditions, Section 90-06.~~

90-07 ~~**Payment for Materials on Hand.** Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the Airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:~~

~~**A.** The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.~~

~~**B.** The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.~~

~~C. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.~~

~~D. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.~~

~~E. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.~~

~~It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.~~

~~In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.~~

~~No partial payment will be made for stored or stockpiled living or perishable plant materials.~~

~~The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph. See Supplemental General Conditions, Section 90-07.~~

90-08 Payment of Withheld Funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in Paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

A. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

B. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

C. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

D. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 **Acceptance and Final Payment.** ~~When the contract work has been accepted in accordance with the requirements of Section 50, Paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, Paragraph 50-16, *Claims for Adjustment and Disputes*.~~

~~After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in Paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.~~

~~If the Contractor has filed a claim for additional compensation under the provisions of Section 50, Paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate. See Supplemental General Conditions, Section 90-09.~~

90-10 **Construction Warranty.**

A. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

B. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final

acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the Manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

C. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

D. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

E. The Owner will notify the Contractor, in writing, within **seven (7)** days after the discovery of any failure, defect, or damage.

F. If the Contractor fails to remedy any failure, defect, or damage within fourteen (14) days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

G. With respect to all warranties, express or implied, from subcontractors, Manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

H. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 **Contractor Final Project Documentation.** ~~Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:~~

~~**A.** Provide two (2) copies of all Manufacturers warranties specified for materials, equipment, and installations.~~

~~**B.** Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.~~

~~C. Complete final cleanup in accordance with Section 40, Paragraph 40-08, Final Cleanup.~~

~~D. Complete all punch list items identified during the Final Inspection.~~

~~E. Provide complete release of all claims for labor and material arising out of the Contract.~~

~~F. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.~~

~~G. When applicable per state requirements, return copies of sales tax completion forms.~~

~~H. Manufacturer's certifications for all items incorporated in the work.~~

~~I. All required record drawings, as-built drawings, or as-constructed drawings.~~

~~J. Project Operation and Maintenance (O&M) Manual(s).~~

~~K. Security for Construction Warranty.~~

~~L. Equipment commissioning documentation submitted, if required.~~

See Supplemental General Conditions, Section 90-11.

END OF SECTION 90

THIS PAGE IS INTENTIONALLY LEFT BLANK

SUPPLEMENTAL GENERAL CONDITIONS

THIS PAGE INTENTIONALLY LEFT BLANK

SUPPLEMENTAL GENERAL CONDITIONS

SECTION 10 - DEFINITION OF TERMS.

10-04 Airport. Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for Airport buildings or other Airport facilities or rights of way; and Airport buildings and facilities located in any of these areas, and includes a heliport. For this project, Airport shall refer to the Lumberton Regional Airport, 163 Airport Boulevard, Lumberton, North Carolina 28358.

10-18 Contract Time. The number of calendar days, stated in the proposal, allowed for completion of the contract, including authorized time extensions.

10-25 Engineer. The individual, partnership, firm, or corporation duly authorized by the OWNER to be responsible for engineering, construction administration, and for observation of the contract work and acting directly or through an authorized representative. For this project, ENGINEER shall refer to Talbert & Bright, Inc., 4810 Shelley Drive, Wilmington, North Carolina 28405.

10-31 Intention of Terms. Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed", or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the ENGINEER is intended; and similarly the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the ENGINEER subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

10-49 Quality Assurance (QA) Laboratory. The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the ENGINEER. May Also be referred to as ENGINEER's, Owner's, or QA Laboratory.

10-50 Resident Project Representative (RPR). An authorized representative of the ENGINEER assigned to make on site construction observations, and/or observation of tests of work performed or being performed, or of the materials furnished or being furnished by the Contractor.

10-55 Sponsor. A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use Airport that submits to the FAA an application for an AIP grant for the Airport. For this

Talbert & Bright

project, Sponsor shall refer to the Lumberton Airport Commission, 163 Airport Boulevard, Lumberton, North Carolina 28358.

- 10-58 Superintendent.** The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the ENGINEER and/or the RPR, and who shall supervise and direct the construction.

SECTION 20 - PROPOSAL REQUIREMENTS AND CONDITIONS.

- 20-02 Qualification of Bidders.** Each bidder shall furnish the OWNER satisfactory evidence of his or her competency to perform the proposed work. Such evidence of competency, shall include providing documentation of NCDOT prequalification as a "Bidder" and a North Carolina General Contractors License as specified below.

A bidder shall submit evidence that he or she is prequalified as a 'bidder' with the North Carolina Department of Transportation (NCDOT) in accordance with Article 102-2 of the 2024 NCDOT Standard Specifications, including Safety Index requirements at the time of the bid opening. The prequalification shall include NCDOT work codes appropriate to the work. The bidder's prequalification status including the Safety Index documentation, shall be current as of the time of bid. Such evidence of NCDOT prequalification may be submitted as evidence of competency and financial responsibility in lieu of the certified statements or reports specified above.

Bidders must also hold a North Carolina General Contractor License with the North Carolina Licensing Board for General Contractors for the classification and financial limitation required for the project. The License shall be current at the time of bid.

Each bidder shall submit "Evidence of Competency" and to the Owner at the time of the Bid opening.

- 20-02.1 Qualification of Subcontractors.** All Subcontractors to be utilized on the project shall be prequalified by the NCDOT prior to beginning work on the project. Subcontractors shall be prequalified in accordance with Article 102-2 of the 2024 NCDOT Standard Specifications for Roads and Structures. To find subcontractors pre-qualified by the NCDOT, go to <https://www.ebs.nc.gov/VendorDirector/default.html>.

- 20-11 Delivery of Proposal.** Each proposal submitted shall be placed in a sealed envelope plainly marked with the following:

Project Name, Contractor Name and Address, Contractor License Number,

Talbert & Bright

and Location of Airport.

When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

SECTION 40 - SCOPE OF WORK.

40-02 Alteration of Work and Quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's ENGINEER shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, Paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted Items. The Owner or the Owner's ENGINEER may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed,

the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, Paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra Work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the ENGINEER's opinion, is necessary for completion of the extra work.

When determined by the ENGINEER to be in the Owner's best interest, the ENGINEER may order the Contractor to proceed with extra work as provided in Section 90, Paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, Paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, the ENGINEER may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-06 Removal of Existing Structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall be measured and paid for under a specified item or may not be measured or paid for directly, but shall be included in the various contract items as specified.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the ENGINEER shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the ENGINEER in accordance with the provisions of the contract.

Except as provided in Section 40, Paragraph 40-07, *Rights in and Use of*

Materials Found in the Work, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and Use of Materials Found in the Work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

A. Use such material in another contract item, providing such use is approved by the ENGINEER and is in conformance with the contract specifications applicable to such use;

or,

B. Remove such material from the site, upon written approval of the ENGINEER;

or,

C. Use such material for the Contractor's own temporary construction on site;

or,

D. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise Option A., B., or C., the Contractor shall request the ENGINEER's approval in advance of such use.

Should the ENGINEER approve the Contractor's request to exercise Option A., B., or C., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the ENGINEER approve the Contractor's exercise of Option A., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of Option A., B., or C.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

SECTION 50 - CONTROL OF WORK.

50-01 Authority of the Engineer. The ENGINEER has final authority regarding the interpretation of project specification requirements. The ENGINEER shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The ENGINEER does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with Plans and Specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR/ ENGINEER finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the ENGINEER will advise the Owner of their determination that the affected work be accepted and remain in place. The ENGINEER will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR/ENGINEER finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the ENGINEER's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the ENGINEER's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the ENGINEER's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term “reasonably close conformity” is also intended to provide the ENGINEER with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR/ ENGINEER will not be responsible for the Contractor’s means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of Contract, Plans, and Specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the ENGINEER for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-05 Cooperation of Contractor. The Contractor shall be supplied with five hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the ENGINEER and their RPR and with other Contractors in every way possible. The Contractor shall have a

competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the ENGINEER or their authorized representative.

50-07 Construction Layout and Stakes. The ENGINEER shall establish necessary horizontal and vertical control. The establishment of survey control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by ENGINEER. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the ENGINEER that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the ENGINEER. The Contractor is responsible to establish all layout required for the construction of the project. See Section 50-07 of the specifications for specific requirements for layout and verification.

Copies of survey notes will be provided to the ENGINEER for each area of construction and for each placement of material as specified to allow the ENGINEER to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the ENGINEER prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): AutoCad Version 2023 or older.

Laser, GPS, string line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and Duties of Resident Project Representative (RPR). RPR shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation,

fabrication, or manufacture of the materials to be used. RPR's are not authorized to revoke, alter, or waive any provision of the contract. RPR's are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

RPR's are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the ENGINEER for a decision.

50-09 Inspection of the Work. All materials and each part or detail of the work shall be subject to inspection. The RPR/ ENGINEER shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the ENGINEER requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR/ ENGINEER of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for observation by the RPR/ENGINEER may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of Unacceptable and Unauthorized Work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the ENGINEER as provided in Paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist

prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, Paragraph 70-14, *Contractor's Responsibility for Work*.

No removal of work made under provision of this paragraph shall be done without lines and grades having been established by the Contractor. Work done contrary to the instructions of the ENGINEER, work done beyond the lines shown on the plans or as established by the ENGINEER, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the ENGINEER made under the provisions of this subsection, the ENGINEER will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

- 50-13 Failure to Maintain the Work.** Should the Contractor at any time fail to maintain the work as provided in Paragraph 50-12, *Maintenance During Construction*, the RPR/ ENGINEER shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the ENGINEER's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

- 50-14 Partial Acceptance.** If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the ENGINEER to make final inspection of that unit. If the ENGINEER finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the ENGINEER may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

- 50-15 Final Acceptance.** Upon due notice from the Contractor of presumptive completion of the entire project, the ENGINEER and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications,

such inspection shall constitute the final inspection. The ENGINEER shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the ENGINEER will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the ENGINEER will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for Adjustment and Disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the ENGINEER in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the ENGINEER is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the ENGINEER has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the ENGINEER who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

SECTION 60 - CONTROL OF MATERIALS.

60-01 Source of Supply and Quality Requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the engineering as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the ENGINEER's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously

approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish Airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53D, *Airport Lighting Equipment Certification Program and Addendum*, that is in effect on the date of advertisement.

60-02 Samples, Tests, and Cited Specifications. All materials used in the work shall be inspected, tested, and approved by the RPR/ENGINEER before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the ENGINEER shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the ENGINEER, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the ENGINEER. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the ENGINEER.

A copy of all Contractor QC test data shall be provided to the ENGINEER/ RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the ENGINEER showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 Certification of Compliance/Analysis (COC/COA). The ENGINEER may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by Manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a Certificate of Compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of Certificates of Compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of Certificates of Compliance shall be as approved by the ENGINEER.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- A.** Conformance to the specified performance, testing, quality or dimensional requirements; and,
- B.** Suitability of the material or assembly for the use intended in the contract work.

The ENGINEER shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The ENGINEER reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant Inspection. The ENGINEER or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR/ENGINEER conduct plant inspections, the following conditions shall exist:

- A.** The RPR/ENGINEER shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- B.** The RPR/ENGINEER shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- C.** If required by the ENGINEER, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant

inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The ENGINEER shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) Field Office. The Contractor shall provide dedicated space for the use of the ENGINEER, RPR, and QA Testing Lab Representative, as a field office for the duration of the project. This space shall be located conveniently near the construction and shall be separate from any space used by the Contractor. The field office and appurtenances shall be as described in Item C-105, Section 105-4.

60-06 Storage of Materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR/ENGINEER. Materials to be stored on Airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR/ENGINEER. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the ENGINEER a copy of the property Owner's permission.

All storage sites on private or Airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable Materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the ENGINEER.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the ENGINEER has approved its use in the work.

SECTION 70 - LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC.

70-04 Restoration of Surfaces Disturbed by Others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans.

The Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the ENGINEER.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the ENGINEER, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-07 Public Convenience and Safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, Paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, Paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR/ENGINEER. If the ENGINEER determines the existence of Contractor debris in the work site represents a hazard to Airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the ENGINEER reserves the right to assign the task of debris removal to a third

party and recover the resulting costs as a liquidated damage against the Contractor.

70-09 Use of Explosives. The use of explosives is not permitted on this project.

70-10 Protection and Restoration of Property and Landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the ENGINEER has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for Damage Claims. The Contractor shall indemnify and hold harmless the ENGINEER and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-13 Opening Sections of the Work to Traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such “phasing” of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, Paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the ENGINEER, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2G and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor’s Responsibility for Work. Until the ENGINEER’s final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, Paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes

beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's Responsibility for Utility Service and Facilities of Others. As provided in Paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and Paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the ENGINEER.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the ENGINEER.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the ENGINEER and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the ENGINEER continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-17 Personal Liability of Public Officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the ENGINEER, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-20 Archaeological and Historical Findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object

listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR/ENGINEER. The ENGINEER will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, Paragraph 40-04, *Extra Work*, and Section 90, Paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, Paragraph 80-07, *Determination and Extension of Contract Time*.

SECTION 80 - EXECUTION AND PROGRESS.

80-01 Subletting of Contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the ENGINEER.

The Contractor shall perform, with his organization, an amount of work equal to at least **25** percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the ENGINEER 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.

Talbert & Bright

- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications
- Minority/ non-minority status.

80-02 Notice to Proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within **10** days of the NTP date. The Contractor shall notify the ENGINEER at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and Progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the ENGINEER's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the ENGINEER, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The ENGINEER will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the ENGINEER's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the ENGINEER at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of Operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the Airport.

When the work requires the Contractor to conduct their operations within an AOA of the Airport, the work shall be coordinated with Airport operations (through the ENGINEER) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the ENGINEER and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, Paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the Airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP), cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as described in the CSPP.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2G, Operational Safety on Airports During Construction and the approved CSPP.

80-05 Character of Workers, Methods, and Equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the ENGINEER, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the ENGINEER, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the ENGINEER.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the ENGINEER may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing Airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the ENGINEER. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the ENGINEER to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the ENGINEER determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the ENGINEER may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary Suspension of the Work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the

failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the ENGINEER within the time period stated in the ENGINEER's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The ENGINEER will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the Airport.

80-09 Default and Termination of Contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

A. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or

B. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

C. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

D. Discontinues the execution of the work, or

E. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

F. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

G. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or

H. Makes an assignment for the benefit of creditors, or

I. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the ENGINEER of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the ENGINEER will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for National Emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the ENGINEER.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work Area, Storage Area and Sequence of Operations. The Contractor shall obtain approval from the ENGINEER prior to beginning any work in all areas of the Airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

SECTION 90 – MEASUREMENT AND PAYMENT.

90-01 Measurement of Quantities. All work completed under the contract will be measured by the ENGINEER, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the ENGINEER.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

Talbert & Bright

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the ENGINEER in writing, material specified to be measured by the cubic yard may be weighed, and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the ENGINEER and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

In computing volumes of excavation, the average end area method will be used unless otherwise specified.

The term "ton" will mean the short ton consisting of 2,000 pounds avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the ENGINEER. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the ENGINEER directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

Asphalt materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60°F or will be corrected to the volume at 60°F using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.

Cement will be measured by the ton or hundredweight.

Talbert & Bright

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the ENGINEER before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted.

In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%.

In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the ENGINEER can safely and conveniently view them.

Talbert & Bright

Scale installations shall have available ten standard 50-pound weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in Paragraph 90-05 Payment for Extra Work.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the ENGINEER. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-04 Payment for Omitted Items. As specified in Section 40, Paragraph 40-03, *Omitted Items*, the ENGINEER shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the ENGINEER omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the ENGINEER's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the ENGINEER's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-06 Partial Payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR/ENGINEER, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with Paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

From the total of the amount determined to be payable on a partial payment, (5%) five percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-14. Contractor must provide a certified invoice to the ENGINEER that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per Paragraph 90-08.

The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

When at least 95% of the work has been completed to the satisfaction of the RPR/ENGINEER, the ENGINEER shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.]

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or

supplemental agreements, except when such excess quantities have been determined by the ENGINEER to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in Paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for Materials on Hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the Airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

A. The material has been stored or stockpiled in a manner acceptable to the ENGINEER at or on an approved site.

B. The Contractor has furnished the ENGINEER with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

C. The Contractor has furnished the ENGINEER with satisfactory evidence that the material and transportation costs have been paid.

D. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

E. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

Talbert & Bright

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-09 Acceptance and Final Payment. When the contract work has been accepted in accordance with the requirements of Section 50, Paragraph 50-15, *Final Acceptance*, the ENGINEER will prepare the final estimate of the items of work actually performed. The Contractor shall approve the ENGINEER's final estimate or advise the ENGINEER of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the ENGINEER shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the ENGINEER's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the ENGINEER's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, Paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the ENGINEER's final estimate, and after the ENGINEER's receipt of the project closeout documentation required in Paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, Paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the ENGINEER approves the Contractor's final submittal. The Contractor shall:

- A.** Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.
- B.** Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.
- C.** Complete final cleanup in accordance with Section 40, Paragraph 40-08, *Final Cleanup*.
- D.** Complete all punch list items identified during the Final Inspection.
- E.** Provide complete release of all claims for labor and material arising out of the Contract.
- F.** Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.
- G.** When applicable per state requirements, return copies of sales tax completion forms.
- H.** Manufacturer's certifications for all items incorporated in the work.
- I.** All required record drawings, as-built drawings or as-constructed drawings.
- J.** Project Operation and Maintenance (O&M) Manual(s).
- K.** Security for Construction Warranty.
- L.** Equipment commissioning documentation submitted, if required.
- M.** Final Waiver of Lien.
- N.** Final Statement Letter in accordance with Section 109-10 of NCDOT Standard Specifications.
- O.** MBE/WBE Payment Shortfall Documentation.

END OF SUPPLEMENTAL GENERAL CONDITIONS

THIS PAGE IS INTENTIONALLY LEFT BLANK

PROJECT SPECIAL PROVISIONS

THIS PAGE IS INTENTIONALLY LEFT BLANK

PROJECT SPECIAL PROVISIONS

PSP-1 PROJECT DESCRIPTION, PHASING, AND CONSTRUCTION SEQUENCE

The T-Hangar and 2-Unit Box Hangar project at the Lumberton Regional Airport has been developed to include three Bid Schedules and one Bid Alternates Schedule. A summary of the bid schedules is as follows:

Bid Schedule 1 – 2-Unit Box Hangar. Work elements include site grading, pavement milling and demolition; aggregate placement; concrete slab and foundation, hangar building construction, water and sanitary sewer installation; SUE investigation; drainage pipe and structure installation; placement of asphaltic pavement; pavement marking; and sodding, seeding, and mulching.

Bid Schedule 2A – 10-Unit T-Hangar. Work elements include site grading, pavement milling and demolition; aggregate placement; concrete slab and foundation, T-Hangar building construction, water and sanitary sewer installation; SUE investigation; drainage pipe and structure installation; placement of asphaltic pavement; pavement marking; and sodding, seeding, and mulching.

Bid Schedule 2B – 12-Unit T-Hangar. Work elements include site grading, pavement milling and demolition; aggregate placement; concrete slab and foundation, T-Hangar building construction, water and sanitary sewer installation; SUE investigation; drainage pipe and structure installation; placement of asphaltic pavement; pavement marking; and sodding, seeding, and mulching.

Building Bid Alternate Items. Work elements include bid alternates for Bid Schedules 1, 2A, and 2B and Bid Alternate Item PSP-36.

Detailed project phasing plans have been developed for the project and are included in the project plans. The Contractor will be expected to follow the project as specified. A detailed Sequence of Construction has also been developed and is shown on the project plans. The Sequence of Construction has been developed to help the Contractor understand the operational needs of the Airport help ensure minimal closure times to the Apron, Taxilane/Taxiways and surrounding active air operations areas.

PSP-2 PRE-BID CONFERENCE

A Pre-Bid Conference will be held for this project. See Advertisement (Appendix 'A' Advertisement/Notice to Bidders) for details. Contractors will be allowed to ask questions and to discuss the project with the Owner and ENGINEER. Site visits will be available following the meeting with weather permitting. If a tour is unable to be conducted at this time, an alternative time will be scheduled for a later date. Individual tours of the project area will not be conducted. ***It is strongly recommended that all prospective bidders have a qualified representative at this Pre-Bid Conference, however attendance is not mandatory.***

PSP-3 GENERAL REQUIREMENTS - SCHEDULE OF WORK

It is the intent of the Owner and these specifications that the Lumberton Regional Airport will remain open to air traffic, during the work accomplished under this project. ***The Contractor will be required to submit for approval a detailed Schedule of Work to the ENGINEER seven (7) days prior to the Preconstruction Conference.*** After the ENGINEER approves the progress schedule, the Contractor will be required to follow the approved schedule of work unless deviations therefrom are approved by the ENGINEER.

The Contractor's attention is directed to the following requirements in developing his Schedule of Work:

1. The purpose of the Schedule of Work is to assure a safe area of operation for the Contractor and Airport traffic, to coordinate the efforts of various Contractors, to assure maintenance of traffic on the runways and taxiways adjacent to the construction area, and to assure performance of the construction in an acceptable manner and time frame.
2. The Contractor shall develop a detailed schedule for all work areas to ensure that construction can be completed within the time allotted. Many of the work items will have to be constructed simultaneously.
3. There may be more than one Contractor working at the Lumberton Regional Airport performing construction simultaneously. The Contractor will be required to coordinate all work with the ENGINEER to minimize conflicts with other Contractors.
4. The Contractor shall make his own estimate of the difficulties involved in arranging the work to comply with the above requirements and shall not claim any added compensation by reason of delay or increased cost due to these requirements.
5. The schedule shall include, but is not limited to, approximate dates and exact time intervals for performing each work task, sub-schedules for shop drawing submittals, review times, procurement schedules, and delivery dates.
6. If Contractor utilizes cranes, bucket trucks, or other equipment exceeding 25' in height, Contractor is responsible for filing a "Notice of Proposed Construction" (Form 7460) with FAA review and approval prior to erecting the equipment. **In order to avoid delaying the start of the work, Contractor shall submit 7460 within 14 days of notice of contract award.** Contractor should allow at least 45 days for FAA review. The notice may be filed on-line; detailed instructions can be found on the FAA website: <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.

FAA may require tall equipment to be lighted and flagged. Any tall equipment used for the project shall be lowered when not in use. Equipment over 25' cannot be utilized until such time as FAA has completed their review and determined that the proposed equipment does not pose a hazard to air navigation.

7. Except where otherwise specified, work shall be allowed during daylight hours only in all work areas.
8. Due to the tight project schedule for each phase of the selected Schedule, the Contractor may be required to perform certain items prior to the actual beginning of construction. These items include mobilization of equipment and materials; setting up staging areas and ENGINEER's trailer; and preliminary survey work. The surveyor will be required to work under radio control with the Airport. The surveyor may be required to abandon or vacate his position if instructed by Airport. No additional compensation will be considered if Contractor cannot work or must stop work due to movement of aircraft or weather conditions which may prohibit or prevent completion of preliminary survey work.

PSP-4 APRON, TAXIWAY, TAXILANE and RUNWAY CLOSURES

General. The terminal aircraft parking apron, the runways and the taxiways at Lumberton Regional Airport will not be closed for construction of the project.

Bid Schedule 1: Portions of the existing hangar taxilane network will be closed intermittently during this project. See the Project Safety Plan and Phasing Plans for detailed information and for closure schedules. The taxilane closures will impact Airport and hangar tenant operations and hangar access. For this reason, the schedule for each closure shall be closely coordinated with the Airport at least 72 hours prior to the closure.

Bid Schedule 2A & 2B: A portion of the adjacent taxilane network will be closed intermittently during this project. See the Project Safety Plan and Phasing Plans for detailed information and for closure schedules. The taxilane closures will impact Airport and hangar tenant operations and hangar access. For this reason, the schedule for each closure shall be closely coordinated with the Airport at least 72 hours prior to the closure.

PSP-5 CONTRACT TIME AND LIQUIDATED DAMAGES

Total Contract time allowed for completion of each schedule of work and associated liquidated damages are shown in the Table 1 - Contract Time and Liquid Damages. The project Phasing Plans included in the plans detail requirements for each Phase as indicated in the table below. The liquidated damages shown are minimum amounts that will be assessed. All actual cost associated with the Contractor's failure to complete specified work items within the time allotted, will be passed on to the Contractor. Note that Contract Time shown is based on CALENDAR DAYS.

TABLE 1 - CONTRACT TIME AND LIQUIDATED DAMAGES (SCHEDULE 1)

Schedule 1 – 2-Unit Box Hangar			
Work Phase	Contract Time²	Allowable Hours of Operations	Liquidated Damages
Mobilization/Shop Drawings¹	30 Calendar Days	24 Hours Per Day	N/A
Phase 1⁵ <ul style="list-style-type: none"> • Work Area 1A^{7,6} • Work Area 1B^{7,8} • Work Area 1C^{7,9} • Work Area 1D^{7,10} • Work Area 1E^{7,11} 	252 Calendar Days^{3,4}	24 Hours Per Day	\$1,500 per Calendar Day

Note 1: *Once contracts are signed, the Contractor shall begin to mobilize. No construction work shall occur within this initial time frame. At any time during the Mobilization Phase, the Contractor can request to commence construction on the project and a Construction NTP for Construction will be issued.*

Note 2: *Individual NTPs will be given for Mobilization and Construction. (A single construction NTP will be given for Schedule 1 & Schedule 2A or Schedule 2B if multiple schedules are awarded.)*

Note 3: *Bid Alternates – Item #1 – Office Upfit 1 Alt-01 & Item #2 – Office Upfit Alt-02: Each Bid Alternates would add 30 additional consecutive calendar days if awarded – for a maximum of 60 consecutive calendar days.*

Note 4: *If Schedule 1 and Schedule 2A or Schedule 1 and Schedule 2B are Awarded the Total Construction duration shall be 252 consecutive calendar days with the only possible additional calendar days as noted above in note 3 if bid alternatives for the hangar are awarded. Therefore a total maximum of consecutive 312 calendar days. A single construction NTP will be given for Schedule 1 & Schedule 2A or Schedule 2B if multiple schedules are awarded.*

Note 5: *Work Areas 1A, 1B, 1C, 1D, and 1E shall be worked on during Phase 1. Total Construction Contract Time is 252 consecutive calendar days plus Mobilization/Shop Drawings.*

Note 6: *No airfield closures are required for Work Area 1A work as the work is located outside all taxilane object free areas (TLOFA) and taxiway object free areas (TOFA).*

Note 7: *No individual NTP for Work Areas 1A, 1B, 1C, 1D, and 1E will be given, however closures for these Work Areas shall be coordinated with the Airport and Engineer a minimum of 7 calendar days in advance.*

Note 8: *A partial closure of hangar Taxilane N2 (Work Area 1B) is provided for the duration of Schedule 1 construction. Aircraft will not be able to utilize the closed portion of hangar Taxilane N2*

Note 9: *An additional partial closure of hangar Taxilane N2 (Work Area 1C) is provided for intermittent closure for the duration of Schedule 1 construction. When access to/from Hangar Units 28 C or 28 D is coordinated in advance and can be accommodated, the Contractor shall prepare Work Area 1C for temporary re-opening for the scheduled aircraft movement(s) . Aircraft will not be able to utilize this portion of hangar taxilane N2 during Work Area 1C closures. No access is available to the two hangar units when the Work Area 1C partial taxilane closure is in effect.*

Note 10: *A partial closure of T-Hangar Taxilane W (Work Area 1D) is provided for the duration of Schedule 1 construction. When access to/from T-Hangar Units 6, 7 or 8 is coordinated in advance and can be accommodated, the Contractor shall prepare Work Area 1D for temporary re-opening for the scheduled aircraft movement(s) . Aircraft will not be able to utilize the adjacent taxilane units when the Work Area 1D partial taxilane closure is in effect.*

Note 11: *A partial closure of hangar Taxilane N1 (Work Area 1E) is provided for storm drain, water and sewer line construction and pavement restoration. Aircraft will not be able to utilize the closed taxilane during Work Area 1E work. Hangar access needs shall be discussed and coordinated with the closure schedule.*

Note 12: *The intention is that demolition and reconstruction of pavement within Work Area 1C shall be limited to 14 calendar days.*

Note 13: *The intention is that storm drain, water and sewer construction and pavement restoration within Work Area 1E shall be limited to 21 calendar days. Aircraft in T-Hangars and & shelters will have to use the T-Hangar Taxilane and T-Hangar Taxiway.*

TABLE 2 - CONTRACT TIME AND LIQUIDATED DAMAGES (SCHEDULE 2A or 2B)

Schedule 2A – 10-Unit T-Hangar / Schedule 2B – 12-Unit T-Hangar			
Work Phase	Contract Time²	Allowable Hours of Operations	Liquidated Damages
Mobilization/Shop Drawings¹	30 Calendar Days	24 Hours Per Day	N/A
Phase 1⁴ <ul style="list-style-type: none"> • Work Area 1F^{5,6} • Work Area 1G^{6,7} • Work Area 1H^{6,8} 	252 Calendar Days³	24 Hours Per Day	\$1,500 per Calendar Day

Note 1: *Once contracts are signed, the Contractor shall begin to mobilize. No construction work shall occur within this initial time frame. At any time during the Mobilization Phase, the Contractor can request to commence construction on the project and a Construction NTP for Construction will be issued.*

Note 2: *Individual NTPs will be given for Mobilization and Construction. (A single construction NTP will be given for Schedule 1 & Schedule 2A or Schedule 2B if*

multiple schedules are awarded.)

Note 3: *If Schedule 1 and Schedule 2A or Schedule 1 and Schedule 2B are Awarded the Total Construction duration shall be 252 consecutive calendar days with the only possible additional calendar days, being if bid alternatives for the hangar are awarded. Bid Alternates – Item #1 – Office Upfit 1 Alt-01 & Item #2 – Office Upfit Alt-02: Each Bid Alternates would add 30 additional consecutive calendar days if awarded – for a maximum of 60 consecutive calendar days. Therefore a total maximum of 312 consecutive calendar days. A single construction NTP will be given for Schedule 1 & Schedule 2A or Schedule 2B if multiple schedules are awarded.*

Note 4: *Work Areas 1F, 1G and 1H shall be worked on during Phase 1. Total Construction Contract Time is 252 consecutive calendar days plus Mobilization/Shop Drawings.*

Note 5: *No airfield closures are required for Work Area 1F work as the work is located outside all taxilane object free areas (TLOFA) and taxiway object free areas (TOFA).*

Note 6: *No individual NTP for Work Area 1F, 1G and 1H will be given, however closures for these Work Areas shall be coordinated with the Airport and Engineer a minimum of 7 calendar days in advance.*

Note 7: *A partial closure of adjacent T-Hangar Taxilane E is required for work in Work Area 1G, including earthwork, storm drainage and paving work. Aircraft will not be able to utilize the adjacent taxilane during Work Area 1G work. When access to/from T-Hangar Units 9 or 10 or east side access to a shelter unit is coordinated in advance and can be accommodated, the Contractor shall prepare Work Area 1G for temporary re-opening for the scheduled aircraft movement(s).*

Note 8: *A closure of the TLC Hangar apron is required for water main and pavement restoration and curing in Work Area 1H. Aircraft will not be able to utilize the hangar apron during Work Area 1H work.*

PSP-6 ADJUSTMENT OF CONTRACT TIME

Contract time for this project may be adjusted only by change order, when requested by the Contractor in writing and approved by the ENGINEER and Owner, for reasons outside of the Contractor's control, as follows:

- a. Strikes, lockouts, or other labor actions which delay delivery of critical materials or performance of critical segments of work.
- b. Natural disasters affecting the project site.
- c. Excessive rainfall during an entire calendar month, defined as total number of days with more than 0.1" of rainfall in excess of the normal number of such days for that calendar month. Normal values for Lumberton, NC shall be taken as published by

the Southeast Regional Climate Center at NC State University as shown below.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	6	7	5	6	8	9	8	6	4	4	6

- d. Extreme low temperatures, defined as the average daily temperatures falling below the normal average daily temperature for that date and below the minimum allowable temperature specified for a critical component of the work, for 15 days or more in a calendar month. Average daily temperature and normal average daily temperature values shall be as reported by the National Weather Services, the Southeast Regional Climate Center, or other reliable source provided by the Contractor and acceptable to the ENGINEER.
- e. Suspension of the work as ordered by the ENGINEER or Owner.
- f. Delays in critical work by others.
- g. Significant additions to the scope of work.

Time extension will not be granted for rain, wind, snow, or other natural phenomena of normal intensity for the locality where work is performed.

Daily weather logs shall be kept on the job site by the Contractor reflecting the effect of the weather on progress of the work and initialed by the ENGINEER's representative. Time extensions for weather delays do not entitle the Contractor to "extended overhead" recovery.

The Contractor shall bear the burden of proof that a delay has been caused by factors outside his control, shall clearly demonstrate how the delay impacts the critical path of the work as shown on his work schedule as last revised, and shall demonstrate that he has made reasonable and prudent efforts to overcome the impact of the delay on the critical path.

Refer also to Section 80 of the General Conditions.

PSP-7 NOTAMS

- a. The Airport Management will issue the necessary NOTAMS to reflect hazardous conditions. It is important that NOTAMS be kept current and reflect the actual conditions with respect to construction situations. Active NOTAMS shall be reviewed periodically and revised to reflect the current conditions.
- b. Inspection - Frequent inspections may be made by the Airport Management during critical phases of the work to ensure that the Contractor is following the recommended safety procedures.

PSP-8 NIGHTTIME CONSTRUCTION OPERATIONS

Nighttime paving operations will not be allowed. See Section 401-4.17 of the Specifications.

PSP-9 AIRPORT SAFETY PLAN AND PHASING PLAN

An Airport Safety Plan and Phasing Plan has been prepared and included in the Contract Documents. This project involves construction on Airport property at the Lumberton Regional Airport. The Airport is open on a 24-hour, seven day per week basis, and is used by a variety of aircraft types, including jets and helicopters. The runway is served by instrument approach and departure procedures which allow aircraft operations during low visibility and low cloud ceiling conditions. The purpose of the Airport Safety Plan and Phasing Plan is to establish requirements intended to assure the safety of the public, aircraft operations, and construction operations on the Airport. The Contractor shall be responsible for implementation and compliance with the requirements of the Plans. No separate measurement or payment will be made for labor, equipment or materials required to implement the Safety Plan. All costs shall be included in the lump sum bid price for "Temporary Construction Items".

The Contractor shall read the Construction Safety & Phasing Plan (CSPP) (see Appendix H) and prepare a Safety Plan Compliance Document (SPCD) as required in Section 80-04.1 of the General Conditions. The SPCD shall state that the Contractor understands the operational safety requirements of the CSPP and will not deviate from the approved CSPP unless written approval is granted by the Airport. The document shall include contact information for Contractor's personnel responsible for monitoring compliance with the CSPP during construction of the project. Contractor shall submit the SPCD to the ENGINEER for submittal to FAA in compliance with FAA Advisory Circular 150/5370-2G.

The Contractor shall provide initial and continuing instructions to all supervisors, employees, subcontractors, and suppliers to enable them to conduct their work in a manner that will provide the maximum safety with the least hindrance to air and ground traffic, the general public, Airport employees, and to the workmen employed on the site. All safety provisions specified by the plans and documents or received from the ENGINEER, and those required by laws, codes, and ordinances, shall be thoroughly disseminated, and enforced by Contractor.

Contractor is responsible for providing such barricades, warning signs and other measures as required to identify construction areas to the public and to protect the public from hazards.

The Contractor shall conduct his operations in such a manner as to assure that such operations do not impede access to any area of the Airport at any time for fire fighting vehicles and other emergency vehicles. The Contractor shall cooperate fully and immediately with any directives issued by Airport or emergency service/fire personnel relative to emergency access.

PSP-10 LOCATION OF SAFETY AND OBJECT FREE AREAS

The Contractor shall locate and mark in the field the location of all taxiway and taxilane object free areas in the vicinity of the project work areas as shown on the plans. These areas shall be identified with red top stakes, survey flagging, or other approved methods, so that the areas are clearly indicated to the Contractor's personnel. The intent is to minimize the potential for accidental/unauthorized entry into the object free areas of open segments of the taxilane network by the Contractor's personnel.

PSP-11 AIRPORT ENTRY AND DEPARTURE PROCEDURES

The Contractor shall coordinate ingress-egress requirements with the Airport Management and Resident Project Representative. All open gates to secured airport areas shall be monitored by Contractor's personnel to control access to secured area and shall be closed and locked at the end of each day's operation. Contractor personnel shall not allow any unauthorized personnel to enter through construction gates. The Contractor shall be responsible for securing and/or locking all gates when not in use and at the end of each day's operations. **The Contractor will be limited to a maximum of four (4) keycards to access the airfield at the start of construction and shall provide a list of employees that will maintain these cards throughout construction to the Airport. Keycards shall be returned to the Airport at the completion of construction.**

All construction vehicles must be cleared for access by the Airport Management and Resident Project Representative. Personal cars shall be parked outside of secured airfield areas. All vehicles operating in active air operation areas shall be lighted or flagged in accordance with FAA Advisory Circular 150/5370-2G. Copies of the Advisory Circular will be made available upon request.

PSP-12 EMERGENCY VEHICLE ACCESS

The Contractor shall conduct his operations in such a manner as to assure that such operations do not impede access to any area of the airfield at any time for emergency vehicles. The Contractor shall cooperate fully and immediately with any directive issued by Airport Management relative to emergency access.

PSP-13 CONSTRUCTION GENERAL REQUIREMENTS

The Contractor shall use equipment and construction methods appropriate for each work area. All debris shall be removed from the project area and disposed of off Airport property at a properly permitted site. It will be the responsibility of the Contractor to obtain all necessary permits and coordinate all activities with the appropriate agencies for disposal of debris and for traffic control on public roadways. The Contractor will be responsible for cleaning up and removing all debris at the completion of the project. All disturbed areas shall be smooth graded, seeded, and mulched. No ruts, depressions, holes, etc., will be allowed to be left on site.

PSP-14 SUPERINTENDANT / FOREMAN EXPERIENCE

The Superintendent / Foreman on the project responsible for each major work element (paving, lighting, and marking) shall be able to demonstrate experience with similar work on at least three other Airport projects.

PSP-15 CONSTRUCTION LAYOUT AND CONTROL

The ENGINEER shall furnish control points for horizontal control and benchmarks for vertical control as shown on the plans. It shall be the Contractor's responsibility to lay out the work from these points and to provide all other measurements to ensure positive horizontal and vertical control of the work. All survey work shall be performed under the supervision of a Registered Land Surveyor or a Registered Professional Engineer, in the State of North Carolina and shall be sealed.

The Contractor will be required to reference and maintain all control points and establish temporary benchmarks as required. Contractor will be required to reinstall control points as required during the project.

During the initial Mobilization, the Contractor shall verify by survey all control points provided for project as shown on plans, including tying the project control network to the PACS and SACS. This work shall be performed by a Registered Land Surveyor and shall be considered part of "preliminary survey work". The Contractor shall immediately notify the ENGINEER of any discrepancies in the control network between the information shown on the Plan sheets and his survey. The Contractor shall provide survey notes or data files from verification survey to ENGINEER for review prior to beginning work. The Contractor shall verify in writing his acceptance of the existing survey prior to utilizing.

See Specification Section 50-07 CONSTRUCTION LAYOUT AND STAKES for specific requirements for verification of survey and layout.

As described here and contained in the individual specifications, the following topographic/drainage surveys shall be performed by the Contractor as required for documentation of grade control, quantities, and for as constructed drawings.

1. Top of Existing Ground/ Pavement
2. Top of Stripped Ground.
3. Areas of Undercut.
4. Top of Prepared Subgrade in areas of pavement removal.
5. Top of Final Lift Cement Treated Subgrade
6. Top of Aggregate Base Course.
7. Top of First Lift of Asphaltic Surface Course.
8. Top of Proposed Final Ground (Required for Project Record Documents).
9. Top of Proposed Asphaltic Surface Course (Required for Project Record Documents).
10. Top of Proposed Pavement (Required for Project Record).

11. Top of Proposed Sidewalk (Required for Project Record).
12. Top of Finished Building Slab (Required for Project Record Documents)
13. Stormwater Pipe and Structure Inverts and Rim Elevations (Required for Project Record Documents).
14. Sanitary Sewer and Water Pipe Inverts and Rim Elevations (Required for Project Record Documents).

The Contractor shall provide the ENGINEER one (1) set of the survey notes or data files (AutoCAD 2023 format), point files, and plotted topographic maps for all surveys. The maps shall be plotted at a scale acceptable to the ENGINEER and shall be based on elevation shots taken at intervals not exceeding 50 foot stations. All sections for all surfaces shall be taken at same interval and location based established and referenced centerline stationing. Survey notes shall be in a format that is easily read and contain station, offsets, and elevations based on the established project baseline. All costs for performing these surveys shall be included in the price bid for the item which it pertains.

The Contractor will be allowed to complete initial layout and topographic surveys prior to the Notice to Proceed for beginning construction. The Contractor will be required to schedule the survey work in advance with the ENGINEER, who shall coordinate with the Airport Management. The Contractor shall provide a minimum 48-hour advance notice. All survey work shall be completed in accordance with the requirements of the Project Safety Plan, local airfield rules and regulations, and directives from Airfield Management.

PSP-16 AS-CONSTRUCTED DRAWING

The Contractor shall provide a sealed final as constructed topographic survey for the project (see requirements below). The as constructed drawing shall be provided in hard copy and electronic drawing format. The electronic drawing shall be in AutoCAD 2019 format. The survey must be provided to the ENGINEER for review and will be used to calculate and measure applicable quantities for payment as required in the Technical Specifications. The as constructed drawing shall be provided within seven (7) days of project completion and prior to the final inspection.

As-Constructed Survey Requirements:

1. The Contractor shall provide an "As-Constructed" survey drawing prepared and certified by a Licensed North Carolina Public Land Surveyor.
2. The drawing shall provide final contours shown over the entire site at the same contour interval as shown on the plans. The electronic version shall provide the capability to depict the final contours and/or the spot elevations used to develop the as constructed drawing.
3. The drawing shall include grades and contours for all ditches and basins. Cross sections shall include ditch bottom elevations, top of bank elevations, and elevations 10 foot each side of top of bank. The ditch and basin survey shall also

show contours, top and bottom of bank, bottom width, and the side slopes of the ditch and basins.

4. Provide elevations and dimensions of all structures, including pipe and orifice sizes, inverts diameters, weir elevations and dimensions, riser elevations and dimensions, top of structure elevations and dimensions, and locations and inverts for all pipes.
5. Provide drainage pipes size, material, length, slope, and invert elevations.
6. Provide location for all new conduits, new taxiway lights, runway lights and guidance signs, new duct locations, and home run locations.
7. Survey shall include cross sections of the final surface course and grades taken at a minimum of 50 foot longitudinal spacings and at all longitudinal grade breaks. Minimum cross section grade points shall include the grade at centerline, at joint lines, at grade breaks, and at edges of pavement (on/off pavement). Shots in grassed areas shall not exceed 25' transverse spacing.
8. Provide an AutoCAD digital drawing and PDF file of the as-built drawing on NC State Plan Coordinate System NAD 83 Datum. The AutoCAD drawing file shall be in AutoCAD 2019 format. The Drawings shall be signed and sealed by a Registered Surveyor in the State of North Carolina.

All survey work must be tied to the Primary Airport Control Station (PACS) and the project baseline. Ties and monuments shall be shown on record drawings.

PSP-17 PROTECTION OF EXISTING FACILITIES

All existing facilities, structures, and utilities to remain will be carefully protected by the Contractor (See also PSP-18 and PSP-19). Any facilities damaged by the Contractor will be repaired immediately and restored to original condition at Contractor's cost. All runway lights, taxiway lights, signs, and paved/concrete surfaces to remain shall be protected during grading, paving, and seeding and mulching operations by suitable means. All airfield lighting systems on open taxiways shall be operational at all times.

PSP-18 EXISTING AIRFIELD LIGHTING FIXTURES

The Contractor shall exercise care to avoid damage to existing airfield lighting fixtures and lighted signs. The Contractor will be responsible for the prompt repair or replacement of any such fixtures damaged by his operations, including all costs thereof. Removed lighting fixtures and transformers shall be carefully removed and shall remain property of the Airport. The Contractor shall deliver salvaged lights and transformers to location on the Airport specified by Airport Management. All other removed equipment and debris shall be disposed of off Airport property at a properly permitted location by the contractor.

PSP-19 PROTECTION OF CABLES, CONTROLS, NAVAIDS, AND UTILITIES

1. The Contractor is hereby informed that there are installed on the Airport navigational aids (NAVAIDS), airfield lighting, and other electric power cables serving other facilities. Such NAVAIDS, airfield lighting and other electric cables to remain in service must be fully protected during the entire construction time unless shown otherwise on the plans. **It shall be the Contractor's responsibility to locate and protect all underground facilities along and in the work area at the Contractor's expense.**

Work under this Contract can be accomplished in the vicinity of these facilities and cables only at approved periods of time, which approval is subject to withdrawal at any time because of changes in the weather, emergency conditions on the existing airfield areas, anticipation of emergency conditions, and for any other reason as determined by the ENGINEER acting under the orders and instructions of the Airport Management. Any instructions to the Contractor to clear any given area, at any time, by the ENGINEER or the Airport Management, shall be immediately executed. Construction work will be commenced in the cleared area only when additional instructions are issued by the proper authorities.

2. The Contractor is responsible for arrangements to locate and mark in the field all power and control cables leading to and from any NAVAIDS, weather systems, electric power and communications cable, and other facilities before any work in the general vicinity is started. Thereafter, through the entire time of this construction, Contractor shall protect them from any possible damage, including crossing with unauthorized equipment, etc. Known facilities and buried cables, and the approximate location thereof in the construction area, are shown on the plans.
3. These special provisions intend to make perfectly clear the need for protection of Airport NAVAIDS, weather equipment, and other facilities and cables by this Contractor at all times.
4. The Contractor shall immediately repair, with identical material by skilled workmen, any underground cables serving NAVAIDS, weather equipment, utilities and other Airport facilities which are damaged by his workmen, equipment, or work. Prior approval of the Airport must be obtained for the materials, workmen, time of day or night, method of repairs, for any temporary or permanent repairs the Contractor proposes to make to any NAVAIDS, Weather Bureau facilities, or other cables and controls serving such NAVAIDS and facilities damaged by the Contractor. Prior approval of the ENGINEER or of the representative designated by the Airport Management must be obtained for the materials, workmen, time of day or night, method of repairs, for any temporary or permanent repairs the Contractor proposes to make to any other Airport facilities and cables damaged by this Contractor.

PSP-20 STOCKPILE/ MATERIAL HANDLING REQUIREMENTS

Location of stockpile areas shall be as shown on the plans and coordinated with and approved by the Owner. Stockpiles shall be neat in appearance and should be piled to a maximum height of eight feet. The Contractor will be required to manipulate and push up stockpiled materials as required, to promptly remove stockpiled waste materials from site for proper disposal to minimize stockpile ground areas, and to maintain piles in a neat and orderly fashion. When stockpiles are installed outside the limits of disturbance shown on the Plans, temporary silt fence shall be installed at the base of the stockpile on the downstream side of all stockpiles. There shall be no separate payment for multiple handling of materials by Contractor. See Plans for proposed location of stockpile areas and details for temporary silt fence installation.

PSP-21 DISPOSAL OF SOIL AND DEBRIS

The Contractor shall promptly dispose of concrete debris, excess or unsuitable soil, silt excavation, debris from pipe and structure removal, pavement removal, and other debris off Airport property in a properly permitted location in accordance with applicable laws and regulations. All costs for offsite disposal shall be included in the bid costs for the related items bid upon.

PSP-22 MATERIAL MANIPULATION

The specifications for P-152, Excavation and Embankment and P-209 Crushed Aggregate Base Course require that these materials be compacted within specific limits of optimum moisture content. The Contractor shall be responsible for all efforts necessary to adjust the moisture content of soil materials in order to achieve stability and specified compaction. This includes but is not limited to proactive control of surface runoff and groundwater, soil drying efforts (spreading, scarifying, etc.) and watering. Soils which are found to be wet of optimum will not be considered unsuitable. All costs for soil moisture conditioning shall be incidental to the prices of items of work bid upon.

PSP-23 DEWATERING AND EXCAVATION SUPPORT

The Contractor may encounter wet conditions during construction (earthwork, removal and demolition, and construction of new drainage systems, utilities, building foundations and pavement sections). Wet conditions may include existence of water in excavations. Wet conditions may also result in unstable soil conditions during construction. Existing ground water levels must be lowered two (2) feet minimum below soil strata to be compacted to prevent water from wicking up into the layer being compacted. The methods used for dewatering and excavation support are at the Contractor's discretion including well pointing, temporarily plugging, and pumping the existing drainage system or other selected methods. All costs for dewatering and excavation support including required equipment, materials, preparation, and installation of these materials, and for all labor, tools, and incidentals necessary to complete these tasks shall be included in the costs of items of work bid upon.

PSP-24 CONTROL STRIP FOR BITUMINOUS PAVEMENT

NOT USED.

PSP-25 DUST CONTROL

It is the intent of these specifications that the Contractor will, by watering, chemicals, vegetation, or other means, prevent the occurrence of dust which will be objectionable to the Airport or the residents of the area or violate existing laws or regulation or cause hazards to air traffic.

PSP-26 EROSION CONTROL PERMIT REQUIREMENTS

The Owner is seeking erosion and sediment plan approval through NCDENR-LQS and the associated coverage under the North Carolina NPDES General Permit for Stormwater Discharges from Construction Sites. (Plan approval/permit documentation will be provided to the Contractor prior to construction.) The responsibility for complying with the conditions and requirements of the plan approval and general permit, including but not limited to site inspection and record keeping requirements, are hereby assigned to the Contractor. Site inspections and record keeping shall continue until a good stand of grass has been established at the site and the project has been closed out by NCDEMLR. All costs associated with this item shall be included in the item "Mobilization," and no other compensation will be made. The Contractor shall notify the ENGINEER when the project is ready for closeout, and the ENGINEER will request a closeout inspection by NCDEMLR.

Erosion control measures shall be inspected weekly and after each rainfall event measuring $\frac{1}{2}$ " or more at a minimum. Needed repairs/replacement shall be made immediately upon discovery or upon notification by the ENGINEER or Resident Project Representative. Cost of all repairs shall be included in items bid upon.

PSP-27 GROUND COVER REQUIREMENTS

Pursuant to General Permit – NCG 010000:

All perimeter dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1) shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 7 calendar days from the last land-disturbing activity. All other disturbed areas shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 14 calendar days from the last land-disturbing activity.

Provisions for permanent ground cover sufficient to restrain erosion must be accomplished for all disturbed areas within 15 working days or 90 calendar days (whichever is shorter) following completion of construction or development.

PSP-28 TESTING – GENERAL

All testing required by the Contract specifications for acceptance of the work (except as noted in the individual specification sections and as explained below) will be initiated by the ENGINEER with the full cooperation of the Contractor. Quality assurance testing will be scheduled after the Contractor confirms to the ENGINEER that an area is ready for testing. **NOTE: Contractor is responsible for his own quality control testing and is not to request quality assurance testing until he has satisfied himself that the materials are ready for such testing. The Contractor will be required to pay for all retests of failing quality assurance tests taken throughout the project which are performed by the testing laboratory after the ENGINEER has been notified by the Contractor that the item is ready for testing.**

An independent QA testing laboratory will be used on the project, which laboratory technicians will be under the direction of the Resident Project Representative. There is no cost to the Contractor for QA testing under this heading (except as noted in the individual specifications section and as explained above). Testing to be completed during construction is indicated for each bid item in the individual sections.

The Contractor will be required, at his expense, to furnish proposed job mix formulas for the bituminous pavement and structural concrete to the ENGINEER for his approval at least thirty (30) days prior to the proposed date for use. The Contractor may be requested to submit the necessary materials to the designated laboratory for verification and will be required to furnish all required test data, graphs, etc., as required and specified in the item specifications. The cost for the materials and delivery of these items shall be included in the unit costs for the applicable items under this Contract.

The Contractor will also be required to furnish density gauge for use on this project during paving. This density gauge shall be operated by a trained laboratory technician to provide for continuous monitoring of paving operations and their conformance with the specifications. The cost of furnishing the density gauge and trained laboratory technician shall be borne by the Contractor. The density gauge is to be used by the Contractor as an aid in construction operations; the Owner will not use density gauge test results to determine acceptance and/or rejection of the bituminous pavement.

PSP-29 SHOP DRAWINGS

The Contractor is responsible for the preparation of detailed shop drawings and data submittals necessary for the fabrication, erection, and construction of all parts of the work in conformity with the Contract Documents. **Six (6) copies of shop drawings or a digital scanned copy submitted by email shall be submitted to the ENGINEER in accordance with the procedures herein described.**

"Shop Drawings", wherever referred to, shall be defined as drawings, diagrams, illustrations, schedules, catalog cuts, performance charts, brochures, and other data

prepared by the Contractor or any Subcontractor, Manufacturer, supplier or distributor, which illustrate how specific portions of the work shall be fabricated and/or installed.

Where it is difficult to provide "shop drawing transparencies such as for "catalog cuts", "brochures" or "photographs", the Contractor shall submit a minimum of six (6) copies of such "cuts", "brochures" or "photographs." Additional copies shall be supplied when required by the ENGINEER.

All submissions of shop drawings, brochures and catalog cuts shall be accompanied by a transmittal letter listing the drawings submitted by number and title.

Each shop drawing shall have listed on it all Contract references, drawing numbers, plus shop drawing numbers on related work by other Subcontractors, if available.

Non-reproducible shop drawings shall be submitted with a cover sheet containing all the information required on reproducible shop drawings.

Shop drawings shall be complete in every detail, including a location plan relating the work to space identification and column numbers. Materials, gauges, method of fastening, size and spacing of fastenings, connections with other work, cutting, fitting, drilling, and any and all other necessary information as per usual trade practice or as required for any specific purpose must be clearly shown.

The Contractor shall check and approve all shop drawings to make sure that they conform to the drawings, specifications, and other Contract requirements, and correct the drawings found to be inaccurate or otherwise in error. The Contractor shall verify all field dimensions and criteria and shall be responsible for the coordination of work by all Subcontractors.

Shop drawings, at the time of submission, shall bear the signature of the Contractor's checker, date and stamp of approval for submission to the ENGINEER as evidence that such drawings and/or details have been reviewed, checked and approved by the Contractor. Drawings submitted without such stamp of approval will be returned to the Contractor unapproved and will require resubmission. In such event, it will be deemed that the Contractor has not complied with the requirements of this subsection and shall bear the risks of delays as if no drawings or details had been submitted. Both sepia and prints must bear Contractor's stamp.

The Contractor, by approving and submitting shop drawings, represents that he has determined and verified all field measurements and quantities, field construction criteria, materials, catalog numbers, and similar data, and that he has reviewed and coordinated the information in the shop drawings with the requirements of the work and the Contract documents.

At the time of submission, the Contractor shall inform the ENGINEER in writing of any deviation in the shop drawings or samples from the requirements of the Contract

documents.

The ENGINEER will review and approve shop drawings and samples with reasonable promptness to minimize delay, but only for conformance with the design concept of the Contract and with the information given in the Contract documents. The ENGINEER'S approval of a separate item shall not indicate approval of an assembly in which the item functions. The ENGINEER will return the shop drawings transparency/sepia to the Contractor for his use and distribution.

The ENGINEER'S approval of shop drawings or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract documents unless the Contractor has informed the ENGINEER in writing of such deviation at the time of submission and the ENGINEER has given written approval to the specific deviation, nor shall the ENGINEER'S approval relieve the Contractor from responsibility for errors or omissions in the shop drawings or samples.

No materials shall be ordered and no portion of the work requiring shop drawings or sample submission shall be commenced until the submission has been approved by the ENGINEER. All such materials and portions of work shall be in accordance with approved shop drawings and samples.

The Contractor shall, when requested by the ENGINEER in writing, submit additional shop drawings to those required by the technical specifications or special provisions.

The Contractor shall deliver to the ENGINEER three (3) complete sets of all maintenance manuals, parts list, operating instructions and other necessary documents required for all installed materials, equipment, or machinery. Such documents shall be furnished concurrently with the installations of the respective materials, equipment or machinery. All shop drawings submitted by the Contractor and approved by the ENGINEER become part of the Contract documents.

PSP-30 WEEKLY PROGRESS MEETING

A Progress Meeting will be held weekly throughout the project. The purpose of these meetings will be scheduling and coordination of the work between Contractors, review of project progress, and discussion of project work items and issues. The Contractor will be required to have a qualified representative at each of these meetings.

PSP-31 PAY ESTIMATE DOCUMENTATION

The Contractor's attention is directed to various documentation requirements of the project. All documentation must be current as of the date of each partial pay estimate. Delinquent paperwork may result in delays in processing pay estimates. Documentation requirements include but are not limited to materials on-hand documentation (Section 90), Sales Tax Reports, DBE/MBE/WBE/HUB Vendor Payments (AV-510) form, current project schedule and materials documentation (submittals and certificates of compliance).

A sample of the documents is contained in Appendix "F" - Forms, of the specifications.

PSP-32 SALES TAX REPORTS

The Contractor shall submit a statement showing an invoice identification number, sales taxes paid to North Carolina, and sales taxes paid to county of vendor's location, for all material and equipment used in the project. A sales tax statement shall be submitted with each pay request and shall be accompanied by an affidavit verifying its accuracy.

PSP-33 COPIES OF CONSTRUCTION DOCUMENTS

ENGINEER will furnish at no charge to Contractor five (5) complete sets of plans and specifications including cross-sections for Contractor's use during construction. One set shall be maintained as the Project Record Documents. Additional sets of plans and specifications or individual sheets of plans will be furnished to Contractor at the cost of reproduction and postage.

PSP-34 CONTRACTS AND BONDS

The Contractor's attention is directed to Appendix "E" which includes the form of the construction contract and performance and payment bonds. The contract form contains numerous important contract provisions including insurance requirements.

PSP-35 INSURANCE AND RESPONSIBILITY FOR DAMAGE CLAIMS

- A. INSURANCE: Contractor shall purchase and maintain comprehensive general liability, comprehensive automobile liability, and other insurance as is appropriate for the Work being performed. As a minimum, the Contractor shall provide insurance protection from claims set forth below which may arise out of or result from Contractor's performance and furnishing of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed or furnished by Contractor, by any Subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:
- (1) The Contractor provide evidence for all insurance provided on an ACCORD 25 Certificate of Insurance form.
 - (2) Claims under worker' or workmen's compensation, disability benefits and other similar employee benefit acts.
 - (3) Claims for damages because of bodily injury, occupations sickness or disease, or death of Contractor's employees.
 - (4) Claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.

- (5) Claims for damages insured by personal injury liability coverage which are substantiated (a) by any person as a result of an offence directly or indirectly related to the employment of such person by Contractor, or (b) by any other person for any other reason.
- (6) Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use of resulting therefrom.
- (7) Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle.
- (8) The [Sponsor], its officials, and staff; and Talbert & Bright, Inc., its staff and consultants shall be named as additional insureds with right of notice in the policy.
- (9) The Contractor shall obtain in the name of the Owner, general liability insurance coverage with the same limits and same period as specified below, including liability coverage for acts of Subcontractors and Subordinated Contractors.

The insurance required by this Paragraph shall include the specific coverages and be written for not less than the limits of liability and coverages specified in Paragraph C. or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior to written notice has been given to Owner and ENGINEER by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with subsection 50-18 of the General Conditions. In addition, the Contractor shall maintain such completed payment and furnish Owner with evidence of continuation of such insurance at final payment and one year thereafter.

B. INDEMNIFICATION:

- (1) The Contractor shall indemnify and hold harmless Owner and ENGINEER and their consultants, agents, and employees from and against all claims, damages, losses, and expenses, direct, indirect, or consequential (including but not limited to fees and charges of Engineers, Architects, Attorneys, and other professionals and court and arbitration costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss, or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of Contractor, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose

acts any of them may be liable, regardless of whether or not it is caused by a party indemnified hereunder or arises by or is imposed by Law or Regulations regardless of the negligence of any such party.

- (2) In any and all claims against Owner or ENGINEER or any of their consultants, agents, or employees by any employee of Contractor, Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph B.(1) above shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any such Subcontractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

- C. COVERAGES: The limits of liability for the insurance required by Paragraph A. above shall provide for not less than the following amounts or greater where required by law:

- (1) Workers' Compensation, etc.:

- | | |
|---|-----------|
| (a) State: | Statutory |
| (b) Applicable Federal
(e.g. Longshoreman's) | Statutory |
| (c) Employer's Liability | \$500,000 |

- (2) Comprehensive General Liability:

- (a) Bodily Injury and property Damage: \$5,000,000
Combined Single Limit (Per Occurrence)
- (b) The Contractor's General Liability insurance shall provide coverage for the following, but not limited to: (1) Premises – Operations, (2) Independent Contractors, (3) Products/Completed Operations Hazard, (4) Underground Hazard, (5) Broad Form Property Damage, (6) Where applicable, Explosion and Collapse Hazard, and (7) Personal Injury.

- (3) Comprehensive Automobile Liability:

- (a) Bodily Injury and Property Damage: \$5,000,000
Combined Single Limit (Per occurrence)
- (b) The Contractor's Comprehensive Automobile Liability Insurance shall provide coverage for Bodily Injury and Property Damage per Occurrence for owned, hired, and non-owned vehicles.

(4) Builder's Risk Insurance based on the completed value basis on the insurable portion of the project.

(5) General Requirements

(a) Certificates in triplicate from the insurance carrier stating the limits or liability and expiration date shall be filed with Owner before operations are begun, certificates shall not merely name the types of policy provided but shall specifically refer to this Contract and shall contain a separate express statement of compliance with each of the requirements as set forth in this subsection. The certificates shall, in addition to the information relative to the insurance required, contain the following:

- (1) Inception and expiration dates of insurance policy.
- (2) Limits of liability provided (Public Liability and Property Damage).
- (3) Coverage provided, including special hazards if required.
- (4) Name of insurance company.
- (5) Policy number.
- (6) Additional interests covered.
- (7) Statement that the Explosion, Collapse, and Underground exclusion do not apply.
- (8) Certificate shall reflect self-insured retention applicable to any contract of insurance.
- (9) Umbrella or excess liability certified contracts must state underlying insurance requirements.
- (10) Project number and nature of work.

The Contractor's insurance provider shall edit the Certificate of Insurance standard cancellation clause from "...the issuing company will endeavor to mail days written notice to the certificate holder..." to "...the issuing company will mail 30 days written notice to the certificate holder..."

If any lapse of insurance coverage occurs, the Contractor shall notify the Owner within 24 hours.

No certificate will be accepted which exculpates the issuer or reduces any rights conferred on the Owner by the above certificates, nor will they be accepted unless the

certificates bear a live signature of a direct representative of a company authorized to do business in the state where the work is located.

The Owner may, at his discretion, modify or waive any of the foregoing requirements.

No contract of insurance containing a “claims made” insuring agreement will be acceptable unless the Contractor offering such insurance to fulfill the requirements of this Contract agrees that each such contract of insurance shall be renewed for the entire existence of the Contractor, their successors or assigns; and that on termination of such coverage which is not replaced by a similar contract with the required limits of liability, a “tail policy” will be purchased with limits not less than those required by this Contract.

PSP-36 ITEM - ADDITIONAL INSURED PARTY COVERAGE

It is the intent of the Owner that the Lumberton Airport Commission, its officials, staff and consultants; and Talbert & Bright, Inc., its staff and consultants shall be named as additional insured parties under the required General Liability Coverage for the duration of the contract. The cost, if any, for extending coverage to the additional insured parties is not FAA AIP-eligible. All such costs shall be included in the Owner-optional lump sum bid item, “Cost for Additional Insured Party Coverage.” Bidders must provide a cost for this item.

PSP-37 AS CONSTRUCTED DRAWINGS

The Contractor will be required to maintain a set of “as constructed plans” on the project at all times, noting any changes, deviations, etc., with the responsibility to furnish the Owner, at the completion of the project, a set of as constructed plans. A set of sealed “as constructed plans” shall be delivered to the ENGINEER prior to final acceptance and payment and in addition to final cross-sections, pavement elevations/edges, and final as-built ground and pavement grades (see PSP-16 AS CONSTRUCTED DRAWING for as constructed drawing requirements). All survey work must be tied to the Primary Airport Control Station and shall be on the same datum as the plans.

PSP-38 QUESTIONS AND ADDENDA

All questions about the meaning or intent of the Contract Documents shall be submitted and directed to Talbert & Bright in writing, by e-mail estumph@tbiilm.com or by fax at (910) 762-6281, Attention: Eric Stumph; proper reference to this Request for Bids is required. The deadline for submitting questions is 5:00 pm on Thursday, February 13, 2025. Questions received after the cutoff date will not be answered. Replies, when considered necessary by the Owner, will be issued in writing by Addenda, mailed or delivered to all parties recorded by the Owner as having received the Bidding Documents. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. Addenda may also be issued to modify the Bidding Documents as deemed advisable by the Owner. Failure of any Bidder to receive any such Addendum or interpretation shall not relieve Bidder

from any obligation under this Bid as submitted.

PSP-39 E-VERIFY

The Contractor and his subcontractors are required to comply with the requirements of Article 2 of Chapter 64 of the N.C. General Statutes, which impose the E-Verify requirement upon private employers with 25 or more employees. Violations of Chapter 64 carry civil penalties for each failure to verify employment eligibility of an employee. Contractor is required to include with his bid an Affidavit of Compliance with N.C. E-Verify Statutes, attesting to the Contractor's compliance with E-Verify and attesting to the Contractor's subcontractors' compliance with E-Verify.

PSP-40 ELECTRONIC COPY OF BID FORM

An electronic copy of the bid form will be made available to Contractor's based on a written request. The request shall be made to Talbert & Bright, by e-mail bids@tbilm.com. The bid form spreadsheet will be provided as a Microsoft Excel file without formulas as a courtesy to prospective bidders. The Bidder shall be responsible for printing the completed bid form and including with the bid package submitted. The Bidder assumes any and all risk associated with the use of electronic file in preparing a bid. The spreadsheet will be free of cell formulas. The Bidder is responsible for the accuracy of modifications, cell formulas, links, etc., which the Bidder adds to the spreadsheet. No warranty is made or implied as to suitability, compatibility or accuracy of the file as sent, received, or modified; the Bidder shall be solely responsible for verifying its accuracy relative to hard copy bid forms included in the Project Specifications and in Addenda, and for any computations which may be performed within the spreadsheet, and for printing the spreadsheet and including with the bid documents. The Bidder shall be responsible for making any and all subsequent bid form changes, which may be announced by Addendum.

PSP-41 SUBSURFACE UTILITY ENGINEERING (SUE INVESTIGATION)

The Contractor shall retain the services of a qualified and experienced Subsurface Utility Engineering (SUE) service provider to provide Quality Level B (geophysical) and Quality Level A (potholes) SUE services for the project, in accordance with ASCE 38-22. Within 30 calendar days of contract award, the Contractor shall deliver pre-construction SUE deliverables to the Engineer, as follows:

Quality Level B services shall be performed throughout the project limits of disturbance, to include all areas of proposed construction, including construction access routes, staging areas, building pads, site grading, water main construction, water and sewer service line construction, storm drain construction, primary and secondary power line construction and telecommunications/IT line construction. Mark utility locations with paint and flagging. Provide a digital utility map (PDF and AutoCAD) based on field GPS locations of lines found using Quality level B techniques. Locate, mark and map all underground water sewer, electrical (including service lines in the RV Park area),

telecom/IT, utility service lines and storm drain lines. Include electrical line locating outside the limits of disturbance for lines connected to the existing City transformer located across the taxilane from the new box hangar. Level B services shall include GPR equipment if needed.

Quality Level A services shall be performed in the area of the water main entering the airport property from the north along Lois Lane and an existing 15-foot wide City utility easement. This existing City water main feeds a fire hydrant and one or more nearby services, including RV Park area water service line(s) and potentially water service(s) to nearby hangar building(s). The project intent is to extend this water main to serve additional hydrant(s) and buildings. The Quality Level A services (anticipating vacuum excavation) are intended to locate the existing water main, determining size, pipe material, fitting material, pipe depth, top of pipe elevation, location and type of end caps, valves, tees and service connections, presence and type(s) of thrust restraint (thrust blocks, tie rods, retainer glands, etc.). Any other utility lines in the immediate area (excepting the substantially deeper sanitary sewer) shall also be exposed for type, size, material and depth determination. Provide a detailed field sketch, requested data and digital color photographs.

Provide continuing Quality Level B services through project construction in support of ongoing construction operations, to restore location marks for existing and new marks for completed work as needed.

All cost for providing the SUE services for all bid schedules as specified herein shall be included in the lump sum bid price for "SUE Services" for Bid Schedule 1.

PSP-42 MISCELLANEOUS ITEMS

CONCRETE SIDEWALK This item shall include supplying, forming, placing, shaping, compacting, and finishing materials necessary to complete 5" thick concrete sidewalk installation as detailed on the plan sheets. Concrete shall be finished and cured in accordance with NCDOT standards. The square yard price shall be full compensation for all labor, equipment and materials needed to complete the work.

6" NCDOT PORTLAND CEMENT CONCETE PAVEMENT, CLASS PAVEMENT This item shall include materials, labor, and equipment associated with construction of the concrete pavement section between the proposed asphaltic taxilane pavement and the new 2-Unit Box Hangar Concrete slab to close the gap between the taxilane and the hangar slab and the concrete apron repair. The concrete pavement shall be constructed as depicted on the project plans. This item shall include saw cutting the pavement, all excavation required to construct the concrete pavement section including subgrade preparation, placement and compaction of aggregate base course, shoulder grading, form work, placement of concrete, saw cutting and sealing concrete joints, curing of concrete, and all other incidentals necessary to complete construction of the concrete pavement in accordance with the details indicated on the project plans. The 6" NCDOT Portland Cement Concrete Pavement, Class Pavement shall be measured on a square

yard basis. All costs associated with construction of the concrete pavement, including all materials, labor, equipment and incidentals necessary to complete the work shall be included in the price per square yard for "6" NCDOT Portland Cement Concrete Pavement, Class Pavement".

ACCESSIBLE PARKING SIGNS This item shall be paid on a per lump sum basis and shall include supplying and installation of Accessible Parking Signs as detailed on the plans including installation. Item shall include all costs for labor, equipment, and materials needed to complete the work.

WHEEL STOP This item shall be paid on a per each basis and shall include supplying and installation of a new concrete wheel stops as detailed in the plans. These shall be installed in locations per the plans. Item shall include all costs for all labor, equipment and materials needed to complete the work.

8" ROOF DRAIN OUTFALL PIPE This item shall be provided and installed in accordance with the project plans and coordinated with the proposed/existing utilities. The pipe shall be measured and paid for on a per lump sum basis. The unit price for the pipe shall include connection to the building down spouts, connection to drainage structures, adaptors, connectors, bends, cleanouts, and all labor, materials and appurtenances necessary for the installation.

END OF PROJECT SPECIAL PROVISIONS

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased construction.
4. Work under separate contracts.
5. Access to site.
6. Coordination with occupants.
7. Work restrictions.
8. Specification and Drawing conventions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

A. Project Identification: Mid-Carolina Regional Airport (RUQ) New Corporate and Row Hangars.

1. Project Locations: 3870 Airport Loop Road, Salisbury, NC 28147

B. Owner: Person County.

1. Owner's Representative: Valerie Steele, Airport Director.

C. Architect: The Wilson Group Architects.

D. Web-Based Project Software: Project software administered by Contractor will be used for purposes of managing communication and documents during the construction stage.

1. See Section 013100 "Project Management and Coordination." for requirements for establishing, administering and using web-based Project software.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Corporate Hangar.
2. Box Hangars.
3. Public Safety Hangar.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.4 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 1. Driveways, Walkways, and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.

1.5 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and existing adjacent building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 5:00 a.m. to 10:00 p.m., Monday through Friday, unless otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 1. Notify Architect Owner not less than two days in advance of proposed utility interruptions.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
- C. Related Requirements:

1.2 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.3 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.4 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.6 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
 - 3. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
 - 4. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1 – Permit, Tap, and Miscellaneous Fees: Lump-Sum Allowance: Include the sum of \$ 50,000.00: Include permit, tap and miscellaneous fees required for the project.
1. This allowance includes material cost receiving, handling, and installation and Contractor overhead and profit.

END OF SECTION 012100

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

1.2 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price Schedule 1 – No. 1: Add/Deduct in blended cubic yard (CY) rate for concrete and steel for building footings. The General Contractor is to include a rate for increase/decrease in footing and pedestal sizes due to finalized reactions. The rate is to be a blended rate that will include all items associated with an increase/decrease in footing size including but not limited to excavation, formwork, reinforcing, concrete material and placement as a function of volume of concrete. The rate is to be per cubic yard (CY) of footing.

Talbert & Bright: 3105-2401
The Wilson Group: 2410-000

LBT T-Hangar and 2-Unit Box Hangar
January 17, 2025

END OF SECTION 012200

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other work of the Contract.
- C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: Box Hangar (Left Unit) Office Upfit.

1. Base Bid: Provide a shell office space in accordance with the Drawings. Restroom upfit is part of the Base Bid.
 2. Alternate: Provide the office upfit to the shell space in accordance with the Drawings
- B. Alternate No. 2: Box Hangar (Right Unit) Office Upfit.
1. Base Bid: Provide a shell office space in accordance with the Drawings. Restroom upfit is part of the Base Bid.
 2. Alternate: Provide the office upfit to the shell space in accordance with the Drawings
- C. Alternate No. 3: Owner's Preferred Alternate for Hangar Doors.
1. Base Bid: Provide hangar doors from approved manufacturer listed in Part 2.1 of Section 083620 Hydraulic Hangar Doors.
 2. Alternate: Provide preferred brand alternate listed in Part 2.2 of Section 083620 Hydraulic Hangar Doors.
- D. Alternate No. 4: Paint Interior Exposed Structural Steel.
1. Base Bid: Do not paint interior exposed structural steel in the Box Hangar building.
 2. Alternate: Paint the interior exposed structural steel for both hangar units in the Box Hangar building.
- E. Alternate No. 5: Resinous Flooring.
1. Base Bid: Provide only cure and seal compound on the concrete floor slab in the hangar bays of the Box Hangar building.
 2. Alternate: Provide 3-part resinous flooring in the hangar bays of the Box Hangar building in accordance with the drawings and with Section 096723 Resinous Flooring.

END OF SECTION 012300

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

- e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.5 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.6 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
- a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not allowed.
- C. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice of Award. Requests received after that time may be considered or rejected at discretion of Architect.
1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
- a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Substitution request is fully documented and properly submitted.
 - e. Requested substitution will not adversely affect Contractor's construction schedule.
 - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - g. Requested substitution is compatible with other portions of the Work.
 - h. Requested substitution has been coordinated with other portions of the Work.
 - i. Requested substitution provides specified warranty.

- j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to Architect.
- B. Contractor-Initiated Work Change Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Work Change Proposal Request Form: Use form acceptable to Architect.

1.4 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.
- B. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

Talbert & Bright: 3105-2401
The Wilson Group: 2410-000

LBT T-Hangar and 2-Unit Box Hangar
January 17, 2025

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section PSP "Project Special Provision" for requirements governing periodic payments and obligations at project progress meetings.
 - 2. Section 012100 "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 3. Section 012200 "Unit Prices" for administrative requirements governing the use of unit prices.
 - 4. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 5. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.
3. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
4. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
5. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
6. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
7. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
8. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Submit Application for Payment to Architect monthly, with the application date to be determined by the Architect and Owner. The period covered by each Application for Payment is one month, with the start and end dates to be determined by the Architect and Owner.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within an appropriate period of time. Number of copies

required will be determined by Architect and Owner. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Schedule of unit prices.
 5. Submittal schedule (preliminary if not final).
 6. List of Contractor's staff assignments.
 7. List of Contractor's principal consultants.
 8. Copies of building permits.
 9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 10. Initial progress report.
 11. Report of preconstruction conference.
 12. Certificates of insurance and insurance policies.
- H. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.

3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706-1994, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A-1994, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707-1994, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Requests for Information (RFIs).
 - 2. Project Web site.
 - 3. Project meetings.

1.2 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.3 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.

1.4 GENERAL COORDINATION PROCEDURES

- A. Related Sections:
 - 1. Section PSP "Project Special Provisions" for Contractor's responsibilities and obligations.
- B. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.

- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.

1.5 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project name.
 - 2. Project number.
 - 3. Date.
 - 4. Name of Contractor.
 - 5. Name of Architect.
 - 6. RFI number, numbered sequentially, provided by Architect.
 - 7. RFI subject.
 - 8. Specification Section number and title and related paragraphs, as appropriate.
 - 9. Drawing number and detail references, as appropriate.
 - 10. Field dimensions and conditions, as appropriate.
 - 11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 - 12. Contractor's signature.
 - 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

- C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 - 1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or inaccurately prepared RFIs.
 - 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 - 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
 - 4. RFI Log: Architect will prepare and maintain RFI log..
- E. On receipt of Architect's action, immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response. RFI will be returned with indication of the following:
 - 1. Identification of related Minor Change in the Work (No Change Order), Construction Change Directive (No Change Order), and Provide Proposal Request (Prepare Change Order Proposal), as appropriate.

1.6 PROJECT WEB SITE

- A. Use Architect's Project Web site for purposes of hosting and managing project communication and documentation until Final Completion. Project Web site shall include the following functions:
 - 1. Project directory.
 - 2. Project correspondence.
 - 3. Meeting minutes.
 - 4. Contract modifications forms and logs.
 - 5. RFI forms and logs.
 - 6. Task and issue management.
 - 7. Photo documentation.
 - 8. Schedule and calendar management.

9. Submittals forms and logs.
10. Payment application forms.
11. Drawing and specification document hosting, viewing, and updating.
12. Online document collaboration.
13. Reminder and tracking functions.
14. Archiving functions.

- B. Provide Architect with user names and e-mail addresses for Project Website.
- C. Contractor, subcontractors, and other parties granted access by Contractor to Project Web site shall execute a data licensing agreement in the form of Agreement provided by the Architect.

1.7 PROJECT MEETINGS

- A. General: Architect will schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Architect will notify Contractor of meeting times and dates. Contractor to inform participants and others involved, and individuals whose presence is required, of date and time of each meeting.
 2. Agenda: Architect will prepare the meeting agenda and publish to Project Website which will automatically distribute to Project Team. Contractor to distribute the agenda to any attendees not on the Project Website.
 3. Minutes: Architect will record significant discussions and agreements achieved and publish to Project Website which will automatically distribute to the Project Team.
- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect after execution of the Agreement. In accordance with Section "Project Special Provisions", Contractor will submit a detailed Schedule of Work at least 5 days prior to the Preconstruction Conference.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Preparation of record documents.
 - l. Use of the premises.

- m. Work restrictions.
 - n. Working hours.
 - o. Owner's occupancy requirements.
 - p. Responsibility for temporary facilities and controls.
 - q. Procedures for moisture and mold control.
 - r. Procedures for disruptions and shutdowns.
 - s. Construction waste management and recycling.
 - t. Parking availability.
 - u. Office, work, and storage areas.
 - v. Equipment deliveries and priorities.
 - w. First aid.
 - x. Security.
 - y. Progress cleaning.
3. Minutes: Architect will record and distribute meeting minutes.
- C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Architect will conduct progress meetings at appropriate intervals up to once a week throughout the project depending on the activity level of construction.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Architect will review, correct, and/or approve minutes of previous progress meeting, review other items of significance that could affect progress, and include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Contractor to present updated project schedule and review progress since the last meeting and provide two week look ahead. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of proposal requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.

3. Minutes: Architect will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Construction schedule updating reports.
 - 3. Daily construction reports.
 - 4. Site condition reports.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time belongs to Owner .

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file, where indicated.
 - 2. PDF electronic file.
- B. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 - 1. Submit a working electronic copy of schedule and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
- D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 - 3. Total Float Report: List of all activities sorted in ascending order of total float.
 - 4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.
- E. Construction Schedule Updating Reports: Submit with Applications for Payment.
- F. Daily Construction Reports: Submit appropriate intervals.
- G. Site Condition Reports: Submit at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - a. Metal Building Systems.
 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
 4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 6. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with other Contracts held by Owner.
 - b. Coordination with existing construction.
 - c. Limitations of continued occupancies.
 - d. Uninterruptible services.
 - e. Partial occupancy before Substantial Completion.
 - f. Use of premises restrictions.
 - g. Provisions for future construction.
 - h. Seasonal variations.
 - i. Environmental control.
 - j. Project Special Provisions.
 2. Work Stages: Indicate important stages of construction for each major portion of the Work.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion, and the following interim milestones:
1. Completion of footing and slab excavation.
 2. Completion of reinforcing steel for slab and footings.
 3. Completion of concrete placement for slab and footings.
 4. Delivery of steel for Metal Building Systems.
 5. Completion of steel erection for Metal Building Systems.
 6. Completion of weather tight enclosure for Metal Building Systems.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
 2. Pending modifications affecting the Work and Contract Time.
- F. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.
- G. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 7. Accidents.
 8. Meetings and significant decisions.
 9. Unusual events.
 10. Stoppages, delays, shortages, and losses.
 11. Meter readings and similar recordings.
 12. Emergency procedures.
 13. Orders and requests of authorities having jurisdiction.
 14. Change Orders received and implemented.
 15. Construction Change Directives received and implemented.
 16. Services connected and disconnected.
 17. Equipment or system tests and startups.
 18. Partial completions and occupancies.
 19. Substantial Completions authorized.
- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for

Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility. Architect will post to Project Website.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Section PSP "Project Special Provisions" for additional requirements for submitting shop drawings and submittals.
 - 2. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 3. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 4. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 5. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.3 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: PDFs of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals and Shop Drawings. Files will be available on Project Website. Specifications and other Project Manual items will be made available electronically in an uneditable PDF format.

- B. CAD files in DWG format of individual sheets are available for purchase at a cost of \$50.00 per sheet. Contractor to complete form provided in Section 013301 "CAD File Drawing Release Form" for individual sheets to purchase.
- C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- D. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
- E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
 - 1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 - 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
 - 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
 - 4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.

- f. Name of firm or entity that prepared submittal.
 - g. Names of subcontractor, manufacturer, and supplier.
 - h. Category and type of submittal.
 - i. Submittal purpose and description.
 - j. Specification Section number and title.
 - k. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - l. Drawing number and detail references, as appropriate.
 - m. Location(s) where product is to be installed, as appropriate.
 - n. Related physical samples submitted directly.
 - o. Indication of full or partial submittal.
 - p. Transmittal number.
 - q. Submittal and transmittal distribution record.
 - r. Other necessary identification.
 - s. Remarks.
- F. Options: Identify options requiring selection by Architect.
- G. Deviations: Identify deviations from the Contract Documents on submittals.
- H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements:

- 1. Submit electronic submittals to Architect via email as PDF electronic files.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
- 2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

- a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.
 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Submit Shop Drawings in the following format:

- a. PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
 - 1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 - 1. Submit product schedule in the following format:
 - a. PDF electronic file.
- F. Coordination Drawings Submittals: Comply with requirements specified in Section 013100 "Project Management and Coordination."
- G. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."
- H. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."
- I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."
- J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."
- K. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."
- L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- M. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- N. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- O. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

- R. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- S. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- T. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- U. Schedule of Tests and Inspections: Comply with requirements specified in Section 014000 "Quality Requirements."
- V. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- W. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- X. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
 - 1. Architect's Review:
 - a. No Exceptions Taken (NTE): Submittal is approved with no exceptions taken by Architect.
 - b. Reviewed for Information (RFI): Submittal does not need to be approved or rejected by Architect and has been reviewed for information only.
 - c. Note Markings (NM): Submittal is approved and Contractor is responsible for incorporating the comments on the submittal made by the Architect.
 - d. Rejected (R): Submittal is rejected.
 - e. Comments Attached (CA): Submittal is approved and Contractor is responsible for incorporating the comments under separate cover made by the Architect.
 - 2. Contractor's Response:
 - a. None (-N): No response is required of the Contractor.
 - b. Confirm (-C): Contractor to confirm receipt of the submittal and acknowledge any comments made either on the submittal or under separate cover returned with the submittal.
 - c. Resubmit (-R): Contractor to prepare a new submittal for submission to the Architect.
- C. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- D. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

SECTION 013301 – CAD FILE DRAWING RELEASE FORM

Instructions: *Complete the following form and submit to the Architect.*

CADD FILE LETTER OF AGREEMENT

Date: _____

An Agreement between the Architect and Contractor for Transfer of
Computer Aided Drafting and Design (CADD) Files on Electronic Media

Architect:	The Wilson Group Architects PO Box 5510 Charlotte, NC 28299-5510
General Contractor:	
Sub-Contractor Requesting Files:	

The Architect will provide the following CADD files to the Contractor as specified herein:

Sheets:	
Format:	DWG (2004)
Intended Use:	

TERMS AND CONDITIONS

1. The Architect makes no representation as to the compatibility of the CADD files with any hardware or software. The Contractor shall notify the Architect within 30 days of any problems associated with accessing the data contained on the media provided.
2. Since the information set forth on the CADD files can be modified unintentionally or otherwise, the Architect will remove all indications of ownership and/or involvement from each electronic display.
3. All information on the CADD files is considered instruments of service of the Architect and **will be used by The Contractor and its employees solely for the purpose of preparation of construction drawings that will not be sealed by The Architect.**
4. The Architect makes no representation regarding the accuracy, completeness or permanence of CADD files, nor for their merchantability or fitness for a particular purpose. Addenda information or revisions made after the date indicated on the CADD files may not have been incorporated. It is the Contractor's responsibility to determine if any conflicts exist. Therefore, the Contractor and the Architect understand that the use of the information provided is at his own risk.

5. The use of CADD files prepared by the Architect shall not in any way obviate the Contractor's responsibility for the proper checking and coordination of dimensions, details and quantities of materials as required to facilitate complete and accurate construction of the Project.
6. The Contractor shall, to the fullest extent permitted by law, indemnify, defend and hold harmless the Architect, and its sub-consultants from any and all claims, damages, losses, expenses, penalties and liabilities of any kind, including attorney's fees, arising out of or resulting from the use of the CADD files by the Contractor, or by third party recipients of the CADD files from the Contractor. Accordingly, the Contractor and the Architect agree to indemnify and hold the Architect harmless from all claims arising out of the use of the information contained in the electronic files provided by the Architect to the Contractor, including cost of defense.
7. The Architect believes that no licensing or copyright fees are due to others on account of the transfer of the CADD files, but to the extent any are, the Contractor will pay the appropriate fees and hold the Architect harmless from such claims.

Acceptance:

Signature in the spaces below indicates acceptance of this proposal by the Architect, General Contractor and Sub-Contractor, and will serve as authorization to begin work upon receipt of this agreement and payment.

ARCHITECT

CONTRACTOR

SUB-CONTRACTOR

DATE: _____

DATE: _____

DATE: _____

END OF SECTION 013301

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
 - 3. Specific test and inspection requirements are not specified in this Section.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
 - 1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent and/or greater expense cost requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.

2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.5 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 5. Other required items indicated in individual Specification Sections.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar in material, design, and extent to those indicated for this Project.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. **Manufacturer's Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.

- d. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.
- 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
 - 2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 - 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 6. Demolish and remove mockups when directed unless otherwise indicated.
- K. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections.

1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 - 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.
- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, as indicated in Statement of Special Inspections provided on the Appendix B and Structural Drawings, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.

2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Architect.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABMA	American Bearing Manufacturers Association
ACI	American Concrete Institute (Formerly: ACI International)
ACPA	American Concrete Pipe Association
AEIC	Association of Edison Illuminating Companies, Inc. (The)
AF&PA	American Forest & Paper Association
AGA	American Gas Association
AHAM	Association of Home Appliance Manufacturers
AHRI	Air-Conditioning, Heating, and Refrigeration Institute (The)
AI	Asphalt Institute
AIA	American Institute of Architects (The)
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction

AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
AOSA	Association of Official Seed Analysts, Inc.
APA	APA - The Engineered Wood Association
APA	Architectural Precast Association
API	American Petroleum Institute
ARI	Air-Conditioning & Refrigeration Institute (See AHRI)
ARI	American Refrigeration Institute (See AHRI)
ARMA	Asphalt Roofing Manufacturers Association
ASCE	American Society of Civil Engineers
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	ASME International (American Society of Mechanical Engineers)
ASSE	American Society of Safety Engineers (The)
ASSE	American Society of Sanitary Engineering
ASTM	ASTM International (American Society for Testing and Materials International)
ATIS	Alliance for Telecommunications Industry Solutions
AWEA	American Wind Energy Association
AWI	Architectural Woodwork Institute
AWMAC	Architectural Woodwork Manufacturers Association of Canada
AWPA	American Wood Protection Association (Formerly: American Wood-Preservers' Association)
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)

BICSI	BICSI, Inc.
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association)
BISSC	Baking Industry Sanitation Standards Committee
BOCA	BOCA (Building Officials and Code Administrators International Inc.) (See ICC)
BWF	Badminton World Federation (Formerly: International Badminton Federation)
CDA	Copper Development Association
CEA	Canadian Electricity Association
CEA	Consumer Electronics Association
CFFA	Chemical Fabrics & Film Association, Inc.
CFSEI	Cold-Formed Steel Engineers Institute
CGA	Compressed Gas Association
CIMA	Cellulose Insulation Manufacturers Association
CISCA	Ceilings & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CPA	Composite Panel Association
CRI	Carpet and Rug Institute (The)
CRRC	Cool Roof Rating Council
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSA	CSA International (Formerly: IAS - International Approval Services)
CSI	Construction Specifications Institute (The)
CSSB	Cedar Shake & Shingle Bureau
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute)
CWC	Composite Wood Council (See CPA)

DASMA	Door and Access Systems Manufacturers Association
DHI	Door and Hardware Institute
ECA	Electronic Components Association
ECAMA	Electronic Components Assemblies & Materials Association (See ECA)
EIA	Electronic Industries Alliance (See TIA)
EIMA	EIFS Industry Members Association
EJMA	Expansion Joint Manufacturers Association, Inc.
ESD	ESD Association (Electrostatic Discharge Association)
ESTA	Entertainment Services and Technology Association (See PLASA)
EVO	Efficiency Valuation Organization
FIBA	Federation Internationale de Basketball (The International Basketball Federation)
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation)
FM Approvals	FM Approvals LLC
FM Global	FM Global (Formerly: FMG - FM Global)
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.
FSA	Fluid Sealing Association
FSC	Forest Stewardship Council U.S.
GA	Gypsum Association
GANA	Glass Association of North America
GS	Green Seal
HI	Hydraulic Institute
HI/GAMA	Hydronics Institute/Gas Appliance Manufacturers Association (See AHRI)
HMMA	Hollow Metal Manufacturers Association (See NAAMM)
HPVA	Hardwood Plywood & Veneer Association
HPW	H. P. White Laboratory, Inc.

IAPSC	International Association of Professional Security Consultants
IAS	International Approval Services (See CSA)
ICBO	International Conference of Building Officials (See ICC)
ICC	International Code Council
ICEA	Insulated Cable Engineers Association, Inc.
ICPA	International Cast Polymer Alliance
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
IES	Illuminating Engineering Society (Formerly: Illuminating Engineering Society of North America)
IESNA	Illuminating Engineering Society of North America (See IES)
IEST	Institute of Environmental Sciences and Technology
IGMA	Insulating Glass Manufacturers Alliance
IGSHPA	International Ground Source Heat Pump Association
ILI	Indiana Limestone Institute of America, Inc.
Intertek	Intertek Group (Formerly: ETL SEMCO; Intertek Testing Service NA)
ISA	International Society of Automation (The) (Formerly: Instrumentation, Systems, and Automation Society)
ISAS	Instrumentation, Systems, and Automation Society (The) (See ISA)
ISFA	International Surface Fabricators Association (Formerly: International Solid Surface Fabricators Association)
ISO	International Organization for Standardization
ISSFA	International Solid Surface Fabricators Association (See ISFA)
ITU	International Telecommunication Union
KCMA	Kitchen Cabinet Manufacturers Association
LMA	Laminating Materials Association (See CPA)

LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturers Association
MCA	Metal Construction Association
MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association, Inc.
MHIA	Material Handling Industry of America
MIA	Marble Institute of America
MMPA	Moulding & Millwork Producers Association (Formerly: Wood Moulding & Millwork Producers Association)
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International (National Association of Corrosion Engineers International)
NADCA	National Air Duct Cleaners Association
NAIMA	North American Insulation Manufacturers Association
NBGQA	National Building Granite Quarries Association, Inc.
NCAA	National Collegiate Athletic Association (The)
NCMA	National Concrete Masonry Association
NEBB	National Environmental Balancing Bureau
NECA	National Electrical Contractors Association
NeLMA	Northeastern Lumber Manufacturers Association
NEMA	National Electrical Manufacturers Association
NETA	InterNational Electrical Testing Association
NFHS	National Federation of State High School Associations
NFPA	NFPA (National Fire Protection Association)
NFPA	NFPA International (See NFPA)

NFRC	National Fenestration Rating Council
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NOFMA	National Oak Flooring Manufacturers Association (See NWFA)
NOMMA	National Ornamental & Miscellaneous Metals Association
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	NSF International (National Sanitation Foundation International)
NSPE	National Society of Professional Engineers
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
NWFA	National Wood Flooring Association
PCI	Precast/Prestressed Concrete Institute
PDI	Plumbing & Drainage Institute
PLASA	PLASA (Formerly: ESTA - Entertainment Services and Technology Association)
RCSC	Research Council on Structural Connections
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service
SAE	SAE International (Society of Automotive Engineers)
SBCCI	Southern Building Code Congress International, Inc. (See ICC)
SCTE	Society of Cable Telecommunications Engineers
SDI	Steel Deck Institute
SDI	Steel Door Institute
SEFA	Scientific Equipment and Furniture Association
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)
SIA	Security Industry Association

SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SMPTE	Society of Motion Picture and Television Engineers
SPFA	Spray Polyurethane Foam Alliance
SPIB	Southern Pine Inspection Bureau
SPRI	Single Ply Roofing Industry
SRCC	Solar Rating and Certification Corporation
SSINA	Specialty Steel Industry of North America
SSPC	SSPC: The Society for Protective Coatings
STI	Steel Tank Institute
SWI	Steel Window Institute
SWPA	Submersible Wastewater Pump Association
TCA	Tilt-Up Concrete Association
TCNA	Tile Council of North America, Inc.
TEMA	Tubular Exchanger Manufacturers Association, Inc.
TIA	Telecommunications Industry Association (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance)
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance (See TIA)
TMS	The Masonry Society
TPI	Truss Plate Institute
TPI	Turfgrass Producers International
TRI	Tile Roofing Institute
UBC	Uniform Building Code (See ICC)
UL	Underwriters Laboratories Inc.
UNI	Uni-Bell PVC Pipe Association

USAV	USA Volleyball
USGBC	U.S. Green Building Council
USITT	United States Institute for Theatre Technology, Inc.
WASTEC	Waste Equipment Technology Association
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association
WDMA	Window & Door Manufacturers Association
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California)
WMMPA	Wood Moulding & Millwork Producers Association (See MMPA)
WSRCA	Western States Roofing Contractors Association
WWPA	Western Wood Products Association

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

DIN	Deutsches Institut für Normung e.V.
IAPMO	International Association of Plumbing and Mechanical Officials
ICC	International Code Council
ICC-ES	ICC Evaluation Service, LLC

- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

COE	Army Corps of Engineers
CPSC	Consumer Product Safety Commission
DOC	Department of Commerce National Institute of Standards and Technology
DOD	Department of Defense
DOE	Department of Energy

EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FG	Federal Government Publications
GSA	General Services Administration
HUD	Department of Housing and Urban Development
LBL	Lawrence Berkeley National Laboratory Environmental Energy Technologies Division
OSHA	Occupational Safety & Health Administration
SD	Department of State
TRB	Transportation Research Board National Cooperative Highway Research Program
USDA	Department of Agriculture Agriculture Research Service U.S. Salinity Laboratory
USDA	Department of Agriculture Rural Utilities Service
USDJ	Department of Justice Office of Justice Programs National Institute of Justice
USP	U.S. Pharmacopeia
USPS	United States Postal Service

- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list.

CFR	Code of Federal Regulations Available from Government Printing Office
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point
DSCC	Defense Supply Center Columbus (See FS)
FED-STD	Federal Standard (See FS)

FS Federal Specification
 Available from Department of Defense Single Stock Point

 Available from Defense Standardization Program

 Available from General Services Administration

 Available from National Institute of Building Sciences/Whole Building Design Guide

MILSPEC Military Specification and Standards (See DOD)

USAB United States Access Board

USATBCB U.S. Architectural & Transportation Barriers Compliance Board (See USAB)

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

CBHF State of California
 Department of Consumer Affairs
 Bureau of Home Furnishings and Thermal Insulation

CCR California Code of Regulations
 Office of Administrative Law
 California Title 24 Energy Code

CDHS California Department of Health Care Services (Formerly: California Department of Health Services) (See CCR)

CDPH California Department of Public Health
 Indoor Air Quality Program

CPUC California Public Utilities Commission

SCAQM South Coast Air Quality Management District
D

TFS Texas Forest Service
 Forest Resource Development and Sustainable Forestry

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section PSP "Project Special Provisions" for work restrictions and limitations on utility interruptions.

1.2 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.

1.3 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire prevention program.

1.4 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its

use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work. Confirm location(s) with Owner and Architect.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install individually-metered temporary services.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- G. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
 1. Install electric power service overhead unless otherwise indicated.
- H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
 2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
 2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Section 312000 "Earth Moving."
 3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
- C. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- D. Parking: Provide temporary parking areas for construction personnel.
- E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
 2. Remove snow and ice as required to minimize accumulations.
- F. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
1. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.
 2. Maintain and touchup signs so they are legible at all times.
- G. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and/or requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- E. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.
- F. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- G. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
 - 1. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.
- H. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire prevention program.
 - 1. Prohibit smoking in construction areas.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
 - 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
 - 4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect materials from water damage and keep porous and organic materials from coming into prolonged contact with concrete.
- C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
 - 1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
 - 2. Keep interior spaces reasonably clean and protected from water damage.
 - 3. Discard or replace water-damaged and wet material.

4. Discard, replace, or clean stored or installed material that begins to grow mold.
 5. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.
- D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
 2. Remove materials that can not be completely restored to their manufactured moisture level within 48 hours.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section PSP "Project Special Provisions" for substitution procedures.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable

product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
- b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

- B. Delivery and Handling:

- 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
- 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

- C. Storage:

- 1. Store products to allow for inspection and measurement of quantity or counting of units.
- 2. Store materials in a manner that will not endanger Project structure.
- 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
- 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
- 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
- 6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. Refer to other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
 - 1. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience

will be considered in accordance with Specifications Section PSP "Project Special Provisions".

2. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered in accordance with Specifications Section PSP "Project Special Provisions".
3. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

6. Product substitutions will only be considered in accordance with Specifications Section PSP "Project Special Provisions."

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Coordination of Owner-installed products.
 - 6. Progress cleaning.
 - 7. Starting and adjusting.
 - 8. Protection of installed construction.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.2 INFORMATIONAL SUBMITTALS

- A. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.
- B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- C. Certified Surveys: Submit one electronic copy in PDF format signed by Land Surveyor.
- D. Final Property Survey: Submit one electronic copy in PDF format and one electronic copy in DWG format showing the Work performed and record survey data.

1.3 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding.

Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

- B. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Inform installers of lines and levels to which they must comply.
 - 5. Check the location, level and plumb, of every major element as the Work progresses.
 - 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
 - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and

electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
- B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
- C. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
- D. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 - 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- 3.8 STARTING AND ADJUSTING
- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements"

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
 - 6. Final Site Survey of the Work.
- B. Related Requirements:
 - 1. Section PSP "Project Special Provisions" for contract obligations.
 - 2. Section 017300 "Execution" for requirements for final site survey of the Work.
 - 3. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 4. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 5. Section 017900 "Demonstration and Training" for requirements for instructing Owner's personnel.

1.2 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.5 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
 - 5. Submit test/adjust/balance records.
 - 6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 3. Complete startup and testing of systems and equipment.
 - 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 - 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
 - 6. Advise Owner of changeover in heat and other utilities.
 - 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 - 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 9. Complete final cleaning requirements, including touchup painting.

10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.

1.6 FINAL COMPLETION PROCEDURES

- A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection to determine acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, starting with exterior areas first.
 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 3. Submit list of incomplete items in the following format:

- a. PDF electronic file. Architect will return annotated copy.

1.8 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Final Completion for entire Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - j. Remove labels that are not permanent.
 - k. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - l. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - m. Leave Project clean and ready for occupancy.

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.

- a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Operation manuals for systems, subsystems, and equipment.
 - 4. Product maintenance manuals.
 - 5. Systems and equipment maintenance manuals.

1.2 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:
 - 1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.
 - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
 - b. Enable inserted reviewer comments on draft submittals.

PART 2 - PRODUCTS

2.1 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information.

- B. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
 2. Table of contents.
 3. Manual contents.
- C. Title Page: Include the following information:
1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Construction Manager.
 7. Name and contact information for Architect.
 8. Name and contact information for Commissioning Authority.
 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 10. Cross-reference to related systems in other operation and maintenance manuals.
- D. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- E. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- F. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

2.2 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
1. Type of emergency.
 2. Emergency instructions.

3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
1. Fire.
 2. Flood.
 3. Gas leak.
 4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
 2. Shutdown instructions for each type of emergency.
 3. Operating instructions for conditions outside normal operating limits.
 4. Required sequences for electric or electronic systems.
 5. Special operating instructions and procedures.

2.3 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 2. Performance and design criteria if Contractor is delegated design responsibility.
 3. Operating standards.
 4. Operating procedures.
 5. Operating logs.
 6. Wiring diagrams.
 7. Control diagrams.
 8. Piped system diagrams.
 9. Precautions against improper use.
 10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
1. Product name and model number. Use designations for products indicated on Contract Documents.
 2. Manufacturer's name.
 3. Equipment identification with serial number of each component.
 4. Equipment function.

5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.4 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

2.5 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
- E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original project record documents as part of operation and maintenance manuals.
- F. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Requirements:
 - 1. Section PSP "Project Special Provisions" for contract obligations and requirements.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up record prints.
 - a. Initial Submittal:
 - 1) Submit one paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and one set(s) of file prints.
 - 3) Submit record digital data files and one set(s) of plots.
 - 4) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit one paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and one set(s) of prints.
 - 3) Print each drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit one paper copy of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised Drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Record data as soon as possible after obtaining it.
 - c. Record and check the markup before enclosing concealed installations.
 - 2. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
 - 1. Format: Annotated PDF electronic file with comment function enabled.
 - 2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 - 3. Refer instances of uncertainty to Architect for resolution.
 - 4. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - 1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Format: Annotated PDF electronic file with comment function enabled.
 - 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 - 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."

- d. Name of Architect.
- e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 4. Note related Change Orders, record Product Data, and record Drawings where applicable.
- B. Format: Submit record Specifications as scanned PDF electronic file(s) of marked-up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, record Specifications, and record Drawings where applicable.
- B. Format: Submit record Product Data as annotated PDF electronic file.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 017839

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.

1.2 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

1.3 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Pre-instruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training. This can be part of a regular Project Meeting.

1.4 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project record documents.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
 - 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
 - 4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.

- f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
- 5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
- 6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
- 7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
- 8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."

3.2 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
 - 2. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner, through Architect, with at least seven days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.

END OF SECTION 017900